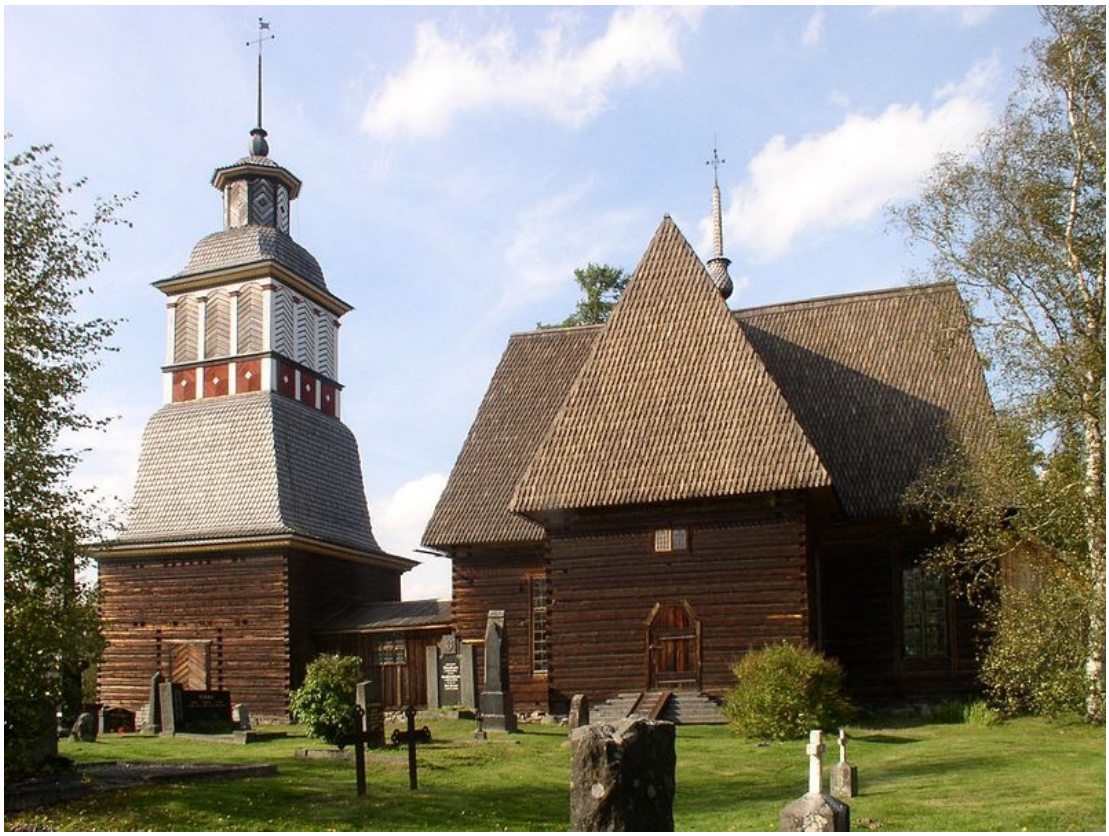
January 2015 Newsletter

Durability of Thermally Modified Wood



Back in the late 80's I visited a friend in central Finland, an incredible place. My friend took me to see a the Petäjävesi Old Church which was nearby. This was not long before It was inscribed in the UNESCO World Heritage List. This church was built between 1763 and 1765 and the bell tower was built in 1821. We will come back to this in a short while.

After a CPD seminar last year I was asked to comment on thermally modified wood which is fairly common in Europe. I was also sent a brochure claiming the wonderful benefits of this product. What we can say about the product is that it does improve the stability of the softwoods it is used on but question whether you get better stability than you achieve with our dense hardwoods. The trade off for this increased stability is that the timber becomes brittle. You do get increased decay resistance but not enough to raise it to a H3 level. A

claim of "higher durability" should not be confused with "high durability". But we also have to look to termite resistance and thermal modification offers no resistance to termites. Some studies have shown that termites actually prefer thermally modified wood! Here is a link to a report on modified timber.

The brochure cited some documents to prove the claim of higher durability but when I checked them they were all from Finland where you can have a 250 year old softwood church. Now that church has been repaired many times but I did see very old pine log cabins that were original. The point is that you cannot rely on European and particularly Finnish testing to base your decisions on. The climate is too different as are expectations. See the April 2014 newsletter where international durability ratings are compared. Durabilty 1 in Europe is rated as 5 years plus whereas for us it starts at 25 years.

Demand Australian testing before you commit to this product.

Feedback on 150x150 warning

Last month I included a warning, yet again about 150x150 hardwood. I received the following supporting feedback from Richard Forester of Richard Forester Timber Inspection. Please take the issue seriously.

