



Secured by Design

Schools

2010

Introduction

Secured by Design (SBD) is a police initiative owned by the Association of Chief Police Officers (ACPO). Secured by Design Schools is one of several guidance documents that aim to reduce crime in our built environment. ACPO SBD, the managing body that oversees the Secured by Design initiatives and ACPO's Crime Prevention Design Group is continually evaluating the effectiveness of SBD and periodically amends the various SBD guides in response to research findings. This new guidance for schools incorporates several new and improved security standards that have been developed to address emerging criminal methods of attack.

A sensible and practical level of security, which will not affect the efficient running of a school, is essential to a successful teaching and learning environment. The majority of criminal incidents in schools relate to property crime. This is because the modern school contains a vast array of portable and desirable goods with a ready market, such as personal computers, laptops, digital projectors and other valuable equipment. Other crimes that occur, particularly in our larger cities, are acts of vandalism, such as graffiti, arson and assaults. Assaults range from staff being physically assaulted by parents and students, to bullying by one or more students against another. In more recent times 'cyber' bullying has become a noticeable problem in schools, although there are now software solutions that are proving to be most effective. The victims of school crime can also extend beyond the staff and students as many schools open into the evenings and at weekends for use by the local community for activities such as adult education, sport and social events.

ACPO places great importance upon the need to build sustainable developments. This not only includes the need to use environmental friendly products, materials and construction methods, but also the need to raise awareness of the fact that crime prevention is a positive sustainability issue. Recent, academic research conducted on behalf of ACPO SBD has confirmed that crime alone is responsible for the release of at least 6,000,000 tonnes of CO² into the atmosphere each year. It therefore follows that the achievement of a Secured by Design certificate for the school not only indicates that the designer has made a significant effort to create a secure teaching environment (recognised by the police), but by doing so has also reduced the school's carbon footprint. To that end applicants are also encouraged to build to the Building Research Establishment's environmental and sustainability standard BES 5051: Issue 2. The standard's requirements can be found in the BREEAM Education 2008 Assessor Manual, which can be downloaded via this link: [BREEAM](#)

It is also important that the benefits of a new secure school are complemented with a clear management and maintenance programme to ensure a safe and secure teaching and learning environment. Further information about risk management in both new and existing schools can be obtained from the SBD partner initiative 'Secured Environments' at www.securedenvironments.com.

Scope of this document

For the purposes of this document a school is defined as a building or collection of buildings located on one or more sites and used for the purposes of full and part time education of pupils between the ages of 2 and 19 and other community uses in line with the 'Extended Schools' agenda.

The scope of this document does not extend to universities or other tertiary colleges, which will be the subject of a forthcoming Secured by Design guide.

This document provides design guidance and specification requirements for reducing the risks for crime against people and property in all schools and school grounds such as burglary, theft, arson, vehicle crime and assault. The same advice is also intended to reduce the fear of crime and the incidence of anti-social behaviour. Consequently, consideration is given to both environmental design and physical security. This is best achieved through negotiation with the designers of new schools or major refurbishment at pre-planning stage. Where acts of terrorism and or extremist activity are of a concern the developer or their agent should inform the police Crime Prevention Design Adviser dealing with your application who will in turn notify the relevant security experts.

Section 1 of this document concentrates on generic environmental crime prevention issues, whilst Section 2 deals with the specific physical crime prevention requirements. Compliance with both sections is required to achieve Secured by Design certification.

Secured by Design is available throughout the United Kingdom of Great Britain and Northern Ireland and in the Isle of Man and the Channel Islands.

Applying for Secured by Design certification

In order to stand the best chance of achieving SBD certification it is of the utmost importance to consult the Crime Prevention Design Adviser prior to a planning application being made.

Should you wish to apply for Secured by Design certification please complete an application and checklist form, which can be obtained from this link: [Secured by Design Schools 2010 Application Form](#) Send the application to the relevant Crime Prevention Design Adviser (CPDA) whose details can be found at this link: [CPDAs](#)

In some areas Secured by Design is administered by an Architectural Liaison Officer (ALO). However, all subsequent references within this guidance will refer to the process being administered by the CPDA.

Local planning conditions, crime risk assessment and other statutory provisions may influence the measures to be adopted and the applicant is referred to the following government documents:

England: *'Safer Places – The Planning System & Crime Prevention'*, available at this link: [Safer Places](#).

Scotland: *PAN 77 Designing Safer Places*, available at: www.scotland.gov.uk

Wales: *TAN 12 Design*, available at: <http://new.wales.gov.uk>

Jersey: *Island Plan Planning Policy G9 – Designing out Crime*, available at: <http://www.gov.je/PlanningEnvironment/IslandPlan2002/General+Policies/>

Guernsey: *Contact the local police.*

Isle of Man: *Isle of Man Strategic Plan 2007 – Towards a Sustainable Island*, available at this link: <http://www.gov.im/lib/docs/dlge/planning/plan/strategicplanfinalversiontoty.pdf>

Northern Ireland: *Secured by Design is referenced in the Northern Ireland government's design guidance for new schools. Contact the local police for detail.*

Where acts of terrorism or extremist activity are of a concern reference to consultation documents: *'Safer places: a counter-terrorism supplement'* and *'Working together to protect crowded places'* are recommended. These documents are available from this link: [Terrorism](#)

For England further guidance for school security can be obtained from the Department for Children Families and Schools in their forthcoming guide to be published in March 2010.

It is important to note that the national SBD guidelines for school security are set at a minimum level and in areas of greater crime risk a higher level of crime resistance may be required. The advice given and requirements made by the CPDA will be dependent upon the outcome of a crime risk assessment and an understanding of local crime context. Consequently, specific measures recommended to address particular types of crime or anti-social behaviour may vary from one site to another. It is important therefore that frequent and continued dialogue exists between the CPDA and those responsible for design and construction to ensure that any local site specific and/or additional requirements are met.

SECTION 1: THE DEVELOPMENT – LAYOUT & DESIGN (Planning Issues)

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1 General recommendations for building location

Urban design

- 1.1 In planning education provision in new neighbourhoods or when redeveloping existing areas, sustainable urban design principles should be utilised, which includes the relationship of the school with other facilities in the local built and landscape environment. Security may be significantly improved when buildings used at different times of the day and night are grouped together, enhancing natural surveillance. However, reliance on natural surveillance alone is certainly not a guarantee of lower crime risk. Good natural surveillance has to work in tandem with defensible space and the presence of persons who have territorial control or influence over the space and can act as potential deterrents and/or witnesses.

2 Relevant planning policy and requirements

- 2.1 In England, Planning Policy Statement 1 (PPS1) *Delivering sustainable development* confirms that a key government objective for new developments should be that they create safe and accessible environments where crime and disorder or fear of crime does not undermine the quality of life or community cohesion.
- 2.2 In England, Circular 1 of 2006, *Guidance on changes to the development control system*, issued by the Department for Communities and Local Government supports the PPS1 policy. Paragraph 87 states that design and access statements for outline and detailed planning applications should demonstrate how crime prevention measures have been considered in the design of the proposal, and how the design reflects the attributes of safe sustainable places set out in 'Safer Places – the planning system and crime prevention' Link: [Safer Places](#)
- 2.3 Early consultation with the local CPDA to inform the planning applicant's design and access statement is essential.
- 2.4 A design and access statement that addresses crime enables the applicant to demonstrate to the planning authority an awareness of the crime and anti-social behaviour problems in the area and, importantly, shows precisely what measures are being taken to alleviate these problems. In many cases compliance with Secured by Design guidance and specifications will deliver the appropriate solutions.
- 2.5 The Commission for Architecture and the Built Environment (CABE) in its guide, 'Design and Access Statements - How to write, read and use them' (2007 reprint), includes 'Safer Places' in its 'Good Design Principles' and makes appropriate reference to addressing community safety and crime prevention issues. Furthermore, the guidance states that the Design and Access statement should provide information on the result of any consultation carried out, including that held with the police. Click here for a PDF copy of the document: [CABE](#)

- 2.6 Compliance with the government backed Secured by Design award scheme criteria can be a major factor indicating that a scheme proposal has adequately addressed the crime prevention component required for design and access statements.

3 Location and adjoining land use

- 3.1 Security considerations will be influenced by the location of the new or existing school, including the surrounding area, and by the numbers of students attending the school and others visiting the site.
- 3.2 Security may be affected by the type of land use or property immediately adjoining the school site. Wooded areas or open fields can make the grounds easier to access by trespassers. In contrast, houses with gardens adjoining the boundary can generate natural surveillance increasing the likelihood of crime or anti-social behaviour being observed and reported.
- 3.3 In support of ever growing community use, school buildings may be deliberately located very close to public thoroughfares. The forecourt of the school building could for instance, form part of a public square. There are advantages with this arrangement, including a high level of natural surveillance, but such a configuration can make buildings more vulnerable to intrusion. In these circumstances it is recommended that a clear psychological distinction between public and private space is made, perhaps through a change in ground surface treatment, and that due consideration is given to the physical protection of the buildings and entrances on this elevation.

4 Multi-site schools

- 4.1 It is recommended that new schools should be planned on a single site wherever possible. Separate sites or multi-site schools inevitably generate movement between the sites, with increased potential for unauthorised access and difficulty in managing perimeter security. These security issues will need to be addressed in the redevelopment of existing multi-site schools.

5 Configuration of buildings

- 5.1 Whilst security is more easily managed in a single building it is accepted that such an arrangement may not always be possible for several reasons. These include site constraints, energy efficiency, day-lighting, sound insulation, other environmental considerations and because the site may contain buildings for uses not connected with the school, such as health centres and buildings for community use. It is nevertheless important to consider the crime risks associated with numerous buildings and the CPDA will work closely with the designers to ensure the best outcome. One design consideration that may have to be considered is the possibility of future school expansion. For example, rather than build another, separate building it may be better to design a building that can be extended and provide sufficient space for that extension.

- 5.2 Where an existing site comprises several detached buildings, consideration should be given to linking them appropriately to control access. This could involve joining buildings together through the development of a new building in between the existing or through the use of fencing and gates to create secure courtyards.

6 Location of buildings

- 6.1 Whilst site constraints and solar heating may ultimately dictate the location of a new school building or buildings there are crime prevention advantages in locating them close to the site boundary and surrounding community and to orientate them in such a way as to offer surveillance to as many elevations as possible.

7 Location of outdoor activities

- 7.1 Provision for different activities and their relationship to the school should be considered carefully. Informal hard play areas and external social spaces should be located within view of occupied rooms. Formal recreation spaces such as multi-use games areas and external all-weather sport facilities may encourage trespass outside of normal school hours and may require fencing. Where community use is planned, changing facilities should be located nearby, with access to that part of the school only.

8 Caretaker or warden accommodation

- 8.1 Whilst the permanent presence of a warden or caretaker who lives on site is less common these days, such a person can be regarded as a 'capable guardian' (i.e. a deterrent or witness to crime) and as such can play an important role in preventing crime. Considerations for the security of caretaker accommodation if provided may need to take into account risks of isolation and therefore vulnerability to crimes such as burglary. In any event on site caretaker accommodation must be built to the latest SBD New Homes standard. Accommodation close by, but not on school grounds, may be a suitable alternative. A PDF version of Secured by Design New Homes and application forms are available at this link: [SBD New Homes](#)

Perimeter security

9 Site boundaries

- 9.1 A clearly defined boundary using a fence, wall or other effective barrier against intrusion is a prerequisite for a secure site and to define ownership. A secure boundary will help staff manage the school site by limiting trespass and by channelling visitors to the site through appropriate entrances. A secure boundary will also frustrate the intruder intent on breaking into the school out of hours and or limit the quantity or type of goods that can be stolen.

- 9.2 Secure boundaries are not just important for combating unauthorised access. A secure boundary can also provide for the security and safety of very young children, keeping them in and the 'uninvited' out. Crime prevention work at one school in Yorkshire confirmed that a new, secure and visually open boundary reduced unauthorised absences from school and lessons.
- 9.3 Public footpaths immediately outside the boundary fencing can affect security. If the footpath already exists and cannot be re-routed, the use of defensive planting in addition to fencing should be considered. However, this should not block natural surveillance from the footpath.
- 9.4 A party or shared boundary should not compromise security and maintenance. It may be advisable to erect a separate security fence inside the party boundary, ensuring access for maintenance of both existing and new structures. It is important to take account of neighbours' amenity in the choice of structure, as they will be more likely to act as deterrents or witnesses in helping to maintain site security. This arrangement may create a new path around the boundary and measures may be required to obstruct this path at vulnerable points.

10 Security fencing

- 10.1 Fencing is effective at delaying or deterring intrusion because of the need to climb over or penetrate the fence. It is therefore important that there are no structures close to or over the fence that will aid climbing, e.g. trees, lamp columns or buildings.
- 10.2 Fencing should be effective but not create a 'fortress' impression. Appropriate types may include welded mesh fencing, railings or expanded metal fencing, ideally colour coated to soften appearance. Dark colours reduce the reflection of light and therefore make it easier for passersby to observe activity through the fencing.
- 10.3 Surveillance over the site from the immediate neighbourhood can help to deter potential offenders who may fear that their presence on the site will be reported to the police. It is therefore important for the school to develop good relations with the community that overlooks the school and its grounds.
- 10.4 It is accepted that some security rated fencing systems can be both costly and aesthetically unpleasing. However, the type of fencing that is required in order to gain SBD recognition must ultimately be determined by local crime risks. For example, in an average crime risk location, where the perimeter of the site is very large, it may be more appropriate to use a fence type matching the specification found in Section 2 paragraph 49.5. Indeed, in some locations it may prove to be more effective to install an inner security fence and then reduce the specification for the outer site boundary fence. There are many options that can be considered and they must be agreed on a site by site basis with the CPDA (*see also paragraph 12.1*).

11 Gates

- 11.1 The design, height and construction of any gates within a perimeter fencing system should match that of the adjoining fence and not compromise the overall security of the boundary (*See also Section 2, paragraph 49.10*).

12 Defensive hedging

- 12.1 In some locations it may be useful to explore the use of defensive hedging, such as Hawthorn, as a means to protect a site perimeter or to further bolster the security of an existing or proposed fence. Obviously it can take several years for a hedge to develop into an effective barrier and therefore a temporary fence will be required in the short to medium term. When the hedge has matured to provide an effective barrier the fence can either be left in place (lost) or removed. Species selection is important, as hedging will require continuous maintenance.

