

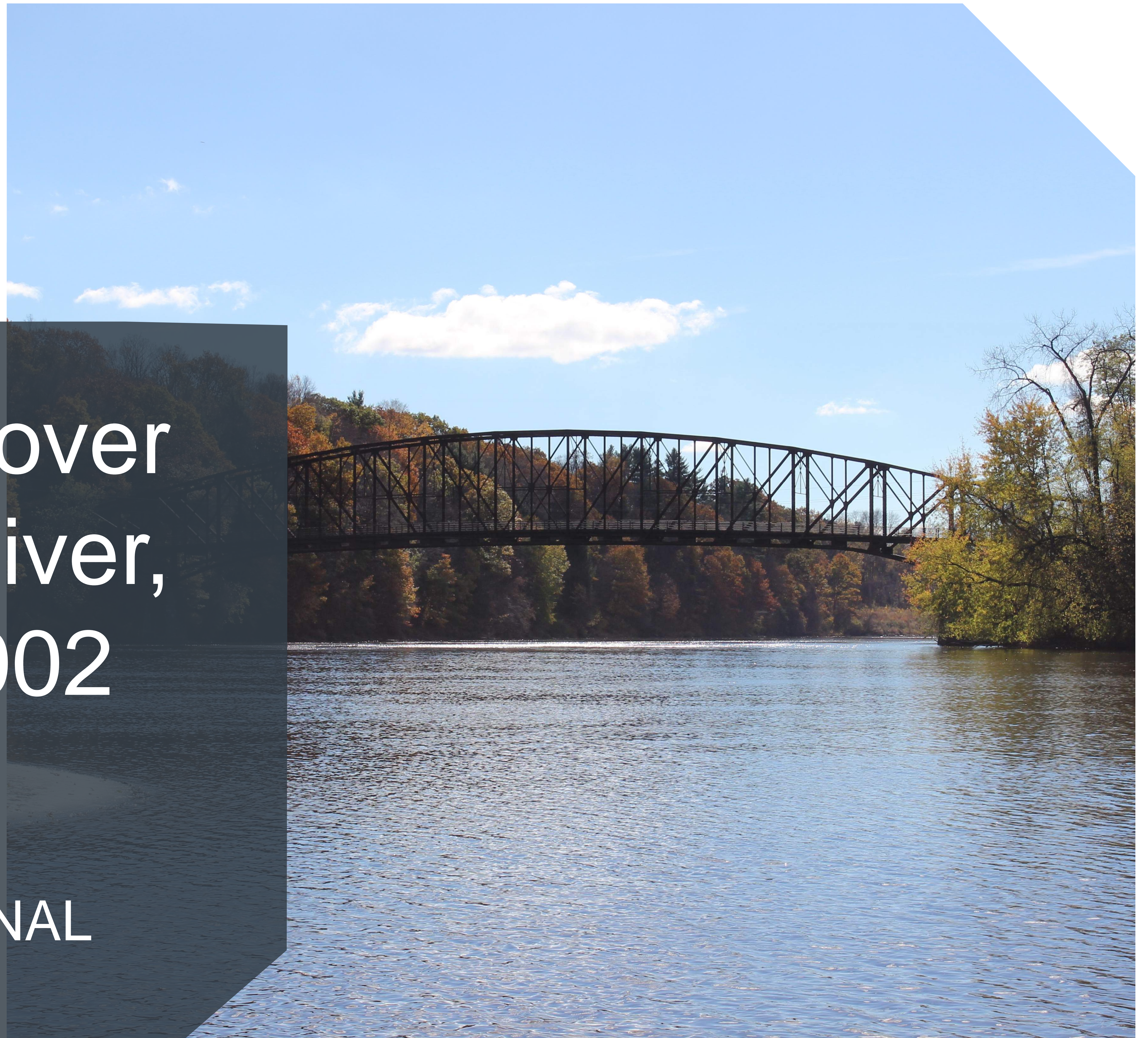
May 13, 2019

Schell Bridge over Connecticut River, Br. No. N-22-002

TOWN OF NORTHFIELD

PUBLIC INFORMATIONAL
MEETING:

Bridge Type Selection Results



Summary of our March 2018 Meeting

- Showed how the Public feedback was used to establish the final 3 Alternatives to be evaluated
- Showed renderings of the final 3 alternatives
- The public provided us verbal and written comments on the final 3 alternatives
- Next Step: Develop Bridge Type Selection Report and submit to MassDOT with a recommended alternative

