

Designing out
Crime
Designing in
**Community
Safety**

A Guide for Planning Authorities
and Developers

**HAMPSHIRE
CONSTABULARY**



**RUSHMOOR
BOROUGH COUNCIL**

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INTRODUCTION

The Crime and Disorder Act 1998 makes it a requirement for local authorities, the police and other key partners to take account of community safety in all aspects of their work.

For the first time policies, strategies and legislation need to be considered from the standpoint of their potential contribution to the reduction of crime and disorder.

Care taken at the early stage in the environmental and building design helps in creating areas that are safe and feel safe. Well-planned developments encourage a sense of responsibility and ownership by people who live or work there.

Poor design exacerbates the situation caused in some way by economic and social factors, leading to crime and the fear of crime. Once this starts to happen it becomes very difficult and expensive to recover.

Good design with safety and security built in need not cost more particularly when considered from the outset. Once the development has been completed the most cost-effective opportunity to incorporate crime and safety measures will have been lost.

Developers who include recommended crime prevention and safety measures are allowed to use the distinctive police '**Secured by Design**' logo for marketing and sales purposes. The intention is to create instant recognition by their potential customers that the property includes the correct level of security and safety features.

One way of gaining a foothold into future development is to use the planning system. The Department of Environment Circular 5/1994 - '**Planning Out Crime**' offers advice to local authorities, developers and designers about planning considerations relating to crime prevention. It recognises that successful crime prevention often depends on a wide range of measures that planning alone is not able to solve. When coordinated its contribution can be significant. The circular suggests that a lack of crime prevention measures is capable of being deemed a 'material consideration' and that planning approval may be refused.

Working in partnership is the way forward for making real improvements in the levels of crime, disorder and community safety. This document is published to encourage that action. This is what you can do...

DESIGNING OUT CRIME PRINCIPLES

The main objective of designing out crime is to include appropriate design features in environmental and building design to deter criminal and anti-social behaviour, encouraging an effective level of natural supervision, control and ownership.

*The following sections focus on the principles which should be considered at the **design stage** to achieve the most effective benefits.*

Residential Developments

Entrance Routes

- Entrance routes into developments should have features that help to create the image of a physical or psychological barrier, giving the impression the area beyond is private property, under the control and ownership of the community who occupy it.
- The use of rumble strips, changes in road surface colour or texture, brick pillars or a narrowing of entrance can help to form the impression of a physical or psychological barrier.

Roads and Footpaths

- Vehicle and pedestrian routes should be laid out so that natural surveillance, supervision and control is encouraged from residents of the development.
- The key element for the security of any development is to discourage casual intrusion by non-residents through the development. Access should be restricted to as few routes as possible taking into account the requirement for convenient and safe circulation of people. Routes should be designed to serve the development rather than provide unnecessary access.
- Footpaths should be as short as possible, direct, open to view, overlooked by dwellings with adequate lighting.

- Features that encourage loitering or help to create a fear of crime, for example pedestrian-subways, should be avoided.
- Any shrubs planted next to footpaths need ongoing maintenance to a suitable level to reduce possible hiding places. The shrubs should be the low growing variety or higher stemmed trees.
- There will be occasions when strategically placed bollards or staggered cycle bars are required to prevent motor vehicles and cyclists from using footpaths.

Street Lighting

- Public lighting requirements should comply with BS 5489 - Code of Practice for Road Lighting - which recommends lighting lux levels for various public areas. Lighting columns design also needs careful consideration to restrict use for climbing.
- Lighting should be designed to protect vulnerable areas and potential danger spots without casting shadows and causing light pollution.

Landscaping

- The use of certain plants such as spiny or thorny types can help to prevent graffiti and unnecessary loitering. Plants can be used to enhance perimeter security and to soften the image of the physical barrier.

- Landscaping must not restrict the opportunity for natural surveillance and should be designed to prevent the potential for hiding places.
- The type and site positioning of trees need careful consideration so they do not become climbing-aids to gain access over boundary fencing or to obscure street lighting when fully grown.
- All hard landscaping features and street furniture should be securely fixed to prevent removal and damage through vandalism.

