

New Homes

Code for Sustainable Homes

- (i) The Code for Sustainable Homes (DCLG 2007) awards points to developments that have met the requirements of Secured by Design – New Homes, Section 2. Developers should be aware that compliance with this section alone will only enable the development to be described as ‘Secured by Design – Part Compliant’. Under no circumstances shall the developer market the development as ‘Secured by Design’ or use the SBD logo in any advertising/promotional material.
- (ii) Should the local Planning Authority require *Secured by Design* certification, under a planning condition, then the development shall meet the full requirements within both Sections 1 & 2 of this document.
- (iii) Likewise developers wishing to market their development as ‘Secured by Design’ may only do so if compliance with both Sections 1 & 2 have been achieved or a *Secured by Design* Pre-Build Agreement has been completed (as described in (vii) f below).

Procedure

- (iv) *Secured by Design (SBD)* is a **minimum** standard for safety and security. Additional or alternative measures may be required due to local conditions, as advised by the local police Architectural Liaison Officer (ALO) or Crime Prevention Design Adviser (CPDA).
- (v) Applicants for *Secured by Design* certification shall comply with all appropriate measures as advised in this document. The local ALO/CPDA will advise the applicant of any alternative or additional site-specific requirements in writing at the earliest opportunity.
- (vi) Applicants should make themselves familiar with the relevant sections of the web site www.securedbydesign.com and consult their local ALO/CPDA for site specific information and to follow the application process outlined at (vii).
- (vii) The application process is as follows:
 - a. The best crime prevention gain will be achieved through early negotiation. It is important that the applicant meets with the ALO/CPDA prior to submitting a planning application, particularly as Design and Access Statements require a profile of the crime and disorder problems within the area of the application.
 - b. The applicant will provide adequate drawings, detailing the extent of the development, and send a completed application form to the ALO/CPDA at the earliest opportunity. Contact details for all ALO/CPDAs can be found on the *SBD* website www.securedbydesign.com
 - c. The ALO/CPDA will provide a written response to the applicant to include, where necessary, any additional or alternative crime prevention measures that may be required in order to achieve *SBD* certification.

- d. Should the proposed layout or specification alter as a result of liaison with the local planning authority or a statutory consultee, the ALO/CPDA shall be notified and provided with amended drawings.
 - e. The ALO/CPDA will meet with the developer or the developer's agent on site at the beginning of the project to ensure that contractual requirements are in line with *Secured by Design* specifications.
 - f. The *Secured by Design* certificate will be issued upon completion of the first dwelling providing the ALO/CPDA is satisfied that all *Secured by Design* requirements have been met. The applicant may use the *SBD* logo for marketing purposes if the developer, or the developer's agent, complete the Secured by Design Pre-Build Agreement and there has been a satisfactory review of the proposed layout and technical specifications by the ALO/CPDA. Developers are reminded that completion of the *SBD* Pre-Build Agreement represents a legally binding contract. Therefore unauthorised alterations to the specifications, pertinent to the SBD application, will constitute an offence under the Trade Descriptions Act 1968 and other legislation. A copy of the *SBD* Pre Build Agreement can be found at www.securedbydesgn.com.
 - g. Successful applicants are reminded that once a *Secured by Design* Certificate has been issued for a development, the specification for all homes must be the same as the first dwelling. If any detail changes to the specification of the dwellings or the surrounding environment are proposed, then the ALO/CPDA must be informed prior to any work being carried out on site. The *Secured by Design* logo signifies Police approval and unauthorised use may constitute an offence against the Trade Descriptions Act 1968 and other legislation. The Police service reserves the right to revisit all developments issued with a *Secured by Design* Certificate.
- (viii) Opportunities for designing out crime have often been lost by the time a development scheme has gained planning permission. Applicants should be aware that whilst late applications for *Secured by Design* may be considered by the ALO/CPDA, the development may not meet the requirements of *SBD* if the design, layout or specification is unsatisfactory.

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

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1 Introduction

- 1.1 A safe and secure environment is the prime objective of the *Secured by Design* initiative. To achieve this objective, equal weight shall be given to both environmental design (Section 1) and physical security (Section 2).
- 1.2 The principles of designing out crime must be incorporated (see the *Secured by Design* Principles document at www.securedbydesign.com). The application of these principles, and the design details for the particular development, must be agreed between the developer and/or the developer's agent and the police ALO/CPDA. Local planning conditions, crime risk assessment and other statutory provision, such as Planning Policy Statements 1 & 3 (PPS 1 & 3), may influence the measures to be adopted. Some of these are detailed in the Department for Local Government and Communities (DCLG) Guide "Safer Places – The Planning System & Crime Prevention", Developers working in Scotland should refer to PAN 77 Designing Safer Places (available from the Scottish Executive www.scotland.gov.uk) and those in Wales should refer to Section 2.9 of 'Planning for Wales(2002)' and TAN 12:Design (2002).

- 1.3 The advice given by the ALO/CPDA will be dependent upon the outcome of a crime risk assessment, and hence will vary from one development to another. Such an outcome may highlight the need to put specific measures in place to address particular types of crime. Therefore it is inevitable that the advice given to design professionals on one site may differ from that on another site

2 A Sense of Place

- 2.1 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 scheme for New Homes.
- 2.2 The following sections (2.3 to 2.6 inclusive) are an extract from *Safer Places – The Planning System and Crime Prevention*, a planning guidance document issued by the Home Office and the ODPM (now the DCLG) for England and referenced by Planning Policy Statement 1. The police service supports the seven attributes contained within *Safer Places*, listed below, and therefore developers must 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.
- 2.3 *Crime and anti-social behaviour are more likely to occur if the following seven attributes of sustainable communities are not incorporated:*
- 2.3.1 *Access and movement: places with well defined and well used routes with spaces and entrances that provide for convenient movement without compromising security*
 - 2.3.2 *Structure: places that are structured so that different uses do not cause conflict*
 - 2.3.3 *Surveillance: places where all publicly accessible spaces are overlooked*
 - 2.3.4 *Ownership: places that promote a sense of ownership, respect, territorial responsibility and community*
 - 2.3.5 *Physical protection: places that include necessary, well-designed security features*
 - 2.3.6 *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*
 - 2.3.7 *Management and maintenance: places that are designed with management and maintenance in mind, to discourage crime in the present and the future*
- 2.4 *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.*