"Heart in material should never been allowed unless 175mm or larger. Even that is probably not enough (Ted here: That is also our experience) but that is how the standard has been for many years. I was happy for the change (I.e. to allow heart in timber in all sizes for many species) provided the timber was seasoned.

The problem is if you test the timber green (destructive testing) the timber (That is the timber with heart in) will pass. If you test it dry it will pass. It appears nobody on standards took into account what can happen during seasoning. To suggest a piece of Blackbutt 100 x 50 can be sold as F17 with heart when green is ludicrous. You just end up with 2 50 x 50's. I and my inspectors refuse to pass any green timber to this new clause introduced in 2082 in 2007. . . . If AS 2082 is rewritten I will be pushing to have the new clause allowed for seasoned timber only."

Timber Induction Course eligible for CPD Points

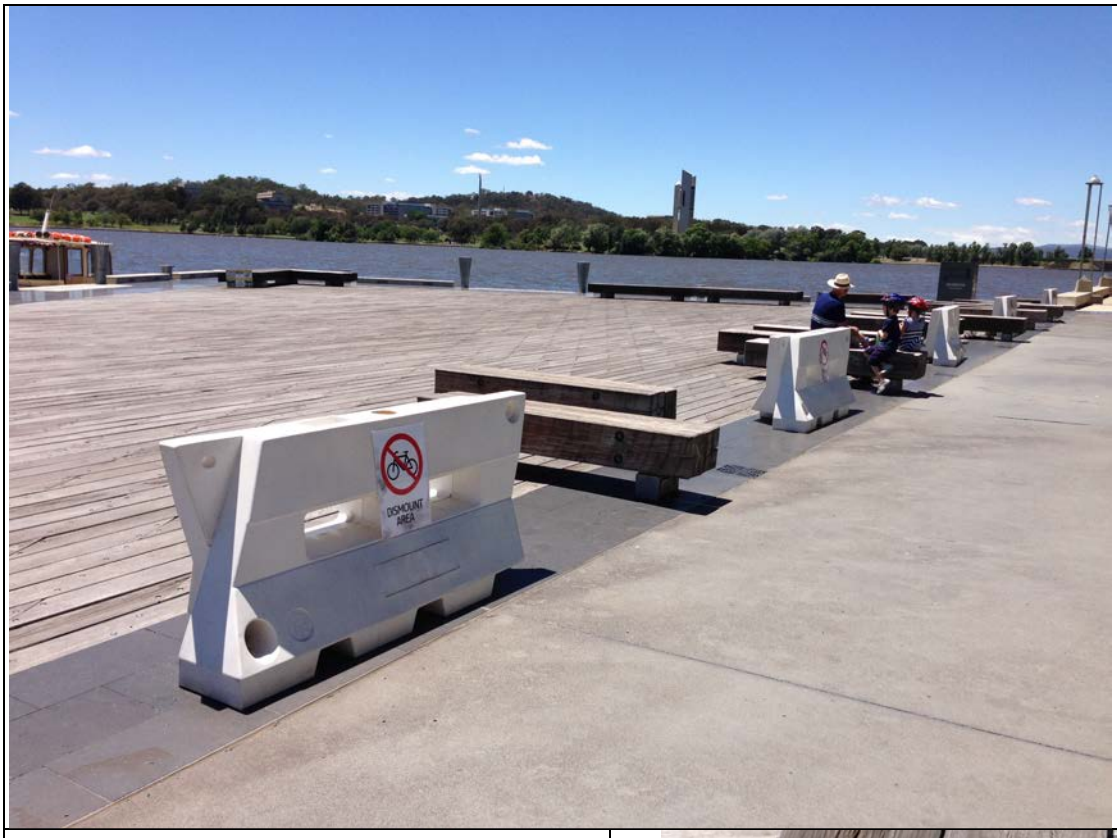
The guidelines for Engineers Australia and the Board of Architects Queensland allow me to award CPD points for the induction course or individual presentations. The same goes for landscape architects. These are available to deliver at your office or university. Ring me for a quote on 0414 770261

Timber Preservation.
Hardwood Grading.
Timber Decks – Designing for Durability,
Utilising Small Diameter Hardwood.
The Seven Deadly Sins of Timber Design. .

Deck, Queen Elizabeth Drive Canberra

While on Christmas holidays I again visited the deck in our national capital near the High Court. Now you cannot fault the architectural intent, when you look at the aerial view, it is stunning.

But like our politicians down there keep reminding us, the devil is in the detail. And here we do have a very serious gremlin. The deck, in my opinion should not have been built as detailed. Let's have a look at the details. It is a timely to remember that whatever you put on paper people will fall over themselves to supply and build (and pass the buck back to you).



