

Kirwans Bridge Community Panel Minutes #3

Date: Wednesday 4 August 2021 – 7pm

Ward: Lake Nagambie

Invitees: Michael Greenaway, Robert De Fazio, Des Mason, Darren Lyons, Andrew Cox, Robyn Taylor, Paul List, Bob Arnold, Richard Hiscock, Gordon Akers, Milton Hammond, and Tony Hammond

Councillors: Cr Reg Dickinson

Council staff: Director Community and Planning Amanda Tingay, Manager Infrastructure Uwe Paffrath, Communications and Engagement Officer Merrill Boyd

Guest: Alan McLean

Apologies: Robert De Fazio, Richard Hiscock, Gordon Akers, Tony Hammond

Time	Item
7 pm	Acknowledgement to Taungurung Country
7.03pm	Welcome from Chairman
	<p>Introduction of Peter Yttrup who attended the meeting as a virtual participant.</p> <p>Peter mentioned that it would be good to have a set of measured drawings and these have now been sent to him by Uwe.</p> <p>The critical elements in the super structure (above the water) is the steel beams are quite important but the whole system needs more connectivity.</p> <p>It is important that we get the super structure ie the steel beams coupled together – join them together from one end of the bridge to the other.</p> <p>They could be chained together and becomes a tensile building – a connection there that has substantial strength.</p> <p>The steel beams all connected in a certain way they can be anchored – they just need joining up.</p> <p>The actual piling is outside the line of the beams. The original piles are underneath, and this is unusual that the beams are outside the load bearing area.</p> <p>By linking the structure at the end, you could turn this into a fail-safe structure, and this would not change the structure of the bridge.</p> <p>The steel beams can be the tensile elements.</p> <p>Old bridges could have a mechanism like that should the piles fail.</p>

	<p>The failsafe concept is worth talking about.</p> <p>If we go any further a measured drawing through a simple computer model if a truck was to go over it. Model it on 10 tonnes or 20 tonnes. The steel chain effect is very effective.</p> <p>Trying to keep the bridge in service and keep it safe ie – not a rigid connection – allowing the beams to flex a bit.</p> <p>You need to come up with a solution where the steel is a tensile element and only keeps its tension when a truck passes – if you make the historic bridge into completely pristine then you are in for a lot of money and reconstruction.</p> <p>It becomes a suspension bridge in effect and the steel rods go into the structure and not alter the bridge.</p> <p>This is a historic structure we want to keep alive.</p> <p>Is it feasible to build a new one to replicate the bridge quite adequately (not a bad option)?</p> <p>Q: Can we take the pylons out and install them under the bridge – it is quite difficult to do? A: Comes back to the construction of the upgrade.</p> <p>Q: What is the bridge like below the water line? A: Generally, the piles are driven into the mud – hardly ever do anything in the water the durability is better in the water but in the mud is much better. The piles can be resin wrapped. A new bridge with the same character is a good option because there are good materials now. The reality of a timber structure is timber is proven to degradation. Really good timbers and piles should last over 100 years – possibly red gum and with wrapping you can protect them out of the ground as well. You need to keep the interesting and quaint bridge – retaining the character of the old bridge.</p> <p>Q: What would the tonnage limit be on a new bridge? A: The piles could carry a semi-trailer, but a brand-new pristine bridge could carry a heavier semi-trailer load. If you wanted unrestricted loading there are materials around today that could be used. A dual lane bridge would take a semi-trailer on the bend in the middle. You could have long vehicles going over, but you would have to make the width of the bridge where the direction changes a little wider.</p> <p>Q: What would the costs be? A: Several hundred dollars a square meter. Say \$500 per square meter – concrete double that but that is a very rough estimate. Tensile strength with the bend – must have a particular structure because of the piles on both sides but a little different to the existing. Weight is an important issue on the bridge –</p>
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	<p>Q: If water levels dropped does that cause the degradation of the bridge piles or with treatment will they last a long time.</p> <p>A: Chemistry and engineering has improved quite a bit. Concrete piles do have cracking and durability issues with concrete prestressed pylons. Timber can take more pressure. You need to take out the piles down below the mud etc – get hold of the good solid timber and pull them out (like teeth) If they can't be lodged, they simply put a pile next to the original pile.</p> <p>A contemporary bridge doubles the cost of \$1.5m</p> <p>In Scandinavia they don't knock over bridges they maintain them with other options using clever landscape architectural teams to come up with something special. If this was not practical to bring Kirwans Bridge back to the original condition is a great option.</p>
	<p>Report on actions from last meeting</p> <p>Uwe and Amanda reported back to the panel</p>
	<p>Discussion/comments from above</p> <p>Heritage act you can demolish something – as long as we build back better.....</p> <p>What about the bend in the bridge – tourist potential unique – catch imagination.</p> <p>Built it back 1:1 then we need a new bridge separate. Not practical they will ask for the bridge to stay there and build a new bridge. Parallel option dual lane. Nagambie's increased population will require better structure.</p> <p>Rebuild what we have and add a second lane. Build back what we have for now revisit now put top deck back on. Everything is 120 years old – some of the piles in the water are swinging freely.</p> <p>There could be a causeway suggestion – a formal bridge crossing the main part of the river and a causeway with three to four metre culverts and that could occupy half the river crossing – the west side to the elbow. This option was never really investigated – we could look at that sensibly now. Approx. cost etc would come from a geo technical report.</p> <p>Concept the Causeway was 6/7 bridges at Mooroopna – with that thought in mind.</p> <p>The river is particularly deep on the southern side. If we altered the flow would this create algal blooms?</p> <p>Cr Reg has spoken to Tanya Maxwell and Darren has contacted her as well but is yet to hear back.</p>

	Des showed Council staff some photographs regarding travellers across the bridge and Amanda assured him that a camera coming and would be installed asap.
	<p>Power Point presentation</p> <p>Discussion centred around the Power Point presentation and it was agreed that at the next meeting a white board discussion would be held following on these topics.</p> <ul style="list-style-type: none"> • Current bridge temporarily closed and repaired >10 t (full replica option also was to be discussed) • Current bridge closed to all motorised traffic and new bridge relocated down river • Bridges in parallel (5 metres apart) Or a causeway suggestion – a formal bridge crossing the main part of the river and a causeway with three to four metre culverts
	<ul style="list-style-type: none"> • Next meeting • Wednesday 1 September 2021 at 7pm
8.50pm	Meeting Close