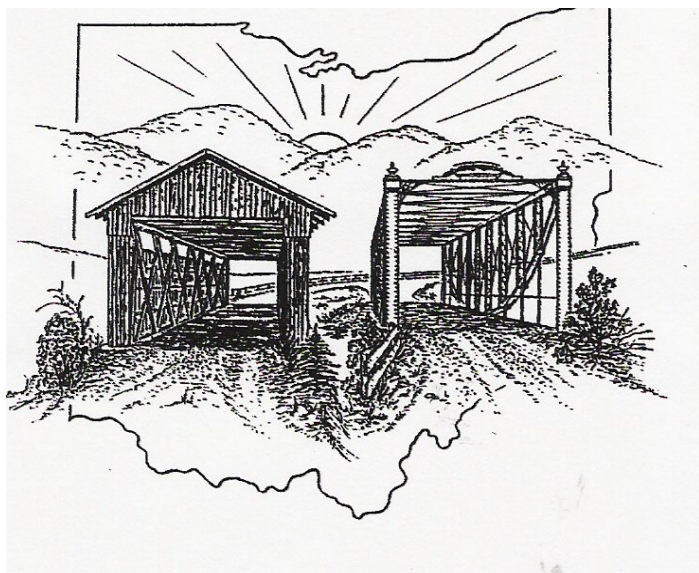


Latest Ohio Historic Bridge News



Bridges and Byways

Journal of the

Ohio Historic Bridge Association
Volume XXXVII
Spring 2023
Number 2

Meeting Notes:

May 20, 2023 (Saturday) 10:00 am

Spring Bridge Tour: Southern Fairfield County,
Meeting Place: Travel Stop, 3799 Lancaster-
Circleville Rd (SR 188 at Exit 150 off US Route 33
Bypass of Lancaster). Postcard with complete de-
scription sent earlier to all members.

July 16, 2023 noon

**Summer Picnic Salt Creek Covered Bridge
Entertainment: The Bridgers Acoustic String
Band.** Located east of Zanesville off interstate 70
on Arch Hill Rd. (CR82). Bring a dish to share,
your own silverware, plates, drinks, and lawn
chair.

September 16, 2023:

Fall Bridge Tour, TBA

November 19, 2023:

Business Meeting

Speaker: TBA

Place: Ohio History Connection in the Cardinal
Room on the third floor. Ohio History Connection
800 E. 17th Avenue, Columbus, OH
(Exit 111 off I-71)

Contents:

The President's Span:

Doug Miller.....2-3

Through Ohio's Trusses

David Simmons.....4-5

Bridge News.....6

OHBA Officers and Membership

Information.....7

**Renewal subscriptions are due by Janu-
ary 15, 2023. See page 7 for details.**

Your mailing label has your subscription
date above your name.

The OHBA Web site is now available at
www.oldohiobridges.com/new/OHBA

OHBA is a not-for-profit organization incorporated in
the State of Ohio and is recognized as a non-profit
organization under 501 (c) 3 of the Internal Re-
venue Code.

