RIICWM402E

Supervise Civil Works Contractors

Learner Guide Instructions

Who is this document for?

The learner.

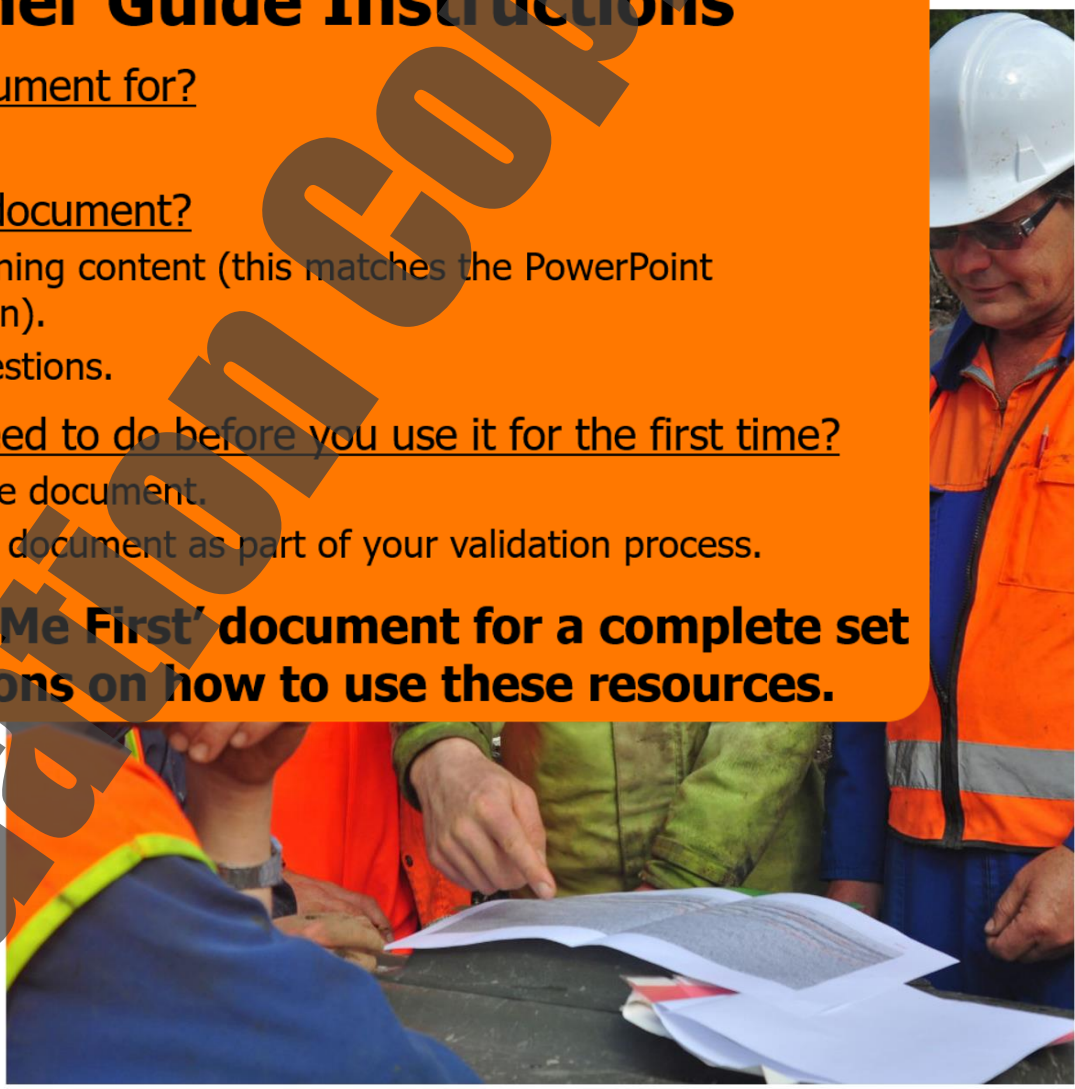
What is in this document?

- Course training content (this matches the PowerPoint Presentation).
- Review questions.

What do you need to do before you use it for the first time?

1. Rebrand the document.
2. Review the document as part of your validation process.

See the 'Read Me First' document for a complete set of instructions on how to use these resources.



LEARNER GUIDE

RIICWM402E Supervise Civil Works Contractors

Learner Name:	
Learner ID:	
Learner Contact Number:	
Learner Email Address:	
Date Training Commenced:	

This Book Contains:

☐ Course Information.
☐ Review Questions.

Table of Contents

1.1 Introduction

This course is based on RIICWM402E Supervise Civil Works Contractors.

