

**MINUTES OF THE INFORMAL MEETING OF THE JOHNSON COUNTY  
BOARD OF SUPERVISORS:  
MAY 5, 2011**

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Chairperson Harney called the Johnson County Board of Supervisors to order in the Johnson County Health and Human Services Building at 6:00 p.m. Members present were: Pat Harney, Terrence Neuzil, Janelle Rettig, Sally Stutsman, and Rod Sullivan.

**VJ ENGINEERING: KEY ISSUES REGARDING THE REHABILITATION DESIGN OF THE SUTLIFF BRIDGE, INCLUDING BUT NOT LIMITED TO GENERAL AESTHETIC APPEARANCE OF THE NEW TRUSS SPAN, APPROACH SPANS, AND REPAIRS TO THE EXISTING TRUSS SPANS; PEDESTRIAN HANDRAIL TYPE AND APPEARANCE; DISPLAY BOARDS INCORPORATING SALVAGED PIECES OF THE LOST TRUSS SPAN; DESIGN AND CONSTRUCTION SCHEDULES; GENERAL PUBLIC CONCERNS AND COMMENTS**

Harney said the VJ Engineering (VJ) staff is going to give a Microsoft PowerPoint presentation and will go over some aspects of the Sutliff Bridge. Then, the Board will hear public input and questions.

VJ Engineering Structural Engineer Tim McDermott said he is the lead structural engineer and project manager of the Sutliff Bridge rehabilitation project. McDermott said the presentation shows the project schedule, which summarizes some of the various design and construction milestones for the project. The orange vertical line is where the process is at right now. The preliminary design phase has been completed and VJ is maybe 30% finished with the final design phase. The target plan turn-in date is July 18, 2011, which will be followed by a local bid letting in the middle of August 2011. Then, VJ wants to have a contract awarded by early September 2011, followed by a construction start in October 2011. About nine months has been allocated for construction, so it should wrap up in August 2012.

McDermott said he is going to cover some of the things that VJ Engineering staff has accomplished in the preliminary design phase. Staff surveyed the site and took graphic drawings to aid in the design process. Geotechnical engineers took soil borings, which will be used for the foundation design of the approach spans. Hydraulic information has

been collected, which was turned into the Iowa Department of Natural Resources (IDNR) and the U.S. Army Corps of Engineers (the Corps) for the required floodplain permitting. The preliminary design of the approaches, the preliminary design of the reinforcing of the existing truss spans, and the preliminary design of the new truss span have been completed.

McDermott said regarding the design of the west approach spans, the most cost effective span configuration is a replica of what was originally there. There will be eight equal length spans, measuring just shy of 20 feet. It will be a timber superstructure, which is similar to what was there before. The big difference is the ten-foot wide deck, versus a 16-foot wide deck. The reason is to have continuity between the adjacent truss span, which will also have a ten-foot wide deck. The timber handrail will be similar to what was there originally. It will be a little different, just to meet modern codes. The superstructure will be supported by a timber pile bent substructure.

McDermott said the PowerPoint is currently showing the typical view of the west approach cross section at the approach piers. There is a ten-foot wide deck supported by timber joists, which span in between timber floor beams located at each of the substructure piers. The piers consist of three timber piles, which have cross bracing in between. He said the presentation is showing a 3-D rendered visualization of a couple of the west approach spans. It just shows that the new bridge is very similar to the original design.

McDermott said the east approach span will be very similar to the west approach span. The difference is that the east approach span will have a 16-foot wide deck, versus the ten-foot wide deck on the west approach span. The reason is to create continuity with the adjacent spans. The new truss span will have a 16-foot wide deck. The handrails will be identical to what is on the west approach spans. From site visits, staff determined that the existing timber piles at the east abutment are not suitable for reuse. So, those timber piles will have to be pulled out, new timber piles will have to be driven, and a new concrete pile cap will have to be poured on top, as well as some timber wing walls to support the east approach.

McDermott said the presentation is showing a cross section view of the east approach at the east abutment. Again, it is a 16-foot wide deck, supported by timber joists, spanning between timber floor beams, which is supported by a concrete pile cap with timber piles.