When I was asked to quote against the plans for this deck in early February 2005 I realised it did not stand a chance of being safe if there were not changes made. It was basic primary school maths. I then wrote to one the parties offering our assistance to make this deck a success. Of course no one wanted to know. Why would you listen to an old sawmiller when everyone else everyone else was happy to send truckloads of timber to site without question. So the deck got built without modification. On my next trip to Canberra in 2010 I went to inspect the deck and of course it did all that I said it would, it simply had to do. It should have been closed to the public long before my visit as the gaps were dangerous. I could find gaps of up to 18 mm easily. This is exactly the situation our Deckwood system was developed for and would not have happened if it had been followed.

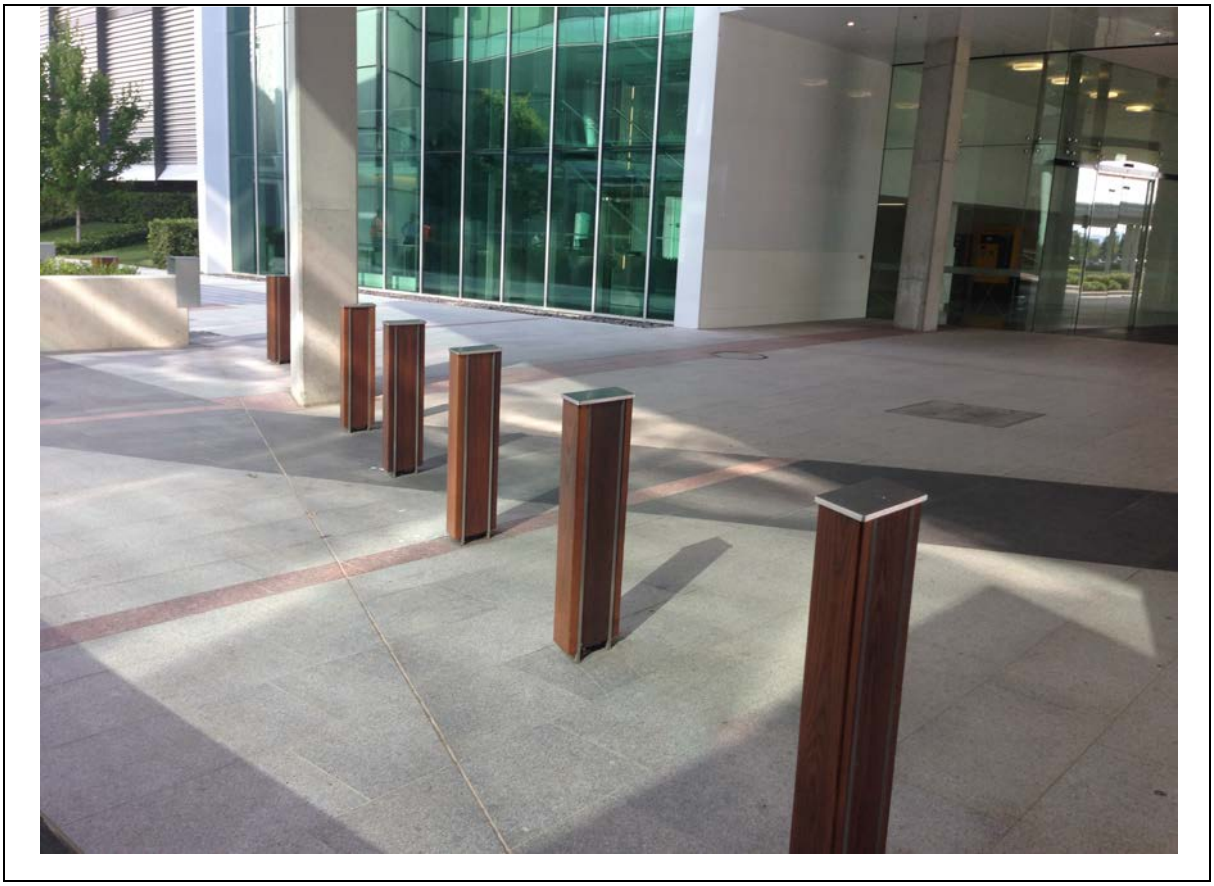
By chance one of my readers told me in mid 2010 how he had an accident on that same deck when the bike he was riding dropped down between an even larger gap. Over the handlebars he went and was injured. I went to Canberra over Christmas and went to photograph the deck

