

Rare Concrete Bridge In Gallia County

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Bob Evans Farm and neighboring Adamsville Village of log buildings near Rio Grande has, in recent years, become an important tourist attraction for southeastern Ohio. Generally overlooked is a very unique concrete cantilever bridge on old State Route 35 over Raccoon Creek that is immediately adjacent to the farm. It is believed to be the only existing bridge of a distinctive form of concrete construction created by the state highway department in the early 1920's.

Not unlike the extensive experimentation that occurred with metal truss bridges in America during the second half of the 19th century, early 20th-century bridge builders searched out the possibilities and potential of concrete structures. The efforts of the Bridge Bureau in the Ohio Department of Highways, who developed an unusual concrete cantilever through girder design in the early 1920's, were typical. The cantilever principle in concrete construction dated back to the floor systems devised for some of the first all-concrete buildings in the early years of the century. A cantilever design that allowed for minimal or even nonexistent abutments had been used for some concrete-deck arch bridges in Cincinnati in the 19teens. But the use of the concept for a through girder of concrete, where the reinforcing pattern resembled a steel cantilever truss, seems to have been original with the state engineers. The adaptation of older technology to new materials is typical of periods of experimentation, so a steel truss may have, in fact, inspired this concrete structure.

Designed to carry a 15-ton truck, the Raccoon Creek bridge was built in 1922 on the Gallipolis-Jackson Road and consists of a 60-foot main span flanked by two 32-foot anchor spans that are all supported on a pair of

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solid concrete piers. In this case, the cantilever principle allowed the construction of a longer span than could be done with a simple girder and permitted the reuse of the old stone abutments from the previous bridge. Built in the wake of the 1913 flood, the through girder design also gave

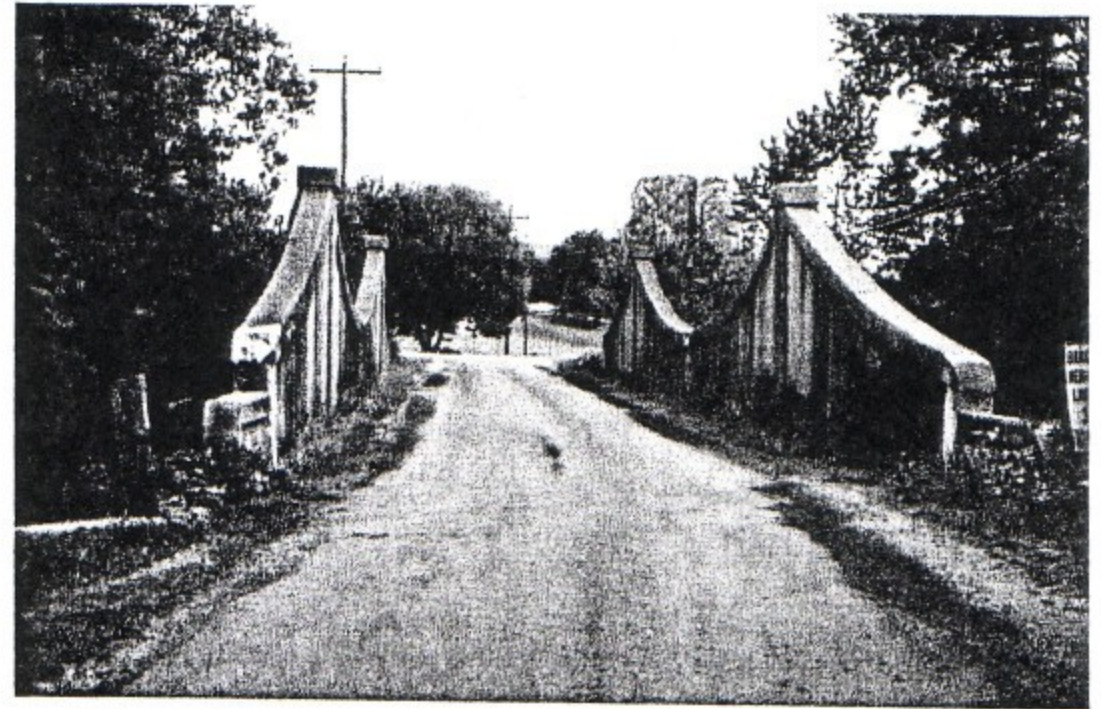
the largest possible clearance for future floods.

At least two other concrete cantilever bridges, although slightly shorter than the Gallia County example, were built in Licking County by the Highway Department. Cantilevers continued to be used for deck structures of

concrete in state bridges, but apparently concern over the inability to widen the through girder design prevented its widespread use. Presently this bridge in Gallia County is the only known example of this unusual design still standing in Ohio, and perhaps the nation. ■



Looking from the side like a concrete suspension bridge, the bridge over Raccoon Creek on old SR 35, adjacent to the Bob Evans Farm in Gallia County, is actually a rare type of concrete cantilever through girder. A construction drawing of a sister bridge in Licking County reveals that the pattern of the reinforcing bars in the girders resembles a steel truss, radiating out from the tops of the tower-like profiles.



The monolithic nature of the Raccoon Creek bridge, built in 1922, with its floor beams, floor and girders poured as a single unit, enhanced its rigidity and resulted in a continuous jointless construction. This latter characteristic anticipated developments in bridge design initiated by state engineers in the following decade.