McDermott said for the existing truss spans, there will be a new deck on each span. It will be ten feet wide. The new steel handrail will replace the damaged handrail, as well as bring it up to code. There was some damage to the east end when the main truss span was lost during the flood of 2008. Some of the floor system stringers and floor beams were pulled out. So, those will need to be removed and replaced. The overstressed and damaged truss members will also have to be reinforced.

McDermott said the next slide is a strengthening requirement diagram showing the difference between the necessary reinforcement for a ten-foot wide deck, versus a 16-foot wide deck. He said the colors are hard to see, but there are only two members that need to be reinforced in the ten-foot wide deck. They are the outside diagonals. All of that amounts to 150 pounds of new steel per span. For the 16-foot wide deck, almost 75% of the truss members need to be reinforced, which amounts to 6,400 pounds of steel per span. Clearly, there is a drastic difference between the two. Therefore, the deck is going to be narrowed to ten feet on the existing spans.

McDermott said the presentation shows a cross section view of the existing spans at the piers. The deck has been narrowed to ten feet, which is going to be accomplished by moving the first interior stringers on each side in by about nine inches, so that the appropriate width can be achieved. Then, the new steel handrail will be braced off to the exterior stringers.

McDermott said the new truss spans will replicate the geometry of the existing truss spans. The major difference is the 16-foot wide deck versus the ten-foot wide existing deck. The steel handrail will be identical to what is on the existing spans. The steel that is going to be used for the individual truss members, as well as the floor system, will be a weathering steel, to try and match the steel on the existing spans.

McDermott said the next slide is a cross-sectional view of the new truss span. Again, it has a 16-foot wide deck, and has a very similar floor system as the existing spans. Steel I-beam stringers will span between the floor beams located at each of the panel points. He said the presentation shows a 3D rendered visualization of what the new truss span will look like. It shows that it is very similar to the existing one.

McDermott said the next slide shows a side-by-side member size comparison of the existing truss members versus the new truss members, with the existing one on top. For the top chord members, the same paired channel configuration will be used. Those will have a cover plate. The same depth of channel was able to be used as the top chord of the existing span. The only difference is that it is a little heavier of a member. That is just to accommodate the heavier loads, due to a wider deck. The vertical members have the same basic configuration. It will be paired channels with bar lacing in between. The only difference is that the bar lacing on the new truss will be welded, versus the riveted bar lacing on the existing spans. The diagonal members, the slender rectangular bars, will be very similar to what is on the existing spans. The only difference, in terms of member type, will be the bottom chord members. Paired steel angles will be used for the bottom chord of the new spans. The reason is because that is the best suited member for the connections that will be used. The existing spans actually have forged I-bars that work well with the pin connections of those trusses.

McDermott said the biggest aesthetic difference of the two trusses will be the connections. The photograph on the left was taken at Sutliff Bridge, which is a typical pin connection of the bridge. It is very slender looking. The photograph on the right is a typical truss gusset plate connection. The gusset plate connection in the photograph is

actually riveted, but the new Sutliff Bridge gusset plate connection is going to be bolted. The photograph gives a general idea of the difference in aesthetics. The reason the bolted gusset plate connection is going to be used is because it is a more modern construction technique, which provides structural redundancy. So, it is a bit of a safer connection.

McDermott said the staff has talked about a couple different handrail options. The staff settled on a welded wire mesh handrail. It consists of a fixed frame that will span one panel's length of the truss, which is 19.5 feet. Each of the fixed frames will consist of three removable welded wire mesh panels. The thinking behind it was the concern of debris being snagged in the wire mesh during another high water event. The Cedar River does not rise very high, so there would be enough forewarning for someone to get out to the site, to remove the panels, and to store the panels off site. This will allow debris and water to pass through with minimal damage to the handrail and other truss elements. He said the next slide shows a 3D rendered visualization of what one of the handrail sections will look like.

McDermott said the VJ staff has been talking about putting a graphical display board on Sutliff Bridge. The staff was thinking of something along the lines of historical information, as well as some educational information about how a truss bridge works. Staff would like to support the graphical display board by using salvaged pieces of the lost truss span. Staff has been on site and found a couple of usable pieces that have been set aside for later use. He said the slide shows a 3D rendered visualization of what staff envisions that display board will look like. The two supporting legs in the 3D graphic were actually the old vertical members of the truss. It is paired channels with riveted bar lacing in between. Again, those have been set aside for later use. All that needs to be done is to cut them to the appropriate size, to add a couple base plates, and to add some top connections to the board. There is not a whole lot of fabrication involved in it.

