Secured by Design

SECURED BY DESIGN LICENCE HOLDER

This is to certify that:

SAPA BUILDING SYSTEMS LIMITED

Of:

Severn Drive, Tewkesbury, Gloucestershire, GL20 8TZ

Holds a Secured by Design licence.
Valid in conjunction with the current schedule until:

31 December 2017

Please refer to www.securedbydesign.com/members
for the current schedule information.

Signed: **Date:** 01 January 2016

Alan McInnes
Director, Police Crime Prevention Initiatives Limited

Secured by Design

SECURED BY DESIGN LICENCE HOLDER

This is to certify that:

TOTAL GLASS LIMITED

Of:

Total Complex, Overbrook Lane, Knowsley, Liverpool, Merseyside, L34 9FB

Holds a Secured by Design licence.
Valid in conjunction with the current schedule until:

11 May 2017

Please refer to www.securedbydesign.com/members
for the current schedule information.

Signed: **Date:** 12 May 2016

Alan McInnes
Director, Police Crime Prevention Initiatives Limited

Secured by Design

NEW HOMES 2014

Preface

This 2014 edition of the guidance incorporates the latest security standards that have been developed to address emerging criminal methods of attack. The guidance has also been closely scrutinised by independent experts to ensure that it continues to complement BREEAM and the Code for Sustainable Homes.

The requirements and recommendations within this guide are based upon sound research. ACPO SBD continually re-evaluates the effectiveness of Secured by Design and responds to new research findings.

ACPO SBD places great importance upon the need to build sustainable communities. This not only includes the need to use environmentally friendly materials and construction methods, but also the need to raise awareness of the importance that low crime makes to the ongoing and long term sustainability of a development.

The authors 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 to this or any of the Secured by Design guides please contact ACPO SBD by email at generalenqueries@acpocpi.co.uk

Introduction

Secured by Design (SBD) is a police initiative to guide and encourage those engaged within the specification, design and build of new homes to adopt crime prevention measures. The advice given in this guide has been proven to reduce the opportunity for crime and the fear of crime, creating safer, more secure and sustainable environments. Secured by Design is owned by the Association of Chief Police Officers (ACPO) and is supported by the Home Office and the Department for Communities and Local Government (DCLG)

Recent research conservatively estimates the carbon cost of crime within the UK to be in the region of 6,000,000 tonnes of CO2. This is roughly equivalent to the total CO2 output of 6 million UK homes. At current domestic burglary rates the marginal carbon costs of building a home to SBD standards will be recovered within four years.

The environmental benefits of Secured by Design are supported by independent research proving that SBD housing developments suffers up to 75% less burglary, 25% less vehicle crime and 25% less criminal damage. Therefore there are significant carbon cost savings associated with building new homes to the Secured by Design standard i.e. less replacement of poor quality doors and windows as a result of criminal attacks.

These impressive crime reductions have been achieved through the adherence to well researched and effective design solutions (contained within Section 1) and the use of building products, such as doors and windows, that have independent third party certification to police preferred specifications (contained within Sections 2 & 3). It therefore follows that full Secured by Design certification can only be awarded to a development that meets the requirements of all three of these sections.

If you would like to apply for Secured by Design certification, please use the SBD New Homes application form found on our website.

Scope

The 2014 edition of SBD New Homes addresses the community safety and security requirements for most types of housing development including individual houses, housing estates, low and high rise apartment blocks.

The design, layout and physical security sections of this edition can be applied to both new and refurbished homes. Additional information for alternative residential accommodation is available in separate design guides available from the Secured by Design website.

Contents

1 Policy and strategic guidance in support of Secured by Design page 5

Section 1: The Development – Layout & Design (Planning Issues)

2 Layout of roads and footpaths page 9
3 Through-roads and cul-de-sacs page 10
4 Footpath design page 11
5 Planting next to a footpath page 12
6 Seating next to a footpath page 13
7 Lighting of footpaths page 14
8 Footpaths on phased developments page 14
9 Communal areas page 15
10 Dwelling Boundaries page 16
11 Layout and Orientation of Dwellings page 20
12 Gable end walls page 20
13 Rear access footpaths page 21
14 Dwelling identification page 21
15 Climbing aids page 21
16 Car parking page 22
17 Underground Car Parking page 23
18 Planting page 24
19 Street Lighting page 25

Section 2: Security of Dwelling

20 Introduction page 28
21 Front Door page 29
22 Side and back doorsets page 35
23 Sliding patio/Bi-fold doorsets page 35
24 Communal dwellings page 36
25 Flat entrance doorsets served off a shared corridor or stairway page 39
26 French window(s) & external glazed double doorsets page 40
27 Garages (interconnecting doorsets) page 40
28 Windows page 40
29 Roof lights page 44
30 Dwelling security lighting page 45
31 Conservatories page 47
32 Intruder alarms page 47
33 Utilities page 47
34 Party wall construction and sound Insulation page 48
35 Loft hatches in communal areas page 48

Section 3: Ancillary Security Requirements

36 Introduction page 50
37 External Garage doorsets page 51
38 Underground car parking standards page 51
39 Conservatories page 52
40 Internal communal drying rooms page 52
41 Bicycle parking page 53
42 External bicycle storage page 53
43 Internal communal bin and bicycle stores page 54
44 External bin stores and home composting facilities page 54
45 Home User Guide page 54

1

1. Policy and strategic guidance in support of Secured by Design

1.1 Secured by Design reflects the established principles of designing out crime. The application of these principles, the design details and specifications for the particular development, must be agreed between the developer and/or the developer's agent and the police Designing Out Crime Officer (DOCO), previously known as the Crime Prevention Design Adviser (CPDA) or Architectural Liaison Officer (ALO).

All subsequent references within this guidance will refer to the application of the process being administered and delivered by the DOCO. Local planning conditions, crime risk assessment and other statutory provisions may influence the measures to be adopted. Examples are detailed in the Communities and Local Government Guide 'Safer Places – The Planning System & Crime Prevention', available on the SBD website under Case studies, research and publications.

For Scotland, PAN 77 Designing Safer Places applies, available at www.scotland.gov.uk/Publications/2006/03/08094923/0 and in Wales TAN 12 Design applies, available at http://wales.gov.uk/topics/planning/policy/tans/tan12/?lang=en

In Northern Ireland Secured by Design is referenced in the government guidance for new buildings.

1.2 The advice given by the DOCO will be dependent upon the outcome of a crime risk analysis and an understanding of local crime occurrence. Consequently, specific measures recommended to address particular types of crime may vary from -one site to another. It is important to note that the national SBD guidelines are minimum requirements and in areas of higher risk, greater crime resistance will be required. Therefore it is inevitable that the advice given to design professionals may occasionally vary according to crime risk whilst still maintaining a consistent approach.

The Planning System and Crime Prevention

1.3 "Crime prevention can be a material consideration in the determination of planning applications…Where proposed development would undermine crime prevention or the promotion of community safety…the application could be refused planning permission" (Safer Places p.49)

National Planning Policy Framework 2012

1.4 The National Planning Policy Framework (NPPF) states that "Planning policies and decisions should aim to ensure that developments create: …

- safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion (para.58)…
- safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas" (para.69)

1.4.1 Creating a sense of place where residents and legitimate users are able to go about their daily routine without unduly fearing crime or insecurity is a key element of the Secured by Design initiative for New Homes.

Safer Places

1.5 Safer Places – The Planning System and Crime Prevention is a planning guidance document issued by the Home Office and the ODPM (now the CLG) for England. The police service supports the seven attributes defined by the guidance as integral to sustainable communities. Therefore developers shall demonstrate that all of the attributes have been considered and applied within the design of the development regardless of the geographical location within the United Kingdom.

1.6 Crime and anti-social behaviour are more likely to occur if the following seven attributes of sustainable communities are not incorporated:

1.6.1 Access and movement: places with well-defined and well used routes with spaces and entrances that provide for convenient movement without compromising security

1.6.2 Structure: places that are structured so that different uses do not cause conflict

1.6.3 Surveillance: places where all publicly accessible spaces are overlooked

1.6.4 Ownership: places that promote a sense of ownership, respect, territorial responsibility and community

1.6.5 Physical protection: places that include necessary, well-designed security features

1.6.6 Activity: places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times

1.6.7 Management and maintenance: places that are designed with management and maintenance in mind, to discourage crime in the present and the future

1.7 Encouraging residents and legitimate users of places to feel a sense of ownership and responsibility for their surroundings can make an important contribution to community safety and crime prevention. This can be facilitated by clarity in where public space ends and where communal, semi-private or private space begins. Uncertainty of ownership can reduce responsibility and increase the likelihood of crime and anti-social behaviour going unchallenged (Safer Places p.30).

Design & Access Statements

1.8 Compliance with the government backed Secured by Design award scheme criteria can be a major indication that a scheme proposal has adequately addressed the crime prevention component required to be included in Design and Access Statements (DAS). DAS are required for major developments (both full and outline planning applications) and those within conservation areas, some listed building consent and world heritage sites.

1.9 The Communities and Local Government (CLG) document 'Guidance on information requirements and validation' (para. 132) states "that a key objective for new developments should be that they create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion. Design and Access statements for outline and detailed applications should therefore 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'".

1.10 As 'crime' has a potentially adverse economic, social and environmental impact upon a development, and the National Planning Policy Framework requires that crime and fear of crime should not undermine quality of life or community cohesion, 'crime' should be afforded due consideration within the DAS. Insufficient or inadequate crime prevention information within the DAS may hinder the application.

1.11 Information and advice on crime risk and site specific crime prevention design criteria are available to planning applicants compiling a DAS from the local police DOCO. You can contact them via the Contact Us form on the SBD website.

Code for Sustainable Homes

1.12 Under the Code for Sustainable Homes (CfSH) Technical guide, 'Category 8: Management, section Man 4 Security', points are awarded to developments that have complied with the requirements of Secured by Design – New Homes Section 2 (physical security).

SECTION 1:
THE DEVELOPMENT – LAYOUT & DESIGN

(PLANNING ISSUES)

2 Layout of roads and footpaths

2.1 Vehicular and pedestrian routes should be designed to ensure that they are visually open, direct, well used and should not undermine the defensible space of neighbourhoods. Design features can help to identify the acceptable routes through a development, thereby encouraging their use, and in doing so enhance the feeling of safety. Where it is desirable to limit access/use to residents and their legitimate visitors, features such as rumble strips, change of road surface (by colour or texture), pillars, brick piers or narrowing of the carriageway may be used. This helps to define the defensible space, psychologically giving the impression that the area beyond is private.

3 Through-roads and cul-de-sacs

3.1 There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour of the criminal and his need to escape. Whilst it is accepted that through routes will be included within development layouts, the designer must ensure that the security of the development is not compromised by excessive permeability, for instance by allowing the criminal legitimate access to the rear or side boundaries of dwellings, or by providing too many or unnecessary segregated footpaths (Note 3.1). Overlooking of the street from the dwellings and a high level of street activity are desirable, but are no guarantee of lower crime, which evidence proves is achieved through the control and limitation of permeability.

Note 3.1: The Design Council's/CABE's Case Study 6 of 2012 states that: "Permeability can be achieved in a scheme without creating separate movement paths" and notes that "paths and pavements run as part of the street to the front of dwellings. This reinforces movement in the right places to keep streets animated and does not open up rear access to properties".

3.2 A review of available research in this area concluded that: "Neighbourhood permeability… is one of the community level design features most reliably linked to crime rates, and the connections operate consistently in the same direction across studies: more permeability, more crime. Several studies across several decades link neighbourhood property crime rates with permeability versus inaccessibility of neighbourhood layout. Neighbourhoods with smaller streets or more one-way streets, or fewer entrance streets or with more turnings have lower property crime rates…" Source: Taylor R B 2002 "Crime Prevention Through Environmental Design (CPTED): Yes, No, Maybe, Unknowable, and all of the above" in Bechtel RB (ed) "Handbook of Environmental Psychology", John Wiley, New York, Pages 413 – 426. Cited by Professor Ted Kitchen Sheffield Hallam University 2007.

3.3 Cul-de-sacs that are short in length and not linked by footpaths can be very safe environments in which residents benefit from lower crime. Research shows that features that generate crime within cul-de-sacs invariably incorporate one or more of the following undesirable features:

- backing onto open land, railway lines, canal towpaths etc, and/or
- are very deep (long)
- linked to one another by footpaths.

If any of the above features are present in a development additional security measures may be required. Footpaths linking cul-de-sacs to one another can be particularly problematic, and in such cases the layout may need to be re-considered (particularly in higher crime areas).

4 Footpath design

4.1 Routes for pedestrians, cyclists and vehicles should be integrated to provide a network of supervised areas to reduce crime and anti-social behaviour.

4.2 Public footpaths should not run to the rear of, and provide access to gardens, rear yards or dwellings as these have been proven to generate crime.

4.3 Where a segregated footpath is unavoidable, for example a public right of way, an ancient field path or heritage route, designers should consider making the footpath a focus of the development and ensure that it is:

- as straight as possible
- wide
- well lit (see clause 7)
- devoid of potential hiding places
- overlooked by surrounding buildings and activities
- well maintained so as to encourage surveillance along the path and its borders

4.4 Physical barriers may also have to be put in place where 'desire' lines (unsanctioned direct routes) place pedestrians in danger, such as at busy road junctions. It is important that the pedestrian has good visibility along the route of the footpath. The footpath should be as much 'designed' as the buildings.

4.5 Where isolated footpaths are unavoidable, and where space permits, they should be at least 3 metres wide (to allow people to pass without infringing personal space and to accommodate passing wheelchairs). If footpaths are designated as an emergency access route they must be wide enough to allow the passage of emergency and service vehicles and have lockable barriers.

4.6 If a pedestrian subway is necessary and there are no other alternative routes it should be as wide and as short as possible, well lit, with a clear line of sight to the exit. Chamfering the access points can help reduce areas of concealment. Radius (convex) entrance/exit walls can reduce the length of the subway and the opportunity for inappropriate loitering. The designer should consider wall finishes that enable easy removal of graffiti.

5 Planting next to a footpath

5.1 In general, planting next to a footpath should begin at the outer edge of the verge, starting with low growing plants with taller shrubs and trees to the rear. Planting immediately abutting the path should generally be avoided as shrubs and trees have a tendency to grow over the path creating pinch points, places of concealment and unnecessary maintenance.

5.2 Where footpaths run next to buildings or roads the path should be open to view. This does not prevent planting, but will influence the choice of species and the density of planting. Public footpaths should not run immediately next to doors and windows, therefore buffer zones should be created to separate a path from a building elevation. This is particularly important in areas with a known graffiti or anti-social behaviour problem where the use of defensive planting may be appropriate.

5.3 Careful selection of plant species is critical in order not to impede natural surveillance and to avoid an unnecessarily high maintenance requirement. Some hedging plants, for example, will require trimming twice a year, whereas other species might only need one visit every two years. Trees on appropriate root stocks can provide a more reliable means of reducing the likelihood of impeding natural surveillance. The potential cost savings of a reduced maintenance requirement could be substantial.

6 Seating next to a footpath

6.1 Before placing any seating (or structure capable of being used for seating) next to a footpath, always consider the context in terms of the physical and social environment. Seating can be a valuable amenity or a focus for anti-social behaviour. In some parts of the country there may not be a problem, in others seating may have to be provided only after careful consideration. On the same footpath, seating at one point may be a focus for trouble, whereas at a different point on the same footpath, perhaps with better natural surveillance, it may be trouble-free. Where existing seating appears to be a problem, relocation is often an option worth exploring. The following specific points should be considered:

6.1.1 Who is most likely to be using the footpath? For example, is it likely to be used by elderly people? Can it be made more/less attractive to certain groups of users by the way it is designed?

6.1.2 Is the footpath required simply as a means for travelling from one place to another without stopping?

6.1.3 Is it the intention to encourage stopping and social interaction at particular points along the footpath?

6.1.4 Would seating encourage or attract inappropriate loiterers such as drinkers or drug users?

6.1.5 Is vandal resistant seating necessary?

6.1.6 Should seating be placed right next to the path or set at the back of the verge (care should be taken to avoid creating a climbing aid)?

6.2 Where seating is necessary and inappropriate loitering is a problem consider the use of single seats or stools set several metres apart to deter congregation. In some locations the use of leaning bars might be more appropriate than seats. Creating space between pedestrians and inappropriate loiterers can help reduce the fear associated with having to walk past and thus promote legitimate use of the route.

7 Lighting of footpaths

7.1 The need for lighting will be determined by local circumstances. In an inner city environment the lighting of a footpath is generally only effective in reducing crime levels (or preventing them from rising) if it is matched with a high degree of natural surveillance from surrounding buildings where reaction to an identified incident can be expected i.e. a witness calls the police, or the footpath is well used. The lighting of an underused footpath may give the user a false sense of security. If there is a history of crime along an existing footpath, or where the additional connectivity due to the development could attract criminal or anti-social behaviour, it might make more sense to close the path at night rather than light it. It is accepted that this would only be an option in exceptional circumstances.

7.2 Footpaths that are to include lighting should be lit to the relevant levels as defined in BS 5489:2013. It is important that the landscape architect and lighting engineer co-ordinate their plans to avoid conflict between lighting and tree canopies. Please also see section 19 regarding the technical requirements for public lighting, ‘dark sky’ policies and light pollution.

8 Footpaths on phased developments

8.1 Where the completion of a footpath will be delayed because of phased development or long term planning policy, it may be best to safeguard the land required for the footpath link, but fence it off and not actually construct the path until such time as the full connection can be made. This will avoid in the short to medium term the creation of an underused and possibly isolated movement route.

9 Communal areas

9.1 Communal areas, such as playgrounds and seating areas have the potential to generate crime, the fear of crime and anti-social behaviour. They should be designed to allow supervision from nearby dwellings with safe routes for users to come and go. Boundaries between public and private space should be clearly defined and open spaces must have features which prevent unauthorised vehicular access. Communal spaces as described above should not immediately abut residential buildings.

9.2 The provision of public open amenity space, as an integral part of new residential developments, should make a valuable contribution towards the quality of the development and the character of the neighbourhood. In order to do this it must be carefully located and designed to suit its intended purpose – mere residual space unwanted by the developer is very unlikely to be acceptable. In particular:

9.2.1 The open space must be designed with due regard for natural surveillance, and

9.2.2 Adequate mechanisms and resources must be put in place to ensure its satisfactory future management, and

9.2.3 Care should be taken to ensure that a lone dwelling will not be adversely affected by the location of the amenity space.

9.2.4 It should be noted that positioning amenity/play space to the rear of dwellings can increase the potential for crime and complaints arising from increased noise and nuisance. For further reference see – Better Places to Live by Design, see: www.communities.gov.uk/documents/planningandbuilding/pdf/154277.pdf

9.3 Toddler play areas should ideally be designed so that they can be secured at night. This is to reduce the amount of damage and graffiti that occurs after dark. The type of fencing and security measures will need to vary to suit the particular area. Fencing at a minimum height of 1200mm can often discourage casual entry, provide a safe clean play area and reduce damage to the equipment. The specific requirements must be discussed with the DOCO.

9.4 Consideration should be given to the provision of informal association spaces for members of the community, particularly young people. These must be subject to surveillance but sited so that local residents will not suffer from possible noise pollution. In addition, they should be sited in such a way that those using adjacent foot and cycle paths will not be subject to harassment or otherwise be put in fear. Further information about shelters for young people are in the design guide Youth Shelters & Sports Systems.

9.5 External communal drying spaces should be enclosed and have secured access via a locked gate so that they are only accessible to residents. The DOCO will provide advice in respect to fencing, gate construction and locking.

9.6 The Code for Sustainable Homes awards 1 credit for the provision of private or semi-private outdoor space (Hea 3) and states that the "space must be designed in a way that makes it clear that the space is only to be used by occupants of designated dwelling(s). This could be achieved by using the buildings themselves, fencing, planting or other barrier to seal off the space". It is a requirement of Secured by Design that such space, whether provided under the Code or not is so secured and the DOCO will provide the necessary guidance. The Code states that outdoor space could be a private garden, a communal garden or courtyard, balconies, roof terraces or patios.

10 Dwelling Boundaries

Front Boundaries

10.1 It is important that the boundary between public and private areas is clearly indicated. Each building needs two faces: a front onto public space for the most public activities and a back where the most private activities take place. If this principle is applied consistently, streets will be overlooked by building fronts improving community interaction and offering surveillance that creates a safer feeling for residents and passers-by. For the majority of housing developments, it will be desirable for dwelling frontages to be open to view, so walls, fences and hedges will need to be kept low or alternatively feature a combination of wall (maximum height 1 metre) and railings or timber picket fence if a more substantial front boundary is required by the DOCO.

10.2 In some cases, although not ideal or recommended, a dwelling may immediately front a public footpath, road or other public area. Whilst it is accepted that it is not possible to erect a formal boundary, it is highly likely that the DOCO will require the security of doors and windows to be upgraded to reflect the vulnerability of the dwelling.

10.3 Front garden planting of feature shrubs and suitable trees (e.g. open branched or light foliage or columnar habit etc) will also be acceptable provided they are set back from paths and placed to avoid obstructing visibility of doors windows and access gates to the rear of the property.

10.4 Generous hard paving (of a type that is permeable to allow rainwater to easily drain away) to the front of the dwelling may reduce the likelihood of any planting growing to excess and obscuring vulnerable areas.

Access gates to rear gardens

10.5 Gates to the side of the dwelling that provide access to rear gardens or yards must be robustly constructed of timber, be the same height as the fence (minimum height 1.8m) and be lockable. Such gates must be located on or as near to the front of the building line as possible.

Side and rear boundaries

10.6 Vulnerable areas, such as exposed side and rear gardens, need more robust defensive barriers by using walls or fencing to a minimum height of 1.8m. There may be circumstances where more open fencing is required to allow for greater surveillance. Trellis topped fencing can be useful in such circumstances. Additional deterrent features such as increasing the height of fencing or planting thorny shrubs may be considered as an alternative.

10.7 It is expected that developers will install fencing to a high standard to ensure the security and longevity of the boundary. A high quality fence that lasts for a long time will provide security and reduce overall maintenance costs for residents or landlords. A fence that has a long predicted life is also more sustainable. For this reason the SBD suggests that fencing should be constructed as follows:

10.7.1 The method of fixing between panel/rails and posts should create a secure mechanical bond so that panels/slats cannot be easily removed.

10.7.2 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 timber components.

10.7.3 Posts should be of a non-brittle material.

10.7.4 Where the fence panel is of a slatted design, they should be oriented vertically to avoid step-up

points for climbing and be flush across the attack face to resist being pried off and should be no less than 15mm thick and securely affixed to the frame/rails.

10.7.5 Fence heights should be of a minimum 1.8m overall and be capable of raking stepping to maintain height over different terrain.

10.7.6 Pedestrian gates should be of a framed design and employ galvanised 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 galvanised coach bolt design. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the fence post or wall. Gates should be fitted with a galvanised latch and lockable shoot/pad bolt. The gate construction should have the same design and construction attributes as the fence.

10.7.7 Where entrance/driveway gates are required they should ideally be inward opening, of substantial framed construction and employ galvanised adjustable hinges and fixings mounted behind the attack face. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the adjoining fence post or wall. Gates should be fitted with a galvanised 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.

10.7.8 The gate construction should have the same design and construction attributes as the fence.

10.7.9 Automated gates supplied and installed must meet the relevant statutory safety standards and be CE marked accordingly. Specifiers may consider the safety and operational good practice guidance established by gate-safe.org

10.7.10 The tops of fences should finish flush with their posts and a securely fixed capping rail 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.

10.7.11 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 25 years.

