Contents

Section 1.1: Obtaining, confirming and applying work instructions and operational details for project planning

You can only do a job properly if you fully understand what is to be done and how tasks are to be carried out. Planning may involve inspecting the worksite, assessing work conditions and requirements and identifying faulty or defective equipment or other workplace hazards.

In every task it is essential that you, your team and your supervisor have the same understanding of the task requirements and the standard of work expected. The information may come from different sources and from different people and a clear, common understanding is essential. This information will usually be available from the person responsible for supervising the work and kept on the worksite for quick reference. It may include diagrams and work drawings, specifications, project plans and schedules, notes/memos and emails, and work diaries or reports. Information may also come from equipment or materials suppliers or manufacturers and government or safety authorities.

There are numerous sources of information that refer:

- directly to the task itself such as how to construct a pergola according to the standard specifications or work drawings
- to the material to be used such as pre-treated timber
- to the standard of finish required such as concreting driveways or paths
- to the equipment or plant to be used such as an electric circular saw.

Other sources of information also need to be considered and some of this information may be more difficult to obtain directly. For example, every workplace is subject to legislation to ensure compliance with safety requirements such as personal protective equipment (PPE) and the use of safety barricades and signage. This information should also be included in your workplace safe work procedures, safety data sheets (SDSs) or job safety analyses (JSAs) for the project.

Regulations may also refer to permitted hours of work in residential areas, limits on noise and dust levels, requirements for particular licences and approvals, and compliance with Australian standards and industry-specific codes of practice. The planning and preparation stage provides the opportunity to research these issues and to determine how they apply to the particular workplace and each task to be carried out. The following example describes the planning that goes into constructing a pergola.

Example

The construction of a pergola may involve:

- formal approval or authorisation to perform the work – usually required by local governments and environmental authorities
- approvals to use nominated materials and building methods, including the correct disposal of any waste materials
- confirmation of work (for example, electrical work) to be carried out and signed off by licensed persons; the planning stage will need to identify when these people will be available to do the work, and to build this into the sequence of events
- requirements to prevent unauthorised entry and to protect all persons on the worksite; for example, by barricades, warning signs, wearing specific safety protection
- access to instructions on operating particular plant or equipment.

Find out more

Resource	Why it is useful
City of Greater Shepparton (Vic.) *Planning to build – Guidelines* www.greatershepparton.com.au/planningtobuild/	This website provides a good indication of the types of local council regulations that need to be considered when planning a construction project.