ALTERNATIVE 1:

PREFABRICATED STEEL TRUSS



ALTERNATIVE 2:

PREFABRICATED STEEL ARCH/TUNABLE SYSTEM



ALTERNATIVE 3:

STEEL TIED ARCH



Summary of Public Comments

March 2018 Meeting Comments Summary - (BTSW Concepts)						
Concept No.	Bridge Type	Positive	Neutral	Negative	Net	Total
#1	Prefabricated Steel Truss	13	2	4	9	19
#2	Prefabricated Steel "Tunable" System	4	1	6	-2	11
#3	Steel Tied Arch	45	0	2	43	47
Total Comments						77

Summary of Comments

- Strong public preference for Alternative 3:

"I strongly prefer Alt. 3, mostly because it seems quite open uniting the river, sky and landscape."

"This is my favorite as it mimics more strongly the Schell as it is. I also like the 'open to the sky' interior..."

"This is a great design. Don't change a thing. Let's build it."

"Nicest perspective from the deck of the bridge – very open!!"

"Open feel is comfortable and dramatic."



BOARD OF SELECTMEN
TOWN OF NORTHFIELD

www.northfieldma.gov
69 MAIN STREET
NORTHFIELD, MASSACHUSETTS 01360-1017

P: (413) 498-2901
F: (413) 498-5103

James M. Dalton, P.E.
Bridge Project Management
10 Park Plaza, 6th Floor
Boston, MA 02116

May 29, 2018

Dear Mr. Dalton:

The Select Board of the Town of Northfield would like to thank MA DOT for its continuing good work on the replacement for the Schell Bridge with a pedestrian and bicycle structure. We have been very appreciative of the effort MA DOT has made to visit our community and solicit comment from citizens on design questions in cooperation with our Town Schell Bridge Advisory Committee.

With the support of the Town Advisory Committee and their citizen partner, Friends of Schell Bridge, Northfield citizens were once again invited to share their comments on line via the Town website through the end of April on the three design options presented by MA DOT at the March 22, 2018 meeting. In all, the Town received an additional 45 comments beyond those comments that were left with MA DOT staff by participants attending the March 22 meeting. Of the on-line comments, 32 preferred design # 3, Steel Tied Arch; 8 preferred design #1, Prefabricated Steel Truss; and 3 preferred design #2 Prefabricated Steel Arch/Tunable System.

The Select Board endorses the choice of the citizens and encourages MA DOT to select design #3, Steel Tied Arch, for the continuing design and engineering process.

We look forward to our next meeting with MA DOT staff and their consultants. We believe this project will be a tremendous asset to our town, the region and the state.

Sincerely,

Tracy Rogers, Chair

Julia Blyth

Alexander Meisner

Cc:

Peter J. Cavicchi, P.E.
Interim Highway Director, MA DOT District 2
811 North King Street
Northampton, MA 01060

Paul Jahnige
Director, DCR Greenways and Trails Program
136 Damon Road
Northampton, MA 01060

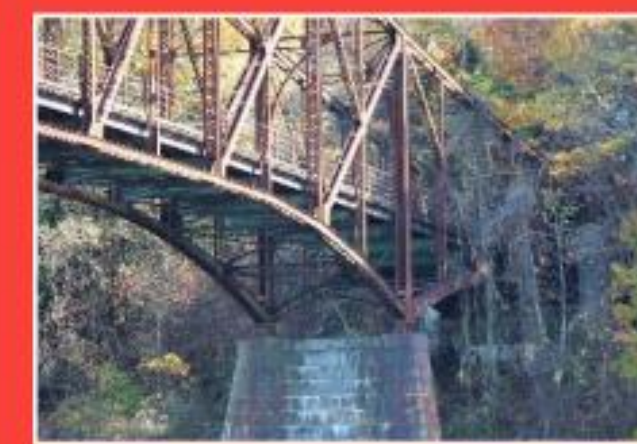
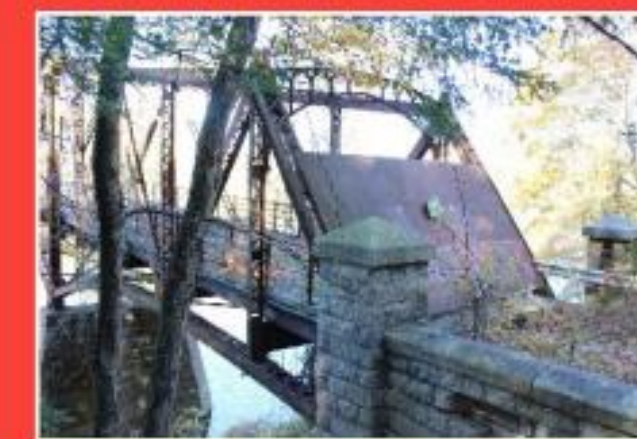
Since our Last Meeting