Fencing in high crime / vulnerable areas

10.8 Where a development is to be located in an area of extremely high crime and the gardens abut open land, footpaths or other vulnerable areas, for example railway property, tow paths etc, an area of defensible planting to protect boundary fencing may be required. The specifier should give due consideration to the time taken for such areas to become established and therefore additional temporary protection may be required. Alternatively fencing certified to LPS 1175 Security Rating 1 may be specified.

10.9 Following consultation with the DOCO and local planning authority these requirements may be changed with agreed alternative measures.

Sub-divisional boundaries

10.10 Sub-divisional fencing design should be agreed with the DOCO and the local planning authority and is dependent upon location and crime risks. All fencing should provide clear demarcation. If a crime risk assessment indicates a high level of domestic burglary, a more secure sub-divisional fence may be required. A suitable means of achieving security, demarcation and privacy might include the following design features:

10.10.1 A privacy screen; a section of higher fencing (1.8m) starting from the building and projecting along the fence line for approximately 2m to provide a private amenity area adjacent to the home.

10.10.2 Sub divisional fencing: from the privacy screen to the end of the garden provision of a minimum of 1.2m high timber fence, with the option to raise to 1.5m or 1.8m where crime risks dictate.

10.10.3 Trellis: the addition of a trellis topping can help to deter climbing. This is of particular use on exposed rear boundaries. Close liaison with the DOCO from the outset will enable the developer understand the need for this additional requirement if there is an increased security risk due to location or crime levels.

10.10.4 Defensive planting; fencing security can be enhanced by using it as a framework to carry deterrent planting (e.g. thorny shrubs), which if required, can be planted by the developer or the occupier.

11

11 Layout and Orientation of Dwellings

11.1 Dwellings should be positioned facing each other to allow neighbours to easily view their surroundings and thus making the potential offender feel vulnerable to detection.

11.2 Larger schemes should incorporate a mix of dwellings, enabling greater potential for homes to be occupied throughout the day. This gives increased opportunity for natural surveillance, community interaction and environmental control.

12 Gable end walls

12.1 It is important to avoid the creation of windowless elevations and blank walls adjacent to public spaces; this type of elevation, commonly at the end of a terrace, tends to attract graffiti, inappropriate loitering and ball games. The provision of at least one window above ground floor level, where possible, will offer additional surveillance over the public area.

12.2 Where blank gable walls are unavoidable, one of the following methods should be used to protect them;

12.2.1 Provide a 1m buffer zone using either a 1.2 – 1.4m railing (with an access gate) or a 1m mature height hedge with high thorn content. Hedging will have to be protected with a fence until it becomes established. The hedge shall be contained within the boundary of the adjacent building to increase the likelihood that it will be maintained.

12.2.2 Where there is insufficient room for a buffer zone between public and private space, an appropriate (non- destructive) climbing plant should be planted adjacent to the wall, or a finish applied to the wall that will allow easy removal of graffiti.

13

13 Rear access footpaths

13.1 Research studying the distribution of burglary in terraced housing with open rear access footpaths has shown that up to 85% of entries occurred at the back of the house.

13.2 It is preferable that footpaths are not placed to the back of properties. If they are essential to give access to the rear of properties they must be gated. The gates must be placed at the entrance to the footpath, as near to the front building line as possible, so that attempts to climb them will be in full view of the street. Where possible the street lighting scheme should be designed to ensure that the gates are well illuminated. The gates must have a key operated lock, operable from both sides. The gates must not be easy to climb or remove from their hinges and serve the minimum number of homes, usually four or less.

13.3 Gates will generally be constructed of timber when allowing access to the rear of a small number of dwellings. However in larger developments where the rear footpath provides access to a large number of properties then a gate constructed of steel may be required by the DOCO. Substantial purpose made gate products meeting LPS 1175 security rating 2 or Sold Secure Gold standard are available and may be required by the DOCO. Any gate providing access to the rear of dwellings must be designed to resist climbing, forced entry and allow a high degree of surveillance of the footpath from the street.

13.4 In order to achieve a degree of permanence and a secure fixing for the gate, in a city centre location, brick walls may be required on both sides of the entrance to the path if indicated by the DOCO. The minimum height of the gates and walls shall be 2m.

14 Dwelling identification

14.1 Clear naming and/or numbering of properties is essential to assist residents, postal workers and the attendance of emergency services.

15 Climbing aids

15.1 Boundary walls, bins and fuel stores, low flat roofs or balconies should be designed so as to remove climbing aids to gain access into the property.

16 Car parking

16.1 Cars should either be parked in locked garages or on a hard standing within the dwelling boundary (Note 16.1). In high crime areas the DOCO may require the addition of a gate to protect the hard standing parking area.

Note 16.1: The 'Code for Sustainable Homes Checklist (Hea 4 – Lifetime Homes)' requires that 'the distance from the car parking space to the home should be kept to a minimum and should be level or gently sloping.' The Code does not specify a maximum distance, but this requirement does apply to 'all parking spaces, for any type of dwelling, whether the space is within the boundary or not'.

16.2 Where communal car parking areas are necessary they should be in small groups, close and adjacent to homes and must be within view of the active rooms within these homes *(Note 16.2).* It may be necessary to provide additional windows to provide the opportunity for overlooking of the parking facility.

Note 16.2: The word 'active' in this sense means rooms in building elevations from which there is direct and regular visual connection between the room and the street or parking court. Such visual connection can be expected from rooms such as kitchens and living rooms, but not from more private rooms, such as bedrooms and bathrooms.

16.3 Rear car parking courtyards are discouraged for the following reasons:

- They introduce access to the vulnerable rear elevations of dwellings where the majority of burglary is perpetrated
- In private developments such areas are often left unlit and therefore increase the fear of crime
- Particularly where un-gated the courtyards provide areas of concealment which can encourage anti-social behaviour

16.4 Where rear car parking courtyards are considered absolutely necessary they must be protected by a gate, the design of which shall be discussed with the DOCO at the earliest possible opportunity. Where gardens abut the parking area an appropriate boundary treatment must be discussed and agreed by the DOCO.

16.5 Where dedicated garages are provided within the curtilage of the dwelling the entrance should be easily observed from the street and neighbouring dwellings. Locating garages forward of the building line can obscure views to and from the dwelling. The security standards for garage doors can be found in Section 3, paragraph 37 (inclusive).

16.6 Where parking is designed to be adjacent to or between units, a gable end window should be considered to allow residents an unrestricted view over their vehicles.

16.7 Communal parking facilities must be lit to the relevant levels as recommended by BS 5489:2013 and a certificate of compliance provided. See sections 19 and 30 for the specific lighting requirements.

17 Underground Car Parking

17.1 Many blocks of flats are now being developed with underground car parking. Early consultation with the DOCO is essential to ensure that criminal opportunity is minimised. The standards required for underground car parks can be found in Section 3, paragraph 38 (inclusive).

18 Planting

18.1 The planting of trees and shrubs in new developments to create attractive residential environments will be supported provided that:

18.1.1 The layout allows sufficient space to accommodate the planting.

18.1.2 Future maintenance requirements are adequately considered at the design stage and management programmes are put in place to ensure that the maintenance will be properly carried out.

18.1.3 The planting design takes full account of all other opportunities for crime.

18.2 The correct uses of certain species of plants such as spiny or thorny shrubs can help prevent graffiti and loitering and create or enhance perimeter security. Defensive planting is not just about prickly shrubs, it is about selecting the right type of plant for the right aspect and environment.

18.3 For example, open branched and columnar trees can be used in a landscape scheme where natural and formal surveillance is required. Climbing plants can be used to cover walls to deter graffiti. Carefully selected trees and shrubs can be used to 'green up' the most hostile of environments providing both horizontal and vertical interest without adding to crime risks.

18.4 Planting should not impede the opportunity for natural surveillance and must avoid the creation of potential hiding places. As a general recommendation, where good visibility is needed, shrubs should be selected to have a mature growth height no higher than 1 metre, and trees should have no foliage, epicormic growth or lower branches below 2 metres, thereby allowing a 1 metre clear field of vision. Trees on appropriate root stock can provide a more reliable means of reducing the likelihood of impeding natural surveillance. As a general rule, building frontages should be open to view except, for example, houses standing in their own private grounds. Attention should be given to the location of walls and hedges so that they do not obscure doors or windows, and the position of trees that may become climbing aids into property or obscure lights or CCTV cameras.

19 Street Lighting

19.1 All street lighting for both adopted highways and footpaths, private estate roads and footpaths and car parks must comply with BS 5489:2013 (Note 19.1). Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the DOCO and the local authority lighting engineer

Note 19.1: Compliance with BS 5489:2013 ensures that an overall Uniformity of light level is achieved. Conflict areas such as larger roundabouts and shared surfaces will require a higher uniformity as they use a C class which will be determined by compliance with BS5489:2013.

19.2 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. Some are currently experimenting with switching off street lamps in low crime areas between certain hours of the night in order to save energy costs and reduce CO2 emissions. If such policies exist then these must be brought to the attention of the DOCO at the time of application. Secured by Design supports the Institution of Lighting Professionals (ILP) in discouraging 'switch off' unless a full risk assessment has been carried out, and the ILP also recommends that 'switch off' never be implemented purely for cost saving. A variable controlled lighting level is always the preferred option.

19.3 Bollard lighting is not compliant with BS5489:2013 because it does not project sufficient light at the right height to aid facial recognition and reduce fear of crime.

19.4 Care should be taken to ensure that landscaping, tree planting and lighting schemes work together to mitigate the effects of seasonal variations.

19.5 The colour rendering qualities of lamps used in an SBD development should achieve a minimum of at least 60Ra on the Colour Rendering Index *(Note 19.4).*

Note 19.5: 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 (not allowed under BS5489:2013), and 100 is the colour rendering qualities of daylight. The 'Higher the RA the better the colour rendition qualities. Appropriate optically controlled white light i.e. higher than RA60, will enable humans to see more clearly and improves facial recognition.

19.6 The DOCO shall be provided with a declaration of conformity to BS 5489:2013 by a 'competent' independent designer. Competency shall be demonstrated by achievement to at least ILP competency level 3 or 4, i.e. the designer will be a Member of the ILP (MILP) and either IEng or CEng qualified to be deemed competent to be able to design under CDM regulations. Additionally a risk and environmental assessment (EMS) for the CDM designer compliance requirements must be included. Manufacturer designed schemes without risk or environmental assessments should not be accepted as they do not cover the CDM designer risk elements which are required.

19.7 Light Pollution must be minimised (Note 19.7)

Note 19.7: 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 from the private elements of the scheme is deemed a statutory nuisance (public lighting is not covered) and illuminating areas unintentionally is wasteful. SBD requires that only luminaires with suitable photometry serving to reduce light spill and upward light may be used.

In terms of sustainability consideration must be given to the consequences of turning off street lights. Such a measure may be counterproductive in terms of CO2 emissions and lead to the greater use of motor vehicles because residents are too afraid to use unlit streets. Crime levels, and in particular fear of crime levels, must also be carefully monitored to see what impact such an action has made to the community. The alternatives to switching off include Central Management Systems (CMS), which allow varying lighting levels for different times of the night and are centrally controlled by a web based system, or stand-alone dimming equipment which can be pre-set to dim after an agreed time when most residents are asleep. Both systems are preferable to switching off. Some light sources are more controllable than others and these should be considered where possible. The most controllable light source with the correct colour rendition qualities (Ra) is LED which has no UV or IR output and therefore does not impact as heavily as other light sources on wildlife and birdlife.

Presence sensing should not be considered unless in bin stores or rarely used areas as it can produce nuisance switching and become a problem to residents. Varying light levels via a CMS or stand-alone system reduces CO2, energy consumption and light pollution so is preferable where cost is not prohibitive and where the local authority specification allows.

Glare is also an issue and is defined by direct view of the light source. Luminaires without good optical or lens control should not be used in residential areas.

19.8 Low energy light sources should be utilised *(Note 19.8)*

Note 19.8 The best light source should be used for each design to enable the least energy to be used whilst still meeting the BS5489:2013 criteria. Whole life costing of a design should be considered to make sure over the lifetime of the installation the most energy effective solution has been proposed.

SECTION 2: SECURITY OF DWELLING

20 Introduction

20.1 It is important that an effective and realistic level of physical security, commensurate with the risk, is incorporated into building construction. The physical security standards outlined within this section of Secured by Design, together with those of Sections 1 and 3 of this document, indicate the minimum requirements needed in order for a development to be awarded a SBD certificate. It should be noted however, that in some higher risk locations, additional or alternative measures may be required. Any such additional or alternative requirements shall be communicated to the developer (or the developer's agent) in writing at the design stage. Developers should be aware that crime risk analysis and an understanding of local crime risk occurrence plays a significant determining factor in the SBD process to ensure appropriate crime resistance is specified. For further, see Section 1 paragraph 1.2.

20.2 The standards quoted hereafter were relevant within the United Kingdom on the date of publication of this document and are suitable for most insurance risks. A departure from the recognised standards, as outlined below, will only be acceptable in exceptional circumstances.

20.3 All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier standards/versions will not be valid or acceptable 12 months from the publication date of the succeeding amendment, revision or standard unless otherwise stated within this document.

20.4 At several points within this document a requirement is made for products to be 'Certificated' to relevant standards. It should be understood that any documentation submitted for SBD accreditation should clearly show the certification body name and the manufacturer/fabricator of the product installed within the development. Documentation that is provided bearing the name of a component or system manufacturer will not be deemed acceptable.

21 Front Door

Front Doorset Standards

21.1 Doorsets shall be certificated to one of the following standards:

- PAS 24:2012 *(Note 21.1.1 and 21.1.2),* or:
- STS 201 Issue 4:2012 *(Note 21.1.3),* or:
- LPS 1175 Issue 7:2010 Security Rating 2 *(Note 21.1.4),* or:
- STS 202 Issue 3:2011 Burglary Rating 2 *(Note 21.1.4),* or:
- LPS 2081 Issue 1:2014 Security Rating B *(Note 21.1.5)*

Note 21.1.1: PAS 24: 2012 was published on 31st August 2012 and replaces PAS 24:2007+A2:2011.

Note 21.1.2: PAS 24:2012 embodies two routes to compliance:

- *The previous PAS 24:2007+A2:2011 test methodology, albeit updated; or*
- *BS EN 1627:2011 Resistance Class 3 (which references BS EN 1628, 1629 & 1630), with additional test criteria to address known criminal methods of entry within the UK (which are insufficiently catered for within the European standard).*

NB: If manufacturers wish to use the European standard as a route to compliance to PAS 24:2012, then all testing must be conducted in accordance with the latest published version of the 'UK Police Service Secured by Design (SBD) Interpretive Document for BS EN 1627:2011, BS EN 1628, BS EN 1629 and BS EN 1630'. This document can be found on the Secured by Design under SBD standards explained.

Note 21.1.3: STS 201 is the unique reference number for Warrington Certification's published standards replicating the requirements within PAS 24:2012.

Note 21.1.4: These standards are unique to the respective certification bodies and incorporate a physical attack on the glazed areas within doors/windows. Specifiers should satisfy themselves that the glazing incorporated in products certified to these standards meets the required thermal performance and durability requirements for the specific application.

Note 21.1.5: LPS 2081 is a new standard due to be published mid-2014. It is largely based on the methodology of LPS 1175 but attacks are designed to use stealth (low noise levels). It is therefore more suitable than LPS 1175 for residential applications where excessive noise is generally avoided by the offender.

21.2 Doorsets shall also be certificated to the following relevant material specific standards:

- BS 7412:2007 (PVC-U)
- BS 4873:2009 (Aluminium)
- BS 6510:2010 (Steel)
- BS 644:2009 (Timber)
- BS 8529: 2010 (Composite)

The following performance characteristics are also required:

- PAS 23-1:1999 'General performance requirements for door assemblies', including the relevant material annex *(Note 21.2.1),* or
- BS 6375 parts 1, 2 & 3 *(Note 21.2.2)*

Note 21.2.1: PAS 23 was withdrawn in May 2013 and replaced by BS 6375 Performance of windows and doors (parts 1, 2 & 3). Products certificated to PAS 23 will remain acceptable for SBD purposes for a period not exceeding 12 months after this standard is withdrawn.

Note 21.2.2: Specifiers are reminded that there are numerous classifications within BS EN 6375 and therefore it is not possible for this document to be prescriptive. It is therefore important that the correct duty, weather and performance levels are selected to address the intended use/location of the doorset.

21.3 There are two classifications for door locking hardware within PAS 24:2012, these are:

- DK – key operation from both sides of the doorset
- DKT – Key operation from the outside with non-key lockable hardware on the inside of the doorset e.g. thumb turn

Doorsets installed with a thumb turn release mechanism must specifically form part of the certified product range, as the pass criteria for such products is significantly more stringent.

A doorset tested with a key/key operation cannot claim compliance when a thumb turn release is installed.

NB The National House-Building Council (NHBC) currently requires a thumb turn release mechanism to be installed on the doorset designated as the primary fire exit route.

21.4 Suitably qualified and recognised third party Certification Authorities *(Note 21.4.1)* for the above standards are as follows:

For PAS 24, PAS 23 & BS 6375:

- British Standards Institute (BSI)
- BM TRADA Certification
- Building Research Establishment (BRE)
- British Board of Agrément (BBA)
- Loss Prevention Certification Board (LPCB)
- Build Check Certification
- ER Certification
- UL International (UK)

For STS 201 & 202:

- Warrington Certification

For LPS 1175 & LPS 2081

- Loss Prevention Certification Board. NB the LPCB is part of the Building Research Establishment (BRE)

Alternative compliance may be possible in certain circumstances *(Note 21.4.2):*

Note 21.4.1: Certificated products undergo continuous assessment, including factory production controls, to ensure product standards and production consistencies are maintained.

Note 21.4.2: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified by ACPO SBD. Alternatively third party accreditation via an accredited certification body that has signed the EA MLA (European cooperation for Accreditation Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The DOCO may refer such cases to ACPO SBD for verification.

21.5 The DOCO must be supplied with proof of certification (by one of the bodies referenced at 21.4) including the technical schedule (sometimes referred to as '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.

21.6 Each doorset shall be permanently marked *(Note 21.6)*, regardless of the standard achieved, in a position that is visible and readily accessible when the product is open and not visible when the product is closed, with the following information:

- Number and date of the standard
- The date of manufacture of the product (at least the year and quarter)
- The name or trademark of the manufacturer or other means of identifying the manufacturer
- The classification of the doorset e.g. DK or DKT

Note 21.6: The above requirement for permanent marking is mandatory within both PAS 24:2012 and STS 201 Issue 4:2012 and is additional to any CE marking requirements.

Locking systems

21.7 In some locations the local DOCO will require the front or primary access doorset to incorporate a facility that will only enable access to be gained by latch withdrawal by use of a key (sometimes referred to as a 'split spindle' operation), not by a lever/handle (sometimes referred to as a 'solid spindle' operation) *(Note 21.7).* This shall be communicated to the developer (or the developer's agent) in writing at the design stage, and is a requirement designed to ensure that security is commensurate with the risk.

Note 21.7: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are NOT acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants MUST be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied).

21.8 To ensure that the end user of the door understands how to operate the locking system, clear operating instructions must be attached to the inner face of the door *(Note 21.8).* The instructions should be easily removable by the end user.

Note 21.8: The purpose of providing the end user with operating instructions is to reduce the number of burglaries through otherwise secure doorsets, because the full locking system has not been engaged. This is particularly problematic with split spindle multi-point locking systems, where, for example, the occupier goes to bed at night without engaging the locks in the mistaken belief that leaving the door closed only on the latch (live bolt) is sufficient. The instructions should point out that the doorset is not totally secure unless the locking system is fully engaged. The method of attachment of these operating instructions and the medium used to carry them is for the door manufacturer to decide but are not intended to be permanent.

Doorset installation

21.9 Door frames must be securely fixed to the building fabric in accordance with the manufacturer's specifications. The DOCO may require a copy of the manufacturer's specifications.

21.10 Doors in recesses more than 600mm deep shall be avoided

Glazing in and adjacent to doorsets

21.11 Any glazing within PAS 24:2012, STS 201 Issue 4: 2012 or LPS 2081 Issue 1:2014 certificated doorsets must incorporate one pane of laminated glass meeting the requirements of BS EN 356:2000 class P1A (this is a requirement within PAS 24:2012). In addition it is an SBD requirement that any windows or side lights adjacent to doors (within 400mm) also include one pane of laminated glass meeting the requirements of BS EN 356:2000 class P1A (minimum) *(Note 21.11).*

The above requirement is not necessary for doorsets certificated to LPS 1175 or STS 202 as glazing security is significantly more stringent within these standards. However if there is an adjacent window then the glazing must meet the requirements of BS EN 356:2000 class P1A.

Note 21.11: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit.

It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

21.12 If glazed panels/windows adjacent to doors are installed as an integral part of the door frame then they must be shown to be part of the manufacturer's certificated range of doorsets. Alternatively, where they are manufactured separately from the door frame, they must be certificated to:

- PAS 24:2012, or
- BS 7950: 1997 *(Note 21.12.1)*, or
- STS 204 Issue 3:2012
- LPS 2081 Issue 1:2014 *(Note 21.12.2)*

In such cases the window shall be securely fixed to the doorset (in accordance with the manufacturer's specifications). All glazed panels/windows adjacent to doors shall be laminated (see paragraph 21.11).

Note 21.12.1: BS 7950:1997 was withdrawn by the BSI on 31/8/2012 and replaced by PAS 24:2012. It is normal practice for certification authorities to transfer certification from the outgoing standard to the incoming standard within 12 months of publication. Therefore products certificated to BS 7950 will only be acceptable until 01/04/201.

Note 21.12.2: LPS 2081 is a new standard due to be published mid-2014. It is largely based on the methodology of LPS 1175 but attacks are designed to use stealth (low noise levels). It is therefore more suitable than LPS 1175 for residential applications where excessive noise is generally avoided by the offender.

Outward opening doorsets

21.13 Outward opening doorsets installed within SBD developments must specifically form part of the certificated product range.

Door chains, limiters, door viewers

21.14 A door chain or opening limiter must be installed on the doorset to which a caller can be expected, normally the front door. It must be noted however that such products are not locking mechanisms and only exist to offer some control over an otherwise open door. All such devices should meet the Door and Hardware Federation Technical Specification 003 (TS 003) and be installed in accordance with the manufacturers recommendations.

21.15 A door viewer meeting the requirements with the Door & Hardware Federation Technical Specification 002 (TS 002) standard must be fitted between 1200mm and 1500mm from the bottom of the door (not required if the doorset is installed with clear glazing).

Secure Mail Delivery

21.16 There are increasing crime problems associated with letter plate apertures, such as arson, hate crime, lock manipulation and 'fishing' for personal items (which may include vehicle and house keys, credit cards, etc). In order to address such problems SBD strongly recommends, where possible, mail delivery via a secure external letter box or delivery 'through the wall' into a secure area of the dwelling.

Letter plate apertures

21.17 Letter plates are installed within a door, they must form part of the certificated doorset range in order to be accepted within SBD developments.

Specifiers and doorset manufacturers are advised that if a doorset is tested to PAS 24:2012, LPS 2081 Issue 1:2014 or STS 201 Issue 4:2012 without a letter plate installed, then the subsequent installation of a letter plate will invalidate the certificated doorset.