Entrances at the perimeter

13 Pedestrian and vehicle entrances

- 13.1 SBD prefers one entrance area at the perimeter of the site serving both vehicles and pedestrians or separate entrances that are located in close proximity to one another to aide mutual supervision. There should be clear demarcation between the roadway and the footway and a safety barrier between the two will be necessary.
- 13.2 Some school sites may include community facility buildings requiring their own secured entrance.
- 13.3 Where school grounds are extensive, additional entrances at the perimeter of the site for parents and students may be appropriate on grounds of safety and sustainability i.e. to promote walking to and from school along safe routes; to avoid crossing busy roads; to discourage car journeys and to avoid long detours. In these circumstances the additional entrances should only be available at arrival and departure times and the entrance gates locked in between. Whilst these entrance gates could be locked and unlocked manually by school staff it is recommended that they are operated remotely from the school office. Monitoring of these entrances by CCTV may be appropriate for some sites. In some schools separate entrances for sixth formers and staff are provided with an access control system.
- 13.4 For an extensive site and or where there are special security considerations a gatehouse at the entrance may be required. Such arrangements, although unusual, often include the use of powered vehicular and pedestrian access gates manned by security staff.

- 13.5 Physical barriers, such as 'anti-ram' bollards, may be required to protect building or site entrances in high crime locations that are directly accessible from a public area *(see Section 2 paragraphs 49.11 to 49.12 for barrier standards)*.
- 13.6 Vehicle and pedestrian access beyond the school entrance area and car park into the school grounds should be restricted, allowing access only for emergency and service/delivery vehicles. Controls can include a combination of rising bollards, gates and fences. High kerbs, dwarf walls and soft and hard landscaping can also be used to good effect to channel vehicles along appropriate routes.
- 13.7 It is accepted that controlling access as in paragraph 13.6 above may not always be possible due to site constraints. However, the security benefits of this arrangement are well worth considering, especially where a number of external doors in the school building or buildings are used for general access during the day.
- 13.8 When the school is closed and unoccupied, all entrance gates onto the site must be locked. During partial occupation, whether by teaching staff, cleaners or outside users, gates should be operable by appropriate means of secure access control.

14 Drop-off and collection facilities

- 14.1 Whilst SBD promotes walking to school along safe routes it is recognised that some students will still be driven to school by car. This action can result in traffic delays outside the school caused by parking vehicles and also damage to footpaths. There seems to be no easy solution to these problems, but the consequences of these vehicular journeys with respect to school security procedures, road safety and traffic regulations must be considered from the outset to minimise the problems. Parking provision for school buses at arrival and departure times will also need to be considered, ensuring safe access to the school grounds without conflict with other traffic. Similarly, public transport buses and the location of the bus stops will have to be considered in the light of road safety and traffic regulations.
- 14.2 Secured by Design recognises that school security procedures normally require the parents/guardians of very young children to pick up their children directly from the school in a secure area in a personal exchange between staff and parent/guardian. Similarly, slightly older children are often collected by the parent/guardian from an external supervised area, such as a playground or by the reception area of the school.

15 Signage

- 15.1 The school's reception entrance should be clearly signposted from the entrances onto the site. People found trespassing and intent on committing crime on school grounds will often use the excuse that they could not find their way to the reception and the presence of clear signs will go some way to dismiss this excuse and help the school staff, police or other authority during their

investigations. Likewise, signs that identify areas that are not open to public access can act as a reminder that unauthorised persons could be challenged.

- 15.2 Colour-coding of signs can be helpful in identifying the routes to various school departments and other community buildings on the school site.
- 15.3 Site maps, if required, should be correctly orientated for the visitor and be protected from graffiti using a replaceable or cleanable transparent cover.
- 15.4 If graffiti is likely to be a problem signs can be located in places where they cannot be attacked or treated with anti-graffiti coatings to allow easy cleaning.

16 Community Access

- 16.1 Co-location of facilities on school sites is being encouraged by central government, particularly when new or replacement schools are being planned, or when major refurbishments take place. Existing schools are also being encouraged to open up and develop their facilities for other users.
- 16.2 Where schools are intended to share the use of parts of the site and buildings with the community and other organisations, very often out of school hours, this should be taken into account in the security planning. The need for security has to be maintained, allowing accessibility and flexibility to cater for changes in use by the community who have been given legitimate access.
- 16.3 For new schools the location of shared community facilities must be considered at the outset as this may affect the design of the reception area and the whole of the building complex. For example, a reception area can have several controlled access doors leading to different wings of the school, thereby enabling parts of the school to remain secured and alarmed outside of normal school hours when the local community is using the shared facilities. These arrangements must be discussed with and approved by the CPDA as they will be critical to the outcome of an application for SBD certification.

17 Vehicle parking and access

Access by pedestrians and vehicles

- 17.1 Local infrastructure, vehicular and pedestrian routes, together with appropriate site layout will determine the location of the car parks, delivery points and bus stops and can help to identify the appropriate location of security controlled entrances.
- 17.2 The main site entrance is the first line of defence against trespass and should be the focus for directing and controlling all access. Other entrances onto the school site should be kept to a minimum, and all should be controlled.
- 17.3 A secure emergency vehicle access must be provided on larger sites, which may require a service road layout that includes turning points and space between

buildings for large vehicles to operate. Likewise such roadways may also be required for delivery vehicles. These can be blocked by retractable bollards or gated to stop unlawful access as long as the Fire Service has a key (there are specific locally agreed key types for such use).

18 Vehicle parking and deliveries

- 18.1 The area forming the route from the public site entrance to the reception and to the visitor car parks and delivery points should be as short as possible, open to view from the reception area and secured from the rest of the site. This will help to deter trespass into other parts of the school grounds and channel all visitors through reception.
- 18.2 Separate parking for staff should be provided in view of occupied offices and or classrooms. In areas of higher crime, it may be prudent to secure this facility with appropriate fencing and an automatic access-controlled gate.
- 18.3 There should be parking provision for emergency vehicles, such as ambulances.
- 18.4 The design of the building should incorporate appropriate means for secure deliveries to the school. This may include a secure external compound or easy access to delivery doors.
- 18.5 Vehicle parking facilities should comply with the police service's 'ParkMark' criteria for safer car parks. Whilst full registration to 'ParkMark' is not a requirement of SBD Schools, the design criteria of the scheme should be adopted wherever appropriate. The CPDA will be able to offer additional advice. Further information can be found at www.saferparking.com
- 18.6 Section 1 paragraphs 47, and 48 and Section 2 paragraphs 51 below provide further information about lighting requirements for roads and car parks.

19 Motorcycle, moped and bicycle parking

Motorcycles, mopeds and scooters

- 19.1 Secure motorcycle, moped and scooter parking should be made available for staff and older students (if older students are permitted to bring vehicles onto the site). Such parking provision should benefit from surveillance from occupied school offices and or classrooms, be provided with secure ground anchors and be lit after dark when in use (*See also Section 2 paragraph 53.6 for security standards*).

Bicycles

- 19.2 Secure bicycle parking should be provided in view of occupied school offices and or classrooms with stands to which the bicycles can be secured. In order to encourage cycling to school, and therefore reduce car journeys, it is recommended that the cycle parking provision is contained within a securable, roofed building. The building should be lit and secured during school hours. Separate parking for staff should be considered (*See also Section 2 Paragraphs 53.1 to 53.5 for security standards*).

- 19.3 For lighting standards see Section 1, paragraphs 47 and 48 and Section 2, paragraphs 51.

Access within the school site

20 Routes within grounds

- 20.1 Footpaths between school buildings and from the public entrance must be direct and follow known or, in the case of new buildings, anticipated desire lines. They should be well lit and without visual obstruction and at least 3m wide to allow passing without conflict.

21 Public use of grounds

- 21.1 Trespass onto the school grounds by the local community for activities such as dog walking and golf practice should be discouraged at all times through the use of signage and appropriate fencing. It is noted however that some schools open the school grounds for appropriate supervised public use during school holidays and outside school hours. This is to be encouraged since supervised, lawful occupation of the school grounds can help to prevent crime. At the same time it should be recognised that the use of the grounds and the school buildings by 'outsiders' does introduce additional risks. Potential offenders, intent on committing burglary for example, would have the opportunity of assessing the level of security in the buildings during a 'lawful' visit to use community facilities.

22 Public footpaths through grounds

- 22.1 Unless local circumstances dictate otherwise, there should be no public footpaths through the school grounds.
- 22.2 Paragraphs 8 and 12 in schedule 6 of the *Countryside and Rights of Way Act 2000* make provision to extinguish or divert public rights of way through school grounds that create opportunity for crime.

External issues

23 Landscaping

- 23.1 The use of plants in landscape design is encouraged to soften boundary treatments and introduce visual interest, but care must be taken to ensure that there is plenty of opportunity for surveillance of the school buildings from within and beyond the school site. Although plant growth above 1m and below 2m should be absent to provide a window of surveillance, this does not preclude the use of hedging plants and feature shrubs and trees, providing surveillance opportunity is maintained. Plant growth below 500mm may be required in respect to car parks to deter vehicle interference.

- 23.2 The planting of new trees should be considered in tandem with the installation and the operational requirement of any specified CCTV system. Likewise, locate new trees so that they do not reduce directed light from lamps or provide climbing aids over boundaries or onto buildings.
- 23.3 Species selection of trees and shrubs should take account of their future maintenance, as poor maintenance can impact on site security. Mature, slow growing plants, although more expensive to purchase from the outset, are normally much less expensive to maintain in the long term. It is recommended that a landscape architect is consulted about these matters.

24 External furniture, litterbins and sports equipment

- 24.1 External furniture such as benches and planters, together with sports and play equipment and structures, should be of robust vandal and graffiti resistant design. Furniture should be fixed into the ground in order to prevent its theft and reduce the possibility of it being used for climbing or as a tool to break through the shell of the building. External furniture should not be located at or close to a building line where it can be used to climb onto roofs and nor should it be located against boundary fences.
- 24.2 Litterbins can also be used to assist climbing and the contents used to start a fire. It is preferable that the bins are of a type that can be locked onto a fixed base and that they are located away from the buildings. Under no circumstances must litterbins be wall mounted beneath windows or on walls covered in combustible material.

25 Troublesome meeting places

- 25.1 Students of all ages like to meet together within the school grounds and certain locations are preferred to others. If they are meeting to indulge in behaviour contrary to school rules, such as smoking or bullying, these congregation points tend to be in places that are out of sight of the school buildings or at a blind corner of a building. In order to reduce the opportunity for rule-breaking these out of sight locations should be minimised. In existing schools this can be difficult but for new schools they should be designed out. 'Hot spots' for troublesome behaviour may be indicated by, for example, broken windows, excessive littering and graffiti.
- 25.2 For existing schools remedies may include the removal or repositioning of a building (such as a shed or other lightweight storage building), the trimming of a hedge or the removal of a recess in a building by bringing a door forward to the building line. It must be understood that for safety reasons it may not be possible to move an outward opening door forward if it opens onto a footpath, road or other thoroughfare unless safeguards are put in place to divert passing traffic and or pedestrians away from the opening arc of the door (*see also Section 2 paragraph 62.9*). Surveillance of such areas should also be considered in a CCTV Operational Requirement (*see Section 2 paragraphs 52*).

- 25.3 For new schools it is important to anticipate where such congregation might take place. In most circumstances remedies may include the provision of additional windows for surveillance, the absence of recessed doorways and the careful design of soft and hard landscaping.
- 25.4 Where a new replacement school is to be built on the existing school grounds (often with the demolition of the old buildings), it would be useful to consult the students and staff about the known troublesome congregation points so that these matters can be considered during the design process.

26 Natural surveillance and recessed doorways

- 26.1 For new buildings it is important to avoid the creation of areas and building features (such as recesses) that cannot be overlooked from another occupied building or room. Recessed doorways can obstruct surveillance and also collect windblown litter that can be used to start fires. Designing in an unobservable recess and then providing CCTV surveillance of the recess is not a sustainable solution (*see Section 2 paragraph 62.9*)
- 26.2 Where a recessed doorway is unavoidable because of site constraints, e.g. where an emergency exit door opens onto an 'out-of-site' fire path and has to be recessed due to the safety of those using the path, it would be prudent in this specific scenario to use a secure doorset (LPS 1175: Issue 7 SR 2+ or higher) with emergency exit hardware and in-built secure vision panel. The secure doorset would resist most forms of attack and the vision panel would allow the recess to be checked for obstructions before opening the door (*see Section 2 paragraph 64.5*).
- 26.3 Ideally, inner courtyards should be sealed by the main school buildings around them and only be accessible from these buildings. Otherwise fencing should be introduced to prevent access.
- 26.4 Isolated teaching areas should be avoided and areas that provide opportunity for concealment and troublesome behaviour should be fenced off.

27 Temporary classrooms

- 27.1 Temporary classrooms, such as portable buildings, are notoriously difficult to secure due to their construction and the fact that they are outside the secure envelope of the permanent building structures. The voids under many of these buildings must be secured to prevent litter collecting underneath, which may be used to start a fire.
- 27.2 Temporary classrooms should not be used for the storage of high value equipment such as computers and projectors unless the building is security rated (*note 27.2*). All such buildings should be included within the school's intruder alarm system. If practical and possible, additional temporary classroom buildings should be linked to each other to form one larger continuous building, thus avoiding the creation of blind spots in between the buildings. It is expected that the use of non security rated temporary classrooms will be discontinued as soon as possible after the main school has been enlarged (or possibly rebuilt).

Note 27.2 SBD is currently working with interested parties to develop temporary buildings certificated to the Loss Prevention Certification Board's standard LPS 1175: Issue 7 Security Rating 2+. Once such buildings become available they will be referenced within this guide

- 27.3 Portable buildings used as temporary classrooms should be constructed of non-combustible materials.
- 27.4 The location of temporary classrooms and other temporary buildings must be discussed with the local fire authority to ensure that the spread of fire to other buildings is minimised and that the fire service's access is not hampered.

