Rossbridge: building the bridge is the easy part

David Hildebrand – Senior Officer
Asset Management.
Today is essentially a discussion on planning a small bridge replacement project.
Why we did it, how we did it and what we ended up with.
Where are we?
We are here.
Primary structure and secondary structure.
A brief on u-slab structures
And why are we at Rossbridge?
No really; why are we here?
Oh...any other reasons?
And then there were these...A1 and A2
So...not good, then what?
An Inspection! (Level 3)
4 Recommendations

4.1 Immediate Action

It is recommended that the following immediate actions be undertaken:

- Strengthening of deck
  
  This should be undertaken using steel plates over the entire spans 1 and 4 so that should a U-slab fail, either through overloading or stability issues, vehicles will not be endangered. The plates would also distribute wheel loading in an improved manner to the pavement, reducing the likelihood of a slab failure.

  A concept design for the plates is included in Appendix D

- Speed limit reduction
  
  Due to the presence of the plates, an associated speed limit reduction should be introduced. Impact with plate edges, and general movement of plates will be reduced significantly if the speed limit is reduced to 40 km/h.

- Banning of Heavy Vehicle Loads
  
  With the introduction of the steel plates and the speed limit, normal legal vehicles, including Higher Mass Limits vehicles can continue to use the structure, however permit loads, HPPV and 60t/48t cranes should be banned.

4.2 Longer Term Action

It is recommended that the Region investigate available funding for a new structure over Hopkins River. If the funding is available, the superior long term option is to replace both structures (SN4162 and SN4163) with single span structures at the same time to minimize traffic disruption.

If the funding is not available, then replacement of the river bridge only (SN4163) should be undertaken utilizing a shallower multi-span structure. Strengthening/replacement of the floodway bridge would then become a separate future project.
Recommendations (cont)

Job Name: NORTHLAKE - ARAAT ROAD

Description: HOPKINS RIVER BRIDGES

Proposed Abutment Strengthening for the
HOPKINS RIVER BRIDGE

2.5m PFC Anchor to the Existing Abutment

40mm below the lowest

U-Bea

100%100 fit timber beam (or beam if required)

Projected to tightly fit between

180 PFC and U-Slab legs

Existing Abutment
Emergency bracing added as recommended.
Restricting heavy vehicles.

NO CLASS 1 OVER MASS PERMIT VEHICLES ON BRIDGE AT ROSSBRIDGE
We did some geotechnical drilling and found saturated clay over weathered schist.
Some Archaeology.
And a lot of environmental work
Growling Grass Frog and Striped Legless Lizard
And some concept development.
Now it was time to have discussions with management...
We had to figure out how to keep the road open...
And ask for money...
A beautiful thing and a joy to behold.
So after nearly 2 years and more than 1000 hours of documented work we went out to tender and got...

Suddenly, a heated exchange took place between the king and the moat contractor.
In Summary: Alternative tender accepted. The road will be closed for 2 months. The use of EPS blocks has been dropped.
Questions later but first I need to thank...

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And this guy...well not literally this guy but a guy just like him.