For clarity the requirements within PAS 24:2012 and STS 201 Issue 4:2012 are as follows:

- Maximum aperture size of 260mm x 40mm
- The fixing shall not be removable from the exterior side of the doorset
- Letter plates must achieve the requirements of the removal test from BS EN 13724:2002 (conducted during the PAS 24 or STS 201 test)
- Doorsets installed with non-key lockable internal hardware (*Note 21.17*) shall either be installed with a suitable internal security deflector plate to restrict access to the hardware or the letter plate must be installed no less than 400mm from the internal locking point (measured in plane from the centre point of thumb turn to the nearest edge or corner of the letter plate aperture)

Where there is a concern for arson attacks, or repeat arson attacks, SBD recommends the either the omission of a letter plate within a door, which is then replaced by an external letter box mounted on a wall or similar, or the installation of an 'anti-arson'

container. It is important that such products are installed strictly in accordance with the manufacturer's instructions.

Note 21.17: Specifiers should be aware that the National House-Building Council (NHBC) currently requires a thumb turn release mechanism to be installed on the doorset designated as the primary fire exit route.

21.18 Specifiers attention is drawn to the Door Hardware Federation's Technical Standard 008 (TS 008). SBD recommends products meeting this standard, which exceed the requirements within PAS 24:2012, and will form the basis of a future SBD requirement.

Letter Boxes

21.19 As an alternative to the requirements and recommendations in 21.17 & 21.18, a surface mounted or 'through-the-wall' letter box may be used (See paragraphs 21.19.1 & 21.19.2). The use of such a product greatly reduces the crime risk problems associated with letter plates and also reduces heat loss through the door.

Surface Mounted Letter Boxes

21.19.1 Where a single surface mounted letter box is to be used for each dwelling 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 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.

Letter boxes certificated to the Door & Hardware Federation Technical Specification 009 (TS 009) offer reassurance that all of the above attributes have been met. In high crime areas TS 009 provides the safest means by which mail can be delivered whilst eliminating the risks associated with letter plate apertures i.e. arson, hate crime, lock manipulation and 'fishing' for personal items (which may include vehicle and house keys, credit cards etc).

Through–the-Wall

21.19.2 Where there are design constraints that prevent a letter plate with a security cowl being installed within a door e.g. narrow hallway, or where it is undesirable to install a surface mounted secure mail box e.g. in a corridor, it may be preferable to provide 'through-the-wall' mail delivery into a secure internal letter box. Such a box must incorporate the same design features as described above for a surface mounted box. Anti-arson design features may also be advised if such crime risks are present.

Products meeting the requirements of the Door & Hardware Federation Technical Specification 008 (TS 008) provide reassurance that 'through the wall' letter boxes offer similar security attributes as secure letter plates and many of the attributes that an external letter box conforming with TS 009 would provide.

22 Side and back doorsets

22.1 All external doorsets not designated as the primary access/egress route must meet the same physical standard as 'Front door', paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

23 Sliding patio/Bi-fold doorsets

23.1 All sliding and bi-fold doorsets not designated as the primary access/egress route shall and meet the same physical attributes within paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

23.2 Glazed panels, in and adjacent to doors shall meet the requirements of 21.11

23.3 Door frames shall be securely fixed in accordance with the manufacturer's specifications. The DOCO may require a copy of the manufacturer's specifications.

23.4 Doors in recesses more than 600mm deep should be avoided.

24 Communal dwellings

Communal doorset standards

24.1 SBD categorises the physical security of communal entrance doorsets as follows:

24.1.1 A shared doorset with access controlled by use of a key without a designated access control system (and no remote release facility), serving a maximum number of 4 dwellings. Doorsets falling within this category shall meet the same physical security requirements as 'Front Door' (paragraphs 21.1 to 21.13 inclusive).

24.1.2 A shared doorset with access controlled via a separate access control panel installed within an integral adjacent panel, side screen, separate panel or adjacent masonry incorporating a remote release facility, serving a maximum number of 25 dwellings (see paragraphs 24.8 and 24.9.1 for access control system requirements). Such doorsets shall comply with the physical security requirements of either paragraphs 24.1.1 or 24.3.

24.1.3 A shared doorset with access controlled via a separate access control panel installed within an integral adjacent panel, side screen, separate panel or adjacent masonry incorporating a remote release facility, serving multiple dwellings, with no minimum or maximum limit (see paragraphs 24.9.2 for access control system requirements). Such doorsets shall comply with the physical security requirements in 24.3.

Communal Doorsets with a separate adjacent access control panel (paragraphs 24.1.2)

24.3 Communal entrance doorsets with a separate adjacent access control panel shall be certificated to one of the following standards:

- STS 202 Issue 3:2011 Burglary Rating 2 (minimum), or
- LPS 1175 Issue 7:2010 Security Rating 2 (minimum), or
- PAS 24: 2012, paragraph 4.4.3 i.e. via testing to BS EN 1627 Resistance Class 3 (minimum). NB Doorsets utilising non mechanical magnetic locks fall outside the scope of BS EN 1627.

Glazing in communal entrance doorsets

24.4 Where a glazed vision panel is installed it must form part of the manufacturers certificated doorset range and comply with the requirement of 21.11.

Mail delivery for communal dwellings (flats)

Individual mail delivery to flats

24.5 Letter plates/boxes installed in communal developments serving each individual flats shall meet the requirements of 21.17, 21.18 or 21.19.

Communal mail delivery

24.6 Communal mail delivery facilities within building entrances serving multiple flats or rooms (such as student accommodation) should be designed to incorporate the following:

- Located at the primary entrance/exit point of the building within view, within an internal area covered by CCTV or located within an 'airlock' access controlled entrance hall, or externally at the front of the building within view of those using the building
- Be of a robust construction
- The individual letter boxes shall have a maximum aperture size of 260mm x 40mm
- Have anti-fishing properties
- Fire retardation where considered necessary
- Installed in accordance with the manufacturer' specifications

Letter boxes certificated to Door & Hardware Federation Technical Specification 009 (TS 009) offer reassurance that all of the above attributes have been met. In high crime areas TS 009 provides the safest means by which mail can be delivered whilst eliminating the risks associated with letter mail delivery i.e. arson, 'fishing' for personal mail.

Door entry and Access control systems

24.7 ACPO SBD, the British Security Industry Association (BSIA) and Underwriters Laboratories (UL) are collaborating on a new standard for Access Control Systems - (UL) 293 "Standard for Access Control System Units Intended for Use in the UK". Publication is expected late 2014. Secured by Design will publish the expected timescales for Access Control systems to comply when the new standard has been published. In the mean time Annex A contains the interim Technical Specifications for such systems. The following specific Access Control requirements paragraphs 24.8 & 24.12) form the basis by which all systems must comply.

24.8 Where there are between four and nine residential dwellings sharing a communal entrance the doors must incorporate an access control system, with an electronic lock release and visitor door entry system providing colour images and audio communications linked to each dwelling. The technology by which the visitor door entry system operates is a matter of consumer choice, however, the availability of colour images and release capability must be provided within the dwelling at all times (Note 24.9.1). Tradesperson release buttons are not permitted. Access control is not normally required where there are less than four residential units sharing a communal entrance, unless there is a flat with a floor level higher than 4.5 metres or the accommodation is intended for the elderly and/or persons with disabilities.

Note 24.8: DOCOs 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, will fall outside the scope of the manufacturer's certification and will therefore fail to meet the SBD physical security standards.

24.9 Where there are ten or more residential dwellings sharing a communal entrance, access control systems meeting the following minimum specifications will be required:

24.9.1 Developments of 10 to 25 dwellings sharing a communal entrance must have a visitor door entry system that meets the requirements of the Equality Act 2010 (DDA in Northern Ireland), vandal resistant external door entry panel with an integral or remote camera, providing colour images and audio communications

between the resident and visitor (note 24.9.1). The further provision of a mobile GSM or Wi-Fi based enabled device is optional. With regard to site specificity, the DOCO may request that the system captures (records) images of people using the door entry panel.

Note 24.9.1: audio/visual sound and images must always be made available to the dwelling and allow the remote release of the communal entrance doorset.

24.9.2 Developments of over 25 dwellings sharing a communal entrance must have an access control system as stipulated for developments of between 10 to 25 dwellings, but must also capture (record) images of people using the door entry panel. Additional CCTV cameras may be installed required covering the communal entrances and lobby areas, enabling visitors to be viewed from each residential dwelling via a dedicated door entry system handset, digital television, GSM or Wi-Fi enabled device. Any requirement for additional CCTV cameras by the police DOCO will be supported by a crime risk assessment.

24.10 The resident access control system and associated electric locking mechanisms shall incorporate a battery back-up facility, in the event of a power failure, to enable system operation for a minimum period of 6 hours. In the event of an initial power failure door locks shall remain in the secure mode, however, once the battery back-up ceases to operate the system must revert to a safe (unlocked) mode.

24.11 Break glass emergency door exit release devices (often green in colour) on communal external doors that give access into the building are not permitted due to constant abuse. Instead, vandal resistant stainless steel self-resetting emergency exit systems are to be installed. The installation and system type must be in full compliance and achieve final 'sign-off' by local Building Control.

24.12 Where there are ten or more residential dwellings served by a communal entrance, secondary secure doorsets (PAS 24:2012 or equivalent) with complementary access control are required on each floor to compartmentalise the blocks (not required where lift access is controlled by the access control system and there is adequate control of emergency stairwells). The means by which entry is facilitated through these secondary doors is a matter of site specificity, and will be negotiated with the DOCO i.e. audio or audio/visual access control systems.

24.13 The contractor must issue a Commissioning Certificate warranting operational safety and security. It is recommended that there are a minimum of two maintenance inspections per year.

25 Flat entrance doorsets served off a shared corridor or stairway

Flat entrance doorset standards

25.1 Flat entrance doorsets shall meet the same physical specification as 'front door' (paragraphs 21.1 to 21.6 and 21.8 to 21.15). The locking hardware shall be operable from both sides of an unlocked door without the use of a key (utilising a roller latch or latch operable from both sides of the doorset by a handle) *(Note 25.1).* If the doorset is certificated to either PAS 24:2012 or STS 201 Issue 4: 2012 then it must be classified as DKT.

Note 25.1: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are NOT acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants MUST be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied). This is a requirement of the National House Building Council (NHBC). The classification 'DKT' must fall within the scope of the certification documentation and indicates that the manufacturer has submitted product for assessment with a thumb turn release mechanism.

25.2 Flat entrance doorsets will also be fire rated and must be installed with a door closer unit. Any doorset installed with an integral door closer mechanism should have been tested in this configuration; the hardware or ironmongery mortised into the door leaf or frame (integral) must form part of the certificated doorset range. Surface mounted door closers may be installed without further testing and evaluation.

25.3 Annex B details the additional requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities.

Glazing in Flat Entrance Doorsets

25.4 All glazing in and adjacent to doors shall be installed with a fire rated laminated glass meeting the requirements of BS EN 356:2000 class P1A, securely fixed in accordance with the manufacturer's specifications

26 French window(s) & external glazed double doorsets

26.1 SBD categorises French window(s) and external glazed double doorsets (both sometimes referred to as 'French doors') as subtly different products i.e.:

26.1.1 French window(s) are casement windows extending to the floor and serving as a portal from a room to a roof terrace or balcony that is not easily accessible. There is no external furniture and no dedicated sill detail (the sill or threshold detail being the same specification as the frame), the meeting edge of two opening casements may be rebated or incorporate a fixed or floating mullion. SBD views such products as 'windows' (see paragraph 28, inclusive) and not suitable for use on the ground floor or other easily accessible areas, unless certificated to the same security standard as a 'door' (see paragraph 21, inclusive) and classified under PAS 24:2012 as a 'DK' or 'DKT'.

26.1.2 External double doorsets are a pair of doors serving as an entrance or exit. External furniture operating the full locking mechanism will be present and there will be a dedicated sill/threshold detail. In common with French Windows the meeting edge of the two opening doors may be rebated or incorporate a floating mullion detail. Double doorsets must meet the following requirements;

26.2 All external doorsets not designated as the primary access/egress route shall meet the same physical standard as 'front door', paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

27 Garages (interconnecting doorsets)

27.1 Where a garage is attached to a home and access can be gained to the home via the garage area, and all other vehicle and pedestrian doorsets meet the requirements within SBD Section 3, paragraph 37, then the interconnecting doorset shall classified to FD30S (Fire/smoke rated to 30 minutes) or above and fitted with a Kitemarked or alternatively certificated lock meeting the requirements of BS 3621/BS 8621 (single point locking), or PAS 3621/PAS 8621 (multipoint locking), or alternatively conform to the same specification as 'front door' paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

27.2 The SBD requirements for other external pedestrian and vehicular doorsets are referenced in Section 3, paragraph 37

28 Windows

28.1 The SBD standards for ground floor, basement and easily accessible windows *(Note 28.1.1)* are as follows:

- PAS 24:2012 *(Note 28.1.2 and 28.1.3)*, or
- STS 204 Issue 3: 2012, or
- LPS 1175 Issue 7:2010 Security Rating 1 *(see note 28.1.4), or*
- LPS 2081 Issue 1:2014 Security Rating A *(see note 28.1.5)*

All windows must incorporate key lockable hardware unless designated as emergency egress routes, see paragraph 28.6.2.

Note 28.1.1: It is difficult to give a comprehensive description of the term 'easily accessible'. However, common sense dictates that 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. 'Easily Accessible', in this context 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.

Note 28.1.2: PAS 24: 2012 was published on 31st August 2012 and replaces BS 7950:1997. Products certificated to this standard may be installed within SBD developments until 1st April 2014. Beyond this date all doorsets installed must meet the latest standard.

Note 28.1.3: PAS 24:2012 embodies two routes to compliance:

- *The previous PAS 24:2007+A2:2011 test methodology, albeit updated; or*
- *The relevant European Standard – BS EN 1627:2011 Resistance Class 2N (which references BS EN 1628, 1629 & 1630), with additional test criteria to address known criminal methods of entry within the UK (which are insufficiently catered for within the European standard).*

NB: If manufacturers wish to use the European standard as a route to compliance to PAS 24:2012, then all testing must be conducted in accordance with the latest published version of the 'UK Police Service Secured by Design (SBD) Interpretive Document for BS EN 1627:2011, BS EN 1628, BS EN 1629 and BS EN 1630'. This document can be found on the Secured by Design website under SBD Standards Explained

Note 28.1.4: Specifiers and DOCOs are reminded that a requirement for windows to meet LPS 1175 in a residential situation will be exceptionally rare and can only be justified by a detailed crime risk analysis indicating that the resident is at extreme risk.

Note 28.1.5: LPS 2081 is a new standard due to be published mid-2014. It is largely based on the methodology of LPS 1175 but attacks are designed to use stealth (low noise levels). It is therefore more suitable than LPS 1175 for residential applications where excessive noise is generally avoided by the offender.

28.2 Windows must also be fit for purpose and shall 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)

The following performance requirements are also required:

- BS 6375 parts 1 & 2 *(Note 28.2)*

Note 28.2: Specifiers are reminded that there are numerous classifications within BS EN 6375 and therefore it is not possible for this document to be prescriptive. It is therefore important that the correct duty, weather and performance levels are selected to address the need/location of the window.

28.3 Windows installed within SBD developments must be certificated by one of the following UKAS accredited certification *(Note 28.3.1)* bodies or can demonstrate alternative compliance *(Note 28.3.2):*

- British Standards Institute (BSI)
- BM TRADA Certification
- Building Research Establishment (BRE)
- British Board of Agrément (BBA)
- Loss Prevention Certification Board
- Steel Window Association
- ER Certification
- Warrington Certification (STS 204)
- UL International (UK)

The DOCO must be supplied with proof of certification (by one of the above bodies) 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 doorset can be identified on the SBD website.

Note 28.3.1: Certified products undergo continuous assessment to ensure product standards and production consistencies are maintained.

Note 28.3.2: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified with ACPO CPI. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multilateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The DOCO may refer such cases to ACPO CPI for verification.

28.4 Windows falling outside the scope of the British or STS Standard e.g. horizontal sliding windows, must be assessed by a UKAS accredited organisation accredited to perform such an assessment (British Board of Agrément or Building Research Establishment) against the principles of PAS 24: 2012 or STS 204 Issue 3:2012. Any such assessment shall include the appropriate fitness for purpose standard (paragraph 28.2). The DOCO shall be supplied with proof of certification (by one of the above bodies) 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 window can be identified on the SBD website.

28.5 Windows must be securely fixed in accordance with the manufacturer's specifications. The DOCO shall be provided with a copy of the manufacturer's specifications.

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

28.6.1 Laminated glass meeting the requirements of BS EN 356:2000 class P1A is required in the following areas:

- any window located within 400mm of a doorset
- easily accessible emergency egress windows *(Note 28.1.1)*
- easily accessible roof lights

28.6.2 Accessible emergency egress windows shall incorporate non-key lockable hardware *(Note 28.6.2)* together with laminated glazing conforming to the requirements in 28.6.1.

Note 28.6.2: If the window is certificated to either PAS 24:2012 or STS 204 Issue 3: 2012 then it must be classified as 'WKT'. The classification 'WKT' must fall within the scope of the certification documentation and indicates that the manufacturer has submitted product for assessment with non-key lockable hardware.

28.7 Where automatic opening window and venting systems controlled by sensors and computers are used, for example in some eco homes or flat developments, they shall include a 'fail safe' system to ensure maintenance of security in the event of failure.

28.8 In certain regional locations, to ensure that security is commensurate with the risk, the DOCO may require laminated glass, meeting the requirements of BS EN 356:2000 class P1A *(Note 28.8),* to be installed on all ground floor and basement windows and those easily accessible above ground floor *(Note 28.1.1).* Such a requirement will be communicated to the developer, or the developer's agent, in writing prior to commencement of building construction. Developers are advised that a late application for SBD approval may require glazing to be replaced if it does not meet the standard required.

Note 28.8: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

29 Roof lights

29.1 Easily accessible *(Note 29.1)* roof light apertures shall be protected by roof lights certified to:

- PAS 24:2012 *(Note 28.1.2 and 28.1.2)*, or
- STS 204 Issue 3:2012, or
- LPS 1175 Issue 7:2010 Security rating 1, or
- STS 202 Issue 3:2011 Burglary rating 1, or
- LPS 2081 Issue 1:2014 Security rating A *(Note 28.1.5)*

Easily accessible roof lights shall be glazed with laminated glass (see paragraph 28.6.1).

The above requirement is not required within roof lights certificated to LPS 1175 SR1 or STS 202 BR1 as glazing security is suitably addressed within these standards.

Note 29.1: It is difficult to give a comprehensive description of the term 'easily accessible'. However, common sense dictates that 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. 'Easily Accessible', in this context 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.

29.2 See paragraphs 28.2 to 28.4 with regard to fitness for purpose standards and certification requirements.

29.3 The DOCO must be supplied with proof of certification (by one of the above bodies) 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.

29.4 Roof lights must be securely fixed in accordance with the manufacturer's specifications. The DOCO must be provided with a copy of the manufacturer's specifications.

30 Dwelling security lighting

External

30.1 Lighting is required to illuminate all external doors, car parking and garage areas and some footpaths leading to dwellings and blocks of flats. Please note bollards are not an appropriate choice for lighting because they do not project sufficient light at the right height to aid facial recognition and reduce the fear of crime. More specifically, they are energy inefficient and do not comply with BS5489:2013 required lighting levels and uniformity requirements *(Note 30.1)*.

Note 30.1: This is also a requirement of the 'Code for Sustainable Homes (Hea 4 - Lifetime Homes). Please note however that if LED is used there is little surround spill light so additional lighting at these key areas may be required.

30.2 The use of low energy consumption light sources with an efficacy of greater than 40 Lumens per circuit watt is required *(Note 30.2)*. Secured by Design encourages wherever possible the use of the most environmentally friendly light sources. The ILP currently favours the use of good quality LED lighting and other energy effective light sources from this perspective and advises against the use of fluorescent lighting which is environmentally unsustainable for a variety of reasons.

Note 30.2: The Code for Sustainable Homes requires security lighting to be switched by PIR and for the lamp not to exceed 150w. Secured by Design has not specified this type of security lighting for a number of years following advice from the Institute of Lighting Professionals (ILP) and police concern regarding the increase in the fear in crime (particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment. However it should be pointed out that the Code for Sustainable Homes does not penalize specifiers that follow the SBD guidance (constant level of illumination by utilizing low energy luminaires) and allows credits to be awarded for 'default cases' (Code for Sustainable Homes Ene 6 – external lighting).

30.3 SBD requires that only luminaires with suitable photometry serving to reduce light spill and light pollution may be used (Note 30.3).

Note 30.3: 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 from the private elements of the scheme is deemed a statutory nuisance (public lighting is not covered) and illuminating areas unintentionally is wasteful.

30.4 External lighting must be switched using a photo electric cell (dusk to dawn) with a manual override or via a Central Management System (CMS) for large scale flat developments. If LED light sources are used then shorter burning hours can be detailed as no warm up time is required for the lamp.

30.5 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the DOCO in writing. To reduce energy consumption this may be provided by a dimming system which leaves luminaires on at a lower level during quieter periods.

A specifier may choose passive infrared (PIR) controlled LED lighting as an alternative for internal communal areas given the lamps require 'no warm' up time. All communal light fittings must be dedicated for the use of energy effective lamps.

Internal

30.6 Apparent occupation of a dwelling can be a deterrent to crime. Due to the fact that many people leave lights on when going out at night, and to ensure that the energy used is minimised, SBD requires that at least 75% of the fixed internal light fittings are dedicated for the use of energy effective lamps. An energy effective light source should have a luminous efficacy of over 55 lumens per watt and ideally a lamp life of over 12000 hours.

Energy

30.7 The best light source should be used for each design to enable the least energy to be used. Whole life costing of a design should be considered to make sure over the lifetime of the installation the most energy effective solution has been proposed.

31 Conservatories

31.1 Where a conservatory is installed there must be a door separating it from the dwelling. The door must meet the same physical standard as 'Front Door' (paragraphs 21.1 to 21.6 and 21.8 to 21.13. Alternatively doors and glazed areas of the conservatory should meet the relevant requirements within this document (see paragraphs 21 for doors and 28 for windows).

32 Intruder alarms

32.1 A 13 amp non switched fused spur, suitable for an alarm system, must be installed. If the full alarm system is installed it shall comply with one of the following standards:

- BS EN 50131 & PD6662 (wired system)
- BS 6799 (wire free system)

All installations should be in accordance with the current regulations for electrical installations.

32.2 If complete systems are installed, and a police response is required, reference shall be made to the ACPO Security Systems Policy a copy of which can be obtained from the SBD website – www.securedbydesign.com

33 Utilities

33.1 In order to reduce the opportunities for theft by 'bogus officials' the utility meters should, where possible, be located to the outside of the dwelling at a point where they can be overlooked. This will negate the need for an official to enter the building in order to read a meter, which will in turn reduce the opportunity for distraction burglary. Where possible utility meters in multi occupancy developments should be located on the ground floor between access controlled doors (air lock system) so that access can be restricted to the meters *(Note 33.1)*

Note 33.1: Where a utility provider refuses to provide external meters, and there is an obvious (historic) risk of distraction burglary within the location, the developer should consider an alternative supplier.

33.2 Although considered to be extremely undesirable in security terms, it is accepted that utility meters and control equipment that provide a supply by the use of some form of pre-paid token or key may be located within the dwelling.

33.3 Intelligent meters with automatic signalling are an acceptable alternative to 33.1.

34

34 Party wall construction and sound Insulation

34.1 There have been incidents reported to the police where a burglar has bypassed a satisfactorily installed enhanced secure doorset, by breaking through the adjacent wall from the communal corridor. Therefore, standard timber or steel stud partition walls used to separate dwellings from each other or separate a flat from a common corridor are not acceptable. This type of wall must incorporate additional construction components, such as:

- Timber sheathing, minimum 9mm thick, or
- Expanded metal.

