

Resurfacing The Only Overwater Single Lane Bridge To An Island Without Environmental Or Traffic Impact.

Authors:

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ABSTRACT:

Roads & Maritime Services NSW needed to address the disrepair of a 300m² single lane spray sealed timber bridge passing over the Murray River which is the only access to the mainland for island residents.

In planning this project RMS realised that

- the support structures at either end of the single lane bridge needed replacing
- all timber decking slabs needed to be replaced meaning total area resurfacing was required.
- replacing the existing spray seal surface at this location would risk contaminants falling into the Murray River and pose potential risk to the environment
- local island residents were concerned that a major repair would remove their only link to Albury.

The real challenge of the project was around how to resurface the existing 300m² bridge and deliver a quality surface without negatively impacting the sensitive Murray River environment or local resident access.

In June 2015 RMS Wagga Wagga NSW elected to use the innovative BRP Road Patch product to successfully resurface the bridge with no negative impact on the Murray River Environment or Island resident's access.

OVERVIEW:

Roads & Maritime Services NSW needed to address the disrepair of a 300m² single lane spray sealed timber bridge passing over the Murray River which is the only access to the mainland for island residents.



Image 1: Boundary Rd Bridge Albury NSW – Pre Project Works June 2015

\$700,000 works were planned to improve road safety and reduce future maintenance requirements and included the replacement of the wooden decking boards and the support structures at either end of the single lane bridge.

Such extensive repairs of the wooden surface and structure caused traffic delays, for safety reasons when large machinery is on the bridge, of up to 20 minutes and saw the total closure on 4 days over 3 months while the works are carried out

In planning this project RMS realised that replacing the existing spray seal at this location with a like treatment would risk contaminants falling into the Murray River and pose potential risk to the environment.



Image 2: Boundary Rd Bridge Albury NSW – Pre Project works June 2015

The challenge of the project for RMS was how to resurface the existing 300m² bridge to deliver a quality surface without negatively impacting the sensitive Murray River environment or local resident access.

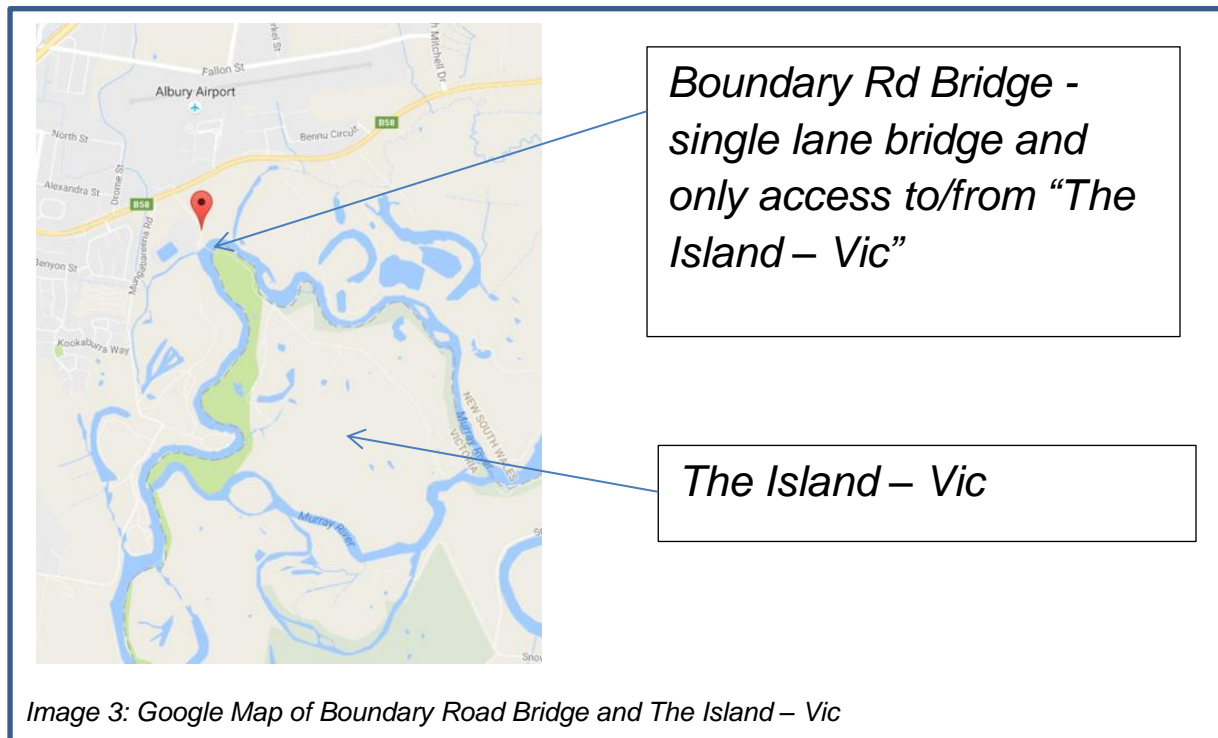


Image 3: Google Map of Boundary Road Bridge and The Island – Vic

Scope

- Find a product to permanently replace and seal the surface.
- Provide a surface equivalent to a spray seal.
- Minimise any potential environmental contamination.
- Minimise island access disruption

How this was managed

The solution of RMS/Downer was to use the innovative BRP Road Patch, a rubber bitumen spray seal prefabricated sheet, to resurface the timber bridge deck.



Image 4 : BRP Road Patch

Helping to decision to use the BRP Road Patch was the successful program by City of Knox – VIC where the BRP Road Patch had been used as surfacing treatment to address to loss of texture on Pedestrian/Cyclist wooden bridges.

