

ISSUE 621 **BULLETIN**



## SITE PRACTICES

April 2018

- There is no 'one size fits all' way of running a safe, well organised and successful site.
- All companies need to ensure that they have a documented record of their way of doing things so quality and safety standards are maintained.
- This bulletin provides an overview of good, workable site practices to be followed for domestic-scale building projects. It updates and replaces Bulletin 499 of the same name.

## 1. INTRODUCTION

**1.0.1** There is no 'one size fits all' way of running a safe and well organised site. What is necessary for a big site may be too formal and complex for a single house project. However, the philosophies and practices of the larger commercial building sites can be adapted to suit smaller sites.

**1.0.2** Finding a practical, efficient and safe way of doing things and then repeating it each time is the key. Larger companies work hard at developing procedures manuals to record their way of doing things so that quality and safety standards are maintained. The same approach can be used in a simplified way by small companies.

**1.0.3** Almost all sites and contracts have circumstances specific to them, therefore all new work also requires site-specific safety planning.

**1.0.4** This bulletin is divided into sections outlining good site practices to be followed. These are:

- maintaining up-to-date current documentation on site
- safety on site
- lifting and craneage
- certification
- notifiable work and events
- site security
- sustainability
- work plans
- site facilities and on-site storage
- project planning and site staff meetings
- running the site
- keeping records
- organising inspections
- keeping up to date.

## 2. CURRENT DOCUMENTATION

**2.0.1** A key element of a successful project is ensuring that all relevant documentation [consented drawings, specification, amendments to documentation, installation instructions, inspection reports and so on] is held on site, or in a cloud-based system available to all on site. It must be readily accessible to all those working on the site. It is also imperative that all subtrades have all of the information that covers their work.

## 3. SAFETY ON SITE

**3.0.1** The Health and Safety at Work Act 2015 [HSWA] came into force in 2016. The aim of the HSWA is to protect workers and others by eliminating or minimising risk. Everyone has a role to play [increasing worker participation] and ensuring that everyone's responsibilities are clear. Safety isn't about statistics or the law. It's about ensuring workers [real people] get home at night healthy and safe.

**3.0.2** A project-specific health and safety plan is recommended. This includes regular toolbox meetings and informing those on site of any hazard changes as they occur. Getting buy-in from workers, even on a small site, helps with identifying and managing specific project hazards as well as promoting company site safety policies. Making a regular practice of actions

such as putting brightly coloured plastic protective caps on reinforcing steel is a small price to pay to remove potential injury risks.

**3.0.3** Construction involves many hazards, and it is vital that all staff aim to:

- know all current hazards
- identify new hazards and know how to report them
- determine the action needed to make it safe
- if it is impossible to ELIMINATE a hazard, get agreement on how to ISOLATE it or, at worst, MINIMISE it
- know where to find and then wear appropriate personal protection equipment
- understand and stick to the rules.

**3.0.4** Existing and anticipated site hazards and their proposed management should be discussed at any site staff meetings or toolbox talks.

**3.0.5** No work on site should begin without a formal site induction of staff and visitors.

**3.0.6** Site visitors must be made aware of all hazards. Place a highly visible hazard warning board at the site entrance that identifies the specific site dangers. Other details should include:

- the contractor's name and their daytime and after-hours contact details
- who to report to on site and how to find them
- specific site requirements for personal protective equipment [PPE] – hard hat, high-visibility vest, steel toecap footwear, ear and eye protection
- the hazards and controls visitors/contractors bring to the site.

**3.0.7** Falls cause most construction injuries, and many can be avoided by general and site-specific policies that remove the risks – see *WorkSafe's Best practice guidelines for working at height in New Zealand*. These actions often have an initial set-up cost but may save lost-time injuries subsequently.

## 4. LIFTING AND CRANEAGE

**4.0.1** Staff should be trained in rigging and slinging before any lifting operation.

**4.0.2** Site staff's skills must match all the skills needed by the project. An operator who is out of their depth can quickly undo the hard work that went into winning the project.

## 5. CERTIFICATION

**5.0.1** If a particular piece of plant or equipment requires specific training and certification to use, make sure staff training is done and certificates or electrical tags are current.

