



Australian Government

CPCPCM5012 Design complex stormwater and roof drainage systems

Release: 2

CPCPCM5012 Design complex stormwater and roof drainage systems

Modification History

- Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.
- Changes to Application and Elements and Performance Criteria 4.4.
- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
- Supersedes and is equivalent to CPCPCM5012A Design complex stormwater and roof drainage systems. Updated to meet the Standards for Training Packages 2012.

Application

This unit specifies the skills and knowledge required to design complex stormwater and roof drainage systems for commercial, industrial and residential properties.

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

This unit requirements are typically carried out by experienced people such as hydraulic design consultants or persons in a supervisory capacity in relation to plumbing services.

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

Elements and Performance Criteria

Elements describe the essential outcomes.

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

- | | |
|-------------------|---|
| 1 Identify design | 1.1 Determine design scope from plans, specifications and |
|-------------------|---|

parameters.	client brief.
	1.2 Identify applicable regulatory and legislative requirements for the design of complex stormwater and roof drainage systems. 1.3 Apply sustainability principles and concepts as part of the design process. 1.4 Account for the safety of system users or building occupants. 1.5 Determine and estimate rainfall intensity and volume using measurements of different catchment areas. 1.6 Analyse overland flood path affecting the property and buildings. 1.7 Research and evaluate other information likely to impact the stormwater and roof drainage system design.
2 Plan system components.	2.1 Plan and evaluate strategies for harvesting and re-using rainwater. 2.2 Plan and evaluate methods of collection and disposal of roof surface run-off water. 2.3 Plan and evaluate stormwater detention and retention systems and first-flush stormwater systems. 2.4 Determine and specify the most suitable methods of preventing backflow of sub-soil and stormwater into buildings. 2.5 Plan and evaluate treatment and disposal options for stormwater discharge. 2.6 Plan layout of system components according to design parameters and site limitations and coordinate with other services.
3 Design and size systems.	3.1 Apply regulatory requirements, Australian Standards and codes to all aspects of the stormwater and roof drainage system design. 3.2 Calculate and specify storage volume, pump capacity and

- discharge pipe size required for stormwater pumping systems as necessary.
- 3.3 Design stormwater systems requiring pumping.
 - 3.4 Design, select, size and detail system components using appropriate calculations, software applications and approved materials.
 - 3.5 Specify correct installation, laying and jointing procedures for approved materials and components.
- 4 Prepare documentation.
- 4.1 Prepare client brief of the preferred design.
 - 4.2 Prepare plans and specifications.
 - 4.3 Prepare testing and commissioning schedule.
 - 4.4 Produce operation and maintenance manual, including information on how to properly and safely maintain the system.

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 CPCPCM5012A Design complex stormwater and roof drainage 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>