



Australian Government

CPCPPS5026 Design rainwater collection, storage, distribution and re-use systems

Release: 1

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Modification History

- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCPPS5026A Design rainwater collection, storage, distribution and re-use systems. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to design systems for the collection, storage, distribution and re-use of rainwater for drinking and non-drinking uses, including irrigation, toilet flushing and other uses approved by relevant authorities for high-rise mixed development buildings and wide span projects, such as a school or industrial complex.

The role involves interaction with architects, builders, suppliers, clients and relevant planning authorities and requires a sound understanding of applicable legislation, standards and codes.

The unit requirements are typically carried out by experienced people such as hydraulic design consultants or design engineers.

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

Pre-requisite Unit

Nil.

Unit Sector

Plumbing and Fire Services

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

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| 1 Evaluate design parameters. | 1.1 Establish scope of work for rainwater harvesting systems for wide span and high-rise building projects. |
| | 1.2 Establish performance requirements considering safety of system users or building occupants. |

- 1.3 Determine design requirements from relevant Australian Standards, codes, plans, specifications and client brief.
 - 1.4 Apply sustainability principles and concepts as part of the design process.
 - 1.5 Analyse potential contamination sources and create design solutions.
 - 1.6 Establish rainfall patterns and required rainwater storage volumes.
 - 1.7 Interpret manufacturer requirements and trade and technical manuals for rainwater harvesting systems.
 - 1.8 Conduct research to outline design parameters.
 - 1.9 Conduct cost-benefit analysis to compare a range of pipe materials and system designs.
- 2 Plan and detail system.
- 2.1 Specify tank type and location.
 - 2.2 Plan layout of pipework systems including type and location of fittings, valves and controls.
 - 2.3 Plan and detail first-flush systems.
 - 2.4 Specify water contamination solutions and filtration systems.
 - 2.5 Calculate pipe size for a range of applications.
 - 2.6 Plan and detail separation of services and backflow prevention devices.
 - 2.7 Specify approved non-contaminating materials and jointing methods for rainwater harvesting and design pipe supports.
 - 2.8 Size and detail pump and ancillary requirements.
 - 2.9 Specify installation requirements.
 - 2.10 Specify water treatment according to state and territory health requirements.
 - 2.11 Specify vermin protection according to manufacturer and state and territory requirements.

- 2.12 Provide allowance for expansion and contraction.
- 3 Design and size systems.
 - 3.1 Design and detail rainwater harvesting systems.
 - 3.2 Design and detail rainwater re-use systems.
 - 3.3 Design and size rainwater harvesting systems using calculations and manufacturer's data sheets.
- 4 Prepare documentation.
 - 4.1 Produce client brief of the preferred design.
 - 4.2 Prepare plans and specifications for a range of rainwater harvesting systems.
 - 4.3 Prepare testing and commissioning schedule.
 - 4.4 Produce operation and maintenance manual.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCPPS5026A Design rainwater collection, storage, distribution and re-use systems.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>