

Drawing the line

Building surveyors can be involved in all manner of design issues, says Spencer Carroll, so it's important that they manage the scope of their responsibility very carefully

It is essential for a BS to understand the full extent of their design responsibility and liability for defective design as well as their ability to 'competently' deliver the service

Building surveyors are experts in design and contract administration for the repair, refurbishment and remodelling of many types of buildings. Few would argue, for example, that they are not capable of acting as designers for the repair of a residential property and producing the specifications and drawings that form the tender documents.

However, it is essential for a BS to understand the full extent of their design responsibility and liability for defective design as well as their ability to 'competently' deliver such a service.

Design responsibility and liability

Say you were working on a 'typical' residential refurbishment project, designing some bespoke, large-section, hardwood-framed windows. Would you be comfortable that your design addresses matters such as wind resistance and the need to incorporate structural wind posts, for example, in panels of brickwork between the windows, to provide improved lateral support to the brickwork between floors?

As a first step, the RICS publications *Building surveyor services* for use with the *RICS Standard form of consultant's appointment* will helpfully crystallise the scope of the brief, the service you are providing and give an opportunity to set out the exact extent of any design responsibility and insurance cover.

On larger projects, the BS will instinctively know that design issues outside of his skills set (i.e. structural design) will need to be undertaken by suitably qualified specialist designers, possibly acting as sub-consultants to the BS or directly appointed by the client.

Of course, in these circumstances it is incumbent on the BS to brief the sub-consultant on their design responsibility, setting out and agreeing the full terms and conditions of their appointment – using, where possible, terms and conditions specific to them. Association for Consultancy and Engineering agreements, for example, are industry-standard documents for the appointment of professionals from structural and M&E engineering.

Risk reduction

This approach to the procuring sub-consultant designers – along with the appropriate checks on their qualifications, experience and references – will reduce the overall risks around the sub-contracting of specialist design.

Matters may become more challenging on smaller projects, however, where the client expects a full design service from the BS rather than assembling

a full design team. This in itself is not a problem but the BS needs to proceed with caution. It is essential that they do not undertake design for which they are not qualified, or don't have the PII cover to carry out – tempting as it may be. However, this is a common situation for the BS and there are a couple of solutions to consider.

Performance specifications

For example, the BS may wish to specify a wall-hung, gas-fired condensing boiler but he is not qualified to specify the boiler's output or radiator sizes, which would normally be carried out by a heating engineer.

However, by referring to the relevant codes of practice for boiler installations, manufacturer's guidance and stipulating the room and water temperatures to be achieved – i.e. producing a detailed 'performance specification' – this enables a qualified installer to carry out the necessary design and complete the installation work to the client's satisfaction.

Design and build

For example, the BS faced with specifying scaffold access to the front of a high street residential property to carry out stone repairs may be mindful that the scaffold point loads need to be spread more uniformly where poles bear onto pavement vaults and the scaffolding will receive a heavy consignment of new stone. However, awareness of this risk and suggestions of design for mitigating the risk (such as spreader plates) will not absolve the BS from ultimate design responsibility if the scaffolding collapses. Here, the risks are such that a generic 'performance specification' would be inappropriate for very specific site constraints and the scaffolding will need to be designed by a specialist.

Indeed, the Health and Safety Executive guidance* states that 'unless a scaffold is a basic configuration described in recognised guidance (e.g. NASC Technical Guidance TG20 for tube and fitting scaffolds or manufacturers' guidance for system scaffolds) the scaffold should be designed by calculation, by a competent person, to ensure it will have adequate strength and stability.'

In this instance, a contract facilitating part of the work to be procured on a design and build basis, such as the JCT Minor Works Sub-Contract with sub-contractor's design (MWSUB/D), might be appropriate. Here, the main contractor's sub-contractor (i.e. a 'specialist scaffolding design and installation' company) would be contractually responsible for the design and not the BS.

It is also important for the BS to be mindful that in many instances he may inadvertently specify desired

outcomes rather than actually designing or giving somebody else the design responsibility for a technical solution.

Worse still, he may assume a third party will be undertaking the design when they may not be best placed or qualified for this and they don't have any contractual design link with the employer, or for that matter have the appropriate PII.

An example might be the naming of specialist contractors to damp proof a property. Damp proofing is a complex if not contentious operation that can involve detailed co-ordination with other trades that may affect the success of the installation, e.g. chasing out for electrics, setting out levels for the zones of vertical/horizontal damp proofing and their interrelationship with existing retained DPCs, etc. To assume all of this has been dealt with by an installer is inappropriate and any failings could be attributable to defective design in the first instance.

BSs should always be mindful of specialist product suppliers/installers creating an impression of offering a designed solution while at the same time having commercial reasons for putting their product forward.

This is particularly relevant in the roofing industry where many of the key players offer guarantees for their product (which may be 'insurance backed'), the design of their system (e.g. of a tapered, insulated flat-roofing system) and the workmanship of their installers. These companies very often provide an excellent service when collaborating with the surveyor but are unlikely to be responsible for the complete design of the roof and, once again, the devil is in the detail. The interface of a new roof covering with its rainwater goods, retained parapet walls, DPCs, flashings, etc, all needs to be fully designed to ensure the overall success of the roof covering and preventing rainwater ingress.

Supporting roles

In these examples, the BS is ideally suited to be the designer. While it might be appropriate for specialist product suppliers/installers to provide support, the final integrated solution needs to be owned and designed by the surveyor. If, however, the design is to be sub-contracted then the above 'design and build' approach should be used ensuring the designer is qualified and the appropriate contract is used.

The examples also show it is possible for design ownership and responsibility to fall between parties but ultimately end up back with the surveyor if problems occur.

Although the contract administrator and project manager roles are very different, there are a number of simple skills and tools that project managers working on, say, a complex project with a large design team, can use that are easily transferable to the contract administrator.

Developing simple spreadsheets for use as risk registers and 'key activity tracking schedules' are

excellent ways of capturing roles, responsibilities and risks and managing their ownership and resolution.

The intention is to keep them clear and simple so that issues – such as who is responsible for which piece of design, and when and how are they going to carry it out – can populate a simple spreadsheet, perhaps with a dated traffic light system for easy reporting.

Competence

Under the Construction Design and Management Regulations 2007, the duties of the designer are clearly set out and cover matters such as ensuring the designer is competent, that he has checked the client is aware of their duties, avoiding foreseeable risks when designing, and ensuring adequate information is provided to others in the design process.

As a designer, it is important to remember that where the project is notifiable, designers should not commence work (other than initial design work, e.g. a feasibility study) unless a CDM co-ordinator has been appointed and failure to adhere to this is a breach of the designer's responsibilities under the regulations. It is easy for a BS to move quickly from initial design into the detail without taking these important steps.

BSs are well-placed to lead on the overall design on many construction projects but they should be mindful of their limitations and experience, and of managing and dealing with partial design from other members of the team.

It is also important to confront and mitigate any risk of negligent design by using RICS appointment documents, alternative routes for complex design as well as using simple project management tools to manage other designers.

Further information

* Scaffold checklist: Design and inspection issues, bit.ly/HSEscaffold

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For reference resources go to www.rics.org/ebooks and search for 'contract administration'



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