The OHBA mailing address is

**Ohio Historic Bridge Association
PO Box 153
Galena, OH 43021-0153**

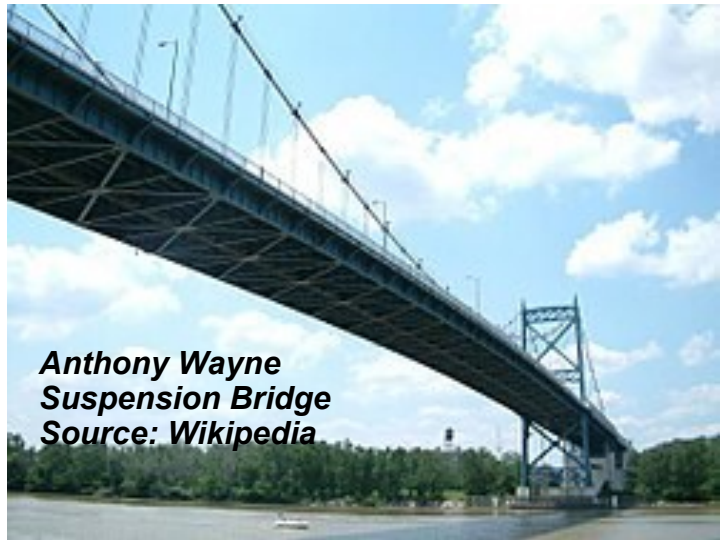
The President's Span.....Doug Miller

Suspension Bridges



Although attendance was disappointing, our Spring 2023 meeting in Columbus included an informative and interesting program. Dave Geckle, PE, of Ohio Department of Transportation District 2, gave a presentation on a series of projects that were performed on the Anthony Wayne Suspension Bridge spanning the Maumee River in Toledo. It is the only remaining suspension bridge in Ohio's inventory (meaning it's the only one still open to traffic) and was constructed between 1929 to 1931 at a cost of \$2.6M. The suspension portion of the bridge consists of 3 spans with a main span of 785 feet and an overall length of 3,218 feet. The 2 main cables are

made up of 3,534 wires each! The structure was rehabilitated in 1961, 1996 and the most recent series from 2014-2021. This latest rehab started with a main cable inspection in which they forced wedges between groups of strands revealing some deterioration. It was determined that they would reach their critical safety factor by 2025. However, 90% of the cables were in good condition. The overall evaluation included not just the condition of the cables but that of the concrete deck, and supporting steel (girders, beams, joists and substructure units). This led to three different rehabilitation projects. The first (2013-2015) included replacement of the concrete deck, deteriorated structural steel, and substructure concrete patching. The second project (2016-2017) painted the superstructure. The third project was a dehumidification and lighting project. The dehumidification involved constructing a building to reduce the humidity in the air. Then that air was pumped into the cables, forcing out the moisture. Surprisingly, since 2021, hundreds of gallons of water have been removed from the cables. By this moisture elimination, the life of the cables was extended much beyond the original design. The combination cost of the three projects was \$61.5M but was still far less than a complete replacement. Furthermore, this series of projects will extend the life of the structure many years.



Anthony Wayne Suspension Bridge
Source: Wikipedia



Currently, we are evaluating a proposal to inspect the Dresden Suspension Bridge to determine what elements need to be repaired in order to obtain a construction cost estimate. This will guide the search for funding sources to finance the project. As with all large projects, assembling all the pieces will take time.

Dresden Suspension Bridge. Photo
Source: Will Mornick, Facebook post

Finally, the Waco Suspension Bridge spanning the Brazos River in Waco, Texas was recently reopened after a major rehabilitation project. The event included a cattle drive across the bridge as a tribute to its role on the Chisholm Trail. The original bridge was built in 1869 by the Waco Bridge Company and designed by Thomas M. Griffith from New York with cables and bridgework supplied by the John R. Roebling Company. The main span is 475 feet and when built, was the longest suspension bridge west of the Mississippi River. It had a major rehab performed in 1914 to replace the wood trusses with metal trusses. Patrick Sparks, PE, of Sparks Engineering, Inc. was the prime consultant for the project. It was added to the National Register of Historic Places in 1970. Today the well-loved bridge serves as a pedestrian bridge and tourist attraction.



Waco Suspension Bridge. Photo: Nathan Holth, HistoricBridges.org.

I hope to see you at the Spring Bridge tour in southern Fairfield County in May. (See details below.) Have a great Spring!!!

OHBA Spring 2023 Bridge Tour

Meeting time: May 20, 10 AM

Meeting place: Love's Travel Stop, 3799 Lancaster-Circleville Rd (SR 188 at Exit 150 off US Route 33 Bypass of Lancaster).

Lunch stop: Noon, Shelter House, Wolfe Park, 6010 Amanda-Southern Road, Amanda.

Those not packing a lunch can go to Subway and Spade's Coffee Shop at the corner of Main and Johns Street in Amanda and meet at the shelter house.

The tour will include four covered bridges and include three multiple kingpost trusses and a Howe truss. All are well-preserved in park settings. Although fabricated following similar overall designs, the kingpost bridges on the tour—two were built by J.W. Buchanan—provide an opportunity to compare and contrast the building styles and techniques of a pair of local bridge builders. The fourth bridge is a Howe truss, erected by the famous Fairfield County builder August Borneman in 1887. A very unusual steel cable suspension bridge—built by the Works Progress Administration in 1936—is also included. Finally, the tour will visit a highly unusual stonewalled cemetery dating to the county's earliest pioneer period. Along the way, we will be able to enjoy the historic brick farmhouses and wide-open farm fields of southern Fairfield County, as well as numerous rural 19th century church buildings and a log house with a highly unusual masonry chimney.

