



# CONSTRUCTION SITE SECURITY GUIDE 2021

Secured by Design



Official Police Security Initiative





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## Introduction

Construction sites often suffer from theft, criminal damage, arson and anti-social behaviour, all of which can have a major impact on completion dates and overall development costs.

This guide is designed to be risk commensurate and provides advice on how to secure the site from the moment the hoarding goes up until the moment the development is handed over to the client or end user. The advice is based on proven crime prevention principles that are known to reduce criminal opportunity by creating safer, more secure and sustainable environments. It applies to all construction sites regardless of their size and is intended for all staff including security personnel.

## Secured by Design

Secured by Design (SBD) is a police initiative operating throughout the UK that encourages and guides specifiers, designers and developers involved in all aspects of building and refurbishment work, to adopt crime prevention design measures. These are supplemented by the use of physically secure products, that are successfully tested and third party certificated by a United Kingdom Accreditation Service (UKAS) body to police preferred standards of security. Secured by Design is one of several schemes operated by Police Crime Prevention Initiatives, which is owned by the UK Police Service and is supported by the Home Office. Further information is available at: [www.securedbydesign.com](http://www.securedbydesign.com)

## 1 Perimeter Security

- 1.1 Construction sites should be contained within secure perimeters with access controlled entrances. The Construction (Design and Management) Regulations 2015 (CDM 2015), state that 'a contractor must not begin work on a construction site unless reasonable steps have been taken to prevent access by unauthorised persons to that site'.
- 1.2 A construction site boundary is commonly secured with a temporary boarded fence known as hoarding. It should be sturdy, at least 2m high, and built around the perimeter of a construction site to improve security, prevent unauthorised access, comply with health and safety requirements and hide the site from public view during the construction phase. Where the crime risk dictates, safe anti-climb measures such as rotating roller barriers may also be fitted to the top of the hoarding. It is important to consult with the local authority planning department before installation.
- 1.3 Hoarding can affect existing public spaces, adjacent buildings and footpaths by creating narrow, unlit rights of way. Recessed areas should be avoided to remove potential hiding places and corners can be chamfered to maximise surveillance.
- 1.4 Where possible, hoarding should be positioned away from street furniture and trees as they can aid climbing. If this is not possible, then the height of the hoarding may need to be increased.
- 1.5 Building materials and plant stored close to the hoarding can aid climbing both in and out of the site, so suitable storage areas should be found away from the perimeter.
- 1.6 Signs should be displayed around the perimeter hoarding to warn people of the dangers of entering the site without authorisation. Infographic warning signs are effective for young children and for people where English is not their first language.
- 1.7 All gates must be the same height as the adjacent hoarding. It should not be possible to lift a gate from its hinges or use the locking mechanism and hinges as climbing aids. Care should also be taken to ensure that the cross sections do not aid climbing and it is not possible to pass under the closed gate. Where padlocks and chains are used to secure gates, they should be tested to one of the police preferred specifications, either Sold Secure Gold (chains and padlocks) or LPS 1654 (padlocks), both of which offer a higher attack resistance. When locked, the padlock should be positioned to remove any slack in the chain, preventing the gate from being partially opened or the chain being used as a climbing aid.
- 1.8 There should be a regular maintenance programme in place to clear any graffiti off the hoarding as soon as possible, as it often multiplies and attracts other crime types, such as littering and anti-social behaviour. Hate crime related graffiti must be reported to the police and be removed within 24-hours.
- 1.9 Viewing windows placed into hoardings have advantages and disadvantages. They increase surveillance of the site and allow people to watch the progress of the build but tools and materials left unattended can be seen by opportunistic thieves.
- 1.10 If it is not possible to install hoarding, temporary rigid mesh fencing panels with anti-tamper couplers and temporary fencing support feet can be used to secure the perimeter along with fencing banners to help restrict vision into the

site. This provides a more secure option to lightweight mesh fencing, which is easily breached by lifting or cutting.

