

# Building and construction industry

## Workplace Health and Safety Guide

(known as the Orange book)

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# Building and construction industry

Working in the building and construction industry is a risky business. Contractors, subcontractors and their workers face risks from hazards that must be managed to prevent deaths, injuries and illness.

The *Workplace Health and Safety Regulation 2008* clearly states the way workplace health and safety risks from certain hazards must be managed. The regulations cover:

- principal contractor construction safety plans
- work method statements for high-risk construction activities, demolition work and asbestos removal
- general and site-specific induction
- housekeeping practices
- safety of plant provided for common use
- excavations (including trenches)
- working at heights (including work on roofs, from ladders and trestle ladder platforms, and work to erect or dismantle scaffolding)
- protecting the public and workers from falling objects
- amenities.

On-the-spot fines are attached to the regulations. The amount of fines reflects the severity of the breach.

## Definitions

### **What is construction work?**

Work is **construction work** if it is:

- (a) work to erect, construct, extend, alter, convert, fit-out, commission, renovate, repair, refurbish, disassemble or decommission a structure, or part of a structure; or
- (b) work connected with site preparation, excavation and landscaping for work mentioned in paragraph (a); or
- (c) the assembly or installation of prefabricated components to form a structure, or part of a structure, for work mentioned in paragraph (a); or
- (d) the disassembly of prefabricated components for work mentioned in paragraph (a) that, immediately before the disassembly, formed a structure or part of a structure; or
- (e) an activity that is a prescribed activity.

### **What is a structure?**

**Structure** means:

- (a) a building, construction, wall, mast, tower, pylon, structural cable or telecommunications structure; or
- (b) an underground works (including shafts and tunnels), pipe, pipeline, sea defence works, river works, earthworks or earth retaining construction or other construction designed to preserve or alter a natural feature; or

- (c) a road or highway, footpath or driveway, railway line or siding, tramway line, airfield, dock or harbour, water storage or supply system (including a constructed lagoon), sewerage or drainage system, electricity or gas generation facility, transmission or distribution facility, gasholder, park or recreation ground (including, for example, a golf course, playing field, racecourse or swimming pool); or
- (d) production, storage or distribution facilities for heavy industries; or
- (e) fixed plant; or
- (f) a ship or submarine; or
- (g) formwork, falsework, scaffold or other construction designed or used to provide support, access or containment during construction work.

**Civil construction work** – construction of roads, highways, railways, harbours, water storage or supply systems, sewerage or drainage systems, electricity or gas generation, transmission or distribution structures, parks or recreational grounds, production, storage and distribution facilities for heavy industry, refineries, pumping stations or mines and the construction or structural alteration of bridges and the erection of telecommunications structures.

**Demolition work** – demolition or systematic dismantling of a building or other structure, or part of a building or other structure, not including the systematic dismantling of a part of a building or other structure for alteration, maintenance, remodelling or repair.

**Housing construction work** - work to erect, construct, extend or structurally alter:

- (a) any of the following dwellings that is not located above or below another dwelling or another part of a building, other than a private garage:
  - (i) a detached house;
  - (ii) an attached dwelling, separated from the dwelling to which it is attached by a fire-resisting wall, for example, a terrace house or town house;
  - (iii) a boarding house, guest house, hostel or similar building with a floor area of not more than 300m<sup>2</sup>; or
- (b) a building that is not designed for habitation but is ancillary to one of the above.

### **Principal contractor for construction work**

- (1) The **principal contractor** for construction work, other than prescribed construction work, is the person appointed by the client as the principal contractor for the construction work under section 184A.
- (2) If the client does not appoint a principal contractor for the construction work, the client is taken to be the principal contractor for the construction work.
- (3) The **principal contractor** for prescribed construction work is the person who is in control of the prescribed construction work.

*Note—*

For construction work for which there is no client and that is not prescribed construction work, there is no principal contractor.

