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CPCWHS1001 - Prepare to work safely in the construction industry



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CPCWHS1001

Prepare to work safely in the construction industry

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Building and Construction Works is a series of training and assessment resources developed for units of competency and qualifications within the Construction, Plumbing and Services Training Package.



CPCWHS1001 Prepare to work safely in the construction industry



APPLICATION

This unit of competency specifies the mandatory work health and safety training required prior to undertaking construction work. The unit requires the person to demonstrate personal awareness and knowledge of health and safety legislative requirements in order to work safely and prevent injury or harm to self and others. It covers identifying and orally reporting common construction hazards, understanding basic risk control measures, and identifying procedures for responding to potential incidents and emergencies. It also covers correctly selecting and fitting common personal protective equipment (PPE) used for construction work.

This unit meets the general construction induction training requirements of:

- ▶ Part 1.1 Definitions and Part 6.5 of the Model Work Health and Safety Regulations;
- ▶ Division 11 of Part 3 of the Occupational Safety and Health Regulations 1996 for Western Australia; and
- ▶ Division 3 of Part 5.1 of the Occupational Health and Safety Regulations 2007 for Victoria.

It is expected that site-specific induction training will be conducted prior to conducting construction work.

Licensing, legislative, regulatory or certification requirements apply to this unit. Relevant work health and safety state and territory regulatory authorities should be consulted to confirm jurisdictional requirements.

PREREQUISITE UNIT

Nil.

LEARNING GOALS

On completion of this unit, you should be able to:

- ▶ identify health and safety legislative requirements of construction work
- ▶ identify construction hazards and risk control measures
- ▶ identify health and safety communication and reporting processes
- ▶ identify incident and emergency response procedures.



CORE CONCEPTS

Legislation and regulations

The following state and territory legislation and regulations are relevant to this unit:

- ▶ Australian Capital Territory: Work Health and Safety Act 2011
- ▶ New South Wales: Work Health and Safety Act 2011
- ▶ Northern Territory: Work Health and Safety (National Uniform Legislation) Act 2011
- ▶ Queensland: Work Health and Safety Act 2011
- ▶ South Australia: Work Health and Safety Act 2012
- ▶ Tasmania: Work Health and Safety Act 2012
- ▶ Victoria: Occupational Health and Safety Act 2004
- ▶ Western Australia: Occupational Safety and Health Act 1984.

You should refer to the state or territory legislation and regulations relevant to where you are studying or working.

Codes of practice

- ▶ Construction Work Code of Practice
- ▶ Code of Practice for Hazardous Manual Tasks



Health and safety – your legal rights and responsibilities

Because you are undertaking this unit, it's safe to assume that you are about to start training or working in the construction industry (or that you hope to). As you will see, one of your key responsibilities, regardless of your construction role, is ensuring that you work safely. This is to prevent injury or harm to yourself and to others.

In this chapter, we will take a look at the legislative framework that underpins workplace health and safety in the construction industry. We will also look at the roles and responsibilities of different people on construction sites. In later chapters, we will explore some of the work practices that you can follow to help keep yourself and others safe at work.

Safety in the construction industry

In 2015 Safe Work Australia compiled a profile of the construction industry and the findings were alarming. It recognised that construction is one of the top few industries with the highest number of serious claims for workers compensation.

In that same year, 33 workers were killed in the construction industry and 35 workers were seriously injured each day. Many more workers were also injured requiring treatment and time off work.

Stop and think

When you stop and think about a construction workplace for a minute, you can understand why they are high-risk environments. They are busy, noisy places that are often filled with heavy machinery. There might be people working at height. Other people may be using power tools. You may also find some people working in confined spaces, some working with hazardous materials and substances and others working around electricity and gas. There's also heavy lifting, the risk of injury from manual handling, trips and falls, sunburn...



It's no wonder so much effort goes into keeping people safe at work.



Drill down – The importance of safety on site

Watch the video at <https://www.safeworkaustralia.gov.au/resources-and-publications/video-and-audio/its-simple-things-matter> for an overview of the importance of safety on site.



Throughout this course, you will learn about each of the following principles in more detail but for now, start thinking about the following fundamentals. These should be at the front of your mind from this point forward throughout the rest of your career.



Construction site safety fundamentals

Before you enter any construction site or construction workplace, take a few moments to consider the following workplace health and safety (WHS) fundamentals.

- ▶ always wear your PPE
- ▶ participate in a site induction if you are new to the site
- ▶ follow the site's safety instructions and policies and procedures
- ▶ understand your role in workplace safety
- ▶ maintain situational awareness
- ▶ respect signage, barricades and barriers
- ▶ report hazards
- ▶ don't start work if you don't feel safe.

WHS terminology

There is some key terminology that you will hear whenever you are talking about safety at work. Get to know these terms – they are important and you will use them a LOT.

- ▶ Workplace health and safety (WHS) – Sometimes called occupational health and safety (OHS), is the practice of managing the risks to health and safety of every person in your workplace. Keep in mind that this includes visitors, suppliers, contractors, customers, owners, bystanders and even people walking past a worksite.
- ▶ Hazards – A hazard is something which is identified as having the potential to harm any of the people on site. Remember that harm can mean a physical injury, an illness including a psychological illness or even death.
- ▶ Risks – Risk refers to the likelihood that a hazard will occur and what the significance of the harm will be.
- ▶ Controls – Controls are the strategies put in place to mitigate (prevent and/or manage) the hazards and risks.
- ▶ Person conducting a business or undertaking (PCBU) – WHS legislation (which we will discuss in more detail later) places certain responsibilities for safety on the PCBU. In construction, the PCBU is the person or company that commissions the construction work.
- ▶ Duty of care – a duty of care is a legal obligation that we all have to take reasonable steps to prevent foreseeable harm from occurring to others. In terms of a construction workplace, the extent of our duty of care will depend on the seniority of our role.



- Personal protective equipment – Personal protective equipment (more commonly referred to as PPE) refers to all of those things that are worn or used by you personally to help protect you from harm while at work or while on a worksite. It is essential that you utilise appropriate PPE whenever you are in a building and construction environment. For many building and construction worksites, they have a minimum requirement for PPE of a hard hat, safety boots and a high vis vest. Increasingly, eye protection and hearing protection is a standard requirement as well. However, different worksites will have different requirements.



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- Job safety analysis (JSA) – A JSA is a risk analysis and planning tool. It is used to break down each step in a task or project, identify the hazards and risks and to put controls in place to manage them. The JSA can be used to inform the development of a SWMS if one is required. Sometimes, a JSA and SWMS are developed together.

- Safe work method statement (SWMS) – The nature of building and construction means that it is an industry which is high risk for injury and even death to its workforce, contractors, visitors to site and bystanders. There are 19 construction activities that have been identified as especially high risk. A safe work method statement (SWMS) is a planning tool which identifies the hazards and risks associated with those activities and documents the controls that will be put in place to control the risks and ensure that the work will be done safely. You will find references to SWMS throughout the majority of your studies (and your career). They are an essential part of keeping you and those around you safe. Always pay close attention to a SWMS if there is one available for the work that you are doing. Ask questions if something is not clear and don't start work until you are confident that the SWMS is in place and is up to date.

Safe Work Method Statement	
Description of activity	
Date of activity	
Address of activity	
HRCW	
Relevant legislation	
Relevant Australian Standards	
Relevant Codes of Practice	
Relevant SDS	
Required operator licensing, qualifications and/or training	
Relevant plans, specifications and documents	
Required PPE	
Plant and equipment	
Job Safety Analysis	

Remember: Employees have a responsibility to read, understand and follow the SWMS. The SWMS should always be available on site so that it is readily available.

Employers have a responsibility to ensure that all high-risk construction work activities (HRCW) are conducted in line with the SWMS.

What's the difference between a SWMS and a JSA?

The main difference is that the SWMS is a regulatory requirement where the job task includes one of the 19 high-risk construction activities whereas a JSA is for the others.

- Safety data sheets (SDS) – The Safety Data Sheet (SDS) is a document that describes the chemical and physical properties of a material and provides advice on safe handling and use of the material. Employers using or storing dangerous goods or hazardous substances must ensure that they obtain an up to date SDS for each product and that there is ready access to the SDS for people on site.



Drill down – SWMS, JSA and SDS

You can learn more about each of these documents at:

- ▶ SWMS – <https://content.api.worksafe.vic.gov.au/sites/default/files/2018-11/ISBN-Safe-work-method-statements-2018-11.pdf>
- ▶ JSA – <https://www.commerce.wa.gov.au/publications/job-safety-analysis-jsa>
- ▶ SDS – <https://www.safeworkaustralia.gov.au/sds>

- ▶ Workplace induction – Workplace induction is different to the course that you are doing now. It is an introduction to a construction zone that informs people about particular hazards and risks that they may face at that workplace. It also includes a summary of:
 - site specific rules, policies and procedures that must be followed
 - how to report incidents and hazards
 - emergency and evacuation procedures
 - PPE requirements
 - control measures that are in place.



Drill down – Workplace inductions

Workplace inductions are important for your safety and the safety of those around you. To learn more about them, you can read the information sheet at <https://www.safeworkaustralia.gov.au/system/files/documents/1703/information-sheet-work-induction-for-construction.pdf>

WHS legislation

The WHS Act and WHS Regulations provide a framework for health and safety to:

- ▶ secure the health and safety of workers and their workplaces
- ▶ protect workers and other persons against harm to their health, safety and welfare through the elimination of risks arising from work, in accordance with the principle that workers and other persons should be given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work as is reasonably practicable.
- ▶ promote continuous improvement and progressively higher standards of work health and safety
- ▶ define the different roles and responsibilities of PCBUs, workers and other people involved in construction activities.





Relationship between WHS Acts, regulations and codes of practice

- ▶ The Act – The Act provides the broad responsibilities for workplace health and safety.
- ▶ Regulations – The regulations provide legally enforceable requirements for managing specific hazards and risks.
- ▶ Codes of practice – Codes of practice aren't legally enforceable (but they can be used in court as evidence that legal requirements have or have not been met). They provide guidance on how the requirements of the Act and Regulations can be met.



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WHS Acts and Regulations by state and territory

Safe Work Australia developed a set of model workplace health and safety laws for implementation by the Commonwealth as well as the states and territories. However, it is up to each state and territory to evaluate, regulate and enforce the laws if they choose. At the time of writing, all states and territories except Victoria and Western Australia have implemented the model laws.

The relevant Act and supporting regulations guides how you should work safely and how you will be kept safe at work. The relevant Acts for each state and territory are:

- ▶ Australian Capital Territory: Work Health and Safety Act 2011
- ▶ New South Wales: Work Health and Safety Act 2011
- ▶ Northern Territory: Work Health and Safety (National Uniform Legislation) Act 2011
- ▶ Queensland: Work Health and Safety Act 2011
- ▶ South Australia: Work Health and Safety Act 2012
- ▶ Tasmania: Work Health and Safety Act 2012
- ▶ Victoria: Occupational Health and Safety Act 2004
- ▶ Western Australia: Occupational Safety and Health Act 1984.



Construction site safety fundamentals

You can learn more about the legislation in your state or territory at the links below.