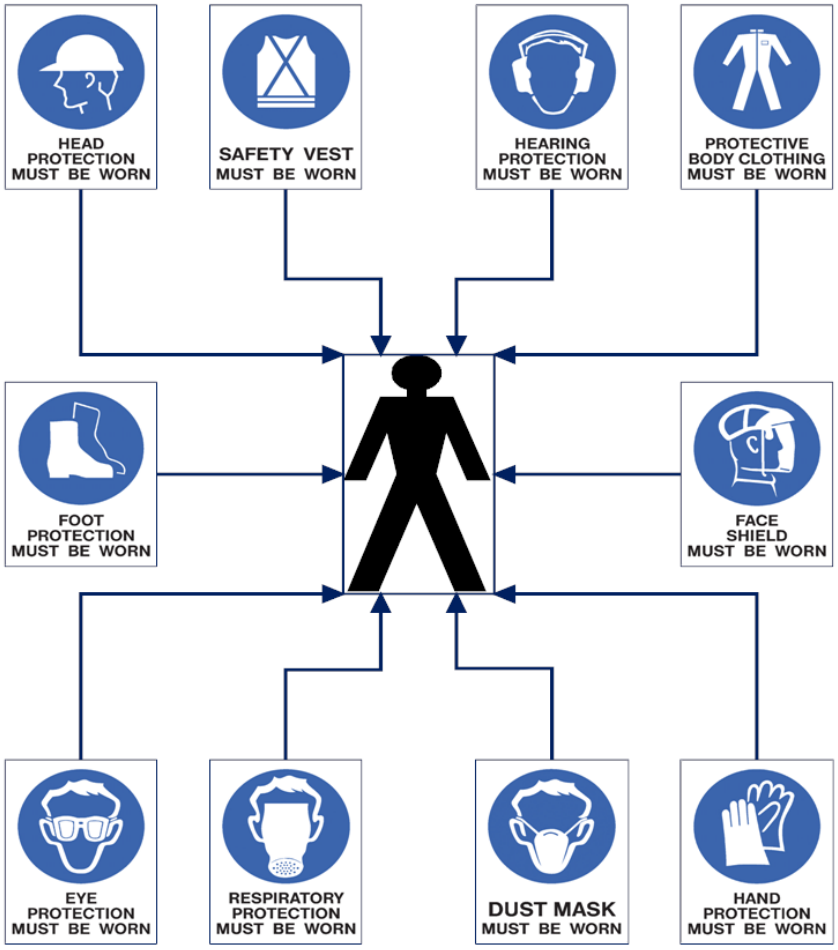
Section task 1.1

Select a building and construction task you have recently completed, or will soon be required to carry out, in your workplace.

1. List three sources of information you have used to determine the requirements of the task.
2. Write a sentence to explain the OHS requirements that apply to you in accordance with the site OHS plans and policies.
3. List two types of signage and barricades that need to be displayed or erected.
4. List three tools or equipment that are required for the task.
5. List three safety strategies you will use to protect other workers, the general public and property.

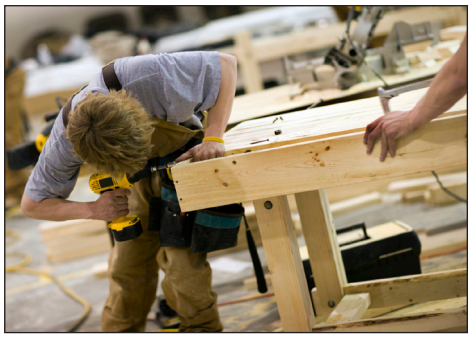
- correct methods for handling and storing dangerous or hazardous goods
- use of material safety data sheets and job safety analyses
- correct use of appropriate PPE.

The following diagram shows some of the PPE that you might use when undertaking a basic construction project.



Find out more

Resource	Why it is useful
SafeWork SA *Common site safety induction course pocket book* www.safework.sa.gov.au/contentPages/docs/buildInductionPocketBook.pdf	This booklet covers most of the requirements for OHS on a worksite. Material is clear, concise and relevant to building and construction worksite activities.



Care of materials is a shared responsibility with the supplier. Details such as who unloads the items, what to do if the materials are unsuitable or damaged, and any conditions for the return of unused materials need to be resolved early in the project. Once received, and the delivery docket signed off, the materials need to be stored as appropriate. This is particularly important if the materials could be easily damaged such as window frames or plaster sheeting. Materials may be damaged by contact or exposure to weather conditions, be subject to theft or of a hazardous nature. Attention should be given to materials such as timber stored under plastic on damp ground or on uneven surfaces, and to ensure any stacks are limited to a safe height.

Some materials may need to unpacked, unstacked or unwrapped prior to relocation. It is important to identify the most appropriate location for the materials to be stored to enable ease of access and use by on-site tradespersons. Time and money can be lost if materials are double-handled, or where the site workers have to move an excessive distance each time they require materials.

Find out more

Resource	Why it is useful
Wilkie, G 2011, *Building your own home*, New Holland Publishers, Chatswood, NSW.	This book provides comprehensive information about the process of building a house. Of particular relevance is the section 'Properties/uses of building materials'.
Staines, A 2010, *The Australian decks and pergolas construction manual*, 5th edn, Pinedale Press, Caloundra, Qld.	This book provides comprehensive information about the process of building a deck. Of particular relevance is the section 'Timbers to use'.