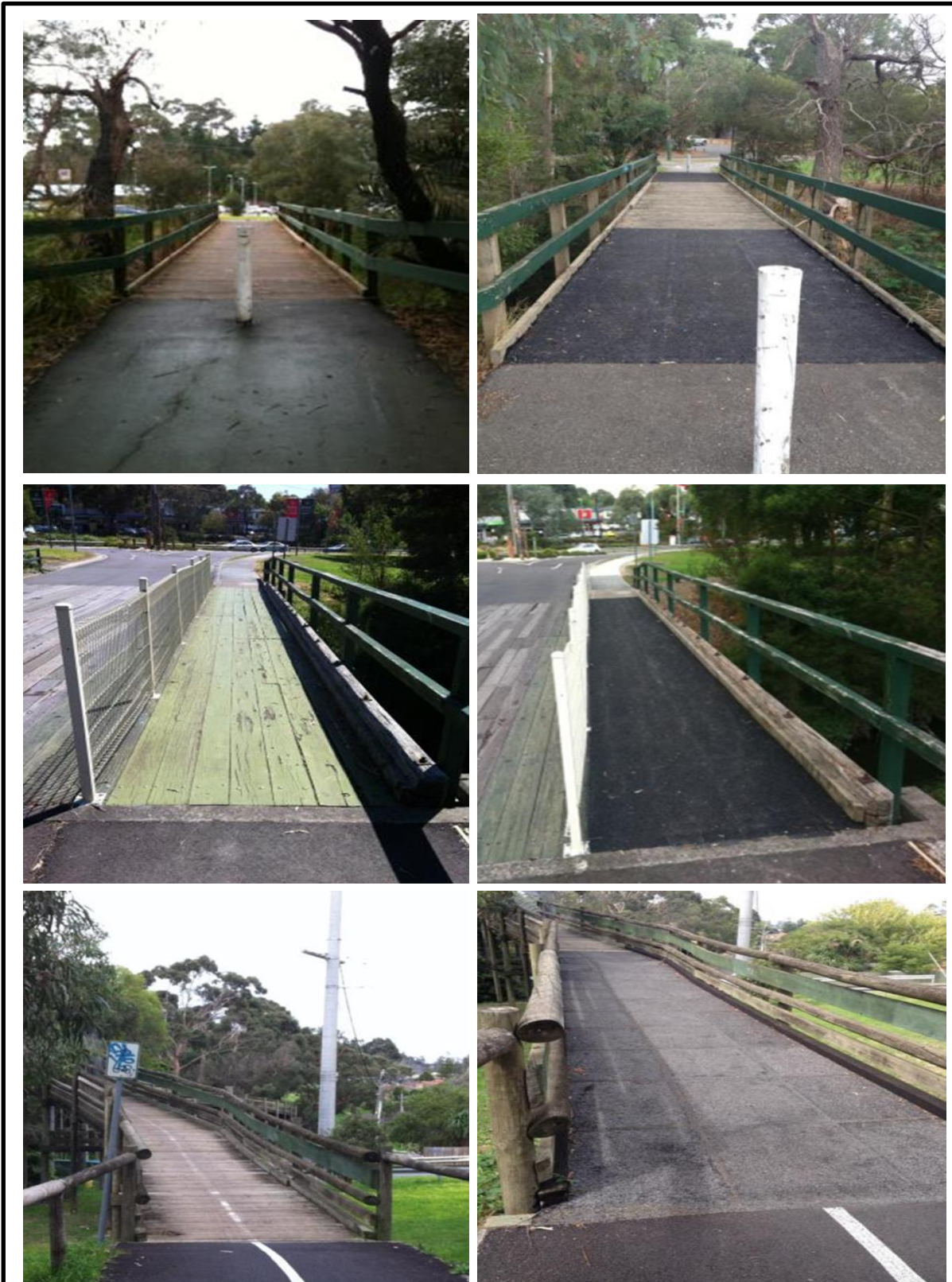


Image 5: City of Knox – VIC Pedestrian/Cyclist Bridges Pre & Post BRP Road Patch Application

Another major influencer in using the BRP Road Patch was that it didn't require any major plant or equipment to install it onto the wooden deck and it was able to be laid by hand in small sections with controlled application of bitumen emulsion.



Image 6: BRP Installation Boundary Rd Bridge Albury July 2015

This enabled resurfacing to be completed in June 2015 without resident interruption, resulting in a spray seal surface which was installed without any activity to harm such an environmentally sensitive area.

Key Customer Outcomes

Resurfacing with the BRP Road Patch

- was done safely with no incidents
- delivered an aesthetically pleasing surface
- improved surface safety
- eliminated previously problematic bridge noise.
- eliminated environmental pollution concerns with no excess aggregate & emulsion overspray
- used no heavy equipment ensuring lower noise/Co2 levels.
- was completed quickly in ½ a day and was trafficable during and immediately after installation eliminating any disruption for the residents and road users.
- received no complaints to council
- stops water penetrating wood deck surface assisting with decking longevity



Image 7: Boundary Rod Bridge Pre Upgrade works June 2015 & BRP Installation



*Image 8: Boundary Rd Bridge mid BRP Installation & BRP Road Patch 1 year post installation
July 2017*

CONCLUSION

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The product (BRP Road Patch) was good to work with and the sheets were a manageable size. Easy to lay, environmental controls were easier to manage dealing with smaller quantities of emulsion and being able to contain it. Good to use as crew can lay it and there is no requirement to organise asphalt companies for such small jobs. It can also be used for remote locations. Only problem we had was when it was cold, the plastic backing was hard to remove. We are already planning a second project in the coming months.

REFERENCES

Google – Maps & Images www.google.com.au

Border Mail Newspaper – June 1 2015

<http://www.bordermail.com.au/story/3115949/waterworks-bridge-set-to-be-upgraded/>

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