Communal Spaces

- Communal spaces such as children's playgrounds and seating areas have the potential to generate crime. They should be positioned to be observed from nearby dwellings without disturbing the occupants.
- Any park used for football or other activities should be located away from housing as they tend to attract older groups. Closer proximity will cause the residents annoyance.
- Play areas should not be placed near to car parking locations.
- In larger park areas, consideration should be given to lighting at night to prevent vandalism, alcohol, solvent and drug abuse.
- In smaller areas there is some advantage for not lighting after dark as lighting may encourage misuse by older children.
- Boundaries around children's playspaces need to be clearly defined using 900 mm to 1200 mm wooden or metal palisade type fencing with self closing gates. This assists with the surveillance into the space from outside, prevents children straying and dogs gaining access.

Car Parking

- Car parking built within the dwelling curtilage is preferred, to encourage more effective control and ownership of the vehicles.
- Where detached garages are provided and space is available, the entrance should be positioned so that the resident and/or neighbours have an unrestricted view over the parking space.
- Where a garage or parking space is positioned at the end of the back garden, the boundary fence should be 1.8 metres high with a viewing panel at a suitable height to allow observation from the dwelling by the owner.
- Where communal off street car parking areas are necessary they should be in small groups, close and adjacent to the owners, with a high degree of natural surveillance over the site. Otherwise they become potential areas for crime and nuisance problems.
- Communal garage blocks should be avoided. Past experience shows that they become play areas for youths particularly if the garages have flat roofs. Rainwater downpipes should be designed so they cannot be used as climbing aids or damaged.

- Lighting to car parking areas should have a lux level that ensures a suitable degree of surveillance during the hours of darkness to allow the user to feel safe. The light level should be 'quality and not quantity', being a balanced design so as not to create light pollution or light trespass.
- Where resident parking is designed between dwellings, a window placed in the gable end of one of the units is recommended. This allows a view out of the unit and helps with control over the parked vehicles. Suitable lighting automatically switched to cover this space is required.
- The front boundaries to dwellings should allow an unrestricted view from the public space towards the building. Fences, walls and low hedges between 900 mm and 1200 mm high are suitable here. Any higher will allow for the fence to provide cover for an offender to approach a building unseen.
- Side fences between dwellings should be 1.8 metres high and erected as near to the front building line as possible. Any climbing over has to take place within public view. If erected toward the back of the building the position works to the advantage of the would-be thief, allowing them to climb over unseen.

The Housing Layout

- Dwellings should be positioned to allow unobstructed views of neighbouring properties balanced with an approach for protecting the resident's need for privacy.
- There should be a mix of dwellings helping to create the opportunity for a cluster of homes to be occupied at different times during the day; encouraging community interaction, control and surveillance by the residents.

Dwelling Boundaries

- It is not always necessary for dwelling boundaries to be protected by a physical barrier although a clear indication and demarcation between public and private space must be present. Features which help to form a psychological barrier must be designed to give people who use the area a feeling of influence, control and ownership.
- The private space of side and rear gardens are more vulnerable areas. Here strong defensive walls and fencing to a minimum height of 1.8 metres is required. Any gardens bordering open land, public footpaths, industrial and railway property, should be protected with higher fencing. Additional features such as 300 mm high boxed trellis topping and/or thorny shrubs planted against the 1.8 metre fence can be used as an alternative to deter climbing over.
- Modern practice encourages the use of 1.8 metre high featherboard or wooden panelled fencing to assist in giving the resident privacy. The horizontal support rails should always be in the private space of the garden so they do not become climbing aids. Extra height may be gained by fitting a gravel board as a base with the fencing on top.
- Where a view from the property or a variation in design appearance is required, the rear and side boundary fence must be of a suitable material to resist access and

break-through. Metal fencing in the form of plastic coated welded mesh panels provides a more robust treatment than the more traditional chain link product. Darker coloured coated fencing is also known to aid visibility which can be important against wooded areas and open land.

