

Unit of Competency CPCPDR4011

Design and size sanitary drainage systems

Application

This unit specifies the skills and knowledge required to design, size and document the layout of sanitary drainage systems for residential and commercial unit developments.

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

Prerequisite Unit

Nil.

Elements and Performance Criteria

1. Identify system requirements.	<p>1.1 Access, read and determine design requirements from plans, specifications, relevant manufacturer's requirements, Australian standards and jurisdictional requirements.</p> <p>1.2 Identify and apply workplace policies and procedures, work health and safety (WHS) and environmental requirements.</p> <p>1.3 Determine fixtures, quantity, location and legal points of discharge.</p>
2. Design and size system layout.	<p>2.1 Develop and size system layout in accordance with relevant manufacturer's requirements, Australian standards and jurisdictional requirements.</p> <p>2.2 Use the proposed design to identify and specify optimal materials required.</p> <p>2.3 Produce final system layout plans to relevant drawing design standards.</p>

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 CPCPDR4011B Design and size sanitary drainage systems.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPDR4011

Design and size sanitary drainage systems

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- designing, sizing and documenting the layout details of a sanitary drainage system to an approved point of connection for:
 - a residential design that comprises at least eight dwellings (Class 1a), incorporating at least the following in each:
 - bath
 - two showers
 - three WCs
 - three basins
 - floor waste gullies
 - kitchen sink
 - laundry tub
 - clothes washing machine
 - a commercial design that comprises at least one water/oil separator
 - one commercial kitchen connecting to an approved trade waste facility and incorporating at least:
 - one commercial dishwasher
 - one commercial pot wash facility
 - one commercial glasswasher
 - bucket trap floor waste gullies
 - basin
 - a disabled bathroom incorporating a WC and basin
 - three WCs across separate male and female toilet areas
 - four basins across separate male and female toilet areas
 - urinal
- completing design, sizing and documentation to meet regulatory requirements and client specifications.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- processes to apply for trade waste installations

- characteristics and application of different pipe systems, including their fittings
- drawing instruments and sketching techniques, including the use of conventional symbols
- use of computers for documentation
- computer-aided design (CAD) software
- impact of venting on design
- contour, reduced and invert levels
- process of treating trade waste to acceptable levels for discharge
- non-gravitational sewage systems
- properties and characteristics of trade waste applications:
 - grease arrestors
 - acid neutralisers
 - dry basket arrestors
 - oily water separators
- how to access relevant information, including codes and standards
- tools, materials and equipment used to design, size and document the layout of sanitary drainage systems
- work health and safety (WHS) requirements for designing, sizing and documenting the layout of sanitary drainage systems.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

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