

# Ted's News

## September 2023

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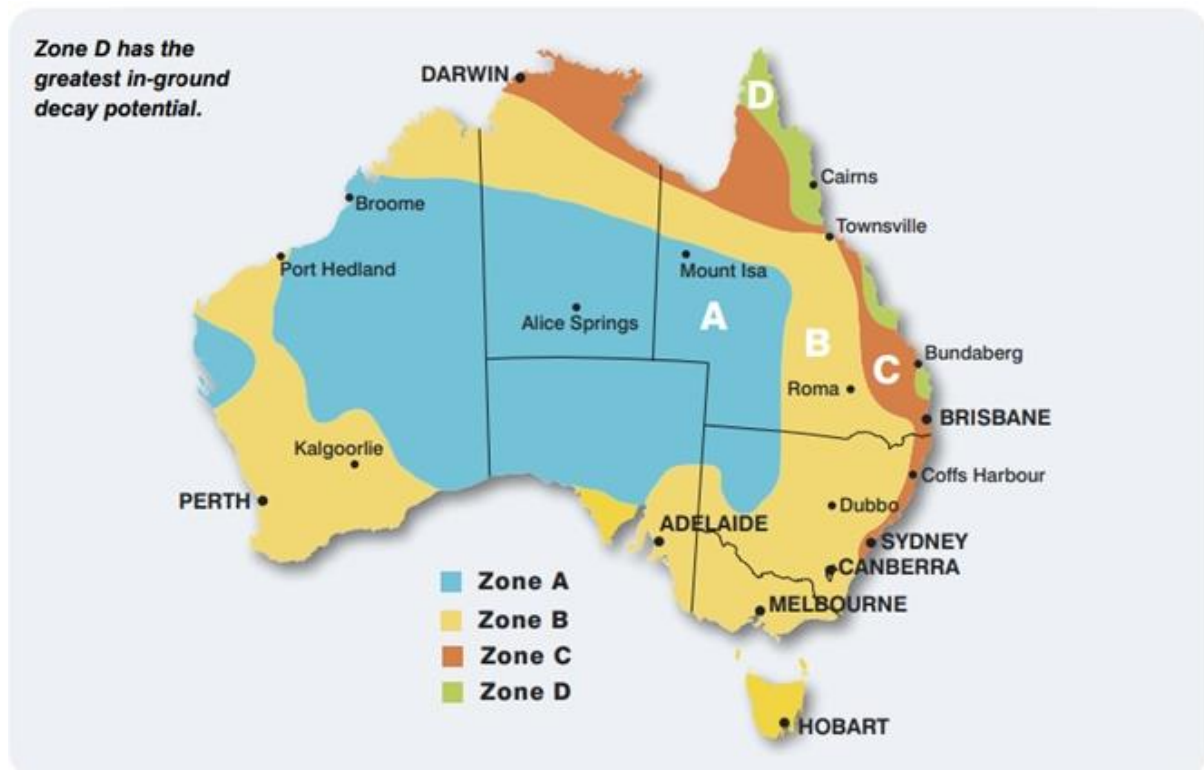


Clay Hoger of Wood Research and Development  
assessing the soundness of Cypress posts at the groundline using compression wave timing

Over the last month, I have been involved with three events involving failure at groundline, two in timber.(cypress and ironbark), and one in steel This month's newsletter will be primarily concerned with groundline contact with timber and steel.

[Post Size](#)

The guide to [timber in playgrounds](#) (cost \$55) advises that you should put your timber posts in an appropriate post support. Apart from my readers, that is advice that falls on deaf ears. So the guide gives guidance on how to put a post in the ground to achieve the maximum life span. Ultimately, the post has to be big enough to sustain some decay, but how big? And that will depend entirely on how long you want it to last and where in the country the site is located.



The four climatic zones in Australia

In the lead image, Clay Hoger from [Wood Research and Development](#) is doing compression wave timing on 125x125 Cypress posts in a Zone 3 region. Was that post big enough when built? The two-volume [Construction Timbers in Queensland](#) (CTIQ) published by the Queensland Government is part of the Queensland variations to the NCC for any Class 1 or Class 10 building. While it is the law in Queensland, as my state has all four climatic zones, it is very good advice for the rest of the country. If you are doing something that is contrary to CTIQ it is most likely not going to work.