**5.0.2** Keep all first aid tickets current.

## 6. NOTIFIABLE WORK AND EVENTS

**6.0.1** Notifiable work includes:

- jobs where a worker could fall 5 m or more
- any excavation that is more than 1.5 m deep and deeper than it is wide at the top

- erection or dismantling of scaffolds from which a person could fall 5 m or more
- any construction work where explosives are used or stored
- any construction work involving asbestos fibres
- lifts of 500 kg or more over a vertical distance of 5 m or more carried out by mechanical means other than by a mobile crane, excavator or forklift
- any work involving breathing compressed air or a respiratory medium.

#### 6.0.2 Notifiable events include:

- a death on site
- a notifiable illness or injury, which includes all injuries or illnesses that require a person to be seen by a registered medical practitioner or be admitted to hospital for immediate treatment
- a notifiable incident, which includes an unplanned or uncontrolled incident in relation to a workplace that exposes the health and safety of workers or others to a serious risk arising from immediate or imminent exposure to [for domestic-scale building work]:
  - a substance escaping, spilling or leaking
  - an implosion, explosion or fire
  - electric shock [from anything that could cause a lethal shock – for example, it would not include shocks due to static electricity, from extra low voltage equipment or from defibrillators used for medical reasons]
  - the fall or release from height of any plant, substance or thing
  - damage to or collapse, overturning, failing or malfunctioning of any plant that is required to be authorised for use under regulations
  - the collapse or partial collapse of a structure
  - the collapse or failure of an excavation or any shoring supporting an excavation
  - any other incident declared in regulation to be a notifiable incident – for example, those listed in Regulation 6 of the Health and Safety At Work (Asbestos) Regulations 2016.

**6.0.3** The regulator, Worksafe NZ, must be notified by the fastest means possible given the circumstances by ensuring:

- emergency contact numbers are readily available
- notifiable work application forms are on site and staff are aware of them.

## 7. SITE SECURITY AND PROTECTION

**7.0.1** Appropriate signage must be on display warning the public that this is a construction site and that unauthorised entry is prohibited.

**7.0.2** When pricing the work, decide on the level of site boundary protection or provide what is specified in the documentation. This can range from fully hoarded with 2.4 m typically ply-clad framed walls, possibly even topped with barbed wire, to movable wire fencing or water-filled barriers.

**7.0.3** Keeping the public, particularly children, out of your construction site is important for safety and security. Providing security does have a cost but so does the theft or damage of materials and tools.

**7.0.4** Preventing out-of-hours access comes within the duty of care that you must demonstrate to avoid a claim of negligence being taken against you. Costs from this sort of action could bankrupt a small company.

**7.0.5** Where materials can't be placed within a secured container, shed or building, store them, if possible, so they are accessible for site use but not easily removed. Heavy plant may be parked to block unauthorised after-hours access.

## 8. SUSTAINABILITY

**8.0.1** Many construction companies have environmental and sustainability policies, and their sites have mini-recycling facilities. Site staff can recycle their own lunch-type waste, separating out paper, glass and cans into marked wheelie bins, but the building waste is also sorted as the job progresses. Treated and non-treated timber off-cuts are separated (treated timber being disposed of as a hazardous waste), and surplus steel, copper and aluminium is kept for recycling.

**8.0.2** Environmental issues sometimes overlap with the health and safety plan, and they go hand in hand as they address the following:

- Is the specific project likely to create any discharges? This could be noise, sediment, dust or solid or liquid wastes.
- Are toxic materials recorded and stored securely?
- Are staff trained to handle them?
- Are safety data sheets available and current for all materials being used?
- Is there a policy for refuelling plant in a suitable place and manner?
- Are there spill kits on site to handle fuel and hydraulic oil leaks and the like when plant and equipment is used?
- Is the necessary equipment available and in good working order?
- Special conditions laid down in the resource consent and/or building consent.

## 9. WORK PLANS

**9.0.1** A work plan is a document that records in writing what is done by every owner, subtrade, foreperson, leading hand and site worker. A work plan – sometimes called a method statement – used in conjunction with a site-specific safety plan identifies each step of the project and each potential hazard, giving the opportunity to analyse and evaluate progress in a safe and measured way.

