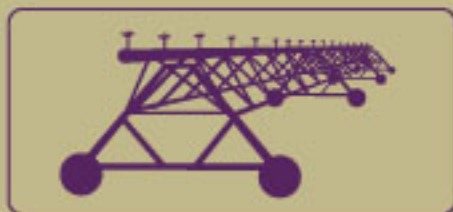**Australian Government**

Department of Education, Science and Training

Agrifood Industry Skills Council

RTE03 Rural Production Training Package

Volume 6 of 8

ISC **INDUSTRY SKILLS COUNCILS**
Creating Australia's Future

RTE03
Rural Production Training Package

The contents of this volume refer only to the Endorsed Components of RTE03 Rural Production Training Package. This volume should not be read in isolation but in the context of the Training Package as a whole.

Volume 6 of 8
Rural Production Volume 6 - RTC Common Units of Competency

Volume 1: Rural Production Introduction, Qualification Packaging, Assessment Guidelines

Volume 2: Rural Production Units of Competency

Volume 3: Rural Production Units of Competency

Volume 4: Rural Production Units of Competency and Units of Competency Imported from RTD02 Conservation and Land Management Training Package and RTF03 Amenity Horticulture Training Package

Volume 5: Units of Competency Imported from other Training Packages

Volume 7a: Rural Production units of competency for additional sectors

Volume 7b: Units of Competency imported from other Training Packages for additional Sectors

Endorsed by the National Training Quality Council 10 April 2003. This Training Package is to be reviewed by April 2006.

RTE03 - Rural Production Training Package

This work is the result of wide consultations with Australian industry participants. It is a collaborative view and does not necessarily represent the view of DEST or any specific body. For the sake of brevity it may omit factors which could be pertinent in particular cases.

TABLE OF CONTENTS

Version Modification History

The version details of this endorsed Training Package are in the table below. The latest information is at the top of the table.

Version	Release Date	Comments
2	21/09/2007	Addition of Volumes VIIa and VIIb, including four new qualifications in commercial composting, new suggested pathways and specialisations in alpaca, beekeeping, deer production, emergency disease and plant pest response, fertiliser and soil ameliorant industry operations, mushroom production, olive production and organic production. Further changes include new units of competency, three replacement units of competency, new versions of endorsed units of competency and additional imported units of competency. New versions of endorsed units have replaced original version units in Volumes I, II and III.
		Assessment Guidelines and Qualifications Framework text updated to conform to new requirements.
		Addition of descriptive material relating to new sectors added to RTE03 (alpaca, beekeeping, deer production, emergency disease and plant pest response, fertiliser and soil ameliorant, mushroom production, olive production and organic production)
		Deletion of matrix of units from (former) Part F.
		Addition of four qualifications in commercial composting (refer Qualifications Framework, Volume I):
		• RTE20807 Certificate II in Commercial Composting • RTE32107 Certificate III in Commercial Composting • RTE40707 Certificate IV in Commercial Composting • RTE50507 Diploma of Commercial Composting.
		New RTE units added to commercial composting qualifications:
		• RTE2315A Operate a compost bagging process • RTE2506A Assess and receive raw materials for composting • RTE2507A Recognise raw materials, production processes and products on a composting site • RTE2608A Set up, operate and maintain a water delivery system • RTE2709A Recognise and respond to fire emergencies on a composting site • RTE3322A Operate compost processing plant, machinery and equipment • RTE3323A Dispatch materials and composted product • RTE3512A Prepare raw materials and compost the feedstocks • RTE3513A Prepare value-added compost-based products • RTE4027A Develop a soil health and plant nutrition program • RTE4519A Develop a composting recipe

Version	Release Date	Comments
		• RTE4520A Plan and schedule compost production • RTE5919A Identify and secure raw materials supply for compost production. Additional imported units from other Training Packages included in the commercial composting qualifications: • PMLSAMP200A Collect routine site samples • TDTB397B Carry out vehicle servicing and maintenance • TDTI297C Apply customer service skills • PRMWM15A Move waste using load shifting equipment • MNQOPS339A Conduct sales loader operations • MNQOPS262A Operate medium vehicles • PMLORG301A Plan and conduct laboratory/field work • PMLTEST300B Perform basic tests • TDTE701A Use communications system • PMLTEST406A Perform physical tests • BSBMKG601A Develop marketing strategies • BSBMKG602A Develop a marketing plan • TDTJ798B Conduct internal quality audits • PRMWM43B Develop an environmental management strategy • BSBHR401A Administer human resource systems Addition of new suggested pathways for specialisations: • RTE20103 Certificate II in Agriculture, pathways added in alpaca and beekeeping • RTE30103 Certificate III in Agriculture, pathways added in alpaca and beekeeping • RTE40103 Certificate IV in Agriculture, pathways added in alpaca, beekeeping, deer production and organic production • RTE50103 Diploma of Agriculture, pathways added in beekeeping, deer production and organic production • RTE20603 Certificate II in Production Horticulture, pathways added in mushroom production and olive production • RTE31603 Certificate III in Production Horticulture, pathways added in mushroom production and olive production • RTE40503 Certificate IV in Production Horticulture, pathways added in mushroom production and olive production • RTE50303 Diploma of Production Horticulture, pathways added in olive production • RTE31903 Certificate III in Rural Operations, pathway added in fertiliser and soil ameliorant operations. Addition of one new qualification with a suggested pathway page: • RTE60307 Advanced Diploma of Production Horticulture specialising in olive production.

Version	Release Date	Comments
		Addition of new units of competency to the suggested pathways and new qualification noted above and to:
		• RTE10103 Certificate I in Rural Operations, unit added:
		RTE1107A Support organic production.
		• RTE20103 Certificate II in Agriculture, units added:
		RTE2031A Handle and move mushroom boxes
		RTE2032A Water mushroom crops
		RTE2152A Shear alpacas
		RTE2153A Carry out alpaca handling and husbandry operations
		RTE2154A Support alpaca shearing operations
		RTE2155A Undertake basic skirting of alpaca fleece
		RTE2156A Support beekeeping work
		RTE2157A Open and reassemble a beehive
		RTE2217A Construct and repair beehives
		RTE2305A Use a bee smoker
		RTE2505A Perform mushroom substrate process tasks
		RTE2708A Work effectively in the mushroom industry.
		• RTE30103 Certificate III in Agriculture, units added:
		RTE3150A Class alpaca fleece
		RTE3151A Mate and monitor reproduction of alpacas
		RTE3152A Plan and prepare for alpaca shearing
		RTE3153A Manage honey bee swarms
		RTE3154A Requeen a honey bee colony
		RTE3155A Manipulate honey bee brood
		RTE3156A Rear queen bees
		RTE3319A Ground spread fertiliser and soil ameliorant
		RTE3320A Remove a honey crop from a hive
		RTE3321A Extract honey
		RTE3407A Identify and report unusual disease or plant pest signs
		RTE3408A Carry out emergency disease or plant pest control procedures at an infected premises
		RTE3409A Carry out movement and security procedures
		RTE3410A Work effectively in an emergency disease or plant pest response

Version	Release Date	Comments
		RTE3415A Manage pests and disease within a honey bee colony
		RTE3511A Supervise mushroom substrate preparation
		RTE3818A Develop and apply fertiliser and soil ameliorant product knowledge.
		• RTE40103 Certificate IV in Agriculture, units added:
		RTE4013A Manage mushroom crop development
		RTE4029A Assess olive oil for style and quality
		RTE4113A Handle, store and grade deer velvet
		RTE4121A Select and establish an apiary site
		RTE4122A Produce and harvest royal jelly
		RTE4126A Oversee alpaca farm activities
		RTE4128A Provide bee pollination services
		RTE4130A Trap and store pollen
		RTE4131A Collect and store propolis
		RTE4132A Perform queen bee artificial insemination
		RTE4133A Manage organic livestock production
		RTE4408A Supervise activities on infected premises
		RTE4409A Carry out field surveillance for a specific emergency disease or plant pest
		RTE4515A Manage mushroom substrate preparation
		RTE4516A Control Phase II mushroom substrate process
		RTE4517A Manage organic soil improvement
		RTE4518A Manage biodynamic production
		RTE4814A Provide information and referrals on environmentally responsible fertiliser and soil ameliorant use
		RTE4920A Develop harvesting and processing specifications to produce an olive oil.
		• RTE50103 Diploma of Agriculture, units added:
		RTE5105A Comply with deer industry national velvet accreditation requirements
		RTE5108A Harvest deer velvet
		RTE5406A Manage the implementation of an emergency disease or plant pest control program
		RTE5407A Manage active operational emergency disease or plant pest sites
		RTE5526A Develop an organic management plan

Version	Release Date	Comments
		RTE5527A Conduct environment and food safety risk assessment of plant nutrition and soil fertility programs
		RTE5923A Prepare the enterprise for organic certification
		RTE5924A Research and apply rural industry knowledge.
		• RTE60103 Advanced Diploma of Agriculture, units added:
		RTE6401A Plan and oversee an emergency disease or plant pest control program
		RTE6402A Develop a plant pest survey strategy
		RTE6403A Develop a plant pest destruction strategy.
		Updated units of competency included in qualifications and suggested pathways for specialisations:
		• RTE2113B Monitor livestock to parturition • RTE2124B Carry out birthing duties • RTE2128B Provide feed for livestock • RTE2131B Care for health and welfare of livestock • RTE2503B Observe and report on weather • RTE2707B Follow site quarantine procedures • RTE2902B Collect and record production data • RTE3115B Implement livestock husbandry practices • RTE3121B Prepare animals for parturition • RTE3124B Rear newborn and young livestock • RTE3133B Prepare livestock for competition • RTE3138B Determine wool characteristics • RTE3504B Collect samples for a rural production or horticulture monitoring program.
		Units deleted from qualifications and suggested pathways for specialisations and replaced with new units:
		• RTF4004A Develop a plant nutrition program deleted and replaced with RTE4027A Develop a soil health and plant nutrition program • RTE2003A Carry out postharvest operations deleted and replaced with RTE2033A Carry out post-harvest operations • RTE4012A Supervise horticultural crop harvesting deleted and replaced with RTE4028A Implement and monitor a horticultural crop harvesting program.
		Additional units of competency imported from other Training Packages to the suggested pathways and new qualification noted above:
		• BSBCMN304A Contribute to personal skill development and learning • BSBCMN305A Organise workplace information • BSBFLM404A Lead work teams • BSBFLM507A Manage quality customer service • BSBFLM511A Develop a workplace learning environment

Version	Release Date	Comments
		- BSBHR401A Administer human resource system - BSBMKG601A Develop marketing strategies - BSBMKG602A Develop a marketing plan - FDFCORFSY2A Implement the food safety program and procedures - FDFCORQAS2A Implement quality systems and procedures - FDFCORQFS3A Monitor the implementation of quality and food safety programs - FDFHYCH2A Operate a creamed honey manufacture process - FDFOPTHCP3A Participate in a HACCP team - FDFOPTISP2A Implement sampling procedures - FDFZCSCS2A Clean and sanitize equipment - FDFZCSCIP2A Clean equipment in place - FDFZPKPP2A Operate a packaging process - FPIFGM139A Operate a 4X4 vehicle in off-road conditions - FPICOT3231A Operate steam boiler - MNMOLH305A Conduct front end loader operations - MNQOPS339A Conduct sales loader operations - MNQOPS262A Operate medium vehicles - PMLSAMP200A Collect routine site samples - PMLSAMP400B Obtain representative samples in accordance with sampling plan - PMLTEST300B Perform basic tests - PMLTEST406APerform physical tests - PRMPFES03B Safely move materials and loads in the workplace - PRMWM04B Develop waste management strategies PRMWM07B Implement waste management plan PRMWM15A Move waste using load shifting equipment PRMWM43B Develop an environmental management strategy PRMWM45B Develop site safety plan PRSSO323A Lead small teams PSPGOV307B Organise workplace information PSPGOV417A Identify and treat risks PSPPA601A Manage public affairs PSPPM405A Administer simple projects PUACOM001B Communicate in the workplace PUADEFRM205A Manage emergency operations PUAOPE001A Supervise response PUAOPE005A Manage a multi-team emergency response PUAOPE006A Control multi-agency emergency situations PUAOPE007A Command emergency personnel within a

Version	Release Date	Comments
		multi-agency emergency response
		PUAOPE008A Coordinate resources within a multi-agency emergency response
		PUAPOL017A Plan and develop strategies to support organisational policy
		PUAWER001A Identify, prevent and report potential workplace emergency situations
		RTF2001A Apply a range of treatments to trees
		RTF2017A Prune shrubs and small trees
		RTF3017A Implement a tree pruning program
		RTF4514A Develop soil survey maps
		RUV3501A Provide advice on companion animal selection and general care
		TDTB397B Carry out vehicle servicing and maintenance
		TDTD497B Load and unload goods/cargo
		TDTD1497B Load and unload vehicles carrying special loads
		TDTE701A Use communication systems
		TDTF1397B Coordinate breakdown and emergencies
		TDTI297C Apply customer service skills
		TDTJ798B Conduct internal quality audits.
1	April 2003	First release

Forms control: All endorsed training packages will have a version number displayed on the imprint page of every volume constituting that training package. Every training package will display an up-to-date copy of this modification history form, to be placed immediately after the contents page of the first volume of the training package. Comments on changes will only show sufficient detail to enable a user to identify the nature and location of the change. Changes to training packages will generally be batched at quarterly intervals. This modification history form will be included within any displayed sample of that training package and will constitute all detail available to identify changes.

Qualifications Framework

The Australian Qualifications Framework

What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF see the *AQF Implementation Handbook, 3rd Edition 2002*. You can download it from the Australian Qualifications Advisory Board (AQFAB) website (www.aqf.edu.au) or obtain a hard copy by contacting AQFAB on phone 03 9639 1606 or by emailing AQFAB on aqfab@curriculum.edu.au

The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

Qualifications

Training Packages can incorporate the following eight AQF qualifications.

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the Australian Quality Training Framework *Standards for Registered Training Organisations*, particularly Standard 10.

Statement of Attainment

Where an AQF qualification is partially achieved through the achievement of one or more endorsed units of competency, an RTO may issue a Statement of Attainment. Issuance of Statements of Attainment must comply with the advice provided in the *AQF Implementation Handbook* and the Australian Quality Training Framework *Standards for Registered Training Organisations*, particularly Standard 10.

Under the *Standards for Registered Training Organisations*, RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

The *AQF Implementation Handbook* provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

Certificate I

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities most of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate knowledge by recall in a narrow range of areas;
- demonstrate basic practical skills, such as the use of relevant tools;
- perform a sequence of routine tasks given clear direction
- receive and pass on messages/information.

Certificate II

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.

Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.

Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;
- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning.

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the section of equipment, services or contingency measures

and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including group or team co-ordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others.

Certificate IV

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and co-ordination.

The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.

Applications involve participation in development of strategic initiatives as well as personal

responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team co-ordination may be involved.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes.

Advanced Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of new criteria or applications or knowledge or procedures.

The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.

Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters.

Vocational Graduate Certificate

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.

- Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and highly specialised contexts.
- Applications involve making significant, high-level, independent judgements in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad ranging accountability for the structure, management and output of the work or functions of others.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major broad or technical and management functions in highly varied and highly specialised contexts.
- Generate and evaluate ideas through the analysis of information and concepts at an abstract level.
- Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills in complex contexts.
- Demonstrate responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

Vocational Graduate Diploma

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.
- Further specialisation within a systematic and coherent body of knowledge.
- Applications involve making high-level, fully independent, complex judgements in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.
- Generate and evaluate complex ideas through the analysis of information and concepts at an abstract level.
- Demonstrate an expert command of wide-ranging, highly specialised, technical, creative or conceptual skills in complex and highly specialised or varied contexts.
- Demonstrate full responsibility and accountability for personal outputs.
- Demonstrate full responsibility and accountability for all aspects of the work or functions of others, including planning, budgeting and strategy.

Qualification pathways

RTE03 Rural Production Training Package is the framework for VET for those engaged in the agriculture and production horticulture industries. The Training Package supports a wide range of learning pathways. These include institution-based programs, workplace and school-based training, as well as other flexible combinations of workplace and off-the-job training and assessment.

Qualifications within RTE03 Rural Production Training Package can be achieved through a variety of pathways including new apprenticeships (traineeships).