- 2.5 *When it is unclear whether space is public or private it is difficult to determine what is acceptable behaviour. Where private space is easily accessible to people who have no right to be there and when a place feels like it is not under the supervision of local residents; an offender's presence in the area will not attract attention and is therefore unlikely to be challenged.*
- 2.6 *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 - The Planning System and Crime Prevention Home Office and ODPM 2004)*

3 Design & Access Statements

- 3.1 Compliance with the government backed *Secured by Design* award scheme criteria can be a major factor indicating that a scheme proposal has adequately addressed the crime prevention component required to be included in Design and Access Statements (DAS).
- 3.2 Department for Communities and Local Government (DCLG) circular 1/2006 "Guidance on changes to the Development Control System" emphasises the PPS1 policy 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. Paragraph 87 of this document states unequivocally that Design and Access Statements for outline and detailed planning 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 – the planning system and crime prevention (ODPM/ Home Office 2003)'. If adequate crime prevention information is not included in the explanation of the design principles applied to the amount, layout, scale, landscaping, appearance and context of the development, this may hinder the application as crime is a potential adverse economic, social and environmental impact of development and PPS1 requires such impacts to be avoided or mitigated.
- 3.3 The government planning document "Safer Places" which should inform all DAS can be found at :-
www.communities.gov.uk/pub/724/SaferPlacesThePlanningSystemandCrimePrevention_id1144724.pdf
- 3.4 Information and advice on crime risk and site specific crime prevention design criteria are available free of charge to planning applicants compiling a DAS from the local police ALO/CPDA whose contact details may be found via the home page of the *Secured by Design* website – www.securedbydesign.com
- 3.5 Reference to the full 'Safer Places document' and early consultation with the local ALO/CPDA is strongly recommended.

- 3.6 A DAS that addresses crime enables the applicant to demonstrate to the planning authority an awareness of the crime and disorder problems in the area of the application and, importantly, shows precisely what measures are being taken to alleviate these problems. In many cases compliance with *Secured by Design guidance* and specifications will deliver solutions (see note 3.6).

Note 3.6: Paragraph 69 of PPS 3 says 'In general, in deciding planning applications, Local Planning Authorities should have regard to: - Achieving high quality housing'. Achieving Secured by Design may indicate a commitment, by the Developer, to meet this objective of PPS 3.

4 Layout of roads and footpaths

- 4.1 Vehicular and pedestrian routes should be designed to ensure that they are visually open, direct, and well used. They 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 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.

5 Through-roads and cul-de-sacs

- 5.1 There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour and escape desire of the criminal, such as in some cul-de-sacs. However this does not exclude a grid layout pattern providing there is a high level of activity along the street, the street is well overlooked from the dwellings and other buildings and the defensive character of the development is not compromised through excessive permeability caused by the inclusion of too many or unnecessary segregated footpaths (allowing the criminal legitimate access to the rear or side boundaries of dwellings), or footpath links.
- 5.2 Cul-de-sacs that are short in length and not linked by footpaths can be safe environments in which residents benefit from a lower fear of crime. Research suggests that the cul-de-sacs that experience burglary usually feature one or more of the following characteristics. They often:
- back onto open land, railway lines, canal towpaths etc, and/or
 - are very deep or complicated i.e. cul-de-sacs branching off each other, and/or
 - are linked to one another by footpaths.
- 5.3 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.

6 Footpath design

- 6.1 Routes for pedestrians, cyclists and vehicles should not be segregated from one another. Networks of separate footpaths to unsupervised areas should also be avoided.
- 6.2 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.
- 6.3 Where a segregated footpath is deemed to be essential designers should carefully consider the possible impact upon crime. Such routes have in the past been proven to facilitate crime, hence they shall be straight, wide, well lit (see paragraph 9), devoid of potential hiding places and be overlooked by surrounding buildings and activities. Physical barriers may also have to be put in place where 'desire' lines would place a pedestrian in danger, such as at a busy road junction. 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.
- 6.4 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), with at least a 2 metre verge on either side. If footpaths are designated as an emergency access route they shall be wide enough to allow the passage of emergency and service vehicles and have lockable barriers.
- 6.5 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 opportunity of inappropriate loitering. The developer should consider wall finishes that enable easy removal of graffiti.

7 Planting next to a footpath

- 7.1 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 the plants could have a tendency to grow over the path creating pinch points, places of concealment and unnecessary maintenance.
- 7.2 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 an area with a known graffiti problem where the use of defensive planting may be appropriate.
- 7.3 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. The potential cost savings of a reduced maintenance requirement could be substantial.

8 Seating next to a footpath

8.1 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 antisocial behaviour. In some parts of the country there may not be a problem, in others seating may have to be provided only very judiciously. 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:

8.1.1 What type of people are 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?

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

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

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

8.1.5 Is vandal resistant seating necessary?

8.1.6 Should seating be placed right next to the path or set at the back of the verge?

8.1.7 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. Where the path includes a wide verge it may be most appropriate to position the seat to the back of the verge (avoid creating a climbing aid). 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.

9 Lighting of footpaths

9.1 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.

- 9.2 Footpaths that are to include lighting should be lit to the relevant levels as defined in BS 5489 (see note 9.2). It is important that the landscape architect and lighting engineer co-ordinate their plans. This will help avoid problems such as conflict between lighting and tree canopies.

Note 9.2: BS 5489 has been developed from EN 13201 and other European lighting standards. The British Standards reflect the elements of European Standards that are considered to be the minimum level required within the United Kingdom.

