

7 MARCH 2012

Foxground and Berry bypass – Berry north interchange and Berry bridge

The Berry north interchange and Berry bridge working group held its first meeting on Wednesday 7 March 2012 at the Berry School of Arts.

Attendees:

Dianne Bezant, resident
Col Bowley, resident
Jenny Clapham, resident
Bob Fitzell, resident
Rick Gainford, resident
Susan Knopf, resident
Warwick Leal, resident
Sally Lindsay, resident
Guy Mainsbridge, resident
Jude Radin, resident
Pat Stone, resident
Bill Seelis, resident
Jennifer Swan, resident
Scott Wells, Shoalhaven City Council representative
Lucy Cole-Edelstein, Straight Talk Facilitator
Adam Berry, RMS Project Development Manager
Ron de Rooy, RMS Project Manager
Julian Watson, RMS Environmental Manager
Carla Brookes, RMS Project Communications
Annette Beedles, RMS Graduate Engineer
Angela Malpass, AECOM Community Consultant
Sheena Garg, AECOM Graduate Engineer
David Appleby, Conybearne Morrison Urban Designer
Ken O'Neil, Aurecon Bridge Designer

Summary – Purpose of the meeting

Roads and Maritime Services (RMS) convened a working group of registered community members to review various community and design issues for the Berry north interchange and Berry bridge.

The session was opened and facilitated by Lucy Cole-Edelstein of Straight Talk.

Meeting Notes



Adam Berry, RMS Project Development Manager presented the revised north Berry alignment and discussed changes implemented through the community review group process to RMS's previous design for the bridge and northern interchange. Mr. Berry told the working group that RMS current design is a super tee bridge, with a total of three bridge joints and pillars located at 35 metre intervals, but this design is not finalised and RMS is open to design improvement suggestions from the group.

Mr. Berry presented the issues relating to the north Berry interchange and Berry bridge which are outlined in the *Berry Bypass Issues Report, January 2012*. He asked the group to identify issues to be addressed by this working group.

David Appleby from Conybearne Morrison presented the urban design treatments for the proposed bridge and north Berry interchange.

The following is a summary of the discussions held at the working group, responses and actions agreed to by RMS.

Discussion	Response / action
<p>Design process</p> <p>Adam Berry told the group that RMS would be developing a 'reference design' for the environmental assessment.</p> <p>Lucy Cole-Edelstein asked RMS to clarify what is meant by a 'reference design'?</p> <p>RMS advised that it will work with community members to capture issues, suggest improvements and develop design requirements which will be documented and locked into the final design.</p> <p>RMS confirmed that the reference design will not be finalised until after the environmental assessment has been displayed and feedback has been gathered from the community.</p> <p>RMS will involve the NSW Government architect through the Bridge Review Panel to review the design of the Berry bridge, possibly include heritage values into the bridge appearance and continue to work with the community.</p>	<p>A reference design is a new approach being adopted by RMS for this project where the design is to be developed beyond concept design. Certain items which are typically not decided until detail design will be included and locked into the concept design brief, eg bridge joint types, column numbers and thicknesses, etc.</p>

