



Raised Rehab

BY JIM TALBOT

A rehabilitated lift bridge completes 100 years of Erie Canal service and is poised for another 100.



Jim Stewart, Courtesy HistoricBridges.org

STEEL CENTURIONS SPANNING 100 YEARS

Our nation's rich past was built on immovable determination and innovation that found a highly visible expression in the construction of steel bridges. The Steel Centurions series offers a testament to notable accomplishments of prior generations and celebrates the durability and strength of steel by showcasing bridges more than 100 years old that are still in service today.

THE ERIE CANAL, completed in 1825, links Lake Erie in western New York to the Hudson River in the east. It originally included 18 aqueducts and 83 locks, descending 568 ft from west to east. Among the many factors that make the Erie Canal historically significant are the bridges spanning its nearly two centuries of life. The canal, particularly the western section, has one of the highest densities of historic bridges of any waterway in the country.

From 1905 to 1918 the state upgraded and widened the canal, making it suitable for barges carrying up to 3,000 tons of cargo. The resulting waterway, completed in 1918, is 12 ft to 14 ft deep, 120 ft to 200 ft wide and 363 miles long, reaching from Albany to Buffalo. It includes 57 locks with lifts of 6 ft to 40 ft. The steel replacement bridges for the widened canal have proved to be very durable. Moreover, the New York Department



◀ The Washington Street Lift Bridge turned 100 this year.

of Transportation (NYDOT) and other agencies have committed to their preservation, keeping them in excellent condition. One such bridge, the Washington Street Lift Bridge (also known as the Adams Basin Lift Bridge) became a Centurion this year. It's located in the hamlet of Adams Basin in the town of Ogden, about 12 miles west of Rochester.

Structurally, the design of the Washington Street Bridge is a rivet-connected Warren pony truss. The bridge has a total length of 144.7 ft and a deck width of 18.4 ft. The Warren truss consists of diagonal members only—no verticals. The term "pony" means that the truss has no bracing between the top chords. The word "Cambria" stamped on the bridge indicates that the steel came from the Cambria Steel Works in Johnstown, Pa. (the same plant that supplied the Greenspot Road Centurion bridge in the June issue).

The lift mechanism used is relatively unusual. Vertical end posts extend below the deck and into the ground. When operated, the end posts rise out of the ground. Stairways from the sidewalks at each end of the bridge allow pedestrians to continue to cross the bridge even when it's in the raised position. Raised, the bridge provides about 15 ft clearance over the water. Interestingly, the operator of this bridge also works the Union Street Lift Bridge about two miles down the canal in Spencerport; the operator drives to the Washington Street bridge when notified of a boat needing to pass.

A \$7.3 million project to rehabilitate the Washington Street lift bridge and one other canal bridge began in November 2005. While the work was underway, crews parked and shored it in the raised position to permit boat traffic on the canal. The work replaced deteriorated structural steel of the truss portion and included a new deck system. Additionally, workers removed and replaced concrete elements of the substructure and refurbished the control tower. NYDOT opened the bridge to two-way traffic—plus one of the sidewalks—on December 2006 with no height or weight restrictions.

Additional work on the bridge continued into the summer of 2007. Crews installed new lifting machinery and upgraded the electrical system. They also finished painting, pouring sidewalks and paving the approaches. Businesses and residents in the community greatly appreciated the reopening of the bridge, which helps to ease the traffic flow in the area. **MSC**



Jim Stewart, Courtesy: HistoricBridges.org

- ▲ Railing for one of the pedestrian walkways. Thanks to stairways, pedestrians can cross the bridge even in its raised position.
- ▼ Mill marking for the original steel.



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