



July 2012 Newsletter

Written by Ted Stubbersfield for

INFRASTRUCXION PTY LTD

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Dear Reader,

Goodbye Outdoor Structures Australia, Hello Infrastrucxion (Update)

With the closure of OSA and passing the mantle to Chris Blackledge and Infrastrucxion, I thought I would be going into semi retirement but I still seem to spend most of my time at Infrastrucxion with the changeover. But somehow I have been able to find time to start work on a second book entitled Deck and Boardwalk Design Essentials.

We already have a Boardwalk Design Guide, an excellent publication, but it simply says what to do. Invariably many designers who have little familiarity with weather exposed timber ignore our guides and try to reinvent the wheel by following failed building practice (that is not quite a mixed metaphor). The new guide deals with why we adopt certain practices. The 100 + images should make those who want to go their own way think very carefully before doing so.

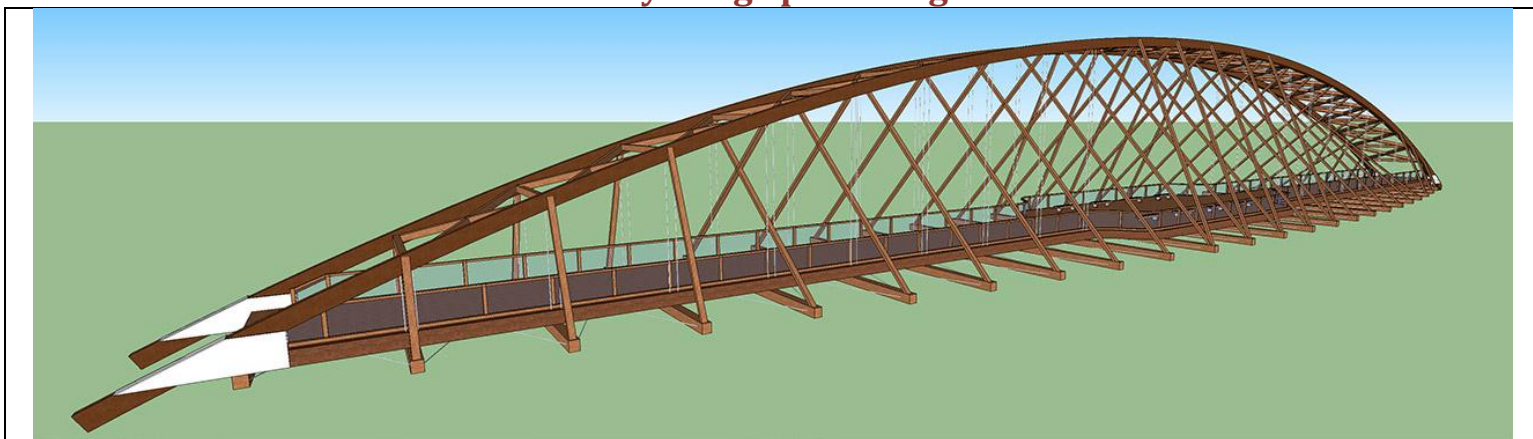
If time, energy and your interest allow, I want to write a series of Timber Design Files. Apart from the two in the pipeline, I hope to address:

Understanding AS2082
Deadly sins of Timber design
Using small diameter timber

If you have any stories that the industry could learn from and especially images, please send them to ted@outdoorstructures.com.au

The Timber Preservation Guide is undergoing final editing.

Very Long Span Bridges



120m Clear Span Timber Bridge

We are presently helping one of our readers with a preliminary engineering and concept drawings for a seriously long timber bridge. It will have a clear span of 120 metres. The asset owner is expected to save 4 million dollars over the steel and concrete options. Despite the lower price the bridge will have a longer design life than steel or concrete under US codes. If you need a very long span bridge you should be talking to us.

There is a very useful discussion of long span bridges in last Octobers newsletter (see link). For other views of the 120m bridge see links below.

Links

October 2011 newsletter http://www.outdoorstructures.com.au/pdf/osa_newsletter_10_11.pdf

Plan view http://www.outdoorstructures.com.au/images_email/clearspan-5-6-12.jpg

Inside Bridges http://www.outdoorstructures.com.au/images_email/clearspan-5-1-12.jpg

Deckwood is not F17

Constantly we see that designers are trying to assist us by modifying the Deckwood specification by adding an F rating. If you want Deckwood simply ask for it. The whole purpose of Deckwood is **TO PROTECT YOU** from AS2082. F17 is not suitable for decking. Here is an extract from the May newsletter. You need virtually a clear face for decking. You do not want house framing! Specifying or ordering an F rated timber does not ensure you receive durable timber.