Bridges and Nature

We all recognize that without natural features, the need for bridges would have been drastically reduced in the past. Getting people and cargoes across streams and rivers were among the basic reasons for building a bridge. But there can be other elements of nature that will transform an ordinary bridge site into something far more noteworthy.

Such was—and is—the case for the bridge crossing Alum Creek on the Delaware to Sunbury Road in Delaware County. Here is a major outcropping of Ohio shale, a dense, fine-grained rock manifested in thin laminations. A 1926 report on Delaware County's geology prepared for the state by an Ohio Wesleyan University geologist suggested that "the most picturesque" view of these shale cliffs was at this crossing. Indeed, folks have long been getting their pictures taken as they stood perilously close to the cliff's edge. Now the cliff is fenced off because too many have fallen—or jumped off it—with fatal results.



The shale cliffs at the site dominate the background of the 1858 Myers Mill Bridge. Sherman used a very low arch for his Burr trusses, so the ends of the arch on the abutment are hidden behind siding. Additional end braces—not the arches—had also been added to support the end. By the late-19th-century date of this photo, the two coats of white paint specified for the siding had long before weathered away. Credit: Delaware County Historical Society

The bridge presently here was rebuilt in the early 1970s when the Corps of Engineers flooded the valley to create Alum Creek Reservoir. This was a flood control venture whose origins lay in the statewide floods of March 1913 and January 1959. A geological tour of the area that followed the 1959 flood noted that the flood had washed out the approaches to the bridge. The bridge itself withstood both floods, perhaps because the eastern abutment was tied into this remarkable bedrock.

Although a construction date has yet to be determined, we know that some type of bridge was at the site before 1832. That's the year David T. Sherman, a wagon maker from Connecticut, received his first contract from the Delaware County Commissioners to do bridge work, in this case repairing this earlier bridge. The cliff of shale on the east side of the valley undoubtedly created a challenge for the original builder, because it was still a factor when the bridge was finally replaced in 1858. The new bridge was built on a different road alignment, and someone was hired to calculate exactly how much shale would require removal from "Alum Creek Hill" to complete the project.

Through Ohio's Trusses, continued..... David A. Simmons



The 1858 bridge—identified by Miriam Wood as the Myers Mill Bridge (35-21-47x)—was well documented through detailed specifications preserved in the commissioners' journal. It was 130-foot Burr truss with the arches (5" x 11") and trusswork (nominally 7" x 7" but fabricated from 12" stock to allow for brace connections) made from white or Burr oak. Both upper (7" x 7") and lower chords (4" x 12') were "sound pine." Lengths of the lower chord were to be "locked" together—probably referring to some type of notching—that was additionally secured with 7/16" iron bolts. Further, each panel of the lower chord was "trunnelled together" with six 1 1/2" "hard wood pins." All these latter connection details emphasize that long, large dimension timbers were already in limited supply from local forests. Only six years earlier, county bridge specifications had routinely called for 60-foot timbers.

The abutment on the eastern end was built into the slate bedrock of the hill, but also had to accommodate the adjacent millpond for a structure known as Myers Mill. Unfortunately, little information has been found on this mill, although the site was apparently used for milling as early as 1808. The excavation depth for both abutments was also specified to be lower than the top of the nearby milldam.

Around 1915, a driver stopped his "machine" on the Alum Creek replacement bridge and stepped onto the deck to snap a photograph of the shale cliff. In the process, he inadvertently captured a detail of the all-riveted steel construction of this Brookville Bridge Company truss. Credit: Delaware County Historical Society

The county got a respectable return on its \$2400 investment, for the bridge stood more than half a century. When they decided to replace it in 1911, the shale cliffs remained a major concern. Two separate contracts were let for the substructure instead of the usual one. Apparently the commissioners assumed that erecting the eastern abutment into the face of the shale cliff was alone enough for any single masonry contractor. The superstructure was the work of the Brookville Bridge Company from Brookville, Ohio. Several photographs exist of this riveted through truss replacement, but invariably the photographer was more drawn to the shale cliffs than the bridge itself. Some bridge sites are just like that!

