

**FOR IMMEDIATE RELEASE**  
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## **FINLEY Provides Innovative Bridge Design and Construction Engineering To Widen An 83 Year-Old Steel Truss Bridge**



**Photos:** Credit Jared Katz: Top-view from east 12' separation; bottom-new brace

Tallahassee, FL (August 7, 2012). The Vermont Department of Transportation retained the design-build team of Harrison & Burrowes Bridge Constructors, Inc., CHA, Inc. (CHA) and Finley Engineering Group, Inc. (FINLEY) to widen the 83 year-old, 350-ft. long Checkered House Bridge on Route 2 in Richmond, Vermont.

After months of preparation, the Checkered House Bridge was literally rolled it out an additional 12 feet 6 inches to the north with the bridge construction engineering technical support from FINLEY and CHA. The side-launching was completed in 1.5 days, achieving a launching rate of 2 feet per hour.

"Widening a bridge of this age, type and size was technically challenging because we needed to consider construction engineering during the design phase" said Jerry M. Pfuntner, P.E., FINLEY Project Manager.

"This was the first time that I had worked with FINLEY and I was very impressed with the innovative thinking that went into the bridge widening. During the widening, FINLEY was on-site providing technical support which proved to be critical in keeping the launch on schedule. FINLEY's expertise in both design and construction engineering was invaluable for this "first of its kind" project" said Carolyn Carlson, P.E., Structures Project Manager Vermont Agency of Transportation.

The Checkered House Bridge is the largest truss bridge in Vermont. Built in 1929, it needed to be widened to accommodate traffic and enhance safety. The bridge is the last of its kind in Vermont on a major roadway and is historically significant. The design-build rehabilitation and widening of this 350 foot span truss bridge is the first time

such a technique has been tried on such a large bridge. The Checkered House Bridge project is only the second design-build project undertaken by the Vermont Agency of Transportation (VTrans) since design-build project delivery was authorized by the Vermont legislature.

FINLEY developed and implemented the concept to widen this truss bridge by cutting and moving the entire North truss chord in-place by 12 feet, 6 inches. To maintain its historical integrity, the plan was to widen the bridge leaving as many of the original steel members as possible and installing new structural bracing members within the widened portion of the bridge only. To accomplish this, FINLEY developed the original concept for a falsework and jacking system that allows the North truss to be moved while still receiving lateral support from the South truss system. The South truss was designed to support the entire existing truss bracing members with the aid of this unique falsework system that stabilized the eccentric self-weight, wind loading and jacking forces through the many phases of the North truss jacking operation. FINLEY designed the hydraulic side- launching jacking system that assisted with separation of the truss members from the existing connections, moved the North truss and facilitated fit-up of the new bracing members, as well as providing a means to adjust the camber of the North truss. The side-launching was completed in 1.5 days, achieving a launching rate of 2 feet per hour. This project includes many other challenges including ice flows, wind loading, maintaining aesthetics and sensitive environmental issues.

The Checkered House Bridge is scheduled to be completed in late spring 2013.