10 Footpaths on phased developments

- 10.1 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.

11 Communal areas

- 11.1 Communal areas, such as playgrounds, seating or drying 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 shall have features, which prevent unauthorised vehicular access. Communal spaces as described above should not immediately abut residential buildings.
- 11.2 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:
- 11.2.1 The open space must be designed with due regard for community safety requirements, and
 - 11.2.2 Adequate mechanisms and resources must be put in place to ensure its satisfactory future management, and
 - 11.2.3 Care should be taken to ensure that a lone dwelling will not be adversely affected by the location of the amenity space.
 - 11.2.4 It should be noted that positioning amenity/play space to the rear of dwellings can increase the potential for complaints arising from increased

noise and nuisance. For further reference see – *Better Places to Live by Design*, companion guide to PPG3 available at www.communities.gov.uk

- 11.3 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 in them 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 and reduce damage to a useful extent. The specific requirements shall be discussed with the ALO/CPDA.
- 11.4 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 can be obtained from www.securedbydesign.com.

12 Dwelling boundaries

Front boundaries

- 12.1 It is important that the boundary between public and private areas is clearly indicated. 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 if a more substantial frontal boundary is required by the ALO/CPDA.
- 12.2 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 ALO/CPDA will require the security of doors and windows to be upgraded to reflect the vulnerability of the dwelling.
- 12.3 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.
- 12.4 Generous hard paving or similar in front of the dwelling may reduce the likelihood of any planting growing to excess and obscuring vulnerable areas.

Access gates to rear gardens or yards

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

Side and rear boundaries

- 12.6 Vulnerable areas, such as side and rear gardens, need more 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. Where the risk is increased with gardens adjoining open land, footpaths or other vulnerable areas, for example railway property, tow paths etc, fencing certified to LPS 1175, security rating 1 may be required. Additional deterrent features such as increasing the height of fencing by adding a trellis top or thorny shrubs may be considered as an alternative. For properties bordering canal tow paths further guidance can be found in the British Waterways document 'Under Lock and Quay' (www.crimereduction.gov.uk/vehiclecrime34.htm). Following consultation with the ALO/CPDA and local planning authority these requirements may be changed with agreed alternative measures.

Sub-divisional boundaries

- 12.7 Sub-divisional fencing design should be agreed with the ALO/CPDA and the local planning authority. Such fencing shall provide clear demarcation and at the same time enable interaction between neighbours. Should a crime risk assessment indicate a high level of domestic burglary a more secure sub-divisional fence may be required. A suitable means of achieving this may include the following design features:
- 12.7.1 For the first section of the boundary starting from the building provide a 1.8m high timber privacy screen.
- 12.7.2 From the privacy screen to the end of the garden provide a 1.2m high timber fence topped with 600mm of timber trellis.
- 12.8 The trellis will help to deter climbing and the whole of the boundary can be made more secure 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.

13 Layout and Orientation of Dwellings

- 13.1 Dwellings should be positioned to face each other to allow neighbours to watch over each others' houses and to create the conditions which will make the potential offender feel vulnerable to detection.
- 13.2 In larger schemes there should be a mix of dwellings, as there could be greater potential for homes to be occupied throughout the day gives increased opportunity for natural surveillance, community interaction and environmental control.

14 Gable end walls

- 14.1 It is important to avoid the creation of windowless elevations and blank walls adjacent to space to which the public have access. This type of elevation, commonly at the end of a terrace, tends to attract graffiti and inappropriate loitering. Where possible, provide at least one window, which can be at first floor level, to give views over the public area.
- 14.2 Where blank gable walls are unavoidable, one of the following methods should be used to protect them;
- 14.2.1 Provide a 1m buffer zone using either a 1.2 – 1.4m railing (with access gate) or a 1m mature height hedge with high thorn content. Hedging will have to be protected with a fence such as chestnut paling until it becomes established. Responsibility for maintenance of the buffer strip must be clearly identified and diligently acted upon.
- 14.2.2 Where there is insufficient room for a buffer zone either grow an appropriate (non destructive) climbing plant up the wall, or apply a finish to the wall that will allow easy removal of graffiti. Graffiti must be removed promptly as soon as the maintenance staff are made aware of its presence.

15 Rear access paths

- 15.1 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.
- 15.2 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.
- 15.3 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 ALO/CPDA. Substantial purpose made gate products meeting LPS 1175 security rating 2 or Sold Secure Gold standard are available and may be required by the ALO/CPDA. 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. For guidance please refer to the Home Office Website at www.crimereduction.gov.uk/gating.htm or www.securedbydesign.com for a specification for a gate across a communal alleyway.

- 15.4 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 ALO/CPDA. The minimum height of the gates and walls shall be 2m.

16 Dwelling identification

- 16.1 Clear naming and numbering of properties is essential to assist residents, postal workers and the attendance of emergency services. Consideration should be given to the provision of vandal resistant location maps at convenient points. To help the visitor, location maps for larger estates must be correctly orientated from each entrance.

17 Climbing aids

- 17.1 Boundary walls, bins and fuel stores, low flat roofs or balconies should be designed so as not to provide climbing aids to gain access into the property.