Although not originally intended to enhance security the following 'Robust Details' are acceptable:

- E-WT-2 (timber wall construction)
- E-WS-3 (light steel construction)
- E-WM-20 (masonry wall construction)

Alternatively walls proven to meet the requirements of the following standards are also acceptable:

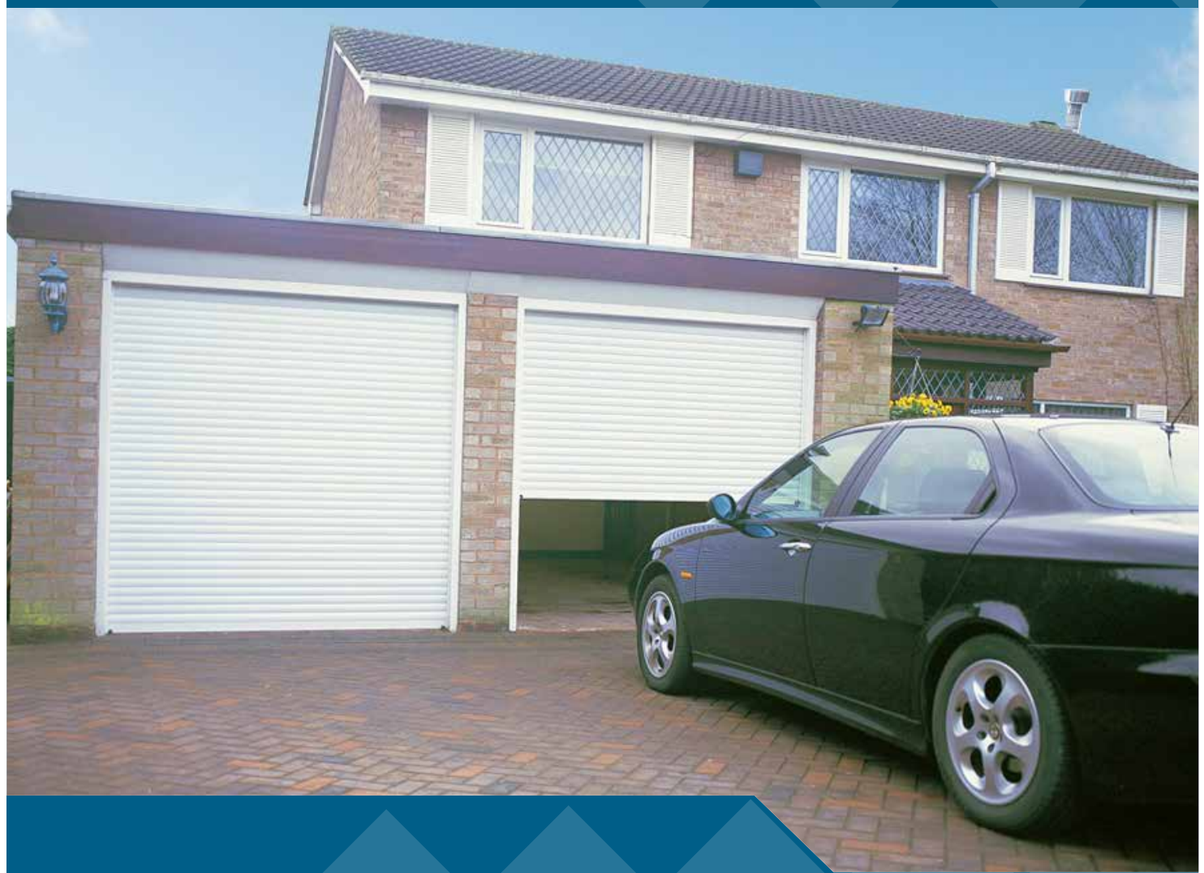
- LPS 1175 Issue 7:2010 Security Rating 1, or
- STS 202 Issue 3:2011 Burglary rating 1

34.2 The police recommend the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours, which in turn will reduce resource implications for both the police and the local authorities. The 'Code for Sustainable Homes', under 'Hea 2' awards up to 4 credits for sound installation.

34.3 Annex B details the additional requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities.

35 Loft hatches in communal areas

35.1 Loft hatches located in communal areas, such as over landings in blocks of flats, must be locked into place to prevent access into a dwelling via the loft space. This may still be required even where the loft space has been compartmentalized to prevent the spread of fire and smoke. There are currently no 'hinged' or 'lift out' loft hatches being manufactured to recognised security standards, but where padlocks, hasps and staples are used to secure the hatch the products must be certificated to Sold Secure 'Silver' or LPS 1654 Issue 1:2013 SR1 and fitted in accordance with the manufacturer's instructions.



SECTION 3:
ANCILLARY SECURITY REQUIREMENTS

(SECURITY REQUIREMENTS FOR ADDITIONAL OR OPTIONAL RESIDENTIAL FEATURES)

36.1 The essential security dwelling detail requirements in Section 2 are further enhanced by the requirements set out in this section. Section 3 addresses the requirements for a range of additional or optional residential features, such as bicycle storage, drying rooms, external bin stores, etc. The physical security standards outlined within this section of Secured by Design, together with Sections 1 and 2 of this document indicate the minimum requirements needed in order for a development to be awarded a Secured by Design certificate.

36.2 It should be noted however, that in some higher risk locations, additional or alternative measures may be required. Any such additional or alternative requirements shall be communicated to the developer (or the developer's agent) in writing at the design stage. Developers should be aware that crime risk analysis and an understanding of local crime risk occurrence plays a significant determining factor in the SBD process to ensure appropriate crime resistance is specified. For further, see Section 1, paragraph 1.2.

36.3 The standards quoted hereafter were relevant within the United Kingdom on the date of publication of this document and are suitable for most insurance risks. A departure from the recognised standards, as outlined below, will only be acceptable in exceptional circumstances.

36.4 All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier standards/versions will not be valid or acceptable 12 months from the publication date of the succeeding amendment, revision or standard unless otherwise stated within this document.

36.5 At several points within this document a requirement is made for products to be 'Certificated' to relevant standards. It should be understood that any documentation submitted for SBD accreditation should clearly show the certification body name and the manufacturer/fabricator of the product installed within the development. Documentation that is provided bearing the name of a component or system manufacturer will not be deemed acceptable.

37 External Garage doorsets

37.1 External pedestrian access doors must meet the same physical, locking and fixing specification, as 'Front Door', paragraphs 21.1 to 21.6 and 21.8 to 21.13.

37.2 The vehicle access doorsets must be certificated to one of the following standards *(Note 37.2)*:

- LPS 1175 Issue 7:2010 Security Rating 1
- STS 202 Issue 3:2011 Burglary Rating 1

Alternatively a vehicle access door that is not certificated to one of the above standards may be deemed satisfactory if an external 'garage door defender' type security product is also fitted. Such products must be certificated to Sold Secure Bronze level or above.

The DOCO must be supplied with proof of certification (by one of the above bodies) including the technical schedule (sometimes referred to as 'Scope of Certification') prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Desi3n Licensing Scheme and the doorset can be identified on the SBD website.

Note 27.2: Where a manufacturer has demonstrated, to the satisfaction of ACPO SBD, that compliance with a similar alternative standard from another supplier or country has been achieved this may be accepted as an alternative to the above standards.

38 Underground car parking standards

38.1 The following requirements are necessary:

38.1.1 An access control system must be applied to all vehicular and pedestrian entrances to prevent unauthorised access in to the car park.

38.1.2 Inward opening automatic gates or roller grilles must be located at the building line or at the top of ramps to avoid the creation of a recess. They must be capable of being operated remotely by the driver whilst sitting in the vehicle, the operation speed of the gates or shutters shall be as quick as possible to avoid tailgating by other vehicles. This will allow easy access by a disabled driver, and should satisfy the requirements of the Highways Department who under normal circumstances do not permit vehicles to obstruct the pedestrian footway whilst the driver is unlocking a gate. Automatic roller shutters must be certificated to a minimum of LPS 1175 SR1 or STS 202 BR 1.

38.1.3 Lighting must be at the levels recommended by BS 5489:2013. The DOCO shall be provided with a declaration of conformity to BS 5489:2013 by a 'competent' independent designer. Competency shall be demonstrated by achievement to at least ILP competency level 3 or 4, i.e. the designer will be a Member of the ILP (MILP) and either IEng or CEng qualified to be deemed competent to be able to design under CDM

regulations. Additionally a risk and environmental assessment (EMS) for the CDM designer compliance requirements must be included. Manufacturer designed schemes without risk or environmental assessments should not be accepted as they do not cover the CDM designer risk elements which are required.

38.1.4 Walls and ceilings must have light colour finishes to maximise the effectiveness of the lighting as this will reduce the luminaires required to achieve an acceptable light level.

38.1.5 Any internal door that gives access to the residential floors must have an access control system and meet the physical requirements in Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. However, this will be subject to requirements for means of escape.

38.1.6 In larger developments closed circuit television (CCTV) may be required by the DOCO following a crime risk assessment. The residents must be able to observe the car park from individual dwelling units if no formal monitoring agreement is planned. Developers are reminded that if images of public space are visible and recorded then there may be a legal responsibility to register the system with the Information Commissioner. Such a system would only be practical if there is a planned management service for the development.

39 Conservatories

39.1 Where a conservatory is installed there must be a door separating it from the dwelling. The door must meet the same physical standard as 'Front Door' (Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. Alternatively doors and glazed areas of the conservatory should meet the relevant requirements within this document (see Section 2, paragraph 21 for doors and 28 for windows, inclusive).

40 Internal communal drying rooms

40.1 Where dedicated communal internal drying rooms are located in blocks of flats, they must be fitted with doorsets that meet the same physical specification as 'front door' and specifically Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. This is to ensure that they are only accessible to the residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person.

41 Bicycle parking

41.1 The Code for Sustainable Homes awards up to 2 credits for the provision of adequate and secure cycle storage facilities. Secured by Design supports this aim and provides some additional security requirements below:

42 External bicycle storage

42.1 External containers specifically designed for the secure storage of bicycles must be certificated to LPS 1175 SR 1.

42.2 Where bicycle storage is provided in a robust shed, the minimum requirements for the shed construction and security are as follows:

- 38x50mm (min) planed timber frame
- Floor and roof constructed from 11mm boards (min)
- 10x125mm (min) Tongue & Grooved board
- No window to be present
- Door hinges, hasp and staple to be coach-bolted through the shed structure
- 'Sold Secure' Silver or LPS 1654 Issue 1:2013 SR1 standard padlock to be used
- Must be securely fixed to a suitable substrate foundation
- The bicycle security anchor must also be certificated to 'Sold Secure' Silver Standard or LPS 1175 Issue 7:2010 SR1 and securely fixed to the concrete foundation in accordance with the manufacturer's specifications
- Proprietary wall-mounted anchoring systems certificated to Sold Secure Silver standard and installed according to the manufacturer's specifications are acceptable

42.3 Where cycle storage is provided in a garage, adequate space must be provided to store both the bicycle(s) and the car(s) at the same time.

42.4 For space requirements for bicycle parking see Code for Sustainable Homes (Ene 8 Page 88).

42.5 External, open communal bicycle stores with individual stands for securing bicycles will be within 100 metres of the primary entrance to a block of flats and located in view of habitable rooms of the dwellings. The store must be lit at night using vandal resistant, dedicated energy efficient light fittings and energy efficient lamps.

42.6 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:

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

Compliance can be demonstrated by products certificated to LPS 1175 Issue 7:2010 Security Rating 1 or 2.

43

43 Internal communal bin and bicycle stores

43.1 Internal communal bin and bicycle stores within blocks of flats must have no windows and be fitted with a secure doorset that meets the same physical specification as 'front door' and specifically Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. This will ensure that such stores are only accessible to residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person. A bicycle store must also be provided with stands with secure anchor points or secure cycle stands (see paragraph 42).

44 External bin stores and home composting facilities

44.1 External bins stores and home composting containers (supplied to meet 'Code for Sustainable Homes' 'Was 3') should be sited in such a way that they cannot be used as a climbing aid to commit crime.

45 Home User Guide

45.1 If a Home user guide is being produced for this development under the Code for Sustainable Homes (Man 1 refers) it will be necessary to include instructions for the operation of all door and window locking systems.

ANNEXES AND IMAGE CREDITS

Annex A

Access Control Technical Specifications and recommended Management and Maintenance Protocols

Electronic access control 'keys' and readers:-

A1.1 Proximity keys must be security encrypted to protect against unauthorised copying, and be sufficiently robust to avoid constant replacement during everyday use by the residents.

A1.2 The static onsite electronic reader must be vandal resistant, located in an area covered by the CCTV system (where required, see paragraphs 24.9.2 and 24.9.3) and connected via dedicated secured cabling to a network controller contained in a lockable steel cabinet to LPS 1175 SR1 or STS 202 BR1, located in a secure area within the premises.

A1.3 Every proximity access controlled door and radio access controlled vehicle entrance will be included on the network. The access control system will have the facility to record and identify the location, user, type, time and date of every system event. Sufficient memory storage must be available for a period of not less than 30 days. The system will be fully programmable, with access restricted to the nominated system controller(s) who will be able to manage the system via remote access in order to expeditiously delete lost or stolen proximity key fobs and radio transmitters.

CCTV and Recording:

A2.1 Each camera will be contained in a vandal resistant housing with the facility for ceiling or wall mounting, and will provide real-time high resolution colour images during daylight, and monochrome images when operating below 0.5 lux, with a minimum operational specification of: 1/3" CCD true, day and night camera, with removable IR cut filter, Auto Iris 3.3–12 mm* vari-focal lens, 600 TVL, 0.45 lux (colour), 0.01 lux (monochrome).

* A specific focal length may be required to achieve the system objective.

A2.2 Cameras will be connected directly to a digital video recorder (DVR), remote server or other recording device via dedicated cabling, suitable for the transmission of PAL composite video.

A2.3 Any 'on-site' DVR or other hard drive unit will be contained in a lockable steel cabinet to LPS 1175 SR1 or STS 202 BR1. Provision must be made for connectivity of a portable viewing device (a static on site monitor is acceptable if located within a private area). Any monitor must have at least 1280 x 1024 pixel resolution.

A2.4 Any recording medium will have the facility to record the total number of connected cameras individually at 12 IPS (images per second), at a resolution of no less than 2CIF, with high quality compression. Sufficient hard disc storage must be available to retain all images for a period of not less than 30 days.

A2.5 The recording medium will commence continuous recording of all related cameras located within the communal entrances and internal lobby areas, once entry has been granted. Recorded images include a pre-event recording period of 20 seconds, and post-event recording period of 30 seconds.

A2.6 All camera images will be location titled and have this information recorded to disc/drive along with time and date stamping.

A2.7 The recording medium will provide suitable methods of export and incorporate the required software to view the exported footage.

A2.8 Access to any monitor and recorded images will be restricted to the nominated system controller(s) who will manage the system.

Further additional requirements:

A3.1 The system will be fully operational and demonstrated to the DOCO upon final inspection, prior to the occupation of the development.

A3.2 Where a digital television is utilised to provide images and it can be reasonably demonstrated that the future occupants are not able to provide a television, then a suitable device for monitoring and door release shall be provided within the dwelling and should be free of charge for the duration of their occupancy (it is ultimately a matter for the building owners to develop a qualifying criteria).

A3.3 The communications package required for full remote connectivity of the visitor door entry, resident access control and CCTV systems must be live at handover and demonstrated to the DOCO.

Management and Maintenance Protocols

A4.1 The system controller(s) will be trained to use the system and be available to download the images at all times upon reasonable police request.

A4.2 The power supply serving the cameras, the door entry and access control equipment and or camera transformers and DVR or hard drive will be a maintained by a non-switched 240V AC supply.

A4.3 An 'As Installed' system specification and schematic, site specific drawing and logbook will be provided to the system controller(s) and available to be viewed at all times.

A4.4 It is recommended that the system receives a minimum of two maintenance inspections per year. Each camera will be cleaned and a test recording completed and compared with the previous recording, to ascertain any deterioration in quality and performance. The contractor should issue a certificate of operational safety and security.

A4.5 The contractor will provide system-operating manuals to the system controller(s), which will include the method of reviewing and archiving recorded images and will be available for use at all times.

A4.6 Recorded images will not be removed or electronically transmitted from the premises other than by the authorised system administrators, or at the request of the Police Authorities.

A4.7 The contractor will issue a certificate to confirm that the CCTV installation is compliant with *BS 7958: 2009 Closed circuit television (CCTV. Management and operation. Code of practice,* and the requirements of the Data Protection Act 1998.

A4.8 The contractor will issue an NSI (or equal and approved) certificate of compliance for the resident access control installation.

A4.9 The contractor will issue a certificate to confirm that the systems and installations are in compliance with SBD guidelines.

Annex B

Additional requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities

B1.1 Purpose built or converted existing buildings, often intended for use by students or key workers, that offer a single room for the use by the occupier with shared facilities e.g. kitchen, dining and bathing, are subject to increased criminal activity. The nature of such developments affords the opportunist criminal additional anonymity and therefore aids the criminal act and escape. The following requirements are intended for buildings housing numerous 'accommodation rooms (bedrooms)'.

Compartmentalisation of 'dwelling' areas

B2.1 No more than 6 bedrooms intended for the sole use of individual occupants will be acceptable within each communal unit. Buildings housing numerous communal units (flats/apartments) must be arranged to ensure that each communal unit does not exceed the maximum number of bedrooms allowed (see Appendix B, paragraph B1.1). Each communal unit must also incorporate the requirements within Appendix B, paragraphs B3.1 to B5.1

Party walls

B3.1 Each communal unit consisting of no more than 6 bedrooms, together with the associated shared facilities and living space will be afforded the same protection as outlined in paragraph 34. The same level of protection is not required between each of the individual accommodation rooms, however it is expected that the wall construction is still of a robust nature and satisfactorily sound proofed.

Flat/dwelling entrance doorset

B4.1 The primary communal unit doorset (allowing access to the 6 bedrooms (maximum)) shall meet the same physical specification paragraph 25 'Flat entrance doorsets served off a shared corridor or stairway'.

Accommodation room (bedroom) doorsets

B5.1 Doorsets providing access to the individual bedrooms shall be of:

- robust construction and fire rated (FD30 or higher), and;
- installed with a lock certificated to BS 8621 or PAS 8621, and;
- fitted with a minimum of two hinge bolts or hinges with a similar integral facility to ensure protection in the event of a hinge failure under following a criminal attack, and;
- installed with a securely fixed, robust planted stop, OR;
- Shall meet the same physical specification as 'front door' (paragraphs 21.1 to 21.6 and 21.8 to 21.13)

Image credits

Cover	Devonport, Plymouth, Emma Snow image copyright ACPO CPI
2	Image copyright ACPO CPI
3	North Prospect, Plymouth, Emma Snow, image copyright ACPO CPI
8	Interactive Design Guide image copyright ACPO CPI
9	Mountwise, Devonport, Plymouth, Emma Snow, image copyright ACPO CPI
11	Image copyright ACPO CPI
14	Milton Keynes, image copyright David Thrower, Redshift Photography
15	Interactive Design Guide image copyright ACPO CPI
20	Interactive Design Guide image copyright ACPO CPI
22	Devonport, Plymouth, Emma Snow image copyright ACPO CPI
24	Caple Manor Gardens, Enfield, image copyright ACPO CPI
27	Devonport, Plymouth, Emma Snow image copyright ACPO CPI
35	'Kustomfold' Folding Timber Doorset image copyright Kloeber UK
43	Secure Modern Warm Programme, image copywright Nottingham City Homes
44	Image copyright Rooflight Company
45	Interactive Design Guide image copyright ACPO CPI
49	Image copyright ACPO CPI
50	Interactive Design Guide image copyright ACPO CPI

Secured by Design
Interactive Guide

Optimised for your browser

This guidence is complimented by the Secured by Design interactive guide that helps explore the principles of designing-out crime within a fictional residential development. The development illustrates poorly designed features and more secure alternative solutions. A series of scenarios taken from this New Homes, highlight the design decisions that would increase the risk of crime and anti-social behaviour.

Visit **www.securedbydesign.com/interactive**

The title Secured by Design and the related logos are registered as UK Trademarks owned by ACPO Crime Prevention Initiatives Limited, registered in England 3816000.

ACPO Secured by Design, First floor, 10 Victoria Street, London SW1H 0NN
Tel: 0207 084 8962 **Fax:** 0207 084 8951
Email: acpocpi@acpo.pnn.police.uk **Web:** www.securedbydesign.com

© ACPO SBD 12/02/2014
(Applicable to SBD applications on or after 01/09/13)

Secured by Design Application Form

Secured by Design (SBD) is the UK Police flagship initiative supporting the principles of "designing out crime" through the use of effective crime prevention and security standards for a range of applications. SDB is owned by the Association of Chief Police Officers (ACPO) and is supported by the Home Office and the Planning Section of Communities and Local Government (CLG), as well as many Local Authorities across the UK.

The Secured by Design award is presented to a building owner or developer in recognition that the development was constructed in accordance with the secure standards of SBD.

Further details of the scheme can be found on the Secured by Design website: www.securedbydesign.com.

Please complete the attached form and return to Design for Security at:

info@designforsecurity.org

Please also provide PDF copies of the following drawings where available:

- Location Plan
- Site Plan
- Floor Plans
- Elevations
- Sections
- Landscape and Lighting Layouts
- 3D Visuals
- any other supporting documentation

We look forward to hearing from you.

Kind Regards,

The Design for Security Team

Secured by Design Application Form

SBD Compliance

What level of SBD compliance are you looking for?

~~Full Compliance (Award)~~ ✓ Part 2 Compliance Only

Applicant Details

Name	P.J.Livesey Living Space Limited
Address	Beacon Road
	Trafford Park
	Manchester
Postcode	M17 1AF
Phone	0161 873 7878
Email	andrew.mcmurtrie@pjlivesey.co.uk
Contact	Andrew McMurtrie

Agent Details

Name	
Address	
Postcode	
Phone	
Email	
Contact	

Main PoC	Applicant

Development Address

Full Address	Former Manchester Metropolitan University Didsbury Campus
	799 Wilmslow Road
	Didsbury, Manchester
Postcode	M20 2RR
Planning Application No. (if known)	108541-OO-2015-S2

Development Details

Please mark all applicable

Residential		Total no. dwellings
	Apartments	8 new build
	Houses	42 new build

Commercial N/A		~~Total m² if known~~
	~~Offices~~	
	~~Retail~~	
	~~Industrial~~	
	~~Leisure~~	
	~~Medical~~	
	~~Education~~	
	~~Transport~~	
	~~Places of Worship~~	
	~~Licensed Premises~~	
	~~Other (please state)~~	

Car Parks		Total number of parking spaces
	Multi-storey	48 in undercroft
	Surface	61 (+garages)

Management and Maintenance

Please summarise any proposed strategies relating to the management and maintenance of the scheme, including any details on security measures to be incorporated (if applicable).

Secured by Design

NEW HOMES 2014

Preface

This 2014 edition of the guidance incorporates the latest security standards that have been developed to address emerging criminal methods of attack. The guidance has also been closely scrutinised by independent experts to ensure that it continues to complement BREEAM and the Code for Sustainable Homes.

The requirements and recommendations within this guide are based upon sound research. ACPO SBD continually re-evaluates the effectiveness of Secured by Design and responds to new research findings.

ACPO SBD places great importance upon the need to build sustainable communities. This not only includes the need to use environmentally friendly materials and construction methods, but also the need to raise awareness of the importance that low crime makes to the ongoing and long term sustainability of a development.

