



Lock & Dam 17

(New Boston, Illinois)
Mississippi River

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Construction: 1935-1939

General Contractors:

Lock: Massman Construction Co. and
Massman-Peterman Co., Kansas City, Mo.
Dam: Maxon Construction, Dayton, Ohio

Congressional District: IA-2; IL-17

Description

Lock and Dam 17 is 437.1 miles above the confluence of the Mississippi and Ohio rivers. The complex stretches across a wide portion of river where there are several marshy islands. The Port Louisa National Wildlife Refuge and Odessa State Wildlife Management Area occupy the islands, marshes, and sloughs on the Iowa shore both upstream and downstream from the dam.



The lock dimensions are 110 feet wide by 600 feet long with additional provisions for an auxiliary lock. The maximum lift is eight feet with an average lift of four feet. It takes approximately seven minutes to fill or empty the lock chamber.

The movable dam has eight submersible Tainter gates (20 feet high by 64 feet long) and three submersible roller gates (20 feet high by 100 feet long). The dam system also includes one non-overflow earth and sand-filled dike; two transitional dikes; and a submersible earth and sand-filled dike. It takes six hours for water to travel from Lock and Dam 16 in Muscatine, Iowa, to Lock and Dam 17.

History/Significance

Construction on Lock 17 began on Aug. 7, 1935 and was completed in February 1937. Construction on Dam 17 began in February 1937 and was completed in January 1939. The structure was placed in operation on May 14, 1939.

The site was inaccessible from the nearest highway. As a result, the contractors for the lock had to construct a 3.7-mile-long entrance road. The remoteness of the site caused other problems. Not enough workers could commute to the job site from their homes. As a result, the Massman Construction Company and the Massman-Peterman Company built a workers' camp near the lock and dam site. This camp consisted of eleven 16-man bunk houses and a large mess hall. A total of 1,573 men were employed on the lock construction at one time or another, with 626 men working on the peak day of construction which was July 8, 1936.

Favorable river stages and weather conditions were advantageous to the contractors. Only 18 days of extremely cold weather, seven days of hot weather, and a 30-day delay due to a flood on the Ohio River at a steel fabricators plant for a total of 55 days extension beyond the scheduled completion date of time were required for completing the lock. The average monthly precipitation for the construction period of the lock was below the previously

established normal by over one inch. A contract for \$32,250 was issued in 1937 to a second contractor for clearing the trees on the islands extending about two miles upstream from Dam 17.

The lock and dam elements of the complex were completed at a cost of \$4,164,000.

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>
1992	33,279,329	1997	27,915,871	2002	31,631,819	2007	22,843,570
1993	20,545,012	1998	30,015,252	2003	27,171,584	2008	17,338,830
1994	24,511,219	1999	34,170,210	2004	22,107,520	2009	20,519,517
1995	30,538,368	2000	31,375,823	2005	22,596,983	2010	19,532,895
1996	30,975,976	2001	27,451,332	2006	24,046,856	2011	18,918,020

Commodity Tonnage & Lockages (2011)

Coal	2,592,154	<u>Subtotals:</u>	Grain	8,759,177
Petroleum	212,484		Steel	74,720
Chemicals	3,117,142			
Crude Materials	2,179,075	<u>Lockages:</u>	Commercial Boats:	1,621
Manufactured Goods	1,210,545		Recreation Boats:	332
Farm Products	9,557,709		Light Boats:	267
Manufactured Machinery	28,560		Other Boats:	61
Waste Material	300		Total Boats:	2,281
Containers & Pallets	1,600		Total Cuts:	3,258
Unknown	18,451			

The 9-Foot Channel Project

Lock and Dam 17 is one of 29 locks and dams on the Upper Mississippi River that provide a water stairway of travel for commercial and recreational traffic from Minneapolis to the Gulf of Mexico.

The existing 9-foot Channel Navigation Project was largely constructed in the 1930s and extends down the Upper Mississippi River from Minneapolis-St. Paul to its confluence with the Ohio River and up the Illinois Waterway to the Thomas J. O'Brien Lock in Chicago. It includes 37 Locks and approximately 1,200 miles of navigable waterway in Illinois, Iowa, Minnesota, Missouri and Wisconsin.

The maintenance needs of the aging infrastructure are increasing at a rate much greater than the operations and maintenance funding provided for the system which adversely affects reliability of the system. Long-established programs for preventive maintenance of major lock components have essentially given way to a fix-as-fail strategy, with repairs sometimes requiring weeks or months to complete. Depending on the malfunction, extended repairs can have major consequences for shippers, manufacturers, consumers, and commodities investors.

Additionally, the system's 600-foot locks do not accommodate today's modern tows without splitting and passing through the lock in two operations. This procedure requires uncoupling barges at midpoint which triples lockage times and exposes deckhands to increased accident rates.

There are more than 580 manufacturing facilities, terminals, grain elevators, and docks that ship and receive tonnage in the Upper Mississippi River basin. Grains (corn and soybeans) dominate traffic on the system. Other commodities, mainly cement and concrete products, comprise the second largest group. A modern 15-barge tow transports the equivalent of 1,050 large semi-trucks (26,250 cargo tons, 875,000 bushels, or 17,325,000 gallons). Annually, the 9-foot project generates an estimated \$1 billion of transportation cost savings compared with the operation and maintenance costs of approximately \$115 million.

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