CHICAGO HARBOR LOCK

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

The Chicago Harbor Lock is located in the city of Chicago – adjacent to Navy Pier – and separates the waters of the Lake Michigan basin from the Chicago River.

The lock is one of two entrances from the Great Lakes to the Illinois Waterway System. The other entry is the Thomas J. O'Brien Lock on the Calumet River.

The lock was originally designed and built between 1936 and 1938 by the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC). The lock was constructed as a component of the historic engineering project that reversed the flow of the Chicago River to prevent river water containing sewage from flowing into the lake and contaminating the city's drinking water.

Today, the Chicago River is much cleaner, but the lock continues to perform an important environmental function of separating Chicago River storm water from Lake Michigan. MWRDGC operated and maintained the lock until 1984. An act of Congress transferred the operation and maintenance responsibility to the U.S. Army Corps of Engineers, as part of the Corps' navigation mission. MWRDGC continues to maintain the water level in the Chicago River, notifying Chicago Lock personnel when emergency water-level control (backflow) is needed- releasing water from the river into Lake Michigan through the lock gates to prevent flooding.

The Chicago Lock is operated 24/7 due to Coast Guard Homeland Security concerns in downtown Chicago; routine maintenance of city of Chicago vital services (marine police and fireboat); and year-round commercial barge traffic.

The lock chamber is 600 feet long x 80 feet wide x 22 feet deep. Filling/emptying is gravity-fed through partially-opened lock gates, and there is typically a two to five-foot difference between Lake Michigan and Chicago River water levels. It takes about 12-15 minutes to cycle through the lock.

The control house was replaced in 2007 with a more modern facility, which consolidates maintenance into one building and allows for near 360-degree visibility – improving security and speeds lockages during heavy traffic periods.

In 2011, the Corps' Chicago District completed a project to replace the structural steel sector gate leafs and associated hydraulic operating machinery. The new lock gates are designed to reduce repair and maintenance costs and prevent service disruptions. The new gates and operating machinery have fewer parts and are more reliable, and are modeled after the proven design of the Thomas J. O'Brien Lock.

The Chicago Lock is fourth in the nation in terms of commercial lock usage and second in the nation in terms of recreational lock usage. On a busy day, 50-100 vessels can be locked at once. On average, the lock cycles 12,000 times annually. The lock sees an average of 711,902 commercial passenger one-way trips and 41,071 non-cargo vessel one-way trips (based on 2000 through 2010 data). In 2012, there were 10,480 lockages through the chamber - serving over 47,000 commercial, recreational, and government vessels; nearly 700,000 passengers; and 200,000 tons of commercial cargo.

U.S. Army Corps of Engineers, Chicago District 231 S. LaSalle St., Ste. 1500 Chicago, IL. 60604
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