

RIIMPO326E

Conduct Water Vehicle Operations

Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course information that matches the PowerPoint presentation.
- Review questions.
- Practical assessment instructions for learners.

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.
3. Set the reading and test time limits that are highlighted in pink at the end of the document.

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

LEARNER GUIDE

RIIMPO326E Conduct Water Vehicle Operations

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

This Book Contains:

- Course Information.
- Review Questions.
- Practical Assessment overview and instructions.

Evaluation Copy Only

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1.1 Introduction

This course is based on the unit of competency **RIIMPO326E Conduct Water Vehicle Operations**.

You will learn about:



- ◆ Planning and preparing for water vehicle operations.
- ◆ Conducting vehicle checks.
- ◆ Operating the water vehicle.
- ◆ Loading, transporting and discharging water.
- ◆ Carrying out maintenance tasks.
- ◆ Cleaning up and clearing the site.

1.1.1 What is a Water Vehicle?

Water vehicles, which may also be called water carts or water trucks, are purpose built vehicles or other vehicle/plant platforms that are used for loading, transporting, discharging and distributing water on civil construction work sites.

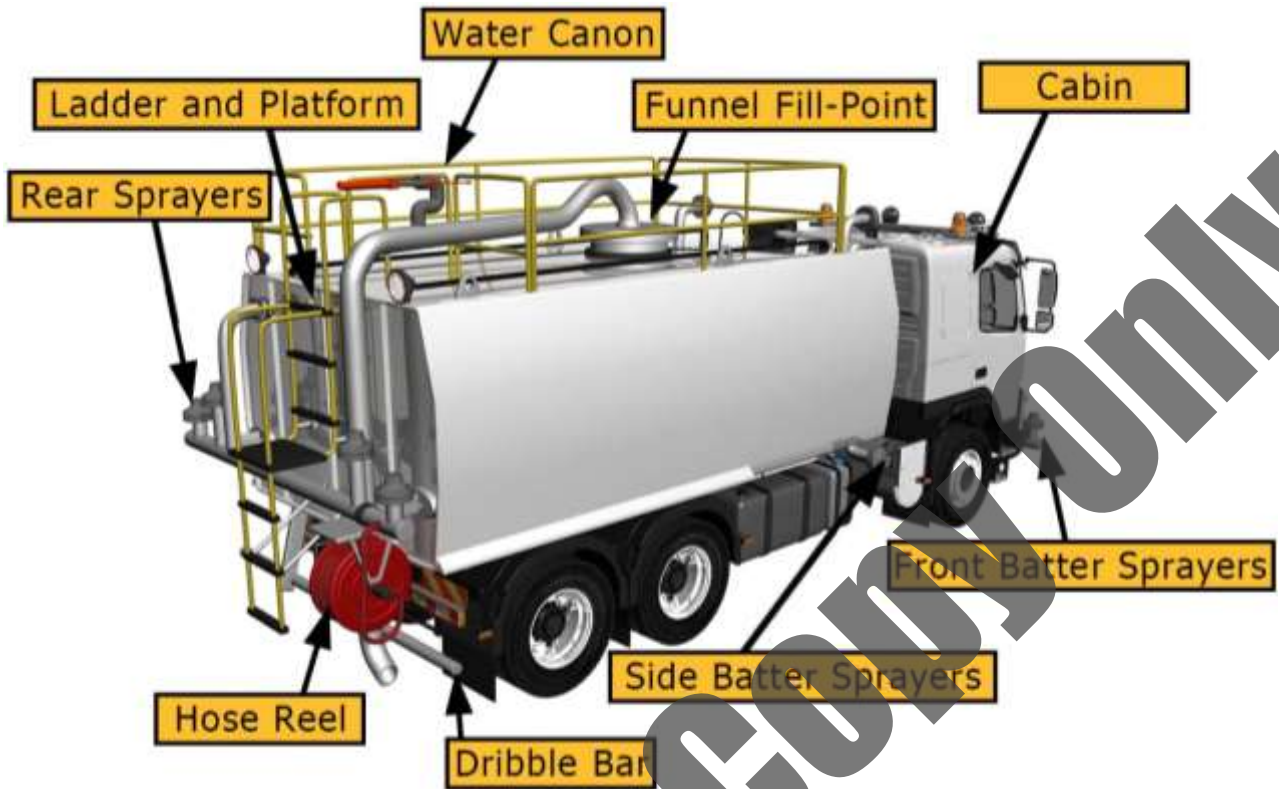
They can be created by putting tanks of water on a tray of a truck, or they can be built with the sole purpose of being water vehicles.