The training pathways for qualifications contained within RTE03 Rural Production Training Package are illustrated below. For further advice about pathways and qualifications contact the Agri-food Industry Skills Council on telephone 02 6163 7200 or email reception@agrifoodskills.net.au.
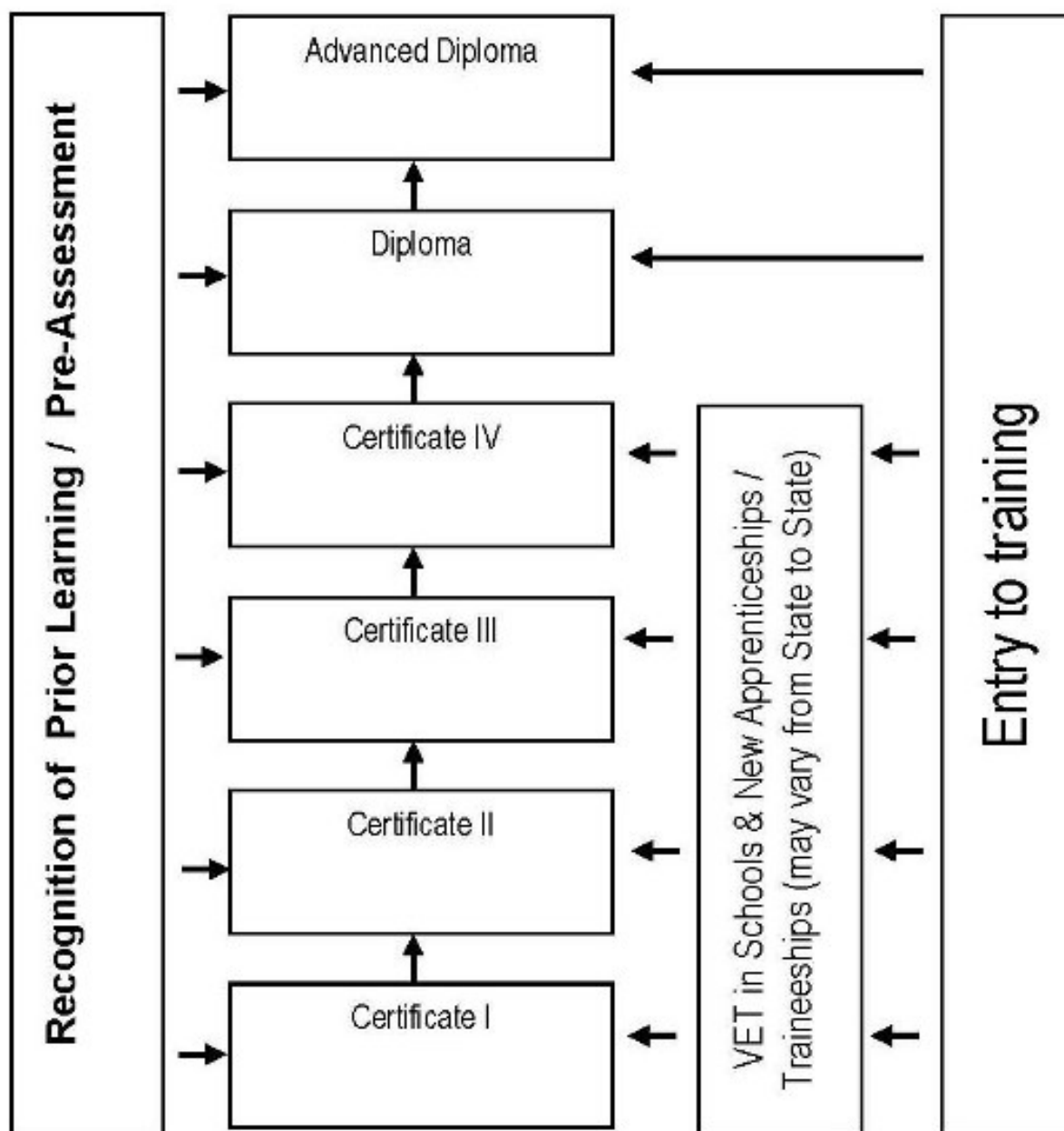
Training pathways for Rural Production

RTE03 Rural Production Training Package qualifications and pathways for specialisation

RTE03 Rural Production Training Package contains qualifications and suggested pathways comprising groups of units from which choices can be made according to the specialisations being undertaken. The following is a full list of qualifications and specialisations.

RTE10103 Certificate I in Rural Operations

RTE20703 Certificate II in Rural Operations

RTE31903 Certificate III in Rural Operations - includes a suggested pathway for specialisation in fertiliser and soil ameliorant industry operations

RTE20103 Certificate II in Agriculture - includes suggested pathways for specialisation in:

- alpaca
- beef production
- beekeeping
- cotton production
- dairy production
- goat production
- grain production
- horse breeding
- milk harvesting
- pig production
- poultry production
- sheep and wool production
- sugar production

RTE30103 Certificate III in Agriculture - includes suggested pathways for specialisation in:

- alpaca
- beekeeping

RTE30203 Certificate III in Agriculture (Beef Production)

RTE30303 Certificate III in Agriculture (Cotton Production)

RTE30403 Certificate III in Agriculture (Dairy Production)

RTE30503 Certificate III in Agriculture (Goat Production)

RTE30603 Certificate III in Agriculture (Grain Production)

RTE30703 Certificate III in Agriculture (Horse Breeding)

RTE30803 Certificate III in Agriculture (Milk Harvesting)

RTE30903 Certificate III in Agriculture (Pig Production)

RTE31003 Certificate III in Agriculture (Poultry Production)

RTE31103 Certificate III in Agriculture (Sheep and Wool Production)

RTE31203 Certificate III in Agriculture (Sugar Production)

RTE40103 Certificate IV in Agriculture - includes suggested pathways for specialisation in:

- alpaca
- beef production
- beekeeping
- cotton production
- dairy production
- deer production
- goat production
- grain production
- horse breeding
- milk harvesting
- organic production
- pig production
- poultry production
- sheep and wool production
- sugar production

RTE50103 Diploma of Agriculture - includes suggested pathways for specialisation in:

- beef production
- beekeeping
- cotton production
- dairy production
- deer production
- goat production
- grain production
- horse breeding
- organic production
- pig production
- poultry production
- sheep and wool production
- sugar production

RTE60103 Advanced Diploma of Agriculture

RTE20807 Certificate II in Commercial Composting

RTE32107 Certificate III in Commercial Composting

RTE40707 Certificate IV in Commercial Composting

RTE50507 Diploma of Commercial Composting

RTE20203 Certificate II in Irrigation

RTE31303 Certificate III in Irrigation

RTE40203 Certificate IV in Irrigation

RTE50203 Diploma of Irrigation

RTE20303 Certificate II in Wool Handling

RTE31403 Certificate III in Wool Clip Preparation

RTE32003 Certificate III in Advanced Wool Handling

RTE40303 Certificate IV in Wool Classing

RTE20403 Certificate II in Shearing

RTE31503 Certificate III in Shearing

RTE40403 Certificate IV in Shearing

RTE20503 Certificate II in Crutching

RTE20603 Certificate II in Production Horticulture - includes suggested pathways for specialisations in:

- mushroom production
- olive production

RTE31603 Certificate III in Production Horticulture - includes suggested pathways for specialisations in:

- mushroom production
- olive production

RTE40503 Certificate IV in Production Horticulture - includes suggested pathways for specialisations in:

- mushroom production

- olive production

RTE50303 Diploma of Production Horticulture - includes suggested pathways for specialisation in:

- olive production

RTE60307 Advanced Diploma of Production Horticulture with pathway for specialisation in olive production

RTE31703 Certificate III in Rural Business

RTE31803 Certificate III in Rural Merchandising

RTE40603 Certificate IV in Rural Business

RTE50403 Diploma of Rural Business Management

RTE60203 Advanced Diploma of Rural Business Management

Accommodating the streams within each of these qualifications (Certificate I through to Advanced Diploma) has been achieved by developing three lists of units of competency in each stream:

- **Group A list** - These are the key technical work functions that have been designated for each sector specialisation. Units of competency that are compulsory for each qualification are shown in italics in this group.
- **Group B list** - These are the more generic work functions across a number of industry sectors.
- **Group C list** - These include units of competency from RTE03 Rural Production Training Package not listed in Group A or B at that level, and relevant units of competency from other Training Packages.

A qualification for each occupational stream is achieved by selecting units of competency from each of the above lists.

Units of competency imported from other Training Packages are known as cross-industry units of competency, and the rules attached to these units of competency from their originating Training Package must be adhered to when they are incorporated into training programs or assessments.

Common units

A group of units has been developed to describe competency in areas that are common across the Conservation and Land Management, Rural Production and Amenity Horticulture Training Packages. For convenience, these units are referred to as common units and are coded RTC, to distinguish them from units addressing competency relevant to some but not all industries, such as the RTD units that describe competency in the Conservation and Land Management industry. The common units are presented in one stand-alone volume.

Issuing qualifications

Under the agreed arrangements of the Australian Quality Training Framework (AQTF), only registered training organisations (RTOs) can issue qualifications and do so according to the AQTF Standards.

When a qualification is issued by an RTO, there will be an option to include the sector specialisation or occupational stream on the academic transcript, Statement of Attainment and the qualification parchment issued by the RTO.

Rules (Rural Production)

There is *generally one rule that can be found detailed in each qualification, for example:

For a Certificate II in Agriculture specialising in Pig Production, at least thirteen of the units of competency presented for this qualification must relate to pig production work procedures, activities or contexts.

This is designed to ensure that some eighty per cent of units of competency submitted for a qualification relate to the specialisation (pig production in the above example) and the integrity of the qualification is maintained.

* As a result of feedback from industry, this rule excludes the following eight qualifications:

RTE20303 Certificate II in Wool Handling

RTE31403 Certificate III in Wool Clip Preparation

RTE32003 Certificate III in Advanced Wool Handling

RTE40303 Certificate IV in Wool Classing

RTE20403 Certificate II in Shearing

RTE31503 Certificate III in Shearing

RTE40403 Certificate IV in Shearing

RTE20503 Certificate II in Crutching.

Context of assessment for competency standards

Due to the large number of generic units of competency in this Training Package, including imported units and those that are common with the Conservation and Land Management and Amenity Horticulture Training Packages, there may be a need to indicate the context in which the units of competency have been assessed.

As an example, consider *RTE2030A Assist agricultural crop harvesting.* This unit may refer to harvesting a crop in the cotton, grains or sugar cane sectors. Where the unit is related to the sugar cane sector, the registered training organisation may make a notation in the Competency Record Book to indicate the context in which the unit was achieved.

In this example, the context of assessment for sugar cane would include:

- assisting with field work
- monitoring cane production
- maintaining and operating equipment such as tractors
- cane harvesting
- cane haulage.

Statements of Attainment

Individuals who are assessed against one or a number of the units of competency set out within a qualification are entitled to receive a Statement of Attainment that recognises partial achievement of a full qualification.

For example, a student may have completed the following units of competency contained within the Certificate II in Agriculture:

RTE2129A Move and handle pigs

RTE2111A Identify and mark animals

RTE2133A Artificially inseminate pigs

RTE2143A Mate pigs and monitor dry sow performance

In this case, the student's Statement of Attainment could note:

In partial completion of the following qualification:

Certificate II in Agriculture

specialising in Pig Production

Skill Sets

Definition

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.

Wording on Statements of Attainment

Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.

Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording 'these competencies meet [the relevant skill set title or industry need is included]' on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package.

All Statements of Attainment must include the wording 'A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from a nationally recognised qualification'. The following may also be used 'these competencies form part of the [the relevant qualification(s) code and title are inserted]'.

This section below provides information on skill sets within this Training Package, with the following important disclaimer: **Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.**

Skill Sets in this Training Package

Where this section is blank, nationally recognised skill sets have yet to be identified in this industry.

Assessment Guidelines

Introduction

These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the Australian Quality Training Framework (AQTF) *Standards for Registered Training Organisations*. Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF requirements; licensing/registration requirements; and assessment pathways.

Benchmarks for Assessment

Assessment within the National Training Framework is the process of collecting evidence and making judgements about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

In the areas of work covered by this Training Package, the endorsed units of competency are the benchmarks for assessment. As such, they provide the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

Australian Quality Training Framework Assessment Requirements

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the *Standards for Registered Training Organisations.*

The *Standards for Registered Training Organisations* can be downloaded from the DEST website at *www.dest.gov.au* or can be obtained in hard copy from DEST. The following points summarise the assessment requirements under the AQTF.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering/Course Accrediting Body in accordance with the *Standards for Registered Training Organisations*. The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration. See Section 1 of the *Standards for Registered Training Organisations*.

Quality Training and Assessment

Each RTO must have systems in place to plan for and provide quality training and assessment across all its operations. See Standard 1 of the *Standards for Registered Training Organisations*.

Assessor Competency Requirements

Each person involved in training, assessment or client service must be competent for the functions they perform. See Standard 7 of the *Standards for Registered Training Organisations* for assessor competency requirements. Standard 7 also specifies the competencies that must be held by trainers.

Assessment Requirements

The RTOs assessments must meet the requirements of the endorsed components of Training Packages within its scope of registration. See Standard 8 of the *Standards for Registered Training Organisations*.

Assessment Strategies

Each RTO must identify, negotiate, plan and implement appropriate learning and assessment strategies to meet the needs of each of its clients. See Standard 9 of the *Standards for Registered Training Organisations*.

Mutual Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See Standard 5 of the *Standards for Registered Training Organisations*.

Access and Equity and Client Services

Each RTO must apply access and equity principles, provide timely and appropriate information, advice and support services that assist clients to identify and achieve desired outcomes. This may include reasonable adjustment in assessment. See Standard 6 of the *Standards for Registered Training Organisations*.

Partnership Arrangements

RTOs must have, and comply with, written agreements with each organisation providing training and/or assessment on its behalf. See Standard 1.6 of *Standards for Registered Training Organisations*.

Recording Assessment Outcomes

Each RTO must have effective administration and records management procedures in place, and must record AQF qualifications and Statements of Attainment issued. See Standards 4 and 10.2 of the *Standards for Registered Training*.

Issuing AQF Qualifications and Statement of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the *AQF Implementation Handbook* and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued where the individual is assessed as competent against fewer units of competency than required for an AQF qualification. See Standard 10 and Section 2 of the *Standards for Registered Training Organisations*.

This section provides information on licensing/registration requirements for this Training Package, with the following important disclaimer.

Licensing and registration requirements that apply to specific industries, and vocational education and training, vary between each State and Territory, and can regularly change. The developers of this Training Package, and DEST, consider that the licensing/registration requirements described in this section apply to RTOs, assessors or candidates with respect to this Training Package. While reasonable care has been taken in its preparation, the developers of this Training Package and DEST cannot guarantee that the list is definitive or accurate at the time of reading; the information in this section is provided in good faith on that basis.

Contact the relevant state or territory department(s) to check if the licensing/registration requirements described below still apply, and to check if there are any others with which you must comply. For further information contact *www.agrifoodskills.net.au*.

Requirements for assessors

Some individual units of competency may be subject to licensing arrangements before training is commenced or before undertaking related work in the industry. Other units may require licences for those responsible for delivery and assessment. Competency standards where licensing arrangements may be relevant include those dealing with:

- operating vehicles, machinery and equipment such as chainsaws, motor vehicles, tractors, forklifts and earthmoving machinery
- driving or transporting machinery and equipment on public roads
- firearms
- chemical purchase and use
- access to and activities on private or protected lands
- management activities related to particular animal and plant species
- waste water
- soil disturbance and conservation
- irrigation
- water allocations
- underground water
- landscape construction
- natural bush clearing.

Requirements for RTOs

Selected units of competency and qualifications in this Training Package provide the basis for a range of statutory licensing and industry registration arrangements. To satisfy these licensing and registration arrangements, RTOs must meet those additional requirements.

Requirements for candidates

Individuals being assessed under statutory licensing and industry registration systems must comply with training and experience requirements additional to the minimum requirements identified in this Training Package.

Pathways

The competencies in this Training Package may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, an assessment-only or recognition pathway, or a combination of the two as illustrated in the following diagram.
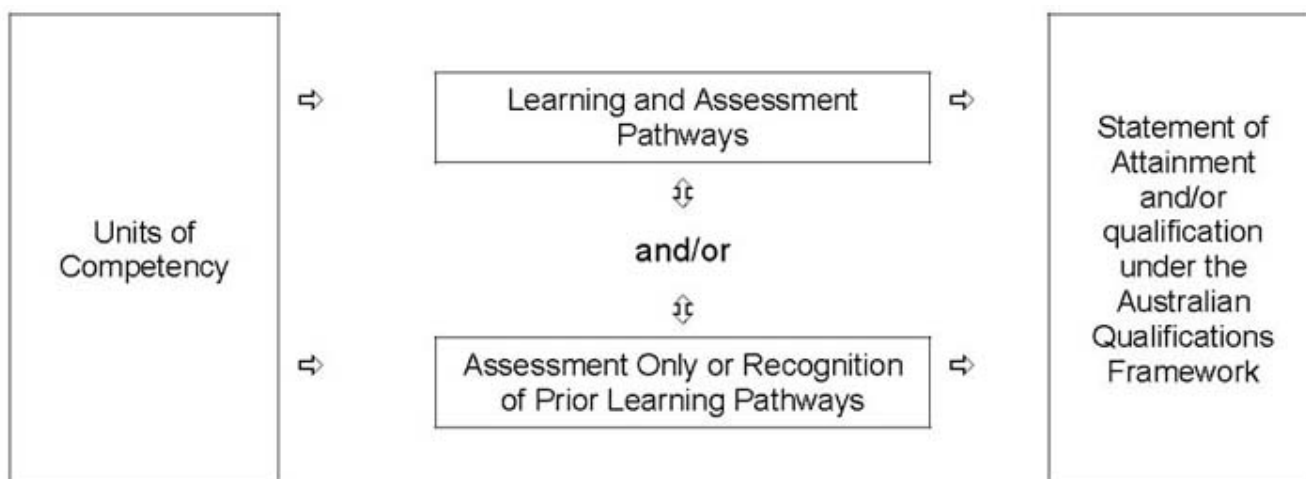
Each of these assessment pathways leads to full recognition of competencies held - the critical issue is that the candidate is competent, not how the competency was acquired.

Assessment, by any pathway, must comply with the assessment requirements set out in the *Standards for Registered Training Organisations*.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with assessment evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.

Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit New Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

Assessment-Only or Recognition of Prior Learning Pathway

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were achieved.

In an assessment-only or Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor, such as in the compilation of portfolios; or directed by the assessor, such as through observation of workplace performance and skills application, and oral and/or written assessment. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of Standard 8.2 of the *Standards for Registered Training Organisations* must be met.

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, and work samples. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

- authentic (the candidate's own work)
- valid (directly related to the current version of the relevant endorsed unit of competency)
- reliable (shows that the candidate consistently meets the endorsed unit of competency)
- current (reflects the candidate's current capacity to perform the aspect of the work covered by the endorsed unit of competency), and
- sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

The assessment only or recognition of prior learning pathway is likely to be most appropriate in the following scenarios:

- candidates enrolling in qualifications who want recognition for prior learning or current competencies
- existing workers
- individuals with overseas qualifications
- recent migrants with established work histories
- people returning to the workplace, and
- people with disabilities or injuries requiring a change in career.

