

Understanding security risks and crime prevention should be essential for building surveyors, says **Spencer Carroll**

On the safe side

Like many concerns for building surveyors, security cuts across building types, sectors and services, and is more far-reaching than one might expect. But for major or new-build projects, there is a wealth of design guidance.

Approved Document Q (ADQ) of the Building Regulations – Security in Dwellings came into effect on 1 October 2015. ADQ applies to all new dwellings and sets out security standards in relation to doors, windows and accessible rooflights, in order to safeguard against intruders.

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The product must be shown to have been manufactured to a design tested to an acceptable security standard. ADQ does not apply to extensions or replacement doors and windows in existing dwellings.

Police initiative

Set up in 1989, Secured by Design (SBD) is a UK police initiative focusing on the design and security of new and refurbished homes, commercial premises and car parks. It is intended to provide research to inform guidance for “designing out crime” through physical security measures and processes.

For example solid shutters to shopfronts create dead



frontages, attract graffiti and prevent the shop's interior being seen.

SBD offers a more holistic approach to crime prevention, and there is a wealth of guidance ranging from garden design for deterring intruders to information on the use of alarms and external lighting.

Homeowners and business proprietors are advised to take this guidance on board and, where possible during cyclical maintenance or capital repair projects, to improve security in accordance with the best practice it outlines.

Building fabric theft

Thefts from the external fabric of a building are on the up, and the continued increase in the value of metal, especially lead and copper, means that it will continue to be a common problem. This so-called heritage

crime – with lead being stolen from ecclesiastical buildings for example – has long been acknowledged as a risk. However, continuing economic hardships have seen criminals diversify and become more organised.

Primary schools and nurseries are now at particular risk, because their typically single-storey construction often means that access to roofs to remove lead is relatively straightforward under the cover of darkness.

The lengths to which criminals will go to steal metal shows no limit. There are often reports of thieves scaling tall buildings or removing live copper cables, with ensuing disruption to public or private services.

In cases where lead flashings are stolen, for example, it can be many months before there is any noticeable ingress of

rainwater, by which time often costly damage will already have occurred to the roof deck and building structure itself. This is a particular problem on flat concrete roofs where large volumes of rainwater can be trapped between the concrete deck and the roof system.

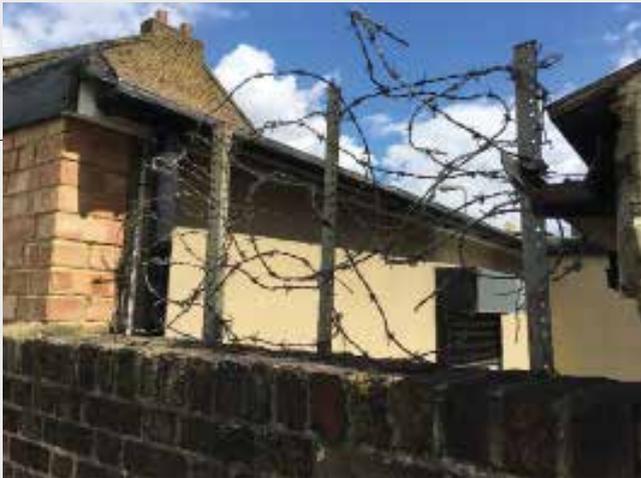
Figures from a Freedom of Information request to the London Borough of Croydon show that there were 27 lead thefts to schools in 2015, costing the taxpayer a total of £143,000. For an education sector already challenged financially, these costs have a direct impact on the bottom line of budgets.

The use of lead-free products that perform in a similar way is now more routinely specified for low-rise buildings. Unfortunately, none of these materials offers the same heritage value or durability that lead does, neither do they weather with such an attractive patina.

Damaged brickwork

The latest reported escalation in building fabric theft concerns deliberate damage to boundary walls made from high-value Georgian and Victorian London stock brickwork.