A water cart may be pulled behind other plant items on some sites.



1.1.2 Water Vehicle Components

The following diagram shows some of the main components of a purpose built water vehicle:



Component	Description
Cabin	Part where operator controls the water vehicle from. Sprayer controls joysticks, buttons, timing controls and distance meters.
Batter Sprayers	These sprayers can distribute water in multiple directions. They are often used together for dust suppression.
Dribble Bar	Dribble bar at the back of the vehicle can be gravity or pressure controlled. Some can spray water in various patterns.
Rear Sprayers	Rear sprayers generally distribute water to the sides of the vehicle. These can be high pressure or soft sprays.
Hose Reel	Holds a length of hose that can be used by hand for watering smaller areas. Can also be used for landscaping purposes and fighting fires.
Water Cannon	This is most often used for fire fighting on site. It can shoot a high pressure stream of water over long distances.
Funnel Fill-Point	The main filling point for the water vehicle. The funnel helps to reduce spills and waste. This is often used underneath stand pipe systems.
Ladder and Platform	Allows easy access to the top of the water vehicle during loading or maintenance.

1.2 Site Policies and Procedures

You must follow all safety rules and instructions when performing any work. If you are not sure about what you should do, ask your boss or supervisor. They will tell you what you need to do and how to do it in a safe way.

Before starting your work you need to make sure you have access to all operations documentation for the job. This will help you to do your work in the safest way and make sure all work is compliant.



Operations documentation includes:

Site Details	The information and safety requirements of the workplace environment (where you will be working).
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 or what you will be doing (this can include diagrams or plans). Also instructions on how to safely do the job.
Faulty Equipment Procedures	Isolation procedures to follow or forms to fill out.
Signage	Site signage tells you what equipment you need to have, or areas that are not safe to be in.
Emergency Procedures	Instructions on what to do in emergency situations, for example if there is a 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.



Your worksite will also have instructions for working safely including:

- ◆ Emergency procedures, including using fire fighting equipment, first aid and evacuation.
- ◆ Handling hazardous materials.
- ◆ Safe operating procedures.
- ◆ Personal protective clothing and equipment.
- ◆ Safe use of tools and equipment.

Review Questions

1.	List 3 things that may be included in 'operations documentation'.	<input type="checkbox"/>
1.		
2.		
3.		

1.3 Work Instructions

You need to be clear about what work you will be doing. Make sure you have everything about the job written down before you start. This includes what you will be doing, how you will be doing it and what equipment you will be using.



Make sure you have all of the details about where you will be working. For example:

- ◆ **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?
- ◆ **The Weather** – Is there wind, rain or other bad weather? Is it too dark?
- ◆ **Facilities and Services** – Are there power lines or other overhead or underground services to think about?
- ◆ **Traffic** – 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?
- ◆ **Hazards** – Are there dangerous materials to work around or think about? Will you be working close to power lines or other people?

You also need to make sure you have all of the details about the kind of work you will be doing:

- ◆ **The Task** – What is the job you need to do? Where is it? How much water will you need?
- ◆ **Vehicle** – What type of vehicle will be used? How big is it? How much room does it need?
- ◆ **Communications** – How are you going to communicate with other workers?
- ◆ **Procedures and Rules** – Do you need any special permits or licences? Are there site rules that affect the way you will do the work?



