

Training Package	Conservation and Land Management (RTD02)	HSC Requirements and Advice
Title	Conduct erosion and sediment control activities	
Unit code RTD2202A	This competency standard covers the process of carrying out erosion and sediment control activities in both urban and rural environments. It requires the ability to identify erosion and sediment control structures, carry out routine work in compliance with control measures, undertake work in accordance to legislation and community expectation and project specifications. Conducting erosion and sediment control activities requires knowledge of basic issues related to erosion and sedimentation, role of vegetation, characteristics of soils with an emphasis on erosion prone soils, relevant legislation and local environmental parameters.	HSC Indicative Hours 10

Evidence Guide

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

Competence in conducting erosion and sediment control activities on development sites requires evidence that erosion and sediment control work has been properly completed according to community and agency guidelines and best practice procedures. The skills and knowledge required to conduct erosion and sediment control activities on development sites must be **transferable** to a range of work environments and contexts. For example, this could include different forms of erosion and sediment control, locations and soil types.

What specific knowledge is needed to achieve the performance criteria?	What specific skills are needed to achieve the performance criteria?	Are there other competency standards that could be assessed with this one?	Assessment guide	HSC Requirements and Advice
<p>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 unit are listed below:</p> <ul style="list-style-type: none"> • relevant legislation • cost to the community of erosion and sedimentation • loss of habitat • water quality • loss of production/asset/amenity. • re-occurring maintenance/repair/monitoring • agents/processes of erosion and sedimentation • basic catchments issues • role of vegetation • characteristics of soils with an emphasis on erodible soils. 	<p>To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complimentary skills are required. These include the ability to:</p> <ul style="list-style-type: none"> • identify erosion and sediment control structures/measures/practices • carry out routine work with control measures and structures • undertake activities in accordance with legislation/community expectation and project specifications. 	<p>This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.</p>	<p>For information about assessing this competency standard for consistent performance and where and how it may be assessed, in the Assessment Guidelines for this Training Package.</p>	<p>Key Terms and Concepts</p> <ul style="list-style-type: none"> • breach • NSW Department of Environment and Conservation • environmental management plan • erosion • erosion and sediment control principles and procedures • erosion and sediment control structures • habitat • legislation • minimising disturbance • <i>Protection of the Environment Operations Act 1997</i> (NSW) • recording and reporting • sedimentation • types of soil erosion • work site practices.

Element	Performance Criteria	Range of Variables	HSC Requirements and Advice
<p>1 Align work site practices with erosion and sediment control principles</p>	<p>1.1 Erosion and sedimentation legislation is adhered to at the work site as a part of contract works.</p>	<p>The Range of Variables defines the different contexts, work environments and parameters governing the performance of this competency standard. The variables chosen in training and assessment will need to reflect local industry and regional contexts.</p> <p>What are erosion and sediment control activities?</p> <p>Land shaping including batter stabilisation, banks, channels, and sediment basins, traps, filters and fences. Also includes revegetation.</p> <p>What are erosion and sediment control structures?</p> <p>Grade stabilising structures, outlet protection structures, stormwater detention measures, dust control, and rural roads and tracks.</p> <p>What industry people may be included?</p> <p>Earthmoving machine operators, cartage contractors, timber harvest machine operators, product suppliers, labourers, trade personnel, fuel suppliers, engineers, landholders, landcare groups, fitters, contractor support staff, project supervisors, forest and plantation workers, supervisors, surveyors and foresters.</p>	<p>Learning experiences for the HSC must address:</p> <p>A basic understanding of relevant legislation including:</p> <ul style="list-style-type: none"> • <i>Protection of the Environment Operations Act 1997 (NSW).</i> <p>A basic understanding of the aims of erosion and sediment control activities:</p> <ul style="list-style-type: none"> • minimising disturbance of sites from a range of industrial activities including <ul style="list-style-type: none"> – agriculture – horticulture – construction – roadworks – earthworks – forestry – mining – quarrying – vehicle and machinery use • preventing stormwater run-off from carrying <ul style="list-style-type: none"> – soil particles – sediment – dissolved plant nutrients – organic matter – waste • preventing wind from carrying soil particles in the form of dust. <p>Problems created from sediment entering waterways including:</p> <ul style="list-style-type: none"> • silting up waterways • increasing turbidity in water • reducing water quality • killing aquatic wildlife • blocking drains • loss of soil and nutrients • breach of legislative requirements. <p>Problems created from dust entering the atmosphere:</p> <ul style="list-style-type: none"> • loss of topsoil and nutrients • decrease in air quality • breach of legislative requirements.