Section task 1.6

Imagine your basic construction project is to construct a storage shed. What advice would you provide about the handling and storage of the following materials:

Materials	Advice on handling and storage
Timber	
Steel framework	
Galvanised roofing, spouting and downpipes	
Bags of cement	
Timber preservative	
Paints	

In ACTION

Garcia's story

Garcia has been appointed as the site manager for a building project. He has responsibility to oversee the receival of materials and to liaise with suppliers and subcontractors, and to provide ongoing reports to the project management team meetings.

Garcia wants to ensure that sub-standard materials will not be used and that a series of strict guidelines for all materials are developed and implemented.

His first strategy is to ensure the specifications for materials are clearly understood, including identification of the relevant building code and/or Australian Standards. He also wants to ensure that preference is given to reliable previous suppliers or to those on a list of approved suppliers.

His next strategy is to familiarise himself with the council building regulations and to identify any specific requirements for building materials such as environmental compliance, fire resistance or insulation standards. Opportunities for using environmentally friendly materials are identified and discussed with the project management team. Some materials provide an opportunity to apply for rebates and subsidies.

Procedures are established to ensure orders to suppliers match the materials specifications and contain any further clarification for the suppliers, and conditions for delivery are clearly indicated.

Deliveries are checked carefully to ensure compliance with specifications and delivery dockets signed off only when conditions of supply are satisfied. Materials are carefully stored to avoid damage caused by moisture, extremes of temperature and unauthorised access.

Everyone understands that if materials do not meet the specifications, the delivery should be rejected; a substitute of equal quality may be considered. Discounts on costs may be considered but only where this does not compromise the requirements of the building permit or the integrity of the total project.

Revision

- All building and construction work involves the use of materials such as timber, concrete, steel work, plaster, bricks and paint.
- Details about how materials are to be used are provided in the plans and specifications and indicate the particular quality or standard required.
- Using materials that do not comply with specifications may lead to sub-standard work and the possibility of significant legal action.
- Specifications for required materials are essential to provide suppliers with detailed information.
- It is important that everyone understands and interprets the specifications as detailed in the project plans, particularly where a uniform standard (such as Australian Standards) is given.
- Material suppliers may provide advice about materials but the responsibility for ensuring quality remains with the construction team.
- Strategies need to be in place to ensure the quality of materials is confirmed before deliveries are accepted and that all materials are handled and stored properly.

Are you ready?

Use this checklist to assess if you are ready for assessment activity 2.

I understand how to:

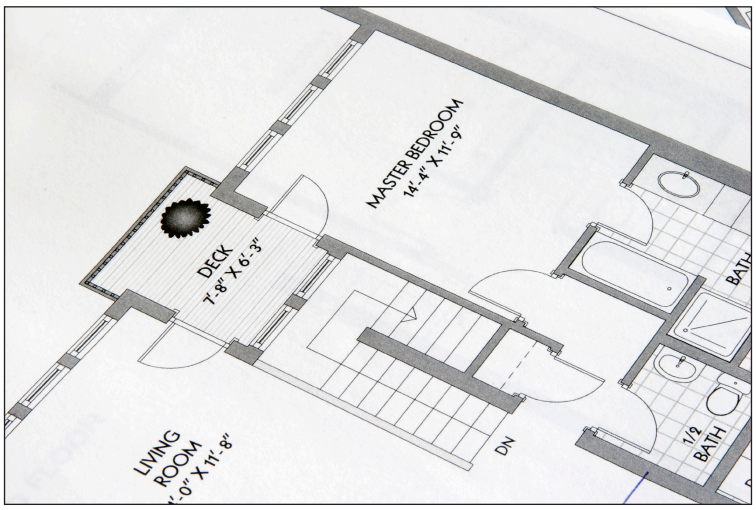
- ❑ Select required materials for the project
- ❑ Check materials for quality

Section 3.4: Checking component parts for accuracy, quality and suitability for the project

All components used in a construction project need to be checked and comply with required standards to ensure the quality of the final product. For example, the overall quality of a concrete foundation is determined by selecting the parts listed in the specifications and ensuring these comply with an identified quality standard. You would check that the F82 steel floor mesh complies with Australian Standards. You would also check the aggregate, cement and other materials involved. In some cases, further checks are applied. For example, concrete is subjected to slump and compression tests in accordance with Australian Standard AS 1379–1997 to indicate the relative strength of concrete samples.