18 Car parking

- 18.1 It is preferable that all dwellings have either provision to garage vehicles or in-curtilage gated car parking arrangements.
- 18.2 Where communal car parking areas are necessary they should be in small groups, close and adjacent to homes and shall be within view from routinely occupied rooms of the owners' premises. It may be necessary to provide additional windows to provide the opportunity for overlooking of the parking facility.
- 18.3 If car parking must be contained within an internal courtyard, although this practice is actively discouraged due the introduction of criminal access to the rear of dwellings, then it shall be protected by a gate, the design of which shall be discussed with the ALO/CPDA at the earliest possible opportunity. Where gardens abut the parking area an appropriate boundary treatment will need to be discussed and agreed by the ALO/CPDA.
- 18.4 Where dedicated garages are provided within the curtilage of the dwelling then the entrance should be easily observed from the street and neighbouring dwellings. Locating garages forward of the building line can obscure views of both the entrance to the garage and the dwellings.
- 18.5 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.
- 18.6 Communal parking facilities must be lit to the relevant levels as recommended by BS 5489 and a certificate of compliance shall be provided. Wall mounted spotlights shining over car parks can cause glare and light pollution and will not

normally be accepted as part of a lighting scheme. In exceptional circumstances rural car parking areas, where the crime risk profile indicates a low level of criminal activity, may be dealt with more sympathetically and a reduced level of lighting may be acceptable. However, this shall be agreed with the ALO/CPDA at the earliest possible design/planning stage.

19 Underground Car Parking

- 19.1 Many blocks of flats are now being developed with underground car parking. Early consultation with the ALO/CPDA is essential to ensure that criminal opportunity is minimised.
- 19.2 The following requirements are necessary:
 - 19.2.1 Every effort must be made to prevent unauthorised access into the car park. Therefore an access control system shall be applied to all pedestrian and vehicular entrances.
 - 19.2.2 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 shall 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 will normally 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.
 - 19.2.3 Lighting must be at the levels recommended by BS 5489 and a certificate of compliance shall be provided.
 - 19.2.4 Walls and ceilings shall have light colour finishes to maximise the effectiveness of the lighting.
 - 19.2.5 Any internal door that gives access to the residential floors shall have an access control system and meet the physical requirements in Paragraph 26 (*SBD New Homes – Section 2 Physical Security*). However, this will be subject to requirements for means of escape.
 - 19.2.6 In larger developments closed circuit television may be required. The residents shall be afforded the opportunity to monitor the car park from individual dwelling units if no formal monitoring agreement is planned. Developers should be 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.

20 Planting

- 20.1 The planting of trees and shrubs in new developments to create attractive residential environments will be supported provided that:
- 20.1.1 The layout allows sufficient space to accommodate the planting.
 - 20.1.2 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.
 - 20.1.3 The planting design takes full account of all other opportunities for crime.
- 20.2 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.
- 20.3 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 being used as canvases for 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.
- 20.4 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 below 2 metres, thereby allowing a 1 metre clear field of vision. As a general rule, building frontages should be open to view excepting, 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.

21 Street Lighting

- 21.1 All street lighting for both adopted highways and footpaths, private estate roads and footpaths and car parks must comply with BS 5489. Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the ALO/CPDA and the local authority lighting engineer (See Note 21.1).

Note 21.1: 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 and that others 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 ALO/CPDA at the time of application.

- 21.2 Landscaping, tree planting and lighting schemes shall not be in conflict with each other

- 21.3 The Overall Uniformity of light for an *SBD* development is expected to achieve a rating of $0.4U_o$ and should never fall below $0.25U_o$ (See Note 21.3).

*Note 21.3: The evenness of light distribution is almost always more important than the levels of illumination being achieved by the system (the levels are determined by BS 5489) The British Standards Institute have issued an advisory note stating that they recommend that U_o be at least 0.25 or 25%. A $0.4 U_o$ value is the ideal standard for an *SBD* lighting system, but where technical reasons prevent this we will still require the very best levels possible and under no circumstances may the rating fall below $0.25U_o$.*

- 21.4 The Colour Rendering qualities of lamps used in an *SBD* development should achieve a minimum of at least 60Ra (60%) on the Colour Rendering Index (See Note 21.4).

Note 21.4: The Colour Rendering Index, scaled from 0 to 100 indicates the colour rendering qualities of lamps. 0 is a non-existent ability to render colour under illumination, such as low pressure sodium lamps, and 100 is the colour rendering qualities of daylight. The 'whiter' the light the better the colour rendition qualities. Properly controlled white light will illuminate an area to higher satisfaction levels for people whilst actually delivering less light than would be required for similar levels of satisfaction if non-white light sources were used.

- 21.5 The ALO/CPDA may request to be provided with a 'Lux Plan' in order that the lighting system can be assessed (See Note 21.5).

Note 21.5: The details on the plan must include the maximum, minimum and average lux levels proposed. The plan must also show the U_o and Ra values for the scheme.

- 21.6 Light Pollution must be minimised (See Note 21.6)

*Note 21.6: All living things adjust their behaviour according to natural light. The application of artificial light has done much to improve our experience of the night-time environment, but if this light is not properly controlled both physiological and ecological problems may occur. Minimising light emitted in directions where it is neither necessary nor desirable is extremely important. Obtrusive lighting is a statutory nuisance and illuminating areas unintentionally is wasteful. *SBD* requires that only luminaires with suitable photometry serving to reduce light spill and direct light only to where it is required may be used.*

SECTION 2: PHYSICAL SECURITY (Building Control & Code for Sustainable Homes Issues)

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22 Introduction

- 22.1 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 Section 1 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 higher risk locations, additional or alternative measures may be required. Developers should note the content of paragraphs under the sub-title 'Code for Sustainable Homes' on page 1 of this document.
- 22.2 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. It is acknowledged that alternative products may exist which do not possess the BSI Kitemark, or other specifically mentioned approval schemes, which may be suitable for a specific use. However, the use of such alternative products/standards should be agreed with the police ALO/CPDA prior to them being incorporated within the development. A departure from the recognised standards, as outlined below, would only be acceptable in exceptional circumstances.
- 22.3 All standards quoted within Section 2 of this document are assumed to be the latest version, revision or amendment. Earlier amendments will not be valid or acceptable 12 months from the publication date of the succeeding amendment or revision.

23 Front Door

Front doorset standards

23.1 Paragraphs 23.13 to 23.15 apply specifically to front entrance doorsets, unless otherwise advised by the ALO/CPDA.

23.2 The SBD standard for doorsets is PAS 24-1:1999 'Doors of enhanced security' (see note 23.2) and PAS 23-1:1999 'General performance requirements for door assemblies' (including the relevant material annex). All security testing, performance testing and assessment must be undertaken at a suitably qualified United Kingdom Accreditation Service (UKAS) accredited test facility.