## 2 Site Access

- 2.1 Site entrances should be kept to a minimum so that staff can control who enters the site. Secured by Design recommends the use of separate entrances for vehicles and pedestrians, located next to one another to aid mutual supervision. There should be clear demarcation between the roadway and the footway and a safety barrier between the two may be necessary to protect pedestrians from large vehicles and/or plant.
- 2.2 The Health and Safety at Work Act makes it a legal requirement to ensure the site is secure from casual entry. Every person on-site needs to be accounted for in case there is a fire or other emergency. This could be achieved on small sites with a locked door at the entrance and a book to record visitors entering and leaving. Larger sites will require staff and legitimate visitors to sign in and out. In addition, turnstiles with an electronic access control system, incorporating PIN codes, electronic fobs or cards, or a combination of these can also assist with managing the site. All staff and visitors should be issued with identity badges or hard hat stickers and instructed to clearly display them. Staff should be encouraged to be vigilant and challenge anyone not doing so. If they find unauthorised people on-site they should be either taken to the site/ security office or escorted off site.
- 2.3 Visitors should be escorted at all times as they will not necessarily be aware of the hazards and security procedures.
- 2.4 For an extensive site and/or where there are higher risk security considerations, a staffed gatehouse may be required at the entrance.
- 2.5 Security personnel should have well-defined roles and responsibilities. Site security should be their primary focus and this function should not fall to other staff members to cover and vice versa.
- 2.6 Site operating hours should be clearly displayed and communicated to all workers, so that anyone found on-site outside of these hours can be challenged.
- 2.7 All authorised staff should receive induction training to include security awareness, such as locking gates and closing barriers or any other measures that help to keep the site secure.
- 2.8 On larger sites or where the risk dictates, a permanent security presence will help to prevent crime and anti-social behaviour, e.g. security personnel stationed on-site, a remotely managed and monitored CCTV system with audio capability, etc.

## 3 Site Offices

- 3.1 Generally, site offices tend to be temporary structures or portable cabins, which are difficult to secure. For this reason operators are advised not to store valuable items or equipment in them.
- 3.2 It may be necessary to install an intruder alarm system on larger sites or sites in high crime areas. A suitably designed, fit-for-purpose, monitored intruder alarm system or a system that links to a dedicated security team, should meet the requirements of the National Police Chiefs'



Council's Security Systems Policy, which can be found at: [www.policesecuritysystems.com](http://www.policesecuritysystems.com)

- 3.3 Covert traceable liquids (taggants), that leave unique identifiers and fluoresce under ultraviolet light, can be linked to the alarm system by a sensor and will spray intruders with the substance that makes it easier for police to identify them.
- 3.4 Security fogging devices can be linked to the intruder alarm system and will instantly fill the area you are trying to protect with a dense, harmless fog that reduces visibility, making it virtually impossible for an intruder to access the items they want to steal. These systems should conform to BS EN 50131-8:2009 – security device fog systems.
- 3.5 The site office will need good quality external doors, which have a minimum of two locking points, provided by locks that have been tested to one of the following minimum security standards, either BS 3621/8621 (single-point locking) or PAS 3621/8621 (multi-point locking). Designated fire escape doors must be useable when the building is occupied.
- 3.6 Good quality doors need good quality frames and a minimum of three substantial hinges, reinforced with hinge bolts.
- 3.7 Windows should have either a key operated multi-point locking mechanism or individual key operated window locks, two per opener to prevent leverage unless the window is part of a designated fire escape route. In this case advice, will need to be sought from a fire safety expert.
- 3.8 Toughened and/or fire safety glass does not provide security. Glazing or security film meeting the requirements of BS EN 356:2000 P1A will provide enhanced resistance to attack.
- 3.9 Shutters or grilles that as a minimum meet LPS 1175 SR1 or STS 202 BR1 can provide additional protection for both doors and windows.
- 3.10 All security measures must work alongside the fire strategy.
- 3.11 Key distribution should be kept to a minimum. Keys and key fobs should be stored in a tested and accredited, lockable key cabinet, which is kept locked at all times when not in use. The key cabinet should meet either LPS 1228 or BS EN 1143 and be installed in line with the manufacturer's recommendations.
- 3.12 There should be a system in place for auditing keys and a process for reporting keys that go missing to ensure locks are replaced.
- 3.13 The risk of cybercrime and the loss of personal data can be prevented by taking a few simple steps to protect your organisation. Further advice is available at: [www.policedsc.com](http://www.policedsc.com)
- 3.14 For further advice and the procurement of security products that have been tested and certificated to the police preferred standards, visit: [www.securedbydesign.com](http://www.securedbydesign.com)

