

Preparing for Tuesday, June 5th, 2007

Charlotte Highway Bridge Update (May 5th, 2007)

Vern Mesler, Project Manager for the restoration of historic bridges for Calhoun County Historic Bridge Park



County employee Del Sears (second from left) explains to his Supervisor Paul Adams (far right) what needs grubbing ("to clear by digging up roots and stumps" Webster's) as Wayne Conklin and Rob Denniston look on.

Around 2:30 pm Thursday May 5th my county phone rang: "Vern, this is Scott. The dates we were talking about are on our schedule." "The week of June 4th?" I asked. "Yes," Scott said, "and I'll need two days to do the pick. We'll come in Monday June 4th to set up, and we'll set the bridge early Tuesday morning June 5th." I've been working with Scott Schneider, Operations Manager for Grand-Davo Crane Service, and the week of June 4th was tentatively set for about a month, but a lot of details had to be completed before the June date could be firmed up. Clearing the site for constructing the abutments, building the abutments, bolting down the wood deck, and working out a lifting procedure for setting the Charlotte Bridge.



The Charlotte Highway Bridge assembly is complete, and the bridge is ready to be set on abutments. The Charlotte Highway Bridge was designed by Buckeye Bridge Works and built by H. P. Hepburn Engr. & Contr, Cleveland, Ohio, in 1886. The bridge is a single span wrought iron double intersection Pratt through truss with pinned connections. There are few double intersection Pratt truss bridges left in Michigan. This bridge was well preserved, and the only major restoration required was the replication of ten riveted floor beams. The Charlotte Highway Bridge will be the fifth historic bridge to be erected in the Calhoun County Historic Bridge Park.



Bob Matthews, another experienced equipment operator for the County, clears the east abutment site with the County Caterpillar 966E front end loader.



Del Sears guides the County's Caterpillar 966E front end loader along the top of the west abutment site, clearing the brush and trees. Occasionally the heavy front tires would sink deep in the loose sandy soil, but a few quick moves with the 5-yard bucket and Sears has the front end loader clear and resumes grubbing.



With an experienced hand Matthews pushes down trees with the front end loader's bucket, then picks each downed tree slightly off the ground with the bucket and shakes the dirt free from the tree roots. Each tree is then stacked in a pile, then that pile is lifted high and dumped on the growing accumulation of trees and brush.

Frank Hatfield, P.E., Professor Emeritus, Civil and Environmental Engineering, Michigan State University, worked with Scott Schneider and me in developing a lifting procedure for setting the Charlotte Highway Bridge. Hatfield's fee, a good breakfast at Spuds Family Restaurant at 611 South Waverly, Lansing, is served hot and quick by the friendly staff, a real Michigan breakfast.

On April 25th, 2007, county officials and I met with Civil Engineers, Inc. and Duckworth Brothers, Inc. to finalize the placement of the abutments and a date for the completion of the abutments. It was a cool day with a steady rain that made the bridge site muddy and slippery. Tim Duckworth, Vice-President of Duckworth Brothers Inc. and Richie Waychoff, Foreman, came prepared for the rain: they brought laminated abutment drawings. We all moved around the site visualizing where the abutments would set, and the bridge crew stretched a 300' tape across the drive and up the far muddy bank so we could all get an idea where the bridge and abutments would be located. Two stakes were driven to mark the location. Work on the abutments would start the next day.



Laminated abutment drawings



From left to right; Tim Duckworth, Vice-President Duckworth Brothers, Inc., Dennis Randolph, Managing Director, Calhoun County Road Commission, Joanna Johnson, Asst Managing Director, Calhoun County Road Commission, Randy A. Ramsey, P.E. President, Civil Engineers, Inc., Richie Waychoff, Foreman, Duckworth Brothers, and Clint Burdick, Engineering Technician CEI.



Engineering Technician from Civil Engineers, Inc. lays out the East side abutment



Dennis Randolph inspects work on the East side abutment.



From left to right; Richie Waychoff, site Foreman, Robert Frank Millious and Reyes M. Germain, all from Duckworth Brothers, Inc.



Joanna Johnson inspects work on the East side abutment.



Richie Waychoff, Vern Mesler

Bolting down the wood deck was one of the last jobs that needed to be done, and several men from K-PEP assisted the bridge crew with the work. Hundreds of 3/8-inch holes had to be drilled through the 1 3/4 " wood planks and the 1/4 " steel flange of the stringer beams for the 5/16-inch deck bolts.

The bolting was completed in the first week of May, and the bridge crew is now fabricating a tube frame that will be used to maintain the bottom dimension of the inclined end posts as the Charlotte Highway Bridge is being lifted. The bridge crew is also fabricating a heavy duty steel tube handrail to be installed on the Charlotte Highway Bridge after it is set.



Battle Creek K-PEP volunteers drilling holes for deck bolts.



Battle Creek K-PEP volunteers installing deck bolts.



From left to right: Wayne Conklin, Michael Powell, Rob Denniston, Fredrick Loud. Conklin and Denniston work as bridge restorers for Calhoun County Historic Bridge Park.

The Calhoun County Historic Bridge Park will closed June 4th and 5th when the Charlotte Highway Bridge is scheduled to be lifted and set on its new abutments. A viewing area will be set aside for those who plan to attend the event. Another email will be sent a week before the bridge lift with more detailed information.

For those who would like to contribute to the Calhoun County Historic Bridge Park, please contact Kevin S. Henning, Finance Director for Calhoun County Road Commission, 800 781 5512 or khenning@calhouncrc.net

For information on obtaining copies of the soon-to-be published book by MSU Press, "A Bridge Worth Saving: A Community Guide to Historic Bridge Preservation," please contact Dennis Randolph, Managing Director of Calhoun County Road Commission, 800 781 5512 or drandolph@calhouncrc.net