**9.0.2** It is a good idea to share the plan with staff, discuss alternatives, reach agreement, have everybody involved sign the plan and then do it exactly as written up. This is particularly important with tasks or methods that are new to staff. Toolbox meetings are a good way of reminding staff of their obligations.

**9.0.3** The plan should identify what the project is going to produce and may contain several detailed plans of specific tasks that may be seen as more difficult or critical to do right. Writing it down helps the team build it in their heads.

**9.0.4** Key aspects of a work plan:

- What is the task or building element being planned

- the whole project or a task within the overall construction plan?
- How will it be done?
- How long will it take?
- Who will do it?
- What hazards may arise?
- Are the right resources and materials on site?
- Is the required safety equipment available, in good working order, and are those expected to use it appropriately trained?
- What work must be done before the activity?
- What work is dependent on the activity?
- Are specialist subcontractors needed?
- Are there any environmental considerations?
- Does the health and safety plan cover all the activities? Should new activities be added?



Good fencing and warning notices protect the public from hazards on this site.

## 10. SITE FACILITIES

**10.0.1** Facilities that may be provided on a building site [depending on job size]:

- First aid equipment appropriate to the nature and location of the site and the type of work being done. This includes having a good first-aid box with record book. Arrange for this to be regularly restocked. It is preferable that a number of the staff are qualified first aiders
- Clean washing and toilet facilities. Provide hand cleaner, water and a way of drying hands, and service the facility often.
- A site shed with a whiteboard to help with planning, somewhere to hold the job files and somewhere to lay out site plans and specifications.
- A clean 'smoko' area big enough for the site team.
- Secure storage for tools and materials. Locking a door with a simple padlock where the hasp is accessible with bolt cutters is not a very secure option. Shield the hasp by perhaps having a length of steel tube welded on, allowing only a snug fit for the padlock and no way for bolt cutters to be used.

**10.0.2** As part of the project, areas should be designated for external material storage that:

- are level
- are accessible from the street or vehicle access point
- are clear of work areas
- do not obstruct access.

## 11. PROJECT PLANNING AND SITE STAFF MEETINGS

**11.0.1** A regularly monitored construction programme shows how progress is going and should involve all staff on site to ensure their engagement and understanding. This aids the site team as well as the contract administrator if there is one. A programme may lag in a given area and no other area is able to be advanced to balance it. If delays are caused by variations, bad weather or circumstances outside of your control, there may be an opportunity to claim for an acceleration to get back on track or an extension of time claim, often with costs. A monitored programme shows the effect that the instruction had and the effort needed to get back on time, such as working longer hours and weekends. Always ensure variations are in writing

**11.0.2** Creating a construction programme:

- Break the job into the building elements or activities, building it in your head from the ground up. Identify the critical path – this is the row of activities that are linked with no allowance for time float.
- Allocate times to the activities and balance with the resources available. You may need to consult with the project estimator to get the labour hours that have been allowed. For example, if 200 worker-hours have been allowed for a portion of the work and you judge it best to be done with three workers, it will take nearly 2 weeks.
- Give activities a dependency. For example, soffit lining can't start until after the wall cladding is on (if the designer uses BRANZ published details), and internal finishing can't start until the building is closed in and weathertight.
- Link all the jobs that have dependencies – delays on these will delay the project.
- Identify jobs that can be carried out simultaneously on site.
- Monitor the plan and mark the progress at identified intervals [this could be every Monday morning for instance]. By monitoring at the same time each week, you will clearly see if the progress is also regular and steady.
- Avoid changing the programme. If your methodology or site sequencing changes, this will be reflected in one area of work going ahead while another will lag [which is fine as long as one balances the other].

**11.0.3** Site administrative housekeeping is important. Good administration will maximise the possible returns the project can achieve. Standardise your system so each project is handled in the same way as this leads to consistency, but be open to new or varied systems that may be appropriate for a specific site.