Note 23.2: A recent amendment (Amendment 4) has just been released for PAS 24. Earlier amendments will not be valid or acceptable 12 months from the publication date of the succeeding amendment or revision

23.3 Doorsets installed within SBD developments shall be assessed by a suitably qualified and recognised third party Certification Authority to both PAS 23-1:1999 and PAS 24-1:1999. The following UKAS accredited third party Certification bodies (See Note 23.3a) are acceptable:

British Standards Institute (BSI)

BM TRADA Certification

British Board of Agrément (BBA)

Loss Prevention Certification Board (LPCB – Note 1: The LPCB is part of the Building Research Establishment (BRE))

Steel Window Association – SWA Accreditation Scheme

Alternative compliance may be possible in certain circumstances (See Note 23.3b).

The ALO/CPDA shall be supplied with a copy of the test report and proof of Certification (by one of the above bodies) 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 23.3a: Certified Products undergo continuous assessment to ensure product standards and production consistency are maintained.

Note 23.3b: 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 CPI. Alternatively third party accreditation via a Notified Certification body that has signed the EA MLA (European co-operation for Accreditation Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The ALO/CPDA may refer such cases to ACPO CPI for verification.

Locking systems

23.4 Locks or locking mechanisms installed within doorsets shall also incorporate one or both of the following attributes:

23.4.1 A cylinder Certified to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), but including resistance to attack by drill

to grade 2. This is a requirement for doorsets utilising multi-point locking systems.

23.4.2 A lock Certified to BS 3621:2004 or BS 8621:2004 (See Note 23.4.2).

Note 23.4.2: BS 3621 and BS 8621 have been developed from EN 12209 which is the European standard for single point locking devices. The British Standards reflect the elements of EN 12209 that are considered to be the minimum level required for insurance cover within the UK. The only difference between BS 3621 and BS 8621 is the level of security offered from the internal face of the door – BS 8621 allowing the use of a non-key operated release mechanism (e.g. thumb turn). Both BS 3621 and BS 8621 require euro or oval profile cylinders (when installed) to meet BS EN 1303 grade 5 security and grade 2 attack resistance, this differs slightly from the requirements within PAS 24.

- 23.5 In some locations the local ALO/CPDA will require the front or main access doorset to incorporate a facility that will only enable access to be gained by latch withdrawal by use of a key, not by a lever/handle (See Note 23.5). 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 23.5: 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) Warranty Scheme, who warrant approximately 80% of new homes, and the joint police and fire service agreement for 'Means of Escape'.

- 23.6 To ensure that the end user of the door understands how to operate the locking system, clear operating instructions shall be attached to the inner face of the door (see note 23.6). These instructions shall be easily removable by the end user. In addition to this, all PAS 24 doorsets must be suitably marked as such in accordance with the requirements of the BSI standard.

Note 23.6 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.

- 23.7 Doorsets installed with a thumb turn release mechanism must specifically form part of the certified product range, as the criteria in PAS 24-1:1999 for such doorsets is more stringent. Hence a doorset tested with a key/key operation cannot claim compliance when a thumb turn release is installed.

Doorset installation

- 23.8 Door frames shall be securely fixed to the building fabric in accordance with the manufacturer's specifications. The ALO/CPDA may require a copy of the manufacturer's specifications.

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

Glazing in Doorsets

23.10 All glazing in and adjacent to doors shall be laminated (See Note 23.10) to a minimum thickness of 6.4mm and securely fixed in accordance with the manufacturers specifications. In higher risk locations the ALO/CPDA may specify laminated glass to a minimum thickness of 6.8mm (this will be a requirement for all such glazing with effect from 1st April 2009). This shall be communicated to the developer (or the developer's agent) in writing at the design stage.

Note 23.10: Laminated glazing will normally be required to be installed on the inner pane of the sealed unit (where a double glazed unit is required by the Building Regulations in order to meet the thermal standards). However where there are specific reasons for the laminated glass to be installed on the outside e.g. where patterned or obscure glass is required for privacy reasons, then this may be accepted with the agreement of the ALO/CPDA.

23.11 If glazed panels/windows adjacent to doors are installed as an integral part of the door frame then they shall be tested as part of the manufacturer's Certificated range of doorsets. Alternatively, where they are manufactured separately from the door frame, they shall be Certificated to BS 7950: 1997 (see section 30 Windows). In such cases the window shall be securely fixed (in accordance with the manufacturer's specifications) to the doorset. All glazed panels/windows adjacent to doors shall be laminated (see section 23.10).

Outward opening doorsets

23.12 Outward opening doorsets must specifically form part of the Certified product range e.g. BSI Kitemark or similar. The ALO/CPDA shall be supplied with a copy of the test report and proof 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.

Door chains, limiters and viewers

23.13 A door chain or opening limiter shall be installed. Different requirements may apply to warden controlled premises and some Housing Associations; however this shall be agreed with the ALO/CPDA.

23.14 A door viewer shall be fitted between 1200mm and 1500mm (not required with clear glazing) from the bottom of the door. As an alternative to a door viewer a glazed secure viewing panel may be used. This is of particular benefit to persons who, for whatever reason, may have difficulty using a door viewer e.g. a household where one or more of the occupants utilises a wheel chair (see note 23.14). All such products must be installed in accordance with the manufacturer's specifications.

Note 23.14: Glazed secure vision panels shall have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset Certified to PAS 23/24.

- 23.15 If there are no means by which a visitor's identification card can be passed to the occupier for inspection then an alternative method of enabling such should be considered (*see note 23.15*).

Note 23.15: SBD recognises specific identification aid products that have been tested as a component part of a doorset Certified to PAS 23/24.

