PIL506A Design and plan a sustainable settlement

This competency standard covers the process designing and planning a sustainable settlement that is ecologically sustainable, socially responsible, culturally appropriate and economically viable. It requires the ability to evaluate the site for settlement, research and evaluate relevant information, develop a social strategy, develop a concept plan and develop a management plan for settlement. Designing and planning a sustainable settlement requires knowledge of permaculture principles and practices, site assessment, natural resource management principles, social factors of sustainable settlements, sustainable land management practices, property planning processes and approaches and land capability.

Element		Performance Criteria	
1	Evaluate the site for **settlement**	1.1	**Bio-physical characteristics and features** of the site are identified and recorded
		1.2	Land capability is determined and land management options for each land class are identified
		1.3	Existing site infrastructure is recorded and mapped
		1.4	Areas at risk of soil degradation are identified
		1.5	Native vegetation is classified and condition is assessed
		1.6	Endangered species are identified as appropriate
		1.7	Other **natural resource issues** identified as appropriate to the property
		1.8	Suitability of the site in terms of the project strategic plan framework is assessed
		1.9	Base plan of site is prepared and site characteristics are recorded
2.	Research and evaluate other relevant information	2.1	Community consultation is undertaken to identify values, expectations and personal goals of the people involved
		2.2	Current relevant legislative and planning requirements including land tenure options impacting on the settlement are researched
		2.3	Preliminary information from consulting team and experts is obtained including engineering

			reports and wildlife surveys
		2.4	Environmental information about the site is obtained
3.	Develop a **social strategy**	3.1	Steps required to implement strategies are logical and capable of implementation
		3.2	Strategies are clearly formulated and made available to relevant parties for comment, where appropriate
		3.3	Strategies include consultation with all relevant parties
		3.4	Opportunities and constraints to social development are clearly recognised and documented
4.	Develop a **concept plan**	4.1	Concept plan is prepared to illustrate the location and layout of proposed settlement
		4.2	Consultation with existing and potential stakeholders is undertaken to agree on options and approaches for development
		4.3	Consistent graphic style is used to present the concept plan
		4.4	Information on the plan is relevant and clearly communicates development works to be undertaken.
		4.5	Notes and specifications are included on the plan to assist in plan interpretation.
		4.6	Concept plan is evaluated against the strategic plan for the project
5.	Develop a management plan for settlement	5.1	Guidelines and strategies for implementation and ongoing management are outlined
		5.2	Indicators and benchmarks to measure actual performance are specified
		5.3	Strategies to address **natural resource management issues** are established
		5.4	Plans to repair land degradation are developed
		5.5	Plans to address fire risk/fire management are developed as appropriate

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 forms of **settlement** may be relevant to this unit?	Intentional rural land-based communities, ecovillage project, hamlets, village, urban residential development, co-housing, housing cooperative, expanded household, revitalising existing communities and settlements
What **bio-physical characteristics and features** of the site might be assessed?	Catchment context, topography, aspect, slope, ecology and natural resources, water resources, climate, seasonal factors, accessibility, soil condition and stability, drainage, land use potential, exclusion zones, hazard vulnerability, carrying capacity, neighbouring land use compatibility.
What **natural resource issues** may need to be included?	Natural resource issues may relate to stock grazing pressure, feral animals, wildlife, weeds, human impact, cultural practices, contamination, agricultural chemical drift, fire, reintroduction of native animals, legislation, management advice, initiation of heritage agreements and other issues.
What is included under a **social strategy**?	Full life-cycle, diverse housing and social needs, accessibility, safety, security, privacy, personalisation, informal contact, community facilities, recreation, flexible spaces, aesthetics, sense of place, affordability, economic viability, enterprise and employment opportunities, gender factors, cultural factors, education and information, community governance and resource management
What components may be included in a **concept plan?**	Internal zoning, placement of housing, utilities, infrastructure, roads and circulation systems, drainage and stormwater systems, landuse systems, passive and active open space, public landscapes, enterprise and business, social factors.
What **natural resource strategies** may be covered in the management plan?	Strategies to address water supply and water management, vegetation and revegetation management, wildlife management are prepared as appropriate to the settlement

Evidence Guide

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

Competence in this unit requires evidence that designing and planning of a sustainable settlement has been successfully developed according to client and industry requirements and standards. The skills and knowledge required to design and plan a sustainable settlement must be **transferable** to a range of work environments and contexts. For example, this could include different design solutions for a range of commercial or private sites.

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 principles and practices • Site assessment • Natural resource management principles • Social factors of sustainable settlements • Design process • Sustainable land management practices • Property planning processes and approaches. • Land capability. • Water, vegetation, soil, fire and wildlife management strategies. • Legal requirements impacting on settlements • Risk management.
What specific skills are needed to achieve the performance criteria?	To achieve the performance criteria, some complementary skills are required. These skills include the ability to: • Evaluate the site for settlement • Research and evaluate other relevant information • Develop a social strategy • Develop a concept plan • Develop a management plan for settlement

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 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.

1. How can **communication of ideas and information (3)** be applied?	Communication of ideas and information be can applied through the development of concept plans for a settlement
2. How can **information be collected, analysed and organised (3)**?	Information can be collected, analysed and organised in accordance with the planning process
3. How are **activities planned and organised (3)**?	Activities are planned and organised in accordance with planning process
4. How can **team work (2)** be applied?	Team work can be applied during the development of concept and management plans
5. How can the use of **mathematical ideas and techniques (2)** be applied?	The use of mathematical ideas and techniques can be applied when collecting and using primary data about natural resources and land capability
6. How can **problem solving skills (2)** be applied?	Problem solving skills can be applied in solving complexities in the analysis and decision making process.
7. How can the **use of technology (2)** be applied?	The use of technology can be applied by using appropriate data collection and storage technology.

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.

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.**