

# Staying out of Trouble

## *Tips to avoid litigation*

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Much of my work involves reporting for construction litigation, often scrutinising the work of engineers. Whilst it is rare for an engineer to be primarily responsible for a significant building problem, it is common for engineers to be involved in litigation, often unnecessarily.

In the first instance, the legal industry will generally assume the engineer has been given a complete and detailed brief to provide comprehensive services with unlimited resources. In reaching my opinions for legal reports, I am mindful that the realities of engineering practice can be somewhat different. Unfortunately the document trail does not always make this clear. This article is an attempt to identify common areas in which engineers may be unnecessarily exposed and to suggest how such exposure can be reduced or better controlled. Here are my top tips:

### **1. Contract Letters**

Engineers commonly provide a “fee proposal” usually a brief summary of the services they intend to provide and fees they intend to charge. Missing are often statements of what they don’t include or won’t do unless separately instructed. Common examples include inspecting the site during design and construction stage services. In the absence of these clarifications the legal industry may assume the engineer made every necessary inquiry and was available 24/7 to provide comprehensive services throughout. It is best to confirm what you include, what you don’t include and what you depend upon from others. For instance, who will brief you and who’s instruction you will require to inspect during construction. Most of this can be standardised.

### **2. Acceptance of Geotechnical Reports**

Geotechnical consultants are not a registered practitioner category and not required to carry pi insurance. You should not assume you can accept and use any “soil report” provided to you by others as a solid basis for design and construction. Avoid

reports from practitioners without adequate pi insurance - it is not unreasonable to ask to see an insurance certificate. Ideally you should brief and de-brief the geotechnical consultant but, if not, you should at least check the report is up to date, not denoted preliminary, intended for the proposed works and adequate in all respects. You should not accept a simple site classification report if the project has retaining structures that require other advice. This sounds really basic but a large proportion of the matters I investigate have geotechnical reports that don’t address the necessary scope. Another common issue with geotechnical reports is that their stated intention in their introductory paragraph often does not match their content. This can have implications....

### **3. Embed Geotechnical Recommendations**

The failure to reference the geotechnical report on engineering drawings may be a serious omission. The report should not only be unambiguously referenced but a statement should be included to the effect that the application of the design is contingent on the builder and owner following the recommendations of the geotechnical report. I currently have a file with an engineer under scrutiny because the builder failed to apply the geotechnical report recommendations; the engineer has referenced the report but not explicitly stated his design depends upon its application. He may be ok but could so easily have been in a more robust position. This is all the more important when a geotech has made a specific recommendation such as the installation of a root barrier. Even if you don’t specify such works show the need for them on your drawings.

### **4. Site Classifications**

The mistake of incorrect or ambiguous site classification is more common than you might expect. There may be multiple site classifications or the engineer may have confused the underlying and design classification of a class P site. An

incorrect classification often does not have technical ramifications but it is like a red flag to a bull in the legal industry. I have often had to explain that, yes, the classification was mis-quoted, but this made no material difference. Many people don't understand what a site classification is and think that when someone writes an M where there should be a P, they are not getting what they paid for. A simple one to avoid.

### **5. Unsupported Hybrid Footing Designs**

We have all combined bits and pieces of standard AS 2870 designs to produce a hybrid that we consider appropriate. There is nothing fundamentally wrong with this approach but it helps to support it with notes or simple computations. For instance, you might note that you have maintained a brick veneer standard footing under a full masonry part of the structure because you have compensated for this by closing up a tie beam spacing or adding extra masonry articulation. If you don't provide such validation, a critical engineering expert may simply report that your design did not comply. AS 2870 does not support our convention of continuing a brick veneer footing system into a full masonry attached garage of a house. Strictly this is non compliant although commonly done, so that's one to watch.

### **6. Portal Frame Details & Welding**

I've have had two matters recently where the engineer has identified portal frames on plan but not explicitly detailed their connections. In one case he simply noted "fully welded" and the implication of sitting the beams atop the columns or running them into the face were quite different in terms of the moment capacity of the connection. Along the way vital stiffeners often get omitted. Portals are important so let's get them detailed.

### **7. Wall Bracing - Included or not?**

It is reasonable not to include wall bracing where it can be specified from AS 1684 but there are numerous configurations of modern housing that aren't so covered; for example three stories. As soon as you get some height into a narrow building

it is amazing how hard the bracing has to work. A good one to confirm in your engagement letter.

### **8. Inspection Reports**

Often there is scant documentation confirming engineering inspections and sometimes this is limited to the post inspection advice of the inspection having taken place. It is important to state why and when you inspected, on what instruction from whom, what you saw and what you didn't see. Otherwise, the default assumption will tend to be that you carried out a comprehensive inspection whereas you may very well have only looked at one issue.

### **9. Inspection Certification**

Regulation 126, formally 1507 certifications are onerous commitments. Certification is an absolute form of confirmation. This can sometimes be avoided if the building surveyor will agree to accept a letter in lieu. First ask, are you required to provide this confirmation? If in doubt, don't. The RBS has no powers to insist and if your contract does't require it, stand your ground.

### **10. Publishing Comps**

Why do engineers spontaneously publish their computations when they contain no practical information not on the drawings? Usually the submission is so difficult to follow that it is not used to check the design. I've often had to explain to solicitors that, yes, the calculations were imperfect, perhaps even incorrect, but the drawings were ok. Try not publishing, or, if the RBS insists, publishing a results summary. Getting comps out of the files also saves money and time. Of course you should still do comps and maintain a copy on file to confirm how you arrived at your design.

### **11. Architectural Drawings**

Always insist on the final architectural drawings being provided and cross check your design against them before certification.

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