



Australian Government

AHCPER515 Design permaculture structures and features

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to develop a design brief for a client, undertake a site analysis, develop a concept design, produce a design plan and prepare schedules, bill of materials and estimates for permaculture structures and features in compliance with building code and regulations.

The unit applies to individuals who apply specialised skills and knowledge, and take personal responsibility and exercise autonomy in undertaking complex work. They analyse and synthesise information, and analyse, design and communicate solutions to sometimes complex problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Permaculture (PER)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Develop a design brief	1.1 Consult client to establish purpose and requirements of design 1.2 Develop design brief with client 1.3 Negotiate cost structures and timelines for design 1.4 Determine client support for use of consultants and sub-contractors

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Document brief and seek approval from client to proceed
2. Undertake a site analysis	2.1 Inspect site where permaculture structure or feature is to be located 2.2 Record the physical elements and features of site 2.3 Analyse and record assessment of soil, topography, aspect, existing vegetation and climatic factors 2.4 Assess and record other relevant information impacting design 2.5 Assess engineering and legislative requirements and constraints on development
3. Develop a concept design	3.1 Prepare concept plan to illustrate location and layout of proposed structure or feature according to brief 3.2 Undertake consultation with client to agree on options and approaches for development 3.3 Present concept plan according to brief and industry standards 3.4 Communicate legislative requirements affecting proposed design
4. Produce a plan and documentation	4.1 Produce detailed plans and drawings according to design brief, engineering principles and legislative requirements 4.2 Provide supporting documentation for design plan 4.3 Develop a schedule of works for construction of designed structure or feature
5. Prepare documentation	5.1 Prepare bill of materials, labour and equipment for scope and extent of works 5.2 Prepare cost estimate covering items in bill of materials 5.3 Communicate planning or building applications procedures to client where legislative requirements have been identified

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Foundation Skills essential to performance are explicit in the performance criteria of this unit of

competency.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPER515 Design permaculture structures and features	AHCPER509 Design permaculture structures and features	Amended Application, reviewed Elements and Performance Criteria, added reference to compliance with legislative requirements for designs Changes to Performance Evidence, Knowledge Evidence and Assessment Conditions for clarity	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPER515 Design permaculture structures and features

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared a design of at least one permaculture structure or feature and has:

- developed a design brief
- undertaken a site analysis
- developed a concept design
- produced a plan for design with supporting documentation
- produced a bill of materials and cost estimates for the design
- ensured design complies with engineering principles and legislative requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- permaculture design process, including:
 - site survey
 - needs analysis
 - bioregional analysis
 - zone and sector analysis
- construction and engineering principles for structures and features, including:
 - basics of forces and loads
 - construction materials, sizing and basic computations
 - basics of soil and foundations to support structures and features
- legislative requirements and responsibilities impacting structural elements, including:
 - application of building codes and standards
 - permits for planning and construction, and the application process

- environmental legislation
- drafting techniques and plan documentation
- cost estimating
- environmental, resource and energy implications of building materials, including:
 - thermal mass
 - insulation
 - embodied and embedded energy
 - cradle to grave planning
 - passive heating and cooling systems
- use of less traditional building materials and techniques, including:
 - earth
 - straw bale
 - pole construction
 - passive solar.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated for a permaculture system project or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - planning and drawing tools and equipment
- specifications:
 - building codes and engineering standards
 - specific legislation and industry codes of practice
- relationships:
 - client.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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