OUTDOOR STRUCTURES AUSTRALIA

Outlasts and Outperforms

May 2011 Newsletter

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Warning sign on an expensive bridge soon after completion

Nailplate virtually falling out of an inexpensive truss bridge

4th Australian Small Bridge Conference

Earlier this month I attended the 4th Australian Small Bridge Conference in Melbourne where we were asked to present two papers. The first paper dealt with SW1 (Berrinba Wetland) in Logan where OSA supplied some very impressive bridges.

The paper on this project is worth reading as SW1 was the winner of the 2008 National Award for National Development Excellence, Category 4, Environmental Economic Innovation Award. It is a project where civil engineering becomes social engineering. The paper deals with the project as a whole from concept to completion, not just the bridges.

My second paper was entitled *Writing a Bridge Specification that Avoids Common Problems With Kit Bridges.* There are times I just want to throw up my hands in despair with what is being purchased, accepted, and, may I add, we are expected to be competitive against.

If there is any doubt that there is a need for a tight specification have a look at this short segment on a recently installed aluminium bridge we put on YouTube. http://www.youtube.com/watch?v=QUT7mZeaPlk When I showed it at the conference a room full of engineers they laughed, but believe me it is no laughing matter. This bridge cost $225,000! The warning sign above relates to the deck of this bridge which is another problem over and above those that are shown on the video.

My suggested specification will not allow bridge builders to cut corners with things like 3 KPa capacity instead of 5KPa as required under the bridge code. It also gives design loads we believe suitable in the few areas which are not stated in the Bridge Code. We have found that a good specification is no use without

a good system of checking for compliance. The public tender for the new bridge in the video was very well specified. The specification we have offered in the links below has a section for checking whether the tender requirements have been met.

- The reasons you should consider a tight specification are:
- To protect the public,
- To ensure public funds are spent well,
- To protect reputations,
- To protect non specialists purchasers/specifiers,
- To assist non specialist assessors; and,
- To provide a level playing field for suppliers

Below is a link to the two papers as well as the two specifications. One specification is for a footbridge and the other is for a combined use cycleway and pedestrian path. You can simply cut and paste these specifications onto your letterhead. These are not conditions OSA has dreamed up but come directly from the bridge code and good practice. There is a short PowerPoint on bridges and/or SW1 we could give at your office if practical.

Links

Paper on SW1 Berrinba Wetlands: http://www.outdoorstructures.com.au/pdf/south-west-enterprise-park.pdf

Paper on footbridge specifications: http://www.outdoorstructures.com.au/pdf/a-bridge-too-far.pdf

Specification for a footbridge: http://www.outdoorstructures.com.au/docs/footbridge-specification.doc

Specification for a combined bikeway/pedestrian path: http://www.outdoorstructures.com.au/docs/cycleway-specification.doc

Plastic decking

When at the conference I took issue with one of my competitors who is selling an imported plastic/wood flower decking. A couple of years ago I had a long talk with the owner of the decking company in my office and I was impressed with his integrity and knowledge.

His design information was unequalled in the plastic decking industry. But he said to me “Ted, it is only a domestic product”. There I saw images showing this domestic product being used in footbridges where a horse would go right through it. The reply was “It will go 3 kPa”. I do not know how, but even so we generally have to work to 5 kPA.

Some of my engineer readers might like to play with the figures and tell me how something of similar size but with a modulus of Elasticity of 3000 will reach 3 kPA (Deckwood is over 19,000 and LifePlus (seasoned) is almost 25,000). But you can make virtually any claims you want when there are no standards for production, testing and design.

One unexpected outcome is that we are going to receive samples of another brand that was being displayed so we can conduct further testing on it. It shows more potential but I am wary. How do you deal with the fire problem even if you can get the strength right?

Please talk to us before using plastic/wood flour decking. We have independent university testing on which we based our opinions and we will gladly share it with you.

Bridge Quote Requests

If there is any doubt that OSA make the best kit bridges in the country look at the Berrinba Wetlands Project. Not all bridges are equal. After encountering three bridges in one month that did not meet the Bridge Code I wrote the May 2010 Newsletter. Refer to the May OSA Newsletter when assessing the suitability of quotes.

See our Steel Bridge Quotation Request Form and our Timber Bridge Quotation Request Form

Steel Bridge Quotation Request Form

http://www.outdoorstructures.com.au/bridge_request.php?Mode=st

Timber Bridge Quotation Request Form

http://www.outdoorstructures.com.au/bridge_request.php

Regards

Ted Stubbersfield

Director OUTDOOR STRUCTURES AUSTRALIA

Phone 07 5462 4255

OUTDOOR STRUCTURES AUSTRALIA

E-Mail: ted@outdoorstuctures.com.au

Web:www.outdoorstructures.com.au

Phone: (07) 5462 4255

Fax (07) 5462 4077

Old College Road Gatton, Australia

PO Box 517

Gatton Q 4343

Australia

ABN 29 713 463 351