- Reviewed and summarized the comments from the community
- Completed the Bridge Type Selection report
- Recommended proposed bridge alternative to MassDOT

March 19, 2019

BRIDGE TYPE SELECTION

Town of Northfield
East Northfield Road
over the Connecticut River
Bridge No. N-22-002 (OMU)



Submitted to:



Submitted by:



WSP USA, Inc.
100 North Parkway, Suite 110
Worcester, MA 01605
Tel: 508.248.1970
Web Site: www.wsp.com

Summary of Findings

Alternative 3, "Steel Tied Arch Main Span and Steel Girder End Spans", is recommended for the proposed construction.

Advantages:

- Strong Public Support
- Custom design provides greatest flexibility
- Smaller cranes for installation/erection
- Competitive Cost

SELECTED ALTERNATIVE

ALTERNATIVE 3: STEEL TIED ARCH



SELECTED ALTERNATIVE

ALTERNATIVE 3: STEEL TIED ARCH



SELECTED ALTERNATIVE

ALTERNATIVE 3: STEEL TIED ARCH



PRESERVING THE HISTORY

Heritage Park – Berkley, MA (Berkley-Dighton Bridge)

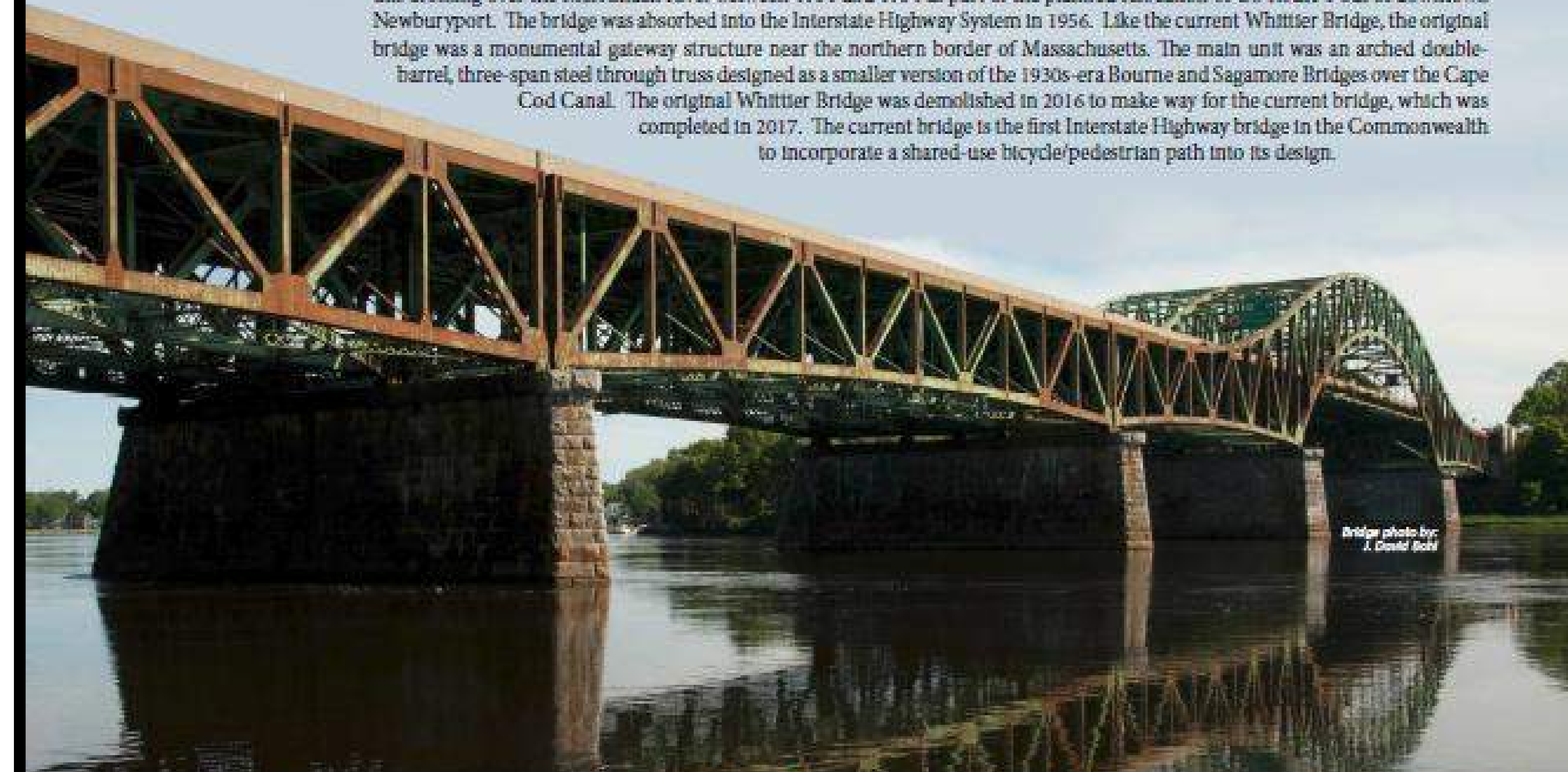


PRESERVING THE HISTORY

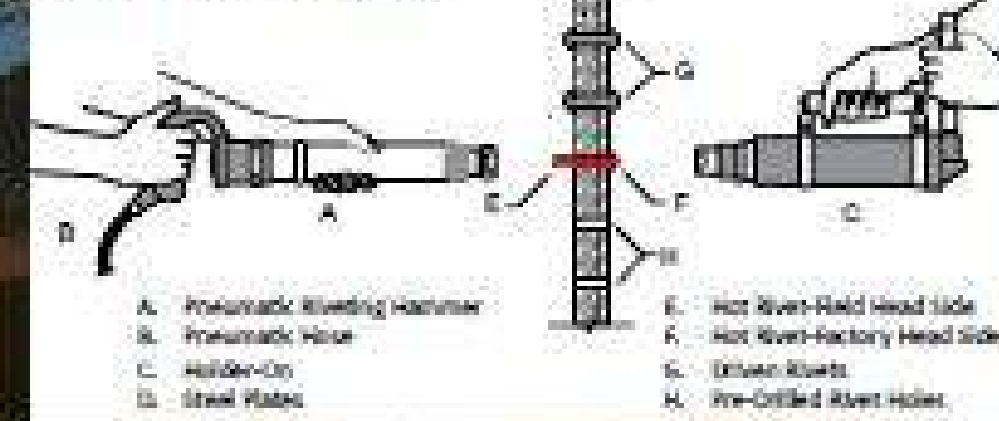
Amesbury, MA (Whittier Bridge)