The authors 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 to this or any of the Secured by Design guides please contact ACPO SBD by email at generalenqueries@acpocpi.co.uk

Introduction

Secured by Design (SBD) is a police initiative to guide and encourage those engaged within the specification, design and build of new homes to adopt crime prevention measures. The advice given in this guide has been proven to reduce the opportunity for crime and the fear of crime, creating safer, more secure and sustainable environments. Secured by Design is owned by the Association of Chief Police Officers (ACPO) and is supported by the Home Office and the Department for Communities and Local Government (DCLG)

Recent research conservatively estimates the carbon cost of crime within the UK to be in the region of 6,000,000 tonnes of CO2. This is roughly equivalent to the total CO2 output of 6 million UK homes. At current domestic burglary rates the marginal carbon costs of building a home to SBD standards will be recovered within four years.

The environmental benefits of Secured by Design are supported by independent research proving that SBD housing developments suffers up to 75% less burglary, 25% less vehicle crime and 25% less criminal damage. Therefore there are significant carbon cost savings associated with building new homes to the Secured by Design standard i.e. less replacement of poor quality doors and windows as a result of criminal attacks.

These impressive crime reductions have been achieved through the adherence to well researched and effective design solutions (contained within Section 1) and the use of building products, such as doors and windows, that have independent third party certification to police preferred specifications (contained within Sections 2 & 3). It therefore follows that full Secured by Design certification can only be awarded to a development that meets the requirements of all three of these sections.

If you would like to apply for Secured by Design certification, please use the SBD New Homes application form found on our website.

Scope

The 2014 edition of SBD New Homes addresses the community safety and security requirements for most types of housing development including individual houses, housing estates, low and high rise apartment blocks.

The design, layout and physical security sections of this edition can be applied to both new and refurbished homes. Additional information for alternative residential accommodation is available in separate design guides available from the Secured by Design website.

Contents

1 Policy and strategic guidance in support of Secured by Design page 5

Section 1: The Development – Layout & Design (Planning Issues)

2 Layout of roads and footpaths page 9
3 Through-roads and cul-de-sacs page 10
4 Footpath design page 11
5 Planting next to a footpath page 12
6 Seating next to a footpath page 13
7 Lighting of footpaths page 14
8 Footpaths on phased developments page 14
9 Communal areas page 15
10 Dwelling Boundaries page 16
11 Layout and Orientation of Dwellings page 20
12 Gable end walls page 20
13 Rear access footpaths page 21
14 Dwelling identification page 21
15 Climbing aids page 21
16 Car parking page 22
17 Underground Car Parking page 23
18 Planting page 24
19 Street Lighting page 25

Section 2: Security of Dwelling

20 Introduction page 28
21 Front Door page 29
22 Side and back doorsets page 35
23 Sliding patio/Bi-fold doorsets page 35
24 Communal dwellings page 36
25 Flat entrance doorsets served off a shared corridor or stairway page 39
26 French window(s) & external glazed double doorsets page 40
27 Garages (interconnecting doorsets) page 40
28 Windows page 40
29 Roof lights page 44
30 Dwelling security lighting page 45
31 Conservatories page 47
32 Intruder alarms page 47
33 Utilities page 47
34 Party wall construction and sound Insulation page 48
35 Loft hatches in communal areas page 48

Section 3: Ancillary Security Requirements

36 Introduction page 50
37 External Garage doorsets page 51
38 Underground car parking standards page 51
39 Conservatories page 52
40 Internal communal drying rooms page 52
41 Bicycle parking page 53
42 External bicycle storage page 53
43 Internal communal bin and bicycle stores page 54
44 External bin stores and home composting facilities page 54
45 Home User Guide page 54

1

1. Policy and strategic guidance in support of Secured by Design

1.1 Secured by Design reflects the established principles of designing out crime. The application of these principles, the design details and specifications for the particular development, must be agreed between the developer and/or the developer's agent and the police Designing Out Crime Officer (DOCO), previously known as the Crime Prevention Design Adviser (CPDA) or Architectural Liaison Officer (ALO).

All subsequent references within this guidance will refer to the application of the process being administered and delivered by the DOCO. Local planning conditions, crime risk assessment and other statutory provisions may influence the measures to be adopted. Examples are detailed in the Communities and Local Government Guide 'Safer Places – The Planning System & Crime Prevention', available on the SBD website under Case studies, research and publications.

For Scotland, PAN 77 Designing Safer Places applies, available at www.scotland.gov.uk/Publications/2006/03/08094923/0 and in Wales TAN 12 Design applies, available at http://wales.gov.uk/topics/planning/policy/tans/tan12/?lang=en

In Northern Ireland Secured by Design is referenced in the government guidance for new buildings.

1.2 The advice given by the DOCO will be dependent upon the outcome of a crime risk analysis and an understanding of local crime occurrence. Consequently, specific measures recommended to address particular types of crime may vary from -one site to another. It is important to note that the national SBD guidelines are minimum requirements and in areas of higher risk, greater crime resistance will be required. Therefore it is inevitable that the advice given to design professionals may occasionally vary according to crime risk whilst still maintaining a consistent approach.

The Planning System and Crime Prevention

1.3 "Crime prevention can be a material consideration in the determination of planning applications…Where proposed development would undermine crime prevention or the promotion of community safety…the application could be refused planning permission" (Safer Places p.49)

National Planning Policy Framework 2012

1.4 The National Planning Policy Framework (NPPF) states that "Planning policies and decisions should aim to ensure that developments create: …

- safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion (para.58)…
- safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas" (para.69)

1.4.1 Creating a sense of place where residents and legitimate users are able to go about their daily routine without unduly fearing crime or insecurity is a key element of the Secured by Design initiative for New Homes.

Safer Places

1.5 Safer Places – The Planning System and Crime Prevention is a planning guidance document issued by the Home Office and the ODPM (now the CLG) for England. The police service supports the seven attributes defined by the guidance as integral to sustainable communities. Therefore developers shall demonstrate that all of the attributes have been considered and applied within the design of the development regardless of the geographical location within the United Kingdom.

1.6 Crime and anti-social behaviour are more likely to occur if the following seven attributes of sustainable communities are not incorporated:

1.6.1 Access and movement: places with well-defined and well used routes with spaces and entrances that provide for convenient movement without compromising security

1.6.2 Structure: places that are structured so that different uses do not cause conflict

1.6.3 Surveillance: places where all publicly accessible spaces are overlooked

1.6.4 Ownership: places that promote a sense of ownership, respect, territorial responsibility and community

1.6.5 Physical protection: places that include necessary, well-designed security features

1.6.6 Activity: places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times

1.6.7 Management and maintenance: places that are designed with management and maintenance in mind, to discourage crime in the present and the future

1.7 Encouraging residents and legitimate users of places to feel a sense of ownership and responsibility for their surroundings can make an important contribution to community safety and crime prevention. This can be facilitated by clarity in where public space ends and where communal, semi-private or private space begins. Uncertainty of ownership can reduce responsibility and increase the likelihood of crime and anti-social behaviour going unchallenged (Safer Places p.30).

Design & Access Statements

1.8 Compliance with the government backed Secured by Design award scheme criteria can be a major indication that a scheme proposal has adequately addressed the crime prevention component required to be included in Design and Access Statements (DAS). DAS are required for major developments (both full and outline planning applications) and those within conservation areas, some listed building consent and world heritage sites.

1.9 The Communities and Local Government (CLG) document 'Guidance on information requirements and validation' (para. 132) states "that a key objective for new developments should be that they create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion. Design and Access statements for outline and detailed applications should therefore 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'".

1.10 As 'crime' has a potentially adverse economic, social and environmental impact upon a development, and the National Planning Policy Framework requires that crime and fear of crime should not undermine quality of life or community cohesion, 'crime' should be afforded due consideration within the DAS. Insufficient or inadequate crime prevention information within the DAS may hinder the application.

1.11 Information and advice on crime risk and site specific crime prevention design criteria are available to planning applicants compiling a DAS from the local police DOCO. You can contact them via the Contact Us form on the SBD website.

Code for Sustainable Homes

1.12 Under the Code for Sustainable Homes (CfSH) Technical guide, 'Category 8: Management, section Man 4 Security', points are awarded to developments that have complied with the requirements of Secured by Design – New Homes Section 2 (physical security).

SECTION 1:
THE DEVELOPMENT – LAYOUT & DESIGN

(PLANNING ISSUES)

2 Layout of roads and footpaths

2.1 Vehicular and pedestrian routes should be designed to ensure that they are visually open, direct, well used and should not undermine the defensible space of neighbourhoods. Design features can help to identify the acceptable routes through a development, thereby encouraging their use, and in doing so enhance the feeling of safety. Where it is desirable to limit access/use to residents and their legitimate visitors, features such as rumble strips, change of road surface (by colour or texture), pillars, brick piers or narrowing of the carriageway may be used. This helps to define the defensible space, psychologically giving the impression that the area beyond is private.

3 Through-roads and cul-de-sacs

3.1 There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour of the criminal and his need to escape. Whilst it is accepted that through routes will be included within development layouts, the designer must ensure that the security of the development is not compromised by excessive permeability, for instance by allowing the criminal legitimate access to the rear or side boundaries of dwellings, or by providing too many or unnecessary segregated footpaths (Note 3.1). Overlooking of the street from the dwellings and a high level of street activity are desirable, but are no guarantee of lower crime, which evidence proves is achieved through the control and limitation of permeability.

Note 3.1: The Design Council's/CABE's Case Study 6 of 2012 states that: "Permeability can be achieved in a scheme without creating separate movement paths" and notes that "paths and pavements run as part of the street to the front of dwellings. This reinforces movement in the right places to keep streets animated and does not open up rear access to properties".

3.2 A review of available research in this area concluded that: "Neighbourhood permeability… is one of the community level design features most reliably linked to crime rates, and the connections operate consistently in the same direction across studies: more permeability, more crime. Several studies across several decades link neighbourhood property crime rates with permeability versus inaccessibility of neighbourhood layout. Neighbourhoods with smaller streets or more one-way streets, or fewer entrance streets or with more turnings have lower property crime rates…" Source: Taylor R B 2002 "Crime Prevention Through Environmental Design (CPTED): Yes, No, Maybe, Unknowable, and all of the above" in Bechtel RB (ed) "Handbook of Environmental Psychology", John Wiley, New York, Pages 413 – 426. Cited by Professor Ted Kitchen Sheffield Hallam University 2007.

3.3 Cul-de-sacs that are short in length and not linked by footpaths can be very safe environments in which residents benefit from lower crime. Research shows that features that generate crime within cul-de-sacs invariably incorporate one or more of the following undesirable features:

- backing onto open land, railway lines, canal towpaths etc, and/or
- are very deep (long)
- linked to one another by footpaths.

If any of the above features are present in a development additional security measures may be required. Footpaths linking cul-de-sacs to one another can be particularly problematic, and in such cases the layout may need to be re-considered (particularly in higher crime areas).

4 Footpath design

4.1 Routes for pedestrians, cyclists and vehicles should be integrated to provide a network of supervised areas to reduce crime and anti-social behaviour.

4.2 Public footpaths should not run to the rear of, and provide access to gardens, rear yards or dwellings as these have been proven to generate crime.

4.3 Where a segregated footpath is unavoidable, for example a public right of way, an ancient field path or heritage route, designers should consider making the footpath a focus of the development and ensure that it is:

- as straight as possible
- wide
- well lit (see clause 7)
- devoid of potential hiding places
- overlooked by surrounding buildings and activities
- well maintained so as to encourage surveillance along the path and its borders

4.4 Physical barriers may also have to be put in place where 'desire' lines (unsanctioned direct routes) place pedestrians in danger, such as at busy road junctions. It is important that the pedestrian has good visibility along the route of the footpath. The footpath should be as much 'designed' as the buildings.

4.5 Where isolated footpaths are unavoidable, and where space permits, they should be at least 3 metres wide (to allow people to pass without infringing personal space and to accommodate passing wheelchairs). If footpaths are designated as an emergency access route they must be wide enough to allow the passage of emergency and service vehicles and have lockable barriers.

4.6 If a pedestrian subway is necessary and there are no other alternative routes it should be as wide and as short as possible, well lit, with a clear line of sight to the exit. Chamfering the access points can help reduce areas of concealment. Radius (convex) entrance/exit walls can reduce the length of the subway and the opportunity for inappropriate loitering. The designer should consider wall finishes that enable easy removal of graffiti.

5 Planting next to a footpath

5.1 In general, planting next to a footpath should begin at the outer edge of the verge, starting with low growing plants with taller shrubs and trees to the rear. Planting immediately abutting the path should generally be avoided as shrubs and trees have a tendency to grow over the path creating pinch points, places of concealment and unnecessary maintenance.

5.2 Where footpaths run next to buildings or roads the path should be open to view. This does not prevent planting, but will influence the choice of species and the density of planting. Public footpaths should not run immediately next to doors and windows, therefore buffer zones should be created to separate a path from a building elevation. This is particularly important in areas with a known graffiti or anti-social behaviour problem where the use of defensive planting may be appropriate.

5.3 Careful selection of plant species is critical in order not to impede natural surveillance and to avoid an unnecessarily high maintenance requirement. Some hedging plants, for example, will require trimming twice a year, whereas other species might only need one visit every two years. Trees on appropriate root stocks can provide a more reliable means of reducing the likelihood of impeding natural surveillance. The potential cost savings of a reduced maintenance requirement could be substantial.

6 Seating next to a footpath

6.1 Before placing any seating (or structure capable of being used for seating) next to a footpath, always consider the context in terms of the physical and social environment. Seating can be a valuable amenity or a focus for anti-social behaviour. In some parts of the country there may not be a problem, in others seating may have to be provided only after careful consideration. On the same footpath, seating at one point may be a focus for trouble, whereas at a different point on the same footpath, perhaps with better natural surveillance, it may be trouble-free. Where existing seating appears to be a problem, relocation is often an option worth exploring. The following specific points should be considered:

6.1.1 Who is most likely to be using the footpath? For example, is it likely to be used by elderly people? Can it be made more/less attractive to certain groups of users by the way it is designed?

6.1.2 Is the footpath required simply as a means for travelling from one place to another without stopping?

6.1.3 Is it the intention to encourage stopping and social interaction at particular points along the footpath?

6.1.4 Would seating encourage or attract inappropriate loiterers such as drinkers or drug users?

6.1.5 Is vandal resistant seating necessary?

6.1.6 Should seating be placed right next to the path or set at the back of the verge (care should be taken to avoid creating a climbing aid)?

6.2 Where seating is necessary and inappropriate loitering is a problem consider the use of single seats or stools set several metres apart to deter congregation. In some locations the use of leaning bars might be more appropriate than seats. Creating space between pedestrians and inappropriate loiterers can help reduce the fear associated with having to walk past and thus promote legitimate use of the route.

7 Lighting of footpaths

7.1 The need for lighting will be determined by local circumstances. In an inner city environment the lighting of a footpath is generally only effective in reducing crime levels (or preventing them from rising) if it is matched with a high degree of natural surveillance from surrounding buildings where reaction to an identified incident can be expected i.e. a witness calls the police, or the footpath is well used. The lighting of an underused footpath may give the user a false sense of security. If there is a history of crime along an existing footpath, or where the additional connectivity due to the development could attract criminal or anti-social behaviour, it might make more sense to close the path at night rather than light it. It is accepted that this would only be an option in exceptional circumstances.

7.2 Footpaths that are to include lighting should be lit to the relevant levels as defined in BS 5489:2013. It is important that the landscape architect and lighting engineer co-ordinate their plans to avoid conflict between lighting and tree canopies. Please also see section 19 regarding the technical requirements for public lighting, ‘dark sky’ policies and light pollution.

8 Footpaths on phased developments

8.1 Where the completion of a footpath will be delayed because of phased development or long term planning policy, it may be best to safeguard the land required for the footpath link, but fence it off and not actually construct the path until such time as the full connection can be made. This will avoid in the short to medium term the creation of an underused and possibly isolated movement route.

9 Communal areas

9.1 Communal areas, such as playgrounds and seating areas have the potential to generate crime, the fear of crime and anti-social behaviour. They should be designed to allow supervision from nearby dwellings with safe routes for users to come and go. Boundaries between public and private space should be clearly defined and open spaces must have features which prevent unauthorised vehicular access. Communal spaces as described above should not immediately abut residential buildings.

9.2 The provision of public open amenity space, as an integral part of new residential developments, should make a valuable contribution towards the quality of the development and the character of the neighbourhood. In order to do this it must be carefully located and designed to suit its intended purpose – mere residual space unwanted by the developer is very unlikely to be acceptable. In particular:

9.2.1 The open space must be designed with due regard for natural surveillance, and

9.2.2 Adequate mechanisms and resources must be put in place to ensure its satisfactory future management, and

9.2.3 Care should be taken to ensure that a lone dwelling will not be adversely affected by the location of the amenity space.

9.2.4 It should be noted that positioning amenity/play space to the rear of dwellings can increase the potential for crime and complaints arising from increased noise and nuisance. For further reference see – Better Places to Live by Design, see: www.communities.gov.uk/documents/planningandbuilding/pdf/154277.pdf

9.3 Toddler play areas should ideally be designed so that they can be secured at night. This is to reduce the amount of damage and graffiti that occurs after dark. The type of fencing and security measures will need to vary to suit the particular area. Fencing at a minimum height of 1200mm can often discourage casual entry, provide a safe clean play area and reduce damage to the equipment. The specific requirements must be discussed with the DOCO.

9.4 Consideration should be given to the provision of informal association spaces for members of the community, particularly young people. These must be subject to surveillance but sited so that local residents will not suffer from possible noise pollution. In addition, they should be sited in such a way that those using adjacent foot and cycle paths will not be subject to harassment or otherwise be put in fear. Further information about shelters for young people are in the design guide Youth Shelters & Sports Systems.

9.5 External communal drying spaces should be enclosed and have secured access via a locked gate so that they are only accessible to residents. The DOCO will provide advice in respect to fencing, gate construction and locking.

9.6 The Code for Sustainable Homes awards 1 credit for the provision of private or semi-private outdoor space (Hea 3) and states that the "space must be designed in a way that makes it clear that the space is only to be used by occupants of designated dwelling(s). This could be achieved by using the buildings themselves, fencing, planting or other barrier to seal off the space". It is a requirement of Secured by Design that such space, whether provided under the Code or not is so secured and the DOCO will provide the necessary guidance. The Code states that outdoor space could be a private garden, a communal garden or courtyard, balconies, roof terraces or patios.

10 Dwelling Boundaries

Front Boundaries

10.1 It is important that the boundary between public and private areas is clearly indicated. Each building needs two faces: a front onto public space for the most public activities and a back where the most private activities take place. If this principle is applied consistently, streets will be overlooked by building fronts improving community interaction and offering surveillance that creates a safer feeling for residents and passers-by. For the majority of housing developments, it will be desirable for dwelling frontages to be open to view, so walls, fences and hedges will need to be kept low or alternatively feature a combination of wall (maximum height 1 metre) and railings or timber picket fence if a more substantial front boundary is required by the DOCO.

10.2 In some cases, although not ideal or recommended, a dwelling may immediately front a public footpath, road or other public area. Whilst it is accepted that it is not possible to erect a formal boundary, it is highly likely that the DOCO will require the security of doors and windows to be upgraded to reflect the vulnerability of the dwelling.

10.3 Front garden planting of feature shrubs and suitable trees (e.g. open branched or light foliage or columnar habit etc) will also be acceptable provided they are set back from paths and placed to avoid obstructing visibility of doors windows and access gates to the rear of the property.

10.4 Generous hard paving (of a type that is permeable to allow rainwater to easily drain away) to the front of the dwelling may reduce the likelihood of any planting growing to excess and obscuring vulnerable areas.

Access gates to rear gardens

10.5 Gates to the side of the dwelling that provide access to rear gardens or yards must be robustly constructed of timber, be the same height as the fence (minimum height 1.8m) and be lockable. Such gates must be located on or as near to the front of the building line as possible.

Side and rear boundaries

10.6 Vulnerable areas, such as exposed side and rear gardens, need more robust defensive barriers by using walls or fencing to a minimum height of 1.8m. There may be circumstances where more open fencing is required to allow for greater surveillance. Trellis topped fencing can be useful in such circumstances. Additional deterrent features such as increasing the height of fencing or planting thorny shrubs may be considered as an alternative.

10.7 It is expected that developers will install fencing to a high standard to ensure the security and longevity of the boundary. A high quality fence that lasts for a long time will provide security and reduce overall maintenance costs for residents or landlords. A fence that has a long predicted life is also more sustainable. For this reason the SBD suggests that fencing should be constructed as follows:

10.7.1 The method of fixing between panel/rails and posts should create a secure mechanical bond so that panels/slats cannot be easily removed.

10.7.2 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 timber components.

10.7.3 Posts should be of a non-brittle material.

10.7.4 Where the fence panel is of a slatted design, they should be oriented vertically to avoid step-up

points for climbing and be flush across the attack face to resist being pried off and should be no less than 15mm thick and securely affixed to the frame/rails.

10.7.5 Fence heights should be of a minimum 1.8m overall and be capable of raking stepping to maintain height over different terrain.

10.7.6 Pedestrian gates should be of a framed design and employ galvanised 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 galvanised coach bolt design. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the fence post or wall. Gates should be fitted with a galvanised latch and lockable shoot/pad bolt. The gate construction should have the same design and construction attributes as the fence.

10.7.7 Where entrance/driveway gates are required they should ideally be inward opening, of substantial framed construction and employ galvanised adjustable hinges and fixings mounted behind the attack face. Hinge systems must not allow the gate to be 'lifted off' and therefore should employ a method to restrict the removal of the gate from the adjoining fence post or wall. Gates should be fitted with a galvanised 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.

10.7.8 The gate construction should have the same design and construction attributes as the fence.

10.7.9 Automated gates supplied and installed must meet the relevant statutory safety standards and be CE marked accordingly. Specifiers may consider the safety and operational good practice guidance established by gate-safe.org

10.7.10 The tops of fences should finish flush with their posts and a securely fixed capping rail 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.

10.7.11 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 25 years.

Fencing in high crime / vulnerable areas

10.8 Where a development is to be located in an area of extremely high crime and the gardens abut open land, footpaths or other vulnerable areas, for example railway property, tow paths etc, an area of defensible planting to protect boundary fencing may be required. The specifier should give due consideration to the time taken for such areas to become established and therefore additional temporary protection may be required. Alternatively fencing certified to LPS 1175 Security Rating 1 may be specified.

10.9 Following consultation with the DOCO and local planning authority these requirements may be changed with agreed alternative measures.

Sub-divisional boundaries

10.10 Sub-divisional fencing design should be agreed with the DOCO and the local planning authority and is dependent upon location and crime risks. All fencing should provide clear demarcation. If a crime risk assessment indicates a high level of domestic burglary, a more secure sub-divisional fence may be required. A suitable means of achieving security, demarcation and privacy might include the following design features:

10.10.1 A privacy screen; a section of higher fencing (1.8m) starting from the building and projecting along the fence line for approximately 2m to provide a private amenity area adjacent to the home.

10.10.2 Sub divisional fencing: from the privacy screen to the end of the garden provision of a minimum of 1.2m high timber fence, with the option to raise to 1.5m or 1.8m where crime risks dictate.

10.10.3 Trellis: the addition of a trellis topping can help to deter climbing. This is of particular use on exposed rear boundaries. Close liaison with the DOCO from the outset will enable the developer understand the need for this additional requirement if there is an increased security risk due to location or crime levels.

10.10.4 Defensive planting; fencing security can be enhanced by using it as a framework to carry deterrent planting (e.g. thorny shrubs), which if required, can be planted by the developer or the occupier.

11

11 Layout and Orientation of Dwellings

11.1 Dwellings should be positioned facing each other to allow neighbours to easily view their surroundings and thus making the potential offender feel vulnerable to detection.

11.2 Larger schemes should incorporate a mix of dwellings, enabling greater potential for homes to be occupied throughout the day. This gives increased opportunity for natural surveillance, community interaction and environmental control.