28 Special sports facilities

- 28.1 Multi-use games areas and artificial playing surfaces, usually with lighting for night time use, are expensive facilities that are often targets for intrusion, vandalism and misuse. They need to be carefully planned, managed and protected using all appropriate Secured by Design guidelines and specifications.
- 28.2 Illumination of facilities will inevitably draw local attention to them at night. Lighting needs to be coordinated with actual occupation and use of the particular facility, such as evening community use, to avoid wasting energy and unwanted attention at times when there are no users or 'capable guardians' present.
- 28.3 Spectator stands should be constructed of non combustible materials and sited appropriately to avoid visual obstruction of other buildings that could be subject to crime.
- 28.4 Sports pavilions should be constructed of non combustible materials and their overall security requirements should be discussed and agreed with the CPDA. Depending upon the uses of such buildings there may be requirements to use the same physical specifications and standards as required for the main school building.

29 Wind turbines, photovoltaic installations and biomass boilers

- 29.1 Consideration must be given to protecting wind turbines, photovoltaic installations (PVs) and biomass boilers from vandalism through the use of access control, appropriate fencing and the removal of any climbing facility that may aid access.
- 29.2 PV panels are susceptible to criminal damage from thrown missiles and are likely to be the subject of theft as their installation becomes more commonplace. Therefore PVs should be located on roofs that are difficult to access, other than by legitimate means, and should be secured onto the roof with theft resistant fastenings. School landscape design should never include the use of loose pebbles for obvious reasons.

Storage facilities

30 Equipment storage

- 30.1 Secure storage for play and sports equipment, including seasonal storage for goalposts etc, should, where possible, be provided within the main building, with ready secured access from outside. Initial generous storage provision should help to avoid future need for additional outbuildings which are more vulnerable to attack.

31 External waste storage

- 31.1 Waste containers, particularly those with wheels, can be used for climbing and the contents used to start fires. Therefore, consideration should be given to using waste containers with lockable lids. Additionally they should be kept inside a secure, externally accessed store in the main school building or in a secure, roofed compound located well away from the school buildings. Advice in respect to safe stand off distances, fire and smoke detection devices and fire sprinkler systems should be sought from the appropriate fire authority. In general, combustible materials should not be stored within 10 metres of the outside of a building. *(See also section 2, paragraphs 79)*
- 31.2 Adequate secure provision (as above) for temporary storage of materials to be recycled should be included.
- 31.3 Bin stores for kitchen waste should be located in a similar way to paragraph 31.1 above, although it is accepted that for convenience during school hours the bin(s) may be kept outside and close to the kitchen areas.

32 Fuel storage

- 32.1 Fuel, such as central heating oil and cans of fuel used for grounds maintenance machinery should be stored in a secured building located well away from the school buildings where space permits. Where there is insufficient space and the fuel has to be stored inside one of the main buildings advice should be sought from the appropriate fire authority as in paragraph 31.1 above. It may also be desirable to store biomass fuel close to the boiler plant in which case the appropriate fire authority should be consulted.

33 Cleaning equipment storage

- 33.1 A secure store, or stores, inside the school building on each floor must be provided for the safe storage of cleaning equipment and cleaning fluids, given that many of these will be flammable and possibly toxic. Advice should be sought from the appropriate fire authority as in paragraph 31.1 above.

Utility services and mail delivery

34 Meter reading and security of utility services

- 34.1 Utility access covers, protecting access to drains, sewers, telephone cables, electricity cables and other services, must be secured to prevent access and damage by unauthorised persons (*see Section 2 Paragraph 50 for recognised standards*).
- 34.2 Utility meters must be sited in a secure building, such as a plant room, and where possible should allow for meter reading without having to enter the main building. Alternatively, instructions should be given to utility providers to carry out their readings during hours of occupancy or by prior appointment, so that access can be arranged without unnecessary disruption or security risk. Smart meters that automatically send readings along a data line or can otherwise be read remotely are encouraged.

35 Mail delivery arrangements

- 35.1 For the majority of schools it is expected that mail delivery will take place during school opening hours and that the mail will be handed in at reception. For out of hours deliveries please refer to Section 2, paragraphs 60 for standards for various methods of mail delivery.

Building shell

36 Automatic opening window systems and vents

- 36.1 Many sustainable school buildings being proposed require an automatic building management control system in order to ventilate the building and regulate the temperature, including at night to pre-cool the building during hot weather. This can cause security problems and the following issues may need to be addressed:
 - 36.1.1 Automatic opening window systems, vents and pressure relief panels that operate when the school is unattended should be designed in such a way that they do not pose a security risk.
 - 36.1.2 Care should be taken to ensure that any bars or grilles that are used to secure the mechanisms in 36.1.1 do not interfere with their operation
 - 36.1.3 The fitting of grilles to protect the mechanisms in 36.1.1 may affect the airflow requirements and advice should be sought from the relevant authority.
 - 36.1.4 It is recommended that an automatic opening window or vent system incorporates a fail safe mechanism to notify school management that a window or vent has failed to close.

37 Walls – facades, apertures and graffiti

- 37.1 Facades of buildings should minimise the opportunity for hiding and climbing up to windows or onto roofs. An unobstructed building line should be used to provide enhanced protection to the perimeter space as accessible ledges, parapets, indentations and protrusions may provide means of assisting unlawful entry.
- 37.2 The potential for unauthorised entry by misuse of facilities for essential services i.e. goods lifts, fuel delivery points or ventilation ducts should be considered. Where possible such services should be concealed and / or located in locked compartments. Grilles, air ventilation apertures and shutters should be fitted so that they cannot be removed to permit unauthorised access. Reinforced mounting and fixing points for internal and external grilles, shutters and shutter roller boxes may be necessary as part of the building structure.
- 37.3 As graffiti tends to attract further graffiti police will always advise that it is removed as soon as possible. Designers should therefore consider wall finishes that make this task easier to perform, particularly when the risk of graffiti is high. Various anti-graffiti glazes and sacrificial coatings are available for treating surfaces already subject to tagging.

38 Roof design and access

- 38.1 Preventing easy access to roofs should be considered at the design stage of the building. External rainwater pipes can be used for climbing and should be either square or rectangular in section, flush fitted against the wall or contained within a wall cavity or covered recess. Bends in pipes and horizontal runs should be minimized. They should be of fire resistant material. Physical barriers should be used to prevent access to an existing roof.
- 38.2 Low level eaves/roofs can sometimes pose security problems and are vulnerable to being set alight externally by arsonists. Where such threats exist this design should be generally avoided.
- 38.3 Flat roofs, particularly those at a low level, may be more easily accessed and depending on materials may be more vulnerable to intrusion either by cutting through the deck or forcing open roof lights and other openings. Low-level flat roofs may also create a risk of falling by a person who has climbed onto the roof recklessly (see Section 2 paragraphs 58 and 59 in respect to roof construction and roof lights). (Note 38.2).

Note 38.2: Attention is drawn to relevant legislation (including the Occupier's Liability Act) concerning the responsibilities and liabilities of building owners / occupiers for the safe use of roof areas and relevant signage.

Internal layout issues

39 Entrances into the school building

Main entrance

- 39.1 There should be one main entrance into the school building, which may incorporate more than one set of doors. For example, one set for volume access for students and possibly staff and another set for parents and visitors and staff. These should be access controlled for all or part of the day depending on local crime risk. In normal circumstances the students' access doorset will be opened at morning arrival times, lunchtimes and afternoon departure times. Outside of these times the school may choose to control the students' doorset using an electric lock remotely operated from the reception desk or office. Likewise a second set of doors reserved for visitors can also be controlled in the same manner (*Note 39.1*).

Note 39.1: It is common practice for infant and younger junior students to meet in the school playground with parents and guardians at the beginning of the day. Shortly before the school day begins the students are met by their teachers and line up in classes. The students will then enter the school through the nearest entrance, which could be directly into the classroom via a door onto the playground.

- 39.2 The entrance should be well illuminated leading the visitor, staff member, parent or student into a bright and welcoming reception area
- 39.3 Reception staff should have a clear view of the approaches to the school entrance. If the lighting levels directly outside the building reception are too low after dark, a reflection of the reception area will be seen on the inside of the glazing, which will hamper the receptionist's ability to look outside the building. It is therefore important that levels of illumination both inside and outside of the reception area are well balanced to avoid this inconvenience.
- 39.4 Where a separate automatically opening door is deemed more desirable for disabled access, the door opening system should be operated utilising suitably located proximity reader technology. The reader should be vandal resistant. Access control for use by students and staff may be necessary in any event (*see Section 2 paragraphs 67 and 68 for further information*).
- 39.5 It may be appropriate to use an 'airlock' door system whereby two sets of automatic doors are used, the first opening upon the detection of a visitor and the second set, either opening in the same fashion or controlled from the reception desk. At appropriate times or where crime risks dictate both doors can be controlled from the reception desk. This can be combined with a draft lobby/unheated transition space for energy conservation. This transition space is best left unheated and does not need to be too comfortable as people still have outside coats on when within.

Additional entrances

- 39.6 There will clearly be instances, especially with multi building schools, that further entrance doors will be required for the convenient movement of students

between classes. The crime opportunity risks that this arrangement might create will be minimised if access onto the school site beyond the school entrance forecourt and car park has been restricted (*see paragraphs 13.6 and 13.7*).

- 39.7 Electric door lock solutions for these additional external doorsets are available, which can be operated in numerous ways. Such operations might include automatic deactivation of the lock during breaks between classes and they can also be operated by use of card swipes and proximity read fobs that can be issued to older students and staff. Such arrangements should not prevent people from exiting the buildings (*see Section 2 paragraphs 67 and 68 for further information*).
- 39.8 Some schools currently use ID cards that incorporate a metallic strip or chip that provides them with access through selected doors. An integrated access control system installed throughout the school using vandal resistant proximity readers (the SBD preferred technology) can also help to maintain a record of school attendance and where necessary can selectively bar access to certain areas of the school or bar individuals who have been excluded. Biometric access control and voice recognition systems are also now available, which can be used in conjunction with other forms of access control into sensitive areas of the school. It is recommended that these various forms of access control are discussed with the CPDA at the earliest opportunity.
- 39.9 Doorsets that are fitted with electric locks or electric release staples must form part of the manufacturer's certificated range of doorsets (*See also Section 2 paragraphs 62.4 and 68.1*).
- 39.10 Separate access controlled entrances for staff and sixth formers may be appropriate in some circumstances, especially, for example, where site constraints have resulted in the staff car park being located some distance away from the main entrance, possibly with its own access road and gate in some other part of the site boundary. The operation of the door may be achieved by use of proximity reader technology. This would be advantageous for staff carrying books or equipment or for staff with a physical disability.

40 Reception area, visitor control and interview room

- 40.1 A visitor's first impression of a school and its security is often gained in the reception area. The reception area should therefore be welcoming and create a positive and interesting impression of the school. Colour schemes and textures of wall finishes and furniture should be carefully considered to create a calming environment for the waiting visitor. Behind this outward impression however lies the main function of the reception area, which is the effective and appropriate management of visitors, which is critical to the school's security.
- 40.2 It is recommended that the reception is staffed or supervised at all times and access beyond the reception area is controlled using automatic locking doors, turnstiles or other barrier operated by the receptionist or by proximity reader technology with fobs/ID cards issued to staff and older students. Such doors or barriers must allow emergency exit and be integrated into the fire/smoke alarm system for automatic release in an emergency when the building is occupied.

- 40.3 Schools should comply with relevant health and safety regulations and minimise the risk of assault upon all persons on the school premises. It is therefore important to plan for risk of violent incidents even though the risk may be small. Where there is a history of violence in the reception area it may be appropriate to fix furniture to the floor or walls and to reduce the amount of loose items on display.
- 40.4 Reception desks should provide the receptionist with a clear view of the waiting area, the approach to the school entrance door and have restricted access from the public side.
- 40.5 Reception desks should be high and deep enough to afford protection for the receptionist, but the design must consider the needs of a wheelchair user. The floor level behind the reception desk can be raised if deemed appropriate.
- 40.6 In extreme circumstances where anti-social behaviour may be expected and risks to reception staff high, an escape route to a place of safety such as the school office should be located behind the reception area. A 'slam to lock' door between the area behind the reception desk and the place of safety should include a door viewer or secure vision panel to allow a view of the reception area from the place of safety (*see also paragraph 64.5 for secure vision panels*).
- 40.7 An audible personal attack alarm should be located at the reception desk so that the receptionist can use it to summon assistance from trained staff if confronted by an aggressive visitor. Consideration should be given to an additional alarm sounder located in the staff room or other location where other members of staff can be alerted. In some areas, where this type of incident is not uncommon, automatic response to this type of alarm by the police or contracted security service may be necessary. Staff training in the use of this deliberately-operated device will be required. False activations may result in limited provision or complete withdrawal of police response. Such a facility should be located in any designated interview room. (*See also paragraphs 71*)
- 40.8 In larger schools visitor toilets can be provided within the secure reception area to avoid having to provide an escort for the visitor into the school solely for this purpose. Likewise, it may be appropriate to locate a community or parent's room or interview room off the reception area if such a facility is required. The use of a vision panel in the doors to these rooms may also be appropriate for privacy and security (*see also paragraph 64.5 for secure vision panels*).
- 40.9 For new schools the location of shared community facilities must be considered as this may affect the design of the reception area and indeed the rest of the building.

41 Toilet facilities

- 41.1 Badly designed and located toilets in schools can offer opportunities for bullying, assault, arson and generally poor or anti-social behaviour. SBD applicants are directed to the following document for further advice:

Standard specifications, layouts and dimensions: Toilets in Schools Published by DFES (DCSF) Reference 00365-2007

This document is available as a PDF and can be downloaded via this link:
[Toilets in Schools](#)

- 41.2 If it is likely that the community will use part of the school building(s), consideration should be given to the provision of additional toilet facilities close to the rooms or section of the school being used as this will prevent unnecessary movement around the school building.
- 41.3 Secured by Design recommends full ceiling to floor enclosures for cubicles to provide increased student privacy and recommends that urinals are not specified. Whilst the recommendation to not provide urinals sits well with the guidance provided by the DCSF it is accepted that this may lead to the greater use of water for flushing purposes.
- 41.4 Hand washing facilities can sometimes be moved out of the cubicle area into a space that benefits from passive surveillance.