HISTORY OF THE WHITTIER BRIDGE

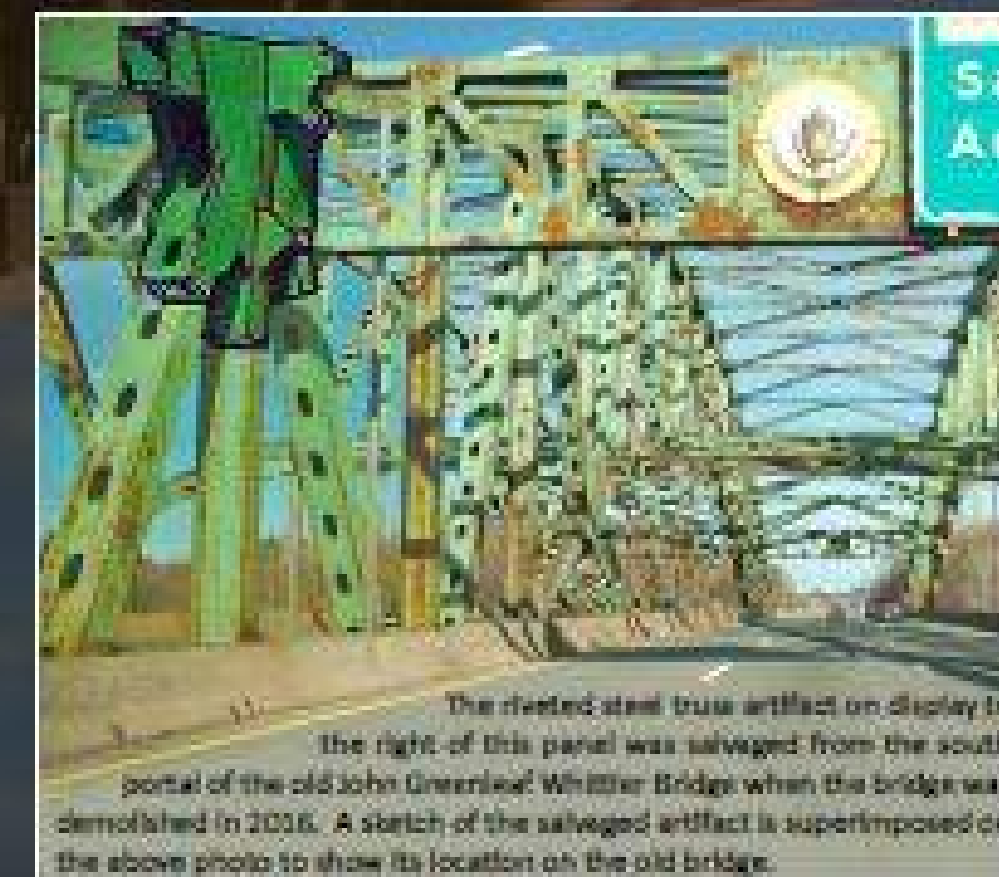
The original John Greenleaf Whittier Bridge, named after the revered 19th century poet and abolitionist, was constructed on this crossing over the Merrimack River between 1951 and 1954 as part of the planned relocation of US Route 1 out of downtown Newburyport. The bridge was absorbed into the Interstate Highway System in 1956. Like the current Whittier Bridge, the original bridge was a monumental gateway structure near the northern border of Massachusetts. The main unit was an arched double-barrel, three-span steel through truss designed as a smaller version of the 1930s-era Bourne and Sagamore Bridges over the Cape Cod Canal. The original Whittier Bridge was demolished in 2016 to make way for the current bridge, which was completed in 2017. The current bridge is the first Interstate Highway bridge in the Commonwealth to incorporate a shared-use bicycle/pedestrian path into its design.



HOT RIVETING



Images above and below by Jeffrey Lane



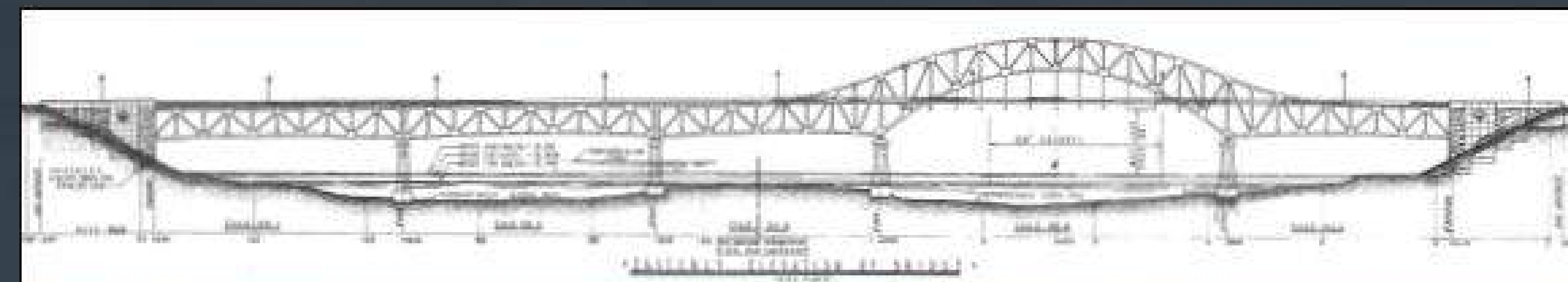
RIVETED STEEL BRIDGE CONSTRUCTION

The original Whittier Bridge, constructed in 1951, was an example of mid-20th century riveted steel construction, the predominant connection method of steel bridge fabrication from the 1860s through the 1960s. The artifact on display to the right is a section of the riveted steel truss that was salvaged from the original bridge when it was demolished in 2016.

The process of connecting steel plates with hot rivets required a coal-fired furnace at the construction site and a "gang" of four workers. The hot and bone-jarring work required skill, strength, and stamina, and the workers had to move in quick synchronization to get the job done.