Meeting Notes



<p>Northern interchange</p> <p>A working group member queried the speed limits to be imposed on the off load ramp?</p> <p>RMS confirmed that the likely speed limit would be 80 km/h, but RMS still needs to review the transition and geometry of the approach to the ramp.</p> <p>A working group member asked if it was possible for RMS to provide the group with an artist impression of the view from the northern off ramp across to the new highway.</p> <p>A working group member asked RMS to clarify the access arrangements for residents located along the existing highway just north of Berry.</p> <p>Ron de Rooy advised that the off ramp will follow the alignment of the existing highway and a separate local access road will be provided for residents. RMS will try to maintain the character of the approach into Berry.</p> <p>RMS clarified that the northbound on ramp will go under the highway.</p>	<p>Action: RMS to review possibilities for graphically representing the view from the northern off ramp across to the new highway at the next meeting.</p> <p>Action: RMS to provide a detailed plan of the proposed access road for residents living next to the highway north of Berry.</p>
<p>Upgrade impacts on Woodhill Mountain Road</p> <p>David Appleby advised that the row of poplar trees along Woodhill Mountain Road have been listed as a heritage item. He asked Scott Wells, Shoalhaven Council representative to confirm the heritage listing.</p> <p>Scott Wells advised he was unaware of the heritage listing and would need to investigate this further.</p> <p>A question was raised as to how the upgrade would impact on the poplar trees?</p> <p>RMS advised that some trees would need to be removed but could not confirm the exact number.</p> <p>A working group member asked RMS to confirm what would happen to the existing power lines?</p>	<p>Action: RMS to advise group as to how many poplar trees at Woodhill Mountain Road will need to be removed to accommodate the upgrade.</p> <p>Action: RMS to investigate the validity of the heritage listing of the poplar trees on Woodhill Mountain Road.</p> <p>Action: RMS to advise the group as to how it will relocate the existing power lines at Woodhill Mountain Road.</p>
<p>Bridge design</p> <p>The working group asked RMS to confirm what bridge design is included in the latest concept design.</p> <p>Adam Berry advised that the latest concept design is a super tee structure with spans located at 35 metre intervals. The group was told that this design was not fixed and is still open to discussion.</p>	<p>Action: RMS to provide working group with a visual representative of the current concept design (super tee bridge, with a total of three bridge joints and pillars located at 35 metre intervals).</p> <p>Action: RMS to provide the working group with visuals to demonstrate the trade off between minimising the height of the bridge deck, the width of the bridge headstock and the number and size of the</p>

Meeting Notes



A working group member, who had been involved in the community review group process, confirmed that this design was agreed at the end of last year as part of the review process.

Lucy Cole-Edelstein asked the working group members if they prefer to have fewer columns at longer spans?

The working group members mutually responded with the affirmative.

A working group member queried whether the bridge headstock could be embedded into the roadway?

Adam Berry advised that the bridge headstock could not be fully embedded. RMS has experienced maintenance problems and has recorded cracks developing on bridges where the bridge headstock is fully embedded into the roadway. However it is possible for the headstocks to be partially embedded to improve the visual impact.

Ken O'Neil clarified that although there are techniques to push the bridge headstock further into the deck the design will still require around 600mm to remain exposed.

Ken explained that incorporation of half joints have led to bridge failures in Canada.

A working group member asked RMS to clarify whether embedding the bridge head would increase the height of the bridge deck.

Ken O'Neil advised that the bridge deck would not be any higher, although there is a trade off as minimising the bridge deck requires the headstock to be wider.

A working group member queried what bridge joints RMS are proposing to use?

Adam Berry advised that there is a requirement for three bridge joints to be carried through into the pavement of the bridge. The bridge has been designed with the remaining joints embedded in the structure without impacting the bridge surface.

RMS confirmed that this design allows for the necessary expansion and contraction of the bridge.

A working group member queried whether a continuous pavement technique requiring no bridge joints could be applied to the project.

Ken O'Neil advised that for a bridge 600 metres in

piers.

Meeting Notes



<p>length bridge joints would be required. The continuous pavement technique can only be applied to bridges up to 150 metres in length.</p> <p>A working group member advised that noise impacts from cars crossing expansion joints on the bridge is a concern to the community and therefore limiting the number of joints is an important consideration.</p> <p>Ken O'Neil advised that the type of joint selected for the project is important. As an example the bridge at Minnamurra has a combination of compression and finger joints. Compression joints have a rubber seal which blows out air every time a car crosses creating the distinctive noise. This is not the case with finger joints.</p> <p>Julian Watson advised the group that pavement choice leading up to the expansion joint is also an important consideration.</p> <p>RMS confirmed that bridge joint design will be one of the reference design requirements.</p> <p>Ron de Rooy asked Ken O'Neil to provide the working group with a description of the types of piers which could be used.</p> <p>Ken O'Neil advised that pier design is often driven by the architect, however the general rule is less piers will require an increase in the depth of the bridge headstock and increase in the pier size. There are no restrictions however with regard to the shape of the piers.</p>	
<p>Bridge aesthetics</p> <p>A group member queried whether the colour used for the bridge on RMS's presentation was standard?</p> <p>David Appleby advised that he had used a default colour as part of the presentation and there were different options the group could consider for both the colour and the texture of the bridge.</p> <p>A working group member asked if it was possible for RMS to provide the group with examples of different bridge designs eg a sophisticated sleek modern design over a traditional or heritage design.</p> <p>A working group member asked RMS to confirm the design of the safety barrier on the bridge and whether this could be modified.</p> <p>RMS advised that a safety barrier was required and is</p>	<p>Action: RMS to provide working group with an artist pallet of colours for the bridge and safety rail.</p> <p>Action: RMS to provide, at the next group meeting, examples of alternative bridge designs.</p> <p>Action: RMS to provide visuals of abutments for the working group to review.</p>

Meeting Notes



a non negotiable. The safety barrier shown on the current concept design is a twin rail design. RMS is however open to suggestions from the group as to what colour the barrier could be painted.

