



Historic Bridge Foundation Facebook Archives

Did You Know...

...The historic Erie Canal in New York State has a wide variety of unique historic bridges?

Finding the bridges today can be more complicated than one might think. The original Erie Canal built in the 1820s was a relatively narrow canal and was largely replaced by the New York State Barge Canal in the early 20th century. During the 1850s and 1860s a number of bridges were built over the original Erie Canal, many of them some of the earliest iron bridges built in the United States. Leading this effort was Squire Whipple and his cast iron patented arch/bowstring bridges. The few surviving bridges from this era often ended up being relocated either due to the canal being retired or because the bridges themselves became insufficient for their original locations. Examples of these early iron bridges of the Erie Canal include the 1859 Aldrich Change Bridge, which was designed by Squire Whipple, but used pipes instead of his patented cast iron arch design. This bridge was moved several times and washed off its abutments once. It ended up being moved into a park setting at Palmyra as a preserved exhibit. Squire Whipple did not renew his bowstring patent, so many competing companies were able to build bridges matching the patent. One surviving bowstring bridge built by Squire Whipple is the 1869 Vischers Ferry Bridge. Originally crossing the Erie Canal at Fultonville, it was moved to cross Cayadutta Creek at Fonda in 1919. In 1996-8, the bridge was moved to carry a pedestrian trail over the remnants of the original Erie Canal in a rural area north of Albany.

The successor to the Erie Canal was the New York State Barge Canal. The Barge Canal is often marketed to tourists as the Erie Canal, as it follows the same path and is open for use by boats, unlike the original Erie Canal. Construction began in 1905 and was completed by 1918. Like the original Erie Canal, this new canal required the construction of many bridges. With the canal remaining in use to the present day, and the original Barge Canal bridges being of heavier construction than those on the original canal, many of these bridges survive today in their original locations over the canal. The bridges constructed for the Barge Canal were standard designs in the context of the canal, but the standard bridge designs used are uncommon compared to highway bridges constructed elsewhere. Depending on site conditions, bridges were either built as fixed bridges, with an approach ramp providing the elevation required for boat clearance, or as vertical lift bridges were used in locations such as cities where room for an approach ramp did not exist. The vertical lift bridges are a very unique towerless design of lift bridges. The lift span pony trusses are rigidly attached to underground legs with a rack system attached.

Motors power a pinion that lifts the legs out of the ground to raise the bridge for boats. Another unique feature of these bridges is the stairways that allow pedestrians to cross the lift bridges even when they are raised for boats. The lift span trusses are uncommon examples of Warren trusses with no vertical members.

For fixed truss spans, rivet-connected through truss spans were typically used. The most common truss configuration is the Double-Intersection Warren truss, a truss design that beyond the canal system is an uncommon configuration. For longer spans, other truss configurations were used, including Baltimore and Parker truss configurations. The fixed truss bridges typically have one or more concrete approach spans at each end.

Together, the surviving original Erie Canal bridges and the historic bridges of the Barge Canal form a very large and unique group of surviving historic bridges in New York State.



Quaker Road Bridge is a Baltimore truss bridge built in 1912 over the Barge Canal in Wayne County.



The Park Avenue Bridge in Brockport was built in 1914 over the Barge Canal. This photo shows one of the pedestrian stairways to the left.



The Canal Road Bridge over the Barge Canal in Niagara County was built in 1910 and is a typical example of the Double-Warren through truss bridge used extensively on the canal.



In Lockport, a unique bridge was built to carry several streets over the Barge Canal. Built as a single bridge, the width between curbs is 400 feet. The bridge was reportedly the widest bridge in the world when completed. The design is also unusual, as the bridge functions as a three hinge arch bridge, despite the fact that the superstructure does not have a traditional arch-like shape.



This photo of the Adam Street Bridge over the Barge Canal in Lockport shows the lift bridge in the raised position.



This photo of the Adam Street Bridge over the Barge Canal in Lockport shows the lift bridge in the raised position.



The Aldrich Change Bridge in its current location.



The Vischers Ferry Bridge in its current location.



The Vischers Ferry Bridge, showing Squire Whipple's name and 1869 cast into the bridge.