Combination of Pathways

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

Assessor Requirements

This section identifies the mandatory competencies for assessors, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

Assessor Competencies

The *Standards for Registered Training Organisations* specify mandatory competency requirements for assessors. For information, Standard 7.3 from the *Standards for Registered Training Organisations* follows:

7.3	a	The RTO must ensure that assessments are conducted by a person who has:
		- the following competencies* from the Training Package for Assessment and Workplace Training, or demonstrated equivalent competencies: - TAAASS401A Plan and organise assessment; - TAAASS402A Assess competence; - TAAASS404A Participate in assessment validation; - relevant vocational competencies, at least to the level being assessed.
	b	However, if a person does not have all of the competencies in Standards 7.3 **a** (i) and the vocational competencies as defined in 7.3 **a**(ii), one person with the competencies listed in Standard 7.3 **a**(i), and one or more persons who have the competencies listed in Standard 7.3 **a** (ii) may work together to conduct assessments.

		* A person who holds the competencies BSZ401A Plan assessment, BSZ402A Conduct assessment, and BSZ403A Review assessment from the Training Package for Assessment and Workplace Training will be accepted for the purposes of this standard. A person who has demonstrated equivalent competencies to BSZ401A and BSZ402A and BSZ403A in the period up to 12 months following publication of the Training and Assessment Training Package will also be accepted for the purposes of this standard.

Designing Assessment Tools

This section provides an overview on the use and development of assessment tools.

Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these are benchmarked, or mapped, against the current version of the relevant unit of competency. This can be done by checking that the materials are listed on the National Training Information Service (http://www.ntis.gov.au). Materials on the list have been noted by the National Quality Council as meeting their quality criteria for Training Package support materials.

Developing Assessment Tools

When developing assessment tools, assessors must ensure that they:

- are benchmarked against the relevant unit or units of competency
- are reviewed as part of the validation of assessment strategies as required under 9.2 (i) of the *Standards for Registered Training Organisations*
- meet the assessment requirements expressed in the *Standards for Registered Training Organisations*, particularly Standards 8 and 9.

A key reference for assessors developing assessment tools is TAA04 Training and Assessment Training Package and the unit of competency TAAASS403A *Develop assessment tools*. There is no set format or process for the design, production or development of assessment materials.

Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

Mandatory Assessment Requirements

Assessments must meet the criteria set out in Standard 8 from the *Standards for Registered Training Organisations*. For information, Standard 8 from the *Standards for Registered Training Organisations* is reproduced below.

8		**RTO Assessments**

		The RTOs assessments meet the requirements of the endorsed components of Training Packages and the outcomes specified in accredited courses within the scope of its registration.
8.1		The RTO must ensure that assessments (including RPL):
	i.	comply with the assessment guidelines included in the applicable nationally endorsed Training Packages or the assessment requirements specified in accredited courses;
	ii.	lead to the issuing of a statement of attainment or qualification under the AQF when a person is assessed as competent against nationally endorsed unit(s) of competency in the applicable Training Package or modules specified in the applicable accredited course;
	iii.	are valid, reliable, fair and flexible;
	iv.	provide for applicants to be informed of the context and purpose of the assessment and the assessment process;
	v.	where relevant, focus on the application of knowledge and skill to standard of performance required in the workplace and cover all aspects workplace performance, including task skills, task management skills, contingency management skills and job role environment skills;
	vi.	involve the evaluation of sufficient evidence to enable judgements to be made about whether competency has been attained;
	vii.	provide for feedback to the applicant about the outcomes of the assessment process and guidance on future options in relation to those outcomes;
	viii.	are equitable for all persons, taking account of individual needs relevant to the assessment; and
	ix.	provide for reassessment on appeal.
8.2	a	The RTO must ensure that RPL is offered to all applicants on enrolment
	b	The RTO must have an RPL process that:
		i. is structured to minimise the time and cost to applicants; and
		ii. provides adequate information, support and opportunities for participants to engage in the RPL process.

Delivery and assessment of Employability Skills

Employability Skills are integral to workplace competency and, as such, must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.
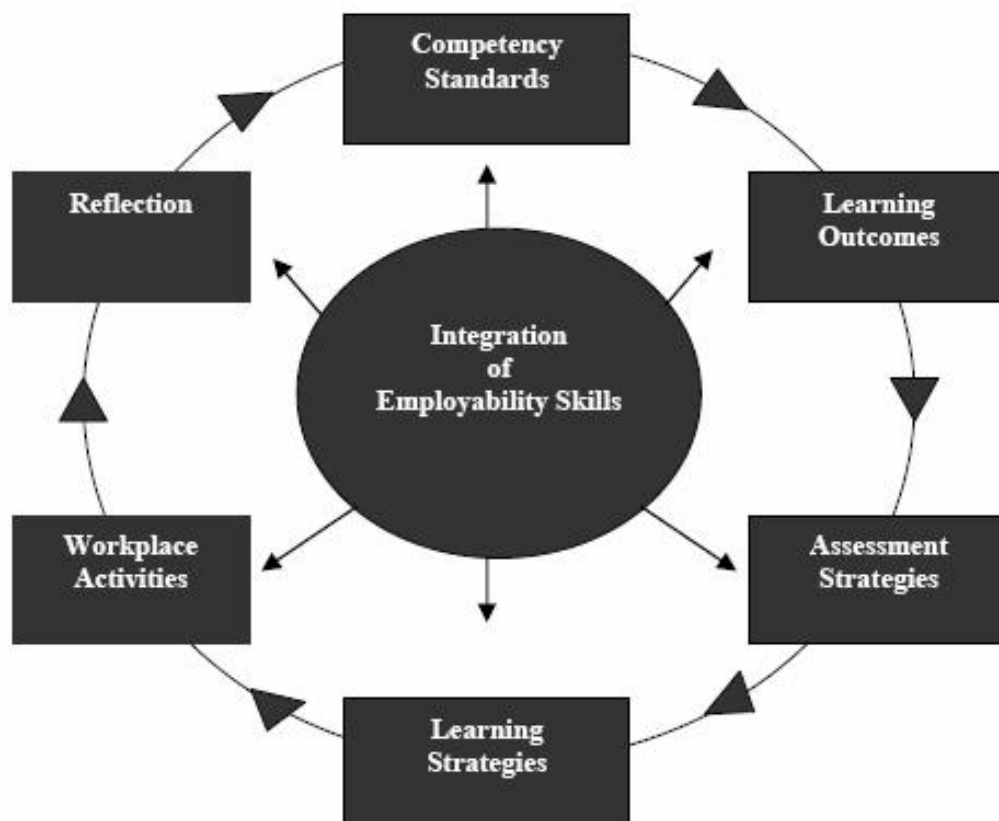
Training providers must analyse the Employability Skills information contained in units of competency in order to design valid and reliable learning and assessment strategies. This analysis includes:

- reviewing unit(s) of competency to determine how each relevant Employability Skill is found and applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit(s) is/are packaged to help clarify relevant industry/workplace contexts with regard to the application of Employability Skills at that qualification level
- designing learning and assessment activities that address the Employability Skills requirements.

For more information on Employability Skills in Agri-Food Industry Skills Council Training Packages go to the Agri-Food Industry Skills Council website at http://www.agrifoodskills.net.au.

Access and Equity

An individuals access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package.

Reasonable adjustments can be made to ensure equity in assessment for people with disabilities. Adjustments include any changes to the assessment process or context that meet the individual needs of the person with a disability, but do not change competency outcomes. Such adjustments are considered reasonable if they do not impose an unjustifiable hardship on a training provider or employer. When assessing people with disabilities, assessors are encouraged to apply good practice assessment methods with sensitivity and flexibility.

Further Sources of Information

The section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package.

Contacts

Contacts

Agri-food Industry Skills Council

7 National Circuit

BARTON ACT 2600

PO Box 5450

KINGSTON ACT 2604

Telephone: (02) 6163 7200

Fax: (02) 6163 7278

Web: *www.agrifoodskills.net.au*

Email: **info@agrifoodskills.net.au**

TVET Australia Ltd

Level 21, 390 St Kilda Road

MELBOURNE VIC 3004

PO Box 12211

A'Beckett Street Post Office

MELBOURNE VIC 8006

Telephone: (03) 9832 8100

Fax: (03) 9832 8199

Web: *www.atpl.net.au*

Email: sales@atpl.net.au

Innovation and Business Industry Skills Council

Building B, Level 2

192 Burwood Road

HAWTHORN VIC 3122

Telephone: (03) 9815 7000

Fax: (03) 9815 7001

Email: virtual@ibsa.org.au

General Resources

Refer to http://antapubs.dest.gov.au/publications/search.asp to locate the following ANTA publications.

AQF Implementation Handbook, third Edition. Australian Qualifications Framework Advisory Board, 2002, aqf.edu.au

Australian Quality Training Framework (AQTF) - for general information go to:

www.dest.gov.au/sectors

Australian Quality Training Framework (AQTF) - for resources and information go to: www.dest.gov.au

Australian Quality Training Framework *Standards for Registered Training Organisations*, Australian National Training Authority, Melbourne, 2005. Available in hard copy from State and Territory Training Authorities or can be downloaded from www.dest.gov.au

TAA04 Training and Assessment Training Package. This is available from the Innovation and Business Skills Australia (IBSA) Industry Skills Council and can be viewed, and components downloaded, from the National Training Information Service (NTIS). National Training Information Service, an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses - www.ntis.gov.au*Style Guide for Training Package Support Materials*, Australian National Training Authority, Melbourne, 2003. Can be downloaded from the ANTA page at www.dest.gov.au

Assessment Resources

Training Package Assessment Guides - a range of resources to assist RTOs in developing Training Package assessment materials developed by DEST with funding from the Department of Education, Training and Youth Affairs. It is made up of 10 separate titles, as described at the ANTA publications page of www.dest.gov.au. Go to www.resourcegenerator.gov.au/loadpage.asp?TPAG.htm

Printed and/or CD ROM versions of the Guides can be purchased from Australian Training Products (ATP). The resource includes the following guides:

1 Training Package Assessment Materials Kit
2 Assessing Competencies in Higher Qualifications
3 Recognition Resource
4 Kit to Support Assessor Training
5 Candidates Kit: Guide to Assessment in New Apprenticeships
6 Assessment Approaches for Small Workplaces
7 Assessment Using Partnership Arrangements
8 Strategies for ensuring Consistency in Assessment
9 Networking for Assessors
10 Quality Assurance Guide for Assessment

An additional guide "Delivery and Assessment Strategies" has been developed to complement these resources.

Assessment Tool Design and Conducting Assessment

VETASSESS & Western Australian Department of Training and Employment 2000, *Designing Tests - Guidelines for designing knowledge based tests for Training Packages*. Vocational Education and Assessment Centre 1997, Designing Workplace Assessment Tools, *A self-directed learning program*, NSW TAFE.

Manufacturing Learning Australia 2000, *Assessment Solutions*, Australian Training Products, Melbourne.

Rumsey, David 1994, *Assessment practical guide*, Australian Government Publishing Service, Canberra.

Assessor Training

Australian Committee on Training Curriculum (ACTRAC) 1994, *Assessor training program - learning materials*, Australian Training Products, Melbourne.

Australian National Training Authority, *A Guide for Professional* Development, ANTA, Brisbane.

Australian Training Products Ltd *Assessment and Workplace Training, Training Package - Toolbox*, ATPL Melbourne.

Green, M, et al. 1997, *Key competencies professional development Package*, Department for Education and Children's Services, South Australia.

Victorian TAFE Association 2000, *The professional development CD: A learning tool*, VTA, Melbourne.

Assessment System Design and Management

Office of Training and Further Education 1998, *Demonstrating best practice in VET project - assessment systems and processes*, OTFE Victoria.

Toop, L., Gibb, J. & Worsnop, P. *Assessment system designs*, Australian Government Publishing Service, Canberra.

Western Australia Department of Training and VETASSESS 1998, *Kit for Skills Recognition Organisations*, WADOT, Perth.

RTC1006A   Support nursery work

Unit Descriptor

This competency standard covers the process of supporting work carried out in wholesale or retail nurseries while under supervision. It requires the ability to prepare materials, tools and equipment for nursery work, undertake nursery work activities, store and stockpile materials, and clean up on completion of work. Supporting nursery work requires knowledge of safe work practices, nursery hygiene and quality control, nursery plant maintenance activities, basic stock control procedures, and propagation techniques.

Unit Sector   No sector assigned

ELEMENT		PERFORMANCE CRITERIA
1. Prepare materials, tools and equipment for nursery work	1.1	The required materials, **tools and equipment** are identified according to lists provided and/or supervisor's **instructions.**
	1.2	Checks are conducted on all materials, tools and equipment, with insufficient or faulty items reported to the supervisor.
	1.3	Techniques used when loading and unloading materials demonstrate correct manual handling, and minimise damage to the load and the vehicle.
	1.4	Suitable **personal protective equipment (PPE)** is selected and checked prior to use.
	1.5	Nursery support is provided according to **OHS requirements** and **workplace information.**
	1.6	**OHS hazards** are identified and reported to the supervisor.
2. Undertake nursery work as directed	2.1	Instructions and directions provided by supervisor are followed, and clarification sought when necessary.
	2.2	Nursery work is undertaken in a safe and environmentally appropriate manner according to nursery guidelines.
	2.3	Interactions with other staff and customers is carried out in a positive and professional manner.
	2.4	Nursery policy, procedures and OHS requirements in relation to workplace **hygiene** practices, handling and disposal of materials is observed.
	2.5	Problems or difficulties in completing work to required standards or timelines are reported to supervisor.
3. Store and stockpile materials	3.1	Plant debris and waste material produced during nursery activities are stored according to supervisors instructions.
	3.2	Plant debris and **waste** materials are prepared and processed in an appropriate and safe manner according to supervisor's instructions.
	3.3	Surplus materials are stockpiled for removal according to supervisor's instructions.
	3.4	A clean and safe work site is maintained while completing nursery activities.

4.	Clean up on completion of nursery work	4.1	Plants and materials are stored according to supervisor's instructions and OHS requirements.
		4.2	Tools and equipment are cleaned, maintained and stored according to manufacturers specifications and supervisors instructions.
		4.3	Work outcomes are reported to the supervisor.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Prepare materials, tools and equipment for **nursery work** .
- Undertake nursery work as directed.
- Store and stockpile materials.
- Clean up on completion of nursery work.

Required knowledge:

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:

- Safe work practices.
- Nursery hygiene and quality control.
- Nursery plant maintenance activities.
- Basic stock control procedures.
- Propagation techniques.
- OHS legislative requirements and Codes of Practice.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information about the job, tasks and problems should be discussed with other members in the work team and the supervisor.	1
Collecting analysing and organising information	Workplace and supervisors instructions should be located, interpreted and applied with further clarification sought as necessary.	1
Planning and organising activities	Discussions with the supervisor and other team members may be required in order to complete tasks efficiently and safely in a logical sequence and in a timely manner.	1
Working with others and in teams	Good communication and co-operation with other staff in completing nursery tasks.	1
Using mathematical ideas and techniques	Skills in counting, tallying and estimation are required when handling plants or other nursery materials.	1
Solving problems	Problems will require corrective action or consultation with supervisor.	1
Using technology	Technology may be applied in the use of nursery equipment and communication systems.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What tasks may be included under **nursery work?**	• Assisting with the display of nursery products (e.g., plant, goods and supplies) including unpacking, placing where directed, replenishing as required, preparing and placing price tickets, labels and other display materials. • Provide nursery plant care including watering, weeding, removing dead materials, staking, trimming, and potting on of plants as directed. • Load and unload nursery stock including preparing stock for dispatch, and checking stock on receipt or at dispatch against documentation. • Supporting propagation activities including assisting with preparing planting media, collecting propagating materials, and blocking up plants in correct patterns and spacing.
What **instructions** may be relevant to this standard?	• Instructions may include Standard Operating Procedures (SOPs), company policy and procedures in regard to product merchandising and displays, specifications, work notes, Material Safety Data Sheets (MSDSs), manufacturers instructions, product labels, or verbal directions from manager, supervisor, or senior operator.
What **tools and equipment** may be required for nursery work?	• Tools and equipment may include manual or electronic ticketing/labelling equipment, wheelbarrows, trolleys, motorised trolleys, scissors, cleaning equipment, secateurs, knives, media trays, water spray container, dibblers, and rubbish bins.
What **workplace information** might be required for this standard?	• Workplace information may include procedures for disposing of waste materials, work instructions or verbal instructions from the supervisor, OHS legislative requirements and relevant Codes of Practice.
What **OHS hazards** may be associated with nursery support?	• Hazards may include heavy materials and equipment, slippery or uneven surfaces, moving machinery and vehicles, solar radiation, and potential dangers from handling potting media, fertilisers, watering systems, and spider and insect bites.

| What are the **personal protective clothing and equipment** requirements associated with nursery support? | • Personal protective clothing and equipment may include steel capped boots/shoes, overalls, gloves, sun hat, sunscreen lotion, safety goggles, face mask and ear protectors. |

| What **hygiene practices** may apply to this standard? | • Hygiene practices which may be applied include disinfestation and storage of planting media, disinfestation of contaminated plants and materials, hand washing, footbaths, sanitising/sterilising tools, equipment and benching, access restrictions, and handling practices which minimise cross contamination. |

| What environmental **waste** disposal considerations may apply to this standard? | • Environmental considerations for waste disposal may include prompt removal and/or disinfestation of organic waste, use of mixing site, neutralising pits for disposal of chemicals and cleaning products, recycling seed trays, poly trays, bags, and recycling waste water or disposing using approved discharge system. |

EVIDENCE GUIDE

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

Competence in supporting nursery work requires evidence that nursery-related activities have been carried out according to instructions and within the required timelines. The skills and knowledge that are required to support nursery work must be transferable to a different work environment. For example, this could include different work tasks, types of nurseries and supervisors.

| **Are there other competency standards that could be assessed with this one?** | This competency standard could be assessed on its own or in combination with other competencies relevant to the job function. |

| **Essential Assessment Information** | There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet** . |

RTC1201A   Maintain the workplace

Unit Descriptor   This competency standard covers the process expected of workers as part of the daily routine to maintain a tidy and safe workplace including workshops, depots, tool sheds and planted areas. The work is likely to be under direct supervision with regular checking. Competency is demonstrated by the application of knowledge and skills to a limited range of maintenance tasks and roles. Reporting and recording is undertaken within established routines using methods and procedures that are predictable. There is a specified range of duties and contexts where the choice of actions required is made quite clear by the supervisor.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Use tools, equipment and machinery	1.1 Maintenance **tools, equipment and machinery** are identified, collected and prepared for use according to supervisor's instructions.
	1.2 Unsafe or faulty tools, equipment and machinery are identified and segregated for repair or replacement according to supervisor's instructions.
	1.3 Tools, equipment and machinery are cleaned, maintained and stored according to manufacturers specifications, workplace procedures and supervisors instructions.
2. Maintain a clean and safe workplace	2.1 **Services** are located using site plans and in consultation with the supervisor.
	2.2 **OHS hazards** and **environmental implications** are identified and reported to the supervisor.
	2.3 Suitable **personal protective equipment (PPE)** is selected, used, maintained and stored according to best practice.
	2.4 Floors, benches and other flat work surfaces are swept, washed and treated according to supervisor's instructions.
	2.5 Tools, equipment and materials not in use are stored neatly, and waste and used materials are removed and placed in **disposal containers** according to supervisor's instructions.
	2.6 Maintenance activities are undertaken according to **OHS requirements.**
3. Maintain structures and workplace surroundings	3.1 Maintenance requirements of **structures** and **workplace surroundings** are identified according to supervisor's instructions.
	3.2 **Maintenance** of structures and workplace surroundings is undertaken according to supervisor's instructions and OHS requirements.
	3.3 Structural damage and deterioration in the workplace are identified and reported to the supervisor.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Participate in teams and contribute to team objectives.
- Understand instructions.
- Read labels, site plan measurements and OHS symbols.
- Communicate effectively with team members and supervisor.
- Tally work hours, calibrate tools and equipment, measure volumes to apply cleaning agents, measure quantities of materials and estimate areas.
- Minimise noise, dust and water run-off to prevent nuisance-level environmental disturbance.