## 4 Lighting

- 4.1 A good lighting scheme will deter intruders, make the area feel safer at night and assist with security patrols.
- 4.2 The entire external perimeter should have a good, uniform level of vandal resistant lighting, which is regularly maintained. Although floodlighting can be effective in illuminating an area well, it is energy thirsty, causes light pollution and can be a nuisance to neighbouring properties.

A better option is to use energy efficient, photo-electric cell (dusk until dawn) lighting, installed so that there is a crossover of illumination to provide an even spread of light across the whole site. This will reduce shadows and dark areas where intruders can hide their actions.

- 4.3 If CCTV is installed, the lighting scheme should be designed to complement it and not create shadows or glare.
- 4.4 Exposed lighting cables should be enclosed in tamper-proof conduit.
- 4.5 In areas of high risk, a system that alerts staff when the lighting fails may be required.
- 4.6 Further advice on lighting is available at: [www.securedbydesign.com](http://www.securedbydesign.com)

## 5 CCTV

- 5.1 CCTV, together with appropriate signage, can provide a good deterrent to intruders. The CCTV system may be subject to the Surveillance Camera Commissioner's Guidelines on using surveillance cameras in public places. The Surveillance Camera Code of Practice and further information is available at: [www.gov.uk/government/organisations/surveillance-camera-commissioner](http://www.gov.uk/government/organisations/surveillance-camera-commissioner)
- 5.2 CCTV cameras should provide images of recognition quality and should be positioned in such a way that site lighting does not interfere with picture quality. Refer to the Home Office Operational Requirements Manual for CCTV at: [www.gov.uk/government/publications/cctv-guidance](http://www.gov.uk/government/publications/cctv-guidance)
- 5.3 A CCTV system should be designed to cover vulnerable areas at relevant times, such as the need for infra-red technology to record night time activity.
- 5.4 If the CCTV system is intended for prosecution, it should have a recording and storage capability of 31 days, using a format that is acceptable to the police for evidential purposes.
- 5.5 To prevent police investigations being hindered, ensure that there is a member of staff who knows how to operate the system, available at all times.
- 5.6 The design of the CCTV system should be co-ordinated with the lighting system to ensure that the quality of lighting is sufficient to support it.
- 5.7 In high crime areas, cameras may need protection within vandal resistant housings.
- 5.8 Portable CCTV systems are also available and are easily moved as the site progresses.
- 5.9 Larger sites may benefit from an Automatic Number Plate Reader (ANPR) enhancement to the CCTV system. This is an effective way to manage vehicles coming onto site and monitoring any unauthorised vehicles that may attempt to enter.

## 6 Vehicle Protection

- 6.1 Never leave a vehicle with the keys unattended and the engine running. Switch off the engine and lock the vehicle every time you leave it.
- 6.2 Don't leave valuables, tools and equipment on display in unattended vehicles.
- 6.3 If possible, vehicles should be parked in garages or secure compounds overnight, but if this is not possible, park in areas that are well-lit and overlooked.



