



March 2011 Newsletter

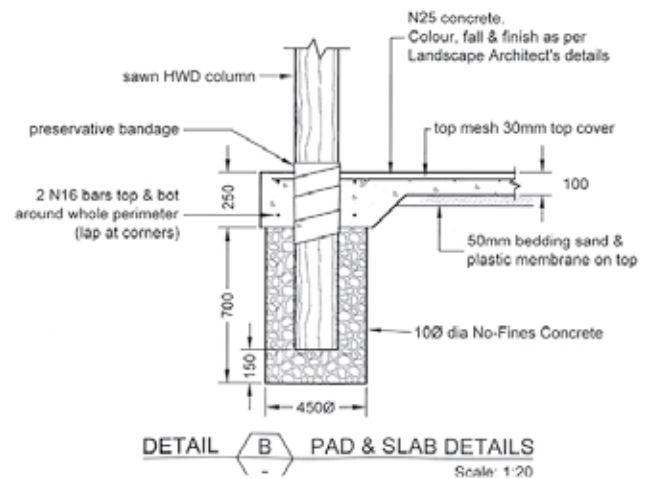
Contents

- Installing Structural Posts in Concrete
- Staff Changes at OSA
- Reader Feedback on Volute Washers
- Correction/Apology
- Quote Request for Steel Bridge
- Quote Request for Timber Bridge

Installing Structural Posts in Concrete



OSA Lindsay triple shelter serving as a performance stage Tin Can Bay with posts directly in ground



An example of an OSA detail for installing structural posts in ground



Preschem pole bandage available in 20m rolls



Corrosion at groundline in steel post after 12 years.
Image courtesy of Guymer Bailey Architects

Is there a right and wrong way to put structural timber in the ground? Most definitely! Invariably it is done the wrong way as it is cheaper and simpler or because there is no knowledge that there is a correct way. But why put timber in the ground anyway? One reason is that the timber post may well last longer than steel if you take the trouble to do it correctly. I have visited shelter sheds built by others and taped on the legs and from the ring you know that this is a very thin piece of steel. Maximum life from galvanizing is not achieved till the steel is more than 6mm thick. Invariably there is no added protection at groundline such as a corrosion resistant paint and you know that the post is not going to last terribly long. But if a timber post is installed correctly you can obtain a 35 year design life in South East Queensland!

There is no real mystery to achieving this performance. Firstly you have to ensure that you have specified and received Durability Class 1 in ground timber. Remember that just specifying F14, F17 is only nominating the strength on the day of milling and nothing more. It is not a specification for a post or anything else for that matter. In a sawn post such as a 200x200 there will be no sapwood to speak of so talking of treating to H5 is again meaningless.

The Solution

The post should be installed in no fines concrete. It must not be installed in "normal" concrete or rapid set. Timber Queensland's Technical Data Sheet No. 9 Timber Retaining Walls for Residential Applications gives the following instructions for mixing no fines concrete...

"No fines concrete shall be 10mm maximum aggregate size, 450 kg cement per m³ and a water cement ratio of 0.55. The concrete shall be Readymixed or hand mixed manufactured to the requirements of AS 1379. For no fines concrete the concrete shall be well agitated immediately before placing to ensure a complete coating of the aggregate. The concrete shall be discharged directly into the holes and tamped without delay. All concrete shall be placed within one hour of batching. The no fines concrete shall not be reworked as this destroys the bond."

A pole bandage, such as the one made by Preschem is wrapped around the pole from ground line to approximately 300mm deep. Bollards are not structural so there is no need for the bandage. See the link below for instructions on how to install bollards, both timber and steel

If your contractor has installed in concrete contrary to the specification, *the posts should be removed and reinstalled, it is that critical.* The best post you can use is OSA's own Pioneer Post. See the links below.

Links

Letter from Timber Queensland re post life. <http://www.outdoorstructures.com.au/pdf/life-of-post-letter-timber-queensland.pdf>

InGal Specifiers Manual: http://www.ingal.com.au/IGSM/pdf/specManual_08_Final_01.pdf

Refer section 5 for galvanized steel in ground and page 38 for the effect of steel thickness to galvanized coating.

Brochure on Pioneer Post. http://www.outdoorstructures.com.au/pdf/pioneer_post.pdf