David T. Sherman received the \$2400 contract for this new covered bridge. He was given 8 months to complete it and was offered only a single advance of \$500. Before signing the contract, Sherman was required to furnish a \$5000 performance bond.



While this photograph provides some interesting details of the 1911 steel bridge and its spectacular abutment, the photographer was definitely more intrigued by the two women exploring the base of the shale cliff. Credit: Delaware County Historical Society

Bridge News.....Elma Lee Moore

Knowlton Covered Bridge, Monroe County.....Elma Lee Moore

As reported on the Facebook page of “Monroe County Memories” by Monroe County Commissioner, Mitchell Schumacher, “One hundred and forty-five Monroe County white oaks were transported in April to a mill in Kidron to be cut to specs for the rebuild of the Historic Knowlton Covered Bridge. I understand the milling will begin during the second week of May. The rebuild, planned prior to its collapse, would have been a 90% replacement, but would not have been open to local traffic. As disappointing as the collapse was for county residents, as I understand it, the bridge rebuild will now be allowed to be open to “light” local traffic. No school busses or fire trucks but light traffic. Original members of the bridge were retrieved after the collapse which will be included in the rebuild. The rebuild is slated to begin in September after pier work is completed.”



New NSPCB Feature.....Elma Lee Moore and Matt Haldiman

The National Society for the Preservation of Covered Bridges (NSPCB) has a new guide app available. Portions are available to both members and nonmembers. The app can be accessed via a database website and a phone app. It has many excellent features which will allow a user to quickly identify covered bridges in a particular area, keep track of bridges the user has visited, and serve as a planning guide for visits to bridges. It has a slide show of covered bridge photos for those just interested in viewing for enjoyment. A user must register to access the system. This may be accomplished by accessing www.abhdemo. A companion phone app is available for both Android and Apple iOS versions. OHBA Vice President Matt Haldiman recommends this to our members as he has downloaded it and uses it often.. (The Newsletter of NSPCB, Spring 2023)

Spellacy Covered Bridge, Homes County..... Elma Lee Moore

Construction has begun on a new covered bridge in Holmes County near Loudonville on Wally Road. The Spellacy Covered Bridge will eventually become one of the largest covered bridges in the United States spanning 300 feet in length with a width of 24 feet. The \$8.5 million project supported by federal grant funding is being built by Kokosing Construction. According to County Engineer Christopher Young, the new bridge will replace the old Wally Road Bridge which crossed the Mohican River. The old bridge was one lane with a weight limit of 10,000 pounds. It was in “bad shape” and demolished in September 2022. The new bridge is expected to be completed by September 2023. Those wishing to see the progress on the bridge can visit www.mohicangreenway.com and click Construction Projects at the top of the page. A live streaming feed is also available at <https://m.twitch.tv/holmescountyengineer>. See the rendering of the bridge on back cover.

Source: Thebargainhunter.com, April 29, 2023

Ashtabula County Junior Bridgers.....Elma Lee Moore

The Ashtabula County Junior Bridgers have been active in their second year of operations. At recent meetings, they visited the Cain and Graham Road Covered Bridges as well as having a lesson on the power of water. In another project they built their own models of covered bridges. Michele Lee Victor posted several articles and images of activities on her Facebook page. OHBA commends these activities as building interest in preservation of covered bridges among younger persons.



OHBA Officers & Membership Information

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DUES: Senior (age 55 and over) \$8; Student \$8; Single \$10; Family \$15; Contributing \$25; Supporting \$40; Life \$250. Annual dues include subscription to Bridges & Byways, quarterly journal of the OHBA. Dues period is the calendar year. Dues paid after October 1st cover the succeeding year. Renewal dues to be paid by 1/15.

Please fill out the membership application form below and send it with your check made out to the OHBA to **Mr. Joseph Charles at 726 Newark-Granville Rd., Granville, OH 43023-1451.**
Be sure to include your 9 digit zip code.

I wish to join/renew (circle) membership with the OHBA.

My name is _____

My mailing address is _____

City _____ State _____ Zip Code(9 digit) _____

My email address is _____

My phone number is _____

Enclosed is my check made out to the OHBA in the amount of _____ for a _____ year senior/single/family/contributing/supporting/life/student (circle) membership.

Ohio Historic Bridge Association
PO Box 153
Galena, OH 43021-0153

Return Service Requested



Spellacy Covered Bridge Rendering
Source: Holmes County Engineer Website