**Relevant person** - A person who conducts a business or undertaking has an obligation to ensure the workplace health and safety of the person, each of the person's workers and any other persons is not affected by the conduct of the relevant person's business or undertaking.

# Construction safety plans

A documented plan for the construction work can assist the principal contractor to manage relevant workplace health and safety obligations.

A principal contractor must prepare a construction safety plan before construction work starts. The plan must state:

- workplace address
- name and address of the principal contractor
- principal contractor's ABN
- whether there is a WHS committee
- whether there is a WHSO appointed
- expected start date
- estimated duration of the work
- type of construction
- common plant to be provided
- site rules
- the risks the principal contractor is obligated to manage
- proposed control measures for the risks
- how the controls will be implemented
- arrangements for monitoring and reviewing controls
- emergency procedures, and
- public safety strategies.

The plan must be:

- written so it is easy to understand
- signed and dated by the principal contractor
- available for the length of the project.

The principal contractor must sign and date work method statements that have been received and keep them with the plan, as well as monitor their implementation.

The principal contractor cannot allow work to start unless the plan:

- has been discussed with or a copy given to all relevant persons employers and self-employed persons
- is available or readily available for inspection.

The plan must be amended if there are changes in how risks will be managed. The principal contractor must inform any affected person of the change.

## Work method statements

Work method statements assist a subcontractor to consider how certain activities will be carried out safely.

A subcontractor doing construction work needs to prepare a work method statement for these high-risk activities:

- (a) where a person is:
  - (i) required to enter a trench more than 1.5 metres deep;
  - (ii) using explosives other than powder-actuated handheld fastening tools;
  - (iii) using a confined space; or
  - (iv) using a hazardous substance.
- (b) if a person could fall:
  - (i) at least 3 metres for housing construction; or
  - (ii) at least 2 metres for other construction.
- (c) working on a roof surface or partly completed roof surface, with a slope greater than 26°
- (d) the activity is:
  - (i) a prescribed activity (i.e. demolition work as defined in the *Workplace Health and Safety Act 1995* or work to remove friable asbestos containing material); or
  - (ii) demolition work that is not a prescribed activity.
- (e) the activity consists of:
  - (i) tilt-up and precast construction work; or
  - (ii) structural alterations that require temporary support to prevent collapse; or
  - (iii) the movement of powered mobile plant at the workplace; or
  - (iv) work on a telecommunications tower; or
  - (v) work in, over or adjacent to water if there is a risk of drowning; or
  - (vi) work on, or adjacent to, a road or railway; or
  - (vii) work on or near a pressurised gas distribution mains and consumer piping; or
  - (viii) work on or near a chemical, fuel or refrigerant line; or
  - (ix) work near an exposed energised electrical installation; or
  - (x) work in an area that may have a contaminated or flammable atmosphere; or
  - (xi) work in an area where there are artificial extremes of temperature.
- (f) The principal contractor for the construction work reasonably believes the activity could result in death or bodily harm.

The work method statement must take into account the principal contractor's construction safety plan and also state:

- (a) the high-risk construction activity; and
- (b) the person's ABN; and
- (c) the control measures to be used; and
- (d) the way the activity will be performed; and
- (e) how the control measures will be monitored and reviewed; and
- (f) licences for high risk work and earthmoving or particular crane occupations.

Work method statements must be easy to understand, signed and dated.

The work method statement must be amended if there is a change in the activity and a copy given to the principal contractor. All persons affected by changes must be advised of amendments to the work method statement.

The work method statement must be readily available for inspection. It must also be reviewed each year and amended if necessary.

## General induction

All persons undertaking construction work must hold general induction evidence before the work starts. General induction provides an opportunity for people working in the industry to gain some understanding of the types of hazards likely to be found on construction sites and the way risks from these hazards should be managed.

General induction evidence means:

- A valid statement of attainment or construction induction card issued by a Registered Training Organisation for successfully completing a registered course.