42 Corridors, circulation areas and stairways

- 42.1 Modern school design very often includes very wide circulation corridors that are similar to 'streets'. They have many uses beyond circulation and are often used to display students' work, for 'break-out' study groups and meeting parents. Because of the nature of the modern school corridor it is recognised that recesses along its length may, in fact, be a deliberate design feature. In these circumstances lines of sight can be maximised through the imaginative use of glazed screens and reflective surfaces. In general, improved surveillance of the corridor from adjacent classrooms and offices (with due regard to unwanted interruption) may be useful.
- 42.2 Stairways are often the places that attract misbehaviour and bullying. The following design considerations can help to control this type of behaviour.
 - Staircase that open onto corridors with heavy cross flow movement should be avoided
 - Creating passive surveillance over staircases can help supervision
 - Provide the widest stairways to corridors with the heaviest movement flows to avoid pinch points
 - Wider stairways can reduce conflict between passing students
 - Finishes, fixings and fittings must be robust
 - Colour coding of the different staircases can help way finding for new students and those with anxiety problems
- 42.3 Avoid external staircases, which can create additional security risks
- 42.4 SBD applicants are directed to the following document for additional advice:

This document is available as a PDF and can be downloaded via this link: [Stairs in Schools](#)

- 42.5 Directional signage in circulation areas can be useful, particularly for new students and unaccompanied visitors during for example, open evenings. Wall and door colours can be helpful with direction and to identify various departments within the school building.

43 Internal doorsets

- 43.1 As indicated in the table at Appendix 1, schools contain a large number of rooms used for various activities requiring differing levels of access control dependent upon their use and content. The table seeks to identify the level of access control to each type of room. The content of the table is for guidance and local circumstances may dictate higher or lower levels of access and security. (See also Section 2 Paragraph 74)
- 43.2 As a general rule all internal doorsets should be locked when the building is left unoccupied with specific attention paid to locking storerooms, staff restrooms, head teachers' offices and general office areas at the end of the school working day.

44 Changing rooms - field sports, swimming and physical education

- 44.1 Students and staff should be provided with individual secure storage facilities to hold personal belongings during a lesson.

45 Kitchens and school restaurant

- 45.1 Areas of the school that may sometimes be available for community use, including the serving of food and drink, should be planned to allow secure separation of these spaces from the rest of the premises. External courtyards associated with restaurant areas should have secure boundaries with access-controlled exits.
- 45.2 Card reader systems can be programmed to include cashless catering and electronic registration, which can enhance the security of students and staff.

46 Medical Room

- 46.1 The medical room should be located on the ground floor close to the main entrance door and emergency vehicle parking to allow easy access to medical professionals and other emergency services. The room should be equipped with a secure storage facility for first aid equipment and materials.

Security lighting

47 External lighting

- 47.1 In terms of security, the objective of lighting a school site after dark is to improve the chances of detecting an intruder and to enhance such an intruder's fear of detection (*see Section 2 paragraphs 51 for standards and values*).
- 47.2 Lighting design should be co-ordinated with a CCTV installation (when specified) and the landscape design to avoid any conflicts and to ensure that the lighting is sufficient to support a CCTV system. Light fittings should be protected where vulnerable to vandalism.
- 47.3 A lighting scheme should be sufficient to cater for lawful after dark activity around the school site. It is important to ensure that there is not too great a contrast between lit and unlit areas as this can lead to intruders not being seen by people using the well lit paths. The lighting system should evenly distribute the light creating no dark shadows, provide good colour rendition, not cause glare or light pollution and should support both formal and informal surveillance of the site (*see Section 2 paragraph 51 for minimum standards*).
- 47.4 External illumination when the building is unoccupied is recommended for entrance gates and routes to the main entrance and doors, car parks (if occupied by vehicles) and observable building elevations. When the school is closed and where energy conservation is a priority it may be appropriate to operate this lighting via movement detection devices. In this case consideration must be given to using the most efficient detectors to avoid false activations.
- 47.5 To be effective, lighting should ensure a realistic chance that there will be witnesses to an intrusion. It should also make intruders feel vulnerable to detection and an increased risk of being challenged. Conversely, installing lighting which cannot achieve this effect, such as the lighting of an elevation that cannot be observed by potential witnesses or CCTV, may actually assist an intruder.
- 47.6 The CPDA will place greater emphasis on physical and electronic security for vulnerable areas of the building that are not adequately monitored or overlooked at night.
- 47.7 The use of bollard lights can be useful for way finding, but are generally insufficient for security. Lights placed at lower levels can fail to properly model the facial features of pedestrians, hinder ready identification and might produce a glare effect; all of which does little to promote a feeling of safety and which detracts from efficient vision.

48 Internal lighting

- 48.1 It is recommended that most internal school lighting is operated by detection devices which will automatically switch lights on and off due to movement activity or the lack of it in each room. Apart from being a considerably more efficient

method for reducing energy consumption (does not require a deliberate and remembered action by the user) such a system will identify the presence and progress of intruders in the building when it is closed. It therefore follows that the controlling mechanisms for the system should be contained securely.

- 48.2 If such a system is not being proposed then areas inside the school that may require 'out of hours' lighting include any critical area used for movement that can be seen from the outside, e.g. entrance foyers, corridors, staircases and landings. Two-stage lighting can be used internally to save energy whereby a higher level of lighting is only triggered by movement. This sudden increase in the lighting level would also serve to indicate the presence of an intruder.

SECTION 2: PHYSICAL SECURITY SPECIFICATIONS

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Perimeter and school grounds

49 Fencing, gates and security bollards

Fencing

- 49.1 The demarcation of public space and the school grounds is important. However in many circumstances there is also a need for fencing that offers greater security in order to protect a particular risk. It is therefore important that the boundary treatment is discussed in detail with the CPDA at the earliest possible opportunity.
- 49.2 There are at least five reasons for providing a perimeter boundary fence. These are to:
- Mark a boundary to make obvious what is private and what is public property
 - Provide safety for staff and students
 - Prevent casual intrusion by trespassers such as dog walkers
 - Prevent intrusion onto the site by criminals
 - Reduce the wholesale removal of property from the site by thieves
- 49.3 The height of the fence will be determined by local circumstances, crime risk and the system chosen. In most circumstances heights between 1.2m (boundary demarcation – not security fencing) and 2.4m will be sufficient. It is normally preferable that the perimeter fencing allows clear views over the school and its grounds from the surrounding land and buildings. Dark colour coated fencing reduces the reflection of light and therefore makes it easier for passersby to observe activity in the school grounds.
- 49.4 Depending on crime risk the Secured by Design requirements are:
- For low to medium crime risks the timber or steel security fencing specification listed in 49.5 below should be used
 - Where the crime risk is deemed to be high, then the requirements listed in 49.6 are required
- 49.5 Timber or steel security fencing for low to medium crime risks:
- 49.5.1 Where the fence panel is of a pale/slat design, they should be oriented vertically to avoid step-up points for climbing and able to resist being pried off/away and should be no less than 25mm thick timber or tubular steel with a wall thickness no less than 1.5mm and securely affixed to the frame/rails.
- 49.5.2 Where a fence panel is constructed of welded mesh the gaps between the mesh strands must be small enough to resist climbing
- 49.5.3 The method of fixing between panel/rails and posts should create a secure mechanical bond so that panels/slats cannot be easily removed and in addition should provide a chain linking effect where each panel

- and post acts in concert with the next to resist attack by pushing and pulling.
- 49.5.4 The fixings employed in the panel/pale to rail construction should be of galvanized steel or stainless steel with a design life to match the fence or gate.
 - 49.5.5 Posts should allow the construction of an unbroken panel to post chain and be of a non-brittle material
 - 49.5.6 Fence heights should be of a minimum 1.8m overall and be capable of raking or stepping to maintain height over different ground levels without creating gaps underneath
 - 49.5.7 Pedestrian gates should be of a framed design and employ galvanized adjustable hinges and fixings mounted behind the attack face. On outward opening gates, where the hinges/brace is mounted on the attack face, fixings should be of a galvanized coach bolt design. Gates should be fitted with locks as agreed with the CPDA. The gate design and fixing features should match that of the fence (*See also paragraph 49.10*).
 - 49.5.8 Entrance/driveway gates should be inward opening, of substantial framed construction and employ galvanized adjustable hinges and fixings mounted behind the attack face. Gates should be fitted with a galvanized drop bolts and facility for padlocking (manual gates) or electro-mechanical locking (automated gates) and employ mechanical/electro-mechanical devices as applicable to hold gate leaves in the open position. The locking method must be agreed with the CPDA. The gate design and fixing features should match that of the fence (*See also paragraph 49.10*).
 - 49.5.9 The tops of timber fences should finish flush with the neighbouring posts and a securely fixed capping rail should run across the fence and posts to affect a continuous chain. The tops/top rail/capping of fencing and gates should be of a design able to accommodate a security topping to deter attempts to scale over the perimeter.
 - 49.5.10 All timber employed in the manufacture of the fencing should be fit for purpose, from FSC certified sustainable sources and be treated to provide protection against all types of rot and insect infestation for a minimum of 15 years.
 - 49.5.11 All steel used in manufacture should be galvanized to BS EN 1461 and/or stainless steel with a service life in excess of 25 years.

49.6 High security fencing requirements

In circumstances where there is a very high chance of crime requiring a fence that is resistant to intrusion the minimum standard for such a fencing system is one that is certified to LPS 1175 Security Rating 1 (*Note 49.6*) or Sold Secure Gold standard (*See Glossary of terms*). In order to meet this security standard the fence may not be aesthetically acceptable in some settings. Should this be an issue the applicant must discuss the matter with the CPDA and an alternative fencing system may be recommended. Higher standards for fencing are available, such as systems tested for use around government property, but a higher standard would not normally be required for a school site.

Note 49.6: The above LPS standard relates to both the height and penetrative resistance of the fence i.e. SR 3 is substantially more resistant to penetration than SR1. Such penetrative resistance

may not always be required even though a height of 2.4m is necessary. In such circumstances, SBD will allow the extension in height of a certificated SR 1 fence.

- 49.7 All fencing as described above in 49.5 and 49.6 must be installed by the manufacturer or to the exact installation specifications provided by the manufacturer. BS 1722 offers installation advice.
- 49.8 Some school perimeter fencing is installed for reasons other than for crime prevention, such as for safety and for ball game areas where a fencing system may be as high as 5m. Such fencing should be resistant to climbing.
- 49.9 Secured by Design currently accredits a large number of fencing manufacturers and installers who between them can provide fencing solutions for all circumstances. They can be found in the Members and Products section of the SBD website at this link under the category 'Perimeter security' and also at this link: [Perimeter Security](#) (Note 49.9)

Note 49.9: Secured by Design is currently working with partner agencies to develop a more suitable standard for school fencing.

Gates

- 49.10 All gates installed within a secure fencing system as described above must be certificated to the same standard as the adjoining fencing and be of the same height and similar style. It should not be possible to lift the gate from its hinges, and the hinges and lock cylinder should be protected in such a way as to prevent their use as climbing aids. Care should also be taken in the design to ensure that cross sections do not inadvertently aid climbing. It should not be possible to pass under the gate when in the closed position. If gates are installed with locks that are remotely operated, they must form part of the manufacturer's certificated range (see paragraphs 63.1 for lock and cylinder standards and see also paragraphs 49.5.7 and 49.5.8).

Security bollards

- 49.11 Where crime risks dictate that there is a realistic chance of a vehicular borne attack to enter the school grounds or penetrate the shell of the building the following standards for secure bollards that will prevent such an attack should be specified:
- Fixed bollards should have been successfully tested to PAS 68-1:2007 *Performance specifications for vehicle security barriers – fixed bollards*
 - Rising Bollards should have been successfully tested to PAS 68-2:2007 *Performance Specification for vehicle security barriers – rise and fall bollards*
- 49.12 PAS 69: 2006 provides guidance on the appropriate selection, installation and use of such bollards and should be referenced in the first instance.

50 Telecommunications and utility access covers

- 50.1 Telecommunication lines and cables should enter buildings below ground and be protected by secure access covers certificated to LPS 1175: Issue 7 Security Rating 2+ or WCL 2 Burglary Rating 2 and be positioned in highly visible locations. In areas of identified higher risk, access to other utilities should also be secured. This will help to delay or prevent the occurrence of burglaries where the perpetrators cut the CCTV or alarm signalling wiring prior to undertaking the offence.

51 External lighting standard requirements

- 51.1 These paragraphs should be read in conjunction with Section 1 paragraphs 47 and 48.
- 51.2 Lighting for internal roads, footpaths and car parks must comply with BS 5489-1:2003. Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the CPDA, the local authority lighting engineer and or the lighting engineer responsible for the lighting system design.
- 51.3 In terms of security, lighting should be provided to illuminate doors and windows that are overlooked from surrounding, occupied buildings or are surveyed by CCTV cameras.
- 51.4 It is recognised that some local authorities have 'dark sky' policies and deliberately light some of their rural, low crime areas to very low levels of illumination. Others are currently experimenting with switching off lamps in low crime areas between certain hours of the night in order to save energy costs and reduce CO² emissions. Likewise modern schools are often being designed to be 'carbon neutral' whereby all lighting is switched off when the school is closed for the night. If such policies exist then these must be brought to the attention of the CPDA at the time of application.
- 51.5 In terms of sustainability consideration must be given to the consequences of turning off lights. Crime levels, and in particular fear of crime levels, must also be carefully monitored to see what impact such an action may cause. There are other possible technical alternatives to simply 'switching off' including the use of lights that are switched on and off through the detection of pedestrians or vehicles and emerging LED technology, which is proving to be much more energy efficient than contemporary lighting.
- 51.6 Landscaping, tree planting and lighting schemes shall not be in conflict with each other.
- 51.7 The Overall Uniformity of light for roads, paths and car parks is expected to achieve a rating of 0.4U_o and should never fall below 0.25U_o (*Note 51.5*).

Note 51.5 : The evenness of light distribution is almost always more important than the levels of illumination being achieved by the system (the levels are determined by BS 5489) The British Standards Institute have issued an advisory note stating that they recommend that U_o be at least

0.25 or 25%. A 0.4 Uo value is the ideal standard for an SBD lighting system, but where technical reasons prevent this we will still require the very best levels possible and under no circumstances may the rating fall below 0.25Uo.