Victoria: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>

NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>

QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>

ACT: <https://www.worksafe.act.gov.au/about-worksafe-act>

SA: <https://www.safework.sa.gov.au/law-compliance/laws-regulations/legislation#accordion-2>

NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>

WA: <https://www.commerce.wa.gov.au/worksafe/legislation>

Tasmania: <https://worksafe.tas.gov.au/topics/laws-and-compliance>

Commonwealth: <https://www.comcare.gov.au/scheme-legislation/whs-act>

The role of policies and procedures

Most organisations have policies and procedures around safety as well as many other areas of your work. These policies and procedures are designed to help ensure that you (and others) uphold your legislative responsibilities. They are also designed to help keep people safe.

Safe work instructions

In construction, policies and procedures are sometimes supported by safe work instructions. Safe work instructions are often provided for particular processes which may be deemed high risk. They might also be provided in the form of operating instructions for machinery, tools or equipment.





Working safely – roles and responsibilities

Every person in a construction environment has rights and responsibilities in relation to creating a safe workplace. These vary depending on your role and on your position within an organisation. Sometimes, especially if you are a PCBU and you are working on-site, you may even have dual responsibilities.

Responsibilities of PCBUs

PCBUs have a duty of care to everyone on site to ensure that:

- ▶ workers hold the relevant licences and qualifications that they need
- ▶ induction onto the worksite has occurred
- ▶ all workers have been properly trained and are capable of doing the work that they have been given
- ▶ safe work systems are in place
- ▶ every worker is able to safely and correctly use the tools, plant and equipment required for the task
- ▶ tools, plant and equipment are regularly maintained and serviced
- ▶ tools, plant and equipment are immediately placed out of service if faults or defects are discovered
- ▶ workers have all of the information that they need to do their jobs safely
- ▶ first aid facilities are available on site.

Rights and responsibilities of workers

As a worker on a construction site, you have a right to:

- ▶ be provided with appropriate safety equipment
- ▶ be shown how to work safely
- ▶ speak up about your working conditions and to say no to unsafe work
- ▶ be consulted about safety in your workplace
- ▶ be provided with workers compensation.

These are your rights in regard to safety. You also have other rights in regard to pay and conditions.

You also have a responsibility to:

- ▶ take care of your own health and safety
- ▶ take care to ensure that the way you work does not adversely affect the health and safety of others
- ▶ follow, where possible, any reasonable instruction
- ▶ follow (where reasonable) WHS policies and procedures
- ▶ keep your white card (or equivalent) available for inspection.



Health and safety personnel

Under WHS legislation, organisations have an obligation to provide designated WHS personnel who support workplace safety. These personnel include:

- ▶ first aid officers
- ▶ WHS representatives
- ▶ WHS committee members
- ▶ site supervisors (sometimes called site safety officers).

Each of these people play an important role in supporting the safety of a site.

First aid officers

First aid officers are responsible for the provision of first aid to anyone who has been injured on site. In situations where 000 has been called, they will hand over to first responders by providing details of the incident and the injuries that the worker has sustained.

Information regarding how to access first aid on site will be provided during induction. You should also look out for first aid signs and familiarise yourself with the location of first aid kits.

If you don't know how to access a first aid officer, make it your business to find out **before** you need one! You can speak to your site safety officer, your supervisor or your HSR.

WHS representatives

Work health and safety (WHS) representatives (HSRs) are people who give workers a voice in regards to WHS matters. They are involved in site safety inspections, represent workers and encourage workers to participate in WHS meetings and other activities (called WHS consultation). Workers can also discuss their WHS concerns or make complaints to their HSR, who will take action by engaging with PCBUs. The HSR represents a work group within a workplace rather than the entire workforce.



Site meeting – HSRs

Participate in a group discussion facilitated by your trainer. How do you think HSRs help to make construction workplaces safer?

WHS committee members

A WHS committee is a group of workers who come together to discuss safety concerns and issues. They also develop and review policies and procedures to ensure site safety is continuously reviewed and improved. The group is usually made up of people with different skills, knowledge and experience across the workplace.

Site safety officer

A site safety officer (sometimes called a safety supervisor or a site officer) is the person who ensures that site activities are running safely, compliantly and in line with policies and procedures. On larger sites, the site safety officer is not usually the PCBU.



Site meeting – Site safety officer

Participate in a group discussion led by your trainer. How might you identify the site safety officer on a construction site? Why might you contact them? How do you think they would help keep the workplace safe?



How are you tracking?

Now that you have finished this section, work through the following questions to check how you're tracking. If you can't answer a question or you don't feel comfortable about a concept, go back and look at the relevant section of the learning materials again. You might also like to do some more research or speak to your trainer.

- ▶ From the following list, select the WHS Act that would apply to the place where you are completing this assessment:
 - Work Health and Safety Act 2011 (ACT)
 - Work Health and Safety Act 2011 (NSW)
 - Work Health and Safety (National Uniform Legislation) Act 2011 (NT)
 - Work Health and Safety Act 2011 (Qld)
 - Work Health and Safety Act 2012 (SA)
 - Work Health and Safety Act 2012 (Tas)
 - Occupational Health and Safety Act 2004 (Vic)
 - Occupational Health and Safety Act 1984 (WA)
- ▶ From the following list, select the WHS regulations that would apply to the place where you are completing this assessment:
 - Occupational Health and Safety Regulations 2017 (Vic)
 - Work Health and Safety (National Uniform Legislation) Regulations 2011 (NT)
 - The Occupational Safety and Health Regulations 1996 (WA)
 - Work Health and Safety Regulations 2012 (Tas)
 - Work Health and Safety Regulation 2017 (NSW)
 - Work Health and Safety Regulation 2011 (Qld)
 - Work Health and Safety Regulation 2011 (ACT)
 - Work Health and Safety Regulations 2012 (SA)
- ▶ When thinking about WHS, what is a PCBU?
- ▶ Describe the duty of care that a PCBU has in relation to WHS.
- ▶ List four responsibilities you have as a worker on a construction site in relation to WHS.



- ▶ Explain the role of each of the following designated health and safety personnel in a construction setting:
 - First aid officer
 - HSR
 - WHS committee member
 - Supervisor
- ▶ List three of the rights that you have as a worker in the construction industry.
- ▶ Write a brief description of each of the following documents:
 - SWMS
 - JSA
 - SDS
- ▶ List five construction activities that require a high-risk work licence.



Safe working practices in construction

In this chapter, we will explore some of the things that you can do to contribute to your own safety and the safety of others on construction sites.

Earlier, we looked at some of the responsibilities that you have as a worker on a construction site around keeping yourself and others safe. One of those responsibilities was to follow safe working practices. These practices include things like:

- ▶ utilising your personal protective equipment (PPE)
- ▶ knowing, understanding and following signs and symbols
- ▶ accessing site amenities
- ▶ maintaining a clean and tidy workspace
- ▶ avoiding drugs and alcohol
- ▶ preventing bullying
- ▶ using plant, tools and equipment safely
- ▶ communicating about safety.

Using your PPE

Personal protective equipment (more commonly referred to as PPE) refers to all of those things that are worn or used by you personally to help protect you from harm while at work or while on a worksite.

It is essential that you use appropriate PPE whenever you are in a construction environment. For many worksites, there will be a minimum requirement for PPE of a hard hat, safety boots and a high vis vest. Increasingly, eye protection and hearing protection are standard requirements as well. However, different worksites will have different requirements.

In itself, PPE is not ranked as a particularly effective hazard control measure (only rated as level 4). What this means is that it does not usually control hazards at their source. Another way of explaining this is to say that PPE doesn't stop a hazard from occurring, rather, it helps to protect you from hazards that can't be fully controlled.

So, while you must always use your PPE, Safe Work Australia explains that PPE should only be relied on:

- ▶ as a last resort
- ▶ as an interim measure
- ▶ as a backup or in conjunction with other risk controls.



Drill down – PPE

You can learn more about PPE from Safe Work Australia at <https://www.safeworkaustralia.gov.au/ppe>



Types of PPE



Chalk and talk – PPE

As you work through the various types of PPE your instructor will demonstrate their use and provide opportunities for you to practise fitting them properly. Pay attention to the processes for checking each item for serviceability as well as for fitting so that it provides maximum protection.

You will use a number of different types of PPE throughout your career. We have listed the more common items here but there are others that you may come across from time to time.

- ▶ hard hats
- ▶ protective gloves
- ▶ masks (respiratory protection)
- ▶ eye protection
- ▶ hearing protection
- ▶ protective footwear
- ▶ safety harnesses
- ▶ high visibility clothing
- ▶ sun protection
- ▶ knee and elbow pads
- ▶ protective clothing
- ▶ anti-vibration clothing.



Drill down – PPE

Today you will learn about fitting the following types of PPE:

- ▶ eye protection
- ▶ hearing protection
- ▶ hard hats
- ▶ high visibility vests, shirts or jackets.

If you would like more information about the other types of PPE, ask your trainer for a copy of Module PPE Personal Protective Equipment.



Hard hats

- ▶ Summary: Hard hats are protective helmets designed to protect you from falling objects and head strike (hitting your head). They also provide protection from weather and offer resistance to electrical shock by providing a barrier between you and exposed electrical current.

Hard hats have a hard outer shell and an internal harness. The harness creates a buffer zone between your head and the helmet shell and this buffer is important – it absorbs some of the impact when something strikes the shell. The harness also helps to absorb and disperse an impact across a greater area.



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- ▶ Types: There are many different types and styles of hard hats. Some have fitted hearing protection, some have fitted visors or face shields and some come with a range of accessories such as sun visors and screens. Regardless of the style you choose, ensure that it meets the Australian Standard.
- ▶ Colours: On many worksites the colour of your hard hat signifies your role. This can vary though and some sites have a uniform colour throughout. If you are buying a new hard hat check with your employer – you could end up buying your favourite colour and finding out that it's reserved for the site safety officer!
- ▶ Australian Standards: The Australian Standard for hard hats is AS/NZS 1801. Compliance with this Standard demonstrates that the helmet has been tested and meets specific criteria in relation to its performance in:
 - hot, cold and wet environments
 - electrical resistance
 - the way it absorbs shock
 - the way that it resists penetration of sharp objects
 - the way the shell responds to impact
 - other criteria as specified in the standard.

AS/NZS 1801:1998 Occupational protective helmets – Selection, care and use provides guidance and information on the selection, care and use of helmets that meet the Australian Standard.

- ▶ Maintenance: Your hard hat is one of the most important pieces of PPE that you will wear. Treat it well. Australian Standard AS/NZ 1800:1998 Occupational Protective Helmets – Selection, care and use includes advice on looking after your helmet. It says that, at a minimum, it should be replaced every two years from when it is issued. It should be inspected at least weekly and immediately replaced if:
 - the shell is cracked or dented
 - it has suffered a significant impact (even if it doesn't look damaged). This includes being dropped from a height above more than normal standing height or being dropped on to a hard or sharp surface
 - the shell has been damaged by penetration
 - the helmet has been altered in an unauthorised way



- the harness is worn, damaged or defective
- the shell has become brittle, faded or weathered.