This brick is predominantly formed with shallow deposits of brickearth, a clay-based material overlying the natural geology of much of London clay. The unique yellow-clay brickearth was then mixed with what was essentially the rubbish of London, but which also contained a large quantity of ash and cinders. The result was an economic



mix of ingredients that, once fired, resulted in a very distinctive handmade brick.

Its rustic appearance, durability and in particular its resistance to pollution in the capital has seen it become the architectural equivalent of the red phone box. The price of reclaimed or second-hand bricks is around £1.50 apiece on the open market.

The Georgian London stock brick is particularly prized for its suitability in extensions to period houses, especially those in conservation areas where there is often a strict planning requirement to build with matching materials.

The summer of 2016 has seen a particular spike in the theft of such stock, and reports of criminals toppling garden walls to remove the disturbed brickwork for sale on the black market have not been uncommon.

The company SmartWater provides one solution to such thefts in the form of a permanent forensic liquid marking, containing a unique code that is registered to a particular property and can only be seen under ultraviolet light. Active display of its use at a property can serve as an important deterrent for would-be thieves.

DIY protection measures

In an effort to protect their property, homeowners and business proprietors may sometimes be tempted to



consider the introduction of DIY or budget measures to deter intruders.

The proliferation in the use of spikes, broken glass and barbed wire to boundary walls or fences is now quite common (see images, left and above). The legality of such approaches may be questionable, however.

Anyone who owns or controls a property has a duty of care to protect people and animals on the premises from foreseeable harm, and this extends to uninvited persons whether they be a burglar or simply a child trying to retrieve a ball.

Similarly, spikes or razor wire on boundaries next to the public highway could potentially result in the injury of innocent humans or animals. A local authority also has a duty of care to protect such persons using

the highway, and therefore may insist that barbed wire on a garden fence, for example, is removed.

Any injury or harm to persons or animals could result in a prosecution. The fortification of property is also likely to be challenged by the local authority if it contravenes the permitted height of boundary walls, and by neighbours whose visual amenity may be spoilt.

It may under certain circumstances be possible to discharge a duty of care from the risk of harm by razor or barbed wire by positioning it at such a height that accidental injury is unlikely, as well as by the use of warning signs. Nevertheless, clarification should also be sought from your building insurer as to whether you are indemnified against the risk of injury to others.

Building fabric theft is not only a threat to existing buildings but also to those under construction or nearing completion. Very often, the presence of scaffolding around a building will provide the perfect opportunity for safe access to carry out a theft. Not only are the building fabric and components at risk but, on a construction site, tools, plant and equipment also present rich pickings for resale on the black market.

Construction sector response

The construction sector has responded well to this challenge with the provision of remotely monitored wire-free scaffold alarms, lighting, CCTV and site hoardings with biometric or access-controlled entry points. As ever, balancing cost with risk requires careful consideration because all of the above security measures can have quite a significant effect on the bottom line of a project budget.

The building surveyor's relationship with the security specialist is critical, too, as

these measures are not necessarily a panacea. There needs to be early collaboration between those working on the overall project, scaffold and security design to ensure that all aspects are optimised.

Every client wants to avoid paying for state-of-the-art equipment, while at the same time preventing false alarm activations or alarm downtime. They will also want the on-site workforce to be able to operate the technology on a day-to-day basis.

Bear in mind that construction sites are dynamic work environments: scaffolding is modified, subcontractors work at different times and sensors can be blocked, and all of these could inadvertently undermine the function or adequacy of site security.

It is strongly advised that the project's security arrangements are understood and accepted by the building or contents insurers, particularly if the building is either fully or partially occupied. It is likely that building or contents insurers will request that scaffold security complies with an industry quality benchmark, such as that provided by the National Security Inspectorate.

All of these issues can be considered in much greater detail in their own right, but as ever the role of the building surveyor can be crucial in connecting them in a logical manner, when carrying out a due diligence survey for a purchaser or providing contract administration or project management services. ●



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