- The boundaries between the rear gardens of terraced or semi-detached dwellings should be 1.8 metre high close-boarded fence for the first two to three metres from the dwelling to allow for privacy. The remaining fence between the garden may be lower, between 1200 mm and 1500 mm in height to assist in the surveillance and supervision from neighbouring dwellings. The proviso here must be that a suitable secure perimeter fence is in place around the boundary edge.
- Resident's footpaths giving access to the back of property must have gates placed as near to the front line of the building as possible. They should be to the full height of the adjacent boundary fence, designed to prevent climbing and have a key operated lock which operates from both sides. A gate of a palisade design can offer the advantage that it is possible to view the footpath space before entering.
- Boundary walls, refuse and fuel stores, low flat roofs and balconies should be designed so as not to provide a climbing aid into the property.

Dwelling Identification

- Clear naming and numbering of premises is essential to assist directions and attendance of the Emergency Services.

Utilities

- To reduce the opportunities for theft by bogus officials, the gas, electricity and water meters should where possible be brought to the outside and to the front of the dwelling where they can be overlooked. This will help to reduce the need for an official to enter the building to read the meter and is particularly helpful where the dwellings are occupied by elderly people.

Commercial Developments

The following recommendations are intended to have a general relevance for a wide range of commercial developments. Account has to be taken of the local authority planning requirements, Town and Country Planning Act, subsequent Regulations, Planning Policy Guidance Notes and Planning Circulars. The British Standard 8220 : Part 2 and 3 : 1990 - 'Security of Buildings Against Crime' should also be used as reference documents.

Well Defined Perimeters

- Each commercial development must have a well defined physical or psychological perimeter to indicate the clear demarcation between public and private space. This influences and encourages control and ownership by people within the development.
- A physical barrier is always the preference, using fences, walls or reinforced hedging to a minimum height of 2.4 metres. For increased security, fences should be at least 3 metres high to give added protection against climbing. The choice and style of the physical barrier must be determined by the risk factors appropriate for the location and the subsequent use of the site.
- For security purposes open welded mesh steel panel fences or expanded metal construction is recommended. The attack resistance of the mesh screen is dependant on the gauge and mesh size which dictates the number of strand cuts needed to produce an aperture of sufficient size for an intruder to enter. For increased security a smaller mesh is recommended reducing the fingerholds and footholds available for climbing purposes.(BS 1722 : Part 10 and 14 refers.)
- Palisade fencing with corrugated metal pales and splayed pointed tops can be an alternative and should be erected in accordance with BS 1722: Part 12. This type of fence may give a fortification impression which can be softened using coloured polyester powder coating and rounded or notched tops to the pales. Darker coloured coatings are known to assist visibility through the fencing.
- Chain link fencing is a woven metal product which is relatively easy to cut and penetrate using simple hand cutting tools. This product is suitable for use as boundary demarcation with delay being the main requirement and not security.
- Psychological barriers can also be effective. The objective is to clearly define private space as being owned and controlled, making unauthorised persons entering feel vulnerable and exposed. The use of rumble strips, changes of road surface by colour or texture, brick pillars or the narrowing of entrances can help to create the impression of the presence of a psychological barrier.

Roads and Footpaths

- A key element for the security of any commercial development is to discourage casual intrusion. Access should be restricted to as few routes as possible taking into account the requirement for convenient and safe circulation. Routes should always be designed to serve the development rather than provide unnecessary access.
- The approach and entrance to any commercial development should include features which give users images of ownership and control. Clear directional signing, well maintained access control facilities (manual, mechanical or electronic), suitable lighting and unobstructed sight lines will assist.
- Where the facilities are shared, mutually agreed security arrangements for common roads and common services should be made. This has proven very successful on a number of business parks nationally.
- Service roads should have good lighting, clear road markings and other informative signs like unit location boards to help guide and supervise traffic movement.