Note that, if a helmet is withdrawn from service, it should be clearly marked and immediately disposed of so it can't be accidentally used.

- ▶ Fitting: Choose a hard hat that fits your head snugly but isn't too tight. The helmet shouldn't pinch or grab. You should be able to move your head without the helmet slipping around or moving (including when you are nodding and looking down). The harness inside the hard hat should maintain a gap between your head and the shell of the helmet. Ideally, your harness should have a number of adjustment points so you can fit the hat to your head comfortably and securely.

Eye protection

- ▶ Summary: Workers are at significant risk for eye injuries that can cause permanent damage to your sight or even blindness.

Hazards to your eyes include:

- splatters from paint, solvents and other chemicals
- small particles like dust, grit and splinters
- metal fragments and sparks
- burns
- being hit in the eye.



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As with the other risks identified in this resource, the ideal is to have all of these risks mitigated. However, that is not always possible and that's where eye protection comes in.

- ▶ Types: The three main types of eye protection used are:
 - Safety glasses – Safety glasses provide impact protection to the front of the eye. Although they should fit closely to the face, they don't fully enclose the eye. Tinted safety glasses can also provide protection from glare and, if UV rated, can protect from sun damage.
 - Safety goggles – Safety goggles fully enclose the eye providing greater protection from smaller particles, liquids and so on. Goggles should be used whenever there is a requirement for the eye to be fully protected.
 - Face shields – face shields provide protection to the eyes and face. They can be used in conjunction with glasses or may be built into a full-face respirator mask.
- ▶ Australian Standards: AS/NZ 1336:1997 Recommended practices for occupational eye protection is the relevant Australian Standard.



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Drill down – Eye protection

Read the article at <https://www.safetysolutions.net.au/content/personal-protection-equipment/article/effective-eye-protection-in-the-construction-industry-433841834>

It provides some excellent advice about selecting, using and maintaining eye protection and it is written from a construction industry point of view.

Hearing protection

- ▶ Summary: One of the biggest risks to your hearing is just how often you might be exposed to unsafe levels of noise.
- ▶ Types: There are three main types of hearing protection used – earmuffs, earplugs and ear canal caps. Follow the links below to learn more about each type.



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Drill down – Hazardous noise and hearing loss

Read the fact sheet about hazardous noise and hearing loss at <https://www.safework.nsw.gov.au/resource-library/hazardous-manual-tasks/hazardous-noise-and-hearing-loss-at-work-the-facts>

Were you surprised to learn that vibration can cause hearing loss? Did the information you read motivate you to wear your hearing protection more regularly?

- ▶ Australian Standards: The relevant Australian Standards for hearing protection are AS/NZS 1270:2002 Acoustics – Hearing protectors and AS/NZS 1269.3:2005 Occupational noise management – hearing protector program.
- ▶ Maintenance: Hearing protection must be inspected regularly. It should be well maintained and kept clean. Single-use hearing protection must be immediately disposed of after use.

Check earmuffs to ensure that:

- seals aren't damaged
- the headband isn't damaged and that it hasn't lost its 'spring' or tension
- the capsules which go over the ears aren't cracked or split
- they are clean and in good working order.

Remove hearing protection from service immediately if you discover that it is damaged.



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Don't be a tool – wear your hearing protection!

Oddly enough, hearing protection only works if you are actually wearing it (and using it effectively). It also relies on you using it every time you enter a hazardous noise area or conduct a hazardous noise activity.



Don't be a tool – Read the signs!

Watch for these signs and wear your hearing protection!



- ▶ **Fitting:** Your hearing protection is only effective if it is properly maintained and fits you correctly. You should always follow the manufacturer's instructions for fitting and seek professional advice if you are having trouble finding hearing protection to meet your needs. Consider too that your hearing protection should be compatible with your other PPE – will you be wearing a hard hat and safety glasses for example? What about a mask or respirator? Face shield?



Drill down – Hearing protection

SafeWork NSW has produced some great information about hearing protection. You can find it at: <https://www.safework.nsw.gov.au/resource-library/hazardous-manual-tasks/hearing-personal-protective-equipment-ppe-the-facts>

Follow the links in the document too – there is useful information about hazardous noise and hearing loss at work.

Protective footwear

- ▶ **Summary:** PPE requirements vary from worksite to worksite but one of the non-negotiables on a majority of sites is safety boots or shoes. Safety footwear has changed a lot in recent years. The focus has moved from a sturdy pair of boots with added protection for your toes to boots or shoes that have a range of features including:

- comfort
- support
- non-slip
- temperature control
- range of motion and sizes
- weight
- features to reduce strains and sprains
- strength
- reinforcement in the sole to prevent penetrating injuries
- waterproofing
- choices in style, colour and design
- choices in slip on, lace up, zip up, elasticated sides
- range of materials (leather, suede, synthetics).



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As you can see, the options are endless. What you should look for, however, is that your footwear is suitable for the tasks you will be undertaking, meets Australian Standards and will protect you and your feet.

- ▶ Australian Standards: AS/NZS 2210 is the relevant Australian Standard for protective and occupational footwear. AS/NZS 2210.1:2010 Safety, protective and occupational footwear, Part 1: Guide to selection, care and use is the Standard that provides guidance on selecting, caring for and using protective footwear.
- ▶ Maintenance: Well-maintained footwear will last longer and provide better protection. Your footwear clean and dry, follow the manufacturer's instructions and replace footwear regularly. Footwear that becomes damaged or worn should be immediately replaced.
- ▶ Fitting: Fitting is important. Where possible, have your footwear professionally fitted and find the brand and style that works for you.



Drill down – Footwear

For more information about work boots and footwear, check out <https://www.rsea.com.au/work-boots>



Site meeting – Footwear

Compare notes with others in your group, your trainers and colleagues. What is their preferred footwear? What are their likes and dislikes?

High-visibility clothing

- ▶ Summary: This clothing is designed to help ensure that you are highly visible to moving vehicles and machinery.
- ▶ Types: There are two main types of high-vis. The first is designed for use in daylight – it is neon coloured but does not have additional reflective stripes or materials added. The second is designed for road traffic control and for use in darker environments, and has reflective strips or materials added.
- ▶ Australian Standards: AS/NZ 4602.1:2011 High visibility safety garments – Garments for high risk applications and AS/NZ 1906.4:2010 Retroreflective materials and devices for road traffic control purposes – High visibility materials for safety garments.
- ▶ Maintenance: To be effective, your high-vis must be clean and well maintained. Remove it from service if it is torn, faded or very dirty/stained. Wash and care for your high-vis according to the manufacturer's instructions – the reflectiveness can be damaged if you don't.
- ▶ Fitting: Your workwear should fit comfortably and allow a full range of movement. It should not be too loose because there is a risk that loose, baggy clothing can become trapped in equipment.



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Using PPE

PPE is, of course, only effective if you are using it. And it is at its most effective when it meets a number of criteria, including:

- ▶ being fit for the purpose that you are using it
- ▶ being well maintained and in good working order
- ▶ you are trained in its use
- ▶ it fits you properly
- ▶ you are using it properly.

Of course, PPE that is comfortable (or as comfortable as it can be) and easy to use is more likely to be worn than if it is uncomfortable, hard to use and ill fitting.

Knowing your signs and symbols

Signage and barricades are used extensively in building and construction in a number of ways including to:

- ▶ Advise people that they are entering a hazardous area and they need to take action. For example, a sign might advise that you are entering a noisy area where hearing protection must be worn or that you are entering an area where vehicles are operating – so stay within marked lines.
- ▶ Exclude people from a high-risk area. For example, an area where demolition is occurring.
- ▶ Provide information. For example, emergency contact information.
- ▶ Prevent falls, trips, slips and so on.



Drill down – Barricades and signage

Watch the video from Safe Work Australia about the importance of paying attention to exclusion zones at <https://www.safeworkaustralia.gov.au/media-centre/dont-ignore-exclusion-zone>

Types of signs and symbols

Everywhere you look on a construction site there will be signs and symbols. Here are just a few examples of where you will see them:

- ▶ at entry and exit points
- ▶ at site offices
- ▶ in specific work areas.








It is a legal requirement that sites have safety signage prominently displayed. They provide important information and can help keep you safe.

It's important to note that the symbols used on signs may not be exactly the same at every site. However, the colours used will be the same and the image/symbol will be easy to identify.



Emergency information signs








As you can see, emergency information signs are usually green. They will provide information about the location of first aid resources and where you need to go in the event of an emergency.






	<p>Where to go if you need to evacuate the site</p>
	<p>Direction to the emergency exit</p>
	<p>First aid station/first aid kit</p>
	<p>Location of first aid station</p>
	<p>Where to go if you or someone else has an eye injury from a chemical splash</p>
	<p>Where to locate PPE and equipment to clean up after a chemical or other hazardous substance spill</p>
	<p>Where to locate the safety data sheets</p>



Danger signs






Danger signs inform workers of hazards or work activities that could potentially be life threatening. As you can see, they all take the same appearance – black and red on a white background, with the word ‘danger’ clearly visible.

	<p>Identification of construction site sign, no one should enter if they are not authorised</p>
 	<p>Confined space signs</p>
	<p>Asbestos-containing materials in this location</p>
	<p>This sign provides guidance on the height of power lines – the amount of metres will be written in the space provided</p>
	<p>Electrical equipment in the work area, keep out unless you are authorised to be working in the area</p>
	<p>Automatic start of plant/equipment could cause injury</p>

	<p>Forklifts are moving around in the area</p>
	<p>Demolition work is in progress, hazards related to demolition work will be present</p>
	<p>Do not smoke in the area (usually due to a risk of flammable substances)</p>
	<p>Location of hazardous materials</p>
	<p>This is a site sign. It shows the principal contractor's name and phone number for use in an emergency. It must be installed on the boundary of larger projects (over \$250 000). Sometimes it also includes details about the site's WHS management plan.</p>

Warning signs

The difference between a danger sign and a warning sign relates to the level of risk – a warning sign tells you to maintain awareness to reduce the risk of injury.

	<p>Maintain awareness of forklifts</p>
	<p>Maintain awareness of site traffic</p>
	<p>Maintain awareness of electrical hazards in the work area</p>
	<p>Check plant and equipment for guards where this sign is present</p>
	<p>PPE warning for specific plant or equipment</p>


PPE signs

These signs let you know that PPE must be worn on site or in a particular work area. Sometimes a sign will include more than one type of PPE.

 <p>SAFETY FOOTWEAR MUST BE WORN ON THIS SITE</p>	 <p>DUST MASK MUST BE WORN IN THIS AREA</p>	 <p>HEARING AND EYE PROTECTION MUST BE WORN ON THIS SITE</p>
 <p>HEARING PROTECTION MUST BE WORN ON THIS SITE</p>	 <p>EYE PROTECTION MUST BE WORN ON THIS SITE</p>	 <p>SAFETY HELMETS MUST BE WORN ON THIS SITE</p>
 <p>HIGH VISIBILITY CLOTHING OR VEST MUST BE WORN IN THIS AREA</p>	 <p>GLOVES MUST BE WORN IN THIS AREA</p>	 <p>SAFETY HARNESS MUST BE WORN</p>






Lockout tags

This type of tag identifies plant, equipment and tools that are faulty and must not be used or are undergoing maintenance or repair.