- 6.4 Locking tool boxes, securely mounted in the rear of a van, can help protect tools during working hours. Where possible, tools should be removed from vans overnight and signage displayed to that effect.
- 6.5 The precious metal in catalytic converters has led to an increase in their theft. Try to park so that the catalytic converter cannot be easily targeted by thieves. To keep yours safe, ask your vehicle dealer if they can give you any advice on locks or guards that are approved by the vehicle manufacturer.
- 6.6 A permanent or temporary barrier system, such as folding or removable locking posts, positioned at the entrance to a site or dedicated parking area, will protect against opportunistic vehicle theft.
- 6.7 On smaller sites, where a comprehensive CCTV package does not form part of the overall site security plan, consider using a temporary CCTV camera with motion detection that allows vehicles to be monitored from smart phones and/or tablets. These systems are known as Internet of Things (IoT) devices and should have achieved the British Standard IoT Kitemark. They may also be subject to the Surveillance Camera Commissioner's Guidelines on using surveillance cameras in public places. The Surveillance Camera Code of Practice and further information is available at: [www.gov.uk/government/organisations/surveillance-camera-commissioner](http://www.gov.uk/government/organisations/surveillance-camera-commissioner)  
The quality of images may be dependent on the lighting in the area, so consider this when positioning the cameras.
- 6.8 A steering wheel lock/immobiliser prevents the steering wheel from moving and acts as a good visual deterrent to prevent theft.
- 6.9 Maintain a record of the Vehicle Identification Numbers (VIN), chassis and engine numbers for all vehicles.
- 6.10 Slam locks are effective in making the vehicle harder to break into and are ideal for van drivers that are often carrying items to and from their van as they work with the central locking systems already in the vehicle and are able to be used when both hands of the driver are full.
- 6.11 Deadlocks provide an additional layer of security when parking the vehicle up overnight. They are independent of the vehicles existing security and are usually key operated.
- 6.12 A faraday bag blocks the signal to and from the key fob to prevent the key being cloned.
- 6.13 Prevent thieves gaining access to your vehicle by cutting through the central locking wiring loom. Protect the wiring by installing an armoured plate or wiring loom guard.
- 6.14 On-Board Diagnostic (OBD) ports are often targeted by thieves trying to steal vehicles. These can be relocated to another less obvious place in the vehicle or protected using a port protector device.
- 6.15 Glass marking or etching is a good visual deterrent as it makes it more difficult for thieves to dispose of stolen vehicles.
- 6.16 Tools can be property marked covertly using a traceable forensic asset marking liquid (taggant) and/or overtly using a chemical etching kit or tamper resistant labels, all of which are difficult to remove and make it easier to identify and return stolen property to the rightful owner. For further information visit; [www.securedbydesign.com](http://www.securedbydesign.com)
- 6.17 Tools can be registered at a dedicated property or tool registering website. Serial numbers and photographs, including unique identifying features and marks, are stored on a database to help with identifying and restoring stolen property to the rightful owner. For further information visit: [www.securedbydesign.com](http://www.securedbydesign.com)
- 6.18 An after-market vehicle tracking device will help to locate and return a stolen vehicle to the rightful owner.
- 6.19 Further advice on vehicle crime is available at: [www.securedbydesign.com](http://www.securedbydesign.com)

## 7 Plant, Machinery and Tools

- 7.1 Vehicles, plant, machinery and tools should be stored securely out of sight when the site is closed.
- 7.2 When not in use, all vehicles and plant should have their ignition keys removed and where possible, their immobilisers activated.
- 7.3 Record all Vehicle identification Numbers (VIN) as well as chassis and engine numbers.
- 7.4 Keep an inventory of serial numbers for all plant, machinery and tools, including any identifiable features.
- 7.5 Site operators and contractors should be encouraged to register site vehicles, plant and machinery on a recognised national database. Companies that provide this service offer a range of options such as tamper proof plates or labels, hidden transponders or electronic tags,



covert traceable liquids that leave unique identifiers and fluoresce under ultraviolet light. These tactics will provide a visual deterrent and assist police to identify and recover stolen items. In addition to this, visibly marking items may deter theft and make it difficult for thieves to dispose of the item. Further information is available at: [www.securedbydesign.com](http://www.securedbydesign.com)