You will learn about:

- Planning civil construction work:
  - Confirming safety requirements.
  - Confirming work requirements.
- Preparing for tasks and activities:
  - Identifying and managing risks and hazards.
  - Preparing a job plan and explaining it to personnel.
  - Identifying the resources required to carry out the work.
- Initiating civil works:
  - Acquiring resources.
  - Distributing plans.
  - Setting out tasks.
- Supervising and monitoring contractors:
  - To make sure the right outcomes are achieved.
  - To make sure work is carried out safely.
  - To make adjustments to the work or job plan when required.
  - To make sure all tools and equipment are maintained properly.
- Reporting on civil works tasks by:
  - Completing written reports.
  - Giving feedback to contractors and making recommendations for improvements to safety, efficiency and effectiveness.

1.1.1 Supervising Civil Works Contractors

Civil works covers a number of areas including:

Types of Civil Works	Associated Tasks
Road and Pavement Construction and Maintenance	◆ Flexible pavement construction. ◆ Rigid pavement construction. ◆ Stabilisation of materials. ◆ Pavement maintenance.
Bituminous Surfacing	◆ Asphalt paving and compaction. ◆ Application of bituminous spray treatment. ◆ Application of polymer modified binders. ◆ Selection and use of bituminous emulsions. ◆ Application of slurry surfacing. ◆ Pavement profiling, using a profiler. ◆ Manufacture and delivery of hot mix asphalt. ◆ Manufacture of cold mix. ◆ Manufacture of polymer modified binders. ◆ Manufacture of bituminous emulsion. ◆ Manufacture of slurry surfacing.

Types of Civil Works	Associated Tasks
Civil Structures	◆ Civil concrete structure construction. ◆ Civil steel structure construction. ◆ Civil timber structure construction. ◆ Civil masonry, crib and gabion construction. ◆ Inspection of civil structures. ◆ Maintenance of civil structures.

Civil works can also include tunnel construction and demolitions.

The tasks involved in civil construction will include, but are not limited to the following:

- Site preparation.
- Load and haulage.
- Surface finishing.
- Water application.
- Sediment control.
- Extraction.
- Placement and distribution.
- Line, grade and level control.
- Compaction.
- Installation of underground services.

As a supervisor at a civil construction work site it is your responsibility to monitor the work of any contractors as they complete their part of the project. This will include providing plans, monitoring the completion of tasks and providing feedback about the work that the contractor does to meet project, site and quality requirements.

1.1.2 Working with Contractors

There are many differences between independent contractors and workers. In most cases, an independent contractor will:

- Be paid for results.
- Provide all or most of the necessary materials to complete work.
- Have freedom to delegate work to others.
- Have freedom in the way they work.
- Provide services to other businesses.
- Be free to accept or refuse work.
- Be in a position to make a profit or loss.

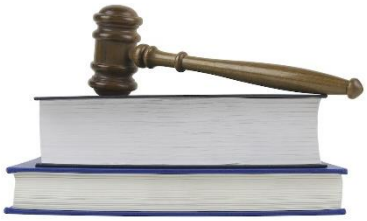
1.1.2.1 Contractor WHS Arrangements

Both the contractor and the business they are providing the service to have obligations under Work Health and Safety (WHS) legislation.

Under WHS legislation, contractors and sub-contractors are included in the definition of a worker and therefore need to be incorporated in the WHS arrangements for workers in the workplace.

This means that they need to comply with the WHS requirements for:

- Actual procedures, processes and activities that occur in the workplace (i.e. what actually happens).
- Policies, procedures and systems relating to WHS management of the contractor.



Under the legislation, contractors and sub-contractors are also considered under the definition of Person(s) Conducting a Business or Undertaking (PCBU).

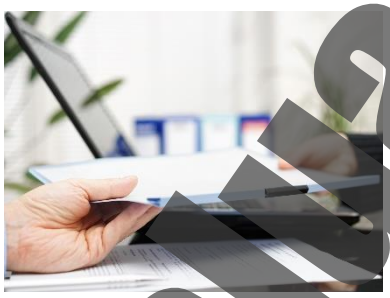
This means that they have the same obligations as a PCBU in regards to their own business and any workers whom they employ.

However, a sole trader who is a PCBU but performs work for another PCBU becomes a worker for the 2nd PCBU.

1.1.3 Procurement Requirements

Procurement is the purchase of goods or services from an external source. It is important that the goods or services are suitable for the purchaser and that they are procured at the best possible cost to meet their needs in terms of:

- Quality.
- Quantity.
- Time.
- Location.



Your organisation may attempt to secure the contractual rights for procurement from a purchaser to ensure that you are a primary source of goods or services for a purchaser. Alternatively your organisation may be in a position where it is looking to procure goods and services from a vendor (personnel, equipment, materials) and by using a procurement process you can ensure the best possible outcome (time, cost, quality) from a supplier.