A working group member suggested that the view of the hinterland was what the community cherished and therefore RMS should try to minimise the profile of the bridge.

Julian Watson asked if the urban designer was able to provide any visuals for the design of the abutments at each end of the bridge.

David Appleby clarified that an abutment is the area, at each end of the bridge, where the bridge connects to the road embankment. He advised that these areas are often difficult to plant out and are therefore often lined with local rock / stone or concrete.

Visual and noise impacts

David Appleby advised that the existing landscape provides effective screening of the bridge from the town, however there are still public places where the bridge can be seen eg Woodhill Mountain Road.

A working group member countered this statement by commenting that as a tourist destination many people choose to either walk or cycle around the town and in some places the bridge will be highly visible.

A working group member queried whether solid safety barriers would help to alleviate traffic noise from the bridge.

Bob Fitzell (an acoustics engineer) advised that the problematic issue for noise is heavy vehicle noise due to the height of the exhaust stack (3.6 metres high). Noise mitigation calculations typically go from 0 to 4 metres. The bridge has been designed as the best compromise to reduce the grade so that trucks can run smoothly but to also get the profile of the bridge as low as possible. The previous RMS bridge design had a grade of 1.8 per cent while the new lower design has varying grades from half a percent up to three per cent. As a comparison the bridge at Minnamurra has a grade of six per cent at its southern end, *(the climbing lane immediately south of the bridge has a maximum grade of eight percent)*.

Julian Watson clarified that the vast majority of heavy vehicles will remain on the highway at a constant

Meeting Notes



<p>speed and will therefore not need to break or change gear. The only heavy vehicles slowing down will be making local deliveries.</p> <p>A working group member queried if the safety rails can be made of clear material to minimise visual impact.</p> <p>David Appleby advised that the safety barriers will be made of steel due to safety regulations which are non-negotiable.</p>	
<p>Second north bound off ramp</p> <p>A working group member raised the question as to whether RMS will be providing a second north bound off ramp at Woodhill Mountain Road.</p> <p>Adam Berry advised that RMS has had extensive discussions with both Shoalhaven Council and the Berry Alliance but there has been no resolution to date.</p> <p>Rick Gainford spoke on behalf of the Berry Alliance and advised that as RMS already owns the land on which an off ramp would be located it should at least include provision for an additional exit.</p> <p>Scott Wells the representative of Shoalhaven Council advised that the elected council supports the inclusion of a second north bound off ramp at Berry. Council is of the opinion that one access point has the potential to become a 'choke point' putting pressure on the local road system and forcing traffic down streets which currently experience minimal traffic flows.</p> <p>A working group member queried whether the cost of an additional off ramp was small in comparison to the overall expense of the project.</p> <p>RMS advised that it will still need to justify the cost. Ron de Rooy explained that there are also constraints on the design due to the location which needs to be considered.</p> <p>Adam Berry advised that if no resolution could be made between RMS, Shoalhaven Council and the Berry Alliance the Department of Planning would make a decision as part of the environmental assessment.</p> <p>RMS clarified that the suggested southern route currently under review has the same number of</p>	<p>RMS has undertaken traffic modelling which does not justify the need for a second north bound off ramp. RMS calculations show that the current proposed access arrangements at Kangaroo Valley Road have a capacity of 70 years.</p> <p>RMS understands residents concern that if the interchange is blocked due to an accident it will require them to undertake a round trip journey of seven kilometres to Tindalls Lane to turn around. However it is difficult to justify the cost against the level of occurrence.</p> <p>Action: RMS to take this issue off line for resolution with Shoalhaven Council and the Berry Alliance. Outcome to be reported back to the group.</p> <p>Action: RMS to provide traffic figures to the working group. Figures to highlight any increased traffic impacts on local roads.</p>

Meeting Notes



Transport
Roads & Maritime
Services

interchange arrangements as the current RMS design.	
Working group process The next working group meeting will be held on 28 March 2012.	