



SCSN Briefing Paper No 11

Public Safety on Construction Sites

1 Introduction

The purpose of this Briefing Paper is to emphasise the dangers of construction sites to the general public. The public can be at risk from building sites due to the operations which occur in the area above or surrounding the site boundaries or through the unauthorised access onto the site itself. This paper identifies some of the key dangers and gives consideration to the ways in which these can be prevented.

2 Current Status

The Health and Safety Executive's (HSE) Construction statistical report¹ identified that in the UK in 2010/11 there were two fatal incidents involving members of the public and the construction industry. Of these two fatalities, one was under the age of 16. The table below shows the number of public fatalities from construction activities, dating back to 2005/06.

Year	Under 16	Over 16	Total
2005/2006	0	4	4
2006/2007	1	7	8
2007/2008	0	3	3
2008/2009	1	4	5
2009/2010	1	3	4
2010/2011	1	1	2
Total	4	22	26

The report identifies that 27% of the fatal injuries to the public in the five years preceding 2010/11 were due to falls, 18% due to slips and trips and 14% relating to moving vehicles.

There were 174 non-fatal injuries to members of the public in 2010/11. This is compared to an average of 195 per year for the five previous years. Of the 174, 17 were aged 16 or under. Slips and trips accounted for 44% of the non-fatal injuries, 30% were due to injuries from falling objects and 12% from falls.

The ways in which members of the public can be injured by construction works is numerous and the headings outlined below are not exhaustive. The major point in relation to construction sites is access, if the general public can easily access the site, they may then be at risk of danger.

Plant and Machinery

Heavy plant and machinery are common on construction sites and untrained or unauthorised use can be very dangerous and can lead to injuries such as crushing or the loss of a limb.

¹ Health and Safety Executive, Construction, April 2012 - <http://www.hse.gov.uk/statistics/industry/construction/construction.pdf>

Scaffolding and Access Equipment

The use of scaffolding for construction is essential, however, it provides access to higher levels and can lead to falls from height if accessed without training or supervision. Members of the public may be injured when outside of construction site boundaries from equipment falling from gaps in the scaffolding or being struck during erection or dismantling.

Moving Vehicles

The high number of vehicles arriving, departing and being utilised on a site can pose a danger to the general public, especially at its entrance/exit.

Openings and Excavations

Excavations in the ground can lead to falls from height and may also be a risk of drowning if the excavation has filled with rain water.

Stacking and Storage

Construction sites often store large quantities of equipment which is often stacked. These storage areas can be unsafe as pallets and their loads may fall causing crushing or head injuries.

Electricity and other Energy Sources

There is a requirement for sources of electricity across construction site and these can be dangerous to unauthorised people. In addition, gas canisters are regularly stored onsite and can be at risk of explosions if tampered with.

Hazardous Substances

There can be large quantities of hazardous substances stored on building sites which may cause ill health if inhaled, ingested or absorbed through the skin. Furthermore, these substances can often be flammable or explosive and may cause toxic fumes if burnt.

Dust, Noise and Vibration

These can be problematic if work is being carried out in built up areas or when construction is being carried out on an occupied site.

Slips, Trips and Falls

The uneven surfaces and quantity of equipment on a building site make it hazardous for trip and falls. Additionally, the nature of a building site means that there is likely to be large quantities of mud which may be slippery and may also be carried outside of the construction site on boots or vehicle wheels. This will mean that there are risks outside of the boundary of the site as well.

Diseases

Leptospirosis, also known as Weil's Disease, can be contracted through contact with water which is contaminated with rat urine. This can be an issue on building sites due to the build-up of water within excavations, ponds etc.

3 Key Considerations

Children and young people are often drawn to construction sites as they appear to be exciting places to play and adults can often utilise construction sites as a short cut to their destination. Furthermore, the presence of tools and building equipment may lead to construction sites being accessed by potential thieves. The public often access sites once the work force have left, which means that they are extremely vulnerable as there is no-one around to help should an accident occur. There is the potential in certain areas where construction works are being undertaken that the level of anti-social behaviour complaints can rise. These complaints can relate to

either the noise or disruption caused by the actual works or the presence of unauthorised people on the site who may be causing a disturbance.