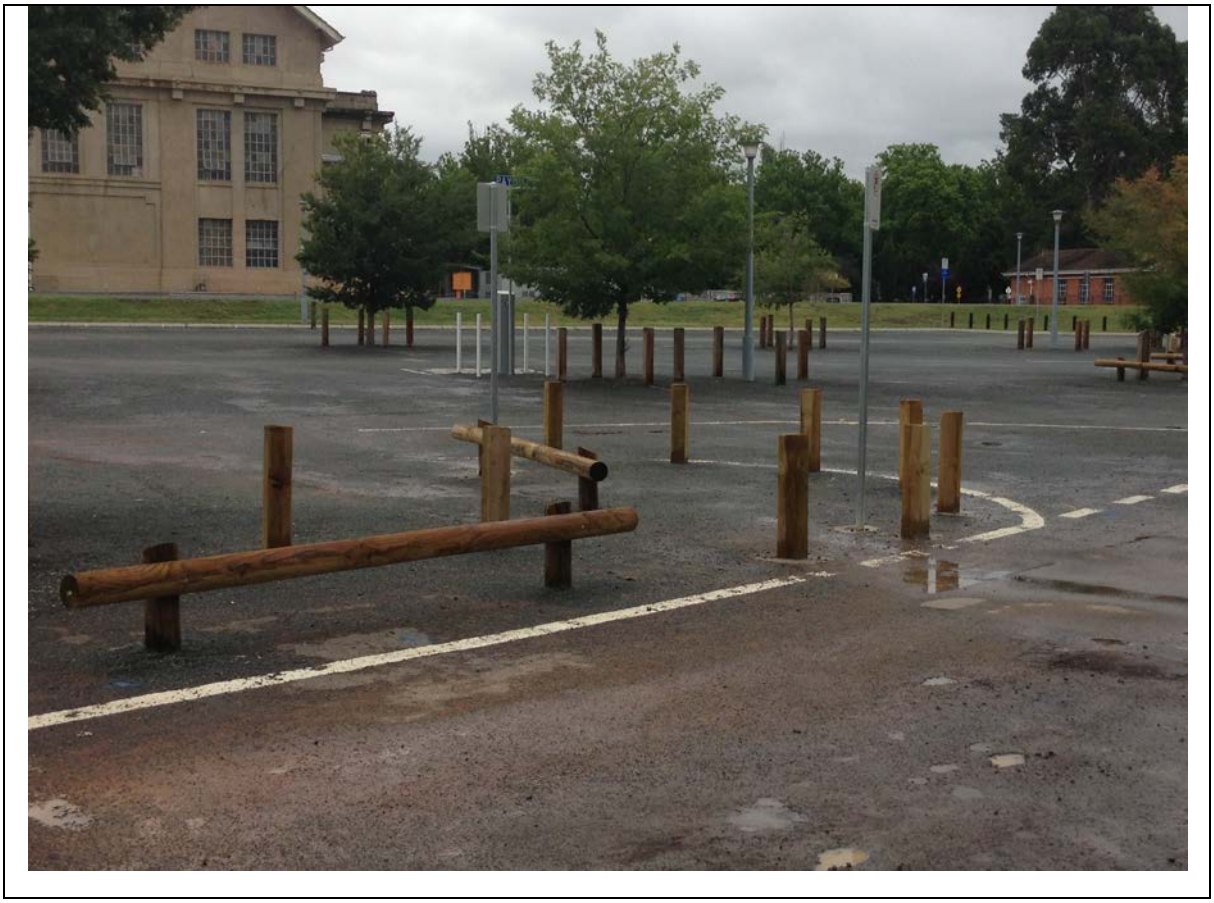
again to show how they had ripped up the deck and relaid it to make it safe. I was going to write a reminder on designing your gaps properly. I was appalled to see that those responsible had not done so, only placing solid barriers in front of the deck, each with a sign "dismount area". Not good enough! If it is unsafe for a cyclists, it is definitely also unsafe for a wheelchair, it is definitely unsafe for someone with a walking stick and the potential consequences for women with high heels doesn't bear thinking about. I can't see any solution other than to re-deck the area and then some bureaucrat will say it is all timbers fault and use some other even worse solution like plastic.

I offer a service where I check plans for obvious issues like those encountered here but too few people take it up to make it worthwhile persisting with. I would have done it for free back then! My book *Deck and Boardwalk Design Essentials* has a check list in the back to work through so to avoid these problems but except for notable exceptions I can't get designers unfamiliar with the timber to even purchase even that. I should have said something in 2010 but my cynicism made me think that bureaucrats will normally only respond to lawyers. Nothing has changed to cause me to think otherwise.

As for the seats, not a good look. They need not have looked like that if they were processed differently. Refer to my *Seven Deadly Sins of Timber Design* to see how to do this.

Canberra Bollards





When you step out of the airport at Canberra you can see an extremely attractive crash resistant bollards designed by Guida Moseley Brown Architects. They are everything a bollards should be, functional, incorporating timber and attractive. I would love to have something like this in our range. This is design at its finest.

Throughout the city I have never seen so many bollards but while they are functional and made of timber I would not say they are attractive. They are as cheap as is possible with little concession to the need to accommodate timber's weaknesses. Most did not have even a weathering cut on the top. My contacts in Canberra tell me that price rules there. You would have to look hard to find this type of very basic traffic barrier in Queensland