1.3.1 Reading and Checking Your Work Instructions

All work needs to follow worksite, environment and company safety procedures.



Procedures help to make sure that all work is done in a safe way, without damaging equipment or putting people in unsafe situations. They also help to make sure that work is done in the correct order and doesn't interrupt or get in the way of other work that is happening on the site.

Your work instructions will tell you the safest way to do the job, and the equipment that you will need to use. It is a good idea to check your work instructions with your boss or supervisor to make sure you know exactly what you need to do.

If you don't know where to get your instructions or you can't understand them, you can ask your boss or supervisor. They will tell you where to find your work instructions and explain what they mean.

1.3.2 Work Method Statements

Many worksites require a work method statement before any work can start. A work method statement is a list of steps that outlines how a job will be done. It also includes any hazards that occur at each step, and what you need to do about them.

These statements can also be known as Safe Work Method Statement (SWMS), Job Safety Analysis (JSA) or Safe Operating Procedure (SOP).

Work method statements are a great tool for organising your work activities and making sure you have completed everything. This is because they outline the details of all tools, equipment and coordination with other workers relating to your job. Make sure all of these are available and ready before you start.



1.3.3 Project Quality Requirements

Every civil construction project will have quality requirements. These outline when tasks need to be completed and the required standard of the work.



Your work instructions and plans or drawings will guide you, and help you to make sure you are achieving the quality standard for the project.

They can include:

- ◆ Project dimensions.
- ◆ Project tolerances.
- ◆ Standards of work.
- ◆ Material standards.

1.3.3.1 Plans, Drawings and Sketches

Some of your work instructions might be given to you in drawings and sketches. You will need to get the information out of these and use it to do your job.

Project plans and drawings give you an overview of the site, 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.



Depending on the project, drawings may be very detailed or they could be simple sketches.

You should learn about the conventions and symbols used in the plans and drawings so you can understand what the information means.

1.3.4 Civil Construction Sequences

Civil construction projects are made up of a range of smaller tasks or activities. It is important that these are done in the right order for the project to go smoothly.

Here is a basic civil construction sequence from clearing the area through to road construction:



1.3.5 Basic Earthworks Calculations

As a water vehicle operator, the main calculation you will need to be able to apply is for Area and Volume.

Area can be calculated using the following formula:

Area = Length (L) x Width (W)

For example:
40 square metres (40m²) may be marked out as:

- ◆ 10 x 4 metres.
- ◆ 5 x 8 metres.
- ◆ 20 x 2 metres.

Area = L x W = 10m x 4m = 40m ²	Area = L x W = 5m x 8m = 40m ²	Area = L x W = 20m x 2m = 40m ²
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Volume can be calculated using the following formula:

Volume = Length (L) x Width (W) x Height (H)

For example:
A container with a length of 2.5 metres (2.5m), a width of 1.6 metres (1.6m) and a height of 2 metres (2m) it will be able to hold 8 cubic metres (8m³) of liquid.

Volume	= L x W x H = 2.5m x 1.6m x 2m = 8m ³
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Calculating volume may come in particularly handy when deciding on how much water your vehicle can hold.

Generally, your vehicle will have a load chart that will list the maximum volume of the vehicle. It may be located on the water tank or inside the cabin of the vehicle. Always check this chart before loading your vehicle with water so that you do not overload the vehicle.

Review Questions

2.

What details about the work area can you get from your work instructions?

3.

Why is it a good idea to check your work instructions with your boss or supervisor?

4.