Required knowledge:

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:

- Enterprise standards for presentation of buildings, structures and surroundings.
- The effect of outdoor climatic conditions (e.g., rain, hail, extreme heat and/or wind, or very high ultraviolet radiation), which may prevent or impede maintenance activities, or influence the selection of tools, equipment and safety equipment to minimise the hazards presented.
- Awareness of the relationship between specific maintenance activities and the external environment, and reasons for procedures that help to minimise the impact that these activities may have on the environment.
- Workplace hazards, OHS legal rights and responsibilities, and OHS safety symbols and signs.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information about the workplace, maintenance activities and problems such as OHS concerns should be discussed with other members in the work team and the supervisor.	1
Collecting analysing and organising information	Supervisor's instructions and work documents such as manufacturers service specifications should be interpreted and applied, and further clarification sought when necessary.	1
Planning and organising activities	Maintenance activities will be planned with regard to the supervisor's instructions, and may require consultation with other team members.	1
Working with others and in teams	Consultation with others in the team, in seeking clarification of instructions and discussing problems. Coordinating movement of tools, equipment and machinery will contribute to safe, effective and efficient completion of maintenance activities.	1
Using mathematical ideas and techniques	Mathematical techniques will be applied to the calculation of volumes, application rates and areas, tallying, counting and estimating.	1
Solving problems	Problems relating to tools, equipment and machinery, maintenance processes, workplace safety and other team members may arise when maintaining a workplace.	1
Using technology	Technology may be applied in the preparation, use and maintenance of tools, equipment and machinery.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What **tools, equipment and machinery** may be required to maintain the workplace?	• Tools, equipment and machinery may include knives, trowels, handsaws, hand and battery-powered secateurs, hedge trimmers both manual and powered, spades, forks, rakes, hoes, shovels, brooms, wheelbarrows, hand edging tools, 2 and 4 stroke pedestrian and ride-on rotary mowers, cylinder mowers, blower/vacs, pavement sweepers, diesel ride-on mowers and sweepers, turf edging machines, brush-cutters, hoses and hose attachments, cleaning materials and equipment, high pressure air and water cleaners, repair tools, and materials such as nails, screws, solvents and glues.
What **services** may need to be located?	• Services may include water supply, gas, power (electricity), telecommunications, irrigation, stormwater and drainage.
What **OHS hazards** may be associated with maintaining the workplace?	• Hazards may include disturbance or interruption of services, solar radiation, dust, air and soil-borne organisms, noise, sharp tools and equipment, manual handling, moving vehicles, machinery and machinery parts, uneven surfaces and flying objects.
What **environmental implications** may be associated with maintaining the workplace?	• Beneficial impacts may result from maintaining tidy work areas, depots and workshops, thus reducing the likelihood of litter blowing or washing into the external environment. By maintaining clean and tidy work surfaces, buildings and structures, using environmentally responsible cleaning agents and work practices, offensive odours, noise and unsightly areas may be reduced. Prompt identification of faulty tools, equipment and machinery for repair will also reduce their continued use, which may create unnecessary noise and particulate emissions. • Detrimental impacts on the external environment may result from the generation of excessive noise and run-off of water and cleaning agents from maintenance activities, as well as the failure to promptly segregate waste into disposal containers, process waste materials and keep work areas tidy and free of clutter.

What **personal protective equipment (PPE)** may be required to maintain the workplace?	• Personal protective equipment may include hat, boots, overalls, gloves, goggles, safety harness, respirator or face mask, face guard, hearing protection, sunscreen lotion and hard hat.
What **disposal containers** may be used in maintaining the workplace?	• Disposal containers may be segregated for specified toxic waste materials (such as weed seed heads, noxious weeds and toxic chemicals), recyclable materials (such as paper, plastic and metal-based waste), composting waste (such as soft plant materials), reusable materials (such as cloths and containers for washing, woody waste), and returnable materials (such as oils, batteries and chemical containers).
What **OHS requirements** may be relevant to this standard?	• OHS requirements may include removal of slip/trip hazards, keeping access ways clear of obstructions, cleaning, maintaining and storing tools, equipment and machinery, appropriate use, storage and maintenance of personal protective equipment including sun protection, drinking to avoid dehydration, safe operation of tools, equipment and machinery, correct manual handling, basic first aid, personal hygiene, identifying and reporting hazards to supervisor, protection of people in the workplace, and protection from hazardous substances, noise, organic and other dusts.
What **structures** may require maintenance?	• Structures may include buildings, roads, tracks, soil conservation works, trellises, shelters, shade cloth, bird netting, hail netting, glass houses, yards, fences, drying racks, irrigation and drainage systems, covered grounds of bitumen, cement or gravel for vehicle parking or low maintenance care, and enterprise signs.
What **workplace surroundings** may require maintenance?	• Workplace surroundings may include natural areas of existing or volunteer native plants, and landscaped and/or planted display areas.
What **maintenance** of structures and workplace surroundings may be appropriate to this standard?	• Maintenance activities may include basic repair work such as tightening or replacing loose fixtures, painting small areas, and replacing depleted surfaces such as gravel and mulch.

EVIDENCE GUIDE

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

Competence in maintaining a workplace requires evidence that a person is able to perform a limited range of maintenance tasks such as cleaning, tidying and performing minor structural repairs. The skills and knowledge required to maintain the workplace must be transferable to a different work environment. For example, this could include different workplaces, maintenance practices and enterprise procedures and practices.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC1202A
Unit Descriptor

Support landscape work

This competency standard covers the process of supporting landscape work under direct supervision. It requires the ability to prepare materials, tools and equipment for landscaping work, undertake landscaping activities, handle materials and equipment, and clean up on completion of work. Supporting landscape work requires knowledge of safe work practices, landscape construction techniques, landscape tools and equipment, and repair and maintenance of landscape features.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare materials, tools and equipment for landscaping work	1.1 The required materials **, tools and equipment** are identified according to lists provided and/or supervisor's **instructions.**
	1.2 Checks are conducted on all materials, tools and equipment with insufficient or faulty items reported to the supervisor.
	1.3 Techniques used when loading and unloading materials demonstrate correct manual handling, and minimise damage to the load and the vehicle.
	1.4 Suitable **personal protective equipment (PPE)** is selected and checked prior to use.
	1.5 Landscaping support is provided according to **OHS requirements** and according to **workplace information.**
	1.6 **OHS hazards** are identified and reported to the supervisor.
2. Undertake landscape work as directed	2.1 Instructions and directions provided by supervisor are followed and clarification sought when necessary.
	2.2 Landscape work is undertaken in a safe and environmentally appropriate manner according to enterprise guidelines and OHS requirements.
	2.3 Interactions with other staff and customers are carried out in a positive and professional manner.
	2.4 Enterprise policy and procedures in relation to workplace practices, handling and disposal of materials is observed.
	2.5 Problems or difficulties in completing work to required standards or timelines are reported to supervisor.
3. Handle materials and equipment	3.1 **Waste material** and debris produced during landscape work is stored in a designated area according to supervisor's instructions.
	3.2 Materials, equipment and machinery are handled and transported according to supervisor's instructions and enterprise guidelines.
	3.3 A clean and safe work site is maintained while undertaking landscaping activities.

4.	Clean up on completion of landscaping work	4.1	Materials are returned to store or disposed of according to supervisor's instructions and OHS requirements.
		4.2	Tools and equipment are cleaned, maintained and stored according to manufacturers specifications and supervisor's instructions.
		4.3	Site is **made good** according to supervisor's instructions and good environmental and OHS practices.
		4.4	Work outcomes are reported to the supervisor.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Prepare materials, tools and equipment for landscaping work.
- Undertake landscape work as directed.
- Handle materials and equipment.
- Clean up on completion of landscaping work.

Required knowledge:

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:

- Safe work practices.
- Preparing for landscape work and cleaning up on project completion.
- Basic construction techniques.
- Landscaping tools and equipment.
- Maintenance practices for planted areas.
- Repair and maintenance of landscape features.
- OHS legislative requirements and Codes of Practice.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information about the job, tasks and problems should be discussed with other members in the work team and the supervisor.	1
Collecting analysing and organising information	Workplace and supervisors instructions should be located, interpreted, and applied with further clarification sought as necessary.	1
Planning and organising activities	Discussions with the supervisor and other team members may be required in order to complete tasks efficiently, in a logical sequence, and in a timely manner.	1
Working with others and in teams	Good communication and co-operation with other staff in completing landscaping tasks.	1
Using mathematical ideas and techniques	Skills in counting, tallying and estimation are required when handling materials, tools and equipment.	1
Solving problems	Problems will require corrective action or consultation with supervisor.	1
Using technology	Technology may be applied in the use of landscape tools and equipment.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What tasks may be included under **landscaping work?**	• Assisting with construction of landscape features including paths, paving, retaining walls, site structures and furniture, planted areas and irrigation systems. • Assisting with maintenance of landscape features including watering, weeding, staking, repairing, painting, and cleaning. • Work with a range of materials including concrete, timber, masonry, stone, metal and plastics. • Associated landscape activities including assisting in establishing work base, clearing site, erecting barriers and signs, unloading and loading of materials, setting out of works, cleaning up site, and disposal of debris and materials.
What **instructions** may be relevant to this standard?	• Instructions may include Standard Operating Procedures (SOPs), enterprise policy and procedures, specifications, work notes, Material Safety Data Sheets (MSDSs), manufacturers instructions, or verbal directions from manager or supervisor.
What **tools and equipment** may be required for landscaping work?	• Tools and equipment may include levelling equipment, wheelbarrow, concrete mixer, string lines, tape measures, marking gauges, spades, shovels, crow bars, chisels, hammers, spanners, nails, handsaws, hacksaws, metal files sanding blocks, paint brushes, trowels and screeding equipment.
What **workplace information** might be required for this standard?	• Workplace information may include procedures for disposing of waste materials, OHS legislative requirements and Codes of Practice including manual handling, work instructions or verbal instructions from the supervisor.
What **OHS hazards** may be associated with landscaping work?	• Hazards may include, solar radiation, dust, noise, air and soil-borne microorganisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, holes, trenches, slippery and uneven surfaces, electricity and overhead hazards including powerlines.

What are the **personal protective clothing and equipment** requirements associated with landscaping support?	• Personal protective clothing and equipment may include steel capped boots/shoes, overalls, gloves, safety harness, sun hat, sunscreen lotion, safety goggles, face mask and ear protectors.
What **waste materials** may apply to this standard?	• Plant debris, litter and broken components, mulches, compost, plastic, metal, paper-based materials. These may be recycled, re-used, returned to the manufacturer, or disposed of according to enterprise work procedures.
What may occur when a site is **made good?**	• Paths are swept and cleaned, planted areas are checked to ensure they are well presented, damaged turf is replaced/resown, disturbed areas are repaired, all materials, debris, tools and equipment are removed from site, damaged plants are pruned or replaced, and other signs of disturbance or damage are corrected.

EVIDENCE GUIDE

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

Competence in supporting landscape work requires evidence that landscaping activities have been carried out according to instructions and within the required timelines. The skills and knowledge that are required to support landscape work must be transferable to different work environments. For example, this could include different landscaping features, work locations and enterprise policies and procedures.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC1301A

Operate basic machinery and equipment

Unit Descriptor
This competency standard covers the use and maintenance of basic machinery and equipment. Competency requires the application of skills and knowledge to a limited range of tasks including pre-operational checks, and the cleaning and storage of tools and equipment. In addition, competency requires an awareness of workplace safety and positive environmental practices associated with equipment operation. The work in this standard is likely to be under direct supervision with regular checking.

Unit Sector
Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare basic machinery and equipment for use	1.1 **Machinery and equipment** are identified and selected in accordance with supervisor's instructions
	1.2 Routine **pre-operational checks** of machinery and equipment are carried out to manufacturers specifications and/or **enterprise procedures** .
	1.3 Unsafe or faulty machinery and equipment are identified and segregated for repair or replacement in line with enterprise requirements
	1.4 **Occupational Health and Safety hazards** in the workplace are identified and reported to the supervisor
2. Operate basic machinery and equipment	2.1 Suitable **personal protective clothing and equipment** is selected, used, maintained and stored in accordance with Occupational Health and Safety requirements
	2.2 Machinery and equipment are operated to manufacturers specifications and in accordance with supervisor's instructions
	2.3 Work is completed to supervisor's satisfaction and in accordance with Occupational Health and Safety requirements
	2.4 **Environmental implications** associated with operation and maintenance are identified and reported verbally to the supervisor
3. Check, clean and store basic machinery and equipment	3.1 Machinery and equipment use is detailed and recorded in accordance with enterprise requirements
	3.2 Machinery and equipment are cleaned, secured and stored to manufacturers specifications and supervisors instructions
	3.3 Malfunctions, faults, wear or damage to machinery and equipment are identified and reported in line with enterprise requirements
	3.4 Workplace areas are cleaned and maintained in line with Occupational Health and Safety and enterprise requirements

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These include the ability to:

- Perform pre-operational checks on basic machinery and equipment.
- Operate basic machinery and equipment to industry standards.
- Clean, secure and store basic machinery and equipment to industry standards.
- Demonstrate safe handling of hazardous substances (fuels, fertiliser).
- Demonstrate safe and environmentally responsible workplace practices.
- Recognise and report damage, faults or malfunctions in basic machinery and equipment.
- Read and interpret task instructions, communicate with work team and supervisor, and record and report equipment faults, workplace hazards and accidents.

Required knowledge:

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:

- Pre-operational and safety checks for basic machinery and equipment.
- Hazards associated with the operation of basic machinery and equipment.
- Operating principles and operating methods for basic machinery and equipment.
- Procedures for cleaning, securing and storing basic machinery and equipment.
- Risks associated with the operation of machinery and equipment in different weather and difficult terrain conditions.
- Relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace OHS requirements, and the use and control of hazardous substances.
- Environmental impacts and minimisation measures associated with the operation of basic machinery and equipment.
- Personal protective clothing and equipment and when and how it should be used, maintained and stored.
- Enterprise policies with regard to machinery and equipment use, recording and reporting routines.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information with regard to basic machinery and equipment operation, safety procedures and their application may be discussed with work colleagues or the supervisor.	1
Collecting analysing and organising information	Information with regard to the performance of machinery, equipment, identified faults, and OHS concerns may be reported for repair and organised by records.	1
Planning and organising activities	Activities involving use of basic machinery and equipment may be planned and coordinated around work schedules or sequenced as required.	1
Working with others and in teams	Team work may be applied in methods and procedures to complete maintenance and job functions to achieve work plan requirements.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in the calculation and measurement of volumes, weights and consumption, particularly in relation to pre-operational checks.	1
Solving problems	Machinery and equipment breakdown, faults or malfunctions will need to be reported to supervisor for repair or replacement to achieve work plan requirements.	1
Using technology	To communicate, measure and record information with regard to machinery and equipment maintenance, usage and performance.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **machinery and equipment** may be applicable to this standard?	• Small engine machinery such as mowers, brushcutters, pumps, Gurneys, air compressors and generators, and equipment such as handtools, wheelbarrows, spades, shovels and forks. This unit excludes ride-on machinery, electrically powered tools, vehicles and chainsaws.