	<p>Plant/tool/equipment failure – information will be recorded on the tag as to why it is out of order</p>
---	--

Fire signs

These signs can help you locate firefighting equipment.

	<p>Where fire extinguishers are located</p>
	<p>Type of fire extinguisher (see below)</p>
	<p>Location of fire hydrant</p>
	<p>Where to find the fire hose reel</p>
	<p>Location of fire alarm</p>
	<p>Location of fire blankets</p>



Where do signs go?

- ▶ In places where they are easily seen.
- ▶ Somewhere they won't be damaged.
- ▶ In locations where relevant hazards might be found.
- ▶ Where relevant activities will be undertaken.



Chalk and talk – Safety signage

Your trainer will run an activity where you get the chance to identify signs and symbols used in the construction environment. Make sure you tell your trainer:

- ▶ what the signs and symbols are
- ▶ what they mean
- ▶ how they keep people safe on site.

Accessing site amenities

Construction sites provide amenities for workers to ensure that they have safe, hygienic spaces to eat and drink, wash their hands and so on. It is important that you utilise these spaces. To ensure that you remain safe and healthy, follow these tips:

- ▶ Often, the water on site is temporary and may not be drinkable so, to avoid illness, only drink from taps that are marked as safe for drinking.
- ▶ To avoid the spread of disease and to protect our waterways and environment, always use the toilets provided.
- ▶ Eat and drink in the areas provided. They are placed away from hazardous substances and materials and are purpose built with proper hand washing facilities, waste disposal and so on.

Housekeeping

A clean, tidy work area is safer for everyone and for the environment. There are a number of reasons why you should practice good housekeeping on site including:

- ▶ reducing tripping hazards
- ▶ keeping walkways and emergency exits clear
- ▶ preventing rubbish and debris from entering waterways and neighbouring properties
- ▶ improving the working environment for others
- ▶ reducing stress
- ▶ reducing the risk of accident and injury
- ▶ reducing the spread of disease
- ▶ reducing the risk of rodent and insect infestation.



Some techniques for maintaining a clean and tidy workspace include:

- ▶ storing and removing waste and debris to designated areas regularly
- ▶ stacking materials safely
- ▶ recycling and reusing excess materials where possible
- ▶ cleaning as you go
- ▶ following organisational policies, procedures and work instructions.

Avoiding drugs and alcohol

If you are under the impact of illegal drugs, alcohol or some prescription drugs, then you are not safe to work in a construction environment. You should not attend work until your system is free from those drugs.



Chalk and talk – Am I safe to work?

Watch this short video by Safe Work Australia about going to work under the influence of drugs and alcohol.

<https://www.safeworkaustralia.gov.au/media-centre/no-place-drugs-and-alcohol>

Contribute to a class discussion about the video.

In regard to smoking, many construction sites no longer allow smoking on site. Others will have designated areas for smoking. Do not smoke on site except in designated smoking areas.



Site meeting – Smoking

Participate in a brainstorming session about smoking on site. How many reasons can you think of why smoking on site could be hazardous?

Preventing bullying and harassment

A leading cause of workplace injury in many industries is bullying and harassment. The construction industry is no different.

You can help to stamp out bullying and harassment by:

- ▶ following your organisation's policies and procedures
- ▶ participating in training
- ▶ treating all people with dignity and respect
- ▶ reporting incidents of bullying or harassment
- ▶ calling out disrespectful behaviours

Later in this chapter, you will learn about communicating about safety. Communicating respectfully in all areas of your work will go a long way to building respectful relationships with others in the workplace and to preventing bullying and harassment.



Using plant, equipment and tools

As you know, the construction industry relies on a wide range of tools, plant and equipment. There will rarely be a day in your building or construction career that you don't rely on tools, plant and equipment at work. When using tools and equipment:

- ▶ follow the manufacturer instructions
- ▶ follow your organisation's policies and procedures
- ▶ wear your PPE
- ▶ check that the tool or equipment that you are using is in good condition before you use it
- ▶ make sure that you are trained in its use
- ▶ report faults or damage and remove the tool from service.

Faulty tools and equipment

Despite your best efforts, there will be times when you come across a tool or item of equipment that may be faulty, requires repairs, maintenance or replacement. Signs to watch out for include:

- ▶ failure to start
- ▶ strange noises emitting from power tools (grinding, squealing, screeching, rattling)
- ▶ strange smells (such as burning)
- ▶ overheating
- ▶ smoke
- ▶ sparks
- ▶ less power and/or torque than usual
- ▶ loose, cracked or splintered handles
- ▶ cracked casings
- ▶ broken or worn attachments
- ▶ frayed or cracked power leads
- ▶ bent or loose pins on plugs
- ▶ bent or loose pins on batteries
- ▶ cracked battery casings
- ▶ loose or stiff switches
- ▶ loose trigger locks or those that fail to secure or deactivate
- ▶ loose or missing guards/shields
- ▶ loose hinges or steps on ladders
- ▶ electrical equipment that hasn't been regularly tested or that does not have a current tag.



Defective tools and equipment can be quite dangerous for not only yourself, but others around you. It could lead to issues such as:

- ▶ damage to the materials being worked on
- ▶ electrocution
- ▶ cuts and lacerations
- ▶ puncture wounds
- ▶ being struck by attachments/accessories that come loose, nails, screws and other fixtures
- ▶ falls, slips and trips.



Site meeting – The dangers of faulty tools, plant and equipment

Facilitate a discussion with the group in which they identify the consequences of using faulty tools, plant and equipment.

As a group, discuss different tools, plant and equipment and the types of injuries or consequences that could happen if you chose to work with them when faulty.



Don't be a tool

Defects can occur over time. However, it is not impossible that new tools and equipment can be defective straight from the box. And all new equipment must be tested and tagged prior to use.

Carefully check any new items in the same way that you would for older items – just because it's new doesn't mean it will be okay to use.

Dealing with faulty/damaged items

In the event that you do discover a faulty tool or piece of equipment, you should immediately:

- ▶ follow your organisation's policies and procedures
- ▶ remove it from service
- ▶ tag it
- ▶ report it, which could include:
 - lodging it for service/repair or disposal
 - reporting a broader safety hazard to the site's safety supervisor.

Communicating about safety

One of the most important things that you can do to create a safe workplace is to communicate about safety.

You will often hear about being an effective communicator but what does that actually mean? Here are some practical tips for communicating in a way that is respectful, positive and which will give you the best chance of understanding, sharing and applying safety information correctly.



Listen actively

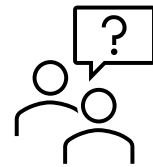
Active listening is more than just being around when someone else is speaking. It is about actively engaging in what they are saying and making a genuine effort to understand. Active listening involves nodding, leaning forward and using positive body cues to encourage the person to share their thoughts; a key aspect of active listening is to show you are engaged and not distracted, as this gives the other person more confidence to open up.



Active listening also involves ensuring that you have received and understood the person's message. You can do this by summarising what the person has told you. For example, 'So what you would like me to do is to clear this debris from the walkway and then come back to you for further instructions?'

Ask effective questions

Asking effective questions is about selecting the right questioning technique depending on the type of answer that you are looking for. There are a number of questioning techniques that you can use – the most common are open questions (where you want detailed information to be provided). Closed questions are used when you are looking for a shorter, more specific answer. Answers to closed questions may consist of a one-word answer or an exact answer. Probing questions are used where you want to dig deeper into something that the other person has raised.



Be respectful, inclusive and culturally safe

Australian workplaces increasingly recognise that diverse teams are stronger and more innovative. Respectful, inclusive and culturally safe communication is essential to creating a culture which supports this.



Drill down – Respectful, inclusive and culturally safe communication

The Diversity Council of Australia provides the following videos to help you with different aspects of diversity and inclusion:

- ▶ Inclusion starts with I
https://youtu.be/2g88Ju6nkcq?list=PL6ils_aH7_XLBxmDXm16CDhgjgifCR_SU
- ▶ Closing the Gender Gap in Engineering and Technology
https://youtu.be/IpM_faC36mA?list=PL6ils_aH7_XJz5X_dG12gQf3c3Mz8b4sb
- ▶ Diverse Teams are Stronger
https://youtu.be/XF1nCglDpSw?list=PL6ils_aH7_XLlv7GVyagM2lkeZlhnHRW6
- ▶ Our Staff talk about # hold tight
https://youtu.be/AlupPDP_Nzw?list=PL6ils_aH7_XJSo22O1hTa-PmXPznMVhy9
- ▶ Give Nothing to Racism
https://www.youtube.com/watch?list=PL6ils_aH7_XLflRQrhAW7A9S16E_gXKQ&v=g9n_UPyVR5s&feature=emb_title



Role model positive behaviours

- ▶ communicate about safety
- ▶ wear PPE
- ▶ celebrate success
- ▶ build respectful relationships.

Follow your workplace's requirements

- ▶ Is there a code of conduct?
- ▶ Does the organisation have policies and procedures for workplace communication?

Communicating in writing

We regularly communicate in writing in most industries and in most roles now. On email, via text, in project management software, in WHS forms, on timesheets, on instant messaging software, via social media and in many other ways.

Many of the principles of communicating verbally apply equally to the way that we communicate in writing. For example:

- ▶ adjusting your communication style depending on the needs of your audience
- ▶ using positive language and examples
- ▶ role modelling respectful communication
- ▶ being respectful, inclusive and culturally safe
- ▶ following workplace policies and procedures.

Don't make the mistake of thinking that, just because you are texting, you don't need to behave professionally. Your written communication is as important as your verbal communication.





Developing your writing skills

Developing your written communication skills can take time and practise. Before you begin writing, try asking yourself these questions.



Why am I writing?

Know in your own mind why you are writing. Are you asking a question or requesting more information about something, sharing good or bad news? Perhaps you are completing an incident report or reporting a hazard form.



Who am I writing for?

Who you are writing for will determine what kind of language you will use. You might provide a lot of detailed material when completing an incident report. However, you might only need a brief summary for a simple hazard report.



When is it required?

Are there any time requests to your writing? Does it need to be finished before the end of the work week or do you need to include a time when you would like feedback?



Is there a template?

Most companies will provide a template for routine writing such as WHS report forms.

Writing tips to remember

Whether filling in forms or writing reports, these tips should help.

- ▶ Use short, simple sentences.
- ▶ Include only relevant information.
- ▶ Avoid slang.
- ▶ Write to your audience – avoid jargon unless your readers will be familiar with it.
- ▶ Proofread for typos, spelling and grammatical errors.
- ▶ Use simple words that are commonly used in conversation. There is no need to use formal, often longer, words. For example, use 'help' instead of 'facilitate' or 'total' instead of 'aggregate'.



How are you tracking?

Now that you have finished this section, work through the following questions to check how you're tracking. If you can't answer a question or you don't feel comfortable about a concept, go back and look at the relevant section of the learning materials again. You might also like to do some more research or speak to your trainer.

- ▶ How do you know if you should be wearing hearing protection?
- ▶ What information is usually included on a site sign?
- ▶ What colour are emergency information signs?
- ▶ What information does a PPE advisory sign give you?