- 7.6 New advances in smart tool technology, makes it possible to track tools if they are lost or stolen and render them inoperable by anyone other than the owner/authorised user.
- 7.7 If tools are to be left on-site overnight, consideration should be given to using tool safes, or other high security storage sheds.
- 7.8 High value moveable machinery such as mobile cranes, bulldozers, excavators and loaders, may require their own dedicated security area. This can be achieved by building a 3m high, secure compound from small gauge weld mesh or expanded metal fencing. A safe, anti-climb topping is created by either extending the vertical weld-mesh rails above the top horizontal rail or by the diagonal expanded metal finish. The gate should be made from the same material as the fence. All gates must be the same height as the adjacent fence and it should not be possible to lift a gate from its hinges. Care should also be taken to ensure that the cross sections do not aid climbing and it is not possible to pass under the closed gate. Where padlocks and chains are used to secure gates, they should be tested to one of the police preferred specifications, either Sold Secure Gold (chains and padlocks) or LPS 1654 (padlocks), both of which offer a higher attack resistance. When locked, the padlock should be positioned to remove any slack in the chain, preventing the gate from being partially opened or the chain being used as a climbing aid.
- 7.9 High value fixed machinery such as a tower crane, may require a dedicated secure perimeter to prevent access to the base of the crane and the ladder. This can be achieved by building a 3m high, secure compound around the base of the crane from small gauge weld mesh or expanded metal fencing. A safe, anti-climb topping is created by either extending the vertical weld-mesh rails above the top horizontal rail or by the diagonal expanded metal finish.

The gate should be made from the same material as the fence. All gates must be the same height as the adjacent fence and it should not be possible to lift a gate from its

hinges. Care should also be taken ensure that the cross sections do not aid climbing and it is not possible to pass under the closed gate. Where padlocks and chains are used to secure gates, they should be tested to one of the police preferred specifications, either Sold Secure Gold (chains and padlocks) or LPS 1654 (padlocks), both of which offer a higher attack resistance. When locked, the padlock should be positioned to remove any slack in the chain, preventing the gate from being partially opened or the chain being used as a climbing aid.

- 7.10 It is good practice on larger sites to check vehicles as they leave, to prevent equipment being stolen.
- 7.11 Consider using a fuel tank alarm on fuel stores. Further advice is available at: [www.securedbydesign.com](http://www.securedbydesign.com)

## 8 Urban Explorers

- 8.1 Urban Exploration, also referred to as Urbex, is the exploration of infrastructure such as high rise buildings, sewers, tunnels, cranes and building sites. These unauthorised entries usually happen at night with the intention of taking photos or videos to post on social media sites. As this form of trespassing usually falls within civil law, the cost of bringing a civil injunction or banning order can be both time consuming and costly.
- 8.2 Unauthorised access into a construction site presents a significant risk of falling or contact with hazardous materials. Security personnel must remain vigilant and be actively encouraged to challenge and report any suspicious behaviour. Regularly reviewing site security and reassessing the vulnerabilities is essential in preventing unauthorised entry. Here are some common identifiers to look out for:
  - Individuals carrying out reconnaissance to identify weak points in perimeter security;
  - People loitering near construction sites carrying rucksacks. Urban explorers will often carry a camera and climbing equipment;
  - They may be in possession of a drone. Drones are often used for filming themselves as well as for reconnaissance;
  - They have been known to wear Personal Protective Equipment (PPE) or carry props such as clipboards in order to blend in;