- 51.8 The Colour Rendering qualities of lamps used should achieve a minimum of at least 60Ra (60%) on the Colour Rendering Index (Note 51.6).

Note 51.6: The Colour Rendering Index, scaled from 0 to 100 indicates the colour rendering qualities of lamps. 0 is a non-existent ability to render colour under illumination, such as low pressure sodium lamps, and 100 is the colour rendering qualities of daylight. The 'whiter' the light the better the colour rendition qualities. Properly controlled white light will illuminate an area to higher satisfaction levels for people whilst actually delivering less light than would be required for similar levels of satisfaction if non-white light sources were used.

- 51.9 The CPDA must be provided with a 'Lux Plan' in order that the lighting system can be assessed (Note 51.7).

Note 51.7: The details on the plan must include the maximum, minimum and average lux levels proposed. The plan must also show the Uo and Ra values for the scheme.

- 51.10 Light Pollution must be minimised (Note 51.8)

Note 51.8: All living things adjust their behaviour according to natural light. The application of artificial light has done much to improve our experience of the night-time environment, but if this light is not properly controlled both physiological and ecological problems may occur. Minimising light emitted in directions where it is neither necessary nor desirable is extremely important. Obtrusive lighting is a statutory nuisance and illuminating areas unintentionally is wasteful. SBD requires that only luminaires with suitable photometry serving to reduce light spill and direct light only to where it is required may be used.

52 Closed circuit television (CCTV)

- 52.1 CCTV is not a universal solution to security problems. It can help deter vandalism or burglary and assist with the identification of culprits once a crime has been committed, but unless it is monitored continuously and appropriately recorded, CCTV will be of limited value in relation to the personal security of students, staff and visitors. That being said, the provision and effective use of CCTV fits well within the overall framework of security management and is most effective when it forms *part* of an overall security plan.

- 52.2 Developers of new schools and managers of existing that are considering the use of CCTV must be very clear about the objectives they wish to meet and establish a policy for its use and operation before it is installed. It is important to seek independent advice before approaching an installer and to develop a comprehensive operational requirement for the system, which can be supplied to installers during the tendering process. An operational requirement will be used for the design, performance specification and functionality of the CCTV system. In effect, it is a statement of problems, not solutions and will highlight the areas that must be observed by the system and the times and description of activities giving cause for concern. A useful reference to help achieve this goal is the *CCTV Operational Requirements Manual 2009* ISBN 978-1-84726-902-7 Published April 2009 by the Home Office Scientific Development Branch available at this link [CCTV OR Manual](#)

- 52.3 The CCTV system must have a recording capability, using a format that is acceptable to the local police. The recorded images must be of evidential quality if intended for prosecution. Normally this would require a full 'body shot' image of a suspect. It is recommended that fixed cameras are deployed at specific locations for the purpose of obtaining such identification shots. An operational requirement must take account of this fact and decisions made as to what locations around the building are suitable for obtaining this detail of image. The recording of vehicle licence plates may also be practical and useful.
- 52.4 Whilst the location of cameras is a site specific matter it would be normal practice to observe the main entrance to the premises and the reception area. Early discussions with an independent expert and potential installers can resolve a number of matters including:
- monitoring and recording requirements
 - activation in association with the intruder alarm
 - requirements for observation and facial recognition/identification
 - areas to be monitored and field of view
 - activities to be monitored
 - the use of recorded images
 - maintenance of equipment and the management of recording
 - subsequent ongoing training of operatives
- 52.5 CCTV systems must be installed to BS EN 50132-7: *CCTV surveillance systems for use in security applications*
- 52.6 The design of a CCTV system should be co-ordinated with the existing or planned lighting system for the buildings and the external grounds, to ensure that the quality of the lighting is sufficient to support the CCTV.
- 52.7 In high crime areas CCTV cameras may need protection within a vandal-resistant housing.
- 52.8 CCTV systems may have to be registered with the Information Commissioner's Office (ICO) and be compliant with guidelines in respect to Data Protection and Human Rights legislation. Further information is available at this website: www.ico.gov.uk
- 52.9 For guidance on the use of CCTV images as legal evidence see also BS 7958:2005 *Closed circuit television (CCTV). Management and operation. Code of practice*. This document provides guidance and recommendations for the operation and management of CCTV within a controlled environment where data that may be offered as evidence is received, stored, reviewed or analysed. It assists owners of CCTV systems to follow best practices in gaining reliable information that may be used as evidence.
- 52.10 Remotely monitored detector activated CCTV systems must be installed in accordance with BS 8418: 2003 *Installation and remote monitoring of detector operated CCTV systems - Code of practice*

53 Securing of unattended bicycles, mopeds, scooters and motorcycles

Bicycles

53.1 The securing of cycles left unattended must be considered within the design of the new school. Recent research by the 'Design against Crime' Centre suggests that cyclists should be encouraged to lock both wheels and the crossbar to a stand rather than just the crossbar and therefore a design of cycle stand that enables this method of locking to be used is recommended. Minimum requirements for such equipment are:

- Galvanised steel bar construction (minimum thickness 3mm) filled with concrete
- Minimum foundation depth of 300mm with welded 'anchor bar'

53.2 External and preferably roofed bicycle stores with individual stands for securing bicycles are best located close to supervised areas of the school building and preferably within 100m. The 'walls' of such buildings should be open to surveillance and therefore constructed of materials such as welded mesh, grilles or bars, polycarbonate or other secure glazing such as glass composites. When in use the store must be lit after dark using vandal resistant, dedicated energy efficient light fittings and energy efficient lamps, such as compact fluorescent (*Note 53.2*).

Note 53.2 SBD prefers roofed bicycle stores to keep bicycles dry and encourage cycling

53.3 External containers specifically designed for the secure storage of 2 or 3 bicycles and certificated to LPS 1175 SR 1 are available, which may be suitable for members of staff. Products of this type are available from the SBD website in the Members and Products section under 'Bicycle security' and at this link: [Bicycles](#)

53.4 Ventilated, bicycle stores within a school building must either have no windows or windows with security grilles and be fitted with a secure doorset that meets the standard as required by the CPDA. The locking system must be operable from the inner face by use of a thumb turn to ensure that persons are not accidentally locked in by another user. The lighting in such a building must be automatically activated by a device, such as passive infra-red detector. The store should contain cycle stands as described in 53.1 above. A similar store may also be used to store mopeds, scooters and motorcycles in which case secure anchor points certificated to Sold Secure Silver Standard must be used

53.5 Further information about secure cycle parking can be found at the following resource section on the 'Bikeoff' website: www.bikeoff.org/design_resource

Motorcycles, mopeds and scooters

- 53.6 External parking stores for mopeds, scooters and motorcycles should be covered and located close to and in view of the school building and be provided with secure anchor points certificated to Sold Secure Silver Standard

Building envelope

54 Wall construction

- 54.1 School walls in remote locations and in elevations that are out of sight are attacked on occasion and should therefore be constructed to resist such an attack. Materials resistant to manual attack or damage should be used to ensure the initial provision of security.
- 54.2 Where lightweight construction is being considered for part of the building, for example insulated sheet cladding, a reinforced lining such as welded steel mesh can enhance the security of the building fabric.

55 Glazed curtain walling and window walls

- 55.1 SBD recognises four distinct types of glazed wall systems. These are:
- Large glazed units connected by a 'spider clamp system'
 - Glazed units directly retained within a framing system (usually aluminium)
 - Framed windows installed within a separate framing system
 - Framed windows connected to other framed windows to create a 'window wall'
- 55.2 Glazed curtain walling (i & ii above) must be installed using a secure glazing retention system. The method of retaining the glass must include one or more of the following:
- Security glazing tape
 - Dedicated security sealant or gasket
 - A secure mechanical fixing system (Evidence will be required to prove the system is secure. This may be achieved by utilising the specific glazing retention test within BS 7950 or by an indicative test on the retention system to LPS 1175 SR1 or WCL 2 BR1)
- 55.3 Framed windows (iii & iv above) used within the construction of a 'window wall' must meet the requirements as required in paragraphs 70 below
- 55.4 Attack resistant glazing as defined by paragraph 66.1 below is required where the glazing is easily accessible. (See *Glossary of terms*)
- 55.5 For information only the following British Standard 'Codes of Practice' are relevant:
- BS 5516-1: 2004 *Patent glazing and sloping glazing for buildings. Code of practice for design and installation of sloping and vertical patent glazing*

- BS 5516-2: 2004 *Patent glazing and sloping glazing for buildings. Code of practice for sloping glazing*

56 Roller shutters and grilles

56.1 Grilles and shutters can provide additional protection to both internal and external doors and windows. The minimum standard for such products, when required, is certification to

- LPS 1175: Issue 7 Security Rating 1+ or
- WCL 2 Burglary Rating 1

56.2 For roller shutters, the above minimum security ratings are generally sufficient where:

- a shutter is required to prevent minor criminal damage and glass breakage or
- the shutter is alarmed and the building is located within a secure development with access control and security patrols or
- the shutter or grille is intended to prevent access into a recess or
- the door or window to be protected is of a high security standard in its own right.

56.3 Security ratings higher than the minimum may be required and will be dictated by one or more of the following security considerations

- Type of crime risk
- Level of crime risk
- Location of the building
- Security level of the door or window being protected

Such a requirement will be justified and communicated to the applicant by the CPDA in writing.

56.4 In new build developments roller shutters should be integrated into the fabric of the building

56.5 Roller shutters that incorporate sections of clear lathes for vision through the shutter can be an advantage in some locations, but must form part of the scope of products certificated to the security standard required by the CPDA.

57 Roller shutter doors

57.1 Roller shutter doors providing access for deliveries and other apertures where no other door is present must be certificated to a minimum of:

- LPS 1175: Issue 7 Security Rating 2+ or
- WCL 2 Burglary Resistance 2

57.2 A higher level of security will be determined by similar factors as in paragraph 56.3 above and a requirement for such will be justified and communicated to the

applicant by the CPDA in writing at the earliest opportunity following receipt of the application.

- 57.3 In new build developments roller shutter doors must be integrated into the fabric of the building.

A wide range of roller shutters and grilles are available from SBD member companies which can be identified on the SBD website in the Members and Products section under 'Grilles, shutters and window protection' and at this link: [Shutters and grilles](#)

- 57.4 Roller shutter doors that incorporate sections of clear lathes for vision through the shutter door can be an advantage in some locations, but must form part of the scope of products certificated to the security standard required by the CPDA at the earliest opportunity following receipt of the application.

58 Roof construction

- 58.1 Roofs are vulnerable to criminal intrusion and damage through vandalism, therefore careful consideration must be given to their construction.

- 58.2 Lightweight roofing systems are becoming common in school buildings. Such systems must be certificated to a minimum of:

- LPS 1175 Issue 5 SR 1

- 58.3 The standard above tests the product and its fixings, therefore lightweight roofing systems must be installed utilising the manufacturer's approved fixing system. Such systems are available from SBD member companies which can be identified on the SBD website in the Members and Products section under 'Roofing' and at this link: [Lightweight roofing](#)

- 58.4 Where roofing systems other than lightweight are to be installed, potential for criminal intrusion of decking below a membrane should be considered. Metal decks, particularly steel, may be more resistant than timber. Expanded metal or welded mesh between the skins of double-skinned roof coverings or within the roof space may be considered for timber decks.

- 58.5 Vulnerable ceiling voids should be protected by a monitored intruder alarm system.

- 58.6 Due regard must be taken to ensure full compliance with the 'duty of care' obligations under Occupiers' Liability Act 1984

- 58.7 Further information about roof coverings, drainage and rooflights can be found in the following publication. Please note that this publication makes little reference to security issues.

Standard specifications, layouts and dimensions: Roof coverings in schools
Published by DCSF ISBN: 978-1-84775-088-4

This document is available as a PDF and can be downloaded by clicking [here](#).

59 Roof lights and sun tubes

Roof lights

- 59.1 Based on a site specific risk assessment which will be communicated in writing to the applicant and which will take into account contributing factors such as the accessibility (*See Glossary of terms*) and visibility e.g. whether activity can be seen from the street or a nearby occupied building, a roof light aperture must be protected by either one, or a combination of the following:
- 59.1.1 In low crime, low risk applications a roof light aperture must be protected by roof lights certificated to LPS 1175 Security Rating 1 or WCL 2 Burglary Resistance 1.
 - 59.1.2 In higher crime, higher risk applications a roof light aperture must be protected by roof lights certificated to LPS 1175 Security Rating 2 or 3, or WCL 2 Burglary Resistance 2 or 3.
 - 59.1.3 Alternatively, a roof light meeting the requirements in 59.1.1 above may be used in conjunction with an internal grille certificated to LPS 1175 Security Rating 1 or 2, or WCL Burglary Resistance 1 or 2.
- 59.2 The CPDA must be supplied with proof of certification including the technical schedule, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design Licensing Scheme and the roof light can be identified on the SBD website (*see paragraph 70.6*). Such systems are available from SBD member companies which can be identified on the SBD website in the Members and Products section at this link: [Roof lights](#)
- 59.3 Roof lights must be securely fixed in accordance with the manufacturer's specifications. The CPDA may request a copy of the manufacturer's fitting specifications.

Sun tubes

- 59.4 To prevent large dimension sun tubes being used to gain access into a school building ensure that the caps on those that are easily accessible (*See Glossary of terms*) are effectively secured.

60 Mail Delivery

Letter plates – new schools

- 60.1 Letter plates in doors are not suitable for mail delivery into a new school and are not permitted if Secured by Design certification is being sought (*go to paragraphs 60.7 to 60.10 for mail delivery arrangements for new schools*).

Letter plates – existing schools

- 60.2 There are three distinct crime risks associated with letter plates, which may be present in existing schools:

- i 'Fishing', whereby arm/hand and tool are pushed through the letter plate aperture to steal items just beyond the door
- ii Lock manipulation, whereby arm/hand and or tool are used through the letter plate aperture to turn the thumb turn on the back of the lock (if one is fitted) to open the door.
- iii Arson, whereby the arsonist pours accelerant or pushes a firework through the letter plate aperture.