Element	Performance Criteria	Range of Variables	HSC Requirements and Advice
			<p>Types of soil erosion including:</p> <ul style="list-style-type: none"> • water <ul style="list-style-type: none"> – gully – rill – sheet • wind <ul style="list-style-type: none"> – saltation – surface.
	<p>1.2 Procedures relating to erosion and sediment control are applied on the work site align with industry standards.</p>		<p>Learning experiences for the HSC must address:</p> <p>Erosion and sediment control procedures including:</p> <ul style="list-style-type: none"> • minimising the amount of soil disturbed <ul style="list-style-type: none"> – minimal disturbance techniques – surface stabilisers <ul style="list-style-type: none"> ▪ mulch ▪ revegetation ▪ soil sealers ▪ geo-textile materials ▪ grade stabilising structures • controlling vehicle access <ul style="list-style-type: none"> – designated traffic areas – road surfacing • diverting clean water away from disturbed areas <ul style="list-style-type: none"> – location of roads to minimise water run-off – location of drains – land shaping • reducing the velocity of water running off the site <ul style="list-style-type: none"> – location and gradient of drains – land shaping – water dispersal – contour banks • trapping sediment in run-off water <ul style="list-style-type: none"> – sediment traps – sediment basins – sediment filters – sediment fences – stormwater detention measures • minimising the erosive potential of flowing water

Element	Performance Criteria	Range of Variables	HSC Requirements and Advice
			<ul style="list-style-type: none"> - grade stabilising structures - outlet protection structures • dust prevention <ul style="list-style-type: none"> - road surfacing - regular watering - vegetation buffers.
2 Implement erosion and sediment control principles in the workplace	2.1 Breaches of erosion and sediment control legislation are noted and reported.		<p>Learning experiences for the HSC must address:</p> <p>Records to note breach activities including:</p> <ul style="list-style-type: none"> • diary notes • letters • photographs • reports. <p>The role of the following bodies in the administration and regulation of erosion and sediment control:</p> <ul style="list-style-type: none"> • NSW Department of Environment and Conservation [incorporating Environment Protection Authority (EPA)] • LandCare • local councils.
	2.2 Industry practices for erosion and sediment control is applied in the work place.		<p>Learning experiences for the HSC must address:</p> <p>Due diligence for employers, managers, directors and occupiers in relation to the environment:</p> <ul style="list-style-type: none"> • taking all reasonable steps to prevent pollution and protect the environment • promoting action to prevent or minimise potential environmental damage • showing that accident prevention matters receive high priority • ensuring that precautionary and control measures are in place and are regularly checked and maintained to minimise the risk of a pollution incident • the role and use of environmental management plans, staff training and supervision, and environmental audit/review processes.

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 3 = perform, administer and design the process

1. How can communication of ideas and information (1) be applied?	By discussing verbally erosion and sediment control activities on development sites with supervisors.
2. How can information be collected, analysed and organised (1) ?	Conducting erosion and sediment control activities on development sites will require basic planning and construction information to be gathered and organised accordingly.
3. How are activities planned and organised (2) ?	Conducting erosion and sediment control activities on development sites requires some planning and organising of construction resources.
4. How can team work (2) be applied?	Conducting erosion and sediment control activities on development sites will require coordination of self and others in a team.
5. How can the use of mathematical ideas and techniques (1) be applied?	Basic mathematical techniques relating to measurement and timing could be applied.
6. How can problem-solving skills (2) be applied?	While conducting erosion and sediment control activities on development sites, technical and organisational problems may arise requiring innovative solutions.
7. How can the use of technology (1) be applied?	Construction technology will be required.