Education into the dangers of construction sites is extremely important. To facilitate increased awareness, a number of construction companies have now begun to organise educational visits to schools in the vicinity of a construction site. In addition, the construction sector has developed a programme of engagement through the Considerate Constructors Scheme.

Considerate Constructors Scheme

The Considerate Constructor's Scheme (CCS) was set up in 1997 to help improve the relationship between construction companies and their neighbours, the general public and the environment. The scheme sets out a code of considerate practice which consists of the following sections:

- Considerate
- Environment
- Appearance
- Good Neighbour
- Respectful
- Safety
- Responsible
- Accountable

Ivor Goodsite is the CCS's mascot which is used to engage with young people to encourage safety around construction sites. The website provides games and quizzes for children regarding construction safety and also provides details to adults on how to become involved in promoting the safety message.



Site Perimeter and Risk Prevention

The HSE publication² "Protecting the Public" provides guidance on how to carry out construction works whilst minimising the risks to the general public. The document highlights the importance of a safe and secure site perimeter as this reduces the risk of unauthorised people from accessing the site. Additional safety advice provided in the document includes:

- The use of clear signage
- Carrying out work at times of the day when it is less busy
- Using alternatives to scaffolding
- The secure storage of machinery keys
- The use of less hazardous materials
- The use of noise and dust suppressors
- The segregation of pedestrian and vehicular access and the use of a Banksman
- Liaising with local schools and tenants associations to highlight the key dangers and promote safety

Legal Requirements

The legislation listed below set out provisions for the safety of the public on construction sites.

² Health and Safety Executive, Protecting the Public, September 2009 - <http://www.hse.gov.uk/pubns/priced/hsg151.pdf>

Health and Safety at Work etc. Act 1974³

This act defines the duties of employees, employers and contractors in the work environment. It also states that employers must as far as is reasonably practicable ensure the safety of persons other than employees e.g. contractors, visitors, the general public and clients.

The Construction (Design and Management) Regulations 2007⁴

The CDM 2007 regulations place a legal duty on workers to ensure that their actions are as safe as possible and do not endanger members of the public.

Management of Health and Safety at Work Regulations 1999⁵

These regulations emphasise an employer's requirement to carry out risk assessments. It states that "every employer shall make a suitable and sufficient assessment of the risks to the health and safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking".

4 Conclusions/Recommendations

Although there was a reduction in the numbers of deaths and injuries caused by construction works in 2010/11, there is still a way to go to ensure that the public are safe from the dangers of construction sites. The two main ways in which construction sites can cause injury or death to members of the public are through unauthorised access to the sites or through incidents occurring around the perimeter of the site. It is therefore important that the public and construction industry work together in the education of the dangers building site can pose and the ways in which risks can be reduced or removed entirely.

5 Links

Below are links to websites relating to construction site safety which may be of further use:

- Considerate Constructors Scheme - www.ccscheme.org.uk
- Ivor Goodsite (CCS Mascot website) - www.ivorgoodsite.org.uk
- Health and Safety Executive - www.hse.gov.uk
- Royal Society for the Prevention of Accidents (RoSPA) – www.rospa.com
- Stay Safe Stay Away - www.staysafestayaway.co.uk

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³ Legislation.gov.uk, Health and Safety at Work etc. Act 1974 - <http://www.legislation.gov.uk/ukpga/1974/37/contents>

⁴ Legislation.gov.uk, The Construction (Design and Management) Regulations 2007-
<http://www.legislation.gov.uk/uksi/2007/320/contents/made>

⁵ Legislation.gov.uk, Management of Health and Safety at Work Regulations 1999 -
<http://www.legislation.gov.uk/uksi/1999/3242/contents/made>