- 60.3 If crime risk (i) above is present an internal letter plate deflector must be fixed onto the back of the door. The deflector must cover the entire letter plate and must prevent access for fishing via the letter plate aperture. The letter plate aperture must be no larger than 260mm x 40mm (*Note 60.3*).

Note 60.3 The police service is currently exploring the creation of a new attack test standard/guide for letter plates and letter boxes with partner organisations with similar interests. The SBD requirement will be updated upon completion of a standard/guide. Please note that internal deflectors may be problematic if the doorset opens into a narrow entrance or hallway, as the deflector may reduce the opening width of the door if it is opening onto a wall.

- 60.4 If crime risk (ii) above is present, which will be indicated by the presence of a thumb turn operated lock, an internal letter plate deflector must be fixed onto the back of the door. The deflector must cover the entire letter plate and must prevent access to the thumb turn via the letter plate aperture. The letter plate aperture must be no larger than 260mm x 40mm. (*Note 60.3 above*)

- 60.5 If crime risk (iii) above is present SBD recommends the installation of an 'anti-arson' container to be fitted onto the back of the door. The container, which may be constructed from steel or other combustion retardant material must be sealed around the letter plate and prevent accelerant fuel or firework from passing through the letter plate aperture onto the floor. Any fire that is set through the letter plate aperture must be controlled within the container. It is likely that an anti-arson container may also reduce the chances of 'fishing' and lock manipulation. The letter plate aperture must be no larger than 260mm x 40mm (*note 60.5*).

Note 60.5 Please note that the installation of an 'anti-arson' container to the back of the door, especially those of metal box construction, may reduce the opening width of the door where the door opens onto a wall. Containers manufactured from combustion resistant material (cloth) may be more suitable in such situations.

- 60.6 If the recommendation in paragraph 60.5 is not practical letter boxes should be considered.

Letter boxes

- 60.7 It is anticipated that mail delivery would normally take place at a time when the school is open and the mail handed in at the school office. However, during times of school closure mail boxes may be required. For new schools surface mounted or through-the-wall letter boxes must be provided. The use of such products greatly reduces the crime risk problems associated with letter plates and also reduces heat loss through the door. *(Note 60.3 above)*

Surface mounted letter boxes

- 60.8 Where a surface mounted letter box is to be used it must be robust in construction and securely fixed to the external face of the building in accordance with the manufacturer's specifications. It must meet the requirements of BS EN 13724: 2002 and must be located in a position that benefits from natural surveillance. The letter box must incorporate a design feature that prevents the removal of mail through the delivery slot and the access door for mail collection must be lockable.
- 60.9 Where multiple boxes are required to accommodate a number of different recipients (due to different community uses of the school) the boxes must incorporate the same design features as in paragraph 60.8 and be installed in accordance with the manufacturer's specifications.

Through-the-wall letter boxes

- 60.10 It may be preferable to provide 'through-the-wall' mail delivery into a secure internal letter box, thereby negating the need for the postal worker to enter the building. Such a box must incorporate the same design features as described in 60.8 above for a surface mounted box. Anti-arson design features are also required.

61 Access for persons with disabilities

- 61.1 In accordance with the Disability Discrimination Act, security features should not compromise guidance found in the Building Regulations Part M (England and Wales) or Part S of the Scottish Building Regulations or Part R of the Northern Ireland Building Regulations.
- 61.2 Security features (e.g. locking devices, door closers, etc) should be designed, where appropriate, for ease of use by people with disabilities.
- 61.3 Features introduced to meet building regulation access guidance, such as external handrails, should be considered alongside the security risks that these required features might present, e.g. climbing from a handrail onto a flat roof. Measures to counteract such risks must be discussed with the CPDA.

62 External doorsets

62.1 Main pedestrian access points must be protected by doorsets certificated to a minimum of:

- BS PAS 24-1: 2007 – *Enhanced security performance requirements for door assemblies*
- BS PAS 23-1: 1999 – *General performance requirements for door assemblies*

62.2 A requirement for external doorsets to be certificated to a higher standard of security will be determined by the supporting crime analysis provided by the CPDA. The selection will be certificated to BS PAS 23-1 1999 and one of the following standards and communicated to the developer in writing.

- LPS 1175: Issue 7 Security Rating 2+ or higher
- WCL 2 Burglary Rating 2 or higher (*Note 62.2.1*)
- PAS 168 (*Note 62.2.2*)

Note 62.2.1 WCL 2 is the equivalent standard to LPS 1175 and is published by Warrington Certification Laboratories

Note 62.2.2 PAS 168 is a DRAFT commercial door and window standard. Please note products meeting this standard are not expected to be available until mid-late 2010

62.3 Alternatively, specifiers may utilise the requirements of 62.1 in conjunction with a roller shutter or grille certificated to:

- LPS 1175: Issue 7 Security Rating 2+
- WCL 2 Burglary Rating 2

62.4 Doorsets must be certificated by one of the following UKAS accredited certification bodies (*Note 62.4*):

- BM Trada Certification
- British Board of Agrément
- British Standards Institute
- Loss Prevention Certification Board (part of the Building Research Establishment)
- Warrington Certification Laboratories

Note 62.4 Certificated products undergo continuous assessment to ensure that product standards are maintained

62.5 Alternative compliance is acceptable only from SBD member companies that have alternative compliance testing or reached an advanced stage of the certification process with one of the above bodies. Such cases must be verified with ACPO SBD, the managing body that oversees the Secured by Design initiatives

62.6 Alternatively, third party accreditation via a Notified Certification Body that has signed the EA MLA (European cooperation for accreditation multi-lateral agreement) may be acceptable if this body is also accredited to conduct such activities. The CPDA may refer such cases to ACPO SBD for verification.

62.7 Outward opening doorsets must specifically form part of the manufacturer's certificated product range.

62.8 The CPDA must be provided with proof of certification through one of the above bodies, including the scope of certification, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design licensing scheme and the doorset can be identified on the SBD website.

A large range of doorsets manufactured by SBD member companies can be found in the Members and Products section under 'Doors' and at this link: [Doors](#)

62.9 The DCSF Building Bulletin 100, clause 4.5.3.2 states *'The door of any doorway or exit should, if reasonably practicable, be hung to open in the direction of escape and should always do so if the number of persons that might be expected to use the door at the time of a fire is more than 60.'* This clause in the bulletin then notes that *'Where there is a very high fire risk with potential for rapid fire growth, doors should open in the direction of escape even where the number of persons does not exceed 60.'*

For security reasons and for the prevention of fires in recessed exit doorways it is recommended that where there is a low chance of fire and less than 60 persons can be expected to use the door in a fire the designer considers the following options

- Hang the final exit doors to open in the direction of escape without recessing and protect the door opening arc outside through the use of bollards or railing or other barrier to prevent injury or obstruction of the door. Care must be taken to ensure that the protection around the door opening does not adversely provide an opportunity for climbing. A sign on the door indicating that it opens outwards is also recommended.
- Hang the final exit door to open inwards, thereby negating the need for a recess.

Both the above options must be discussed with the fire authority before being implemented. Such measures have been applied to good effect in various buildings in inner cities to prevent the wide variety of crimes that occur in such recesses.

63 [Locking systems for doorsets and gates](#)

63.1 Locks or locking mechanisms installed within doorsets and gates must incorporate one of the following attributes:

- 63.1.1 A lock cylinder certificated to BS EN 1303:
Grade 5 Key security
Grade 0 Attack resistance (minimum requirement)
Grade 2 Drill attack resistance

In addition, the certification scheme for the cylinder must include an assessment against the 'General Vulnerability Assessment' contained within British Standard 3621: 2007 *Thief resistant lock assembly. Key egress*.

The following certification schemes for lock cylinders are currently recognised for use in SBD developments

- British Standard Institute 'Kitemark'
- BM Trada 'Q' Mark
- Loss Prevention Certification Board LPS 1242: Issue 2 (*available late 2009*)

63.1.2 A lock certificated to BS 3621: 2007, BS 8621: 2007 or BS 10621: 2007
(*Note 63.1.2*)

Note 63.1.2 These British Standard (BS) references have been developed from BS EN 12209, which is the European standard for single point locking devices and BS EN 1303, which is the European standard for lock cylinders and which incorporates an additional General Vulnerability Assessment, which is unique to the UK. These British Standards reflect the elements of BS EN 12209 and BS EN 1303 that are considered to be the minimum level required for insurance cover with the UK.

The only difference between these British Standards is the level of security offered from the internal face of the door:

- *BS 3621 offers the same level of security to the internal and external face of the lock*
- *BS 8621 allows the use of a non-key operated release mechanism (e.g thumb turn)*
- *BS 10621 offers the same functionality at BS 8621, but has an external override facility, which disables the internal operated release mechanism (e.g thumb turn). This type of lock must only be specified for use within buildings that have alternative means of escape.*

If the above locks are fitted with Euro or Oval profile cylinders they must comply with the requirements of paragraph 63.1.1 above

63.2 In addition to the above requirements, doorsets designated as 'emergency' or 'panic' exits must be fitted with the hardware appropriate to the specific use:

- BS EN 179: 2008 *Emergency exit devices*
- BS EN 1125: 2008 *Panic exit devices*

63.3 The DCSF's Building Bulletin 100 in clause 4.5.3.1 states the following in respect to *Door fastenings*

- *In general, doors on escape routes (whether or not the doors are fire doors), should either not be fitted with lock, latch or bolt fastenings, or they should only be fitted with simple fastenings that can be readily operated from the side approached by people making an escape*
- *The operation of these fastenings should be readily apparent; without the use of a key and without having to manipulate more than one mechanism.*

This is not intended to prevent doors being fitted with hardware to allow them to be locked when the rooms are empty.

- *Where a door on an escape route has to be secured against entry when the building or part of the building is occupied, it should only be fitted with a lock or fastening which is readily operated, without a key, from the side approached by people making their escape.*
- *Similarly, where a secure door is operated by a code, combination, swipe or proximity card, biometric data or similar means, it should also be capable of being overridden from the side approached by people making their escape (SBD note 63.3)*

Note 63.3 The DCSF requirement for doors operated by access control to be overridden by persons making their escape must be linked to the fire alarm and be fail safe (i.e. open) in the event of a fire alarm activation whilst the building is occupied. However when the building is unoccupied it is strongly suggested that this facility is disabled. Due regard should be taken to school buildings that are open for community use after normal school hours and a phased close down of areas of the school not in use or occupied should be considered. In any event all arrangements for door locking must be referred to the Fire Service.

- 63.4 Doorsets must be supplied with a suitable (easily removed) label outlining the operational instructions for the locking system. The label shall be applied to the internal face of the door at the time of installation and remain in place until handover to the end user. A separate instruction leaflet for the locking system shall also be supplied to the end user.

64 Glazing within doorsets and secure vision panels

- 64.1 All glazing in and adjacent to doors must include one pane of attack resistant glass (See paragraph 66.1) that is securely fixed in accordance with the manufacturer's instructions.
- 64.2 If glazed panels are installed adjacent to the doorset and are an integral part of the doorframe then they should be tested as part of the manufacturer's certificated range of door assemblies. Alternatively, where they are manufactured separately from the doorframe, they shall be certificated to either:
- BS 7950: 1997
 - LPS 1175 at a Security Rating to match the doorset or
 - WCL 2 at a Burglary Rating to match the doorset

Such windows must be securely fixed to the door assembly in accordance with the manufacturer's instructions.

- 64.3 Care should be taken to ensure that doorsets meet the requirements of the Disability Discrimination Act (DDA), which affect glazing, level access and door width.
- 64.4 In some circumstances, such as in a remote building with no surveillance over an external, unglazed door, it is recommended that a door viewer is installed between 1200mm and 1500mm from floor level (see also paragraph 64.5).

Secure vision panels

- 64.5 Where privacy is required, together with a degree of security, both external and internal doorsets can be fitted with a secure vision panel. Secure vision panels allow for the control of vision into a private area or room or for views of an outside area for the purpose of manual visual access control. They can be supplied to various security levels dependent upon the door in which they are installed (*Note 64.3*). A range of secure vision panels manufactured by SBD member companies can be found in the Members and Products section under 'Vision panels' and at this link: [Secure vision panels](#)

Note 64.3 Glazed secure vision panels have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset certificated to PAS 23 and PAS 24-1: 2007, LPS 1175, WCL 1 or WCL 2.

- 64.6 DCSF Building Bulletin 100 requires that vision panels in insulating doorsets should be less than 10% of the door area and not less than 500mm above the floor.

65 Door installation

- 65.1 Doors in recesses more than 600mm deep must be avoided.
- 65.2 Doorsets must be securely fixed into the fabric of the building in accordance with the manufacturer's instructions. The CPDA may require a copy of the manufacturer's installation specification.

66 Security glazing

- 66.1 All ground floor and easily accessible glazing must incorporate one pane of laminated glass to a minimum thickness of 6.8mm (*See Glossary of terms*) or glass successfully tested to BS EN 356:2000 *Glass in building. Security glazing - resistance to manual attack* to category P2A. With effect from January 1st 2011 all laminated glass must be certificated to BS EN 356 2000 rating P3A.
- 66.2 Occasionally, when large laminated glazed panels are used on south facing elevations, there have been incidents of glazing failure (cracking) due to thermal stress. Whilst the use of toughened glass would seem to be a simple solution to the problem of thermal stress, ordinary toughened glass offers no security resistance. This issue is highlighted in the DCSF's Building Bulletin 100, which states that '*External security glazing to prevent windows being broken and ignited materials being thrown into high risk areas such as laboratories, computer suites and high hazard storage areas will also be helpful*'. It is therefore recommended that the inner pane of glass used in a double glazed unit is 'laminated toughened'. This combination of the two sheets of toughened glass and the interlayer offers both resistance to intrusion and thermal stress associated with large glazed areas.
- 66.3 Laminated toughened glass used in various double glazed units is available from members of the Secured by Design licensing scheme. Companies can be

identified on the SBD website in the Members and Products section at this link : [Laminated Glass](#)

67 Electronic access control

67.1 Electronic access control may be required at the main entrance to a school and may also be required on some additional external and internal doors. Such requirements will be confirmed by the CPDA in writing. These requirements will be influenced by many factors including the following:

- The need to protect a lone worker or vulnerable persons working in a reception area
- To prevent access into parts of the building beyond the reception area to prevent crime and maintain health and safety
- Local crime risk factors
- During times when parts of the building are being used by the community

67.2 In all such cases the doors must incorporate an electronic access control system, with an electronic lock release (*Note 67.2*) and (for the main entrance and possibly other entrances) an entry phone linked to the reception. In some cases visual verification by CCTV camera incorporated into the call panel or separately located may be required.