Mail delivery

- 23.16 Letter plates/boxes shall meet one of the following requirements:

23.16.1 The letter plate aperture shall be no larger than 250mm x 38mm and be located at least 400mm away from any locks to stop access to the lock operating system through the aperture in accordance with BS EN 13724. An internal deflector shall be fitted over the letter plate to restrict access to the locking mechanism and to prevent letter plate burglary (fishing).

23.16.2 A robust external letter box securely fixed to the external face of the building in accordance with the manufacturer's specifications (*see note 23.16.2*).

23.16.3 A letter plate located within the wall, providing a 'through the wall' delivery into secure internal letter box.

Note 23.16.2: The police service is currently exploring, with partner organisations with similar interests, the creation of a new attack test standard/guide for letter boxes and letter plates. The SBD requirement will be updated upon completion of a standard/guide.

24 Side and Back Door

- 24.1 All external doorsets not designated as the main access/egress route shall meet the same physical standard as 'Front door', sections 23.2 to 23.12 inclusive.

25 Sliding Patio Doors

- 25.1 Sliding Patio Doors currently fall outside the scope of PAS 24; however the following paragraph's (25.2 to 25.6) outline the requirements.

25.2 A multi-point deadlocking system with three or more hook bolts or similar shall be fitted. Where shoot bolts are incorporated they shall locate into the head of the frame. All cylinders shall be certified to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), but include resistance to attack by drill to grade 2.

25.3 An anti-lift device shall be fitted. The frame shall not be easily demountable by accessible screws or similar fixings.

25.4 Glazed panels, in and adjacent to doors shall be laminated (*See Note 25.4*) to a minimum thickness of 6.4mm and securely fixed in accordance with the manufacturer's specifications. In higher risk locations the ALO/CPDA may specify laminated glass to a minimum thickness of 6.8mm (this will be a requirement for

all such glazing with effect from 1st April 2009). This shall be communicated to the developer (or the developer's agent) in writing at the design stage.

Note 25.4: Laminated glazing will normally be required to be installed on the inner pane of the sealed unit (where a double glazed unit is required by the Building Regulations). However where there are specific reasons for the laminated glass to be installed on the outside e.g. where patterned or obscure glass is required for privacy reasons, then this may be accepted with the agreement of the ALO/CPDA.

- 25.5 Door frames shall be securely fixed in accordance with the manufacturer's specifications. The ALO/CPDA may require a copy of the manufacturer's specifications.
- 25.6 Doors in recesses more than 600mm deep should be avoided.

26 Communal Entrance Doorsets

Communal doorset standards

- 26.1 Communal Entrance doorsets specified under this section are considered acceptable for low rise developments. The SBD specifications for doorsets offering access to high rise developments are contained within the SBD Multi-Storey Dwellings standard.
- 26.2 Doors shall be the same physical specification as 'front door', sections 23.2, 23.3, 23.5 to 23.12 (See Note 26.2), with automatic closing and fitted with an automatic deadlocking lock, with an internal thumb turn, knob, or handle. Alternatively a doorset certificated to LPS 1175 security rating 2 or above may be specified. Such doorsets must also be certificated to PAS 23-1:1999. External entry shall be restricted to those utilising the correct key, key code, or other access control media (such as key fob, proximity reader or any combination thereof). Attention to design detail is needed to prevent unauthorised release of the lock from the outside.

Note 26.2: Due to the nature of certain component parts of some doorsets designed specifically for use within communal entrances, it is not always possible to achieve full product certification with some certification bodies as the doorset may fall outside the scope of PAS 23-1:1999 and/or PAS 24 - 1:1999. Some examples include doorsets incorporating pivot hinges or magnetic locks. This does not however prevent the manufacturer from 'testing' the product to the relevant standards. The ALO/CPDA shall therefore be supplied with a copy of the test evidence. Communal Doorset manufacturers, whose products have been successfully tested (and in some cases certificated), can be found on the SBD website.

Locking systems

- 26.3 Locks or locking mechanisms installed within doorsets shall also incorporate one or more of the following:
 - 26.3.1 A cylinder Certified to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), but including resistance to attack by drill to grade 2. This is a requirement for doorsets utilising multi-point locking systems.
 - 26.3.2 A lock Certificated to BS 8621:2004 (See Note 26.3.2).

26.3.3 Magnetic or solenoid locks, controlled via a proximity reader. The reader shall be contained within a vandal resistant housing. All such systems shall include a battery back up in the event of a power failure to operate the system for a minimum period of 24 hours. In the event of an initial power failure the 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.

Note 26.3.2: BS 3621 and BS 8621 have been developed from EN 12209 which is the European standard for single point locking devices. The British Standards reflect the elements of EN 12209 that are considered to be the minimum level required for insurance cover within the UK. The only difference between BS 3621 and BS 8621 is the level of security offered from the internal face of the door – BS 8621 allowing the use of a non-key operated release mechanism (e.g. thumb turn). Both BS 3621 and BS 8621 require euro or oval profile cylinders (when installed) to meet BS EN 1303 grade 5 security and grade 2 attack resistance, this differs slightly from the requirements within PAS 24.

Vision panels & Door viewers

26.4 Where a glazed vision panel is not required to meet the Disability Discrimination Act a door viewer may be utilised. If required the viewer should be fitted between 1200mm and 1500mm from the bottom of the door. As an alternative to a door viewer a glazed secure viewing panel may be used. This is of particular benefit to persons who, for whatever reason, may have difficulty using a door viewer e.g. a household where one or more of the occupants utilises a wheel chair (see note 23.14). All such products must be installed in accordance with the manufacturer's specifications.

Note 26.4: Glazed secure vision panels shall have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset Certified to PAS 23/24.

Mail delivery

26.5 Letter plates/boxes installed in developments of up to two dwellings shall meet the requirements of 23.15.

26.6 Letter plates/boxes installed within developments comprising of more than two dwellings shall meet one of the following requirements:

26.6.1 A robust external letter box to serve each household securely fixed to the external face of the building, in accordance with the manufacturer's specifications (see note 26.6.1).