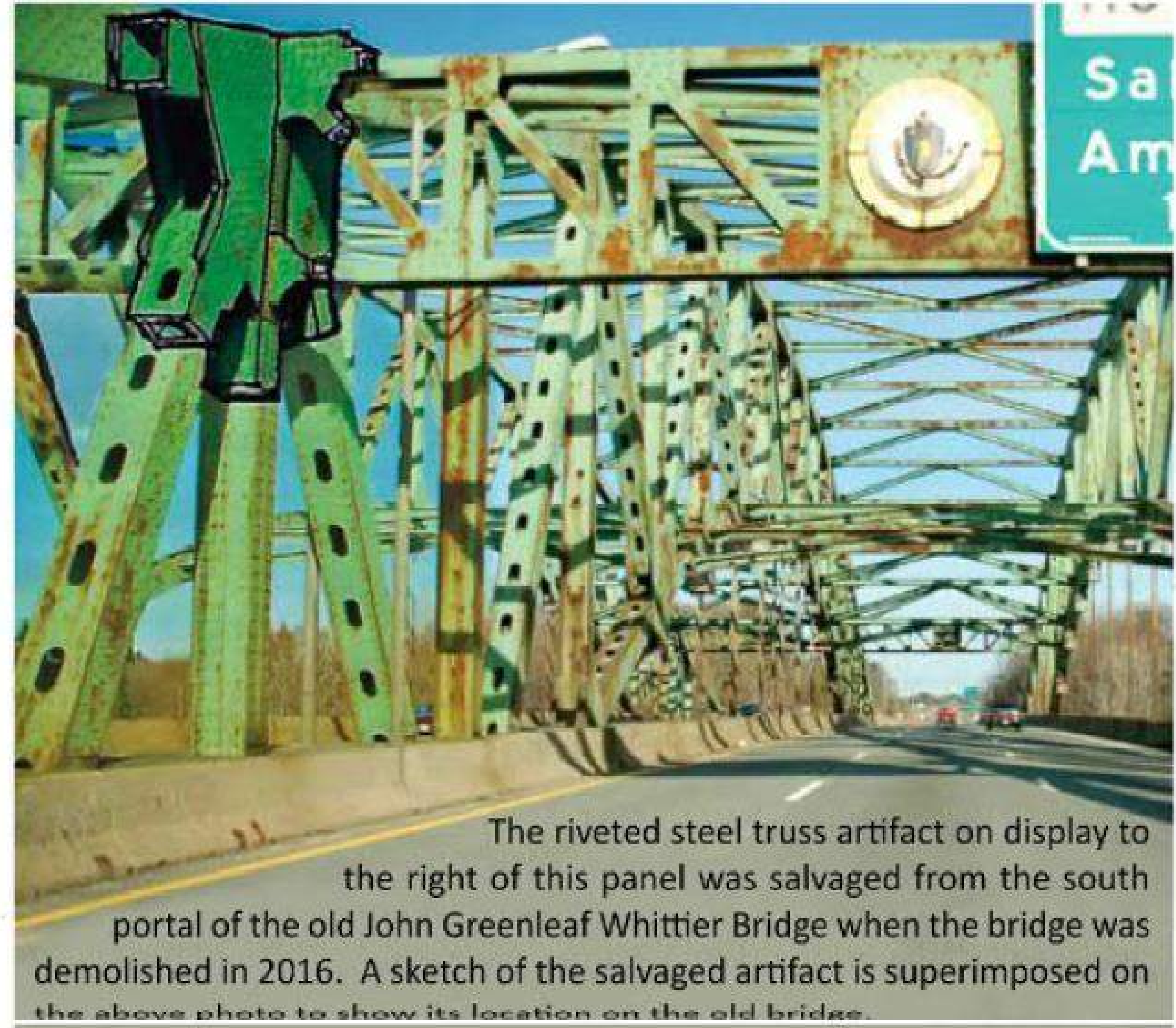
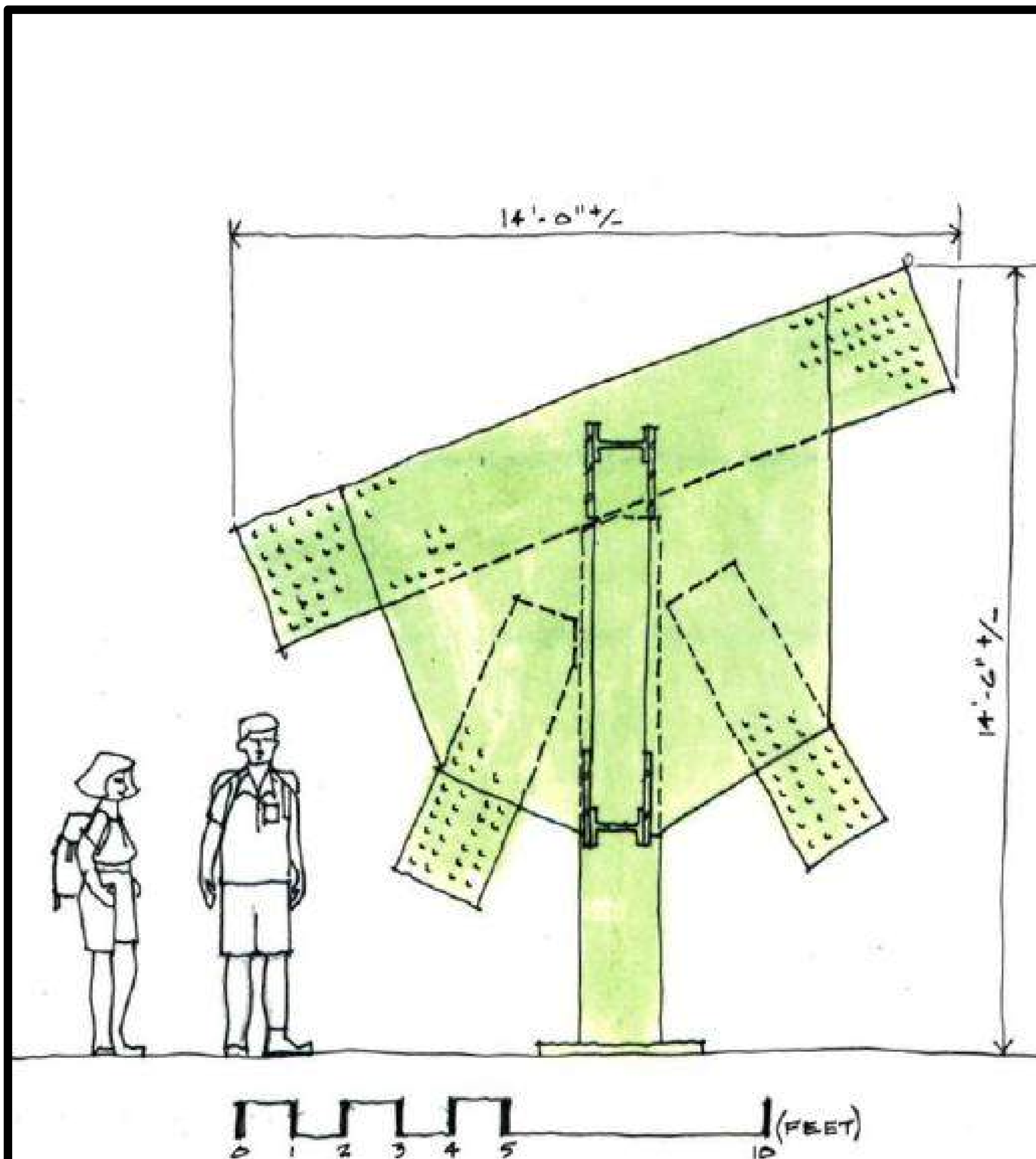
- The furnace tender would "cook" the steel rivets to a glowing temperature and then "pitch" a red-hot rivet to the "catcher," who caught the hot rivet on the fly in a conical leather pail.
- The catcher removed the rivet with long steel tongs and quickly inserted the shaft of the hot rivet into a pre-drilled hole in the structural steel.
- The "holder" pressed the rivet into the hole with the "holder-on" tool until the factory-formed domed rivet head was in firm contact with the structural steel.
- The "riveter" would place the cupped end of the pneumatic hammer onto the unformed field end of the hot rivet and then pull the hammer's trigger. The hammer would repeatedly batter the hot field end into a domed buttonhead to form a tight connection, while the holder-on absorbed the blows on the other side of the hole.