**Note:** As of 1 July 2009, the current general induction unit of competency is CPCCOHS1001A.

For more information on organisations approved to deliver the course, telephone 1300 369 915, or visit the website [www.worksafe.qld.gov.au](http://www.worksafe.qld.gov.au) for a complete list.

## Site-specific induction

Having systems in place at the workplace to ensure people are aware of the specific procedures and rules for the site will help minimise the risk of death, injury or illness.

While site-specific induction is not necessary for workplaces where housing construction work is being carried out, it is important nonetheless for the contents of the principal contractor's construction safety plan to be communicated effectively where site-specific induction is not given.

A principal contractor must ensure a person has had a site-specific induction before that person starts construction work.

The principal contractor must ensure a person entering a part of the workplace where construction work is being done:

- (a) has been given a site-specific induction; or
- (b) is accompanied by the principal contractor or someone who has been given a site-specific induction.

The induction needs to address the contents of the construction safety plan, including site rules.

The principal contractor must make a record of the people inducted and the date it was given. The record must be kept for the duration of the construction work.

## Signage

The principal contractor must, before construction work starts, ensure that adequate numbers of general safety signs, having regard to the size and complexity of the workplace, are erected.

Appropriate signs may include signs about:

- the nature of the workplace
- the direction to the site office or site amenities
- where first aid and fire extinguishing equipment is kept
- the means of access to be kept clear
- where hazardous substances are kept
- who the principal contractor is
- head and foot protection to be worn
- authorisations required for the site.

The principal contractor must keep the signs in good condition.

## Safe housekeeping practices

Principal contractors play an important role in ensuring the orderly conduct of a construction workplace.

The principal contractor must ensure safe housekeeping practices including:

- appropriate, safe and clear access to and from the workplace
- safe systems for collecting, storing and disposing of excess or waste materials
- adequate space for storing materials or plant.

A subcontractor must implement and maintain the safe housekeeping practices that apply to their work including:

- managing risks from protruding objects such as exposed nails or vertical reinforcing steel
- providing and maintaining appropriate lighting for the work being done.

Subcontractors must ensure their workers on site are instructed to follow the safe housekeeping practices.

## Common plant

Common plant is plant provided by the principal contractor for use by another person at the workplace, e.g. scaffolding, switchboards.

A principal contractor must ensure common plant is safe for the purpose for which it is provided and that it is maintained.

The principal contractor must comply with any requirements about the plant in Part 20 of the *Workplace Health and Safety Regulation 2008*. A subcontractor or worker using the plant must ensure all requirements about its safe use are complied with.

## Underground services

Before excavation work starts, if there is a principal contractor appointed, or if no principal contractor has been appointed then each relevant subcontractor must:

- (a) find out what underground services exist at or near the location of the excavation
- (b) obtain relevant information about the service (location, type, depth, restrictions to be followed) from the appropriate source
- (c) record the information in writing
- (d) keep the information recorded until the construction work ends.

Dial 1100 Before You Dig is a useful service.

Ensure this information is considered in planning the work and decide on and use control measures to prevent people being exposed to the risk of death, illness or injury from coming in contact with, or damage to, the service.

## Excavations

(including trenches)

A relevant subcontractor must manage the risks associated with:

- an excavation collapsing
- objects falling into an excavation
- a person falling into an excavation,
- a person being exposed to carbon monoxide or other impurity of the air in the excavation.

A relevant subcontractor must decide on and use appropriate control measures and maintain the control measures necessary to prevent, or minimise the level of, exposure to the risk.

A relevant subcontractor must implement any control measures necessary to prevent risk from the collapse of another structure such as an adjoining building or road.

A barricade or hoarding at least 900 mm must be erected around an excavation unless it is impracticable or no person is likely to be in the vicinity of the excavation.

The relevant subcontractor must erect a barricade at least 900 mm high around a trench unless it is impracticable, or only workers involved with the trench will be in the area; or another form of barrier exists, e.g. excavated materials near the trench.