26.6.2 Letter plates located within the wall, providing a 'through the wall' delivery for each household into a secure internal letter box.

26.6.3 An internal letter box to serve all households certificated to LPS 1175 Security Rating 1, located within a secure lobby area. This will require an air lock access control system to be incorporated i.e. a further internal secure access doorset would be required to stop unauthorised access beyond the entrance lobby.

Note 26.6.1: The police service is currently exploring, with partner organisations with similar interests, the creation of a new attack test standard/Guide for letter boxes and letter plates. The SBD requirement will be updated upon completion of a standard/Guide.

Access control systems

- 26.7 Where four or more flats are served by a common entrance the doors shall incorporate an access control system, with an electronic lock release and entry phone linked to the flats. Refer to the ALO/CPDA for consideration of the use of a tradesman release. Access control is not normally required where there are less than four households, 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.
- 26.8 Where there are more than ten households using a common entrance one of the following shall be incorporated within the development:
- a. an access control system with audio visual verification
 - b. concierge system

27 Flat Entrance Doors Served off a Shared Corridor or Stairway

Flat entrance doorset standards

- 27.1 All ground floor flat entrance doorsets shall meet the same physical specification as 'front door' (sections 23.2, 23.3, 23.6 to 23.13). Such doorsets will have automatic closing and, by agreement with the NHBC, may be installed with a lock that is operated by a key from both sides, assuming that there are other alternative means of escape (all of which shall be at ground floor level). If any of the designated emergency egress windows exit above ground floor level the doorset and locking system shall comply with the requirements of 27.2.
- 27.2 Flat entrance doorsets above the ground floor shall meet the same physical specification as 'front door' (sections 23.2, 23.3, 23.6 to 23.13) but shall have an automatic closing device and locking hardware that is 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) (*see note 27.2*).

Note 27.2: 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) Warranty Scheme, who warrant approximately 80% of new homes, and the joint police and fire service agreement for 'Means of Escape', which references BS 5588 Part 1:1990 'Fire precautions in the design and construction and use of buildings'.

Locking systems

- 27.3 Locks or locking mechanisms installed within doorsets shall also incorporate one or both of the following:

27.3.1 A cylinder certified to BS EN 1303 grade 5 key security and grade 0 attack resistance (minimum requirement), but including resistance to attack by drill to grade 2. This is a requirement for doorsets utilising multi-point locking systems.

27.3.2 A lock Certificated to BS 8621:2004 (See Note 27.3.2). If such locks utilise a euro or oval profile cylinder then it shall comply with 27.3.1.

Note 27.3.2: BS 3621 and BS 8621 have been developed from EN 12209 which is the European standard for single point locking devices. The British Standards reflect the elements of EN 12209 that are considered to be the minimum level required for insurance cover within the UK. The only difference between BS 3621 and BS 8621 is the level of security offered from the internal face of the door – BS 8621 allowing the use of a non-key operated release mechanism (e.g. thumb turn). Both BS 3621 and BS 8621 require euro or oval profile cylinders (when installed) to meet BS EN 1303 grade 5 security and grade 2 attack resistance, this differs slightly from the requirements within PAS 24.

Vision panels, door viewers & glazing

27.4 A door viewer shall be fitted between 1200mm and 1500mm (not required with unobscured glazing). As an alternative to a door viewer a glazed secure viewing panel may be used. This is of particular benefit to persons who, for whatever reason, may have difficulty using a door viewer e.g. a household where one or more of the occupants utilises a wheel chair (see note 23.14). All such products must be installed in accordance with the manufacturer's specifications.

Note 27.4: Glazed secure vision panels shall have been independently assessed by the SBD Product Assessment Panel or have been tested as a component part of a doorset Certified to PAS 23/24.

27.5 All glazing in and adjacent to doors shall be installed with a fire rated laminated glass (inner pane) securely fixed in accordance with the manufacturer's specifications.

28 French Windows (Double doorsets)

28.1 In November 2005 the scope of PAS 24-1:1999 'Doors of enhanced security' was extended to include double doorsets (See Note 28.1); hence all double doorsets shall comply with 28.2 and 28.3.

Note 28.1: A number of doorset manufacturers have already tested their products to the draft standard. Secured by Design has licensed a small number of manufacturers. Details can be found on the SBD website – www.securedbydesign.com. It should be noted however that the list is not exhaustive. All manufacturers licensed by SBD for such products have agreed to pursue full certification when available.

28.2 All external doorsets not designated as the main access/egress route shall meet the same physical standard as 'front door', sections 23.2 to 23.12 inclusive.

28.3 All glazing in and adjacent to doors shall be laminated to a minimum thickness of 6.4mm and securely fixed in accordance with the manufacturer's specifications (See Note 28.3). In higher risk locations the ALO/CPDA may specify laminated glass to a minimum thickness of 6.8mm (this will be a requirement for all such glazing

with effect from 1st April 2009). This shall be communicated to the developer (or the developer's agent) in writing at the design stage.

Note 28.3: Laminated glazing will normally be required to be installed on the inner pane of the sealed unit. However where there are specific reasons for the laminated glass to be installed on the outside e.g. where patterned or obscure glass is required for privacy reasons, then this may be accepted with the agreement of the ALO/CPDA.

29 Garages

29.1 External pedestrian access doors shall meet the same physical, locking and fixing specification, as 'Front Door', sections 23.2 to 23.12.

29.2 The vehicle access doorsets must be certificated to the Loss Prevention Certification Board standard – LPS 1175 security rating 1 (See Note 29.2a). The ALO/CPDA shall be supplied with a copy of the test report and proof of Certification (see 29.2b) 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 29.2a: We are expecting products meeting this standard to become available within the next twelve months.