Landscaping

- It is important that landscaping complements other security features within the development and does not interfere with the natural surveillance over the site. Any unauthorised persons should be clearly visible.
- The careful use of prickly shrubs and thorn hedges will help to ensure callers use only the designated routes around the site.

- Planting against buildings should not be allowed to grow so it becomes a hiding area for the would-be thief. Any plant growth should not mask window areas or entrance routes into doorways.

Parking Areas

- Where practical, parking areas for commercial vehicles and cars should be separate and designed to prevent vehicles parking directly against secured buildings.
- Remote car parks, unsupervised and out of sight of the building occupiers, are always a considerable crime risk. Private owners are unlikely to leave their vehicles and will park them on access roads or other safer locations causing unnecessary obstruction and congestion.
- It is important to ensure that the loading and unloading of goods vehicles does not cause normally secure areas to become insecure. The design layout has to consider this aspect to maintain security.
- Underground car parking should be controlled using a combination of a gating system, access control, closed circuit television coverage and appropriate lighting levels.
- Clear and well sighted directional/conditions of use signs should be available, helping to designate areas for private, service and goods vehicle use. Clear through access must always be available for the attendance of emergency vehicles.
- Where appropriate, suitable parking accommodation for the long term and safe storage of cycles and motor cycles should be considered. These areas should be placed so they can be easily observed and controlled by users.

- Anti ram raid bollards should be considered for all medium to high risk industrial and commercial premises. Alternatively the use of strategically placed large flower boxes and other architectural features can have a similar preventive effect.

Building Design Features for Industrial Units

- It is important that the perimeter for each unit is clearly defined and encompasses its own designated parking and loading areas. The general layout should ideally comprise of back-to-back service yards with gates to restrict and control access.
- The use of robust construction and materials resistant to manual attack and damage is essential for the provision of security. For example, walls constructed of alloy sheeting with a sandwich of soft insulating material can be vulnerable to attack by chain saw or similar tools. If such materials are used, the first two metres of height should be of brickwork or materials of a similar strength. An alternative is for the sheet cladding to be reinforced by an internal lining of welded steel mesh.
- The structure should be designed without deep recesses in the building line which might allow an intruder to work unseen. Equally, features which provide climbing aids to the roof or windows should be avoided, such as stepped walls, external pipework and fencing.
- External doors are often the focus of criminal attention. Careful consideration is needed to keep the number of entrances and exits to a minimum. The position, the design and physical strength of the door set must also be considered to prevent attack, and should comply with the requirements of the Product Assessment Specification (PAS) 24 test for Doors of Enhanced Security.
- If window shutters are required the window boxes should be constructed as part of the building fabric for added strength and not as an addition after build fixing.
- Attention to the roof structure detail is needed, particularly skylights which intruders may use to enter the building. Entry is unlikely through a roof which is difficult to reach.
- Substantial lockable shutters should be fitted to the loading bay entrance without viewing panels. Where a viewing window is required it should be designed to prevent the panel from being removed, leaving hole which can be used to gain entry or small enough to prevent entry.

Lighting

- The principle objective in designing lighting systems for commercial property is to promote safe and efficient movement of vehicles and pedestrians.
- Lighting should always be designed for a specific purpose, to be efficient and effective in providing sufficient light for the task in hand without affecting the surrounding area.
- The lighting design should be based on BS 5489 along with current lighting guides and test standards. The end result should be 'quality and not quantity' - reducing light pollution and light trespass.



Designing Out Crime **Advice Service**

Planning departments are encouraged to use the advice service offered by the Hertfordshire Constabulary Architectural Liaison Officer, Police Headquarters, Welwyn Garden City or their local police crime prevention officer. Safety and security measures are most cost-effective when anticipated from the outset and not seen as an afterthought. They should be included at the pre-planning discussion stage.