Sound Knot. At least it was when it was cut and that is how you have to imagine it when you grade it, not as you see it now, It measures about 60mm across a face of 145 when laid, i.e. 40% of the face. The allowance for knots in AS2082 in unseasoned timber for the different stress grades is

Grade	Ironbark	Spotted Gum
F22	36mm (1/4)	21mm (1/7)
F17	48mm (1/3)	36mm (1/4)
F14	54mm (3/8)	48mm (1/3)
Deckwood	18mm (1/8)	18mm (1/8)

The knot illustrated meets no structural grade, even the lowest conceivable, and will continue to degrade.

Decking and Gardens



We received an order recently for some decking to replace timber eaten by termites at a residential development which has now (I believe) passed into the care of the council. It is a sober example of what not to do, and dare I say it, what not to accept. The timber was a white colour so it quite possibly is blackbutt, my pet hate as a decking. But what caused this decking to fail is that it was buried at one end and the garden came right up to the deck even burying the joist. This is something you simply do not do.

Even when timber is close to the ground the framing should be considered as an "In Ground" application. We work on 200mm as the cut off point when we go to Durability 1 In Ground framing. Try hard not to bury the ends but design the approaches so there is a gap of 200mm under the joists.

A Reminder About Concrete and Hardwood Posts



Decay at groundline

I was recently speaking to someone in the power distribution industry about ground line maintenance and what I once heard called *Victa Disease*, i.e. decay of powerpoles at groundline on domestic streets where lawn proud residents continually water and fertilise their lawn. Victa disease as in people who are always turning grass into lawn with their Victa. The conversation mentioned the fact that they had had a welcome respite in groundline decay because of the drought. Now that is raining again it is expected to start again.

Irrigation and fertiliser will be common to many of my reader's projects. It will hasten decay at groundline if posts, bollards etc are set in ordinary concrete. Follow the link to our instructions on how to install posts and bollards.

Links
 External Timber Design Note 6. http://www.outdoorstructures.com.au/pdf/etdn_6.pdf
 Installation of Bollards: http://www.outdoorstructures.com.au/pdf/installation_of_bollards.pdf

Custom Handrail for Historical Home



Nonstandard handrail on historical home recreated by Infrastruxion



Good Old Fashioned Fixings, a useful item

Project: Gatton Historical Society and Lockyer Valley Regional Council
Builder: L&D Construction
Timber and Handrail: Infrastruxion

When the Gatton Historical Society in conjunction with the Lockyer Valley Regional Council wanted to recreate the deck that was missing on their latest acquisition, Hopewell House (100+ years old), they turned to Infrastruxion. We supplied all the framing, decking and preworked the posts to detail. This is all fairly standard material. But what do you do when you want to recreate the original rail when most hardware stores only offer the diabolical (if I may be allowed to express a personal opinion) treated pine rail? This was no problem to Infrastruxion we just made it to order.

If you have historical handrails you need to recreate talk to Infrastruxion. We may be able to assist.

The handrail tenon used is made by a Queensland company called "Good Old Fashioned Fixings". I can never find them on the web but I purchase my requirements from BMS Mitre 10, Toowoomba 07 4659 3200.

Consultancy Services by Ted Stubbersfield

In our area of expertise, often it is the art that proves more important than the science. Weather exposed structures normally do not fail because of incorrect member size calculations, but because a myriad of small points of detail are not taken care of.

As a timber design assistant we offer:

- The provision of high quality technical guides on timber design. (accessed from our website on a pay per view or membership basis)
- The review of professional drawings to identify potential timber design issues that may impact service life
- The preparation of proposed AutoCAD cross sections of structures
- To be a sounding board for ideas
- Lectures and presentations
- The assessment of best practice in construction.

As a grader I can assist with grading for confirmation to a nominated grade but more importantly I can assess whether timber is graded to an appropriate grade. Often these are not the same thing.

Contact me on 07 54625532 or by email to discuss how I can be of assistance to your organisation

Bridge Quote Requests

If there is any doubt that OSA make the best kit bridges in the country look at the Berrinba Wetlands Project

<http://www.outdoorstructures.com.au/gallery.php?gid=95&SID=2>

Not all bridges are equal. After encountering three bridges in one month that did not meet the Bridge Code I wrote the May newsletter. Refer to it when assessing the suitability of quotes.

http://www.outdoorstructures.com.au/pdf/osa_newsletter_05_10.pdf

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

More information:

If you have timber road/rail/heritage bridge issues, we suggest you talk to:

Mr. Dan Tingley

Senior Engineer

Wood Research and Development

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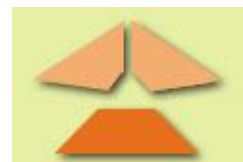
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