What may be involved in routine **pre-operational checks?**	• Pre-operational checks on machinery and equipment may include checking:
	  • fuels, fuel lines and oils
	  • battery electrolyte levels, wheels and tyre pressure
	  • air filters
	  • safety guards.
	• Preparation and pre-operational checks on equipment may include:
	  • cleaning, lubricating
	  • identifying and segregating unsafe or faulty equipment for repair or replacement.

What **enterprise requirements** may be relevant to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), OHS procedures, supervisors oral or written instructions, work and routine maintenance plans could be included in enterprise requirements.

What **OHS** requirements may be relevant to this standard?	• Requirements may include systems and procedures for:
	  • the safe operation and maintenance of machinery and equipment including guarding of exposed moving parts
	  • manual handling, including safe lifting and carrying techniques
	  • handling and storage of hazardous substances, and the appropriate use, maintenance and storage of personal protective clothing and equipment
	  • outdoor work including protection from solar radiation, hazardous noise and organic and other dusts
	  • identifying and reporting hazards
	  • projection of people in the workplace.

What OHS **hazards** may be associated with equipment operation?	• Exposure to loud noise and fumes, solar radiation, dust, ergonomic hazards associated with posture and vibration, hazardous substances (fuel, oils, fertiliser), oil and grease spills, the presence of bystanders, livestock and wildlife, uneven and varying terrain gradients, potholes, ditches, gullies, embankments, obstacles (rocks, logs, fences, debris, buildings), extreme weather conditions, electricity, overhead hazards such as powerlines, mechanical malfunctions and exposed moving parts, and other machinery including hydraulics.
What **personal protective clothing and equipment** may be relevant to this standard?	• Boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, safety harness, respirator or face mask, and sun protection (sun hat, sunscreen).

| What **environmental implications** may be associated with the operation of tools and equipment? | • Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oil containers, chemical residues), hazardous substances (fuel, fertiliser), and damage to fauna and flora in natural areas. Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities, soil disturbance and dust problems from high activity traffic (including irrigation equipment). |

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

| **Are there other competency standards that could be assessed with this one?** | This competency standard could be assessed on its own or in combination with other competencies relevant to the job function. |
| **Essential Assessment Information** | There is critical information about **assessing this competencystandard for consistent performance** and **where and how it may be assessed** , in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.** |

RTC1302A   Assist with routine maintenance of machinery and equipment

Unit Descriptor

This competency standard covers the processes required to assist with basic routine maintenance on a range of machinery and equipment. It requires the application of basic skills and knowledge to prepare and use hand and power tools to carry out minor repairs and servicing tasks on machinery and equipment. In addition, competency requires an awareness of workplace safety and positive environmental practices associated with maintenance activities. The work functions are likely to be under direct supervision with regular checking within enterprise guidelines.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for basic routine maintenance	1.1 **Tools and supplies** required to carry out **basic routine maintenance** tasks are identified, selected and provided on site according to **supervisor's instructions** .
	1.2 **Routine pre-operational checks** of machinery and equipment are carried out and adjustments made according to manufacturers specifications and/or enterprise procedures.
	1.3 Faulty or unsafe machinery and equipment are identified and segregated for repair or replacement according to **enterprise requirements.**
	1.4 **OHS hazards** in the workplace are identified and reported to the supervisor.
2. Carry out basic routine maintenance	2.1 Suitable **personal protective equipment** is stored, selected, used and maintained according to OHS requirements.
	2.2 Greasing, lubrication and other basic servicing of **machinery and equipment** is carried out according to operators manual /manufacturers specifications and supervisor's instructions.
	2.3 Routine adjustments and repairs are made to machinery and equipment according to operators' manual/manufacturers specifications and supervisors instructions.
	2.4 Work is conducted according to OHS requirements and completed to supervisor's satisfaction.
3. Complete basic routine maintenance activities	3.1 Tools are cleaned, returned to operating order and stored according to manufacturers specifications and enterprise requirements.
	3.2 **Environmental** procedures are followed and waste from maintenance activities is collected, treated and disposed or recycled according to enterprise requirements.
	3.3 Work area is cleaned and maintained according to OHS and enterprise requirements.
	3.4 Malfunctions, faults, wear or damage to tools are reported to the supervisor according to enterprise requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Demonstrate safe and environmentally responsible workplace practices.
- Read and interpret manufacturers specifications, work and maintenance plans, safety decals and MSDSs.
- Measure and calculate volumes, consumption and lubrication requirements.

Required knowledge:

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:

- Types, characteristics and functions of machinery and equipment.
- Machinery and equipment testing and operating procedures.
- Types, characteristics and functions of tools used in maintenance of machinery and equipment.
- OHS legislative requirements.
- Codes of Practice with regard to the use and control of hazardous substances and/or working in confined spaces.
- Environmental Codes of Practice with regard to maintenance activities.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to the operation of tools and application methods may be discussed with the supervisor.	1
Collecting analysing and organising information	Information with regard to the performance of machinery and equipment, identified faults and OHS concerns may be reported to the supervisor for repair and organised by records.	1
Planning and organising activities	Activities involving the cleaning of machinery and equipment and work area may be planned and coordinated around maintenance schedules or sequenced as required.	1
Working with others and in teams	In the application of communication, methods and procedures to complete scheduled maintenance tasks, e.g., isolating machinery with danger tags or lockout keys.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in the calculation and measurement of volumes and consumption in relation to lubrication requirements.	1
Solving problems	Faulty tools or malfunctions may be reported for repair and arrangements made for replacement in order to minimise disruption to maintenance schedules.	1
Using technology	To communicate, measure and record information with regard to tools and equipment usage and performance.	1

RANGE STATEMENT

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

What **tools and supplies** may be required to carry out routine basic maintenance?	• Hand tools, personal protective equipment, hand held power tools, grease guns, cleaning and maintenance supplies including grease, fuel, oil, chemicals, water steam, power and air.

What may be involved in **basic routine maintenance** activities?	• This may include dismantling and assembling procedures, testing, tightening, minor adjustments and repairs, and routine servicing procedures including lubricating, and checks of cooling system, fuel, grease and oil, and battery levels. It may also include inspections of tyre pressure, fan belts, leads, lines, connections, air filters, air conditioning, brakes, clutch, electrical, gearbox, hydraulics, steering, lighting, transmission, and confirmation of safety guards, PTO stubs and shafts.
How might **supervisor's instructions** be communicated?	• Instructions may be received by verbal or written communication.
What may be involved in **routine pre-operational checks** of tools?	• This may include routine safety and pre-start checks and preparatory procedures including cleaning, lubricating, hand sharpening, priming pumps, clearing filters, tightening, basic repairs and adjustments.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators' manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.

What **OHS** requirements may be relevant to this standard?	• Systems and procedures for:
	  • the safe maintenance of equipment including hydraulics and guarding of exposed moving parts
	  • identifying and reporting hazards
	  • safe lifting, carrying and manual handling
	  • the provision of safety decals and signage
	  • the safe handling and storage of hazardous substances
	  • the appropriate use, maintenance and storage of personal protective equipment
	  • outdoor work including protection from solar radiation
	  • working in confined spaces
	  • the protection of people in the workplace
	  • protection from hazardous noise, organic and other dusts.

What **hazards** may be associated with maintenance activities?	• This may include exposure to loud noise, exhaust fumes, solar radiation, dust, and hazardous substances. It may also include oil and grease spills, electricity, mechanical malfunctions, exposed moving parts including hydraulics, and overhead hazards such as powerlines.

What **personal protective equipment** may be relevant to this standard?	• Boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, safety harness, respirator or face mask, and sun protection (sun hat, sunscreen).
What range of **machinery and equipment** may be covered in this standard?	• Hydraulic equipment, hydroplats, stationary engines, pumps, irrigation equipment, seeders, harvesters, balers, spraying equipment, hedging machines, solar and wind powered equipment.
What positive **environmental** procedures may be implemented?	• This may include measures to reduce excessive noise and exhaust emissions, the safe use and disposal of maintenance debris including oil containers, fuel and chemical residues. It may also include preventative measures with regard to soil disturbance and increased run-off flows, and damage to natural areas caused by servicing, maintenance and cleaning activities.

EVIDENCE GUIDE

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

Competence in assisting with basic routine maintenance of machinery and equipment requires evidence of the ability to select the correct hand and power tools to complete servicing, adjustment and repair tasks. It also requires the ability to apply task instructions, recognize hazards, test equipment for correct operation, maintain work areas in a clean, tidy and safe condition, and clean and store machinery and equipment after use. Evidence must also be demonstrated in the application of safe workplace and environmentally responsible practices. The skills and knowledge required to carry out basic routine maintenance of equipment must be transferable to a different work environment. For example, this could include different machinery and equipment, workplaces and maintenance procedures.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC1701A
Unit Descriptor

Follow basic chemical safety rules

This competency standard covers the functions of a person working in an enterprise which uses chemicals and who needs to be aware of their use. Skills and knowledge include awareness of the use of chemicals, how they are handled, stored and transported, recognition of safety issues surrounding chemical use, and the ability to use personal protective equipment when instructed. It requires awareness of the duty of care to self, to others, and to the environment concerning chemicals. This person will be under close supervision in the workplace and will be required to follow instructions at all times.

Unit Sector

Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Follow workplace requirements and instructions concerning chemicals	1.1 **Roles and responsibilities** of people in the workplace are identified 1.2 **Safety procedures** involved in chemical handling and use are recognised and followed as required 1.3 Occupational health and safety hazards are identified and reported to the supervisor 1.4 **Organisational procedures** are followed with regard to chemicals
2. Recognise risks associated with chemicals	2.1 **Functions** of chemicals in the workplace are recognised 2.2 Chemical labels and symbols are recognised and hazards identified 2.3 Chemical storage locations are identified 2.4 Instructions for transport, handling and storage of chemicals are recognised and observed 2.5 Instructions for use, maintenance and storage of *personal protective equipment* and *application equipment* are identified and observed
3. Follow chemical handling and storage rules	3.1 Chemical handling and storage instructions on labels are followed 3.2 Safety rules are followed when working in areas where chemicals are stored 3.3 Appropriate personal protection equipment is obtained and used when working in areas were chemicals are stored 3.4 **Procedures** are followed in the event of an accident or spillage

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate information about spillages, accidents or deficiencies in procedures and practice.
- Accurately interpret labels and instructions.
- Follow workplace instructions and directions from the chemical label or Material Safety Data Sheets (MSDSs).

Required knowledge:

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:

- Basic Occupational Health & Safety rules required to work near and around chemicals.
- Level of hazard and the Poisons Schedule in the relevant State or Territory.
- Chemicals being used for the control of pests and weeds.
- Personal protection equipment and when and how it should be used, stored and maintained.
- Correct wearing/fit of personal protective equipment.
- Environmental impacts of chemical use.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information about procedures or safety may be communicated in the workplace.	1
Collecting analysing and organising information	Information on labels and Material Safety Data Sheets (MSDSs) may be collected, analysed and interpreted.	1
Planning and organising activities	Organising activities may not be relevant to this standard.	-
Working with others and in teams	Working with others when dealing with chemicals.	1
Using mathematical ideas and techniques	Interpreting volumes and measurement requirements on labels may require mathematical ideas to be applied.	1
Solving problems	Action to take in the event of an accident or spillage may require problem solving.	1
Using technology	Using relevant personal protection equipment may require the use of technology.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **roles and responsibilities** may be relevant in the workplace with regard to chemicals?	• Roles will include own role and may include the supervisor, farm manager, team leader, owner or external contractor, and external emergency contact organisations.
What **safety procedures** are relevant to this standard?	• Safety procedures may include compliance with safety instruction on the label, information contained in Material Safety Data Sheets (MSDSs) such as use, maintenance and storage of personal protective equipment, first aid, systems of transport, storage and handling, procedures for the protection of environment and protection of others.

What **organisational procedures** are relevant to this standard?	• Procedures must include storage, transport, mixing, loading, application, emergencies, recording, cleaning and disposal of chemicals.
What **legislation and regulations** are relevant to this standard?	• Legislation may include Pesticides Acts, Occupational Health and Safety Acts and associated Hazardous Substances Regulations/ Codes of Practice, Dangerous Goods Acts, Poisons Act or Protection of the Environment Acts.
What **personal protective** equipment may be relevant to this standard?	• Equipment may include hats, face shields, goggles, respirators, overalls, aprons, chemical resistant gloves and footwear.
What **application equipment** may be relevant to this standard?	• Knapsacks or hand held pneumatic sprayers, drench guns and spot on applicators.
What **procedures** must be in place in the event of an accident or spillage?	• Procedures may involve reporting the spillage and assisting with clean up.

EVIDENCE GUIDE

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

Overall competence in this standard requires evidence that a person working in an agricultural or horticultural environment is aware of the use of chemicals in the workplace, why they are used, where they are stored and how they are transported, and the safety requirements for handling chemicals. Evidence must demonstrate the ability to follow instructions and report concerns if unsafe practices, equipment or environmental conditions are observed. The skills and knowledge covered must be transferable to other work environments. For example, a person who has been inducted into the use of chemicals in a particular workplace should be able to transfer that knowledge and skill to another workplace, although different chemicals may be present.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC1801A   Prepare for work

Unit Descriptor   This competency standard covers the process of preparing to work in an agricultural, horticultural or conservation and land management industry. It requires the ability to observe safe work practices, communicate with others, contribute to a productive working environment, and follow good environmental practices. Preparing to work with plants, animals and/or land requires knowledge of safe work practices, communication procedures, systems and technology, industry expectations of conduct, presentation and work performance, and good environmental practices in the workplace.

Unit Sector   No sector assigned

ELEMENT		PERFORMANCE CRITERIA
1. Observe safe work practices	1.1	**Protective clothing and equipment** is used according to best practice when completing work tasks.
	1.2	Safety of machines, tools and equipment is checked before use.
	1.3	Correct **manual handling** techniques are used.
	1.4	**Hazards** are reported to supervisor.
	1.5	Supervisors are immediately informed verbally when there is an emergency.
	1.6	Machines, tools and equipment are operated to manufacturers specifications and in accordance with supervisor's instructions.
	1.7	Safety procedures involved in handling of hazardous substances are interpreted and followed as required.
	1.8	Safety procedures to protect people in the workplace are followed.
2. Communicate with others	2.1	**Instructions and notices** are interpreted correctly and observed.
	2.2	Simple messages from clients and customers are taken and passed to supervisor.
	2.3	**Communication** with others is conducted in a courteous manner and is appropriate to age, culture, linguistic background and position in the organisation.
3. Contribute to a productive working environment	3.1	Work practices contribute positively to quality, productivity and conditions, and promote co-operation and good relationships.
	3.2	Industry expectations of **conduct and presentation** are determined and observed.
	3.3	**Information** on working in the industry including **employment terms and conditions** is collected.
	3.4	Work is consistent with workplace standards relating to anti-discrimination and workplace harassment.

4. Follow good environmental practices	4.1	Work practices relating to potential environmental impacts are recognised and followed, and clarification is sought where necessary.
	4.2	**Environmental threats and potential hazards** are recognised and reported to supervisor.
	4.3	**Contributions** are made to improve environmental work practices.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Observe safe work practices.
- Communicate with others.
- Contribute to a productive working environment.
- Follow good environmental practices.

Required knowledge:

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:

- Hazards in the industry.
- OHS legislative requirements and Codes of Practice including manual handling and use, maintenance, and storage of protective equipment and clothing.
- Communication procedures, systems and technology relevant to the industry.
- Industry expectations of conduct, presentation and work performance (including quality and productivity).
- Appropriate behaviour relating to anti-discrimination and sexual harassment.
- Industry employment terms and conditions and career pathways.
- Good environmental practices in the workplace.
- Environmental issues relevant to the industry.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Through verbal or written communications with others or supervisor.	1
Collecting analysing and organising information	Through observation of instructions and notices, reporting directly to supervisors, and through completion of relevant records.	1
Planning and organising activities	Working effectively in the industry requires limited planning and organising.	1
Working with others and in teams	Through participating with others in undertaking work tasks.	1
Using mathematical ideas and techniques	Not Applicable.	-
Solving problems	Problems requiring simple solutions may arise and should be referred to supervisors for guidance.	1
Using technology	Technology will be used in communications with others.	1

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What **protective clothing or equipment** may be required?	• Personal protective equipment (PPE) may include ear, eye and chemical protection, gloves, respirator, safety harness, protective clothing and headgear.
What **hazards** may be relevant to this competency standard?	• Equipment (including powered tools) and machinery operation and maintenance, vehicles, mechanical malfunctions, exposure to moving parts including hydraulics, noise, chemicals, gases, dust, manual handling, plants and animals, solar radiation, electricity, overhead hazards such as powerlines, water bodies, firearms, explosives, damaged or broken structures, damaged or worn equipment, items blocking exits, items of equipment in areas used for access, poor surfaces, and spillages and breakages.
What is included under **manual handling?**	• Moving, lifting, shovelling, loading materials, pulling, pushing, up-ending materials, hand tool use, and handling plants and animals.

