



Brandon Road Lock & Dam

(Joliet, Illinois)
Des Plaines River

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Construction: 1927-1933

Congressional District: IL-11

Description

Brandon Road Lock and Dam is 286 miles above the confluence of the Illinois River with the Mississippi river at Grafton, Illinois. The complex is located 27 miles southwest of Chicago; 2 miles southwest of Joliet, Illinois, near Rockdale.

The lock is 600 feet long, 110 feet wide. Nominal lift is 34 feet with an average 19-minute fill time, 15-minute emptying time. The dam is 2,391 feet long (exclusive of fixed embankment and river wall). It contains 21 operational Tainter gates (50 feet wide x 2 feet, 3-1/2 inches high), six sluice gates (7 feet, 9 inches wide x 8 feet, five inches high, bulkheaded closed), and 16 pairs of 16-foot high x 15-foot wide headgates (eight operational, eight bulkheaded closed).



From the upper limits of the city of Joliet to Brandon Road Lock and Dam, the Illinois Waterway is contained between concrete gravity walls which are from 15 to 40-feet high. The walls extend approximately three miles upstream from the lock and dam. Failure of these walls could result in flooding Joliet. Repair of the deteriorated walls and manholes was completed from 1985-1988. In 2007, the Corps began a multi-million dollar, multi-year program to repair and reinforce the walls to ensure their continued integrity.

History/Significance

The lock opened in 1933. Brandon Road Lock and Dam was one of five designed and partially constructed by the state of Illinois over a period from 1927 to 1930. The complex was about 70 percent complete when construction was turned over to the federal government due to state financial difficulties.

The government, by the authority of the Rivers and Harbors Act of 1930, completed construction of the lock in 1933. The lock and dam elements of the complex were completed at a total cost of \$4,500,000, of which \$2,031,683 were state funds and \$2,434,748 were federal funds.

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	11,184,905	2011	10,760,631	2006	17,811,849	2001	16,418,031
2015	11,745,595	2010	10,010,190	2005	17,336,609	2000	16,940,484
2014	12,588,435	2009	10,465,777	2004	17,645,088	1999	16,073,774
2013	10,427,098	2008	12,665,246	2003	15,766,953	1998	16,628,902
2012	11,089,065	2007	13,862,037	2002	17,177,894	1997	15,291,252

U.S. ARMY CORPS OF ENGINEERS – ROCK ISLAND DISTRICT
CLOCK TOWER BUILDING, P.O. BOX 2004, ROCK ISLAND, IL 61204-2004
Corporate Communications Office, (309) 794-5729, www.mvr.usace.army.mil

Commodity Tonnage (2016)

All Units (Ferried Autos, Passengers, Railway Cars)	-
Coal, Lignite, and Coal Coke	776,174
Petroleum and Petroleum Products	1,896,496
Chemicals and Related Products	1,595,079
Crude Materials, Inedible, Except Fuels	3,820,570
Primary Manufactured Goods	2,466,000
Food and Farm Products	574,850
Manufactured Equipment & Machinery	37,636
Waste Material	4,700
Unknown or Not Elsewhere Classified	31,400

Vessel & Lockage Data (2016)

Average Delay - Tows (Hours)	1.02
Average Processing Time (Hours)	0.75
Barges Empty	4,320
Barges Loaded	6,634
Commercial Vessels	3,518
Commercial Flotillas	3,259
Commercial Lockages/Cuts	3,354
Non-Vessel Lockages	-
Non-Commercial Vessels	13
Non-Commercial Flotillas	11
Non-Commercial Lockages/Cuts	11
Percent Vessels Delayed (%)	46
Recreational Vessels	670
Recreational Lockages	373
Total Vessels	4,201
Total Lockages/Cuts	3,738

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