Quality and suitability checks may also be in accordance with industry standards, manufacturer standards, approved supplier accreditations and accepted workplace procedures. Reports provided by consumer protection groups and by safety authorities provide examples of problems that occur when substandard or inappropriate component parts have been used. Projects that do not meet quality requirements may incur penalties or not receive approval for the completed work.

It is important that the component parts are checked for accuracy, quality and suitability before the construction project is started, regardless of the scope or complexity of the project. These checks should be done according to the plans, drawings, specifications and procedures.



Where detailed inspection of each part is not possible, check for certification that shows the manufacturer has complied with required procedures and standards. For example, certification may be required when prefabricated components have been supplied.

Research and testing authorities, manufacturers and suppliers can provide technical assistance and advice about products and construction processes. This information may be about the selection and use of materials, component parts and construction methods for the building industry.

Assessment activity 3
Determining component requirements and assembly sequence

The following table maps the assessment activity for this chapter against the element and performance criteria of Element 3 in *CPCCVE1011A Undertake a basic construction project*.

Part	Element	Performance criteria
Whole activity	3	3.1, 3.2, 3.3, 3.4

Imagine you have been asked to construct a pergola.

1. Where would you find information and advice on the overall procedure to follow?
2. Where would you get details about the location, size, composition and final finish of the pergola?
3. What specifications would you expect for:
   a) the concrete footings
   b) the timber structure including roof frame?
4. Write one sentence to explain how you could check that the materials that have been delivered are suitable and of the required quality.
5. A timber garden seat is to be included in the pergola. Would you:
   a) manufacture and assemble all parts yourself
   b) obtain one in kit form and assemble the parts
   c) obtain a fully assembled garden seat?

   Give reasons for your choice.

Record your employability skills

When you have completed the assessment activity, make sure you record the employability skills you have developed in the table at the end of the learner guide. Keep copies of material you have prepared as further evidence of your skills.

Section 4.2: Selecting and applying equipment to hold or support material during the operation of tools

When reshaping or mixing materials such as by hammering, cutting or smoothing, the aim is to complete the work to the specifications without damage to people, tools and equipment, materials or the environment.

Materials will need to be altered. For example, timber cut to length, timber cut for joints, roofing panels trimmed to size, metal parts welded or placed into a required position. Walls may need to be assembled and erected and roof spans installed. In some cases, the materials may be relatively compact and be handled safely by one person. They may not need any additional support or securing.

However, if materials do shift during the task or where the size of the material is difficult to control, serious injury and damage can result. Various methods can be used to reduce the risk of injury and damage. These may include:

- using bracing to support vertical wall frames during erection and assembly
- using trestles to support materials when they are being cut or painted
- using adjustable vertical supports when erecting roof frames
- fixing material to a stable surface with clamps when joining or chiselling
- holding material in a vice when working on timber, or cutting a thread on pipe work
- using an elevated work platform for overhead work.

The risk is to cut corners and improvise ways to support material while using hand tools. If you fail to follow workplace procedures by selecting and applying equipment to hold or support materials, there is a higher risk of injury to people and damage to materials and equipment.

Find out more

Resource	Why it is useful
Triton *Superjaws Portable Clamping System* www.triton.com.au/Product/330105	This web page describes a particular piece of equipment that can be used to support material when using other tools.
How stuff works *Clamp* http://home.howstuffworks.com/clamp.htm	This is a US website – this web page provides some basic information about using a clamp when working with wood.

Section task 4.2

List the support systems or devices you would use to prevent damage to hand tools and materials (and possible injury) for the following tasks:

Tasks	Support systems/devices
Cutting a mortise joint into timber	
Erecting a wall frame	
Trimming a sheet of corrugated iron	
Attaching hinges to window frame (glass is in place)	
Nailing a ceiling beam into position	
Applying an undercoat to support posts before erecting	