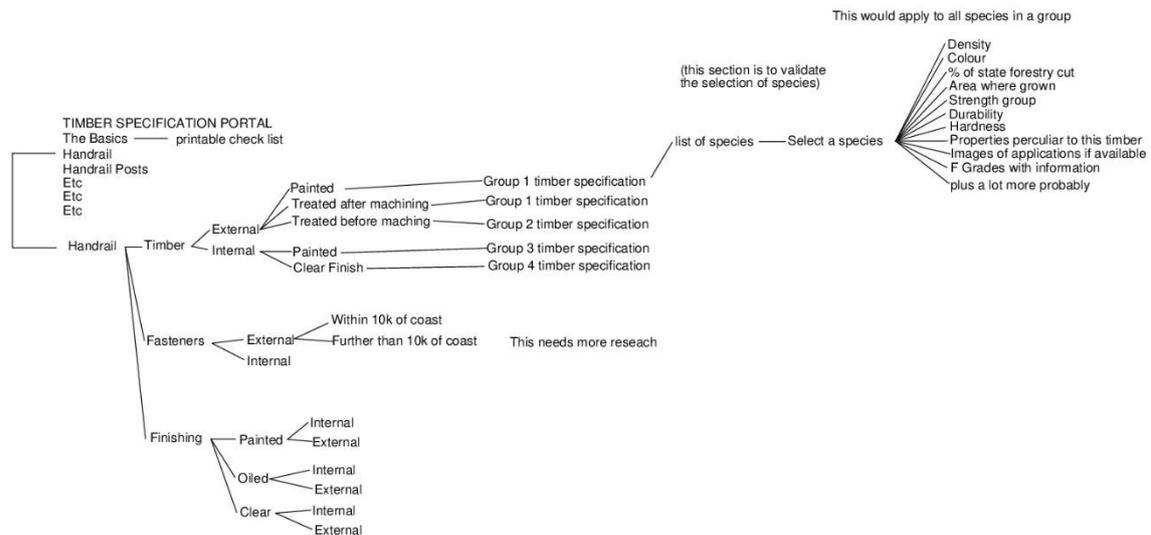


# Ted's News

## August 2022

[A Decision-Making Matrix is Needed](#)  
[Something Good In Canberra](#)  
[I Thought There Would be Issues with this Design](#)  
[Footbridge and Coastal Decks Full Day Course](#)  
[Signup for One of my Ten CPD Courses](#)  
[Need a Timber Consultant or Expert Witness](#)  
[Contact Me](#)

### [A Decision-Making Matrix is Needed](#)



[Click here to see a readable version of the above decision matrix](#)

Recently I was in Canberra and went to one attraction and saw they were on their third timber deck since 2010! They might get it right on the fourth attempt! I suppose the management can take some comfort in the knowledge they were not spending their own money. One of these decks cost \$250K. Lashing out \$55 and purchasing my [Deck and Boardwalk Design Essentials](#) book would have allowed them to identify all the problems I saw. Listening to the advice I gave with supporting evidence that everything was wrong about the first deck was even free.

I have long been toying with developing a decision matrix to guide and instruct design professionals because I have to be the first to say that it isn't always easy. Say you want to design a handrail, is it internal or external, let's say for argument's sake it is external. Is the timber treated then dressed and used as is, or is it treated then dressed then painted, or is it dressed then treated and used unpainted? There are two different species lists I would use. What do these finishes look like new and when they are aged? What do things like lyctus susceptibility mean and hardness? Where does the timber grow, and how much of it is there? There is no point in someone on the east coast of Australia asking for jarrah from Western Australia! What are the design considerations, What are appropriate specifications? Well, [all of this is written in my guides](#) but it needs an even easier means of access. The sad reality is that generally, the people who need this information, like the designers of the three decks, will not use it so I am loth to put time into it. It would be a good subject for someone doing an advanced degree however.

Unfortunately, this information is not taught in universities but it should be. So at this stage, you will need a specialist. Unfortunately, all the specialists I know are getting on in years and that does

not bode well for the future. The need for this matrix is getting more urgent every day.

### Something Good in Canberra



I also took this image of the Queen's Terrace at Parliament House in Canberra. Not everything done in timber in Canberra is a disaster. Notice:

- Stainless steel bracket,
- Side fastening to bracket and,
- beams fastened from underneath.