Hazards and risks

In this chapter, we take a look at the steps involved in identifying hazards and managing risks in the workplace.

What are hazards, risks and controls?

Before we get started, let's remind ourselves about hazards, risks and controls

- ▶ Hazards – A hazard is something which is identified as having the potential to harm any of the people on site. Remember that harm can mean a physical injury, an illness including a psychological illness or even death.
- ▶ Risks – Risk refers to the likelihood that a hazard will occur and what the significance of the harm will be.
- ▶ Controls – Controls are the strategies put in place to mitigate (prevent and/or manage) the hazards and risks.

Construction hazards

Construction hazards usually fall under one of the following categories:

- ▶ Manual handling – Caused by lifting, posture, repetitive movement or vibration.
- ▶ Gravity – Falling from height, objects falling from height, slips, trips and falls.
- ▶ Mental health – Fatigue, bullying.
- ▶ Electricity.
- ▶ Hazardous chemicals, substances and materials – chemicals, asbestos, silica, fuels.
- ▶ Environmental – excessive heat or cold, dust, noise
- ▶ Near miss – a near miss is an incident with potential to cause harm. For example, where a tool falls from a scaffold and narrowly misses hitting a pedestrian below.



Hit the tools – Hazard categories

Think about two construction related hazards from each of the categories listed above. Share your examples during a class discussion facilitated by your trainer.

When thinking about hazards, it is important to think about all of those things that could reasonably go wrong. It doesn't mean that you have to recognise every single combination of events including an alien invasion by crowbar throwing aliens on the exact day that you are installing reinforcing for a slab. Rather, that you identify those things that, taking into account the available information, have the potential to cause harm.



How can you identify hazards?

You might identify a hazard by:

- ▶ completing a formal workplace inspection
- ▶ casual observation
- ▶ inspecting how plant and equipment are used
- ▶ observing an unsafe work practice
- ▶ observing a near miss
- ▶ observing a failure in policy, procedure or process
- ▶ information in SDS, manufacturer instructions, union bulletins, industry association information etc
- ▶ equipment failure.



Hit the tools – Identifying hazards

Think about a construction environment that you are familiar with. Identify at least ten hazards and write them down. You will use this list later.

The five steps for managing risk

In a construction environment, it is important to have a process in place for identifying, assessing and controlling hazards and managing risk. There are five steps in this process:

- ▶ Step 1 – Identify hazards
- ▶ Step 2 – Assess the risks
- ▶ Step 3 – Consult and report
- ▶ Step 4 – Implement controls
- ▶ Step 5 – Review controls.

Step 1 – Identifying hazards

As you read earlier, a hazard is something that is identified as having the potential to harm any of the people on site. The first step in the process is to identify the hazard.

Step 2 – Assessing the risk

Now that you have identified a hazard, the next step is to assess the risk. Risk refers to the likelihood that the hazard will occur and what the significance of the harm will be.

A common way of assessing risk is to use a risk assessment matrix. A risk assessment matrix helps you to apply a rating to each hazard.



The first step in completing the risk assessment matrix is to assess the seriousness of the harm that will be caused by the hazard occurring. For example:

Level	Description
5 – Severe	A person is killed or permanently disabled as a result of the hazard occurring
4 – Major	A person is seriously injured or ill and requires hospitalisation (including psychological injury) as a result of the hazard occurring
3 – Moderate	A person is injured or ill and requires medical attention (including psychological injury) as a result of the hazard occurring
2 – Minor	A person is injured or ill and requires first aid (including psychological injury) as a result of the hazard occurring
1 – Insignificant	No injury or illness as a result of the hazard occurring

The second step in completing the risk assessment matrix is to estimate the likelihood that the hazard will occur. For example:

Level	Description
5 – Very likely	Would occur regularly or at most repetitions of the activity
4 – Likely	May occur once every few repetitions of the activity on a standard building site
3 – Possible	May occur on a large building site over a period of time
2 – Unlikely	May occur on a building site somewhere within a city once during an extended period of time
1 – Rare	May occur but it would be very unusual, perhaps once every 100 years



The third step is to enter the 'harm level' and 'likelihood' level into the risk matrix and to circle where the two meet.

Likelihood	Rare	Medium	Medium	Low	Low	Low
	Unlikely	High	Medium	Medium	Low	Low
	Possible	Extreme	High	Medium	Medium	Low
	Likely	Extreme	Extreme	High	Medium	Medium
	Almost certain	Extreme	Extreme	Extreme	High	Medium
		Severe	Major	Moderate	Minor	Insignificant
		Consequence				

Step 3 – Consult and report

The next step is to respond to the risk rating according to your workplace's policies and procedures by consulting with your supervisor and reporting the hazard.

In most workplaces, the reporting requirements look something like this:

Risk rating	Reporting requirement
Extreme	Immediate action required. Contact supervisor. Cease activity. Isolate hazard.
High	Report the hazard immediately to a supervisor.
Medium	Report the hazard within 24 hours.
Low	Report the hazard in due course.



Chalk and talk – Risk ratings

Your trainer will show you how to identify the risk rating of some of the hazards you and your classmates have identified. Practice reporting each hazard.



How to report the hazard

Different workplaces will have different processes for reporting hazards. Some will require that you make a verbal report immediately and follow up with a written report. Others will require that you complete a hard copy or online form.

There are a number of reasons why reporting hazards are important.

- ▶ Data collection – Reporting means that data can be collected, collated and analysed so trends can be identified. It may be that a hazard is emerging or there is a fault in a piece of equipment that needs to be rectified.
- ▶ Training needs analysis – Gaps in training can be identified through reporting.
- ▶ Funding – Reporting helps to secure funding for safety research, training and equipment.
- ▶ Legislation and enforcement – Reporting helps to inform legislation and enforcement.
- ▶ Awareness – Reporting helps raise awareness of emerging issues.

How and what to report

Workplaces have policies and procedures around reporting and there are Commonwealth, state and territory requirements for reporting as well.

As a general rule, you should report all hazards and all risks.

All building and construction workplaces should have policies and procedures for reporting WHS hazards. They may be online or hard copy. They will usually include forms and risk assessment templates.

A simple hazard reporting form is included in the Appendix.

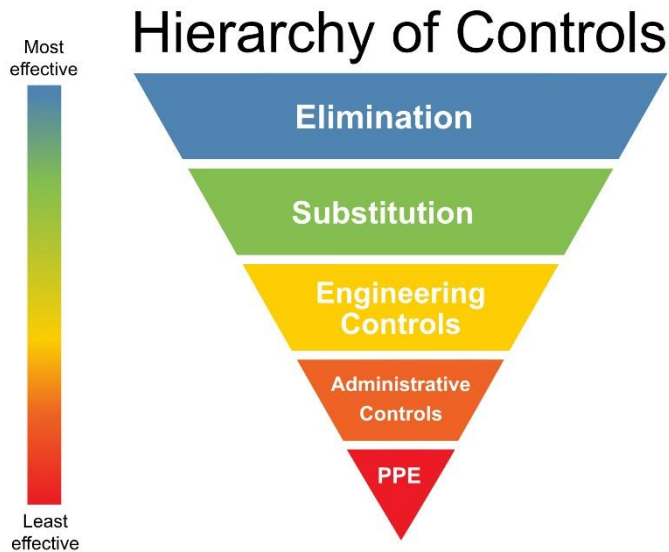
Step 4 – Control the hazard

Once you have identified a hazard, assessed the risk and consulted and reported according to your organisation's procedures, the next step is to control the hazard.

The hierarchy of control

It is one thing to identify a hazard and to assess the level of risk that it poses to the people on site. The important thing though, is how you manage and control the risk. The system that the majority of workplaces use to control risks is called the 'hierarchy of control'. This system can be applied to any hazard.

There are five levels in the hierarchy of control. The hierarchy works from highest (or most effective) to lowest (or least effective).



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- ▶ Level 1 – Elimination: Elimination is the most effective hazard control. The most effective way to eliminate hazards is to avoid introducing them into the workplace during the design phase. Other ways of eliminating (or removing) a hazard include disposing of a faulty piece of equipment or no longer using a hazardous substance.
- ▶ Level 2 – Substitution, isolation and engineering controls: If you can't eliminate a hazard, you should control it by using one of the following methods:
 - Substitution – Substitution means replacing the hazard with a safer option. For example, replacing a noisy machine with a version that has noise suppressing technology fitted.
 - Isolation – This means isolating people from the hazard by using guards and barriers.
- ▶ Level 3 – Engineering controls: An engineering control is a physical device or process designed to protect the person from the hazard. For example, trolleys, hoists, safety switches and so on.
- ▶ Level 4 – Administrative controls: Administrative controls are work instructions, methods and procedures which are designed to minimise exposure to the risk. Note that administrative controls would be used in addition to Level 2 controls, not instead of.
- ▶ Level 5 – PPE: Exposure to any remaining hazards and risks must be minimised by utilising PPE. PPE on its own is not considered as a risk control. Rather, it should be used to support other controls.



Chalk and talk – Identifying controls

Your trainer will show you how to reduce or remove risk associated with hazards.



Hit the tools – Hazards and risk controls

Choose two of the hazards you identified earlier and for each one:

- ▶ work out its risk rating
- ▶ explain how the risk could be reduced or removed.

Step 5 – Review

In Step 5, the hazard is reviewed to ensure that the controls which have been put in place have reduced or removed it effectively. Sometimes, further changes need to be made and another review made. Ideally, the results of the process should be communicated to everyone involved.



How are you tracking?

Now that you have finished this section, work through the following questions to check how you're tracking. If you can't answer a question or you don't feel comfortable about a concept, go back and look at the relevant section of the learning materials again. You might also like to do some more research or speak to your trainer.

- ▶ What is a hazard?
- ▶ What is a risk?
- ▶ What is the difference between a hazard and a risk?
- ▶ Describe the five steps in managing risk.
- ▶ What types of hazards should you report?



Construction hazards

In the previous chapter we discussed the process of hazard identification and risk control. Let's now look more closely at the various types of hazards you could potentially come across in a construction environment.

Hazardous materials and hazardous substances

Hazardous materials and hazardous substances – what's the difference?

Hazardous materials are any material that can pose a significant risk to a person's health and/or safety if not managed correctly. The common hazardous materials that may be present on a construction site include:

- ▶ asbestos
- ▶ silica dust (crystalline silica)
- ▶ lead.

Hazardous substances are any chemical or mixture that can pose a significant risk to a person's health and/or safety if not managed correctly.

The hazardous substances you might find on a construction site include, but are not limited to:

- ▶ flammable liquids
- ▶ corrosives
- ▶ chemically reactive or acutely (highly) toxic substances
- ▶ petrol and LPG
- ▶ degreasers
- ▶ refrigerant gases
- ▶ glues and other types of adhesives
- ▶ paints (including lead-based paints), primers and undercoats, varnishes, stains and lacquers, thinners and strippers.

Safety data sheets (SDSs)

An SDS is a document that describes the chemical and physical properties of a material or substance and provides advice on safe handling and use of the material. Employers using or storing dangerous goods or hazardous substances must ensure that they obtain an up to date SDS for each product and that there is ready access to the SDS for people on site.