12 Gable end walls

12.1 It is important to avoid the creation of windowless elevations and blank walls adjacent to public spaces; this type of elevation, commonly at the end of a terrace, tends to attract graffiti, inappropriate loitering and ball games. The provision of at least one window above ground floor level, where possible, will offer additional surveillance over the public area.

12.2 Where blank gable walls are unavoidable, one of the following methods should be used to protect them;

12.2.1 Provide a 1m buffer zone using either a 1.2 – 1.4m railing (with an access gate) or a 1m mature height hedge with high thorn content. Hedging will have to be protected with a fence until it becomes established. The hedge shall be contained within the boundary of the adjacent building to increase the likelihood that it will be maintained.

12.2.2 Where there is insufficient room for a buffer zone between public and private space, an appropriate (non- destructive) climbing plant should be planted adjacent to the wall, or a finish applied to the wall that will allow easy removal of graffiti.

13

13 Rear access footpaths

13.1 Research studying the distribution of burglary in terraced housing with open rear access footpaths has shown that up to 85% of entries occurred at the back of the house.

13.2 It is preferable that footpaths are not placed to the back of properties. If they are essential to give access to the rear of properties they must be gated. The gates must be placed at the entrance to the footpath, as near to the front building line as possible, so that attempts to climb them will be in full view of the street. Where possible the street lighting scheme should be designed to ensure that the gates are well illuminated. The gates must have a key operated lock, operable from both sides. The gates must not be easy to climb or remove from their hinges and serve the minimum number of homes, usually four or less.

13.3 Gates will generally be constructed of timber when allowing access to the rear of a small number of dwellings. However in larger developments where the rear footpath provides access to a large number of properties then a gate constructed of steel may be required by the DOCO. Substantial purpose made gate products meeting LPS 1175 security rating 2 or Sold Secure Gold standard are available and may be required by the DOCO. Any gate providing access to the rear of dwellings must be designed to resist climbing, forced entry and allow a high degree of surveillance of the footpath from the street.

13.4 In order to achieve a degree of permanence and a secure fixing for the gate, in a city centre location, brick walls may be required on both sides of the entrance to the path if indicated by the DOCO. The minimum height of the gates and walls shall be 2m.

14 Dwelling identification

14.1 Clear naming and/or numbering of properties is essential to assist residents, postal workers and the attendance of emergency services.

15 Climbing aids

15.1 Boundary walls, bins and fuel stores, low flat roofs or balconies should be designed so as to remove climbing aids to gain access into the property.

16 Car parking

16.1 Cars should either be parked in locked garages or on a hard standing within the dwelling boundary (Note 16.1). In high crime areas the DOCO may require the addition of a gate to protect the hard standing parking area.

Note 16.1: The 'Code for Sustainable Homes Checklist (Hea 4 – Lifetime Homes)' requires that 'the distance from the car parking space to the home should be kept to a minimum and should be level or gently sloping.' The Code does not specify a maximum distance, but this requirement does apply to 'all parking spaces, for any type of dwelling, whether the space is within the boundary or not'.

16.2 Where communal car parking areas are necessary they should be in small groups, close and adjacent to homes and must be within view of the active rooms within these homes *(Note 16.2).* It may be necessary to provide additional windows to provide the opportunity for overlooking of the parking facility.

Note 16.2: The word 'active' in this sense means rooms in building elevations from which there is direct and regular visual connection between the room and the street or parking court. Such visual connection can be expected from rooms such as kitchens and living rooms, but not from more private rooms, such as bedrooms and bathrooms.

16.3 Rear car parking courtyards are discouraged for the following reasons:

- They introduce access to the vulnerable rear elevations of dwellings where the majority of burglary is perpetrated
- In private developments such areas are often left unlit and therefore increase the fear of crime
- Particularly where un-gated the courtyards provide areas of concealment which can encourage anti-social behaviour

16.4 Where rear car parking courtyards are considered absolutely necessary they must be protected by a gate, the design of which shall be discussed with the DOCO at the earliest possible opportunity. Where gardens abut the parking area an appropriate boundary treatment must be discussed and agreed by the DOCO.

16.5 Where dedicated garages are provided within the curtilage of the dwelling the entrance should be easily observed from the street and neighbouring dwellings. Locating garages forward of the building line can obscure views to and from the dwelling. The security standards for garage doors can be found in Section 3, paragraph 37 (inclusive).

16.6 Where parking is designed to be adjacent to or between units, a gable end window should be considered to allow residents an unrestricted view over their vehicles.

16.7 Communal parking facilities must be lit to the relevant levels as recommended by BS 5489:2013 and a certificate of compliance provided. See sections 19 and 30 for the specific lighting requirements.

17 Underground Car Parking

17.1 Many blocks of flats are now being developed with underground car parking. Early consultation with the DOCO is essential to ensure that criminal opportunity is minimised. The standards required for underground car parks can be found in Section 3, paragraph 38 (inclusive).

18 Planting

18.1 The planting of trees and shrubs in new developments to create attractive residential environments will be supported provided that:

18.1.1 The layout allows sufficient space to accommodate the planting.

18.1.2 Future maintenance requirements are adequately considered at the design stage and management programmes are put in place to ensure that the maintenance will be properly carried out.

18.1.3 The planting design takes full account of all other opportunities for crime.

18.2 The correct uses of certain species of plants such as spiny or thorny shrubs can help prevent graffiti and loitering and create or enhance perimeter security. Defensive planting is not just about prickly shrubs, it is about selecting the right type of plant for the right aspect and environment.

18.3 For example, open branched and columnar trees can be used in a landscape scheme where natural and formal surveillance is required. Climbing plants can be used to cover walls to deter graffiti. Carefully selected trees and shrubs can be used to 'green up' the most hostile of environments providing both horizontal and vertical interest without adding to crime risks.

18.4 Planting should not impede the opportunity for natural surveillance and must avoid the creation of potential hiding places. As a general recommendation, where good visibility is needed, shrubs should be selected to have a mature growth height no higher than 1 metre, and trees should have no foliage, epicormic growth or lower branches below 2 metres, thereby allowing a 1 metre clear field of vision. Trees on appropriate root stock can provide a more reliable means of reducing the likelihood of impeding natural surveillance. As a general rule, building frontages should be open to view except, for example, houses standing in their own private grounds. Attention should be given to the location of walls and hedges so that they do not obscure doors or windows, and the position of trees that may become climbing aids into property or obscure lights or CCTV cameras.

19 Street Lighting

19.1 All street lighting for both adopted highways and footpaths, private estate roads and footpaths and car parks must comply with BS 5489:2013 (Note 19.1). Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the DOCO and the local authority lighting engineer

Note 19.1: Compliance with BS 5489:2013 ensures that an overall Uniformity of light level is achieved. Conflict areas such as larger roundabouts and shared surfaces will require a higher uniformity as they use a C class which will be determined by compliance with BS5489:2013.

19.2 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. Some are currently experimenting with switching off street lamps in low crime areas between certain hours of the night in order to save energy costs and reduce CO2 emissions. If such policies exist then these must be brought to the attention of the DOCO at the time of application. Secured by Design supports the Institution of Lighting Professionals (ILP) in discouraging 'switch off' unless a full risk assessment has been carried out, and the ILP also recommends that 'switch off' never be implemented purely for cost saving. A variable controlled lighting level is always the preferred option.

19.3 Bollard lighting is not compliant with BS5489:2013 because it does not project sufficient light at the right height to aid facial recognition and reduce fear of crime.

19.4 Care should be taken to ensure that landscaping, tree planting and lighting schemes work together to mitigate the effects of seasonal variations.

19.5 The colour rendering qualities of lamps used in an SBD development should achieve a minimum of at least 60Ra on the Colour Rendering Index *(Note 19.4).*

Note 19.5: 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 (not allowed under BS5489:2013), and 100 is the colour rendering qualities of daylight. The 'Higher the RA the better the colour rendition qualities. Appropriate optically controlled white light i.e. higher than RA60, will enable humans to see more clearly and improves facial recognition.

19.6 The DOCO shall be provided with a declaration of conformity to BS 5489:2013 by a 'competent' independent designer. Competency shall be demonstrated by achievement to at least ILP competency level 3 or 4, i.e. the designer will be a Member of the ILP (MILP) and either IEng or CEng qualified to be deemed competent to be able to design under CDM regulations. Additionally a risk and environmental assessment (EMS) for the CDM designer compliance requirements must be included. Manufacturer designed schemes without risk or environmental assessments should not be accepted as they do not cover the CDM designer risk elements which are required.

19.7 Light Pollution must be minimised (Note 19.7)

Note 19.7: 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 from the private elements of the scheme is deemed a statutory nuisance (public lighting is not covered) and illuminating areas unintentionally is wasteful. SBD requires that only luminaires with suitable photometry serving to reduce light spill and upward light may be used.

In terms of sustainability consideration must be given to the consequences of turning off street lights. Such a measure may be counterproductive in terms of CO2 emissions and lead to the greater use of motor vehicles because residents are too afraid to use unlit streets. Crime levels, and in particular fear of crime levels, must also be carefully monitored to see what impact such an action has made to the community. The alternatives to switching off include Central Management Systems (CMS), which allow varying lighting levels for different times of the night and are centrally controlled by a web based system, or stand-alone dimming equipment which can be pre-set to dim after an agreed time when most residents are asleep. Both systems are preferable to switching off. Some light sources are more controllable than others and these should be considered where possible. The most controllable light source with the correct colour rendition qualities (Ra) is LED which has no UV or IR output and therefore does not impact as heavily as other light sources on wildlife and birdlife.

Presence sensing should not be considered unless in bin stores or rarely used areas as it can produce nuisance switching and become a problem to residents. Varying light levels via a CMS or stand-alone system reduces CO2, energy consumption and light pollution so is preferable where cost is not prohibitive and where the local authority specification allows.

Glare is also an issue and is defined by direct view of the light source. Luminaires without good optical or lens control should not be used in residential areas.

19.8 Low energy light sources should be utilised *(Note 19.8)*

Note 19.8 The best light source should be used for each design to enable the least energy to be used whilst still meeting the BS5489:2013 criteria. Whole life costing of a design should be considered to make sure over the lifetime of the installation the most energy effective solution has been proposed.

SECTION 2: SECURITY OF DWELLING

20 Introduction

20.1 It is important that an effective and realistic level of physical security, commensurate with the risk, is incorporated into building construction. The physical security standards outlined within this section of Secured by Design, together with those of Sections 1 and 3 of this document, indicate the minimum requirements needed in order for a development to be awarded a SBD certificate. It should be noted however, that in some higher risk locations, additional or alternative measures may be required. Any such additional or alternative requirements shall be communicated to the developer (or the developer's agent) in writing at the design stage. Developers should be aware that crime risk analysis and an understanding of local crime risk occurrence plays a significant determining factor in the SBD process to ensure appropriate crime resistance is specified. For further, see Section 1 paragraph 1.2.

20.2 The standards quoted hereafter were relevant within the United Kingdom on the date of publication of this document and are suitable for most insurance risks. A departure from the recognised standards, as outlined below, will only be acceptable in exceptional circumstances.

20.3 All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier standards/versions will not be valid or acceptable 12 months from the publication date of the succeeding amendment, revision or standard unless otherwise stated within this document.

20.4 At several points within this document a requirement is made for products to be 'Certificated' to relevant standards. It should be understood that any documentation submitted for SBD accreditation should clearly show the certification body name and the manufacturer/fabricator of the product installed within the development. Documentation that is provided bearing the name of a component or system manufacturer will not be deemed acceptable.

21 Front Door

Front Doorset Standards

21.1 Doorsets shall be certificated to one of the following standards:

- PAS 24:2012 *(Note 21.1.1 and 21.1.2),* or:
- STS 201 Issue 4:2012 *(Note 21.1.3),* or:
- LPS 1175 Issue 7:2010 Security Rating 2 *(Note 21.1.4),* or:
- STS 202 Issue 3:2011 Burglary Rating 2 *(Note 21.1.4),* or:
- LPS 2081 Issue 1:2014 Security Rating B *(Note 21.1.5)*

Note 21.1.1: PAS 24: 2012 was published on 31st August 2012 and replaces PAS 24:2007+A2:2011.

Note 21.1.2: PAS 24:2012 embodies two routes to compliance:

- *The previous PAS 24:2007+A2:2011 test methodology, albeit updated; or*
- *BS EN 1627:2011 Resistance Class 3 (which references BS EN 1628, 1629 & 1630), with additional test criteria to address known criminal methods of entry within the UK (which are insufficiently catered for within the European standard).*

NB: If manufacturers wish to use the European standard as a route to compliance to PAS 24:2012, then all testing must be conducted in accordance with the latest published version of the 'UK Police Service Secured by Design (SBD) Interpretive Document for BS EN 1627:2011, BS EN 1628, BS EN 1629 and BS EN 1630'. This document can be found on the Secured by Design under SBD standards explained.

Note 21.1.3: STS 201 is the unique reference number for Warrington Certification's published standards replicating the requirements within PAS 24:2012.

Note 21.1.4: These standards are unique to the respective certification bodies and incorporate a physical attack on the glazed areas within doors/windows. Specifiers should satisfy themselves that the glazing incorporated in products certified to these standards meets the required thermal performance and durability requirements for the specific application.

Note 21.1.5: LPS 2081 is a new standard due to be published mid-2014. It is largely based on the methodology of LPS 1175 but attacks are designed to use stealth (low noise levels). It is therefore more suitable than LPS 1175 for residential applications where excessive noise is generally avoided by the offender.

21.2 Doorsets shall also be certificated to the following relevant material specific standards:

- BS 7412:2007 (PVC-U)
- BS 4873:2009 (Aluminium)
- BS 6510:2010 (Steel)
- BS 644:2009 (Timber)
- BS 8529: 2010 (Composite)

The following performance characteristics are also required:

- PAS 23-1:1999 'General performance requirements for door assemblies', including the relevant material annex *(Note 21.2.1),* or
- BS 6375 parts 1, 2 & 3 *(Note 21.2.2)*

Note 21.2.1: PAS 23 was withdrawn in May 2013 and replaced by BS 6375 Performance of windows and doors (parts 1, 2 & 3). Products certificated to PAS 23 will remain acceptable for SBD purposes for a period not exceeding 12 months after this standard is withdrawn.

Note 21.2.2: Specifiers are reminded that there are numerous classifications within BS EN 6375 and therefore it is not possible for this document to be prescriptive. It is therefore important that the correct duty, weather and performance levels are selected to address the intended use/location of the doorset.

21.3 There are two classifications for door locking hardware within PAS 24:2012, these are:

- DK – key operation from both sides of the doorset
- DKT – Key operation from the outside with non-key lockable hardware on the inside of the doorset e.g. thumb turn

Doorsets installed with a thumb turn release mechanism must specifically form part of the certified product range, as the pass criteria for such products is significantly more stringent.

A doorset tested with a key/key operation cannot claim compliance when a thumb turn release is installed.

NB The National House-Building Council (NHBC) currently requires a thumb turn release mechanism to be installed on the doorset designated as the primary fire exit route.

21.4 Suitably qualified and recognised third party Certification Authorities *(Note 21.4.1)* for the above standards are as follows:

For PAS 24, PAS 23 & BS 6375:

- British Standards Institute (BSI)
- BM TRADA Certification
- Building Research Establishment (BRE)
- British Board of Agrément (BBA)
- Loss Prevention Certification Board (LPCB)
- Build Check Certification
- ER Certification
- UL International (UK)

For STS 201 & 202:

- Warrington Certification

For LPS 1175 & LPS 2081

- Loss Prevention Certification Board. NB the LPCB is part of the Building Research Establishment (BRE)

Alternative compliance may be possible in certain circumstances *(Note 21.4.2):*

Note 21.4.1: Certificated products undergo continuous assessment, including factory production controls, to ensure product standards and production consistencies are maintained.

Note 21.4.2: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified by ACPO SBD. Alternatively third party accreditation via an accredited certification body that has signed the EA MLA (European cooperation for Accreditation Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The DOCO may refer such cases to ACPO SBD for verification.

21.5 The DOCO must be supplied with proof of certification (by one of the bodies referenced at 21.4) including the technical schedule (sometimes referred to as '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.

21.6 Each doorset shall be permanently marked *(Note 21.6)*, regardless of the standard achieved, in a position that is visible and readily accessible when the product is open and not visible when the product is closed, with the following information:

- Number and date of the standard
- The date of manufacture of the product (at least the year and quarter)
- The name or trademark of the manufacturer or other means of identifying the manufacturer
- The classification of the doorset e.g. DK or DKT

Note 21.6: The above requirement for permanent marking is mandatory within both PAS 24:2012 and STS 201 Issue 4:2012 and is additional to any CE marking requirements.

Locking systems

21.7 In some locations the local DOCO will require the front or primary access doorset to incorporate a facility that will only enable access to be gained by latch withdrawal by use of a key (sometimes referred to as a 'split spindle' operation), not by a lever/handle (sometimes referred to as a 'solid spindle' operation) *(Note 21.7).* This shall be communicated to the developer (or the developer's agent) in writing at the design stage, and is a requirement designed to ensure that security is commensurate with the risk.

Note 21.7: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are NOT acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants MUST be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied).

21.8 To ensure that the end user of the door understands how to operate the locking system, clear operating instructions must be attached to the inner face of the door *(Note 21.8).* The instructions should be easily removable by the end user.

Note 21.8: The purpose of providing the end user with operating instructions is to reduce the number of burglaries through otherwise secure doorsets, because the full locking system has not been engaged. This is particularly problematic with split spindle multi-point locking systems, where, for example, the occupier goes to bed at night without engaging the locks in the mistaken belief that leaving the door closed only on the latch (live bolt) is sufficient. The instructions should point out that the doorset is not totally secure unless the locking system is fully engaged. The method of attachment of these operating instructions and the medium used to carry them is for the door manufacturer to decide but are not intended to be permanent.

Doorset installation

21.9 Door frames must be securely fixed to the building fabric in accordance with the manufacturer's specifications. The DOCO may require a copy of the manufacturer's specifications.

21.10 Doors in recesses more than 600mm deep shall be avoided

Glazing in and adjacent to doorsets

21.11 Any glazing within PAS 24:2012, STS 201 Issue 4: 2012 or LPS 2081 Issue 1:2014 certificated doorsets must incorporate one pane of laminated glass meeting the requirements of BS EN 356:2000 class P1A (this is a requirement within PAS 24:2012). In addition it is an SBD requirement that any windows or side lights adjacent to doors (within 400mm) also include one pane of laminated glass meeting the requirements of BS EN 356:2000 class P1A (minimum) *(Note 21.11).*

The above requirement is not necessary for doorsets certificated to LPS 1175 or STS 202 as glazing security is significantly more stringent within these standards. However if there is an adjacent window then the glazing must meet the requirements of BS EN 356:2000 class P1A.

Note 21.11: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit.

It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

21.12 If glazed panels/windows adjacent to doors are installed as an integral part of the door frame then they must be shown to be part of the manufacturer's certificated range of doorsets. Alternatively, where they are manufactured separately from the door frame, they must be certificated to:

- PAS 24:2012, or
- BS 7950: 1997 *(Note 21.12.1)*, or
- STS 204 Issue 3:2012
- LPS 2081 Issue 1:2014 *(Note 21.12.2)*

In such cases the window shall be securely fixed to the doorset (in accordance with the manufacturer's specifications). All glazed panels/windows adjacent to doors shall be laminated (see paragraph 21.11).

Note 21.12.1: BS 7950:1997 was withdrawn by the BSI on 31/8/2012 and replaced by PAS 24:2012. It is normal practice for certification authorities to transfer certification from the outgoing standard to the incoming standard within 12 months of publication. Therefore products certificated to BS 7950 will only be acceptable until 01/04/201.

Note 21.12.2: LPS 2081 is a new standard due to be published mid-2014. It is largely based on the methodology of LPS 1175 but attacks are designed to use stealth (low noise levels). It is therefore more suitable than LPS 1175 for residential applications where excessive noise is generally avoided by the offender.

Outward opening doorsets

21.13 Outward opening doorsets installed within SBD developments must specifically form part of the certificated product range.

Door chains, limiters, door viewers

21.14 A door chain or opening limiter must be installed on the doorset to which a caller can be expected, normally the front door. It must be noted however that such products are not locking mechanisms and only exist to offer some control over an otherwise open door. All such devices should meet the Door and Hardware Federation Technical Specification 003 (TS 003) and be installed in accordance with the manufacturers recommendations.

21.15 A door viewer meeting the requirements with the Door & Hardware Federation Technical Specification 002 (TS 002) standard must be fitted between 1200mm and 1500mm from the bottom of the door (not required if the doorset is installed with clear glazing).

Secure Mail Delivery

21.16 There are increasing crime problems associated with letter plate apertures, such as arson, hate crime, lock manipulation and 'fishing' for personal items (which may include vehicle and house keys, credit cards, etc). In order to address such problems SBD strongly recommends, where possible, mail delivery via a secure external letter box or delivery 'through the wall' into a secure area of the dwelling.

Letter plate apertures

21.17 Letter plates are installed within a door, they must form part of the certificated doorset range in order to be accepted within SBD developments.

Specifiers and doorset manufacturers are advised that if a doorset is tested to PAS 24:2012, LPS 2081 Issue 1:2014 or STS 201 Issue 4:2012 without a letter plate installed, then the subsequent installation of a letter plate will invalidate the certificated doorset.

For clarity the requirements within PAS 24:2012 and STS 201 Issue 4:2012 are as follows:

- Maximum aperture size of 260mm x 40mm
- The fixing shall not be removable from the exterior side of the doorset
- Letter plates must achieve the requirements of the removal test from BS EN 13724:2002 (conducted during the PAS 24 or STS 201 test)
- Doorsets installed with non-key lockable internal hardware (*Note 21.17*) shall either be installed with a suitable internal security deflector plate to restrict access to the hardware or the letter plate must be installed no less than 400mm from the internal locking point (measured in plane from the centre point of thumb turn to the nearest edge or corner of the letter plate aperture)

Where there is a concern for arson attacks, or repeat arson attacks, SBD recommends the either the omission of a letter plate within a door, which is then replaced by an external letter box mounted on a wall or similar, or the installation of an 'anti-arson'

container. It is important that such products are installed strictly in accordance with the manufacturer's instructions.

Note 21.17: Specifiers should be aware that the National House-Building Council (NHBC) currently requires a thumb turn release mechanism to be installed on the doorset designated as the primary fire exit route.

21.18 Specifiers attention is drawn to the Door Hardware Federation's Technical Standard 008 (TS 008). SBD recommends products meeting this standard, which exceed the requirements within PAS 24:2012, and will form the basis of a future SBD requirement.

Letter Boxes

21.19 As an alternative to the requirements and recommendations in 21.17 & 21.18, a surface mounted or 'through-the-wall' letter box may be used (See paragraphs 21.19.1 & 21.19.2). The use of such a product greatly reduces the crime risk problems associated with letter plates and also reduces heat loss through the door.

Surface Mounted Letter Boxes

21.19.1 Where a single surface mounted letter box is to be used for each dwelling 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 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.

Letter boxes certificated to the Door & Hardware Federation Technical Specification 009 (TS 009) offer reassurance that all of the above attributes have been met. In high crime areas TS 009 provides the safest means by which mail can be delivered whilst eliminating the risks associated with letter plate apertures i.e. arson, hate crime, lock manipulation and 'fishing' for personal items (which may include vehicle and house keys, credit cards etc).