Note 67.2: CPDAs and specifiers are reminded that the locking system must form part of the certificated doorset range. Locks that are supplied with the door which have not been tested as part of the particular doorset range are unacceptable.

67.3 The DCSF Building Bulletin 100 states that *'Electrically powered locks should return to the unlocked position:*

- *On the operation of the fire alarm system*
- *On the loss of power or system error (SBD note 63.3)*
- *On the activation of a manual door release unit (Type A) to BS EN 54-11: 2001 positioned at the door on the side approached by people making their escape. Where the door provides escape in either direction, a unit should be installed on both sides of the door*

Doors on escape routes from rooms with an occupant capacity of more than 60 should either not be fitted with lock, latch or bolt fastenings, or be fitted with panic fastenings in accordance with BS EN 1125.'

68 Electronic access control standards

68.1 Specifiers are advised that at present there are no specific dedicated UK security standards for access control systems i.e. the interface between the user and the lock control mechanism. However, there are a small number of access control systems that are currently licensed by ACPO SBD following Government evaluation. SBD is currently exploring suitable specifications for access control systems, which will be published as an annex to this guide once they have been prepared.

- 68.2 SBD member companies can be identified on the SBD website in the Members and Products section at this link: [Access Control](#)

69 Access control and security staff

- 69.1 Although it is very unusual for schools to employ formal security staff there are some that do. Therefore where security officers are to be employed at the entrance electronic access control will still be required. See paragraph 78 for further information about security staff and manned guarding and guard houses.

70 Protection of window apertures

- 70.1 Window apertures may require differing levels of security protection dependent upon crime risk and crime levels. They must also meet the local building regulations in respect to safety and thermal performance.

- 70.2 The minimum SBD standard for the protection of window apertures at ground floor, basement and easily accessible locations (*See Glossary of terms*) is that windows must be certificated (*See paragraph 70.5*) to one of the following standards:

- BS 7950: 1997 or
- WCL4 (*Note 70.2.1*)
- PAS 168 (*Note 70.2.2*)

Note 70.2.1: WCL 4 is the reference number for BS 7950 and is published by Warrington Certification Laboratories.

Note 70.2.2 PAS 168 is a DRAFT commercial door and window standard. Please note products meeting this standard are not expected to be available until mid-late 2010

- 70.3 All glazing in windows that are easily accessible (*See Glossary of terms*) must include one pane of attack resistant glass (*See paragraph 66.1*) that is securely fixed in accordance with the manufacturer's instructions.

- 70.4 Windows must also be fit for purpose and must be certificated to the relevant material standard i.e.:

- BS 4873: 2004 (Aluminium)
- BS 7412: 2007 (PVC-U)
- BS 644: 2003 (Timber)
- BS 6510: 2005 (Steel)

- 70.5 Windows installed in SBD schools must be certificated by one of the following UKAS accredited certification bodies (*Note 70.5*) or can demonstrate alternative compliance as in paragraph 70.6 below.

- BM Trada Certification
- British Board of Agrément
- British Standards Institute

- Loss Prevention Certification Board (part of the Building Research Establishment)
- Warrington Certification Laboratories
- British Woodworking Federation (must include enhanced resistance to intrusion; this scheme now run by the British Standards Institute)
- Steel Window Association

Note 70.5 Certificated products undergo continuous assessment to ensure that product standards are maintained

- 70.6 The CPDA must be provided with proof of certification through one of the above bodies, including the scope of certification, prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Design licensing scheme and the window can be identified on the SBD website in the Members and Products section at this link: [Windows](#)

Alternatively, third party accreditation via a Notified Certification Body that has signed the EA MLA (European cooperation for accreditation multi-lateral agreement) may be acceptable if this body is also accredited to conduct such activities. The CPDA may refer such cases to ACPO SBD for verification.

- 70.7 Windows must be securely fixed and installed in accordance with the manufacturer's specifications. The CPDA may require a copy of the manufacturer's installation specification.

- 70.8 Windows must meet the requirements of the local Building Regulations with regard to safety glazing and emergency egress. The following additional specific SBD requirements must be complied with:

- Security glazing as required in paragraph 66.1 above in windows below 800mm (from floor level) or 1500mm if within 300mm of a doorframe.
- Non-key locking hardware on designated emergency egress windows together with security glazing as required in paragraph 66.1 above.

- 70.9 A higher level of security for the school can be attained by either installing windows to the security standards shown below together with the relevant material standard (*paragraph 70.4*) or by additional protection of the minimum standard windows by the use of roller shutters or grilles as described in paragraphs 56 above. The use of shutters may often only be required to protect windows (and doors) on particularly vulnerable building elevations.

- LPS 1175 Security Rating 1 or higher or
- WCL 2 Burglary Rating 1 or higher (*Note 70.9*)

Note 70.9 Glazing within windows tested to both LPS 1175 and WCL 2 are subjected to an attack test as part of the overall assessment

- 70.10 Security of the minimum standard windows can also be improved through the use of secondary glazing systems to the standards as shown immediately above. Such products can be obtained from SBD member companies shown on

the SBD website in the Members and Products section at this link: [Secondary Glazing](#)

- 70.11 Although highly unlikely, the requirement for windows to be installed to a higher standard of certification will be determined by the supporting crime analysis provided by the CPDA. This requirement will be communicated in writing to the developer by the CPDA.

Internal security considerations

71 Intruder alarm systems

- 71.1 A suitably designed, fit for purpose, monitored intruder alarm system must be installed. For police response, the system must comply with the requirements of the ACPO Security Systems policy, which can be at the following link: [Security Systems Policy](#)

- 71.2 System designers may wish to specify component products certificated to the following standards:

- LPS 1602 Issue 1.0: 2005 *Requirements for LPCB Approval and Listing of Intruder Alarm Movement Detectors*
- LPS 1603 Issue 1.0: 2005 *Requirements for LPCB Approval and Listing of Alarm Control Indicating Equipment*

- 71.3 Security fogging and offender marking devices can be included within the intruder alarm system to disorientate and mark an intruder as the alarm system is activated. They must conform to BS 7939: 1999 Smoke security devices. Code of practice for manufacture, installation and maintenance Details of products that meet Police Preferred Specifications can be found in the Members and Products section on the Secured by Design website at this link: [Fogging](#)

72 Public address systems

- 72.1 A Public address system is recommended to provide instant, effective communication to the whole school particularly in emergency situations where a prearranged and rehearsed response to particular situations can be initiated i.e. fire escape where the PA system may be linked to the fire alarm system. However, this aspect must be discussed with the appropriate fire authority.

73 Physical security standards for computers and server rooms

- 73.1 Consideration must be given to the structure of the internal walls, floors and ceilings of computer server rooms to provide appropriate security and to prevent damage by fire, smoke or fire extinguishment (water) from other parts of the building. Due to varying construction methods and materials it is not possible to be prescriptive, however combinations of different materials, such as high impact gypsum boards, expanded metal sheets, plywood, and masonry have proved to be effective.

- 73.2 A range of security enclosures for computer servers and computers that meet police preferred specifications can be found in the Members and Products section of the Secured by Design website at this link: [Computer Security](#)
- 73.3 Computer files should be backed up to an offsite location for the purposes of disaster recovery. This service provider should be certificated to ISO 9001-2008 and ISO/IEC 27001 but reference should first be made to the British Educational Communications and Technologies Agency (BECTA). For further information about BECTA go to their website at this link: www.becta.org.uk

74 Internal doorsets

- 74.1 Guidance on the specification of internal doorsets is available from the Department for Children, Schools and Families (DCSF) document shown below.

*Standard specifications, layouts and dimensions: Internal doorsets in Schools
Published by DFES (DCSF) Reference 01001-2007*

This document is available as a PDF and can be downloaded free via this link:
[Internal Doorsets](#)

- 74.2 The default security standard within this document is LPS 1175: Issue 7 SR 1+. In certain locations within a school a higher level of security may be required, dependent upon the identified risks. Please refer to the table in Appendix 1 for further guidance.
- 74.3 Alternatively, internal doorsets with the same attributes as the DCSF requirement but certificated to the following standards will also be acceptable:
- PAS 24-1: 2007
 - WCL 1: 2008
 - WCL 2: 2008
- 74.4 The building of a new school presents the ideal opportunity to design in an integrated access control system for the control of the majority of doorsets. In such cases, various technologies for the control of locking systems exist, however proximity reading technology is the least susceptible to tamper and damage. Any access control system must be supported by robust management to ensure its effectiveness. It must also take account of emergency egress requirements and must not allow students to be locked or to lock themselves into a classroom.

75 Staff room

- 75.1 Staff rooms should provide each member of staff with secure storage for clothing and personal belongings. Lockers shall be certificated to LPS 1175 SR 1 or WCL 5. See Appendix 1 for recommended standards for access control and the security of staff room doorset.

76 Student lockers

- 76.1 Students should be provided with secure storage for clothing and personal belongings. Lockers shall be certificated to LPS 1175 SR 1 or WCL 5. If the lockers are provided with a power supply for the charging of equipment, such as laptops, the locker system must form part of the manufacturer's certificated range (*Note 76.1*).

Note 76.1 Currently it may not be possible to obtain lockers that are certificated to the above standards. SBD is currently working with interested parties in an endeavour to have such products available.

- 76.2 It is preferable to locate lockers in areas that have high circulation and passive surveillance. Where located along corridors the lockers must be non-combustible.

77 Metal detectors

- 77.1 Metal detectors that are used responsibly can be effective in reducing some forms of violence in schools. Metal detection using arches or wands is more effective if used as part of an overall anti-violence, anti-bullying programme, which may involve many remedies including involvement of the local police, CCTV monitoring, periodic locker searches, and monitoring of the use of the school's internet or intranet service. Detailed guidance for the use of 'knife arches' is available from the DCSF.
- 77.2 There are British and American aviation standards for the safe and effective operation of metal detection devices, but at present there are no products licensed by ACPO SBD.

Other security considerations

78 Security staff, manned guarding and guard houses

- 78.1 Although it is very unusual for schools to employ security staff there are some that do, and the following information should prove useful for designers where such a service is to be employed.
- 78.2 The provision of manned guarding may require additional design features to be built into the school and grounds at the outset in order to reduce overall costs. The standards that are relevant to manned guarding are:
- BS 7499: 2002 *Static site guarding and mobile patrol services. Code of practice*
 - BS 7858: 1996 *Code of practice for security screening of personnel employed in a security environment*
- 78.3 In order to ensure a comprehensive patrolling regime is maintained an electronic patrol monitoring system is recommended.

- 78.4 The manned guarding industry is now regulated by the Security Industry Association (SIA). Security personnel are issued with licences by the SIA before they can operate within the industry.
- 78.5 BS 7499: 2007 *Static site guarding and mobile patrol services. Code of practice* offers guidance for the operation of a security control room.
- 78.6 Should the security control room (or guard house) act as a key holding facility and first response to an activated alarm system consideration should be given to BS 7984: 2008 *Key holding and response services – Code of practice*.
- 78.7 Doors, windows and glazing in masonry built guard houses must meet the same requirements as shown in the above relevant paragraphs.
- 78.8 It is recommended that purpose built modular build guard houses or other prefabricated buildings used for the purpose are certificated to LPS 1175 SR 1 or WCL BR 1 or higher depending on local risks.

79 Arson and fire protection

- 79.1 According to the Arson Prevention Bureau around 20 schools a week suffer an arson attack in the UK, with two thirds of these occurring after normal school hours. Many arson attacks against schools are carried out by pupils, ex-pupils and siblings normally aged between 10 and 18 years. Apart from the obvious huge financial costs, with at least 40 school fires a year costing in excess of £5 million, there is the loss of students' work and the disruption to school and family life which affects around 90,000 students a year.
- 79.2 With such a high incidence of arson it is obvious that schools should be designed with arson prevention in mind. Architects should consult with the fire service and insurance specialists and a full cost benefit analysis should be undertaken on the installation of a sprinkler system for all new building projects or substantial refits and renovations.
- 79.3 To help decision makers and design teams assess the level of risk of fire in schools and decide whether or not to install a sprinkler system, the DCSF has developed an interactive fire risk assessment tool and a cost benefit analysis tool. The DCSF expects that this risk analysis will always be carried out and new schools being planned that score medium or high risk will have sprinklers fitted. The cost benefit analysis tool will help users decide whether sprinklers represent good value for money. These tools are available from this website:
- 79.4 If the analysis recommends that a sprinkler system is required then this will become a requirement of Secured by Design for certification purposes.
- 79.5 An Arson Prevention Bureau (APB) publication by the Association of British Insurers entitled '*How to combat arson in schools*' published in 2003 mirrors a great deal of advice contained within this SBD document. The APB's five point action plan for the prevention of arson in schools is shown below:
- 1 Deter unauthorised entry onto the site
 - 2 Prevent unauthorised entry into the building

- 3 Reduce the opportunity for an offender to start a fire
- 4 Reduce the scope for potential fire damage
- 5 Reduce subsequent losses and disruption resulting from a fire by preparing a disaster recovery plan

79.6 The full document can be downloaded as a PDF from this link: [APB](#)

79.7 The DCSF, in its Building Bulletin 100 (See Paragraph 79.8 below) identifies the following places as 'places of special fire hazard' either because the activities in these places could provide opportunity for a fire or the place is or contains a valuable resource

- Boiler rooms
- Storage space for fuel or other highly flammable substances (including PE mats) or chemicals
- Laboratories
- Technology rooms with open heat sources
- Kitchens
- Oil filled transformer and switch gear rooms
- Rooms housing a fixed internal combustion engine
- Cloakrooms by virtue of the relatively large number of arson fires that occur in them

79.8 Further information concerning automatic fire detection and sprinkler systems can be found in the following document, published by the Department for Children, Schools and Families:

*Standard specifications, layouts and dimensions: Sprinklers in Schools
Published by DCSF Reference 01002-2007*

This document is available as a PDF at this link: [Sprinklers](#)

79.9 The most recent recommended publication for further information about preventing fires in school is:

Building bulletin 100: Design for fire safety in schools Published by NBS on behalf of DCSF in September 2007

This document is available as a PDF at this link: [Fire Safety](#)

80 Other useful security equipment to recognised standards

80.1 Secured by Design licences many security products that are useful for the school environment, many of which are not referenced within the body of this document. All of these products are either independently certificated to the police preferred specifications or standards or have been assessed as fit for purpose by ACPO SBD's Independently Chaired Product Assessment Panel. A full list of security categories and products is available at this link: [Members and Products](#)

Safes and strongrooms

- 80.2 For commercial safes and strongrooms, Secured by Design recommends those that are certified to LPS 1183: Issue 4, a standard issued by the Loss Prevention Certification Board (*Note 80.2*). The required resistance grade for a safe is determined by the value of cash or jewellery to be kept in the safe overnight. The ratings in the table below should only be used as a guide as insurers will define their own ratings depending on the performance of the safes and the situation in which the safes and strongrooms are to be used. It is therefore very important that specifiers talk to their insurers prior to selecting a safe or strongroom.

