



Australian Government

CPCPRF2023A Collect and store roof water

Release 1

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Modification History

Prerequisite unit changed

Minor changes throughout the unit

Not equivalent to CPCPRF2013A

Unit Descriptor

This unit of competency specifies the outcomes required to determine storage requirements and to plan, prepare and install storage tanks and related piping for the collection and storage of roof water.

The unit requires the installation of water storage tanks of at least 1000 litres capacity.

Application of the Unit

Site location for work application may be either domestic or commercial and may be a new work site or an existing structure being renovated, extended, restored or maintained.

Licensing/Regulatory Information

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Pre-Requisites

CPCPCM2043A Carry out WHS requirements

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|---|--|
| <p>1 Identify water storage system requirements.</p> | <p>1.1 Plans, specifications and any special instructions are obtained.</p> <p>1.2 <i>Work health and safety</i> (WHS) and <i>environmental requirements</i> associated with <i>collecting and storing roof water</i> are adhered to throughout the work.</p> <p>1.3 <i>Quality assurance requirements</i> for company operations are identified and adhered to.</p> <p>1.4 Site's annual rainfall is determined from meteorological or other relevant data.</p> <p>1.5 Roof catchment area is determined from plans or site inspection.</p> <p>1.6 Water consumption requirements for the installation are determined.</p> <p>1.7 Total water storage requirements for the installation are determined.</p> <p>1.8 Criteria for <i>storage tanks</i>, gutters, downpipes and other system components are determined according to relevant Australian standard and other <i>information</i>.</p> |
| <p>2 Plan and prepare for installation.</p> | <p>2.1 Required materials are identified, ordered and collected according to workplace procedures.</p> <p>2.2 Work is planned in conjunction with others involved in or affected by the work.</p> <p>2.3 <i>Materials</i> are checked for compliance with docket and</p> |

- order form and for acceptable condition, and ***faults are reported.***
- 2.4 Work area and materials are prepared to support efficient installation.
- 2.5 ***Sustainability principles and concepts*** are observed when preparing for and undertaking work process.
- 3 Install storage system.**
- 3.1 Set out complies with design drawings or instructions.
- 3.2 Preparatory work, including ***installation*** of tank stand or standing, is carried out to specification without damage to surrounding structures or existing services.
- 3.3 System is installed according to job specification and ***statutory and regulatory authorities'*** requirements.
- 4 Clean up.**
- 4.1 Work area is cleared and materials disposed of, reused or recycled according to legislation, regulations, codes of practice and job specification.
- 4.2 ***Tools and equipment*** are cleaned, checked, maintained and stored according to manufacturer recommendations and workplace procedures.
- 4.3 Documentation is completed according to workplace requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - access information
 - determine requirements
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - report faults
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication, such as hand signals
- initiative and enterprise skills to identify and accurately report to appropriate personnel any faults in tools, equipment or materials
- literacy skills to:
 - complete workplace documentation
 - read and interpret:
 - documentation from a variety of sources
 - plans and specifications
- numeracy skills to:
 - apply calculations and measurements
 - interpret data
- planning and organising skills to:
 - plan and set out work
 - plan work with others
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technology skills to:
 - access and understand site-specific instructions in a variety of media
 - use mobile communication technology

Required knowledge

- job safety analysis (JSA) and safe work method statements (SWMS)
- procedures for commissioning water storage tanks for use
- processes for accessing information and for calculating material requirements

- properties of water, including:
 - effect of gravity and atmospheric pressure
 - procedures for maintaining water quality
 - sources of contamination and impurities
- regulations and requirements pertaining to collecting and storing drinking water and non drinking water
- relevant statutory requirements related to collecting and storing roof water
- SI system of measurements
- water storage installation processes
- workplace and equipment safety requirements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, relevant Australian standards and specifications for determining requirements, planning and installing storage tanks for drinking water
- applying safety requirements throughout the work sequence, including electrical safety requirements and the use of personal protective clothing and equipment
- given the plans and specifications, completing the following in respect of roof water collection and storage systems:
 - calculate the water catchment area of a roof, the gutter and downpipe materials required and the amount of water storage required for a given job
 - determine system requirements from plans and specifications according to local authorities' requirements
 - planning the layout and installation of a storage tank of not less than 1000 litres capacity, incorporating an inlet connection and a first flush device from a roof catchment area, and an overflow to be connected to an approved stormwater point of discharge, ensuring:
 - application of sustainability principles and concepts
 - correct identification of location, design and details of proposed storage
 - correct selection and use of appropriate processes, tools and equipment

- completing all work to specification
- compliance with regulations, relevant Australian standards and organisational quality procedures and processes
- communicating and working effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe working practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry-related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning

knowledge required for practical application

- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Work health and safety is to be according to commonwealth, state and territory legislation and

- handling of materials
- hazard control
- personal protective clothing and equipment

regulations and may include:

- prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including recognising and preventing hazards associated with:
 - electricity
 - hazardous materials and substances
 - service lines
 - surrounding structures and facilities
 - trip hazards
 - use of tools and equipment
 - work site visitors and the public
 - working at heights
 - working in proximity to others
- use of firefighting equipment
- use of first aid equipment
- workplace environment and safety.

Environmental requirements cover water quality management and may include:

- clean-up protection
- stormwater protection
- waste management.

Roof water collected and stored may be for:

- drinking or non-drinking purposes.

Quality assurance requirements may include:

- environment policy
- Environment Protection Authority (EPA)
- internal company quality assurance policy and risk management strategy
- International Standards Organisation
- site safety plan
- workplace operations and procedures.

Storage tanks may be of:

- any authorised material.

Information may include:

- charts and hand drawings
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos

- organisation work specifications and requirements
- plans and sketches
- regulatory and legislative requirements, particularly those pertaining to:
 - building codes
 - WHS and environmental requirements
 - plumbing regulations
- relevant Australian standards
- safe work procedures relating to determining, preparing and installing collection and storage systems for roof water
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Materials for installing storage tanks are to include:

- water storage tanks, and components of authorised materials that comply with local authorities' requirements, such as:
 - coated steel materials
 - metal guttering
 - PVC
 - sealants
 - tank stand.

Fault reporting:

- may be written or verbal
- is to be according to company's workplace procedures.

Sustainability principles and concepts:

- cover the current and future social, economic and environmental use of resources
- may include:
 - efficient energy use
 - rainwater harvesting
 - efficient use and recycling of material
 - disposing of waste material to ensure minimal environmental impact
 - selecting appropriate components to ensure minimal environmental impact.

- Installation** covers:
- both gravity and pump retrieval systems.
- Statutory and regulatory authorities** include:
- commonwealth, state or territory, and local authorities administering applicable Acts, regulations and codes of practice.
- Tools and equipment** may include:
- hand and power tools
 - ladders
 - levelling equipment
 - lifting and load shifting equipment, including:
 - chain blocks
 - excavation equipment
 - forklifts
 - hand trolleys
 - hoists and jacks
 - rollers
 - measuring equipment.

Unit Sector(s)

Functional area

Unit sector Plumbing and services

Custom Content Section

Not applicable.