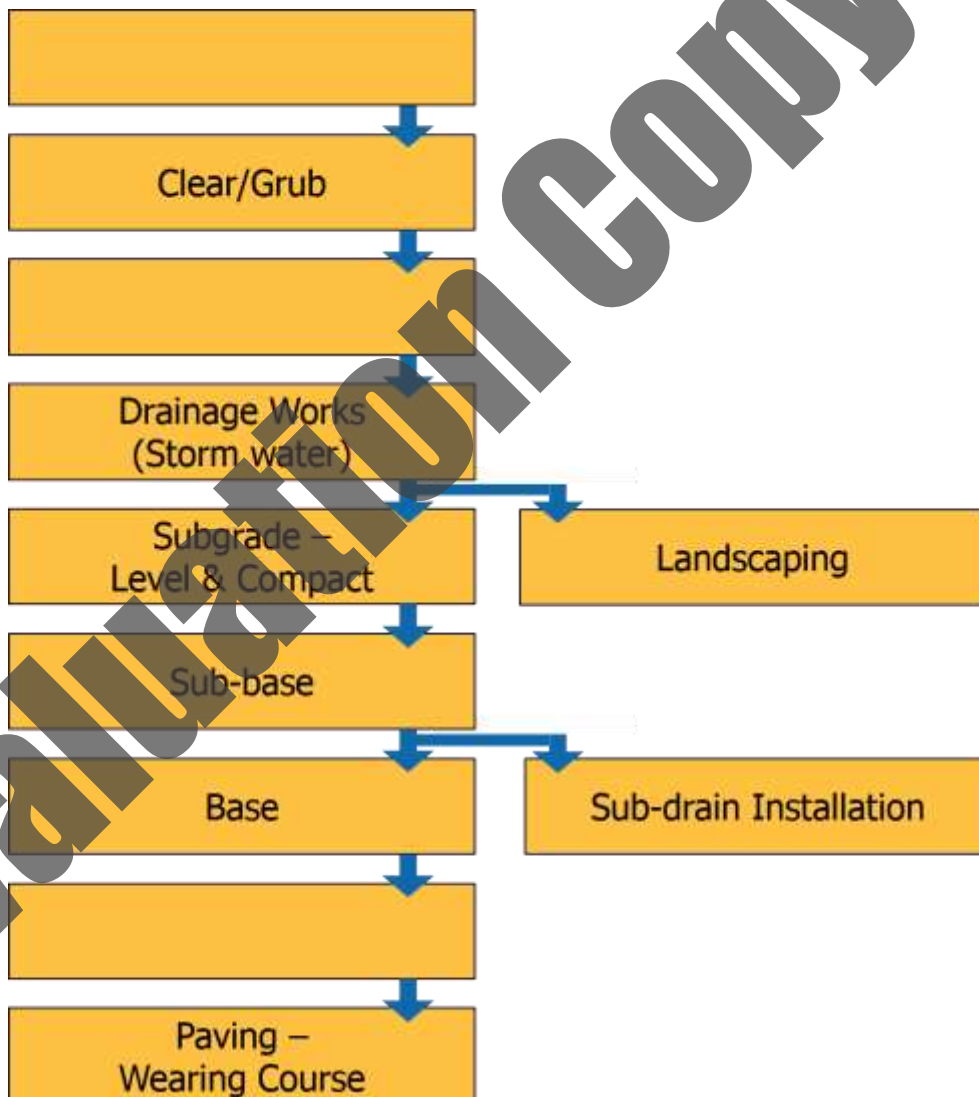
What is a work method statement?

5.

What details are outlined in project quality requirements?

6.

Fill in the blank steps in the civil construction sequence.



7.

What is the formula for calculating area?

8.

What is the area of a space that is 20m wide and 110m long? Show all working.

9.

What is the formula for calculating volume?

10.

What is the volume of water that can fit into a container that is 2.9m long, 1.8m wide and 1.5m high? Show all working.



11.

Where will you find information about the maximum volume that a water vehicle can hold?



1.4 Emergency Procedures

Emergency procedures will vary depending upon the worksite. These procedures could include:

- ◆ Emergency shutdown.
- ◆ Evacuation.
- ◆ First aid.
- ◆ Fire fighting.



1.4.1 Emergency Shutdown of Equipment



If there is a fire, emergency or accident you might need to use the emergency stop on the equipment you are using. This will turn the equipment off immediately.

You can also use the emergency stop if the equipment stops working properly or you lose control of the equipment.