A relevant subcontractor needs to ensure that if a person is entering a trench more than 1.5 metres deep, one of the following control measures is implemented:

- (a) has shoring or shielding; or
- (b) is benched – not higher than it is wide and no vertical face exceeding 1.5 metres; or
- (c) is battered – angle not exceeding 45° and bottom vertical face not exceeding 1.5 metres; or
- (d) is approved in writing by an geo-technical engineer as safe to work in.

A geo-technical engineer must provide written approval to vary the benching and battering requirements. The approval must be kept on site at all times.

Ladders used for access must be no more than nine metres apart in the area of the trench where work will be carried out.

## Work at heights

(excluding work on ladders or trestle ladder platforms and scaffolding work)

If there is a risk of fall of less than three metres in housing construction work or less than two metres in other construction work, or if work is on a roof surface or partly completed roof surface, with a slope not over 26°, the subcontractor who intends to do the work must identify each hazard and assess the risk as a result of the hazard before work starts.

Hazards that may present a risk from a fall include:

- vertical reinforcing steel, the edge of a rubbish skip, a picket fence, or a stack of bricks below workers
- unsheathed floor bearers and joists two metres below workers
- work on a brittle roof two metres above a floor.

Factors such as the type of activity being carried out should be taken into consideration to establish the degree of risk.

Control measures used to manage risks must comply with regulatory requirements.

A subcontractor carrying out work above these heights, or on a roof surface or partly completed roof surface, with a slope over 26° must:

- prevent a fall; or
- if prevention is not practicable, arrest the fall and prevent or minimise the risk of death or injury from the arrest of the fall.

The controls could include:

- edge protection
- fall protection cover (includes an enclosed environment)
- fall arresting platform
- travel restraint system
- fall-arrest harness system; or
- industrial safety net.

Refer to Part 20 of the *Workplace Health and Safety Regulation 2008* for the specific requirements for these controls.

## Single or extension ladders

Single or extension ladders may only be used to:

- (a) gain access; or
- (b) carry out permitted work – where the material or equipment being carried does not restrict movement or cause loss of balance;
- (c) the trunk of the body remains centred on the ladder; and
- (d) equipment can be used with one hand (unless a control to prevent a fall is used).

A person using a ladder for access or permitted work must either:

- (a) have three points of substantial contact with the ladder or a stable object, e.g. standing on the ladder with two feet while holding a fascia board or timber stud
- (b) prevent falls with a control measure, e.g. a pole strap; or
- (c) use a fall-arrest harness system (not attached to the ladder).

The ladder must have a load rating of not less than 120 kg and be:

- (a) secured against movement at or near its top or bottom, e.g. by tying or clamping;
- (b) manufactured for industrial use;
- (c) used only for the designed purpose;
- (d) not more than 6.1 metres for a single ladder;
- (e) not more than 9.2 metres for an extension ladder used for electrical work or 7.5 metres for other work;
- (f) on a firm and stable surface;
- (g) placed at an angle between 70° and 80°; and
- (h) extended at least one metre above a surface being accessed.

## Trestle ladder platforms

Platforms used on trestle ladders **below** three metres for housing construction or two metres for other construction work must be 450 mm wide unless the work is light work.

Examples of light work include:

- painting, installing a roof gutter, air-conditioning duct, metal fascia or lighting
- placing pine roof trusses in position
- performing inspections or tests
- installing an electrical connection.

Fixing plasterboard sheeting to an internal stairwell void, fixing cladding to a gable end of a roof or using a medium or heavy duty angle grinder or circular saw are not considered light work.

For work on a trestle ladder at three metres or **more** for housing construction work or two metres or more for other construction work:

- the trestle ladder must have edge protection along the outer length of the platform
- control measures must be put in place where:
  - there is a risk of a person falling off the edge of each end of the platform, or
  - the gap between the inner edge of the platform and the face of a building/structure is greater than 225 mm

- each trestle ladder must be secured to prevent it moving, e.g. tying the ladder to a sturdy wall or bracing it to the ground
- the platform must have an unobstructed surface width of 450 mm; and
- be not higher than five metres.

