



Australian Government

AHCDES501 Design sustainable landscapes

Release: 1

AHCDES501 Design sustainable landscapes

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to design for improvement of long-term ecological sustainability of landscapes, land under production, land areas in business use, natural resource areas and recreational amenity spaces essential for long-term economic and cultural viability.

It applies to individuals who analyse information and exercise judgement to complete a range of advanced skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems. All work is carried out to comply with workplace procedures.

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

Pre-requisite Unit

Nil.

Unit Sector

Design (DES)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Assess requirements for sustainable land use	1.1 Consult client to establish a brief for the design 1.2 Research and identify legislative and regulatory requirements and document in the improvement plan 1.3 Identify specific requirements for sustainability from the brief, business plan, management plan or policy documentation

Element	Performance criteria
	1.4 Assess the land area for its biophysical factors, biodiversity, historical and cultural attributes, services, site modifications and threats to sustainability 1.5 Identify environmental implications of the planned works and, if necessary, report to relevant personnel for further research and recommendations
2. Prepare an integrated design to improve land use	2.1 Develop a concept plan for improvement that reflects client preferences and requirements and takes into account heritage issues, site factors and any identified environmental requirements 2.2 Present concept plan to the client or land owner for discussion and approval 2.3 Consult other professionals to assist in research and planning of works in areas of specific technical expertise, energy efficiency and use, current and developing technologies and legislative and enterprise requirements 2.4 Consider design of products, materials and finishes that are efficient, low risk and cyclic and confirm availability from a local source 2.5 Evaluate resources, materials, equipment and machinery required for the works for their impact on the sustainable use of the site 2.6 Select plants and soils for their integrated roles for the designed outcomes in the specific site conditions, system of irrigation and environmental parameters 2.7 Review environmental conditions for a functional analysis of the site and the planned design 2.8 Prepare a detailed plan or design 2.9 Present plan or design to the client or land owner for acceptance
3. Plan the implementation into the design	3.1 Outline staged implementation and development with appropriate access for future works 3.2 Incorporate timelines for development, taking into account the needs of the implementation plan and principles of sustainability 3.3 Determine schedules for planting and post-planting care in accordance with the requirements of the plant species, site conditions and any other planning requirements 3.4 Integrate protection of water resources, riparian zones, specified trees and existing vegetation into the design plan 3.5 Review chemical, non-chemical, ameliorant application and waste disposal procedures and processes to select designs of minimal environmental consequence and potential contamination of soils and ground water 3.6 Review implementation outline for integration of approach to land and water management

Element	Performance criteria
4. Audit the implementation for sustainability of use	4.1 Ensure that all work materials, waste and debris from site works have low risk and energy sustainable methods 4.2 Sample and test soil and ground water quality and implement recommendations 4.3 Confirm soil conservation measures and erosion sediment controls 4.4 Verify protection measures for specified trees, protected flora and fauna and areas and objects of cultural significance 4.5 Maintain or improve biodiversity, heritage, cultural and historical attributes, soil and water quality 4.6 Provide client with a report according to the brief or contractual requirements

Foundation Skills

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

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCDES501A Design sustainable landscapes.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCDES501 Design sustainable landscapes

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- assess a land area for sustainable use
- conduct soil and water quality tests
- design for the health and sustainability of soils and plants
- implement sustainable practices
- interpret specifications and plans
- outline an integrated approach to land and water management
- prepare a detailed plan or design, specifications and where appropriate a proposal or quotation for sustainable land improvement
- consult with clients
- protect water resources, riparian zones and vegetation in a development area
- research, interpret and apply appropriate legislation and regulations
- select plants and soils for their integrated functional roles
- use a range of graphic techniques for illustrating landscape design components

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices of designing sustainable landscapes
 - assessment techniques
 - environmental controls and codes of practice applicable to the business and to the improvement works
 - botany, plant physiology, taxonomy and nomenclature
 - identification and selection of soils, growing media, plants, shrubs and trees
 - irrigation practices

- legislation and regulations relating to soil and water degradation issues and construction
- specific legislation and regulations for landscape design and development
- specific requirements for sustainability
- surface hydrology
- sustainable land and water use principles and practices applicable in the region
- types, properties and characteristics of a wide range of soils and growing media
- workplace health and safety legislation and regulations

Assessment Conditions

Assessors must satisfy current standards for RTOs.

Links

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