

Basic building blocks

Understanding the age of a building and how it works is essential to performing a building survey, says Chris Mahony

Deciding how to classify a building is as much a problem for a building surveyor as it is for an historian. There isn't a definitive way to categorise buildings and approaches can include using:

- construction date, e.g. 1970s
- reigning monarchs, e.g. Victorian buildings
- historical periods, e.g. medieval
- economic issues, e.g. mill buildings constructed during the industrial revolution
- frame used, e.g. timber, concrete
- principal construction, e.g. load bearing masonry
- use, e.g. church, leisure complex
- the wars, e.g. post-war housing.



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Using a combination of these is quite acceptable, but identifying the period reveals much more about the problems and advantages from the time. When the opportunity arises, I like to ask other building surveyors how they undertake their inspections. I don't think there is a right or wrong way, but I try to use the following approach whenever possible.

Take a step back

It is important to get a sense of the building and its history, occupation and use. This can be achieved by looking carefully and asking questions – the aim at this stage is not to note every broken window or leaking gutter, but to create a picture about the form of construction, i.e. what holds it up.

I start top down from the roof void (if there is one) to understand how the main roof loads pass down through the building. The external and internal walls supporting the roof can often be seen, together with any chimneys and how the floors bind the walls together. This reliance on gravity and friction for stability hasn't changed much since we started constructing buildings. Following an internal inspection, I look at the outside and usually then continue to pop in and out of the building. It's often during this stage that the effects of a problem on the inside can be tied to the cause on the outside – dampness being a good example. The key questions to ask are:

- How was it built? What techniques were used?
- What is it built from? Any problematic materials?
- When was it built? Any construction problems associated with this period?
- How do the loads pass into the ground?
- What are its past, current and future uses?
- Have there been any alterations?
- What defects have been noted? Any implications of those defects?

Buildings are amazing at staying up. Even with ill-conceived alterations, loads often find an alternative route back into the ground. However, simple things to watch out for and put a client on notice include removal of internal chimney breasts without removing/propping the chimney stack, creation of internal door openings, removal of load bearing walls and cutting through timber-roof bracing.

One of the problems faced by design teams in conversion or change of use projects, is ensuring that the floors, walls and foundations are strong enough to take proposed new loads. Often, the floor or foundation is quite capable of taking the load, it's just difficult to prove sometimes using modern design guides.

But we all need to understand the way the building works, so:

- be more aware of the form of construction
- document how the building works and the route the loads take from the roof into the ground – a sketch is a good way to do this
- think about the building's use, original and current, and any changes
- understand what has caused any problems and what effect this has had.

To be able to do all of this, it's important that the age, form of construction and the materials used are understood, together with the concept of cause and effect.

Less experienced surveyors should start by reading the RICS Guidance Notes on *Building Surveys of Commercial and Industrial Property and Residential Property* (see the 'Members/Knowledge Zone' pages of www.rics.org).

Often, even the most complicated-looking building works in the simplest of ways. The secret is to find out how.

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