## Erecting and dismantling scaffolding

A person erecting or dismantling scaffolding three metres or more in housing construction work or two metres or more in other construction work must:

- be prevented from falling
- use a fall-arrest harness system; or
- immediately install platforms, edge protection and a means of access as each level is erected; and
- retain a full deck of platform until the platforms are transferred.

## Falling objects

A principal contractor must ensure appropriate control measures are used to prevent, or minimise the level of, exposure to the risk of falling objects on the construction site and onto adjoining areas such as a public footpath, road, square or the yard of a dwelling or other building beside a workplace.

### **Housing and civil construction work**

A principal contractor or subcontractor must assess the risk from falling objects and use controls to prevent or minimise the risks from falling objects. The controls chosen must comply with any regulatory requirements.

### **Construction work other than housing or civil**

A principal contractor or subcontractor must implement **one** of the following controls based on the angle between the highest point where work is to be carried out and the line where the control will be put:

- barricade or hoarding at least 900 mm high  $\leq 15^\circ$
- hoarding at least 1800 mm high  $> 15^\circ$  and  $\leq 30^\circ$
- fully sheeted hoarding at least 1800 mm high  $> 30^\circ$ , and
- if the angle is equal to or more than  $75^\circ$  and not demolition work or work erecting or dismantling formwork:
  - erect a gantry; close the adjoining area, or
  - erect a catch platform with vertical sheeting, or
  - perimeter screening.

The principal contractor or subcontractor must close the adjoining area or erect perimeter containment screening where demolition work or work erecting or dismantling formwork is being carried out.

However, if permission to close the adjoining area is withheld and perimeter containment screening cannot be erected, the principal contractor or subcontractor must ensure that another control measure is implemented to prevent objects falling on or otherwise hitting members of the public.

The public must be kept out of an adjoining area where loads are being lifted, unless a gantry, that would withstand the force of the load if it fell, has been provided.

Refer to Part 20 of the *Workplace Health and Safety Regulation 2008* for specific requirements on control measures for protecting persons from falling objects.

## Amenities

A principal contractor must ensure workers have reasonable access to a room or sheltered area to eat meals or take breaks. The area must:

- present no health or safety risk
- be hygienic
- have adequate space, seating and facilities for washing and storing utensils, boiling water and storing food in a cool place if there are 15 or more workers at the site.

Principal contractors must ensure workers have reasonable access to toilets. Reasonable access for a civil construction workplace would be a toilet in the workplace site compound boundaries and for other construction workplaces, within the workplace site boundaries.

There must be one toilet available for each 15, or part number of workers. A toilet connected to sewerage, a septic system, a pump-out holding tank storage type system ('connected') or a portable toilet is acceptable for a workplace with fewer than 15 workers. However, if the number of the workers increases and the toilet provided was portable, it must be replaced by a connected toilet within two weeks after the number of workers has increased. A workplace with four or more levels must have a toilet on the ground and fourth floor and every third floor thereafter.

Toilets must:

- be in a cubicle or room fitted with a door and located in a position that allows privacy
- have fresh air
- be equipped with sanitary disposal facilities if used by female construction workers, and
- be separated so that urinals are not visible to female workers.

The principal contractor must ensure workers have access to washing facilities. The facilities must be separate from toilets if there are no separate toilet facilities for females.

Examples of washing facilities include:

- a hose at a housing construction site, a water container with a tap at a road construction site
- wash basins provided with portable or connected toilets at a high rise building construction site.

Employers must ensure workers have access to drinking water that has been supplied by the principal contractor from a source other than toilet, hand or face washing facilities. Reasonable access for a housing construction site would be within 30 metres from where the work is being carried out and for a high rise building, access on the ground level and every second level of the building.

Employers must provide workers with reasonable access to appropriate and adequate first aid equipment. A self-employed person is responsible for ensuring reasonable access to appropriate and adequate first aid equipment.