Drill down – Safety data sheets

Do some research to learn more about safety data sheets. You can find examples of SDSs on manufacturer's websites. Some suppliers will also have links to the SDSs of the products they sell.

Asbestos

This hazardous material is particularly relevant to the construction industry. Asbestos fibres are very fine fibres which, when inhaled, can cause very serious, life limiting lung diseases. Asbestos is now banned in Australia and has been since December 2003. The manufacture and sale of asbestos products occurred until the 1980s. Asbestos was once used in almost 3000 products – many of which related to the building and construction industry:

- ▶ cement roof sheeting and wall lining
- ▶ vinyl floor tiles
- ▶ underlay sheeting for ceramic tiles
- ▶ ceiling cavities
- ▶ hot water insulation set in walls
- ▶ lagging and jointing material
- ▶ eave lining
- ▶ gutters
- ▶ loose roof insulation
- ▶ meter box lining
- ▶ imitation brick cladding
- ▶ window rope and putty
- ▶ shower lining
- ▶ fire blankets.

Aside from actual structures, asbestos can also be found in soil and fencing.

I think I've found asbestos, what do I do?

- ▶ Do not disturb the material.
- ▶ Notify your supervisor immediately.
- ▶ Follow your site's policies and procedures.
- ▶ Isolate the area.
- ▶ Label the materials as asbestos containing (or place the label/sign near the materials).
- ▶ Set up barriers/barricades to protect the materials and to stop others from working in the area.





Silica dust (crystalline silica)

Silica dust comes from the cutting, grinding and polishing of stone and other products that contain silica, such as, bricks, pavers, concrete, tiles and fibre cement sheeting.

Latex paint is said to also include silica, therefore sanding any substrate that has been painted with latex paint can prove hazardous.

Tiny particles of silica dust can be inhaled and can cause irreversible, life-limiting lung damage.

While awareness around asbestos is high, awareness around silica dust is still emerging.

Always wear the right PPE and make sure it is fitted correctly before doing any work that will generate silica dust.

Safe handling of hazardous materials

- ▶ Review the relevant SDS and know what to do in the event of a hazardous materials incident
- ▶ Follow your workplace's policies and procedures
- ▶ Follow relevant SWMS
- ▶ Understand the site's hazardous materials plans (for example, asbestos management plan)
- ▶ Wear PPE
- ▶ Handle hazardous materials carefully
- ▶ If you are moving them for disposal, move them to the appropriate storage area for safe disposal or recycling (as per EMP/SWMS)
- ▶ Report any incidents in line with SDS/SWMS/policies and procedures

Safe handling of hazardous substances

- ▶ Review relevant SDS and know what to do in the event of a spill or other incident
- ▶ Follow your workplace's policies and procedures
- ▶ Wear PPE
- ▶ Handle substances carefully to avoid spills
- ▶ Move them to the appropriate storage area for safe disposal (as per EMP/SWMS), if you are moving them for disposal
- ▶ Report any incidents in line with SDS/SWMS/policies and procedures.



Drill down – Hazardous substances

Choose three different hazardous substances that you would expect to see on site. Go to the manufacturer's website and find the SDS for each.

Review each section so you are familiar with what is included in the document. Take particular note of the following requirements:

- ▶ PPE
- ▶ transport and handling
- ▶ storage (including any incompatibility)
- ▶ first aid
- ▶ disposal/removal (including measures for spill management).

Share your findings with the group.

Hazardous manual tasks

Work Safe Australia tells us that:

A hazardous manual task is a task requiring a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing involving one or more of the following:

- ▶ *repetitive or sustained force*
- ▶ *high or sudden force*
- ▶ *repetitive movement sustained or awkward posture, or*
- ▶ *exposure to vibration.*

Safe Work Australia, Hazardous Manual Tasks Code of Practice, p 5

Let's look at some techniques to help you adopt safe manual handling techniques.

Plan effectively

When planning to move heavy, bulky or awkwardly shaped materials, ask yourself the following questions *before* you begin.

- ▶ Have I checked the work instruction, procedure or JSEA?
- ▶ What PPE do I require?
- ▶ Can I lift it by myself or do I need someone else to help me (ie what is the weight)?
- ▶ Can I use a wheelbarrow or trolley instead?
- ▶ Is mechanical handling equipment a safer option?
- ▶ Where do I have to move the materials to? Is it far?
- ▶ What obstacles or hazards are in the way as I move to the required location?



- ▶ Once I have lifted it, am I going to be able to carry it safely for the required distance?
- ▶ Will I be able to safely put it down where it needs to go?
- ▶ Do I need to set up signs and barricades?
- ▶ Is the area free from items that could cause slip, trip and falls hazards?
- ▶ How will I maintain situational awareness throughout the lift and move process?

Use safer lifting techniques

- ▶ Consider the weight of materials.
- ▶ Consider the length of materials.
- ▶ Consider the shape of materials.
- ▶ Check the area is safe before handling.
- ▶ Do not lift and carry items that might block your view.
- ▶ Ensure your feet are level and secure.
- ▶ Take a firm grip.
- ▶ Keep back and neck straight.
- ▶ Bend your legs, not your back.
- ▶ Keep the item close to your body.
- ▶ Avoid twisting.
- ▶ Avoid reaching.
- ▶ Avoid repetitive movements.
- ▶ Seek assistance from others where needed.



Chalk and talk – Safe manual handling

Your trainer will demonstrate manual handling techniques and allow you time to practise your skills.



Noise

Excess noise can be generated by machinery, tools and equipment and plant. The risks of excess noise include:

- ▶ temporary hearing loss
- ▶ permanent hearing loss
- ▶ tinnitus
- ▶ inability to hear what is happening in the environment
- ▶ fatigue
- ▶ inability to concentrate
- ▶ difficulty communicating.

To avoid these risks, always use your hearing protection.

How do I know if I should be wearing my hearing protection?

- ▶ If you have to raise your voice to be heard when standing 1m apart.
- ▶ If you enter a zone where hearing protection signs are displayed.
- ▶ Where sound is above 85 dB(A) averaged over an 8-hour period.
- ▶ Where there is likely to be a peak noise level of 140 dB(C) or higher.
- ▶ Where you have a temporary reduction in hearing or ringing in your ears after leaving the site.
- ▶ Where there has been a report of hearing loss at the site.
- ▶ Where a HSR or site safety officer requests that you do so.
- ▶ Where there is equipment in use which is likely to generate noise.

Heat and cold

As you would be aware, a lot of construction work occurs outdoors or in environments that experience variations in temperature depending on the time of year. The Construction work Code of Practice advises that workers should be protected from the elements by use of:

- ▶ sunshades
- ▶ sheds
- ▶ caravans
- ▶ tents
- ▶ windbreaks.

The Code also indicates that controls can be put in to place in hot work environments such as:

- ▶ task rotation
- ▶ shade structures
- ▶ rest breaks



- ▶ isolating from heat
- ▶ being able to work in the shade during the hotter parts of the day.

Everyone has the right to access cool and clean, drinkable water.

PPE should be worn to protect against UV exposure such as:

- ▶ wide-brimmed hats
- ▶ clothing such as long sleeved tops and long pants
- ▶ collared shirts
- ▶ sunglasses
- ▶ safety glasses with UV protection
- ▶ sunscreen
- ▶ hard hat attachments such as hard hat covers/flaps that protect your neck, shoulders and face (Construction work Code of Practice, p 77).



Drill down – Sun safety

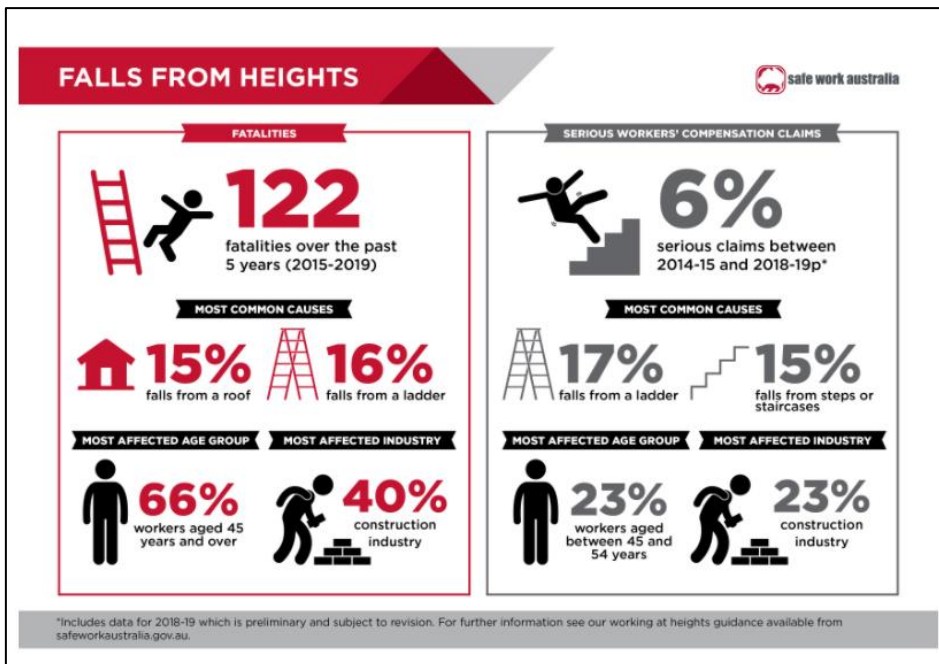
You can read more about sun safety on site at the SunSmart website:

<https://www.sunsmart.com.au/advice-for/workplaces/outdoor-workplaces/construction-workers>

Working at heights

Safe Work Australia tells us that, between 2015 and 2019, 122 workers were killed following a fall from heights. Of those, 40 percent were from the construction industry.

Falls from heights also accounted for high numbers of serious injuries.





Falls from heights

In the past five years (2015-2019), falls from a height accounted for 13% of worker fatalities (122 fatalities).

Falls from any height can be dangerous, so be aware of your WHS duties.

swa.gov.au/heights

Most fatalities were caused by falls from:

 Buildings and other structures	 Ladders
 Horses, donkeys and mules	 Trucks, semi-trailers and lorries
 Openings in floors, walls or ceilings	 Scaffolding
 Steps and stairways	 Power hoists

Work at heights control measures

Of course, the safest option would be to work on the ground. And, in some instances, this is possible. If you take a few moments to think about your hierarchy of risk controls, eliminating the risk is a Level 1 control.

Wherever you can, work at ground level and minimise time spent working at height. Plan your work so you can assemble components either on the ground or on a solid platform with fixed barriers and guards.

Do not work at height without the proper training, licensing and induction. Always respect signage and barricades. Never climb over or through railings.



When working on or around scaffolding:

- ▶ If a person or object has the potential to fall from greater than four metres then a trained and licensed person must have regularly inspected the scaffold before use
- ▶ Always use installed gates and exit points in scaffold.
- ▶ Never climb through or over guard rails or scaffold.
- ▶ Use safe manual handling techniques when handling scaffold components.
- ▶ Do not stack materials in scaffold access points, where they can cause a tripping hazard or where they pose a risk of falling from the scaffold.
- ▶ Do not leave tools or equipment near the edge of the scaffold where it is at risk of falling and striking someone below.