It would have been improved by having the tops of the 75 mm members water-shedding as they were degrading, but all in all, not bad. Think I am a bit harsh about Canberra? [You be the judge.](#)

### I Thought There Would be Issues with this Design



Composite timber and concrete bridges being installed near Esk in 2000

I saw this Doolan Deck bridge being installed in what was the Esk shire back in 2000 and I thought

at the time that it was clever and no doubt mathematically correct as far as it went. I also thought, "It is probably not going to be a success." But then what would I know, I am only an old sawmiller. The problem I saw was that if there is any cracking in the deck, moisture will be trapped and decay will go on unseen. Fast forward to 2022 and it appears I was correct. To quote my good friend Dr. Dan Tingley, ***Great timber design ensures air circulation around timber elements to maintain a low relative moisture content in the timber thereby mitigating the chances for fungal decay activity. Fungal decay occurs when moisture content levels exceed 24%. Concrete decks and concrete encapsulation allow moisture ingress and increased fungal decay activation at the concrete/timber interface with no air circulation to reduce the moisture levels.***



My friends from Wood Research and Development (WRD) and Timber Restoration Systems (TRS) came to the rescue of what is now the Somerset Regional Council. I asked them to provide an article for this newsletter, here is a brief summary. [Read the full report on the problems with and refurbishment of this bridge here.](#)

Prior to their rehabilitation, the Doolan Deck bridges were given a Condition State Rating (CSR) of 3 with an initial appraisal of 2-15 years maximum load limit rating. The replacement of concrete-decked timber bridges is a drastic action that is prohibitively expensive as well as disruptive to the community. There are State and Federal grants available although, the financial impost on Councils to pay half the costs for bridge replacements makes for difficult asset management decisions on priority deteriorating assets with limited budgets.

After successfully rehabilitating 4 Doolan Deck bridges, Somerset Regional Council were able to incorporate in their budget the rehabilitation of 17 more bridges, completed within their financial year budget. All 17 bridges now have a Condition State Rating of 2 with their service life increased by another 60+ years with regular service checks as part of all good bridge maintenance regimen.

The total time to fix the 17 bridges, reinstate to a CSR of 2 and increase the load rating to the desired level was 6 weeks – a fast turnaround result that no other option could fulfill. The cost of rehabilitating the log girders, fixing the concrete decks, and applying Aquaron 7000 was less than \$1.5 million, significantly less than any other option and finally, all the rehabilitation work was performed under traffic with minimal disruption of service.

Through the engagement of TRS & WRD services, Somerset Regional Council was able to significantly extend the service life of existing bridge assets at a low cost to the asset registry with small sink fund requirements. Replacing these bridges would have incurred huge financial

replacement costs, large long term sink fund requirements and community disgruntlement over lengthy road closures.

[Read the full report on the refurbishment of this bridge here.](#)

