Craftsman's Newsletter ***Vern Mesler 01/04/09***

Chesaning Village, Parshallburg Bridge

"A tree lodged against the bridge and tore off the outer railing. Huge cakes of ice were checked by the tree. The strain was too great for iron arches and girders; two or three vibrations and $6,200 worth of bridge fell into the stream." This is how the *Lansing Republican* newspaper reported the fate of the Mineral Spring Bridge in "Lansing's Great Flood" of 1875, as recounted by Norris Ingells (*Lansing State Journal* 1/17/1995).

On December 28th 2008, the Shiawassee River in Chesaning, Michigan, was swollen and ice jammed. Its swift current piled ice and debris against the wrought iron bottom chord members of a restored historic metal truss bridge. As the river continued to rise, more ice and heavy debris piled along the length of the bridge and the relentless currents of the swollen Shiawassee River weakened the resistance of the anchor bolts that held the bridge in place and ripped them from the abutments. The historic bridge began drifting atop the swift river and one of the heavy wrought iron inclined end posts caught and wedged against trees along the shore. The bridge slowly rolled on its side.

The wrought iron bridge that lay on its side, its bent inclined end post anchored to a tree, is the Parshallburg Bridge built by the Wrought Iron Bridge Co. of Canton, Ohio, 1889.

Parshallburg Bridge, Chesaning Village, winter 2007

Parshallburg Bridge, Chesaning Village, summer 2006

The truss design, a “combined triangular and suspension bridge truss,” was patented by Edwin Thacher in 1883, an engineer for the Keystone Bridge Company. The truss design was one of many patented during the nineteenth century as the United States began spanning its rivers with wrought iron and steel bridges. So many bridges were built at that time Americans were accused by foreign manufacturers of building bridges and selling them “by the mile.” Thacher’s truss design never caught on; the Wrought Iron Bridge Company built a few of the Thacher truss design with some variation of the design, possibly to avoid patent infringement. David Guise’s article in the Society for Industrial Archeology Newsletter (Spring 2001), “Elusive American Truss Bridges, Thacher’s Truss,” is an excellent article that provides some insight into the truss design and its contributions. “Thacher’s design was flawed…Nevertheless, his solution provides an insight to some of the engineering concerns of the day. The handful of remaining examples provides a picturesque alternative to more efficient but mundane solutions.”

The Parshallburg Bridge is listed in Charles K. Hyde’s book *Historic Highway Bridges of Michigan* as the Ditch Road Bridge (1889), “the oldest example of the Thacher truss in the United States … over the Shiawassee River in Saginaw County.” At the time Hyde’s book was published in 1993 there were no plans to save the Parshallburg Bridge, but in 1999 with critical bridge funding and a transportation enhancement grant the bridge was moved to the Village of Chesaning and restored, where it has served as a pedestrian bridge.

On December 30th Carl Smith (MDOT engineer) sent out an email with an article and video from the *Saginaw News* that shows the Parshallburg Bridge being ripped from its abutments and within minutes snagged by trees. The next day Mark Latsch (P.E., Spicer Group, Inc., Saginaw, Michigan) organized a meeting at the bridge site of professionals to explore options to remove the bridge from the river immediately.

Scott Davis from McNally & Nimergood (a crane company with experience handling difficult and seemingly impossible jobs) closely inspected the bridge. With the eye of a professional rigger, he began visualizing the size and location of cranes and along with Latsch began to explore rigging methods that could be used to remove the bridge from the river. Neil Pullman (engineer retired from the Bay Region MDOT bridge program)

was on hand to advise and later wrote an excellent detailed outline for MDOT personnel of the work that would need to be done. As a retired steel fabricator, welding instructor and past Project Manager for the restoration of historic metal truss bridges at the Calhoun County Historic Bridge Park, I was invited to determine if the bridge could be repaired. I found nothing that would prevent this bridge from being restored to its pre-flood condition. Also on hand were Joe Sedlar, Jr. (Chesaning Village President), Tom M. Meder (coordinator of the Shiawassee River Restoration Program), Damion Frasier (Chesaning Village Trustee) and other Chesaning Village officials.

Left to right: Vern Mesler, Joe Sedlar Jr., Scott Davis, Mark Latsch, Neil Pullman, Tom M. Meder and Damion Frasier.

Before leaving the site for the day, Joe Sedlar, Jr., Scott Davis, and I do a final inspection of the bridge. Sedlar watches the river rush along the fallen bridge with broken trees hanging from its wrought iron members. “The river has come down a little since we came out here,” he said. A retired machinist who respects craftsmen and their work, Sedlar turns his thoughts to a more pressing problem than a craftsman’s record: the difficulty in finding funding to do anything with the bridge. The Village of Chesaning, along with cities, road commissions and the State of Michigan, continue to struggle with deficits. The cries from those who might oppose any money spent on the fallen bridge will be hard to ignore.

The Village of Chesaning would appreciate any contributions or suggestions for funding from any organization in the country that could help finance the immediate removal of the Parshallburg Bridge from the river and its placement on the shore, ready for further inspection and planning. Please contact Joe Sedlar, Jr., Chesaning Village President, at 1-989-845-3800 or sedlars@centurytel.net

Thank you.

Vernon J Mesler
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