Excavations

There are two types of excavation – hand (or manual) excavation and machine excavation. Hand excavation is the process of using hand tools to remove soil and other debris to form trenches.

While most excavation is done using machinery, there will be times when machinery is unavailable, access is too difficult or the job is too small to justify bringing a machine on site. You will be most likely to excavate trenches for:

- ▶ footings
- ▶ provision of services
- ▶ installation of drainage.

You will probably also use manual excavation to dig post holes and to clear grass, vegetation and top soil for concrete pathways and slabs.

The risks involved in excavation include:

- ▶ trench collapse
- ▶ the requirement for a safe work method statement (SWMS) to be developed if an excavation is deeper than 1.5 metres
- ▶ trips and falls
- ▶ existence of essential services
- ▶ the potential for coming into contact with hazardous substances.



Here are some tips for safe work when excavating:

- ▶ Use the right PPE and make sure you have correctly fitted it
- ▶ Follow organisational guidelines, policies and procedures.
- ▶ Use manufacturer instructions for tools and equipment
- ▶ Check tools and equipment are safe to use before using them
- ▶ Do not stack excavated material at the edge of the trench
- ▶ Place excess excavated material to the low side of the trench
- ▶ Use excavated materials to channel water run off away from the trench
- ▶ Avoid piling excavated materials in such a way as to cause pooling
- ▶ Dig only to the required depth
- ▶ Dig only to the required route and line
- ▶ Trenches should be a square 'U' shape unless otherwise indicated on plans and specs
- ▶ Avoid manual handling injuries.

Underground services

An important element of hazard assessment and risk control is locating services (above and below ground) and taking steps to manage the risk when working in areas where services are present.

Services which could be in place that may have been left, forgotten, hidden or not made safe include:

- ▶ gas
- ▶ sewerage
- ▶ electricity
- ▶ refrigerant
- ▶ water
- ▶ communication lines
- ▶ chemicals
- ▶ fuel.

There is a range of risks from exposure to services which haven't been made safe. For example:

- ▶ injury
- ▶ illness
- ▶ death
- ▶ construction delays
- ▶ repair bills
- ▶ fines
- ▶ remediation expenses.

Use the following processes to ensure services are made safe and are not accidentally interfered with.

- ▶ check services plans and specs accurately reflect the presence of services – if they do not, report this immediately to your supervisor
- ▶ contact service owners and/or the site supervisor to ensure that the services have been made safe
- ▶ tape off areas where services are identified



- ▶ use signage, barricades, service marking paint and tape to identify services
- ▶ use fencing to isolate services
- ▶ ensure adequate set-backs on site.



Drill down – Hazardous substances

Dial Before You Dig (DBYD) is a not-for-profit organisation that provides information to builders about services on site. Learn more about what they offer at:

<https://www.1100.com.au/>



Electrical safety

Many of the tools and equipment you will use rely on electricity as their power source. There are inherent risks when working around electricity including:

- ▶ burns
- ▶ electric shock
- ▶ fire
- ▶ explosion.

There are some environmental conditions that increase the risk for electricity, including:

- ▶ moisture
- ▶ dust
- ▶ some hazardous substances
- ▶ working outdoors.

Some equipment also increases the electrical risk. For example:

- ▶ extension leads
- ▶ electrical cables
- ▶ plugs
- ▶ sockets.

As you can see, most of these risks are present in the majority of construction environments so it is particularly important that you identify and control electrical risks. You can do this by:



- ▶ inspecting leads and plugs for damage before each use (and immediately removing any damaged items from service)
- ▶ always using an RCD (or portable RCD)
- ▶ inspecting all electrical equipment for damage and wear before use (and immediately removing any damaged items from service)
- ▶ ensuring that all electrical equipment has been properly tested and tagged before use
- ▶ using leads safely (avoiding moisture, not creating tripping hazards, avoiding sharp surfaces/edges).

Power/extension leads

Power/extension leads are of course used to extend power access. However, a key issue with extension leads is that they increase the risk of trips, slips and falls hazards.

When using power/extension leads, apply these safety principles:

- ▶ Cords must be the heavy duty, sheathed type.
- ▶ Check plugs and sockets for signs of damage or wear.
- ▶ Safely discard cords that show signs of wear, fraying, breaks, exposed wires etc.
- ▶ Do not join cords to exceed the maximum lengths prescribed in AS/NZS 3012:2010.
- ▶ Do not use extension leads that have not been tested as per AS/NZS 3760.
- ▶ Withdraw non-compliant leads from service immediately.
- ▶ Avoid creating tripping or other hazards with extension leads.
- ▶ Do not use in damp or wet conditions or in conditions where they are at risk of becoming wet.
- ▶ Always use extension cords in conjunction with a residual current device (RCD, see below).
- ▶ Follow your organisational policies and procedures for extension leads.
- ▶ Never piggyback extension leads.



Drill down – Electrical risks

Safe Work Australia produces an information sheet regarding electrical risks in the workplace. Download the information sheet and have a read. You can find it at <https://www.safeworkaustralia.gov.au/doc/electrical-risks-workplace>



Residual current devices (RCDs)

An RCD reduces the risk of electrocution by immediately cutting the supply of electricity when it detects a harmful (or abnormally high) flow of electricity is going to a tool or appliance that is plugged in.

There are many circumstances where you should use an RCD, including:

- ▶ whenever you are using an extension lead
- ▶ whenever you are working in conditions that are likely to damage the tool or appliance that you are using (or reduce its lifespan)
- ▶ whenever the tool or appliance you are using is plugged into a socket.

Portable RCDs can be used where a permanent safety switch is not fitted.

RCDs must be tested and tagged as Australian Standard AS/NZS 3760:2010 In-service safety inspection and testing of electrical equipment. RCDs also have a built-in testing mechanism that should be used as per the manufacturer's instructions before every use.

RCDs must be placed in a dry, stable position away from combustible liquid or gases. The built-in testing mechanism must be used before every use.



Drill down – RCDs

For more information about using portable residual current devices safely, go to <https://www.safework.nsw.gov.au/hazards-a-z/electrical-and-power/residual-current-devices>

Testing and tagging

There is a requirement for electrical equipment in the workplace to be inspected, tested and tagged by a competent (trained and qualified) person. These requirements are described in Australian Standard AS/NZS 3760:2010 In-service safety inspection and testing of electrical equipment.

In general, equipment in higher risk environments should be tested every 12 months. However, in a construction environment this will vary depending on the type of equipment and local legislative requirements and may be as often as every three months.



Chalk and talk – Testing and tagging

Your assessor will discuss your state or territory's testing and tagging requirements with you and will provide sample tags for you to examine.

Don't forget that you should never use equipment that has not been regularly tested and has a current tag.

If you discover equipment that does not have a current tag, immediately remove it from service, report it and identify it.



Site traffic

Construction sites are busy places and there is always a lot happening, including site traffic. Site traffic can refer to:

- ▶ people on site (workers, supervisors, suppliers, owners, inspectors etc)
- ▶ vehicles (such as delivery vehicles and trucks)
- ▶ mobile plant (such as forklifts, cranes, etc).

Sites will be clearly marked with signage and will also have markings to show where site personnel can safely walk. Traffic control procedures must also be in place, especially when there is a risk of the public being impacted by site traffic. Traffic control could include use of temporary traffic lights or a traffic controller.

Make sure you always stick to site signage and wear your hi-vis so vehicle and plant operators can easily see you.

Entry and exit points and walkways should always remain clear of tools, equipment, materials and debris.



Site meeting – Traffic management on site

Your trainer will discuss the purpose of traffic management plans and how they reduce the risk of accidents and injuries related to site traffic.

Falling objects

A construction site is not immune from the risk of falling objects. There are many jobs that require work to be over others, and for equipment and plant to be operated that move materials and other items over the site.

The Construction work Code of Practice identifies the following examples of objects that could fall:

- ▶ parts of a structure being built or dismantled
- ▶ walls being demolished
- ▶ materials stored or stacked at the workplace
- ▶ construction or waste material
- ▶ debris
- ▶ plant
- ▶ tools
- ▶ scaffolding components, and
- ▶ pre-cast concrete panels (Construction work Code of Practice, p 83).

Workers and other visitors to site could end up with severe or fatal injuries from falling objects, therefore it is important that controls measures are always in place.



Drill down – Falling objects

For more information about preventing incidents from falling objects, you can access the Construction work Code of Practice at the link below.

Go to page 84 to read about the control measures.

https://www.safeworkaustralia.gov.au/system/files/documents/1901/code_of_practice_-_construction_work.pdf

Unplanned collapse

Unplanned collapse can include collapse of structures and collapse of trenches.

There are various reasons that an unplanned collapse may occur:

- ▶ weather conditions (rain, wind etc)
- ▶ insufficient support to structures
- ▶ poor demolition practices
- ▶ the structure receiving some type of impact or blow
- ▶ failure of plant or equipment.



Drill down – An example of an unplanned collapse

Read this article about an unplanned structural collapse in New South Wales:

<https://www.safework.nsw.gov.au/compliance-and-prosecutions/incident-information-releases/construction/partial-building-collapse>



Drill down – Unplanned collapse

Read this article from WorkSafe Victoria about unplanned collapse and strategies to reduce risk:

<https://www.worksafe.vic.gov.au/safety-alerts/preventing-structural-collapse>

Working in confined spaces

Working in confined spaces can be dangerous for a number of reasons including:

- ▶ risk of collapse
- ▶ risk of entrapment
- ▶ risk of buildup of hazardous gasses/fumes
- ▶ exposure to services that haven't been properly disconnected
- ▶ exposure to insect bites and stings
- ▶ exposure to rodent droppings
- ▶ risk of scrapes and knocks.



Always:

- ▶ follow your organisation's policies and procedures
- ▶ follow the site's safety procedures
- ▶ check the JSEA/SWMS if available
- ▶ ensure that you utilise PPE appropriate to the task
- ▶ ensure that you have sufficient lighting and ventilation.



How are you tracking?

Now that you have finished this section, work through the following questions to check how you're tracking. If you can't answer a question or you don't feel comfortable about a concept, go back and look at the relevant section of the learning materials again. You might also like to do some more research or speak to your trainer.

- ▶ Why is important to use the site amenities provided to access drinking water, hand washing and toilets?
- ▶ Why should you follow safety procedures when performing work tasks?
- ▶ Why should you follow manufacturer instructions when using tools and equipment?
- ▶ Why is important to report hazards, incidents and injuries?
- ▶ Why is important to keep your work area clean, tidy and free from debris?
- ▶ Why is important to avoid using alcohol or drugs while at work?
- ▶ How can you prevent bullying and harassment in the workplace?
- ▶ Why should you only smoke in designated areas?
- ▶ Why should you ensure that your PPE is fit for purpose and properly fitted?



Construction incidents and emergencies

Unfortunately there will be times that incidents and emergencies will occur on site. Sometimes these will be minor, but there could be occasions where significant damage or injury (and sadly death) could occur.

In this chapter we will cover the common types of construction incidents and emergencies.