What types of **instructions and notices** may be relevant to this unit?	• Verbal and written directions, notes, messages, rosters, labels, symbols, signs, tables, simple graphs, personnel information, safety material, dockets with customer/client details, enterprise specific data, and industry network details.
Which forms of **communication** may be relevant?	• Face to face, telephone, written means, computers, e-mail, facsimile, 2-way radio, mobile phone, attendance at industry forums, paging systems and answering machines.
What **conduct and presentation** may be relevant to this standard?	• Conduct includes safe behaviour when completing work tasks, punctuality, co-operation with others, and in following directions and courtesy towards others. Presentation includes dress requirements for personal safety in the working environment, the wearing or use of personal protective equipment, personal and workplace hygiene, and personal presentation for safety, e.g., the need to cover long hair or remove jewellery.
What **information** about the industry may be relevant to this standard?	• Different sectors of the industry and the services available in each sector, relationship between sectors and other industries, industry working conditions, legislation and OHS Codes of Practice that affects the industry, industrial relations issues and major organisations, career opportunities within the industry, work ethic required to work in the industry and industry expectations of staff, and quality assurance
What **employment terms and conditions** may be included in this unit?	• Workplace agreements, relevant union bodies, relevant awards, employment contracts and workplace requirements and etiquette.
What **environmental threats and potential hazards** may be included in this competency standard?	• These could include spills, leaks, pollution, planned and unplanned emissions, accidents and disposal of waste, and damage or disruption to ecosystems. Also includes plants, animals or diseases that are classified as a threat or problem in an area, changes in land use, fire risks and threats, and inappropriate human interaction on the environment.
What **contributions** to good environmental work practices may be made?	• Positive and prompt responses to changes in work practices that help the environment, discussion of environmental issues with fellow workers, reporting to supervisors on observations or information about potential environmental threats, and assistance in maintenance of records.

EVIDENCE GUIDE

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

Competence in preparing to work in an agricultural, horticultural or conservation and land management industry requires evidence that skills and knowledge have been successfully demonstrated in a workplace or equivalent situation. These skills and knowledge required for preparing to work in an agricultural, horticultural or conservation and land management industry must be transferable to a range of work environments and contexts. For example, this could include different workplaces, groups of co-workers, and industry sectors.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**

RTC2005A
Unit Descriptor

Fell small trees

This competency standard covers the process of small tree felling work where hazards are assessed as low risk. Felling requires assessing conditions and surroundings, and identifying falling requirements, preparing and maintaining felling equipment, bringing the tree down, and completing clean-up operations. Tree felling is usually performed under routine supervision with intermittent checking. Responsibility for some roles and coordination within a team may be required. Competency is demonstrated by the application of knowledge and skills to a range of tree felling tasks and roles usually within established enterprise guidelines.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Identify tree felling requirements	1.1 **Instructions** for tree felling operations are received and clarified with supervisor prior to work being undertaken.
	1.2 Topography and site conditions are assessed and **factors influencing the natural direction of fall** are identified and confirmed with supervisor.
	1.3 Tree is visually assessed and **factors influencing the tree felling operation** are identified and confirmed with supervisor.
	1.4 Natural direction of fall, safe fall zone and exclusion zone are **determined** and confirmed with supervisor.
	1.5 The **environmental implications** of the tree felling operation are identified, and the likely outcomes assessed and reported to the supervisor.
	1.6 **OHS hazards associated with felling operation** are identified, risks assessed and reported to the supervisor.
2. Prepare for tree felling	2.1 **Feeling equipment** and component options that are appropriate to the task being undertaken are selected and prepared.
	2.2 Appropriate **support tools** are prepared, transported and placed to minimise felling delays.
	2.3 Suitable **safety equipment** and **personal protective equipment (PPE)** are selected, checked, used, maintained and stored.
	2.4 Fall zone is cleared of obstacles and articles which may be damaged by felled tree according to enterprise policy.
	2.5 Clear escape route is established appropriate to the site and according to recognised guidelines.

3. Fell tree	3.1	Location of other personnel is noted and monitored.
	3.2	**Standard tree felling techniques** are determined by ground conditions and state of canopy, and according to enterprise policy.
	3.3	**Corrective action** is taken in response to changing conditions or problems encountered.
	3.4	Planned escape route is used when tree starts to fall.
	3.5	Fall of tree and movement on ground are monitored until tree is stable
	3.6	Safe working practices are employed according to **OHS requirements** .
4. Complete tree felling operation	4.1	Appropriate method of clearing the site of felled tree is determined.
	4.2	Machinery required for removal of felled tree is selected and used according to manufacturers specifications and OHS requirements.
	4.3	Fall site is cleared of tree and all tree debris according to enterprise standards.
	4.4	Load to be removed is secured according to given instructions, using appropriate equipment.
	4.5	Tools and equipment are cleaned, maintained and stored consistent with manufacturers specifications and enterprise guidelines.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Interpret work procedures including hazard and risk analysis and maintenance schedules.
- Demonstrate safe working practices.
- Communicate orally and using hand signals with other operators to maintain effective and safe felling.
- Participate in teams and contribute to team objectives.
- Calculate or estimate distances such as safe fall zones and exclusion zones.
- Measure distances.
- Monitor and maintain tree felling tools and equipment.
- Recognise structural defects, common diseases, pests, and nutrition deficiencies.
- Operate a chainsaw.

Required knowledge:

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:

- Basic operational and maintenance requirements of tree felling equipment.
- Safe working practices for chainsaw operation.
- Safety procedures and potential hazards for working safely in the amenity tree industry.
- Emergency and First Aid procedures.
- The effect of tree removal on the environment.
- Local government regulations that apply to tree removal where appropriate.
- Identification of services and other hazards that affect the performance of the unit.
- Principles and methods of inspecting trees to identify structural defects.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information about specific tasks associated with the job, such as limitations in conditions and trees and hazards encountered may be communicated to work colleagues and the supervisor.	1
Collecting analysing and organising information	Information such as site and tree inspection results, safety issues and work schedules should be discussed with the supervisor and work team members before tree felling commences.	1
Planning and organising activities	Tree and site assessment, pre-operational checks and organisation of tools, equipment and tasks should be organised before tree felling begins.	1
Working with others and in teams	Felling small trees may involve working with other members of a team to complete operations in a safe and timely manner.	1
Using mathematical ideas and techniques	Mathematical techniques may be applied when measuring tree length and distances, the area of exclusion and fall zones, fuel volumes, and capacity of trailers for tree removal.	1
Solving problems	Problems relating to processes, unexpected characteristics, movement and condition of the tree, loss of control of tree in falling, faulty equipment, workplace safety, other team members, environmental issues, and interruption of works may require problem solving.	1
Using technology	Technology may be applied in the preparation, use and maintenance of chainsaws and arboricultural tools and equipment, and communication systems such mobile phones and 2-way radios.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What type of **tree** is covered by this standard?	• Trees may include small and medium sized (maximum height 6m and maximum diameter at breast height, DBH, 300mm).

What **instructions** may be relevant when undertaking tree felling operations?	• Instructions may include Standard Operating Procedures (SOPs) or verbal directions from manager, supervisor, or senior operator; work notes, routine maintenance schedules, manufacturers service specifications and operators manuals, waste disposal, recycling and re-use guidelines, and OHS procedures.
What **factors** may **influence the natural direction of fall?**	• Factors influencing the natural direction of fall may include ground growth, ground slope, ground hazards, wind speed and direction.
What **factors influencing the tree felling operation** need to be considered when making an assessment of the tree?	• Factors influencing the tree felling operation, which may be determined by assessing the tree, include height of tree, weight bias, canopy distribution, lean of tree, condition of trunk, decay or dead branches, species.
How is the **safe fall zone** determined?	• The safe fall zone is determined by calculation of height of tree using published mathematical principles. The safety margin for fall zone is determined by identifying wind direction and speed at the time of felling.
How is the **exclusion zone** determined?	• The exclusion zone may be determined by calculating a minimum of twice the height of the tree, for a full circle around the tree so that no people are put at risk from the tree falling or branches flinging off.
What **environmental implications** may impact on tree felling operations?	• Environmental implications may include both the positive and negative affects of altering the microenvironment created by trees, levels of noise, dust, and high activity vehicle traffic.
What **hazards associated with felling operation** may need to be taken into consideration?	• OHS hazards may include working near power lines, tree integrity, manual handling, moving equipment and vehicles, sharp hand tools, falling trees, branches and equipment, uneven surfaces, UV radiation, heat and cold, fatigue, working alone, noise, insects and animals.
What **felling equipment** is relevant to this standard?	• Felling equipment may include small chainsaw (up to 350mm bar with engine capacity not exceeding 50cc), axes and saws.
What **support tools** may be required to undertake tree felling operations?	• Support tools may include axe, sledge hammer, alloy and plastic wedges, ropes, hand winches, hand saw, tape measure, height meter, mobile phone.

What **safety equipment** may be required?	• Safety equipment may include safety signs, barricades, and first aid kit.
What **PPE** may be required to undertake arboriculture support operations?	• PPE may include steel cap boots, hard hat, ear protection, protective eyewear, hearing protection, cut resistant trousers or chaps, reflective vest, gloves, helmets with face masks, and sun protection (e.g., sun hat, sunscreen).
What **corrective action** may be required during tree felling operations?	• Unexpected characteristics of the tree may require modifications to the felling plan, cuts made which lead to potential loss of control of tree in falling may require request for assistance, cutting technique may need adjustment in response to movement and condition of tree.
What **OHS requirements** are relevant to this standard?	• OHS regulations include Codes of Practice & AS 2727 - 1997, Chainsaws - Guide to safe working practices. Requirements include carrying of correct first aid kit, wearing of required PPE, manual handling, maintenance of safe Amenity Tree Industry practices, recognition of hazards and required actions in tree felling, and use of approved containers for fuel and oil.
What methods may be utilised to **clear the site?**	• The site may be cleared by logging, chipping or burning the branches that are cut off the trunk, and removed from site in trucks or trailers. Felled trees may be cut into manageable lengths, loaded, secured and removed from the site. The site may then be raked and all rubbish removed. Alternately, it may not be necessary to remove trees from or to clear certain sites (e.g., bushland, natural areas).

EVIDENCE GUIDE

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

Competence in felling small trees requires evidence that a person assessing felling conditions and surroundings can identify appropriate felling requirements, prepare and maintaining felling equipment, and bring down the tree as required by individual enterprises. The skills and knowledge required to fell small trees must be transferable to a different work environment. For example, different felling techniques will be required for trees exhibiting various characteristics such as softwood, hard wood or diseased specimens. The practical knowledge of techniques used to remove a diseased tree from a median strip during council works may be applied in a different context to removing a rogue tree from a public garden.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **critical 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2012A
Unit Descriptor

Plant trees and shrubs

This competency standard covers the manual planting of trees, shrubs and other containerised and bare-rooted plants, and related tasks such as site preparation and pre-planting treatments. It applies to planting activities in parks and gardens, domestic and commercial landscapes, sporting facilities, planting of windbreaks and shelter belts, programmed environmental maintenance, rehabilitation of natural areas, and the reversal of environmental degradation. Work is usually done under routine supervision and with intermittent checking. Competency is demonstrated by the application of knowledge and skills to a range of planting tasks and roles usually within established enterprise guidelines.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for planting operations	1.1 Planting plan/instructions are obtained and confirmed with supervisor
	1.2 **Occupational Health and Safety hazards** are identified, risks assessed and reported to the supervisor
	1.3 **The environmental implications** associated with the planting program are identified and the likely outcomes assessed and reported to the supervisor
	1.4 **Tools and equipment** are selected that are appropriate to the task being undertaken
	1.5 Suitable ***personal protective equipment(PPE)*** is selected, used, maintained and stored according to best practice
2. Prepare planting site	2.1 Tools and equipment for planting are used and maintained according to enterprise work procedures
	2.2 Site is marked out according to planting plan and/or ***enterprise work procedures***
	2.3 Competing plants are ***controlled*** according to supervisor's instructions
	2.4 Soil is ***modified*** where necessary according to the requirements of the trees to be planted and supervisor's instructions
	2.5 Planting holes are ***excavated*** according to the needs of the plant and enterprise guidelines
3. Prepare trees and shrubs for planting	3.1 Trees and shrubs are watered prior to planting to ensure entire root ball is damp
	3.2 Trees and shrubs are removed from containers without damage or dehydration
	3.3 Examine plant and root ball and assess suitability for purpose and reject if unsuitable
	3.4 **Root treatments** are applied according to supervisor's instructions

4.	Install trees, shrubs and/or other plants	4.1	Plants are placed in hole according to enterprise guidelines
		4.2	Planting hole is back-filled and soil consolidated
		4.3	Plants are watered in where required to eliminate air pockets
5.	Complete planting operations	5.1	**Post planting treatment** is applied according to the requirements of the species and supervisor's instructions
		5.2	Tools and equipment are cleaned, maintained and stored according to enterprise and Occupational Health and Safety requirements
		5.3	**Waste** is collected and disposed of or recycled to minimise damage to the external environment
		5.4	**Records** of planting operations are maintained in the appropriate format

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Interpret work procedures including planting plans and site map.
- Communicate with team members and supervisor.
- Participate in teams and contribute to team objective.
- Calibrate tools and equipment.
- Measure distance.
- Calculate area, planting and seeding rates, volumes and treatment application rate.

Required knowledge:

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:

- Chemical use, toxicity and mode of action of chemicals used.
- Awareness of the impact of planting activities on the surrounding environment.
- Planting techniques relating to specific species.
- Factors affecting the timing and method of tree or shrub planting.
- Initial establishment needs of juvenile plants.
- Soil amelioration techniques.
- Principles relating to the application of mulches and fertilisers.
- Basic plant structure and the physical and nutritional requirements of plants.
- OHS legislative requirements and Codes of Practice.
- Manual handling techniques.
- The effect of adverse outdoor climatic conditions (e.g., rain, hail, or very high ultraviolet radiation), which may prevent or impede planting trees and shrubs.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to planting activities and problems encountered should be discussed with other members of the work team and the supervisor.	1
Collecting analysing and organising information	Enterprise work procedures and planting plan should be consulted, interpreted and applied to coordinate revegetation activities with further clarification sought from the supervisor where necessary.	1
Planning and organising activities	Equipment, materials and work procedures for planting activities will need to be arranged before and between work periods, and there will be some responsibility for coordinating work with others.	1
Working with others and in teams	Planting trees and shrubs may involve working with other members of a team to complete the planting program within given timelines.	1
Using mathematical ideas and techniques	Measuring distance, calculating areas, calibrating tools and equipment, estimating quantities of materials, measuring treatment volumes and rates, and the depth and volume of planting holes will require mathematical application.	1
Solving problems	Problems relating to planting techniques, processes, the planting area, workplace safety, tools and equipment, environmental issues and other team members may arise when planting trees and shrubs.	1
Using technology	Technology may be applied in the preparation, use and maintenance of horticultural tools and equipment.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **OHS hazards** may be associated with the planting of trees and shrubs?	• Hazards may include, solar radiation, dust, noise, air and soil-borne microorganisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, holes, slippery and uneven surfaces, and spider and insect bites.
What **environmental implications** may be associated with planting trees and shrubs?	• Environmental implications associated with the planting program may be beneficial to the external environment (particularly in regard to planting of windbreaks and shelter belts, programmed environmental maintenance, and the reversal of environmental degradation), when the trees and shrubs planted are consistent with the needs of the flora and fauna indigenous to the geographic region. However, work activities undertaken may have immediate detrimental effects on the surrounding environment, including misuse of chemicals, contamination of ground water or stormwater from excess run-off, levels of noise, dust, and inappropriate waste disposal.
What **tools and equipment** may be used to complete tree and shrub planting works?	• Tools and equipment may include secateurs, knives, spades, forks, trowels, rakes, hoes, spray equipment, augers, buckets, brooms, wheelbarrows, hoses and hose fittings, ancillary equipment such as stabilising materials, weed mats, stakes, tree guards.
What **PPE** may be required to carry out tree planting works?	• PPE may include hat, boots, overalls, gloves, goggles, respirator or facemask, face guard, hearing protection and sunscreen lotion.
What **enterprise work procedures** are appropriate for this standard?	• These may include supervisors instructions and orders, planting plans and specifications, client's instructions, sketches, work schedules, manufacturers guidelines, company Standard Operating Procedures (SOP), Material Safety Data Sheets (MSDSs), waste disposal, recycling and re-use guidelines, and OHS procedures.
How might competing plants be **controlled** to reduce competition?	• Competing plants may be controlled by the application of herbicide to weeds by spray, wick, cut and paint or injection, hand grubbing of seedlings, trimming or removal of whole plants or seed heads.

How might soil be **modified** to make it suitable for the planting program?	• Soil modifications may include tilling, deep ripping, addition of nutrition/fertiliser or other organic compounds, conditioning additives to effect a change in the water holding capacity of the soil, soil structure, soil texture, and pH, such as gypsum, sand, lime, dolomite, chemicals, mulches.
What specifications may apply to the **excavation** of planting holes?	• Specifications for planting holes may include dimensions to match plant size and root depth, gouging sides of planting hole to remove glazing of sidewalls.
What trees and shrubs may be relevant to this standard?	• Trees and shrubs may include container grown, tube grown or bare rooted plants across a range of species and growth habits (e.g., groundcovers, climbers, bulbs, annuals, grasses, lilies, etc.) that do not require mechanised lifting devices.
What **root treatments** may be required prior to planting?	• Root treatment may include trimming diseased or damaged roots, cutting off lower section of root ball, separating bound roots, teasing out roots to fit planting hole, removing excess potting media, dips (fungicides, bacterial, hormone).
What **post-planting treatments** may be required to maintain plant health and quality?	• Post-planting treatments may include weed and disease control, mulching, fertilising, watering, pruning (formative pruning, removal of damaged or dead materials, canopy reduction, thinning, lifting), securing (tying, staking, bracing, anchoring, guying) and installation of tree guards and protective materials.
What **waste material** may be relevant to this standard?	• Waste material may include unused work material, plant debris, litter and broken components. • Plant-based material may be mulched or composted, plastic, metal, paper-based materials may be recycled, re-used, returned to the manufacturer or disposed of according to enterprise work procedures.
What **records** may be relevant to this standard?	• Records may include number and type of plants and materials used in the planting program, injury and dangerous occurrence reports, treatments and/or amendments applied, chemical use, date, problems encountered.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function RUH.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2016A
Unit Descriptor

Recognise plants

This competency standard covers the process of recognising plants that are commonly encountered in horticulture or land management situations. Recognising plants is likely to be under routine supervision with intermittent checking by supervisors, requires acknowledge of plant identification techniques, plant nomenclature, enterprise procedures for obtaining and supplying advice and information about plants, and enterprise expectations about the range and number of plants to be recognised.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for plant recognition	1.1 **Range of plants** requiring recognition is identified according to supervisors/customers needs.
	1.2 **Resources and equipment** for use in recognition activity are located and identified.
	1.3 Available **processes** for plant recognition are identified, selected and prepared for use.
2. Recognise specified plants	2.1 Specified plants are recognised and **named** according to their **identifiable characteristics.**
	2.2 Brief descriptions of plant habits, characteristics and significant features are recorded according to enterprise requirements
	2.3 The advice of supervisors is sought when necessary and where appropriate in the recognition activity
3. Complete recognition of plants	3.1 Information about plants is **documented** according to enterprise requirements and added to the reference collection.
	3.2 Reference collection is updated as new plants are recognised.
	3.3 Any plant debris is disposed of according to enterprise guidelines.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Recognise the range of plants specific to the enterprise, and describe their attributes, main purpose within the enterprise, specific handling requirements and growth requirements.
- Use simple keys.
- Communicate with customers and clients, interpret questions effectively, and provide limited advice and information about the plants specific to the enterprise.