A procurement contract is an agreement between the purchaser and the vendor (supplier). These contracts bind both parties to a series of legal responsibilities and in some cases their content may be guided by industry relevant legislation.

The procurement process generally follows these stages:

1. **Determining the need** for goods and services from an external source.
2. **Identifying a potential supplier** or suppliers or putting the procurement out for tender (suppliers apply based on a description of the requirements of the purchaser).
3. **Contacting suppliers** for more information or to explore the goods and services that can be provided to see if they are adequate or appropriate for the needs of the purchaser.
4. **Negotiating the terms of the agreement** to determine price, availability, customisation or specialisation of goods and services, delivery schedules to create a procurement contract.

Review Questions

1.	What WHS obligations do contractors and sub-contractors have in regards to their own business and any workers whom they employ?	☐

2.	What four (4) stages does the procurement process usually follow?	☐

1.

2.

3.

4.

1.2 Site Policies and Procedures

While supervising others you need to make sure everybody on site follows the safety rules and instructions when performing their work. You should answer any questions that personnel have towards health and safety or direct them to the right person to speak to.

1.2.1 Work Instructions

Before starting any civil works you need to make sure that contractors have access to all operations documentation for the job. This will help everyone to do their work in the safest way and make sure all work is compliant.

Operations documentation includes:

- Site details – the information and safety requirements of the work environment.
- Hazard details – any hazards in the work area or related to the work. This could also include instructions on how to handle dangerous or hazardous materials.
- Task details – instructions of what the work is (this can include diagrams or plans). Also instructions on how to safely do each component of the project.
- Faulty equipment procedures – isolation procedures to follow or forms to fill out.
- Signage – site signage tells you what equipment personnel need to have, or areas where hazards exist.
- Emergency procedures – instructions on what to do in emergency situations, for example if there is fire, accident or emergency where evacuation or first aid is needed.
- Equipment and work instructions – details of how to operate plant and equipment and the sequence of work to be done.

Some of this operations documentation will be provided by the contractor as part of their service delivery. You will need to make sure it meets the broader safety requirements of the job and site.

1.2.2 Emergency Procedures and Response

Contractors must be familiar with the relevant emergency procedures on site before starting any work. Knowing how to respond quickly in an emergency can be the difference between a full recovery and permanent, serious injury. Every worksite will have specific procedures to be followed in response to emergency situations.

These procedures are based on the type of emergency, its severity and the impact it will have on others on site.

Emergency situations in a workplace may include:

- Fire.
- Emergency evacuation.
- Incidents or accidents resulting in damage or injury.
- Electrical shock.
- Falls.
- Extreme weather.
- Entrapment.
- Inrush.
- Fumes, vapours or gas leak.
- Explosions.
- Emergencies resulting from working in remote locations.
- Equipment or structure collapse.
- Vehicle collisions.

If there is an emergency situation on site the emergency alarm should be raised immediately to notify supervisors or other personnel on site.

Review Questions

3.	Why should you make sure you have access to all operations documentation before starting your work?	☐

4.	What factors are emergency procedures based on?	☐

1.3 Working Safely

You must ensure that all contractors that you supervise follow all safety rules and instructions when performing their work.

1.3.1 Health and Safety Rules

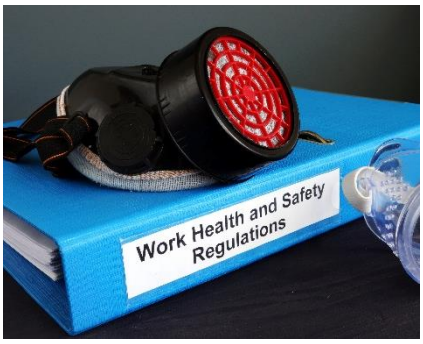
Every workplace has to follow laws and rules to keep everyone safe. There are 4 main types:

- **Acts** – These are laws that you have to follow.
- **Regulations** – These explain what the law means.
- **Codes of Practice** – These are instructions on how to follow the law, based on industry standards.
- **Australian Standards** – These tell you what the minimum requirement is for a job, product or hazard.

Some states use OHS laws, and other states use WHS laws. They both talk about the same thing, but use different words or names for people.

1.3.2 How to Keep Everyone Safe

WHS law says that all companies and workers need to keep themselves and other people safe while they work. This is called a duty of care.



To keep everybody safe workers need to:

- Follow their instructions.
- Follow all workplace rules.
- Make sure all equipment is safe to use.
- Carry out their work safely.
- Report any problems.

If a contractor notifies you of an issue or problem you will need to take appropriate action in line with site and organisational requirements. This could include:

- Stopping, postponing or re-scheduling tasks.
- Organising for specialists, technical experts or consultants to review the situation.
- Organising additional resources, personnel, equipment or training before the work continues.
- Completing forms or reports to document the issue.
- Assisting personnel to complete documents and forms.
- Contacting manufacturers or other service providers about the issue.
- Contacting relevant authorities about the issue.
- Re-evaluating work plans and making adjustments to manage the issue.