McDermott said there are a few more final design things to complete before wrapping the final plans up in July 2011. The piles for the west approach spans need to be finalized using the recently obtained soil data. The geotechnical engineers found that there is a lot of fill soil on site that was not compacted well. So, the length of the timber piles will have to be slightly longer than originally anticipated. The reinforcing of the existing spans has already been designed. Staff just needs to detail all of the connections out. Staff needs to design the removal and replacement of the damaged floor system, which was damaged due to the failure of the truss span. The new truss span has already been designed. The connections just need to be detailed out. The pier repair details need to be worked out. That will entail adding some riprap to the scoured out areas, as well as tuck pointing some of the damaged mortar joints. The east abutment has already been designed, but the pile lengths underneath it just need to be sized by using the geotechnical report.

McDermott said VJ staff will tabulate a bill of materials and come up with a construction cost estimate, once all of the design issues are finalized. As said earlier, there is a target final plan deadline of July 18, 2011. The deadline will be followed by a

review of the shop drawings from the fabricator for the truss. After all is said and done, that is roughly what the Sutliff Bridge should look like.

McDermott said he is done with the recap of the design phase and he invited questions, comments, or suggestions.

Harney invited questions or comments from members of the public. No one from the public spoke. Neuzil said the public present at the meeting obviously like VJ Engineering's plan.

Sullivan said there is a great opportunity with the display boards that will be put up. He said he wonders where VJ staff will go for data. He asked what the boards are going to say, where the details and data are going to be obtained, and if there will be anything on the west side, or will the sign just be on the east side.

McDermott said there were a limited amount of reusable pieces when it was pulled off to the private property where it is at right now. A bunch of pieces were warped. He said staff pulled maybe ten linear feet of reusable pieces, so only maybe two signs can be done. Sullivan said OK. McDermott said yes, staff was thinking of a sign being put down at the west end. If two can be done, then he would suggestion one at each end.

Rettig asked how things are going with the Sutliff Bridge Authority regarding the charitable donations and the last fundraiser. Sutliff Bridge Authority Representative Sarah Brannaman said the charitable giving fund was just started a few months ago. The Sutliff Bridge Authority collected the first donation within the last couple of weeks. She said she does not know if it went through or not. There was one fundraiser, and the Sutliff Bridge Authority has actually set aside funds for the donation that will be provided to the charitable giving fund on an annual basis. Therefore, that money has been set aside from the first fundraiser, and there are more fundraisers scheduled in 2011.

## **OTHER**

McDermott said VJ Engineering is running on track to beat the tentative deadlines set forth. He said staff will keep the current schedule that is in place, and will get the plans to the County as soon as possible. Neuzil asked if the presentation can be put on the Johnson County webpage. McDermott said absolutely. Neuzil said the website is located at [www.johnson-county.com](http://www.johnson-county.com). VJ Engineering staff called the meeting on behalf of the Federal Emergency Management Agency (FEMA) and the Federal Department of Homeland Security, who is paying for it. Therefore, the meeting serves to inform and educate the community. He asked if there are any other updates that the County or community will get along the way. McDermott said now that the major design details have been laid out, staff will keep the County informed of the progress. As far as more public input meetings, he said he does not see a future need for it.

Rettig said restoring the pedestrian bridge is just part of the picture. She said she is glad some of the members of the Conservation Board, the Conservation Director, the

Johnson County Historic Preservation Commission, and the Sutliff Bridge Authority are in the room. The overall area plan is really exiting. Students from the University of Iowa's Urban and Regional Planning Department have been helping Conservation vision this project at the Sutliff Bridge site and where it will be in ten or 20 years.

Conservation Director Harry Graves said one of the five UI graduate students, Eric Isaacs, is present tonight. He said Isaacs is assisting with the urban planning designs.

Adjourned at 6:22 p.m.

Attest: Tom Slockett, Auditor

By Nancy Tomkovicz, Recording Secretary