

# PIL502A Design an integrated permaculture system

This competency standard covers the process of designing an integrated permaculture system.

It requires the ability to develop a design brief, undertake a site analysis, develop a concept design and produce a final design for an integrated permaculture system. The preparation of an integrated permaculture system design requires detailed knowledge of permaculture design principles and processes, and plant and animal relationships

Element		Performance Criteria	
1	Develop a design brief	1.1	Client is consulted to establish the purpose and requirements of design
		1.2	Design brief is developed and agreed with the client
		1.3	Cost structures and timelines are negotiated with the client
2	Undertake a site analysis	2.1	Site where the integrated permaculture system is to be established is inspected
		2.2	<b>Physical elements and features</b> of the site are recorded on a base plan
		2.3	Assessment of soil, topography, aspect, existing vegetation and climatic factors is analysed and recorded on a base plan
		2.4	<b>Other relevant information</b> is assessed and recorded on a base plan
		2.5	Legal requirements and constraints on development are assessed
3	Develop a concept design	3.1	Concept design is prepared to illustrate location and extent of proposed integrated permaculture system according to the design brief
		3.2	Consultation with the client is undertaken to establish agreement on options and approaches for development
		3.3	Consistent graphic style is used to present the

## concept design

4	Produce a final design	4.1	Detailed plan is drafted according to the design brief, concept design and enterprise guidelines
		4.2	Information on the design is relevant and precise and clearly communicates project works to be undertaken
		4.3	<b>Notes and specifications</b> are included on the design to assist in interpretation
		4.4	Permaculture design principles are applied within the integrated permaculture system design
		4.5	Further <b>documentation</b> is organised and/or prepared according to the design brief and enterprise guidelines

## Range of Variables

The Range of Variables explains the contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in training and assessment requirements may depend on the work situations available.

What <b>physical elements and features</b> are likely to be recorded?	Physical elements and features may include earthworks, roadways, footpaths, buildings and other structures, water features, access, overhead/underground services and utilities, existing trees, shrubs and other vegetation.
What <b>other relevant information</b> may need to be identified and analysed?	Other relevant information may include opportunities and constraints on development, historical and cultural factors, laws and regulations impacting on development, site for material storage and compound area, proximity to services and utilities, OHS issues and environmental impacts of proposed permaculture works.
What <b>notes and specifications</b> might be included on a final design to assist interpretation?	Notes and specifications may include the direction of North, the scale, legend of existing structures and features, technical specifications for structural components, client details, who developed the plan, plant species/varieties, maintenance issues and compliance regulations.

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<b>What further documentation may need to be prepared?</b>	Further landscape documentation may include contracts, specifications, quotations and bills of quantities such as contracts unit costs, sub-contractor estimates, quantity calculations, brief specification of materials, contingency items, prime cost items, development and/or consolidation works.
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## Evidence Guide

### What evidence is required to demonstrate competence for this standard as a whole?

Competence in this unit requires evidence that a design brief can be developed, a site analysis can be undertaken, a concept design and final plan for an integrated permaculture system can be produced which meets the standards of the permaculture industry.

The skills and knowledge required to design an integrated permaculture system must be **transferable** to a different climates, landforms and client needs.

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### What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

- Permaculture design principles and processes
- Permaculture practices, implementation techniques and strategies and management issues
- Plant and animal relationships
- Design presentation skills, graphic and report writing
- Calculations of materials, labour, machinery and equipment

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### What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

- Develop a design brief
- Undertake a site analysis
- Develop a concept design
- Produce a final design and report

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### What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are

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covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

How can communication of ideas and information (3) be applied?	Communication of ideas and information may need to be applied when discussing the design brief with the client, and by developing a design, and overlays to show stages of development.
How can information be collected, analysed and organised (3)?	<p>Information may need to be collected, analysed and organised after a site analysis has taken place would be collected through site observation, sampling (soil, water), observation and identification of flora and fauna, client interview.</p> <p>Information would be analysed by creating a map of the property at its present stage, by creating a list of client needs, by prioritising actions to best meet the needs of the client, the landscape and resources available, by matching client needs to appropriate strategies and species.</p> <p>Information would be organised by the use of maps, and map overlays, Gantt charts and timelines, models and graphs.</p>
How are activities planned and organised (3)?	Activities would be planned and organised through written submissions in conjunction with the design team, and around the time frame for the production of a permaculture system design.
How can team work (3) be applied?	Team work may be applied when to preparing the final project design.
How can the use of mathematical ideas and techniques (3) be applied?	Mathematical ideas and techniques may be applied when using drafting techniques.
1. How can problem solving skills (3) be applied?	Problem solving skills may need to be applied if legislation or regulations dictate changes to the project design.
2. How can the use of technology (3) be applied?	The use of technology may be applied in the production of the final design such as applying available energy systems (grid, solar, wind).

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**Are there other competency standards that could be assessed with this one?**

This competency standard can be assessed on its own or in combination with other competencies relevant to the job function.

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For information about assessing this competency standard for consistent performance and where and how it may be assessed, refer to the **Permaculture International Ltd Course Documentation**.

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