

## **BYER COVERED BRIDGE**

### **DESCRIPTION**

The Byer Bridge was originally built in 1872. This structure was built using a variation of Smith's 1869 patent. This bridge carries Washington Township Road 973 over Pigeon Creek. This structure is listed on the state inventory as Bridge No. JAC-00031-0060, SFN 4031113.

The trusses are 73'6" in overall length, with 14'6" clear between the trusses. The trusses are constructed of oak and are protected by vertical wood siding on the outside of the members, and by a sheet metal roof.

The top and bottom chords are built up of three members each. The top consists of three 5"x8" members which are spliced at various locations along the length of the structure. The bottom chord is built up of three 5"x11" members also spliced at various locations. Both chords have about 1-1/2" gaps between their members. At the splices the members are notched around splice blocks and the entire chord is through bolted. The chord members are also notched to accept the tension diagonals. The diagonals are all about 6"x8" timbers and they in turn are also notched where they pass through the chords. The end posts of are composed of two 6"x6" members.

The upper and lower bracing systems are connected directly to their respective chords. Both bracing systems consist of transverse members which are perpendicular to the trusses and diagonal members crossing between the transverse members.

The floor system consists of one layer of timber planks laid diagonally on timber floorbeams. The width of the planks varies from board to board and the thickness is approximately 2-1/2". The floorbeams are supported directly on the bottom chord. The floorbeams are roughly 2-1/2" x 11-3/4" members every 16" on center.

The abutments are constructed of stone. The abutment seats have been repaired with concrete.

## **Statement of Significance**

The village of Byer and its covered bridge lie on the banks of Pigeon Creek within the Wayne National Forest and bounded on the west and southeast by the Richland State Forest. This was part of the old Hanging Rock Iron Region and just about 3 miles northeast of Byer are the remains of old Richland Iron Furnace. This is also an area of colorful place names such as Buttermilk Hollow, Log Pile Hollow, Skunk Hollow and Tick Ridge. Prior to Civil war days, the village of Byer was known as Ellsworth and the name was changed to Byers in honor of the Byers Family who owned much land in town. Over the years, the name has been simplified to Byer.

The Byer Covered Bridge was built in the early 1870's, probably by the Smith Bridge Company. One source says that the builder was W. H. Connery. If this was so, then it would have been under the direct supervision of the Smith Bridge Company who often prefabricated their bridge trusses and shipped them by railroad to the building site. There was a Smith Bridge Company representative in Portsmouth and this may account for the fact that all the covered bridges of record in Jackson County were Smith trusses. Robert W. Smith is one of only two Ohians ever to be given a patent on wooden bridge trusses. Hundreds of Smith trusses were built here in Ohio and elsewhere in the country. Fifteen remain here in Ohio today.

In 1934, the State Highway Department took over the road through Byer and it became SR 327. In the late 1930s, the State Highway Department rerouted SR 327 around Byer to the north and east and the covered bridge became a part of the Jackson County road system again. Byer Bridge is in a historically and industrially interesting section of the state. The old bridge was built when coal was king in Jackson County. Richland Iron Furnace a few miles away was still in operation at the time. Three miles southwest of Byer is Leo Petroglyph State Memorial, a group of prehistoric Indian rock carvings.

Byer is a small, quiet residential community where most of the houses are painted white, as was the covered bridge for many years. Byer Covered Bridge is an important part of the community and has been for over a century now. It is one of only three such spans left in Jackson County.

## **Physical Appearance**

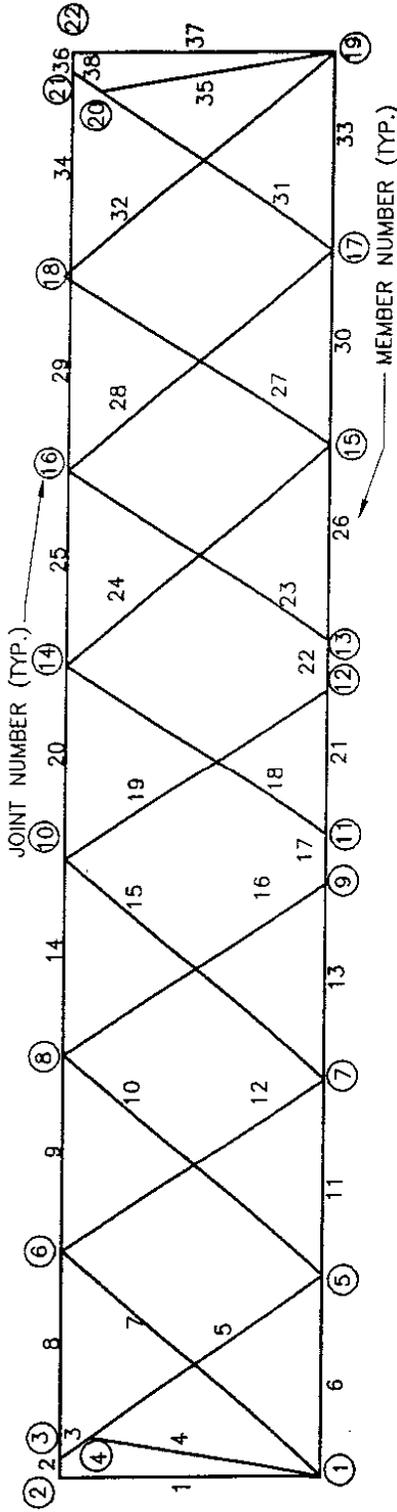
The Byer Covered Bridge was built in the early 1870's on the Smith truss plan patented in 1867 and 1869 by Robert W. Smith of Tipp City, and later Toledo, Ohio. The 1869 patent, #97,714, was an improvement on the 1867 patent. It featured an open center panel and braces set at a 45° angle between 60° counterbraces.

Bridge truss expert, Raymond E. Wilson, in the April 1967 Covered Bridge Topics Magazine has divided the Smith truss into four types and the Byer Bridge is a Smith truss, type 3. A type 3 Smith truss features reinforcement of the center panel with 2 diagonals.

All Smith truss types feature rigidly fastened roof and floor stringers. Mr. Smith claimed that the advantages of his truss type were to be found in the method of bracing, equal distribution of the load, its lightness and cheapness. The Byer Bridge is a 7 panel Smith with a 74' floor length and an over length of 82'. The overall width is 17'4" and the roadway width is 13'8". The concrete abutments are undoubtedly not the original foundations of the bridge, but were there when the State Highway Department took over the road and bridge in 1934.

BYER





COMPUTER MODEL  
 JAC-C0031-0060 SFN 4031113