**11.0.4** Keep a job-specific diary and have a sectioned job file that:

- records site injuries or near misses, hazards identified and how they were managed
- keeps the job correspondence (including copies of emails, site instructions, date-stamped photos and so on) arranged in date order so there is a complete paper trail of everything that has happened during construction
- incorporates photographs taken as the work progresses

- has a financial section including all project claims and payment advice notifications
- has a contractual section that includes all signed documentation relating to the project and the suppliers and subcontractors
- has a notes and calculations section.

**11.0.5** The job file, read in conjunction with the site diary and date-stamped photos, will give a good picture of the construction from a contractual point of view. This can be a handy resource if there is a dispute.

**11.0.6** Shoving everything in a box file may be convenient but it is unprofessional and makes referencing and retrieving anything very difficult.

## 12. RUNNING THE SITE

**12.0.1** Programme regular toolbox meetings with workers to affirm you are still on track and no new hazards have been identified. You could discuss a relevant safety topic or give a refresher demonstration of the correct use of a particular tool. Discussing and learning from examples of failure highlighted in industry safety magazines can also help.

**12.0.2** Having a different staff member do a safety walk around each week immediately before the toolbox meeting helps achieve a team approach. Some systems require things such as condition of electrical leads to be checked each day.

**12.0.3** Reporting of near misses is essential. Make these an opportunity to improve work habits and safety regimes.

**12.0.4** You don't have to have an accident on site to be liable under the HSWA. An unsafe practice is just that, even if no accident eventuates. A person can also be found liable if they know a practice is unsafe even if they are not the party doing it.

**12.0.5** Insist on site safety training and retraining and particularly site-specific induction training.

**12.0.6** Have a whiteboard listing weekly material deliveries. This includes booking craneage time (if applicable). This helps the planning and general efficiency of the site by minimising downtime unloading and storing by ensuring enough staff will be on hand.

**12.0.7** Set up a regime to ensure that equipment has all the correct ticketing. Have a reminder (and register) system to make sure that electrical equipment is tested and tagged and portable scaffolds, ladders, chains and lifting strops have regular inspections.

**12.0.8** Decide on realistic work practices, write them down and stick to them. If you have decided that only trained and ticketed operators will use plant such as forklift trucks, mini-cranes and the like, stick to the policy and arrange training for the staff.

**12.0.9** Prominently display a list of all important contacts – service locating companies, local authority representatives, your own management, emergency services.

**12.0.10** A tidy site is a safer and more efficient workplace as workers won't be obstructed by half-complete work, poorly stored materials, unnecessary tools and plant or general clutter.

## 13. KEEPING RECORDS

**13.0.1** Keep a site diary including photos, recording daily weather conditions, work done, visitors, who was on site and any notable occurrences or achievements. Accidents, near misses and hazards identified should all be recorded. If a dispute arises, a lot of emphasis is put on records taken at the time. Memories can be unreliable.

**13.0.2** Keep all training records. Even when a hire company demonstrates and instructs in the use of a piece of plant, add a note of this to staff records.

**13.0.3** Have all pertinent documentation available on site, such as industry codes of practice where they apply, New Zealand and Australia/New Zealand standards (particularly NZS 3604:2011 *Timber-framed buildings*) and relevant New Zealand Building Code documents (especially E2/AS1). Have at hand the technical information relating to the specific products being used on site, with particular regard to their installation, safety warnings and related storage, use or handling.

**13.0.4** Quality assurance or quality control sheets for concrete, timber and other materials would be useful, particularly for expanding firms where more work is being delegated.

## 14. INSPECTIONS

**14.0.1** All building work where a building consent is required will entail inspections by the building consent authority (BCA) to ensure the work is in accordance with the consented documentation.

**14.0.2** It is likely that the builder's responsibility to organise BCA inspections and the required inspections will be identified in the consented documents. To make sure the process is as efficient as possible:

- plan ahead for the inspections – give the BCA as much notice as possible
- ensure the work to be inspected will actually be completed before the inspector arrives – a common cause of failure of inspection is not actually being ready at the appointed time for the inspection
- supply records of work (sometimes referred to as a memorandum of work) and producer statements as required.

## 15. KEEPING UP TO DATE

**15.0.1** Is there a regime that ensures staff are kept up to date with changes? This may require joining a particular special interest group or subscribing to industry publications. Remember also that building inspectors can be a source of information about changes.



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