Note 80.2 Secured by Design also recognises BS EN 1143-1:2005+A1:2009, which is very similar to LPS 1183: Issue 4. However there is less certainty in the ratings granted to some of the safes certified to these standards due to the proven variances in test results between test houses across Europe. Testing quality and consistency by VDS (Germany), SBSC (Sweden), CNPP (France) and LPCB (UK) is generally recognised by the UK insurance industry.

Standard	Resistance grade	Typical overnight cash rating (£k)	Typical overnight jewellery rating (£k)
LPS 1183 & BS EN1143-1	0	6	60
	I	10	100
	II	17.5	175
	III	35	350
	IV	60	600
	V	100	1000
	VI	150	1500
	VII - XIII	-	-

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APPENDIX 1

Room type	Risk	Suggested authorised users	Security Rating* (min)	Access Control level**	Access control
General purpose classroom	Class work	All staff and students at all times	1	1	Lockable door In most circumstances these doors would be unlocked and locked at the start and the end of the day
Assembly hall	School artwork	All staff and students at all times	1	1	Lockable door In most circumstances these doors would be unlocked and locked at the start and the end of the day
Science laboratories	Combustible materials and chemicals	Specific staff and students at specific times	2	3	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
IT suite	Computers Laptops	Specific staff and students at specific times	2	3	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Domestic science	Combustible materials	Specific staff and students at specific times	2	3	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Sports hall	Sports equipment Injury	Specific staff and students at specific times	1	2	Keys to lock held by authorised staff only
Language room	Computers	Specific staff and students at specific times	2	3	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Staff room	Lockers Personal belongings	All staff at all times	2	4	Key/Card/Fob held by all staff These doors could incorporate an access control system using a card or proximity reader
Restaurant	School artwork	All staff and students at specific times	1	2	Keys to lock held by authorised staff only
Kitchen Food Storage	Combustible material Foods	Specific staff at all times	2	3	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Storage rooms	Paper Books Cleaning Fluids	Specific staff and students at specific times	2	2	Keys to lock held by authorised staff only
School offices	Valuable property Personnel information	All staff at all times	2	4	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Private offices	Valuable property Personnel information	Specific staff at all times	2	4	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Secure storage rooms	Valuable property Examination documents	Specific staff at all times	3	4	Keys to lock held by authorised staff only
Medical room	Medical equipment	Specific staff at all times	1	2	Key/Card/Fob held by authorised staff These doors could incorporate an access control system using a card or proximity reader
Library	Computers Laptops Other valuable property	All staff and students at all times	1	3	Keys to lock held by authorised staff only
Archive storage room	Personnel information Student's work	Specific staff at all times	2	4	Keys to lock held by authorised staff only

* Security Ratings equate to LPS 1175: Issue 7 and WCL 2 (1 = lowest 4 = higher)

** Access Control Levels indicate recommended management of access (1 = lowest 4 = higher)

Glossary of terms

ACPO

The Association of Chief Police Officers for England, Wales and Northern Ireland. SBD is also recognised and supported by the Association of Chief Police Officers in Scotland (ACPOS)

ACPO – SBD

The managing body for the Secured by Design initiatives

Architectural Liaison Officer

Specially trained police officers or police staff, employed by police forces who administer the Secured by Design initiative on behalf of ACPO. This is the same role as Crime Prevention Design Adviser (CPDA). The term CPDA is used throughout the SBD guides.

Easily Accessible

Easily accessible windows (or doorsets) are those that can be accessed via a flat roof, balcony or other similar structure e.g. external supporting or decorative balcony detail. Also means that access can be gained by two persons (one climbing, one assisting) without the use of a climbing aid, such as a ladder.

Certification (of products)

Independent, ongoing third party surveillance of the manufacturing process of security tested products, such as doors, windows and shutters, which includes periodic sample re-testing and factory audits to ensure consistency in manufacture. Independent certification by an accredited organisation is a vital requirement of the SBD project.

Crime Prevention Design Adviser (CPDA)

Specially trained police officers or police staff, employed by police forces who administer the Secured by Design initiative on behalf of ACPO. This is the same role as Architectural Liaison Officer (ALO). The term CPDA is used throughout the SBD guides.

Defensible Space

An environment where the physical characteristics allow the legitimate occupiers to assert influence and control to ensure their security. Secured by Design recognises the benefit of spaces that are recognisably private in nature, as such spaces promote a sense of ownership and responsibility by the people who live and work in them. *Further reading: Design Guidelines for Creating Defensible Space. Oscar Newman*

Natural Surveillance

An architectural design that limits the opportunity for crime by enhancing the chance that a potential offender might be or will be seen. The effectiveness of such measures relies on witnesses reacting to and or reporting what they have seen to others to enforce the law and the potential offender's expectation of such a reaction.

ParkMark®

Safer parking status, ParkMark®, is awarded to parking facilities that have met the requirements of a risk assessment conducted by the police. These requirements mean that the parking operator has put in place measures that can help deter criminal activity and anti-social behaviour. The scheme is managed by the British Parking Association on behalf of ACPO. Further information is available at this link [BPA](http://www.britishparking.co.uk) and at www.britishparking.co.uk

Secured Environments

Secured Environments is a police certification scheme. It is awarded to organisations that are able to show that they have adopted key principles for protecting themselves against crime. The scheme is administered by Perpetuity Research and Consultancy International Ltd on behalf of ACPO SBD. Further information is available at this link: [Secured Environments](http://www.securedenvironments.com) and at www.securedenvironments.com

School

For the purposes of this document a school is defined as a building or collection of buildings located on one or more sites and used for the purposes of full and part time education of pupils between the ages of 2 and 19 and other community uses in line with the 'Extended Schools' agenda.

Sold Secure

A test and certification body, owned by the Master Locksmiths Association, which accredits security products. Typically, products are graded bronze, silver or gold.

Terrorism

The use or threat of a specified action where the use or threat is designed to influence the government or to intimidate the public or a section of the public, and the use or threat is made for the purpose of advancing a political, religious or ideological cause. The action is a specified action if it involves serious violence against person; involves serious damage to property; endangers a person's life, other than the person committing the action; creates a serious risk to the health or safety of the public; or is designed seriously to interfere with or disrupt an electronic system *Section 1 The Terrorism Act 2000*

UKAS

The United Kingdom Accreditation Service. The sole national accreditation body recognised by government to assess, against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services.

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The Home Office
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ACPO SBD
ACPO Crime Prevention Design Group
CPDA Regional Meetings
Council for Aluminium in Building
London Fire Brigade
British Standards Institute
Loss Prevention Certification Board
Zurich Municipal

and to the many individuals who have given up their time to assist

The authors of the SBD guidance documents are always ready to receive and respond to constructive criticism and if necessary make alterations to the guidance providing this is based upon evidence. Should you wish to contribute towards this or any of the Secured by Design guides please contact our head office by email to guides@acpo-sbd.co.uk

References

Publications

		Published by:
BREEAM Education Assessor Manual	2008	BRE Global Ltd
Building Bulletin 100: Design for fire safety in schools	2007	DCSF
Building Bulletin 90: Lighting design for schools	1999	DCSF
CCTV Operational Requirements Manual	2009	HOSDB
Design and access statements How to write, read and use them	2007	CABE
Guidance on changes to the development control system	2006	DCLG
How to combat arson in schools	2003	ABI & Arson Prev. Bur.
PAN 77 Designing safer places	2006	Scottish Executive
PPS 1 Delivering sustainable development	2005	ODPM
Safer places – The Planning system & crime prevention	2004	ODPM & Home Office
Safer places: a counter-terrorism supplement	2009	Home Office
Secured by Design New Homes	2009	ACPO SBD
SSLD 3: Toilets in Schools Reference	2007	DFES (DCSF)

SSLD 6: Internal stairways in schools	2008	DCSF
SSLD: Internal doorsets in Schools	2007	DFES (DCSF)
SSLD: Roof coverings in schools	2007	DCSF
TAN 12 Design	2009	Welsh Assembly Govt.
Working together to protect crowded places	2009	Home Office

Legislation

Occupiers' Liability Act 1984
Disability Discrimination Act
Countryside and Rights of Way Act 2000

Standards

This document was published in January 2010. After this date all readers should ensure that they use the latest releases of the following standards that are referenced in this document.

BS 10621:2007	<i>Thief resistant dual-mode lock assembly</i>
BS 1722:	<i>This standard is in various parts providing specifications for different types of fencing</i>
BS 3621:2007	<i>Thief resistant lock assembly. Key egress.</i>
BS 4873:2009	<i>Aluminium alloy windows and doorsets. Specification</i>
BS 5489-1:2003+A2:2008	<i>Code of practice for the design of road lighting. Lighting of roads and public amenity areas</i>
BS 5516-1:2004	<i>Patent glazing and sloping glazing for buildings. Code of practice for design and installation of sloping and vertical patent glazing</i>
BS 5516-2:2004	<i>Patent glazing and sloping glazing for buildings. Code of practice for sloping glazing</i>
BS 644:2009	<i>Timber windows. Fully finished factory-assembled windows of various types. Specification</i>
BS 6510:2005	<i>Steel-framed windows and glazed doors</i>
BS 7412:2007	<i>Specification for windows and doorsets made from unplasticized polyvinyl chloride (PVC-U) extruded hollow profiles</i>
BS 7499:2007	<i>Static site guarding and mobile patrol services. Code of practice</i>
BS 7858:2004	<i>Code of practice for security screening of personnel employed in a security environment</i>
BS 7950:1997	<i>Specification for enhanced security performance of casement and tilt/turn windows in domestic applications</i>
BS 7958:2005	<i>Closed circuit television (CCTV). Management and operation. Code of practice.</i>
BS 7984:2008	<i>Key holding and response services – Code of practice.</i>
BS 8418:2003	<i>Installation and remote monitoring of detector operated CCTV systems - Code of practice</i>
BS 8621:2007	<i>Thief resistant lock assembly. Keyless egress</i>
BS EN 1125:2008	<i>Building hardware. Panic exit devices operated by a horizontal bar, for use on escape routes. Requirements and test methods</i>
BS EN 1143-1:2005+A1:2009	<i>Secure storage units. Requirements, classification and methods of test for resistance to burglary. Safes, ATM safes, strongroom doors and strongrooms</i>
BS EN 1303:2005	<i>Building hardware. Cylinders for locks. Requirements and test methods</i>
BS EN 13724: 2002	<i>Postal services. Apertures of private letter boxes and letter plates. Requirements and test methods</i>
BS EN 1461: 2009	<i>Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods</i>
BS EN 179:2008	<i>Building hardware. Emergency exit devices operated by a lever handle or push pad, for use on escape routes. Requirements and test methods</i>
BS EN 356:2000	<i>Glass in building. Security glazing. Testing and classification of resistance against manual attack</i>
BS EN 50131-8:2009	<i>Alarm systems. Intrusion and hold-up systems. Security fog device/systems</i>

BS EN 50132-7:1996	<i>Alarm systems. CCTV surveillance systems for use in security applications. Application guidelines</i>
BS EN 54-11:2001	<i>Fire detection and fire alarm systems. Manual call points</i>
BS EN ISO 9001:2008	<i>Quality management systems. Requirements</i>
BS ISO/IEC 27001:2005/7799-2:2005	<i>Information technology. Security techniques. Information security management systems. Requirements</i>
LPS 1175: Issue 6	<i>Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers</i>
LPS 1183: Issue 4.2	<i>Requirements and testing procedures for the LPCB approval and listing of safe storage units</i>
LPS 1602: Issue 1.0:	<i>Requirements for LPCB approval and listing of intruder alarm movement detectors</i>
LPS 1603-1:	<i>Requirements for LPCB approval and listing of alarm control indicating equipment</i>
PAS 23-1:1999	<i>General performance requirements for door assemblies. Single leaf, external door assemblies to dwellings</i>
PAS 24:2007	<i>Enhanced security performance requirements for door assemblies. Single and double leaf, hinged external door assemblies to dwellings</i>
PAS 68:2007	<i>Specification for vehicle security barriers</i>
PAS 69:2006	<i>Guidelines for the specification and installation of vehicle security barriers</i>
PAS 168	<i>Enhanced security performance requirements for doors and windows for buildings other than dwellings (please note that this is a draft standard and products are unlikely to be available until mid-late 2010)</i>
Sold Secure	<i>Bronze (lowest), Silver and Gold (highest) security standards These standards are sometimes specified within the Secured by Design documents. Sold Secure is a test house operated by the Master Locksmiths Association.</i>
UL 294	<i>Access control system units – a North American standard published by Underwriters Laboratories</i>
WCL 1	<i>Equivalent to PAS 24: 2007 and PAS 23-1 1999. A standard published by Warrington Certification Laboratories</i>
WCL 2	<i>Equivalent to LPS 1175 Issue 6. A standard published by Warrington Certification Laboratories</i>
WCL 4	<i>Equivalent to BS 7950: 1997. A standard published by Warrington Certification Laboratories</i>
WCL 5	<i>Equivalent to LPS 1175 Issue 6. A standard published by Warrington Certification Laboratories</i>