Through–the-Wall

21.19.2 Where there are design constraints that prevent a letter plate with a security cowl being installed within a door e.g. narrow hallway, or where it is undesirable to install a surface mounted secure mail box e.g. in a corridor, it may be preferable to provide 'through-the-wall' mail delivery into a secure internal letter box. Such a box must incorporate the same design features as described above for a surface mounted box. Anti-arson design features may also be advised if such crime risks are present.

Products meeting the requirements of the Door & Hardware Federation Technical Specification 008 (TS 008) provide reassurance that 'through the wall' letter boxes offer similar security attributes as secure letter plates and many of the attributes that an external letter box conforming with TS 009 would provide.

22 Side and back doorsets

22.1 All external doorsets not designated as the primary access/egress route must meet the same physical standard as 'Front door', paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

23 Sliding patio/Bi-fold doorsets

23.1 All sliding and bi-fold doorsets not designated as the primary access/egress route shall and meet the same physical attributes within paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

23.2 Glazed panels, in and adjacent to doors shall meet the requirements of 21.11

23.3 Door frames shall be securely fixed in accordance with the manufacturer's specifications. The DOCO may require a copy of the manufacturer's specifications.

23.4 Doors in recesses more than 600mm deep should be avoided.

24 Communal dwellings

Communal doorset standards

24.1 SBD categorises the physical security of communal entrance doorsets as follows:

24.1.1 A shared doorset with access controlled by use of a key without a designated access control system (and no remote release facility), serving a maximum number of 4 dwellings. Doorsets falling within this category shall meet the same physical security requirements as 'Front Door' (paragraphs 21.1 to 21.13 inclusive).

24.1.2 A shared doorset with access controlled via a separate access control panel installed within an integral adjacent panel, side screen, separate panel or adjacent masonry incorporating a remote release facility, serving a maximum number of 25 dwellings (see paragraphs 24.8 and 24.9.1 for access control system requirements). Such doorsets shall comply with the physical security requirements of either paragraphs 24.1.1 or 24.3.

24.1.3 A shared doorset with access controlled via a separate access control panel installed within an integral adjacent panel, side screen, separate panel or adjacent masonry incorporating a remote release facility, serving multiple dwellings, with no minimum or maximum limit (see paragraphs 24.9.2 for access control system requirements). Such doorsets shall comply with the physical security requirements in 24.3.

Communal Doorsets with a separate adjacent access control panel (paragraphs 24.1.2)

24.3 Communal entrance doorsets with a separate adjacent access control panel shall be certificated to one of the following standards:

- STS 202 Issue 3:2011 Burglary Rating 2 (minimum), or
- LPS 1175 Issue 7:2010 Security Rating 2 (minimum), or
- PAS 24: 2012, paragraph 4.4.3 i.e. via testing to BS EN 1627 Resistance Class 3 (minimum). NB Doorsets utilising non mechanical magnetic locks fall outside the scope of BS EN 1627.

Glazing in communal entrance doorsets

24.4 Where a glazed vision panel is installed it must form part of the manufacturers certificated doorset range and comply with the requirement of 21.11.

Mail delivery for communal dwellings (flats)

Individual mail delivery to flats

24.5 Letter plates/boxes installed in communal developments serving each individual flats shall meet the requirements of 21.17, 21.18 or 21.19.

Communal mail delivery

24.6 Communal mail delivery facilities within building entrances serving multiple flats or rooms (such as student accommodation) should be designed to incorporate the following:

- Located at the primary entrance/exit point of the building within view, within an internal area covered by CCTV or located within an 'airlock' access controlled entrance hall, or externally at the front of the building within view of those using the building
- Be of a robust construction
- The individual letter boxes shall have a maximum aperture size of 260mm x 40mm
- Have anti-fishing properties
- Fire retardation where considered necessary
- Installed in accordance with the manufacturer' specifications

Letter boxes certificated to Door & Hardware Federation Technical Specification 009 (TS 009) offer reassurance that all of the above attributes have been met. In high crime areas TS 009 provides the safest means by which mail can be delivered whilst eliminating the risks associated with letter mail delivery i.e. arson, 'fishing' for personal mail.

Door entry and Access control systems

24.7 ACPO SBD, the British Security Industry Association (BSIA) and Underwriters Laboratories (UL) are collaborating on a new standard for Access Control Systems - (UL) 293 "Standard for Access Control System Units Intended for Use in the UK". Publication is expected late 2014. Secured by Design will publish the expected timescales for Access Control systems to comply when the new standard has been published. In the mean time Annex A contains the interim Technical Specifications for such systems. The following specific Access Control requirements paragraphs 24.8 & 24.12) form the basis by which all systems must comply.

24.8 Where there are between four and nine residential dwellings sharing a communal entrance the doors must incorporate an access control system, with an electronic lock release and visitor door entry system providing colour images and audio communications linked to each dwelling. The technology by which the visitor door entry system operates is a matter of consumer choice, however, the availability of colour images and release capability must be provided within the dwelling at all times (Note 24.9.1). Tradesperson release buttons are not permitted. Access control is not normally required where there are less than four residential units sharing a communal entrance, unless there is a flat with a floor level higher than 4.5 metres or the accommodation is intended for the elderly and/or persons with disabilities.

Note 24.8: DOCOs 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, will fall outside the scope of the manufacturer's certification and will therefore fail to meet the SBD physical security standards.

24.9 Where there are ten or more residential dwellings sharing a communal entrance, access control systems meeting the following minimum specifications will be required:

24.9.1 Developments of 10 to 25 dwellings sharing a communal entrance must have a visitor door entry system that meets the requirements of the Equality Act 2010 (DDA in Northern Ireland), vandal resistant external door entry panel with an integral or remote camera, providing colour images and audio communications

between the resident and visitor (note 24.9.1). The further provision of a mobile GSM or Wi-Fi based enabled device is optional. With regard to site specificity, the DOCO may request that the system captures (records) images of people using the door entry panel.

Note 24.9.1: audio/visual sound and images must always be made available to the dwelling and allow the remote release of the communal entrance doorset.

24.9.2 Developments of over 25 dwellings sharing a communal entrance must have an access control system as stipulated for developments of between 10 to 25 dwellings, but must also capture (record) images of people using the door entry panel. Additional CCTV cameras may be installed required covering the communal entrances and lobby areas, enabling visitors to be viewed from each residential dwelling via a dedicated door entry system handset, digital television, GSM or Wi-Fi enabled device. Any requirement for additional CCTV cameras by the police DOCO will be supported by a crime risk assessment.

24.10 The resident access control system and associated electric locking mechanisms shall incorporate a battery back-up facility, in the event of a power failure, to enable system operation for a minimum period of 6 hours. In the event of an initial power failure door locks shall remain in the secure mode, however, once the battery back-up ceases to operate the system must revert to a safe (unlocked) mode.

24.11 Break glass emergency door exit release devices (often green in colour) on communal external doors that give access into the building are not permitted due to constant abuse. Instead, vandal resistant stainless steel self-resetting emergency exit systems are to be installed. The installation and system type must be in full compliance and achieve final 'sign-off' by local Building Control.

24.12 Where there are ten or more residential dwellings served by a communal entrance, secondary secure doorsets (PAS 24:2012 or equivalent) with complementary access control are required on each floor to compartmentalise the blocks (not required where lift access is controlled by the access control system and there is adequate control of emergency stairwells). The means by which entry is facilitated through these secondary doors is a matter of site specificity, and will be negotiated with the DOCO i.e. audio or audio/visual access control systems.

24.13 The contractor must issue a Commissioning Certificate warranting operational safety and security. It is recommended that there are a minimum of two maintenance inspections per year.

25 Flat entrance doorsets served off a shared corridor or stairway

Flat entrance doorset standards

25.1 Flat entrance doorsets shall meet the same physical specification as 'front door' (paragraphs 21.1 to 21.6 and 21.8 to 21.15). The locking hardware shall be operable from both sides of an unlocked door without the use of a key (utilising a roller latch or latch operable from both sides of the doorset by a handle) *(Note 25.1).* If the doorset is certificated to either PAS 24:2012 or STS 201 Issue 4: 2012 then it must be classified as DKT.

Note 25.1: Locking systems that require the use of a key to gain access to the dwelling when not in the fully secure function (as tested to PAS 24) are NOT acceptable if the front door is the only means of escape e.g. flat entrance doorsets. Occupants MUST be afforded the opportunity to unlock the door from the inner face without the use of a key, investigate the cause of a fire or other emergency and return to raise the alarm without any use of a key – the only function that a key may have is to lock and unlock the door from the fully secure position from the outer face of the door when leaving an empty dwelling or returning to a secure dwelling (occupied or unoccupied). This is a requirement of the National House Building Council (NHBC). The classification 'DKT' must fall within the scope of the certification documentation and indicates that the manufacturer has submitted product for assessment with a thumb turn release mechanism.

25.2 Flat entrance doorsets will also be fire rated and must be installed with a door closer unit. Any doorset installed with an integral door closer mechanism should have been tested in this configuration; the hardware or ironmongery mortised into the door leaf or frame (integral) must form part of the certificated doorset range. Surface mounted door closers may be installed without further testing and evaluation.

25.3 Annex B details the additional requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities.

Glazing in Flat Entrance Doorsets

25.4 All glazing in and adjacent to doors shall be installed with a fire rated laminated glass meeting the requirements of BS EN 356:2000 class P1A, securely fixed in accordance with the manufacturer's specifications

26 French window(s) & external glazed double doorsets

26.1 SBD categorises French window(s) and external glazed double doorsets (both sometimes referred to as 'French doors') as subtly different products i.e.:

26.1.1 French window(s) are casement windows extending to the floor and serving as a portal from a room to a roof terrace or balcony that is not easily accessible. There is no external furniture and no dedicated sill detail (the sill or threshold detail being the same specification as the frame), the meeting edge of two opening casements may be rebated or incorporate a fixed or floating mullion. SBD views such products as 'windows' (see paragraph 28, inclusive) and not suitable for use on the ground floor or other easily accessible areas, unless certificated to the same security standard as a 'door' (see paragraph 21, inclusive) and classified under PAS 24:2012 as a 'DK' or 'DKT'.

26.1.2 External double doorsets are a pair of doors serving as an entrance or exit. External furniture operating the full locking mechanism will be present and there will be a dedicated sill/threshold detail. In common with French Windows the meeting edge of the two opening doors may be rebated or incorporate a floating mullion detail. Double doorsets must meet the following requirements;

26.2 All external doorsets not designated as the primary access/egress route shall meet the same physical standard as 'front door', paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

27 Garages (interconnecting doorsets)

27.1 Where a garage is attached to a home and access can be gained to the home via the garage area, and all other vehicle and pedestrian doorsets meet the requirements within SBD Section 3, paragraph 37, then the interconnecting doorset shall classified to FD30S (Fire/smoke rated to 30 minutes) or above and fitted with a Kitemarked or alternatively certificated lock meeting the requirements of BS 3621/BS 8621 (single point locking), or PAS 3621/PAS 8621 (multipoint locking), or alternatively conform to the same specification as 'front door' paragraphs 21.1 to 21.6 and 21.8 to 21.13 inclusive.

27.2 The SBD requirements for other external pedestrian and vehicular doorsets are referenced in Section 3, paragraph 37

28 Windows

28.1 The SBD standards for ground floor, basement and easily accessible windows *(Note 28.1.1)* are as follows:

- PAS 24:2012 *(Note 28.1.2 and 28.1.3)*, or
- STS 204 Issue 3: 2012, or
- LPS 1175 Issue 7:2010 Security Rating 1 *(see note 28.1.4), or*
- LPS 2081 Issue 1:2014 Security Rating A *(see note 28.1.5)*

All windows must incorporate key lockable hardware unless designated as emergency egress routes, see paragraph 28.6.2.

Note 28.1.1: It is difficult to give a comprehensive description of the term 'easily accessible'. However, common sense dictates that 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. 'Easily Accessible', in this context 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.

Note 28.1.2: PAS 24: 2012 was published on 31st August 2012 and replaces BS 7950:1997. Products certificated to this standard may be installed within SBD developments until 1st April 2014. Beyond this date all doorsets installed must meet the latest standard.

Note 28.1.3: PAS 24:2012 embodies two routes to compliance:

- *The previous PAS 24:2007+A2:2011 test methodology, albeit updated; or*
- *The relevant European Standard – BS EN 1627:2011 Resistance Class 2N (which references BS EN 1628, 1629 & 1630), with additional test criteria to address known criminal methods of entry within the UK (which are insufficiently catered for within the European standard).*

NB: If manufacturers wish to use the European standard as a route to compliance to PAS 24:2012, then all testing must be conducted in accordance with the latest published version of the 'UK Police Service Secured by Design (SBD) Interpretive Document for BS EN 1627:2011, BS EN 1628, BS EN 1629 and BS EN 1630'. This document can be found on the Secured by Design website under SBD Standards Explained

Note 28.1.4: Specifiers and DOCOs are reminded that a requirement for windows to meet LPS 1175 in a residential situation will be exceptionally rare and can only be justified by a detailed crime risk analysis indicating that the resident is at extreme risk.

Note 28.1.5: LPS 2081 is a new standard due to be published mid-2014. It is largely based on the methodology of LPS 1175 but attacks are designed to use stealth (low noise levels). It is therefore more suitable than LPS 1175 for residential applications where excessive noise is generally avoided by the offender.

28.2 Windows must also be fit for purpose and shall 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)

The following performance requirements are also required:

- BS 6375 parts 1 & 2 *(Note 28.2)*

Note 28.2: Specifiers are reminded that there are numerous classifications within BS EN 6375 and therefore it is not possible for this document to be prescriptive. It is therefore important that the correct duty, weather and performance levels are selected to address the need/location of the window.

28.3 Windows installed within SBD developments must be certificated by one of the following UKAS accredited certification *(Note 28.3.1)* bodies or can demonstrate alternative compliance *(Note 28.3.2):*

- British Standards Institute (BSI)
- BM TRADA Certification
- Building Research Establishment (BRE)
- British Board of Agrément (BBA)
- Loss Prevention Certification Board
- Steel Window Association
- ER Certification
- Warrington Certification (STS 204)
- UL International (UK)

The DOCO must be supplied with proof of certification (by one of the above bodies) 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 doorset can be identified on the SBD website.

Note 28.3.1: Certified products undergo continuous assessment to ensure product standards and production consistencies are maintained.

Note 28.3.2: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the certification process with one of the above bodies. All such cases must be verified with ACPO CPI. Alternatively third party accreditation via a Notified Certification Body that has signed the EA MLA (European co-operation for Accreditation Multilateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The DOCO may refer such cases to ACPO CPI for verification.

28.4 Windows falling outside the scope of the British or STS Standard e.g. horizontal sliding windows, must be assessed by a UKAS accredited organisation accredited to perform such an assessment (British Board of Agrément or Building Research Establishment) against the principles of PAS 24: 2012 or STS 204 Issue 3:2012. Any such assessment shall include the appropriate fitness for purpose standard (paragraph 28.2). The DOCO shall be supplied with proof of certification (by one of the above bodies) 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 window can be identified on the SBD website.

28.5 Windows must be securely fixed in accordance with the manufacturer's specifications. The DOCO shall be provided with a copy of the manufacturer's specifications.

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

28.6.1 Laminated glass meeting the requirements of BS EN 356:2000 class P1A is required in the following areas:

- any window located within 400mm of a doorset
- easily accessible emergency egress windows *(Note 28.1.1)*
- easily accessible roof lights

28.6.2 Accessible emergency egress windows shall incorporate non-key lockable hardware *(Note 28.6.2)* together with laminated glazing conforming to the requirements in 28.6.1.

Note 28.6.2: If the window is certificated to either PAS 24:2012 or STS 204 Issue 3: 2012 then it must be classified as 'WKT'. The classification 'WKT' must fall within the scope of the certification documentation and indicates that the manufacturer has submitted product for assessment with non-key lockable hardware.

28.7 Where automatic opening window and venting systems controlled by sensors and computers are used, for example in some eco homes or flat developments, they shall include a 'fail safe' system to ensure maintenance of security in the event of failure.

28.8 In certain regional locations, to ensure that security is commensurate with the risk, the DOCO may require laminated glass, meeting the requirements of BS EN 356:2000 class P1A *(Note 28.8),* to be installed on all ground floor and basement windows and those easily accessible above ground floor *(Note 28.1.1).* Such a requirement will be communicated to the developer, or the developer's agent, in writing prior to commencement of building construction. Developers are advised that a late application for SBD approval may require glazing to be replaced if it does not meet the standard required.

Note 28.8: There is no specific requirement to install laminated glazing on the inner or outer face of a double glazed unit. However specifiers may wish to take into consideration the fact that toughened glass is usually more resistant to accidental damage by blunt objects such as a football and therefore may be best placed on the external face of the double glazed unit. It is recognised however that there are many other factors that may also need to be considered such as thermal efficiency, aesthetics and the requirement for privacy or obscured glazing, which will influence the specifier's decision.

29 Roof lights

29.1 Easily accessible *(Note 29.1)* roof light apertures shall be protected by roof lights certified to:

- PAS 24:2012 *(Note 28.1.2 and 28.1.2)*, or
- STS 204 Issue 3:2012, or
- LPS 1175 Issue 7:2010 Security rating 1, or
- STS 202 Issue 3:2011 Burglary rating 1, or
- LPS 2081 Issue 1:2014 Security rating A *(Note 28.1.5)*

Easily accessible roof lights shall be glazed with laminated glass (see paragraph 28.6.1).

The above requirement is not required within roof lights certificated to LPS 1175 SR1 or STS 202 BR1 as glazing security is suitably addressed within these standards.

Note 29.1: It is difficult to give a comprehensive description of the term 'easily accessible'. However, common sense dictates that 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. 'Easily Accessible', in this context 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.

29.2 See paragraphs 28.2 to 28.4 with regard to fitness for purpose standards and certification requirements.

29.3 The DOCO must be supplied with proof of certification (by one of the above bodies) 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.

29.4 Roof lights must be securely fixed in accordance with the manufacturer's specifications. The DOCO must be provided with a copy of the manufacturer's specifications.

30 Dwelling security lighting

External

30.1 Lighting is required to illuminate all external doors, car parking and garage areas and some footpaths leading to dwellings and blocks of flats. Please note bollards are not an appropriate choice for lighting because they do not project sufficient light at the right height to aid facial recognition and reduce the fear of crime. More specifically, they are energy inefficient and do not comply with BS5489:2013 required lighting levels and uniformity requirements *(Note 30.1)*.

Note 30.1: This is also a requirement of the 'Code for Sustainable Homes (Hea 4 - Lifetime Homes). Please note however that if LED is used there is little surround spill light so additional lighting at these key areas may be required.

30.2 The use of low energy consumption light sources with an efficacy of greater than 40 Lumens per circuit watt is required *(Note 30.2)*. Secured by Design encourages wherever possible the use of the most environmentally friendly light sources. The ILP currently favours the use of good quality LED lighting and other energy effective light sources from this perspective and advises against the use of fluorescent lighting which is environmentally unsustainable for a variety of reasons.

Note 30.2: The Code for Sustainable Homes requires security lighting to be switched by PIR and for the lamp not to exceed 150w. Secured by Design has not specified this type of security lighting for a number of years following advice from the Institute of Lighting Professionals (ILP) and police concern regarding the increase in the fear in crime (particularly amongst the elderly) due to repeated PIR lamp activations. Research has proven that a constant level of illumination is more effective at controlling the night environment. However it should be pointed out that the Code for Sustainable Homes does not penalize specifiers that follow the SBD guidance (constant level of illumination by utilizing low energy luminaires) and allows credits to be awarded for 'default cases' (Code for Sustainable Homes Ene 6 – external lighting).

30.3 SBD requires that only luminaires with suitable photometry serving to reduce light spill and light pollution may be used (Note 30.3).

Note 30.3: 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 from the private elements of the scheme is deemed a statutory nuisance (public lighting is not covered) and illuminating areas unintentionally is wasteful.

30.4 External lighting must be switched using a photo electric cell (dusk to dawn) with a manual override or via a Central Management System (CMS) for large scale flat developments. If LED light sources are used then shorter burning hours can be detailed as no warm up time is required for the lamp.

30.5 24 hour lighting (switched using a photoelectric cell) to communal parts of blocks of flats will be required. This will normally include the communal entrance hall, lobbies, landings, corridors and stairwells and underground garaging facilities and all entrance/exit points. Other areas requiring lighting will be indicated by the DOCO in writing. To reduce energy consumption this may be provided by a dimming system which leaves luminaires on at a lower level during quieter periods.

A specifier may choose passive infrared (PIR) controlled LED lighting as an alternative for internal communal areas given the lamps require 'no warm' up time. All communal light fittings must be dedicated for the use of energy effective lamps.

Internal

30.6 Apparent occupation of a dwelling can be a deterrent to crime. Due to the fact that many people leave lights on when going out at night, and to ensure that the energy used is minimised, SBD requires that at least 75% of the fixed internal light fittings are dedicated for the use of energy effective lamps. An energy effective light source should have a luminous efficacy of over 55 lumens per watt and ideally a lamp life of over 12000 hours.

Energy

30.7 The best light source should be used for each design to enable the least energy to be used. Whole life costing of a design should be considered to make sure over the lifetime of the installation the most energy effective solution has been proposed.

31 Conservatories

31.1 Where a conservatory is installed there must be a door separating it from the dwelling. The door must meet the same physical standard as 'Front Door' (paragraphs 21.1 to 21.6 and 21.8 to 21.13. Alternatively doors and glazed areas of the conservatory should meet the relevant requirements within this document (see paragraphs 21 for doors and 28 for windows).

32 Intruder alarms

32.1 A 13 amp non switched fused spur, suitable for an alarm system, must be installed. If the full alarm system is installed it shall comply with one of the following standards:

- BS EN 50131 & PD6662 (wired system)
- BS 6799 (wire free system)

All installations should be in accordance with the current regulations for electrical installations.

32.2 If complete systems are installed, and a police response is required, reference shall be made to the ACPO Security Systems Policy a copy of which can be obtained from the SBD website – www.securedbydesign.com

33 Utilities

33.1 In order to reduce the opportunities for theft by 'bogus officials' the utility meters should, where possible, be located to the outside of the dwelling at a point where they can be overlooked. This will negate the need for an official to enter the building in order to read a meter, which will in turn reduce the opportunity for distraction burglary. Where possible utility meters in multi occupancy developments should be located on the ground floor between access controlled doors (air lock system) so that access can be restricted to the meters *(Note 33.1)*

Note 33.1: Where a utility provider refuses to provide external meters, and there is an obvious (historic) risk of distraction burglary within the location, the developer should consider an alternative supplier.

33.2 Although considered to be extremely undesirable in security terms, it is accepted that utility meters and control equipment that provide a supply by the use of some form of pre-paid token or key may be located within the dwelling.

33.3 Intelligent meters with automatic signalling are an acceptable alternative to 33.1.

34

34 Party wall construction and sound Insulation

34.1 There have been incidents reported to the police where a burglar has bypassed a satisfactorily installed enhanced secure doorset, by breaking through the adjacent wall from the communal corridor. Therefore, standard timber or steel stud partition walls used to separate dwellings from each other or separate a flat from a common corridor are not acceptable. This type of wall must incorporate additional construction components, such as:

- Timber sheathing, minimum 9mm thick, or
- Expanded metal.

