

CASE STUDY

Kentucky Lake

Golden Pond, Kentucky

HISTORY

Between Lake Barkley and Kentucky Lake, is an area known as Land Between the Lakes. However, its history goes back to the 1830s, when the area was known as “Between the Rivers”, as it sits between the Tennessee and Cumberland Rivers in Western Kentucky. After the dam was built in the Cumberland River in the 1960s and a canal was constructed between the two lakes, Land Between the Lakes became the largest inland peninsula in the United States. This area was designated a national recreation area by President John F. Kennedy in 1963. It is one of the largest tourist areas in Western Kentucky, and is the recreational home to boating, camping, fishing, and hunting enthusiasts.

PROBLEM

In 1932, a two-lane truss bridge was constructed across the Tennessee River. The bridge was built long before Kentucky Lake was planned, and in 1943, the bridge was shut down for five months to build new piers and raise the structure to make room for Kentucky Lake. Some 70 years later, in 2012, the main span of the bridge collapsed after being struck by a cargo vessel. After initial repairs and reopening, the bridge was deemed to be functionally obsolete, very narrow, and a continuing maintenance issue, so plans for the replacement began. This replacement is associated with a larger effort to widen and improve approximately 20 miles of US 68/KY 80 from the split in Aurora at Kenlake State Resort Park through the Cadiz bypass. US 68 is the only east-west roadway through the recreation area and the only crossing of the lake in Kentucky.



CASE STUDY**Kentucky Lake****PROJECT PARTNERS**Owner

Kentucky Transportation Cabinet –
Frankfort, KY

General Contractor

Johnson Brothers Corporation –
Dublin, OH

Engineers

Michael Baker Jr., Inc. – Pittsburgh, PA
Palmer Engineering – Winchester, KY

PRODUCTS

Pipe Pile: 30" OD x 1" spiralweld pipe –
7,509 feet

PROJECT TIME FRAME

March 2013 to June 2014

SOLUTION

A new, more modern, 4-lane bridge was designed by Michael Baker Jr., Inc. of Pittsburgh, PA. The contract to build the bridge was awarded to Johnson Brothers Corporation of Dublin, OH in February 2014. The design of the bridge needed to meet the engineering, environmental, and budget requirements of the project, which is located in a highly critical seismic zone. Nucor Skyline produced 30" OD pipe piles with 1" wall thickness for the new bridge abutments. Pipe piles with low diameter to thickness ratios (30:1 in this instance) are often used in areas with high seismic loads and Skyline can roll 24" x 1" pipe piles for special applications. This pipe was shipped directly to CBD Fabrication and Supply, Inc., in Dublin, OH for delivery to the contractor. The new bridge was built to the north of the original bridge, which was demolished using controlled explosives in July of 2016. The new bridge was opened to four lanes of traffic on August 23, 2016.