## Full-Day Courses

 <p>The Footbridge Purchasing and Inspection Course run by Edgar (Ted) Stubbersfield is intended for those responsible for the specification, purchasing and ongoing maintenance of footbridges. The course will enable participants to:</p> <ul style="list-style-type: none"><li>• Prepare an appropriate specification</li><li>• Assess suitable product to purchase</li><li>• Recognise where corners are cut</li><li>• Ensure value in purchasing</li><li>• Know quickly where to inspect</li><li>• Recognise suitable timber for bridges</li></ul> <p>I can offer valuable assistance to your organisation by empowering your people to recognise an appropriate low maintenance footbridge from one that requires expensive rectification over a shorter life span.</p> <p>On retiring from Outdoor Structures Australia, a company I founded in 1997, I have been concentrating on publishing guides on external timber and steel use and educating professionals in that field. You can now take advantage of my experience gained building low maintenance steel and timber bridges.</p> <p>I have extensive expertise in exposed timber applications. This knowledge was developed initially through a number of formal research projects followed by years of observation. I acquired a deep of understanding of the issues relating to designing, supplying and constructing fully weather exposed timber and timber and steel structures including bridges.</p> <p><b>Contact Details</b> Mobile: 0414 770 261 Email: edgerstubbersfield@gmail.com</p>	 <p>The Coastal Deck Design Course run by Edgar (Ted) Stubbersfield is intended for those responsible for the specification, purchasing and ongoing maintenance of boardwalks and decks with emphasis given to the more difficult coastal environment. The course will enable participants to:</p> <ul style="list-style-type: none"><li>• Prepare an appropriate specification</li><li>• Assess suitable product to purchase</li><li>• Recognise where corners are cut</li><li>• Ensure value in purchasing</li><li>• Know quickly where to inspect</li><li>• Recognise suitable timber for decks</li></ul> <p>I can offer valuable assistance to your organisation by empowering your people to recognise an appropriate low maintenance deck or boardwalk from one that requires expensive rectification over a shorter life span.</p> <p>On retiring from Outdoor Structures Australia, a company I founded in 1997, I have been concentrating on publishing guides on external timber and steel use and educating professionals in that field. You can now take advantage of my experience gained building low maintenance steel and timber bridges.</p> <p>I have extensive expertise in exposed timber applications. This knowledge was developed initially through a number of formal research projects followed by years of observation. I acquired a deep of understanding of the issues relating to designing, supplying and constructing fully weather exposed timber and timber and steel structures including decks.</p> <p><b>Contact Details</b> Mobile: 0414 770 261 Email: edgerstubbersfield@gmail.com</p>
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Don't embark on any major footbridge or coastal deck project before you do my full-day courses. These are serious courses run through BCRC, the durability experts, that are unmatched in the value you will extract from them by delivering expensive infrastructure that ages gracefully and with little maintenance. They both start by going through a design checklist and explaining, line by line, why you must attend to that point. They then look at a number of case studies, showing good and bad practice.

[Click here for the footbridge course brochure](#)

[Click here for the coastal deck course brochure](#)

Call me to discuss your training needs. These courses, which are eligible for CPD points, will give you an incredible understanding of good timber use. Call 0414 770 261 or [email me](#).

## Signup for one of my ten CPD Courses



Learn from my four decades of experience with these CPD training sessions, some of which are available in eClassroom.

Topic 1	Timber Preservation	
Topic 2	Hardwood Grading	
Topic 3	Timber Decks - Designing for Durability	
Topic 4	Utilising Small Diameter Hardwood	
Topic 5	The Seven Deadly Sins of Timber Design	<a href="#">eClassroom link</a>
Topic 6	Timber Joints	
Topic 7	Architectural Timber Battens	<a href="#">eClassroom link</a>
Topic 8	Timber 101	<a href="#">eClassroom link</a>
Topic 9	Boardwalk Design (recommend delivered with Timber 101)	
Topic 10	Timber Handrail Design	

[Click here to learn more about these courses](#)

Are you aware that [Wilson Timbers/Outdoor Structures](#), who I am affiliated with and are suppliers of quality timber, will have me come to your office (in person or remotely) and deliver one or two of my CPD sessions for free? The only condition for in person presentations is that, with travel, we can do it in a day from Brisbane in Queensland. [Contact Stuart Madill by email to arrange a time](#) or call his mobile 0403 385 707.

### [Need a Timber Consultant or Expert Witness?](#)

I have over 45 years of experience in the industry and can assist you with many of your timber needs.

**Inspection** – I can assess timber products on their performance, fitness for purpose or cause of failure. I also examine whether best practice was used in design and construction. I have recently completed inspections on boardwalks, bollards, support beams and external timber furniture.

**Grading** - Quite literally, I have written the book on the subject. Recent experience has shown that up to 30% of timber supplied may not be to grade.

**Design** - I can provide detailed technical drawings and advice. I can also review already prepared drawings.

**Reports** - I have authored many books on timber and can prepare a report providing recommendations and practical instructions on to how to rectify issues.

**Trainer and Presenter** – I can provide tailored training to meet your CPD needs and also have experience at lecturing to universities and presenting at conferences.

Please note as I am now employed as a Senior Timber Consultant with the firm BCRC all large and complex consultancies and requirements for an expert witness will be handled in conjunction with them. Existing consulting arrangements remain unchanged and I am also available to assist on small projects. For more information see [www.bcrc.com.au](http://www.bcrc.com.au) or [download their capability brochure here](#).

## Contact Me



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