Required knowledge:

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:

- Range of plant identification techniques.
- Plant nomenclature.
- Enterprise procedures for obtaining and supplying advice and information about plants.
- Enterprise expectations about the range and number of plants to be recognised.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to plant recognition activities and problems encountered should be discussed with other members of the work team and the supervisor.	1
Collecting analysing and organising information	Enterprise specific plants should be inspected visually research processes undertaken, and the information gained discussed with the work team and supervisor.	1
Planning and organising activities	Equipment, materials and work procedures for recognition activities will need to be arranged before and between work periods.	1
Working with others and in teams	Plant recognition activities may involve working with other members of a team to complete the program, or work alone with advice and help sought where necessary.	1
Using mathematical ideas and techniques	Measuring the length, regularity and period of plant identifying features will require mathematical application.	1
Solving problems	Problems relating to the difficulty of recognising certain features of a plant may arise.	1
Using technology	Technology may be applied in the provision of information about plants to clients and customers.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

What **range of plants** may be relevant to this standard?	• Plants may be native or introduced species including weeds. Plants will comprise those commonly encountered within the industry workplace.
How will plants be **named?**	• Common names will be used in recognition of plants. However, in some situations botanical names may be required. In Indigenous communities, language names can be used in lieu of common names.

What **resources** may be used to recognise plants?	• Resources may include enterprise or public library, business and research organisation websites, suppliers and contractors, enterprise supervisor and team colleague experience, and experts in the local area or industry sector. It may also include personal or enterprise reference collection.
What **equipment** may be used to recognise plants?	• Equipment may include computer assisted or manual word processors, telecommunication appliances, plant fixing materials, secateurs, folders and exercise books, pens and pencils.
What **processes** may be available for aid in the recognition of plants?	• Processes may include literature searches, internet browsing, personal consultation with experts, specimen collections, field guides, workplace notes, and use of simple keys.
What identifiable **plant characteristics** may be useful when identifying plants?	• Plant characteristics may include the shape, size colour, texture, presence of hairs and spikes on leaves, stem, fruit, flower or seed.
What **documentation** is involved in identifying plants?	• Documentation may include a written description of the plant species including common and botanical names, visible characteristics, details of occurrence or origin, optimum growth requirements and/or a herbarium of plant samples preserved according to the requirements of the enterprise or industry sector.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential information about assessing this competency standard for consistent performance** and **where and how it may be assessed,** n the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2026A
Unit Descriptor

Undertake propagation activities

This competency standard covers the process of plant propagation undertaken in enterprises involved in plant propagation and production. Competency is demonstrated by the application of knowledge and skills to a range of propagation tasks, such as preparing parent plant stock, collecting propagation materials, pre-planting treatments and basic plant propagation techniques. This unit does not include budding and grafting. The work is carried out within routine methods and procedures under supervision with intermittent checking. Responsibility for some roles and coordination within a team may be required.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for plant propagation	1.1 **Workplace information** is interpreted and clarified according to instructions.
	1.2 **OHS hazards** in the work area are identified, rectified and/or reported.
	1.3 Suitable **personal protective equipment** (PPE) is selected, used, maintained and stored.
	1.4 **Tools and equipment** appropriate to the task being undertaken are selected and prepared according to enterprise guidelines.
	1.5 Propagation material is **collected** using the appropriate method for the species and according to enterprise guidelines.
	1.6 Propagation material is **maintained and stored** to ensure maximum viability.
2. Propagate plants	2.1 **Pre-treatment** is applied and/or carried out appropriate to the propagation method and species.
	2.2 Propagation techniques are carried out according to the requirements of the species.
	2.3 Propagation material is handled in a way that minimises damage and maximises viability.
	2.4 Water and nutrients are applied to suit the media conditions, plant requirements and **propagation techniques** employed.
	2.5 **Labels** are applied according to enterprise guidelines.
	2.6 Plant health is monitored and **remedial action** is taken according to enterprise guidelines.
	2.7 Propagation activities are carried out according to **OHS requirements.**
3. Complete propagation activities	3.1 **Records** are completed accurately and at the required time according to enterprise guidelines.
	3.2 Tools and equipment are cleaned and stored according to manufacturer specifications and enterprise guidelines.
	3.3 **Waste** is removed and **hygiene practices** are followed according to enterprise and OHS requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Read and interpret instructions.
- Participate in teams and contribute to team objectives.
- Communicate effectively with fellow team members.
- Carry out a variety of propagation techniques.

Required knowledge:

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:

- Maintenance requirements of tools and equipment used for propagation.
- OHS requirements of employees.
- Quality specifications/characteristics of a range of parent plants and propagation materials.
- Basic plant nutrition.
- Record keeping relevant to the work function.
- Enterprise requirements for handling and disposal of nursery wastes.
- Enterprise hygiene requirements.
- Common problems that may occur while performing propagation activities in a controlled environment.
- Propagation methods required for a range of plants.
- OHS legislative requirements and Codes of Practice.
- OHS procedures.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to work issues, completion and problems encountered, may need to be reported or discussed with the supervisor and others in the work team.	1
Collecting analysing and organising information	Work instructions, such as the daily planting program, should be located, interpreted and applied, with further clarification sought as necessary. Information relating to propagation activities, such as production statistics, should be noted and recorded at the completion of work tasks.	1
Planning and organising activities	Undertaking propagation activities involves organising equipment and materials for plant propagation, and planning activities around daily work routines. Discussions with the supervisor and other team members may be required in order to complete tasks efficiently in a logical sequence and in a timely manner.	1
Working with others and in teams	Propagation activities may involve working with other members of the work team to coordinate operations. For example, the collection and preparation of equipment and planting materials may be organised with another team member who acts in a support capacity.	1
Using mathematical ideas and techniques	Skills in counting, tallying and estimation are required to calculate basic production statistics, quantities and personal production rates.	1
Solving problems	Problems relating to propagation activities may arise during daily work routines that require corrective action or consultation with supervisor.	1
Using technology	Technology may be applied in the use of heat sterilisation equipment and computer databases and calculators.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **workplace information** may be relevant when undertaking propagation activities?	• Planting program, Production Statistics, Standard Operating Procedures (SOPs), specifications, work notes, Material Safety Data Sheets (MSDSs), Nursery Industry Accreditation Scheme of Australia (NIASA) Guidelines, manufacturers instructions, product labels, or verbal directions from manager, supervisor, or senior operator.
What **OHS hazards** may be identified in the work area?	• Hazards may include manual handling, hazardous substances, moving equipment and vehicles, sharp hand tools, solar radiation, slippery or uneven surfaces, and insect and spider bites.
What **personal protective equipment** (PPE) may be needed to undertake propagation activities?	• Personal protective clothing and equipment may include respirators, overalls, boots, gloves, sun hat and sunscreen lotion.
What **tools and equipment** may be required for supporting propagation activities?	• Tools and equipment may include secateurs, knives and other cutting instruments, plastic containers and trays, wheelbarrow, trolley, mechanical trolley, shovel, water spray container, dibblers and rubbish bins.
How might propagation materials be **collected?**	• Collection procedures for propagation materials may include taking leaf or stem or root cuttings, gathering seeds, lifting bulbs, and dividing clumps.
What **maintenance and storage** procedures may apply to collected propagation materials?	• Maintenance and storage procedures may include controlling environmental parameters such as moisture, air, humidity and temperature by methods such as refrigeration, wrapping in wet hessian or plastic, drenching, placing in water and burying in sawdust or other media.
What **pre-treatments** may be relevant to this standard?	• Pre-treatments may include hormones, fungicides, cold/moist stratification, rehydration, heat or chemical disinfestation, breaking seed coat, cleaning, division and sterilisation.

What **propagation techniques** may be relevant to this standard?	• Propagation techniques may include seed - (small seed sown in modules and pricked out or sown in seedbeds by hand), cuttings - (hardwood stem, semi-ripe stem, leaf, root), simple layering, growing on tissue-cultured plants, division or splitting, spores.
What **label** information may be required when propagating plants?	• Label information may include date of propagation, species, variety, batch number and cultivar, treatments applied, strike rate.
What **remedial** action may be taken to control pests and diseases?	• Remedial action may include applying preventative fungicides, fertilisers, removing and disposing of damaged plant material, irrigation.
What **OHS requirements** apply to this standard?	• OHS requirements may include identifying hazards, assessing and reporting risks, cleaning, maintaining and storing tools and equipment, appropriate use of personal protective equipment including sun protection, safe operation of tools and equipment, safe handling, use and storage of chemicals and hazardous substances, correct manual handling; basic first aid, personal hygiene and reporting problems to supervisors.
What **records** may need to be maintained in regard to propagation activities?	• Records may include date of propagation, type of propagation carried out, number of plants carried out, source of propagation material, treatments carried out, spray records
What **waste** may be relevant to this standard?	• Waste may include unused propagation material, potting media wastage, damaged plants, and damaged pots.
What **hygiene practices** may apply to this standard?	• Hygiene practices may include removing all dirt and organic matter from production surfaces, tools and equipment, disinfecting production surfaces, tools and equipment, disinfestation and removal of plant and media waste, hand washing, footbaths, access restrictions and handling practices which minimise cross contamination.

EVIDENCE GUIDE

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

Competence in undertaking propagation activities requires evidence that basic propagation activities can be performed in such a manner as to satisfy the workplace or client requirements. Skills involving hygiene practices (disinfestation) and must also be evident. The skills and knowledge required to undertake propagation activities must be transferable to a different work environment. For example, this could include different species, plant types, environments and propagation techniques.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2203A
Unit Descriptor

Conduct visual inspection of park facilities

This competency standard covers the process of routine visual inspection of park and recreational facilities to identify visible hazards and existing and/or potential risks. Work is likely to be under routine supervision with intermittent checking. Responsibility for some roles and coordination within a team may be required. Inspection at this level is usually carried out according to establish guidelines.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for visual inspection	1.1 Site plans and inspection checklists are interpreted and clarified with the supervisor.
	1.2 Specific terminology used in checklists is clarified.
	1.3 **Park site** to be inspected is identified and located on the site plan.
	1.4 Park **facilities, equipment** and **services** are identified on site from checklist descriptions and site plan.
2. Undertake visual inspection	2.1 Park facilities, equipment and services are inspected and compared against enterprise presentation standards and OHS requirements.
	2.2 **Health and safety hazards** and **adverse environmental impacts** are identified and recorded on the appropriate form.
	2.3 Situations requiring urgent action are reported immediately to supervisor, in accordance with enterprise working procedures.
3. Submit report	3.1 Inspection activity, reports and checklists are concise and accurate, and comply with enterprise standards.
	3.2 Checklist and/or report is forwarded to supervisor promptly, according to enterprise working procedures.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Participate in teams and contribute to team maintenance and presentation objectives.
- Interpret instructions, communicate with team members and supervisor, and use the written materials necessary to effectively complete the inspection task.
- Measure distance and calculate area count multiple facilities of the same type, and compare numerically determined specifications to the enterprise standards.
- Assess the hazards and associated environmental implications of malfunctioning facilities, equipment and services.

Required knowledge:

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:

- Purpose of park facilities inspections, in providing information for effective maintenance and repair work particularly in relation to end use of the facilities and equipment, and the safety of users.
- The practical application of site plans, checklist descriptions and presentation standards to locate and effectively assess facilities and equipment against the required parameters.
- The effect of adverse outdoor climatic conditions (e.g., rain, hail, wind, or very high ultraviolet radiation), on park facilities inspection activities.
- Potential public nature of park inspection activities.
- Hazards investigation and risk assessment.
- Occupational Health and Safety issues, legislative requirements and Codes of Practice.
- Recognition of the range of park facilities, equipment and services relevant to the enterprise (including recommended use, safety parameters, maintenance schedules and manufacturers specifications).
- Terminology used to describe different components of the range of facilities, equipment and services relevant to the enterprise.
- The hazards that are likely to be encountered by visitors using the park facilities and equipment.
- Reporting requirements, procedures and materials for use in park inspection.
- Cleaning, servicing and hygiene requirements of public conveniences.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to the inspection activities and problems encountered should be discussed with other members of the work team and the supervisor.	1
Collecting analysing and organising information	Enterprise work procedures, site plans and presentation standards should be consulted, interpreted and applied to conduct visual inspection activities, with further clarification sought from the supervisor where necessary and in coordination with other work team activities at the site.	1
Planning and organising activities	Equipment, materials and work procedures for visual inspection of facilities will need to be arranged before and between work periods, and there may be some responsibility for coordinating work with others.	1
Working with others and in teams	The visual inspection program may involve working with other members of a team to complete the program.	1
Using mathematical ideas and techniques	Numerical comparison of actual facilities with the standards for presentation and safety will require mathematical application.	1
Solving problems	Problems relating to inspection techniques, processes, the park area, workplace safety, and other team members may arise during the inspection of park facilities.	1
Using technology	Technology may be applied in the preparation, use and maintenance of telecommunication and reporting equipment.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What kinds of **park site** may require visual inspection?	• A range of parks catering to public recreational activities may include municipal playgrounds, picnic grounds and playing fields, and State and Federal conservation, recreational and game reserves, and crown land.
What **facilities and equipment** may require inspection?	• Facilities and equipment may include playgrounds, playground soft fall and pathways, play equipment, parks and street furniture and structures, fences, barbeques, steps and stairs, bollards, tree and grass protection devices, bins, signs, toilets, shelter buildings and structures, and paved, turf and/or grassed recreational areas.
What **services** may require inspection?	• These may include power, gas, water, and telecommunication lines and outlets.
What **Health and safety hazards** may be identified?	• Health and safety hazards may include damage to services and outlets, damaged parts, broken glass, syringes, loss of soft surfacing, protruding nails, bolts and splinters, sudden changes in surface levels such as holes and trip points, and worn, rusted and weathered components, overfilled and damaged litter and recycling bins, waterlogged areas, and dysfunctional water bodies and features.
What **adverse environmental impacts** may be identified?	• These may include environmental nuisance levels of noise associated with the movement of damaged or unserviced parts, smoke emissions from malfunctioning barbecues, odours from malfunctioning water-based amenities and features, waterlogging and run-off associated with leaking water taps, lines and attachments, weed invasion associated with overgrown areas and edges, dumped rubbish, and natural ecosystem depletion associated with the removal of fallen logs and sticks by recreational visitors to fuel wood fires and barbecues when wood is not provided.

EVIDENCE GUIDE

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

Competence in conducting a visual inspection of park facilities requires evidence that a person working in a public environment can identify malfunctioning components of facilities, equipment and services, and the associated OHS and environmental hazards. The skills and knowledge required for this standard must be transferable to a wide range of work environments, with different facilities and use. For example, the inspection techniques required to identify malfunctioning components of equipment in a playground may also be used to assess and identify malfunctioning components of sports equipment on a playing field, as in preparing a turf surface for play.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **critical 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2209A
Unit Descriptor

Install, maintain and repair fencing

This competency standard covers the functions required to carry out safe and effective conventional fencing work. Conventional fencing refers to post and wire/wire netting under tension, and can be used for animal control or as a deterrent for people and vehicles. It requires a working knowledge of the uses and structure of a range of fences and fencing materials, equipment and tools. It requires an awareness of workplace safety and environmental practices associated with maintenance activities. The work functions in this standard are likely to be carried out under routine supervision within enterprise guidelines.

Unit Sector　　　No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for fencing work	1.1 **Tools and materials** appropriate to meet job requirements are selected and checked against the **work plan.**
	1.2 Faulty or unsafe tools are identified and segregated for repair or replacement according to **enterprise requirements.**
	1.3 **Hazards** in the workplace are assessed and minimised according to **OHS** and enterprise requirements.
	1.4 Transport of fencing materials and equipment (including safety equipment) is arranged and placed according to work plan.
2. Carry out fence installation, repair and maintenance	2.1 Suitable **personal protective equipment** is selected, used, maintained and stored according to OHS and workplace procedures.
	2.2 Fence is installed, maintained or repaired according to manufacturers guidelines, OHS and enterprise requirements.
	2.3 Gates are attached and appropriately positioned for correct operation and function according to work plan.
	2.4 Dismantling operations are carried out as required with a focus on minimising unnecessary damage and recovering all **re-useable materials.**
	2.5 **Repair** requirements are identified and carried out according to work plan procedures.
	2.6 **Replacement posts** are installed to appropriate level and secured through soil replacement and ramming.
	2.7 Wire is strung, mounted and fixed according to requirements of work plan or supervisor's instructions.
	2.8 All work is carried out safely according to OHS and enterprise requirements.