## Other hazards

Information on how to manage other hazards in the building and construction industry can be found in the *Workplace Health and Safety Regulation 2008* and other relevant codes of practice.

## More information

Further information is available from [www.worksafe.qld.gov.au](http://www.worksafe.qld.gov.au) or by calling the WHS Infoline on 1300 369 915.

Copies of this booklet are available from your nearest regional office. Following is a list of all WHSQ regional offices.

<b>Location</b>	<b>Street address</b>	<b>Postal address</b>	<b>Fax</b>
Brisbane North	Level 4, Centro Shopping Centre 543 Lutwyche Road Lutwyche Qld 4030	PO Box 820 Lutwyche Qld 4030	07 3247 9426
Brisbane South	Level 2, Block C 643 Kessels Road Mt Gravatt Qld 4122	PO Box 6500 Upper Mt Gravatt Qld 4122	07 3216 8431
Bundaberg	16 Quay Street Bundaberg Qld 4670	Locked Mail Bag 3955 Bundaberg Qld 4670	07 4153 1207
Cairns	Level 6, 5B Sheridan Street Cairns Qld 4870	PO Box 5464 CMC Cairns Qld 4870	07 4048 1493
Emerald	14 Ruby Street Emerald Qld 4720	PO Box 1814 Emerald Qld 4720	07 4982 3756
Gladstone	Level 2 Government Building Cnr Oaka Lane & Roseberry Streets Gladstone Qld 4680	Locked Mail Bag 15 Gladstone Qld 4680	07 4972 6196
Gold Coast	Level 5, Robina Town Centre Robina Town Centre Drive Robina Qld 4230	PO Box 4215 Robina Qld 4230	07 5558 6660
Innisfail	12 Fitzgerald Esplanade Innisfail Qld 4860	PO Box 558 Innisfail Qld 4860	07 4061 4371
Ipswich	Level 1, Ipswich Courthouse Cnr East and Limestone Streets Ipswich Qld 4305	PO Box 226 Ipswich Qld 4305	07 3202 1018
Logan	Level 1, Wembley Place 91 Wembley Road Logan Central Qld 4114	PO Box 829 Woodridge Qld 4114	07 3287 8333
Mackay	Floor 1, Post Office Square Cnr Gordon and Sydney Streets Mackay Qld 4740	Locked Mail Bag 1 Mackay Qld 4740	07 4967 4459
Maryborough	319-325 Kent Street Maryborough Qld 4650	Locked Mail Bag 63 Maryborough Qld 4650	07 4123 1704
Mount Isa	75 Camooweal Street Mount Isa Qld 4825	PO Box 2249 Mount Isa Qld 4825	07 4743 8122
Nambour	Floor 1, Centenary Square Building 52-64 Currie Street Nambour Qld 4560	PO Box 501 Nambour Qld 4560	07 5470 8732
Roma	Cnr Bowen and Spencer Streets Roma Qld 4455	PO Box 697 Roma Qld 4455	07 4624 3050

<b>Location</b>	<b>Street address</b>	<b>Postal address</b>	<b>Fax</b>
Rockhampton	Level 2, State Government Building 209 Bolsover Street Rockhampton Qld 4700	PO Box 1504 Rockhampton Qld 4700	07 4938 4155
Thursday Island	Block C, Tagai Business Services 1 Hargrave Street Thursday Island Qld 4875	PO Box 341 Thursday Island Qld 4875	07 4069 2438
Toowoomba	Level 1, James Cook Centre, Cnr Herries and Ruthven Streets Toowoomba Qld 4350	PO Box 234, Toowoomba Qld 4350	07 4687 2877
Townsville	254 Ross River Road Aitkenvale Qld 4814	Locked Mail Bag 15, Aitkenvale Qld 4814	07 4760 7981
Warwick	Cnr Guy and Fitzroy Streets Warwick Qld 4370	PO Box 57 Warwick Qld 4370	07 4661 9674