For advice and support on designing out crime and the police 'Secured by Design' initiative contact the Architectural Liaison Officer Guy Collyer on 01256 405095, email: guycollyer@hampshire.police.uk

The information contained in this document was accurate at the time of printing and is based on current practice and crime trends. The advice given here is done so without the intention of creating a contract. Neither the Hertfordshire Constabulary or the Home office takes any other legal responsibility for the advice given.

Checklist

Consultation

- Benefit gained by early consultation with Police Architectural Liaison Officer or the local Police Crime Prevention Officer

Residential Developments

Entrance Routes

- Entrance routes designed with physical or psychological barriers

Roads and Footpaths

- Layout design to encourage residential supervision and control
- Access to be restricted to as few routes as possible
- Footpaths to be short, direct, open to view and overlooked
- Features designed which dissuade loitering
- Shrubs against footpaths to be maintained at low level
- Bollards or cycle bars placed on footpaths to prevent misuse

Street Lighting

- Public lighting to comply with BS5489 for lux levels
- Well designed lighting required - quality and not quantity needed

Landscaping

- Spiny or thorny shrub should be used
- Landscaping must not impede natural surveillance
- Trees should not become climbing aids for access into property
- Street furniture and other landscape features to be securely fixed

Communal Spaces

- Observation of communal space position without disturbing occupants
- Play areas not placed too near car parking locations
- In larger park areas lighting should be considered
- Boundaries to children play spaces to be clearly defined to allow view in
- 600 mm high post and rail barrier around public space boundaries

Car Parking

- Parking within dwelling curtilage preferred
- Where parking is at end of garden, boundary fence designed to allow view out
- Communal parking in small groups, close and adjacent to owners
- Communal parking blocks where possible to be avoided
- Lighting levels - quality and not quantity
- A gable end window out over parking between dwellings

Housing Layout

- Unobstructed views of neighbouring property balanced with need for privacy
- Mix of dwellings types

Dwelling Boundaries

- Physical or psychological boundary presence required
- Suitable front boundaries to allow natural surveillance from the street
- Dividing fences between dwellings placed as far forward to front building line as possible

- Side and rear fences to minimum height of 1800 mm. If land borders open land, public footpaths etc, additional top 300 mm boxed trellis recommended
- Boundaries between dwellings to have 1800 mm privacy panel and then may have lower 1200-1500 mm fence to allow for surveillance
- Gate to rear path to be placed to front building line, same height as adjacent fence
- The design of boundary walls, refuse and fuel stores, low flat roofs and balconies should be such so as not to be used as a climbing aid

Dwelling Identification

- Clear naming and numbering of premises required

Utilities

- Where possible water, electricity and gas meters should be placed outside and to the front of the building

Commercial Developments

- Well defined perimeters are a must
- Physical barrier to a minimum height of 2.4 metres
- For security purposes use open welded steel panel or expanded panel fencing
- Metal palisade fencing can be an alternative
- Psychological barriers can be effective

Roads and Footpaths

- Access should be restricted to as few routes as possible, designed to serve development rather than provide unnecessary access
- Clear directional signing
- Mutually agreed security arrangement between businesses
- Good lighting to service roads

Landscaping

- Landscaping should complement other security arrangements
- Use of prickly shrubs and thorn hedges to encourage use of designated routes
- Any planting against buildings should not mask windows or doorways

Parking Areas

- Where practical, commercial and private vehicle parking should be separated
- Remote car parking puts vehicles at risk

- Underground car parking controlled by combination of gating, access control, CCTV and appropriate lighting
- Clear directional signing
- Suitable observed storage for motorcycles and cycles
- Anti ram bollards, large flower box or other architectural features placed to prevent vehicle raids

