

# Transportation

1.10pm - 1.40pm

## Bridge 47 Replacement - Rui Leitao

### Abstract

This bridge reconstruction (under \$2.0M) presentation is about innovation, or better, allowing the opportunity for innovation through a “design and build” contract. Although the presentation fits into a number of streams, the “Better than Best Practice” (Value for Money and Innovation) is appropriate.

The presentation covers the procurement opportunities created when the Council had one of its bridges washed out by a storm in July 2006. It covers the project from the decision to tender out this reconstruction work as a “Design & Build” (package rather than the traditional disconnected “Design” phase followed by a “Construct” phase by two separate parties) to it being awarded a gold award at the 2009 Association of Consulting Engineers (ACENZ) Innovate NZ awards of excellence.

Deciding on a “Design & Build” procurement process enabled lateral thinking (by proponents), the decision to proceed with the proposed construction of New Zealand’s first network arch bridge and save hundreds of thousands of dollars in the process.

The presentation will include:

- The tendering process,
- Overall design and construction project information,
- The speed of key construction phases,
- An accelerated (1 minute) film showing the whole structure going up in a single day,
- Other benefits from this design & build process, and
- Recognition by the industry for the innovation of the design (possible only because of an early decision on the procurement process).

**Rui Leitao**, Wanganui District Council, Senior Roading Engineer. 28 years background in Civil and Construction experience, including physical works contracting, professional services consultancy and currently as the Principal’s Roading Network Manager.

1.50pm - 2.20pm

## Providing a High Quality Road to Fox and Franz Josef Glaciers - Jim McNeill & Tom Hopkins (DoC)

### Abstract

The Franz Josef and Fox Glaciers are major tourist attractions on New Zealand’s West Coast of the Southern Alps and form part of the South Westland World Heritage Area. Up until recently access to each of the glaciers was via narrow unsealed roads which were dusty in the summer and often muddy in the winter, making them unpleasant and sometimes unsafe for road users.

The design and construction for the sealing of these roads required unique features not normally associated with conventional seal extensions; all within the constraints of a native forest environment, active rock slips and drop offs to swift flowing rivers. GHD worked with the contractor to lessen the impact on road users and the environment whilst still providing a road DOC could rely on.

The resultant design included features to provide for pedestrians, cyclists and vehicles but within a narrow formation to minimise intrusion into the sensitive National Park environment. This included installing slow points, thresholds and changing cross sections, plus the selection of a foam bitumen stabilisation treatment to lessen the construction period, decrease risk of damage to the pavement by frost heave and reduce the necessary width of road formation.

**Jim McNeill** - Service Group Manager (Transportation) Jim has been involved in all aspects of road design projects, from design and investigation through to construction supervision

and quality assurance, for more than 30 years. Jim has recently presented at INGENIUM, and has been involved in low volume road conferences and REAAA workshops. He is currently a committee member on the Canterbury IPENZ Branch and a corporate member of REAAA.

2.30pm - 3.00pm

## **Black Bridge - 30 Years to Get More From Less - Geoff Ward & Ray Firth**

### **Abstract**

Black Bridge is on the Motueka Valley Highway and crosses the Orinico stream. Within the Tasman District Council area it is on the route for many travelling between the Motueka / Golden Bay holiday areas and Christchurch. It is adjacent to a significant intersection and was on an alignment with sub standard curves and limited visibility.

The poor alignment and numerous crashes at this single lane bridge were initially investigated for replacement in the 1970's when the road was designated a State Highway. After many attempts and frustrations for the community and council a solution was found which allowed the existing structure to be utilised as part of providing a two lane bridge.

This paper reviews the different approaches that have been tried over the years and then looks at the solution that was eventually constructed, one that achieved value for money and met the subsidy criteria for bridge replacement. Being able to use the existing bridge, all be it with some innovative modification, was essential to achieving acceptable outcomes for all parties involved.

**Geoff Ward:** Geoff is a Group Manager, Transportation, with MWH New Zealand Limited. In this role he is responsible for the team that delivers the transportation related projects to Tasman District Council for both maintenance and capital works. Geoff has a background in both local authority and consultancy work.

**Ray Firth:** Ray is a Client Service Manager with MWH NZ Limited. His role is to foster the relationship between the groups in MWH providing services and the client, Tasman District Council. Ray reviews outputs to see that cost effective solutions that meet the client's needs are being delivered. Ray has an extensive background in transportation and bridging having worked for several consultants and local authorities within New Zealand.