These actions are generally completed in consultation with the contractor so that a solution can be achieved as quickly as possible with personnel familiar with the job and project.

Review Questions

5.	What are the four (4) main types of Health and Safety Rules?	☐

1.

2.

3.

4.

1.4 Work Requirements

All civil construction projects will have specific work requirements that must be met in order to successfully complete the project.

1.4.1 Accessing, Interpreting and Communicating Work Requirements

Work requirements outline the details of what the task is and how the activity is to be completed, based on the client's needs. It can be conveyed in site or task drawings, plans and documents. Work requirements or project specifications may give an acceptable range of data, but they may also be highly specific in what must be achieved.

Project plans and drawings provide an overview of the site including, for example:

- Location of the site and earthworks in relation to the surrounding area.
- The position of structures, roads, access areas.
- Layout of drainage lines.
- Foundation details and landscaping features.

When interpreting and sharing this information with contractors, ensure you are clear and explain in detail what must be achieved and how the requirements are going to be met.

You need to be clear about the requirements of the work. All civil works projects will need to consider the following:

- **The Site** – Is there clear access for all equipment? Are there buildings, structures, facilities or trees in the way? What are the ground conditions like? Is there preparation work to be done?
- **Facilities and Services** – Are there power lines or other overhead or underground services to think about? Is there power on-site? Are there underground services in the area that you need to be aware of or work around? Are there adequate facilities on site to provide personnel with clean drinking water and toilets?
- **Traffic Management** – Are there people, vehicles or other equipment in the area that you need to think about? Do you need to get them moved out of the area? Do you need to set up barriers or signs? Are there clear pathways for traffic? Are there defined access and egress points? Are there designated parking and delivery areas?
- **Hazard Management** – Are there dangerous materials to work around or think about? Will work be conducted close to power lines or other personnel? Has the area been adequately isolated? Have the relevant permits been applied for and authorised? Are there hazards associated with particular jobs or equipment?

1.4.2 Contractors and Other Organisations

Different contractors and other organisations will have an impact on the activities undertaken on the site. As a supervisor it is important that you understand the roles these others will play in the construction project and how their activities will impact the activities of your team.

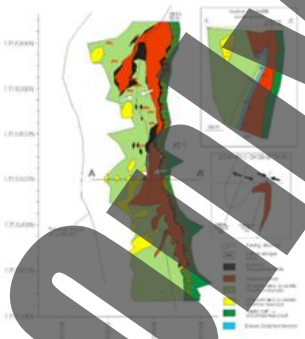
On most projects there are various teams working on different stages of the project, with each team relying on the others to complete tasks on time so the next task can start on time.

Without a good working relationship between the various work teams, it can be extremely difficult to achieve a good end result.

Contractors and organisations that you may have to work with include:

- Machine operators.
- Trade contractors.
- Labour contractors.
- Equipment manufacturers, suppliers or hire companies.
- Maintenance staff.
- Concreting companies.
- Power, phone, gas and water authorities.
- Road and traffic management authorities.
- Councils and government departments.
- Engineers.
- Civil construction material providers or manufacturers.
- Landscaping material suppliers.
- Waste management service providers.

1.4.3 Site Geological and Geotechnical Data



Geological and geotechnical data gives you information about:

- Rock or material types and characteristics.
- Wet and dry areas.
- Water tables or other sources of water.
- Compaction levels.

Knowing the type of soil and rock you are dealing with allows you to determine the correct machinery, resources and work methods to achieve the required tasks.

Information on geological and geotechnical factors that affect the site also allows for better time management and project management by understanding how long it will take to complete tasks.

Identification of the different types of rock and soil is essential to the successful completion of civil construction projects.

Rock Types	
Metamorphic	Rocks are heavy and hard.
Igneous	Rocks are volcanic and can be hard, but may also be very light.
Sedimentary	Rocks and shales could peel out when cut and removed.

Soil Types	
Sandy	Soils will require a lot of stabilisation.
Clay	Soils are harder to work with due to the physical hardness of the soil and the ability of these soils to hold water for long periods of time.

Soil and rock types will have been identified during the site engineering surveys. Interpretation of this data allows for successful planning and preparation on the worksite.

1.4.4 Site Hydrological Data

This data relates to water on, in, near or under your site. It will include surface water and ground water but could also include rivers, creeks, dams, dry waterbeds, wetlands and other areas where water is or could be.

The hydrological data is used to ensure correct drainage of the site, for protection of the waterways and water dwelling flora and fauna. Having an understanding of what the water on the site is doing allows you to anticipate drainage issues and erect erosion and sediment controls before drainage becomes a problem.