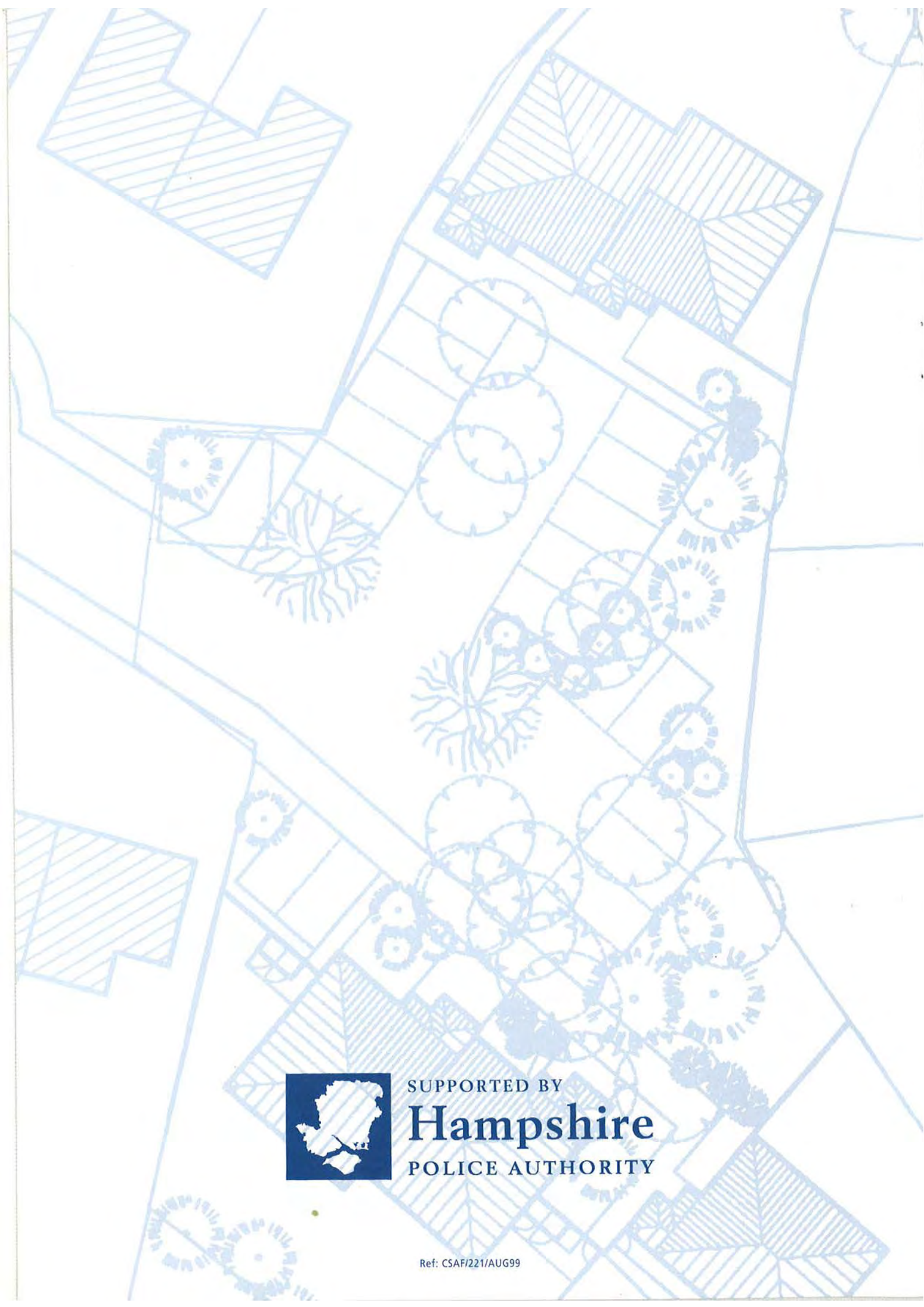
Building Design Features for Industrial Units

- Use of robust construction and materials resistant to manual attack
- Designed without deep recesses and climbing aids to prevent access to roof and other levels
- Restrict entrance doors to practical minimum
- Window shutters to be part of the construction detail and not an addition
- Lockable delivery shutters without viewing panels. Otherwise window design to incorporate features to prevent removal

Lighting

- Lighting designed for specific purpose, to be efficient and effective
- Lighting design based on BS5489 with lighting guides and test standards





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