By the end of the 1960s, due to high labor costs, riveted connections on bridges were replaced by high-tensile bolted connections.



PRESERVING THE HISTORY

Amesbury, MA (Whittier Bridge)

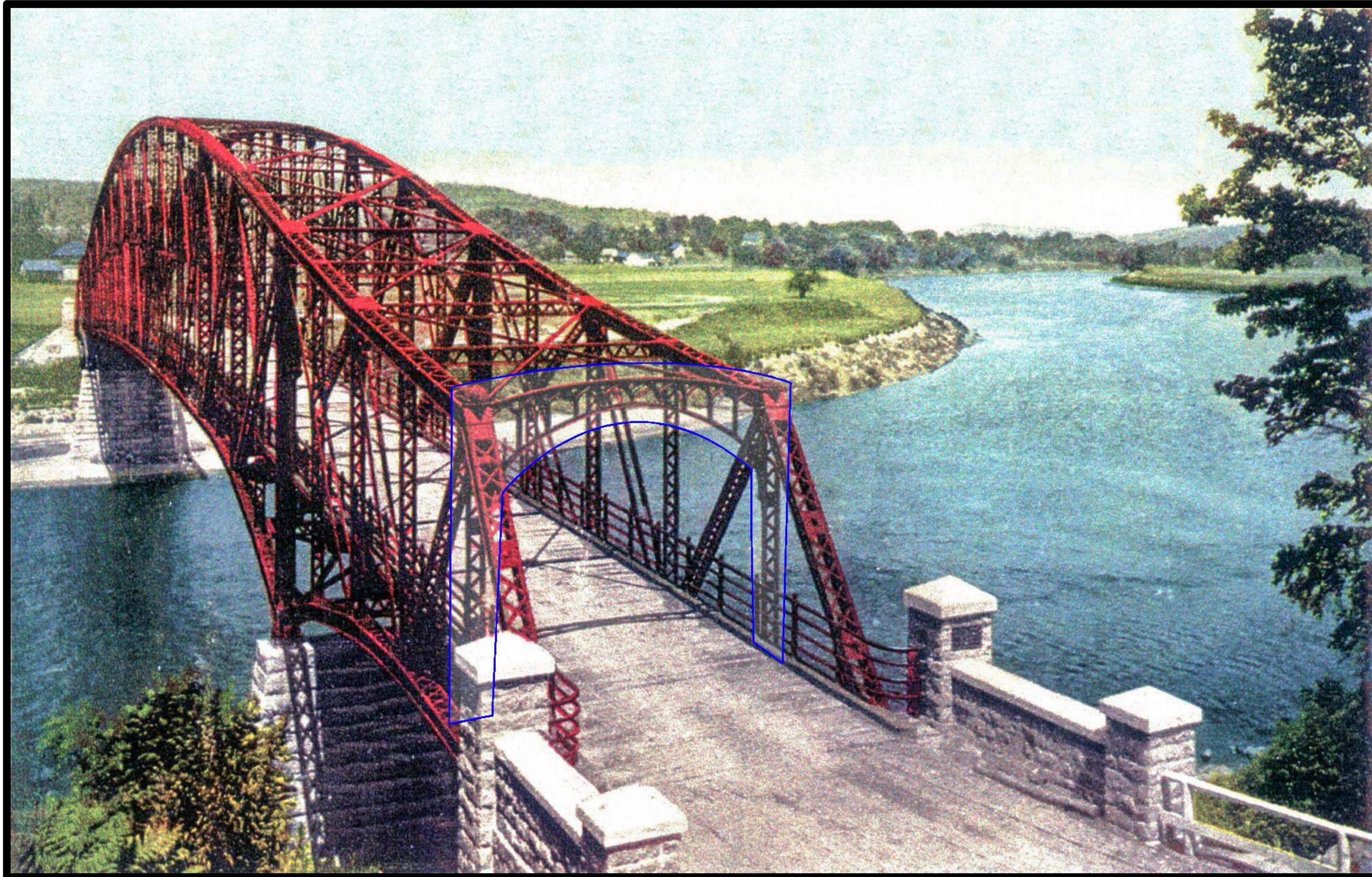


The riveted steel truss artifact on display to the right of this panel was salvaged from the south portal of the old John Greenleaf Whittier Bridge when the bridge was demolished in 2016. A sketch of the salvaged artifact is superimposed on the above photo to show its location on the old bridge.

Art / Historic Elements – John Greenleaf Whittier Bridge Steel Truss

PRESERVING THE HISTORY

Remembering the Schell Bridge



PRESERVING THE HISTORY

Remembering the Schell Bridge

- Preserve/replicate existing steel components.
- Info board detailing the history of the Schell Bridge.
- Reuse stone from existing abutments/piers.



Next Steps

- Perform Geotechnical Investigation.
- Complete the 25% Design / Bridge Sketch Plans.
- Hold the 25% Design Public Hearing.

SCHEDULE:

- Complete 25% Design 6-9 months (Late 2019/Early 2020)
- Anticipated to be Advertised End of 2021

Thank You!

Questions?

**Please see Town of Northfield Website for link
to email comments:**

<https://www.northfieldma.gov/>