Although not originally intended to enhance security the following 'Robust Details' are acceptable:

- E-WT-2 (timber wall construction)
- E-WS-3 (light steel construction)
- E-WM-20 (masonry wall construction)

Alternatively walls proven to meet the requirements of the following standards are also acceptable:

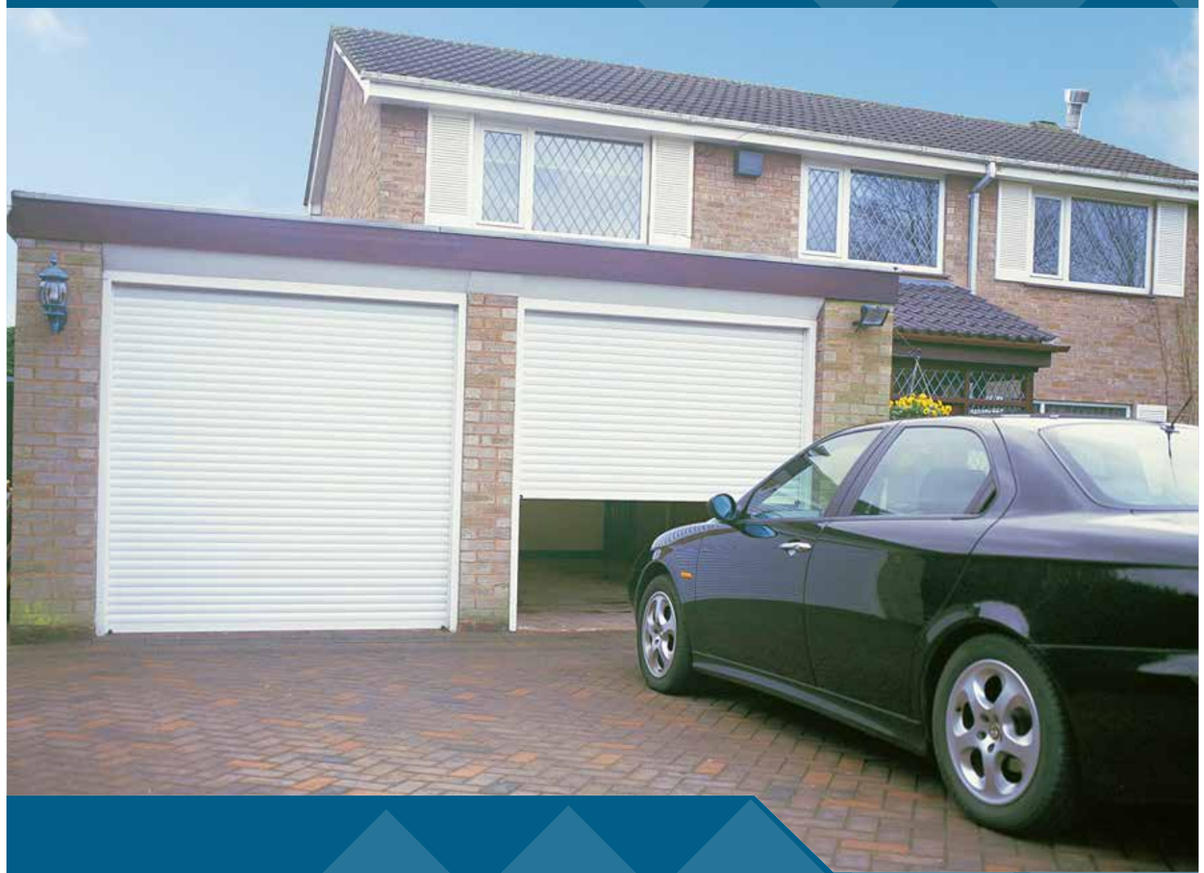
- LPS 1175 Issue 7:2010 Security Rating 1, or
- STS 202 Issue 3:2011 Burglary rating 1

34.2 The police recommend the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours, which in turn will reduce resource implications for both the police and the local authorities. The 'Code for Sustainable Homes', under 'Hea 2' awards up to 4 credits for sound installation.

34.3 Annex B details the additional requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities.

35 Loft hatches in communal areas

35.1 Loft hatches located in communal areas, such as over landings in blocks of flats, must be locked into place to prevent access into a dwelling via the loft space. This may still be required even where the loft space has been compartmentalized to prevent the spread of fire and smoke. There are currently no 'hinged' or 'lift out' loft hatches being manufactured to recognised security standards, but where padlocks, hasps and staples are used to secure the hatch the products must be certificated to Sold Secure 'Silver' or LPS 1654 Issue 1:2013 SR1 and fitted in accordance with the manufacturer's instructions.



SECTION 3:
ANCILLARY SECURITY REQUIREMENTS

(SECURITY REQUIREMENTS FOR ADDITIONAL OR OPTIONAL RESIDENTIAL FEATURES)

36.1 The essential security dwelling detail requirements in Section 2 are further enhanced by the requirements set out in this section. Section 3 addresses the requirements for a range of additional or optional residential features, such as bicycle storage, drying rooms, external bin stores, etc. The physical security standards outlined within this section of Secured by Design, together with Sections 1 and 2 of this document indicate the minimum requirements needed in order for a development to be awarded a Secured by Design certificate.

36.2 It should be noted however, that in some higher risk locations, additional or alternative measures may be required. Any such additional or alternative requirements shall be communicated to the developer (or the developer's agent) in writing at the design stage. Developers should be aware that crime risk analysis and an understanding of local crime risk occurrence plays a significant determining factor in the SBD process to ensure appropriate crime resistance is specified. For further, see Section 1, paragraph 1.2.

36.3 The standards quoted hereafter were relevant within the United Kingdom on the date of publication of this document and are suitable for most insurance risks. A departure from the recognised standards, as outlined below, will only be acceptable in exceptional circumstances.

36.4 All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier standards/versions will not be valid or acceptable 12 months from the publication date of the succeeding amendment, revision or standard unless otherwise stated within this document.

36.5 At several points within this document a requirement is made for products to be 'Certificated' to relevant standards. It should be understood that any documentation submitted for SBD accreditation should clearly show the certification body name and the manufacturer/fabricator of the product installed within the development. Documentation that is provided bearing the name of a component or system manufacturer will not be deemed acceptable.

37 External Garage doorsets

37.1 External pedestrian access doors must meet the same physical, locking and fixing specification, as 'Front Door', paragraphs 21.1 to 21.6 and 21.8 to 21.13.

37.2 The vehicle access doorsets must be certificated to one of the following standards *(Note 37.2)*:

- LPS 1175 Issue 7:2010 Security Rating 1
- STS 202 Issue 3:2011 Burglary Rating 1

Alternatively a vehicle access door that is not certificated to one of the above standards may be deemed satisfactory if an external 'garage door defender' type security product is also fitted. Such products must be certificated to Sold Secure Bronze level or above.

The DOCO must be supplied with proof of certification (by one of the above bodies) including the technical schedule (sometimes referred to as 'Scope of Certification') prior to the SBD certificate being awarded, unless the supplier is a member of the Secured by Desi3n Licensing Scheme and the doorset can be identified on the SBD website.

Note 27.2: Where a manufacturer has demonstrated, to the satisfaction of ACPO SBD, that compliance with a similar alternative standard from another supplier or country has been achieved this may be accepted as an alternative to the above standards.

38 Underground car parking standards

38.1 The following requirements are necessary:

38.1.1 An access control system must be applied to all vehicular and pedestrian entrances to prevent unauthorised access in to the car park.

38.1.2 Inward opening automatic gates or roller grilles must be located at the building line or at the top of ramps to avoid the creation of a recess. They must be capable of being operated remotely by the driver whilst sitting in the vehicle, the operation speed of the gates or shutters shall be as quick as possible to avoid tailgating by other vehicles. This will allow easy access by a disabled driver, and should satisfy the requirements of the Highways Department who under normal circumstances do not permit vehicles to obstruct the pedestrian footway whilst the driver is unlocking a gate. Automatic roller shutters must be certificated to a minimum of LPS 1175 SR1 or STS 202 BR 1.

38.1.3 Lighting must be at the levels recommended by BS 5489:2013. The DOCO shall be provided with a declaration of conformity to BS 5489:2013 by a 'competent' independent designer. Competency shall be demonstrated by achievement to at least ILP competency level 3 or 4, i.e. the designer will be a Member of the ILP (MILP) and either IEng or CEng qualified to be deemed competent to be able to design under CDM

regulations. Additionally a risk and environmental assessment (EMS) for the CDM designer compliance requirements must be included. Manufacturer designed schemes without risk or environmental assessments should not be accepted as they do not cover the CDM designer risk elements which are required.

38.1.4 Walls and ceilings must have light colour finishes to maximise the effectiveness of the lighting as this will reduce the luminaires required to achieve an acceptable light level.

38.1.5 Any internal door that gives access to the residential floors must have an access control system and meet the physical requirements in Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. However, this will be subject to requirements for means of escape.

38.1.6 In larger developments closed circuit television (CCTV) may be required by the DOCO following a crime risk assessment. The residents must be able to observe the car park from individual dwelling units if no formal monitoring agreement is planned. Developers are reminded that if images of public space are visible and recorded then there may be a legal responsibility to register the system with the Information Commissioner. Such a system would only be practical if there is a planned management service for the development.

39 Conservatories

39.1 Where a conservatory is installed there must be a door separating it from the dwelling. The door must meet the same physical standard as 'Front Door' (Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. Alternatively doors and glazed areas of the conservatory should meet the relevant requirements within this document (see Section 2, paragraph 21 for doors and 28 for windows, inclusive).

40 Internal communal drying rooms

40.1 Where dedicated communal internal drying rooms are located in blocks of flats, they must be fitted with doorsets that meet the same physical specification as 'front door' and specifically Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. This is to ensure that they are only accessible to the residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person.

41 Bicycle parking

41.1 The Code for Sustainable Homes awards up to 2 credits for the provision of adequate and secure cycle storage facilities. Secured by Design supports this aim and provides some additional security requirements below:

42 External bicycle storage

42.1 External containers specifically designed for the secure storage of bicycles must be certificated to LPS 1175 SR 1.

42.2 Where bicycle storage is provided in a robust shed, the minimum requirements for the shed construction and security are as follows:

- 38x50mm (min) planed timber frame
- Floor and roof constructed from 11mm boards (min)
- 10x125mm (min) Tongue & Grooved board
- No window to be present
- Door hinges, hasp and staple to be coach-bolted through the shed structure
- 'Sold Secure' Silver or LPS 1654 Issue 1:2013 SR1 standard padlock to be used
- Must be securely fixed to a suitable substrate foundation
- The bicycle security anchor must also be certificated to 'Sold Secure' Silver Standard or LPS 1175 Issue 7:2010 SR1 and securely fixed to the concrete foundation in accordance with the manufacturer's specifications
- Proprietary wall-mounted anchoring systems certificated to Sold Secure Silver standard and installed according to the manufacturer's specifications are acceptable

42.3 Where cycle storage is provided in a garage, adequate space must be provided to store both the bicycle(s) and the car(s) at the same time.

42.4 For space requirements for bicycle parking see Code for Sustainable Homes (Ene 8 Page 88).

42.5 External, open communal bicycle stores with individual stands for securing bicycles will be within 100 metres of the primary entrance to a block of flats and located in view of habitable rooms of the dwellings. The store must be lit at night using vandal resistant, dedicated energy efficient light fittings and energy efficient lamps.

42.6 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:

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

Compliance can be demonstrated by products certificated to LPS 1175 Issue 7:2010 Security Rating 1 or 2.

43

43 Internal communal bin and bicycle stores

43.1 Internal communal bin and bicycle stores within blocks of flats must have no windows and be fitted with a secure doorset that meets the same physical specification as 'front door' and specifically Section 2, paragraphs 21.1 to 21.6 and 21.8 to 21.13. This will ensure that such stores are only accessible to residents. The locking system must be operable from the inner face by use of a thumb turn to ensure that residents are not accidentally locked in by another person. A bicycle store must also be provided with stands with secure anchor points or secure cycle stands (see paragraph 42).

44 External bin stores and home composting facilities

44.1 External bins stores and home composting containers (supplied to meet 'Code for Sustainable Homes' 'Was 3') should be sited in such a way that they cannot be used as a climbing aid to commit crime.

45 Home User Guide

45.1 If a Home user guide is being produced for this development under the Code for Sustainable Homes (Man 1 refers) it will be necessary to include instructions for the operation of all door and window locking systems.

ANNEXES AND IMAGE CREDITS

Annex A

Access Control Technical Specifications and recommended Management and Maintenance Protocols

Electronic access control 'keys' and readers:-

A1.1 Proximity keys must be security encrypted to protect against unauthorised copying, and be sufficiently robust to avoid constant replacement during everyday use by the residents.

A1.2 The static onsite electronic reader must be vandal resistant, located in an area covered by the CCTV system (where required, see paragraphs 24.9.2 and 24.9.3) and connected via dedicated secured cabling to a network controller contained in a lockable steel cabinet to LPS 1175 SR1 or STS 202 BR1, located in a secure area within the premises.

A1.3 Every proximity access controlled door and radio access controlled vehicle entrance will be included on the network. The access control system will have the facility to record and identify the location, user, type, time and date of every system event. Sufficient memory storage must be available for a period of not less than 30 days. The system will be fully programmable, with access restricted to the nominated system controller(s) who will be able to manage the system via remote access in order to expeditiously delete lost or stolen proximity key fobs and radio transmitters.

CCTV and Recording:

A2.1 Each camera will be contained in a vandal resistant housing with the facility for ceiling or wall mounting, and will provide real-time high resolution colour images during daylight, and monochrome images when operating below 0.5 lux, with a minimum operational specification of: 1/3" CCD true, day and night camera, with removable IR cut filter, Auto Iris 3.3–12 mm* vari-focal lens, 600 TVL, 0.45 lux (colour), 0.01 lux (monochrome).

* A specific focal length may be required to achieve the system objective.

A2.2 Cameras will be connected directly to a digital video recorder (DVR), remote server or other recording device via dedicated cabling, suitable for the transmission of PAL composite video.

A2.3 Any 'on-site' DVR or other hard drive unit will be contained in a lockable steel cabinet to LPS 1175 SR1 or STS 202 BR1. Provision must be made for connectivity of a portable viewing device (a static on site monitor is acceptable if located within a private area). Any monitor must have at least 1280 x 1024 pixel resolution.

A2.4 Any recording medium will have the facility to record the total number of connected cameras individually at 12 IPS (images per second), at a resolution of no less than 2CIF, with high quality compression. Sufficient hard disc storage must be available to retain all images for a period of not less than 30 days.

A2.5 The recording medium will commence continuous recording of all related cameras located within the communal entrances and internal lobby areas, once entry has been granted. Recorded images include a pre-event recording period of 20 seconds, and post-event recording period of 30 seconds.

A2.6 All camera images will be location titled and have this information recorded to disc/drive along with time and date stamping.

A2.7 The recording medium will provide suitable methods of export and incorporate the required software to view the exported footage.

A2.8 Access to any monitor and recorded images will be restricted to the nominated system controller(s) who will manage the system.

Further additional requirements:

A3.1 The system will be fully operational and demonstrated to the DOCO upon final inspection, prior to the occupation of the development.

A3.2 Where a digital television is utilised to provide images and it can be reasonably demonstrated that the future occupants are not able to provide a television, then a suitable device for monitoring and door release shall be provided within the dwelling and should be free of charge for the duration of their occupancy (it is ultimately a matter for the building owners to develop a qualifying criteria).

A3.3 The communications package required for full remote connectivity of the visitor door entry, resident access control and CCTV systems must be live at handover and demonstrated to the DOCO.

Management and Maintenance Protocols

A4.1 The system controller(s) will be trained to use the system and be available to download the images at all times upon reasonable police request.

A4.2 The power supply serving the cameras, the door entry and access control equipment and or camera transformers and DVR or hard drive will be a maintained by a non-switched 240V AC supply.

A4.3 An 'As Installed' system specification and schematic, site specific drawing and logbook will be provided to the system controller(s) and available to be viewed at all times.

A4.4 It is recommended that the system receives a minimum of two maintenance inspections per year. Each camera will be cleaned and a test recording completed and compared with the previous recording, to ascertain any deterioration in quality and performance. The contractor should issue a certificate of operational safety and security.

A4.5 The contractor will provide system-operating manuals to the system controller(s), which will include the method of reviewing and archiving recorded images and will be available for use at all times.

A4.6 Recorded images will not be removed or electronically transmitted from the premises other than by the authorised system administrators, or at the request of the Police Authorities.

A4.7 The contractor will issue a certificate to confirm that the CCTV installation is compliant with *BS 7958: 2009 Closed circuit television (CCTV. Management and operation. Code of practice,* and the requirements of the Data Protection Act 1998.

A4.8 The contractor will issue an NSI (or equal and approved) certificate of compliance for the resident access control installation.

A4.9 The contractor will issue a certificate to confirm that the systems and installations are in compliance with SBD guidelines.

Annex B

Additional requirements for student or key worker accommodation and other 'single room' accommodation with shared communal facilities

B1.1 Purpose built or converted existing buildings, often intended for use by students or key workers, that offer a single room for the use by the occupier with shared facilities e.g. kitchen, dining and bathing, are subject to increased criminal activity. The nature of such developments affords the opportunist criminal additional anonymity and therefore aids the criminal act and escape. The following requirements are intended for buildings housing numerous 'accommodation rooms (bedrooms)'.

Compartmentalisation of 'dwelling' areas

B2.1 No more than 6 bedrooms intended for the sole use of individual occupants will be acceptable within each communal unit. Buildings housing numerous communal units (flats/apartments) must be arranged to ensure that each communal unit does not exceed the maximum number of bedrooms allowed (see Appendix B, paragraph B1.1). Each communal unit must also incorporate the requirements within Appendix B, paragraphs B3.1 to B5.1

Party walls

B3.1 Each communal unit consisting of no more than 6 bedrooms, together with the associated shared facilities and living space will be afforded the same protection as outlined in paragraph 34. The same level of protection is not required between each of the individual accommodation rooms, however it is expected that the wall construction is still of a robust nature and satisfactorily sound proofed.

Flat/dwelling entrance doorset

B4.1 The primary communal unit doorset (allowing access to the 6 bedrooms (maximum)) shall meet the same physical specification paragraph 25 'Flat entrance doorsets served off a shared corridor or stairway'.

Accommodation room (bedroom) doorsets

B5.1 Doorsets providing access to the individual bedrooms shall be of:

- robust construction and fire rated (FD30 or higher), and;
- installed with a lock certificated to BS 8621 or PAS 8621, and;
- fitted with a minimum of two hinge bolts or hinges with a similar integral facility to ensure protection in the event of a hinge failure under following a criminal attack, and;
- installed with a securely fixed, robust planted stop, OR;
- Shall meet the same physical specification as 'front door' (paragraphs 21.1 to 21.6 and 21.8 to 21.13)

Image credits

Cover	Devonport, Plymouth, Emma Snow image copyright ACPO CPI
2	Image copyright ACPO CPI
3	North Prospect, Plymouth, Emma Snow, image copyright ACPO CPI
8	Interactive Design Guide image copyright ACPO CPI
9	Mountwise, Devonport, Plymouth, Emma Snow, image copyright ACPO CPI
11	Image copyright ACPO CPI
14	Milton Keynes, image copyright David Thrower, Redshift Photography
15	Interactive Design Guide image copyright ACPO CPI
20	Interactive Design Guide image copyright ACPO CPI
22	Devonport, Plymouth, Emma Snow image copyright ACPO CPI
24	Caple Manor Gardens, Enfield, image copyright ACPO CPI
27	Devonport, Plymouth, Emma Snow image copyright ACPO CPI
35	'Kustomfold' Folding Timber Doorset image copyright Kloeber UK
43	Secure Modern Warm Programme, image copywright Nottingham City Homes
44	Image copyright Rooflight Company
45	Interactive Design Guide image copyright ACPO CPI
49	Image copyright ACPO CPI
50	Interactive Design Guide image copyright ACPO CPI

Secured by Design
Interactive Guide

Optimised for your browser

This guidence is complimented by the Secured by Design interactive guide that helps explore the principles of designing-out crime within a fictional residential development. The development illustrates poorly designed features and more secure alternative solutions. A series of scenarios taken from this New Homes, highlight the design decisions that would increase the risk of crime and anti-social behaviour.

Visit **www.securedbydesign.com/interactive**

The title Secured by Design and the related logos are registered as UK Trademarks owned by ACPO Crime Prevention Initiatives Limited, registered in England 3816000.

ACPO Secured by Design, First floor, 10 Victoria Street, London SW1H 0NN
Tel: 0207 084 8962 **Fax:** 0207 084 8951
Email: acpocpi@acpo.pnn.police.uk **Web:** www.securedbydesign.com

© ACPO SBD 12/02/2014
(Applicable to SBD applications on or after 01/09/13)

Secured by Design

SECURED BY DESIGN LICENCE HOLDER

This is to certify that:

SAPA BUILDING SYSTEMS LIMITED

Of:

Severn Drive, Tewkesbury, Gloucestershire, GL20 8TZ

Holds a Secured by Design licence.
Valid in conjunction with the current schedule until:

31 December 2017

Please refer to www.securedbydesign.com/members
for the current schedule information.

Signed: **Date:** 01 January 2016

Alan McInnes
Director, Police Crime Prevention Initiatives Limited

Secured by Design Application Form

Secured by Design (SBD) is the UK Police flagship initiative supporting the principles of "designing out crime" through the use of effective crime prevention and security standards for a range of applications. SDB is owned by the Association of Chief Police Officers (ACPO) and is supported by the Home Office and the Planning Section of Communities and Local Government (CLG), as well as many Local Authorities across the UK.

The Secured by Design award is presented to a building owner or developer in recognition that the development was constructed in accordance with the secure standards of SBD.

Further details of the scheme can be found on the Secured by Design website: www.securedbydesign.com.

Please complete the attached form and return to Design for Security at:

info@designforsecurity.org

Please also provide PDF copies of the following drawings where available:

- Location Plan
- Site Plan
- Floor Plans
- Elevations
- Sections
- Landscape and Lighting Layouts
- 3D Visuals
- any other supporting documentation

We look forward to hearing from you.

Kind Regards,

The Design for Security Team

Secured by Design Application Form

SBD Compliance

What level of SBD compliance are you looking for?

~~Full Compliance (Award)~~ ✓ Part 2 Compliance Only

Applicant Details

Name	P.J.Livesey Living Space Limited
Address	Beacon Road
	Trafford Park
	Manchester
Postcode	M17 1AF
Phone	0161 873 7878
Email	andrew.mcmurtrie@pjlivesey.co.uk
Contact	Andrew McMurtrie

Agent Details

Name	
Address	
Postcode	
Phone	
Email	
Contact	

Main PoC	Applicant

Development Address

Full Address	Former Manchester Metropolitan University Didsbury Campus
	799 Wilmslow Road
	Didsbury, Manchester
Postcode	M20 2RR
Planning Application No. (if known)	108541-OO-2015-S2

Development Details

Please mark all applicable

Residential		Total no. dwellings
	Apartments	8 new build
	Houses	42 new build

Commercial N/A		~~Total m² if known~~
	~~Offices~~	
	~~Retail~~	
	~~Industrial~~	
	~~Leisure~~	
	~~Medical~~	
	~~Education~~	
	~~Transport~~	
	~~Places of Worship~~	
	~~Licensed Premises~~	
	~~Other (please state)~~	

Car Parks		Total number of parking spaces
	Multi-storey	48 in undercroft
	Surface	61 (+garages)

Management and Maintenance

Please summarise any proposed strategies relating to the management and maintenance of the scheme, including any details on security measures to be incorporated (if applicable).

Secured by Design

SECURED BY DESIGN LICENCE HOLDER

This is to certify that:

TOTAL GLASS LIMITED

Of:

Total Complex, Overbrook Lane, Knowsley, Liverpool, Merseyside, L34 9FB

Holds a Secured by Design licence.
Valid in conjunction with the current schedule until:

11 May 2017

Please refer to www.securedbydesign.com/members
for the current schedule information.

Signed: **Date:** 12 May 2016

Alan McInnes
Director, Police Crime Prevention Initiatives Limited