Note 29.2b: Alternative compliance can either be demonstrated by SBD licence holders that have reached an advanced stage of the Certification process with the Loss Prevention Certification Board (LPCB). 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 Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The ALO/CPDA may refer such cases to ACPO CPI for verification.

29.3 Internal doors connecting the garage to the dwelling shall meet the same physical, locking and fixing specification as 'Front Door', sections 23.2 to 23.12. Building Regulations will require these doors to comply with BS 476 part 22 (½ Hour Fire Resistance with automatic closing).

30 Windows

30.1 The SBD standard for ground floor and easily accessible windows is BS 7950:1997 'Specification for enhanced security performance of casement and tilt/turn windows for domestic applications'. All security testing, performance testing and assessment must be undertaken at a suitably qualified United Kingdom Accreditation Service (UKAS) accredited test facility.

30.2 Windows installed within SBD developments shall also be assessed by a suitably qualified and recognised third party Certification Authority to the relevant material:

- i BS 4873 (Aluminium)
- ii BS 7412 (PVC-U)
- iii BS 644 (Timber) or the BWF Timber Window Accreditation Scheme (TWAS).
- iv BS 6510 (Steel) or the SWA Steel Window Accreditation Scheme (SWAS)

- 30.3 Windows installed within *SBD* developments shall be Certificated (assessed by a suitably qualified third party) by one of the following UKAS Accredited certification (See Note 30.3a) bodies or can demonstrate alternative compliance (See Note 30.3b):

British Standards Institute (BSI)
BM TRADA Certification
British Board of Agrément (BBA)
Loss Prevention Certification Board (LPCB – NB. The LPCB is part of the Building Research Establishment (BRE))
BWF Timber Window Accreditation Scheme (TWAS) - this must include 'Enhanced resistance to Intrusion' in order to qualify
SWA Steel Window Accreditation Scheme (SWAS) – Steel Windows only
National Quality Assurance (NQA) – PVCu Windows only

The ALO/CPDA shall be supplied with a copy of the test report and proof of Certification (by one of the above bodies) 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.

Note 30.3a: Certified Products undergo continuous assessment to ensure product standards and production consistency are maintained.

Note 30.3b: 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 Multi-lateral Agreement) may be acceptable if such a body is also accredited to conduct such activities. The ALO/CPDA may refer such cases to ACPO CPI for verification.

- 30.4 If the window falls outside the scope of the British Standard e.g. horizontal sliding windows (See Note 30.3), there are a small number of UKAS accredited test and certification authorities that are still capable of assessing such products to the 'spirit' of BS 7950:1997 e.g. British Board of Agrément or Building Research Establishment. Such products shall also be certificated to the relevant performance standards for the window frame material, see section 30.2.

Note 30.4: Vertical sliding sash windows now fall within the scope of BS 7950 (with effect from November 2005)

- 30.5 Windows shall be securely fixed in accordance with the manufacturer's specifications. The ALO/CPDA may require a copy of the manufacturer's specifications.
- 30.6 In certain areas, to ensure that security is commensurate with the risk, the ALO/CPDA may require laminated glass, minimum thickness 6.4mm, to be installed on all ground floor windows and those easily accessible above ground floor. 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.
- 30.7 Where windows are required, under the Building Regulations, to be installed with safety glazing (below 800mm from floor level or 1500mm if within 300mm of a door frame), laminated glass (minimum thickness 6.4mm) meeting the

requirements of BS 6206 shall be installed. Windows immediately adjacent to emergency egress windows are also required to be installed with laminated glazing to the same specification.

- 30.8 Ground floor windows and those that are easily accessible to entry shall have key operated locks. Where windows are required under the Building Regulations to act as a fire escape route (inner or habitable room), the opening window *must not* have key operated locks (*see note 30.7*). These escape windows shall not be restricted in any way to prevent emergency exit from building. In these circumstances the glazing shall be 6.4mm laminated (minimum thickness). With effect from 1st April 2009, such windows will be required to be installed with 6.8mm laminated glass.

Note 30.8: This is a requirement of the National House Building Council (NHBC) Warranty Scheme, who warrant approximately 80% of new homes, and the joint police and fire service agreement for 'Means of Escape', which references BS 5588 Part 1:1990 'Fire precautions in the design and construction and use of buildings'.

31 Dwelling Security Lighting

- 31.1 Lighting is required to illuminate all external doors, car parking and garage areas and some footpaths leading to dwellings and blocks of flats.
- 31.2 The use of low energy consumption lamps is recommended.
- 31.3 SBD requires that only luminaires with suitable photometry serving to reduce light spill and direct light only to where it is required may be used (*See Note 31.3*).

Note 31.3: 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 is a statutory nuisance and illuminating areas unintentionally is wasteful.

- 31.4 External lighting shall be switched using a photo electric cell (dusk to dawn) with a manual override.
- 31.5 24 hour lighting 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 ALO/CPDA in writing. To reduce energy consumption this may be provided by a two stage lighting system whereby a lower level of illumination is supplemented with additional lighting when triggered

32 Conservatories

- 32.1 Where a conservatory is installed there shall be a door separating it from the main dwelling. The door shall meet the same physical standard as 'Front Door' (sections 23.2 to 23.12), or if it is a French window or a sliding patio door it shall meet the requirements outlined within the relevant sections of this document.

33 Intruder Alarms

- 33.1 A 13amp **non** switched fused spur, suitable for an alarm system, shall be installed. If the full alarm system is installed it shall comply with:
- i. BS EN 50131 & PD6662 (wired system)
 - ii. BS 6799 (wire free system)

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

- 33.2 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

34 Utilities

- 34.1 In order to reduce the opportunities for theft by 'bogus officials' the utility meters should, where possible, be located to the outside and front of the dwelling where they can be overlooked. This will negate the need for an official to enter the building in order to read a meter. This is particularly helpful where elderly persons occupy dwellings. 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.
- 34.2 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.