Avoiding & Resolving Building Disputes
What can be done with AS 2870 & associated references?

This article is a summary of my presentation to ACSEV and the F&FS on 15th August, 2018 and presents my perspective from, experience in building disputes involving foundation movement.

It is well established that problematic foundation movement and disputes resulting from it are onerous to those involved. A situation that commonly involves litigation, or pre-litigation investigation, just to establish if there is a problem, is hardly best practice. Consumers are accustomed to being provided with products that are clearly either sound or unsound and most industries adhere to standards they can rely upon. Not so construction.

AS 2870 and associated references can be improved and play their part in avoiding problems, reducing disputation and better informing remedial solutions. This is my three pronged approach.

Most problematic foundation movement issues result from abnormal moisture conditions. These may be caused by specific construction defects such as faulty plumbing but more often result from inappropriately maintained or developed sites. AS 2870's Appendix B is far to difficult to obtain (and expensive) to be useful consumer advice and the CRIRO guide (also copyright) is complex and vague in parts. A new, readily accessible, highly readable reference is required to cover the basics. It should be freely available to all.

The issue of identifying and confirming whether a foundation and footing system has performed is vague, subjective and complex. The use of defect or distress criteria to distill footing and foundation performance is indirect and inexact. Modern brick veneer construction can sometimes tolerate excessive differential movement with minimal distress. The criteria of AS 2870 Appendix C should be abandoned and replaced with specific performance criteria including overall level differences and local gradients. Such criteria need to set two standards: One of satisfactory performance and one of excessive movement that is within the structural capacities of the footing system so can be remedied, generally, without structural works.
Generally, buildings and sites developed and maintained to AS 2870 requirements and recommendations (Appendix B), perform satisfactorily. However, there are two areas that warrant revision.

AS 2870 makes no allowance for different types of clad framed construction, some of which can be more movement sensitive than some masonry types (eg: fc. cladding, balcony to house junctions etc). Better definitions of building types are required and some lightweight types should move into masonry categories.

Moisture under waffle pod slabs is a notorious cause of movement. Whilst this is often the result of inappropriate site drainage the waffle pod raft slab design is inherently faulty in having its edge beams based at shallow depths on free draining crushed rock or sand. Edge beams should be deepened and based into firm, natural ground to reduce moisture ingress under the slab.

Remedial works would make a useful appendix to AS 2870 but should be general and guiding only. There are still far too many people who think that cracking automatically involkes a need for underpinning.

VBA practice notes are an avenue to better inform the public and perhaps present the necessary companion reference to better inform home owners.

Summary of Suggestions
AS 2870 to better classify clad framed construction.
AS 2870 to increase waffle pod edge beam depth & base into natural ground.
AS 2870 to include guidance on remedial works.
New independent reference/s required to inform practitioners & owners in particular. Perhaps this is an opportunity for ACSEV, the F&FS and the VBA?

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