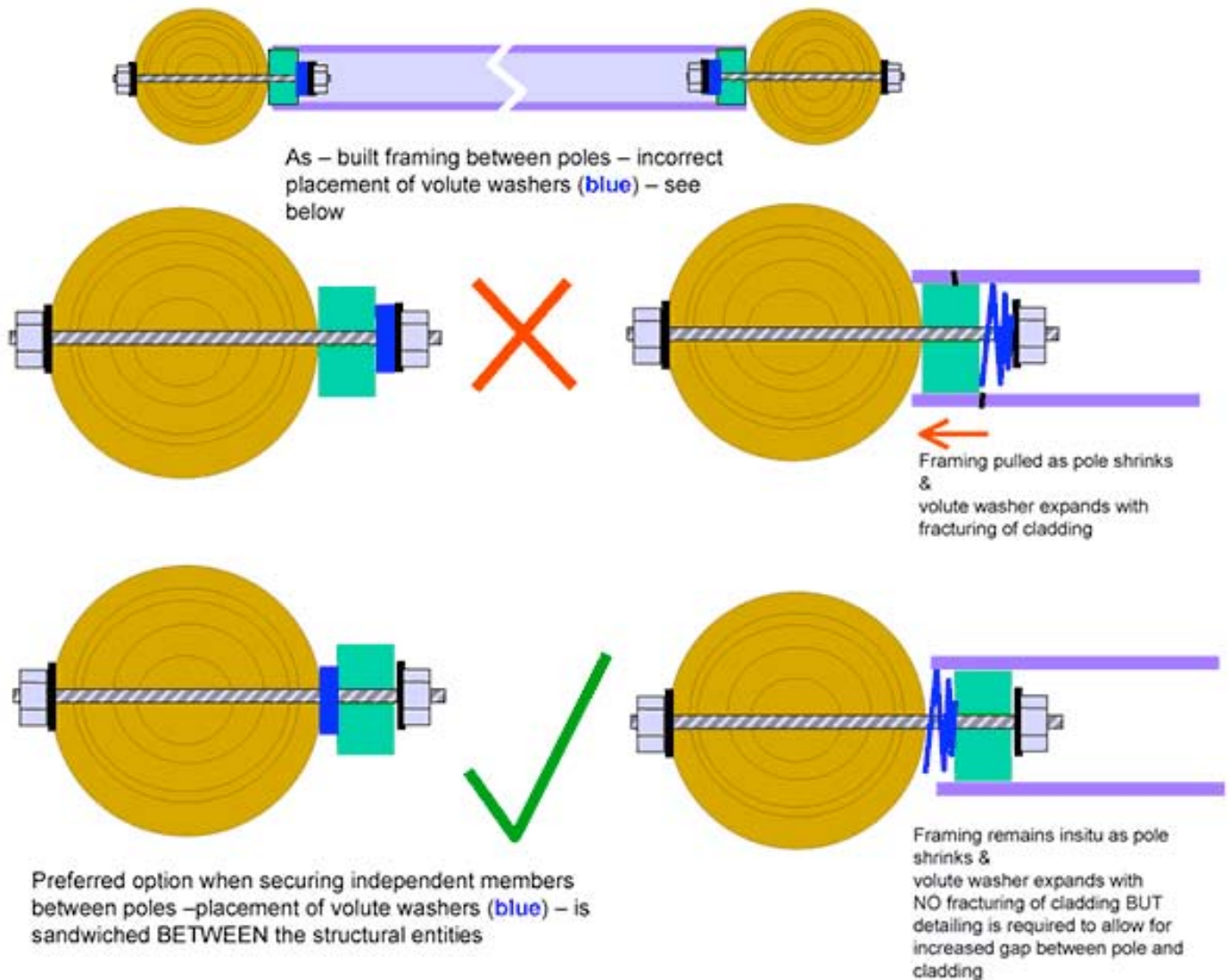
Rationale behind the Pioneer Post. http://www.outdoorstructures.com.au/pdf/pioneer%20post_bkgnd.pdf

Installing bollards. http://www.outdoorstructures.com.au/pdf/installation_of_bollards.pdf

Staff Changes at OSA

After almost 5 years with OSA. Dr Andre Urankar has retired (again). He will be missed as he had skills far beyond those normally found in a timber related business. Before retiring for the first time Dr Andre held a very senior position in a major telecommunications company so he had much to teach me. I hope Andre continues to "fly friendly skies" as he undertakes his Angle Flights. Increasingly his position will be filled by Chris Blackledge. Chris has wisely decided that he wants to learn the very complex processing side of the business before tackling full time the sales side of the business.

Reader Feedback on Volute Washers



A good friend and avid reader of our newsletter reminded me about a potential misuse of volute washers which needs to be passed on to our readers. Some years ago, when we were a sawmill and pole producer, we supplied him with all the timber for a pole home he designed and was having built (and we are still friends).

The builder placed the framing between the poles which was bolted in place with volute washers under the nut. As the poles shrunk the frames moved with them causing cracking in the wallboards. My friend reminded me that if the builder had fitted the volute washer between the frame and the pole instead of under the nut the wall frame would have stayed in place and no damage to the sheeting resulted.

For your benefit my friend drew the image above to clarify their use. Thank you Dave

Links

February newsletter with Volute washer dimensions:

http://www.outdoorstructures.com.au/pdf/osa_newsletter_02_11.pdf

Damage done to plasterboard due to incorrect use of volute washers.

http://www.outdoorstructures.com.au/images_email/plasterboard-on-hardwood-detail-11.jpg

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

Apology/Correction

Last month's newsletter featured the case history of the Thursday Island Foreshore built for the Torres Shire Council. I failed to credit one of the most important companies responsible for making this a truly remarkable project. The project managers and engineers for the above project, who also designed the substructure for our deck was PDR Engineers, Cairns. I do apologise Peter.

Links

February newsletter with Thursday Island Case History.

http://www.outdoorstructures.com.au/pdf/osa_newsletter_02_11.pdf

Regards

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