- They may test the security response by intentionally causing security alerts multiple times in the hope they will eventually be ignored when they actually breach security.
- 8.3 Participants have caused damage to gain entry to sites and on some occasions have suffered serious injuries. The disruption to construction sites can lead to lengthy investigations which will ultimately incur high cost and has the potential for reputational damage.
- 8.4 Cranes offer an excellent vantage point for Urban Explorers so access to them should be restricted. Rather than a large perimeter fence which tends to have materials and equipment stacked up against it, consider using a weld mesh fence of at least 3m high around the base of the crane mast, with a solid door and access control system protecting it.
- 8.5 Scaffolding, towers and ladders should be secured when not in use to prevent them being used to gain access to buildings and structures.
- 8.6 Anti-climb paint can be applied to vulnerable areas. It causes considerable damage to expensive climbing ropes and equipment and may render them unusable. Anti-climb paint must be supported with clear signage, prominently displayed around the site.
- 8.7 Covert traceable liquids (taggants), that leave unique identifiers and fluoresce under ultraviolet light, can be linked to the alarm system by a sensor and will spray intruders with the substance that makes it easier for police to identify them. This must be supported with clear signage, prominently displayed around the site.

## 9 Fire Prevention

- 9.1 Ensure all emergency egress points are kept clear of materials and tools.
- 9.2 Consideration should be given to using a Premises Information Box (PIB) at the main entrance to the site that meets either LPS 1175 Security Rating (SR) 1, or STS 202 Burglary Resistance (BR) 1 security standards as a minimum. This should be installed in line with the manufacturer's recommendations. PIBs are used by the Fire & Rescue Service to gain access to sites and contain useful information to assist them in emergency situations. Up-to-date site plans, locations of hazardous and flammable materials and contact details during out of hours, can all be contained inside. Consult the local fire authority to confirm their PIB restricted key security requirements, as each Fire & Rescue Service carries different PIB access keys.
- 9.3 All flammable gas tanks should be secured in accordance with fire safety guidance.
- 9.4 The Health and Safety Executive's Fire Safety in Construction guidance document (HSG168) is available at: [www.hse.gov.uk/pubns/priced/hsg168.pdf](http://www.hse.gov.uk/pubns/priced/hsg168.pdf)

## 10 Additional Advice

- 10.1 Ensure that all security personnel working on-site are either contracted through a recognised security agency or have had the necessary pre-employment checks carried out to determine whether they are legally allowed to work in the UK and have the necessary qualifications and skills to carry out the role.

Find out more about optimising security:  
[www.cpni.gov.uk/optimising-people-security](http://www.cpni.gov.uk/optimising-people-security)

- 10.2 As projects near completion, special attention should be paid to the security of white goods, boilers and kitchen/ bathroom suites to prevent them from being stolen.
- 10.3 Staff and contractors should be encouraged to report crime and suspicious behaviour to the security staff and/or police immediately. This could help prevent further crime at the site and/or other sites.
- 10.4 Crimestoppers allows people to report crime and criminal activity anonymously by calling 0800 555 111 or online at: [www.crimestoppers-uk.org](http://www.crimestoppers-uk.org)
- 10.5 Joining the local Business Crime Reduction Partnership (BCRP) is a good way of sharing and obtaining intelligence about local areas, particularly if the site is operating over a prolonged period of time.

## 11 Stay Safe Advice

- 11.1 With the enduring terrorist threat, it is now more important than ever that everyone plays their part in tackling terrorism. Your actions could save lives. Action Counters Terrorism (ACT) is encouraging communities across the country to help the police tackle terrorism and save lives by reporting suspicious behaviour and activity.

Further advice is available at:  
[www.counterterrorism.police.uk/what-you-can-do](http://www.counterterrorism.police.uk/what-you-can-do)

- 11.2 The chances of being caught up in a terrorist incident are very rare but it is important to be prepared and know how to protect yourself if the need arises. Counter Terrorism Policing has guidance that sets out three key steps for keeping safe in the event of a firearms or weapons attack. If you are caught up in an incident, the advice is to 'Run, Hide and Tell' which is guidance that can be applied to many places and situations. Case studies and testimony of people who have survived attacks has shown that this advice can save lives.

For further advice on the Run, Hide, Tell strategy can be found at: [www.counterterrorism.police.uk/what-you-can-do](http://www.counterterrorism.police.uk/what-you-can-do)

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