Emergency plans and procedures

PCBUs must have an emergency plan for each workplace that they are responsible for. This document outlines what workers should do if an emergency was to occur.



Drill down – Emergency plans

You can learn more about emergency plans in the fact sheet produced by Safe Work Australia at <https://www.safeworkaustralia.gov.au/topic/emergency-plans-and-procedures>

Who to contact

The regulatory authority in your state or territory has requirements for an emergency contact to be clearly identified on each work site. Usually, this is a poster, sign or board attached to the fence surrounding the work site. It is also likely that there is an emergency response poster which is in a prominent position on site.

Your workplace's emergency management policies and procedures will also have emergency contact points.

Emergency information

Many work sites will have an emergency response poster. The poster will include:

- ▶ emergency contact details for the main contractor
- ▶ details for local medical centres and hospitals
- ▶ exit points
- ▶ assembly points.

Emergency information can also be found in the site's emergency response plan and in the workplace's policies and procedures.



What to do in an emergency

- ▶ Follow your organisation's/work site's emergency plan.
- ▶ Remain calm.
- ▶ Call emergency services or get someone else to raise the alarm and inform the site supervisor.
- ▶ Assess the area, obtain situational awareness and identify what they can do to eliminate or control the situation (where safe to do so).
- ▶ Provide first aid if you are able to do so (that is, if it is safe and within your own capability), otherwise keep the person/s safe and comfortable until emergency services arrive. If you do provide first aid, keep notes of the treatment that you provide and report the details to the person designated in your workplace's policy and procedures as soon as possible.
- ▶ Barricade the area or put up signage, take action to use firefighting equipment if appropriate and safe to do so, apply shut down procedures.
- ▶ Ensure the area is protected and preserved for investigative purposes. Do not remove anything, move anything, etc.
- ▶ Complete incident reports.

Fire

Fire is an incident that can happen anywhere, and in any work environment. Fire can occur on a construction site due to a number of reasons:

- ▶ smoking
- ▶ hot work (grinding, welding etc)
- ▶ electrical and wiring malfunctions
- ▶ hazardous substances
- ▶ unsafe plant, equipment and tool usage
- ▶ poor housekeeping and general unsafe practices.

Firefighting equipment

As you saw above in the signage, the types of firefighting equipment on site should include:

- ▶ fire extinguishers
- ▶ fire blankets
- ▶ fire hose reels
- ▶ fire alarms.



Fire extinguishers

One of the signs you saw in the table above referred to the type of extinguisher. Fire extinguishers will be identified with a band, the colour of which identifies what it can be used on.

It's important to know what the type of fire as you need to use the right extinguisher. Failure to use the right extinguisher could lead to the fire getting worse.

Did you know there isn't just one type of fire extinguisher that you can use on all fires?

Fire extinguisher band colours

In Australia we have six different types of fire extinguishers. Each extinguisher has its own colour band. Each type is used to suppress a different type or class of fire.

- ▶ Red – Red is a water-based extinguisher for use on Class A fires (wood, paper and plastic) only.
- ▶ Blue – Blue is a foam-based extinguisher for use on Class A and Class B fires (flammable and combustible liquids) only.
- ▶ Yellow – Yellow is filled with vapourising liquid. It is for use on Class A and electrical fires.
- ▶ Black – Black is filled with Carbon dioxide. It is for use on electrical and Class B fires.
- ▶ White – White is filled with dry powder and is for use on Class A, Class B and electrical fires.
- ▶ Oatmeal – Oatmeal is a wet chemical extinguisher for use on Class A and cooking oil (Class F) fires.



Drill down – Fire extinguishers

Go to this website to learn more about the types of extinguishers and what fires they can be used on:

<https://www.fireextinguisheronline.com.au/blog/post/types-of-fire-extinguisher-in-australia-all-you-need-to-know>



Chalk and talk – Fire extinguishers

Your trainer will show you the different types of fire extinguishers that you could expect to find on a construction site.

Fire blankets

Fire blankets are best used for small outbreaks where you can quickly smother the flames. They are made from a glass fibre that has been specially treated. You may have seen a fire blanket in someone's kitchen (or you own!), as they are a great first measure against cooking fires. They can also be used to smother flames on a person's clothing.



Chalk and talk – Fire blankets

Your trainer will show you a fire blanket and demonstrate how it is used.



Fire hose reels

Fire hose reels can be used on a fire that is too big for a fire blanket but also small enough that it could be potentially put out with a good 'dose' of water (ie during the early stages of the fire). They are connected to mains water. In existing buildings, fire hose reels are located in cupboards that are clearly signed.



Drill down – Fire hose reels

Go to this website to learn more about fire hose reels and when they can be used:
<https://www.fireequipmentonline.com.au/when-should-i-use-a-fire-hose-reel/>



Chalk and talk – Fire hose reel

Your trainer will show you a fire hose reel and how it is used.

Specific construction emergencies

Below, you will find some basic guidance regarding what to do in each type of specific construction emergency.

Emergency type	Steps to take
Chemical spill	<ul style="list-style-type: none"> ▶ Follow steps in the SDS for clean up ▶ Follow site procedures for chemical spills ▶ Use site spill kit and follow all instructions ▶ Evacuate if necessary ▶ Fill out reporting documentation.
Fire	<ul style="list-style-type: none"> ▶ Follow site safety and emergency procedures ▶ Set off alarms ▶ Use appropriate fire extinguisher or other fire-fighting equipment if safe to do so ▶ Follow instructions given by fire warden ▶ Follow safety signage ▶ Evacuate to assembly point ▶ Remain at assembly point until instructed otherwise ▶ Fill out reporting documentation (if required/requested).



<p>Injury to a person</p>	<ul style="list-style-type: none"> ▶ Follow site safety and emergency procedures ▶ Provide basic first aid (or additional first aid where trained to so do) ▶ Contact 000 if required (ie if injury is serious) or requested to do so ▶ Set up signage/barricades ▶ Report injury to supervisor ▶ Ensure area is protected and preserved for investigative purposes (depending on type of incident and severity of injury) ▶ Fill out reporting documentation.
<p>Gas or vapour leak that is flammable or toxic</p>	<ul style="list-style-type: none"> ▶ Follow site safety procedures ▶ Follow HAZMAT signage ▶ Report immediately to supervisor ▶ Evacuate the site ▶ Ensure area is protected and preserved for investigative purposes ▶ Fill out reporting documentation.
<p>Collapse of a structure (for example, a building, crane, roof, wall etc)</p>	<ul style="list-style-type: none"> ▶ Follow site safety procedures ▶ Evacuate site ▶ Set up barricades/bollards ▶ Contact emergency services ▶ Sound alarms ▶ Ensure area is protected and preserved for investigative purposes ▶ Fill out reporting documentation.
<p>An accident involving a vehicle or mobile equipment</p>	<ul style="list-style-type: none"> ▶ Follow emergency shut-down procedures ▶ Shut off vehicle ▶ Sound alarms ▶ Evacuate area ▶ Set up signage/barricades ▶ Provide basic first aid to anyone injured ▶ Contact 000 if required ▶ Ensure area is protected and preserved for investigative purposes ▶ Fill out reporting documentation.



First aid

As mentioned at the beginning of this guide, PCBUs have the responsibility to ensure that first aid facilities are provided on site. The Construction work Code of Practice state that PCBUs must also ensure that an appropriate number of workers are trained to administer first aid.

As a worker, you must know where the first aid kits are located on site and who is able to administer first aid (this might even be you, if you have undertaken first aid training!). You will be able to find this information displayed on site in prominent locations and it may also be part of JSAs or SWMSs.

Your site induction should include being shown the location of the first aid stations and first aid signage around site.



How are you tracking?

Now that you have finished this section, work through the following questions to check how you're tracking. If you can't answer a question or you don't feel comfortable about a concept, go back and look at the relevant section of the learning materials again. You might also like to do some more research or speak to your trainer.

- ▶ What information can you find on an emergency response poster?
- ▶ What should you do in an emergency on site?
- ▶ Describe four types of firefighting equipment commonly found on construction sites.
- ▶ How do you know where first aid kits are located on site?



Assessment checkpoint

Use this assessment checkpoint as a self-reflection tool to check your readiness for assessment. Once you are confident that you are ready for assessment, refer to your Student Workbook to complete assessment for this unit.

If you feel you need more information or support to prepare for assessment, refer to your learning materials and speak to your trainer, assessor, workplace supervisor or training organisation.

- I can describe the basic roles, responsibilities and rights of:
 - PCBUs
 - workers.
- I can describe the roles of:
 - First aid officers
 - WHS representatives
 - WHS committee members
 - supervisors.
- I can identify two construction hazards and:
 - orally report them
 - complete a basic written report
 - explain how the risk could be reduced or removed.
- I can select appropriate PPE to control risk.
- I can explain basic procedures for responding to construction incidents and emergencies.
- I can explain basic procedures for using:
 - fire blankets
 - fire extinguishers (including water, carbon dioxide, powder and foam types)
 - hose reels and mains.
- I can identify and explain the meaning of a range of safety signs and symbols.
- I can explain the purpose of WHS documents including:
 - SWMS
 - JSA
 - SDS
 - Incident report.
- I can describe the basic meaning of a hazard and a risk and explain the differences between the two.



- I can describe the five steps of risk management in order.
- I can describe the basic procedures for accessing first aid on a construction site.
- I can describe construction hazards including:
 - asbestos
 - confined spaces
 - electrical hazards
 - excavations and trenches
 - dust (including silica)
 - falling objects
 - hazardous substances
 - hot and cold work environments
 - manual handling
 - noise
 - plant and equipment operation
 - traffic and mobile plant
- I can describe the basic process for responding to construction emergencies including:
 - chemical spill
 - fire
 - injury to personnel
 - structural collapse
 - toxic or flammable vapour emission
 - vehicle or mobile plant accident.
- I can describe a range of safe work practices that I should follow including:
 - accessing and using site amenities for drinking water, hand washing and toilets
 - following safety procedures when performing work tasks and using equipment
 - identifying and reporting hazards, incidents and injuries in the workplace
 - keeping the work area clean, tidy and free from debris
 - not using or being affected by drugs and/or alcohol while at work
 - preventing bullying and harassment in the workplace
 - selecting and using required PPE
 - smoking only in designated areas



- storing and removing waste and debris in designated areas.
- I can properly fit the following PPE to myself:
 - protective footwear
 - hearing protection
 - eye protection
 - high vis clothing
 - hard hat.



Appendix – Hazard/incident report form

Use this form to report WHS hazards and incidents.

Hazard/Incident				
<p>Description</p> <p><i>Briefly describe the hazard or incident. What happened? What did you see? Who or what was involved (for example, tools/equipment/plant)?</i></p>				
<p>Where and when?</p> <p><i>Where is the hazard located?</i></p>				
When was the hazard identified?	Date		Time	
<p>Recommended action</p> <p><i>List your suggestions for controlling or eliminating the hazard.</i></p>				
Reporting				
<p>Who did you report the hazard/incident to?</p> <p><i>Include the person's name, their position and their phone number.</i></p>				



Date and time that the hazard was reported?			
Date		Time	
Your details			
Your name			
Your signature			
Date			