The map is from MacKenzie, Colin, C H Wang, R H Leicester, G C Foliente, and M N Nguyen. *Timber service life design, Design guide for durability*. (Melbourne: Forest and Wood Products Australia Limited, 2020) 20.

| 15-year target design life |  |      |      |      |  |      |      |      |
|----------------------------|--|------|------|------|--|------|------|------|
| 12<br>(p.32)               | 13<br>(page 33)                              |      |      |      | 14<br>(page 34)                          |      |      |      |
| Protected                  | Weather-exposed                              |      |      |      | In-ground                                |      |      |      |
|                            | Above-ground decay hazard zone<br>(page 19 ) |      |      |      | In-ground decay hazard zone<br>(page 22) |      |      |      |
|                            | Ag:A   | Ag:B | Ag:C | Ag:D | Ig:A                                     | Ig:B | Ig:C | Ig:D |
| ✓                          | ✓  | ✓    | ✓    | ✓    | C2                                       | C3   | C4   |      |

So, to determine your post size, go to Volume Two and look up your species. There is so much information there that it is spread out on two pages in landscape format. I have copied only the 15-year requirements for above-ground and in-ground applications. There are columns for 50 years as well. So for Region C with white cypress, it is a C3 application,

Timbers allocated a **C** or **H** code under an application Column are recommended for use in that application, provided the specification and timber used meets the minimum provision denoted by the codes defined here:

**C1** De-sapped for portion in-ground contact if untreated

**C2** Minimum dimensions to be 100 mm × 100 mm

**C3** Minimum dimensions to be 150 mm × 150 mm

Then look up Volume One and on page 26, we can see (above) that the minimum size for a white cypress post for a 15-year life is 150x150. If we looked at a 50-year life it would be 300 mm dia de-sapped, Cypress must be de-sapped as it cannot be treated effectively with waterborne preservatives. Now remember, if you set the post in concrete it results in a much shorter life. Remember also, that CTIQ is the law in Queensland. Want a 30-year life, it is probably going to be 200x200. The correct post support becomes attractive.



## Timber House Stumps

Way back in 1993, I had our specialist timber engineer write my company's first technical guide. It was on Timber House stumps. No need to reinvent the wheel. [Download it here](#).

## Lay Your Design Sins at the Foot of the Cross (Revisited)



Original cross embedded in large concrete base



Cross being reinstalled in a steel base.

"Be sure, your design sins will find you out." In [May 2018, I wrote](#) about degradation at the groundline of a 300x200 mm cross my father donated to the Gatton Anglican Church in 1967. In 2021 it was [cut off a little over groundline after 54 years](#). Given that decay was starting to become visible above groundline, and that 200x200 bollards nearby were rotting off at groundline after less than 20 years (image to the right) That action was prudent. The cross was sound as a bell just 75 mm above groundline.

Ultimately, we did not know what was happening in the metre cube of concrete that the stipes was set in. We were not aware of how bad a practice it was 50 years ago but we did 20 years ago.

When I was helping Clay Hoyer with the post base inspection (lead image) we agreed in utter frustration that the more that is known, the worse general practice is becoming.







There is an interesting tapered joint where the patibulum meets the stipes. I have never seen it used elsewhere but it has merit. (I know I am a closet sesquipedalian he/him.)

### Steel Posts at Groundline







Before and After

I wrote about steel posts in concrete in the [April newsletter](#) where I gave the galvanising industry recommendations. The unfortunate case above is a good reminder of how wise their guidelines are. My nephew and nieces were preparing their 40-year-old family home for sale when they noticed the concrete around the top of the posts was cracked. \$30K later, the house is restumped. A thirty-dollar tin of paint and a couple of barrow loads of concrete to mound it above groundline and replacement would not have been necessary. Ouch.

Duragal is another matter.

### [Signup for One of my Eleven 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  | <a href="#">eClassroom link</a> |
| 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                                 |                                 |
| Topic 11 | Timber Bollards  |                                 |

[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.

## Full-Day Courses



**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:

- Prepare an appropriate specification
- Assess suitable product to purchase
- Recognise where corners are cut
- Ensure value in purchasing
- Know quickly where to inspect
- Recognise suitable timber for bridges

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.

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.

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.

**Contact Details**  
Mobile: 0414 770 261  
Email: [edgarstubbersfield@gmail.com](mailto:edgarstubbersfield@gmail.com)

# Footbridge Course



**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:

- Prepare an appropriate specification
- Assess suitable product to purchase
- Recognise where corners are cut
- Ensure value in purchasing
- Know quickly where to inspect
- Recognise suitable timber for decks

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.

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.

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# Coastal Deck Course

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 decks 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](#).

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|--|--|
| <a href="#"><u>Contact Me</u></a>  |  |
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