

RETAINING WALLS

How often are retaining walls viewed as an 'afterthought' in the residential and commercial building process? Too often it seems!

When you consider that the necessary characteristics of a retaining wall are a combination of:

- Structural ability (requiring engineering definition)
- Durability (for longevity of application)
- Aesthetic acceptability
- Cost efficiency

Why is it that so often only the last one, cost, seems to be the overriding decider? This observation is easily validated by an inspection of almost any new subdivision or active 'new housing' area. Dry stacked rocks and boulders, untreated or minimally treated timber walls, one metre high walls (to escape building application procedure) with steep batterslopes on top – such examples are not the exception, they are too often the norm. Somehow so many inappropriate retaining wall constructions seem to escape the 'net' of engineering and local government requirements.

A recent ally to enforce adherence to 'engineering correctness' of retaining wall design and construction is Australian Standard, AS 4678-2002, Earth Retaining Structures.

'This code sets out requirements and recommendations relating to the design and construction of structures required to retain soil, rock and other materials.' It is the first time that there has been an Australian Standard on retaining walls.

Apart from structural design, the code addresses the crucial, yet neglected aspect of 'design life.' Table 3.1 in the code nominates design life (years) for various types of works e.g.: 30 years for industrial structures and 60 years for residential dwellings. This virtually rules out the use of hardwood timber retaining walls, since the best that can be achieved with Class 1 durability timber and H5 CCA treatment is in the order of 25 years (keeping in mind that virtually no current timber sleeper walls meet this standard anyway!)

It would seem to be an appropriate time for all builders, designers and authorities to re-assess their views towards proprietary concrete retaining wall systems, where the products and systems are engineer designed and tested, then manufactured to their respective standards such that compliance to AS 4678 is assured.

The same cannot be said about the many, cheaper, short life, and/or badly engineered alternatives that currently proliferate in the retaining wall scene.

And as a final thought; given our society's current preoccupation with the question of 'liability' how will current and future clients, owners, insurers (and their lawyers) view the liability of the consequences of poor retaining wall construction if said construction is shown not to have paid any heed to an Australian Engineering Standard that nominates minimum standards that must be met.