3. Complete fencing work	3.1	Post holes are firmly filled to remove potential hazards and minimise environmental impact.
	3.2	Work site is **cleared and tidied** and all non-reusable materials are disposed of in an environmentally responsible manner.
	3.3	Tools and re-usable materials are transported safely from the work site, cleaned and stored according to enterprise and manufacturers recommendations.
	3.4	Further identified work or repair requirements are reported according to enterprise requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Demonstrate safe working practices.
- Minimise environmental impact.
- Interpret and apply task instruction.
- Complete work efficiently within timeframes.
- Maintain physical fitness.
- Read and interpret work plans.
- Communicate with work team and supervisor.
- Calculate and measure fencing wire requirements.

Required knowledge:

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:

- Uses and structures of a range of conventional fence types.
- Uses and types of fencing tools and materials.
- Fencing wire, knots, tensions, capabilities and limitations.
- Strainer assembly, gate types and construction.
- Common fencing hazards and safety precautions.
- OHS legislative requirements and Codes of Practice including hazard and risk assessment relevant to the work function.
- Relevant Codes of Practice with regard to protection of the environment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to the operation of tools and application methods may be discussed with the supervisor.	1
Collecting analysing and organising information	Information with regard to the performance of tools and any identified faults may be reported to the supervisor for repair and organised by records.	1
Planning and organising activities	Activities involving filling in post holes may be planned and coordinated with repair activities to minimise potential hazards and environmental impact.	1
Working with others and in teams	In the application of methods and procedures to complete scheduled fencing tasks within timeframes.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in the calculation and measurement of fencing wire and other materials to complete tasks.	1
Solving problems	Faulty tools or malfunctions may be reported for repair, and arrangements made for replacement in order to minimise disruption to repair and maintenance schedules.	1
Using technology	Technology may be used to communicate and calculate information with regard to fencing requirements.	1

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **tools and materials** might be used?	• Tools may include post driver, posthole borer, crowbar, wire strainers and fencing pliers. Materials may include fencing wire which may vary - plain, barbed, ringlock and netting.

What information may be included in a **work plan?**	• This may include designated work tasks, tools and materials for use, procedures for pre-start and safety checks of tools, timeframe for work completion, supervisor's instructions and reporting requirements.
What may be involved in routine **pre-operational checks** of tools?	• This may include routine safety and pre-start checks, and preparatory procedures including cleaning, lubricating, hand sharpening, tightening, basic repairs and adjustments.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators' manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.
What **hazards** may be relevant to this standard?	• This may include exposure to hazardous noise, treated timbers, wire breaking, manual handling, trip points, dust solar radiation and adverse weather conditions. It may also include electricity associated with powered tools.
What **OHS** requirements may be applicable to this standard?	• Safe systems and procedures for: • the use of fencing tools and materials • the operation of vehicles • hazard and risk control • lifting, carrying and handling techniques • manual handling especially when handling posts, coils of wire and using tools • the use, maintenance and storage of personal protective equipment • outdoor work including protection from solar radiation • protection from dusts • administering first aid.
What **personal protective equipment** may be relevant to this standard?	• This may include boots, overalls, gloves, eye protection, hearing protection and sun protection.
What **re-useable materials** may be recovered?	• This may include wire, hinges, supports, gates, netting and posts.
What **repairs** may be carried out?	• This may include replacing posts, rejoining and restraining wires, gate hinges, gate chains and gates, other repairs to gates.

What requirements may be considered when **replacing posts?**	• Replacements posts need to be consistent with existing fence, height and type.

What may be involved in **clearing and tidying** a work site?	• This may involve replacing soil, and clearing, removal and safe disposal of non-reusable materials.

EVIDENCE GUIDE

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

Competence in this standard requires evidence of the ability to select the correct tools and equipment and apply appropriate methods to carry out routine maintenance to conventional fences. It also requires the ability to apply task instruction, complete work requirements in an efficient and timely manner, identify re-usable materials, and minimise impacts to the environment. The skills and knowledge required must be transferable to a different work environment. For example, this could include different fencing types, environments and industry settings.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2210A   Maintain properties and structures
Unit Descriptor   This competency standard covers the functions required to maintain and repair properties and structures in a situation that does not require the specialist skills of another trade. It involves the application of basic skills and knowledge to match equipment and materials to job requirements, and select the appropriate tools to carry out repairs. The work is likely to be carried out under routine supervision with intermittent checking usually within a team environment.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Identify and confirm maintenance requirements	1.1 Visual inspections are conducted of **structures and facilities** to locate and evaluate defects, deterioration and impending defects.
	1.2 **Property infrastructure and resources** are checked for correct operation, minor maintenance needs and damage.
	1.3 **Maintenance plan** is confirmed according to supervisor's instructions and **enterprise requirements.**
2. Select and prepare tools, equipment and materials	2.1 **Tools, equipment and materials** appropriate to the job requirements are selected and checked for serviceability according to manufacturers specifications.
	2.2 Faulty or unsafe tools are identified and segregated for repair or replacement and reported according to enterprise requirements.
	2.3 Existing and potential **hazards** to health and safety are identified, assessed and reported according to **OHS** and enterprise requirements.
3. Carry out routine maintenance	3.1 Suitable **personal protective equipment** is selected, used, maintained and stored according to OHS requirements.
	3.2 **Routine maintenance** to structures and surroundings is carried out according to the maintenance plan and enterprise requirements.
	3.3 Minor repairs to building cladding, and treatments to structural finishes, are carried out as required to minimise deterioration.
4. Complete maintenance activities	4.1 Worksite, tools and materials are cleaned, returned to operating order, and stored according to OHS and enterprise requirements.
	4.2 Unwanted materials and waste from maintenance activities is collected, treated and disposed or recycled according to enterprise, OHS and **environmental** requirements.
	4.3 **Relevant information** is documented according to industry, enterprise requirements and OHS requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Interpret and apply task instructions.
- Operate a broad range of tools and equipment.
- Ability to work in team environment.
- Observe and report on the condition of structures and equipment.
- Demonstrate safe working practices.
- Communicate with work team and supervisor.
- Estimate and calculate volumes and usage.

Required knowledge:

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:

- Characteristics, capabilities and limitations of materials, equipment and tools.
- Operation of water taps and reticulation systems.
- Types of building cladding and finishes, purpose and use.
- Identification of defects and apppropriate repair methods.
- Appropriate selection of repair materials.
- OHS legislative requirements and Codes of Practice.
- Relevant Codes of Practice with regard to protection of the environment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information with regard to equipment operation, safety procedures and their application may be discussed with work colleagues or the supervisor.	1
Collecting analysing and organising information	Information with regard to the performance of equipment and completed repair and maintenance, may be detailed and organised by reports for analysis.	1
Planning and organising activities	Activities involving the maintenance, cleaning and storing of machinery and equipment may be planned and coordinated around work schedules or sequenced as required.	1
Working with others and in teams	In the application of methods and procedures to effectively complete scheduled maintenance projects within timeframes.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in the estimation and calculation of materials requirements.	1
Solving problems	Equipment faults or malfunctions will need to be arranged for repair or replacement to minimise disruption to work schedules.	1
Using technology	Technology may be used to communicate, measure and record information.	1

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **structures and facilities** might be relevant to this standard?	• This may include buildings, greenhouses, igloos, potting houses, shade houses, sheds, cool rooms, glass houses, staff rooms, water tanks, yards, stock handling structures, silage pits, fodder and grain storages, pergolas, poly-tunnels, park furniture, car parks, roads, pathways, work sheds, information boards, benches, landscape features and site furniture. Fences may include weld mesh, picket, post and wire, brick, and hedges.

What **property infrastructure and resources** might be relevant to this standard?	• This may include drains and drainage systems, waterways and water supply systems, dams, roads, tracks, soil conservation works, car parks, vegetation, windbreaks, paths, silage pits and loading bays. Drains may include agricultural drains, spoon or swale drains and culverts. Water supply may include irrigation systems, dams and troughs.
What information may be included in a **maintenance plan?**	• This may include specific intervals and procedures for maintenance procedures, designated work tasks, routine servicing procedures, instructions for pre-start and safety checks, repair requirements, current operational details, tools, parts and supplies allocated for use, instructions for cleaning and disposal of waste and contaminants, supervisors instructions, timeframe for work completion, and reporting requirements.
What **enterprise requirements** may apply to this standard?	• This may include local building codes, Australian Quality Standards, Standard Operating Procedures (SOPs), industry standards, work notes, product labels, manufacturers specifications, Material Safety Data Sheets (MSDSs), operator and emergency procedures manuals, technical information, enterprise policies and procedures (waste disposal, recycling and re-use guidelines), supervisors oral or written instructions and reporting requirements.
What **tools, equipment and materials** may be used?	• This may include hand or small power tools, cutting tools, and measuring equipment. Structural finishes may require paint or stains. Cladding maintenance may require corrugated iron, weatherboards, glass, shade cloth, plastic or cement sheeting. Concrete tools and equipment may also be required.
What **hazards** may be associated with maintenance activities?	• Workplace hazards may include exposure to loud noise and fumes, solar radiation, dust and hazardous substances. It may also include oil and grease spills and electricity while using powered tools.

What **OHS** requirements may be relevant to this standard?	• Systems and procedures for:
	  • the safe operation of tools and equipment
	  • maintenance and repair methods
	  • identifying and reporting hazards
	  • safe lifting, carrying and manual handling
	  • the safe handling and storage of hazardous substances
	  • the appropriate use of personal protective equipment
	  • outdoor work including protection from solar radiation
	  • working at heights, e.g., from a ladder
	  • working in confined spaces
	  • protection from hazardous noise, organic and other dusts.

What **personal protective equipment** may be relevant to this standard?	• This may include boots, hat/hard hat, overalls, gloves, protective eyewear, safety harness, hearing protection, respirator or facemask, and sun protection.
What may be involved in carrying out **routine maintenance?**	• Routine maintenance may include assisting in the erection of simple property structures, identifying and repairing damage or applying treatments to building cladding and structural finishes, checking fences and repairing holes or other damage, checking paths, tracks and roadways for potholes, weeding and undertaking effective drainage and minor repairs. It may also include checking water supplies for correct operation and pollution, and carrying out repairs and maintenance as required.
What positive **environmental** procedures may be applied?	• The safe and environmentally responsible disposal of maintenance debris and waste.
What **relevant information** may be documented?	• This may include the use and performance of tools and equipment, operational faults or malfunctions, completed maintenance, repair tasks and outcomes, and hazard and incident reports.

EVIDENCE GUIDE

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

Competence in maintaining properties and structures requires evidence of the ability to conduct simple repairs, erect structures, apply task instruction, and maintain a clean and safe worksite. It also requires an awareness of daily work routines including the need to keenly observe and report the need for maintenance and repair. Evidence must be demonstrated in the employment of safe workplace and environmentally responsible practices. The skills and knowledge required to maintain properties and structures must be transferable to a different work environment. For example, this could include different properties and structures, maintenance activities and industry settings.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

	Undertake operational maintenance of
RTC2301A	**machinery**
Unit Descriptor	This competency standard covers basic maintenance procedures required to support machinery operations. It involves non-specialist skills to perform basic servicing and repairs on a range of machinery according to scheduled maintenance programs. Competency requires an awareness of workplace safety, and positive environmental practices associated with maintenance activities. The work is likely to be carried out under limited supervision with checking only related to overall progress within established enterprise routines and procedures.
Unit Sector	Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for maintenance	1.1 **Maintenance plans** are accessed and understood prior to undertaking maintenance work
	1.2 **Tools and supplies** are selected appropriate to job requirements and confirmed against maintenance plan
	1.3 Tools are inspected for serviceability and *prepared* for use according to manufacturers specifications and *enterprise requirements*
	1.4 **Occupational Health and Safety hazards** in the workplace are identified, risk assessed and reported according to enterprise requirements
2. Perform scheduled maintenance	2.1 Suitable *personal protective equipment* is selected, used, maintained and stored according to Occupational Health and Safety requirements
	2.2 Greasing, lubrication and other *basic servicing* of *machinery* is carried out according to manufacturers specifications and enterprise requirements
	2.3 Equipment is adjusted according to manufacturers specifications and enterprise requirements
	2.4 Basic diagnostic techniques are applied and *mechanical faults* are identified and rectified according to manufacturers specifications
	2.5 More serious or complex faults are reported for referral according to enterprise requirements
3. Complete maintenance activities	3.1 Tools are cleaned and stored according to Occupational Health and Safety and enterprise requirements
	3.2 Waste from maintenance activities is collected, treated and disposed or recycled according to enterprise *environmental* requirements
	3.3 Work areas are cleaned, returned to operating condition and maintained according to Occupational Health and Safety and enterprise requirements
	3.4 **Relevant information** is documented according to industry and enterprise requirements

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Select and match tools with work requirements.
- Apply hand-eye coordination.
- Apply basic diagnostic techniques.
- Recognise and rectify common mechanical faults.
- Perform scheduled maintenance including basic servicing and minor mechanical repairs.
- Read and interpret maintenance plans, manufacturers specifications, safety decals and MSDS.
- Effectively communicate with work team and supervisor, report faults, and maintain records.
- Measure and calculate volumes, consumption and lubrication requirements.

Required knowledge:

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:

- Servicing characteristics of plant and equipment.
- Types and uses of lubricants and other commonly used servicing materials.
- Operational principles of machinery including mechanical and auto-electrical systems.
- Types, characteristics, uses and limitations of hand and power tools.
- Functions of components of common mechanical and hydraulic systems.
- Working principles of 2-stroke, 4-stroke, petrol and diesel engines.
- Set-up requirements of plant and equipment, and principles of calibration.
- Basic diagnostic processes and techniques.
- Environmental Codes of Practice with regard to maintenance activities.
- OHS legislative requirements and Codes of Practice.
- Hazard identification and assessment.
- OHS procedures.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to complex mechanical faults may be reported and referred for repair or replacement.	1
Collecting analysing and organising information	Information with regard to machinery servicing, identified faults and repairs undertaken may be documented for reference and analysis, and organised by reports.	1
Planning and organising activities	Machinery maintenance activities may be planned and coordinated with maintenance schedules and work schedules, or sequenced as required.	1
Working with others and in teams	In the application of communication, methods and procedures to complete individual tasks to achieve scheduled maintenance requirements.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in the calculation and measurement of volumes, weights and consumption, particularly in relation to lubrication and fuel requirements.	1
Solving problems	Tool faults or malfunctions will need to be repaired or replaced to complete and minimise disruption to scheduled maintenance work.	1
Using technology	To communicate, measure and record information with regard to machinery maintenance, usage and performance.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What information may be included in a **maintenance plan?**	• This may include details of scheduled maintenance and servicing requirements and procedures, tools and supplies required to undertake maintenance tasks, pre-start and safety checks for tools and machinery, mechanical diagnostic procedures, common mechanical faults and adjustment or repair procedures, current operational details, supervisors instructions and reporting requirements.

What **tools and supplies** may be required?	• This may include hand tools, hand held power tools, grease guns, safety equipment, cleaning and maintenance supplies including grease, fuel, oil, chemicals, water steam, power and air.
What may be involved in the **preparation** of tools?	• Preparation may include routine safety and pre-start checks, and procedures involving cleaning, lubricating, hand sharpening, priming pumps, clearing filters, basic repairs, tightening and adjustments.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators' manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.
What **OHS** requirements may be relevant to this standard?	• Safe systems and procedures for: • operating and maintaining machinery including hydraulics and guarding of exposed moving parts • hazard and risk control • manual handling including lifting and carrying • the provision of safety decals and signage • handling, application and storage of hazardous substances • outdoor work including protection from solar radiation, dust and noise • lock out or danger tag procedures • protection of people in the workplace • the appropriate use, maintenance and storage of personal protective clothing and equipment.
What **hazards** may be associated with maintenance activities?	• Workplace hazards may include exposure to loud noise and fumes, solar radiation, dust, and hazardous substances. It may also include oil and grease spills, electricity, mechanical malfunctions and entanglement with machinery from exposed moving parts including hydraulics.
What **personal protective equipment** may be relevant to this standard?	• This may include boots, hat/hard hat, overalls, gloves, protective eyewear, safety harness, hearing protection, respirator or facemask, and sun protection (sun hat, sunscreen).

What may be involved in **basic servicing** procedures?	• This may include greasing and lubricating, carrying out checks of the cooling system, fuel, grease and oil, battery levels, inspections of tyre pressures, fan belts, leads, lines, connections, air filters, electrical, hydraulics, steering, lighting, transmission, and confirmation of safety guards, PTO stubs and shafts.
What **machinery** may be covered in this standard?	• This may include motorised equipment and implements. Motorised machinery may include sprayers, tractors, mechanical pruners, harvesters, turf mowers, rotary hoes, chainsaws, hedge trimmers, winches, vehicles and motorcycles.
How might **mechanical faults** be defined in this standard?	• Basic faults reasonably within the scope of a non-mechanic and may include damage, wear, malfunction or unsoundness.
What positive **environmental** practices may be relevant to maintenance activities?	• This may include the reduction of excessive noise and exhaust emissions, the safe use and disposal of maintenance debris including oil containers, fuel and chemical residues. It may also include preventative measures with regard to soil disturbance, dust and increased run-off flows caused by servicing, maintenance and cleaning activities.
What **relevant information** may be documented?	• This may include tool usage and operational faults or malfunctions, machinery servicing and repair procedures and outcomes, machinery performance and operational faults or malfunctions, damage details, and hazard and incident reports.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

| **Are there other competency standards that could be assessed with this one?** | This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function. |

Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines** . Further advice may also be sought from the relevant s **ector booklet.**

RTC2304A
Unit Descriptor

Operate and maintain chainsaws

This competency standard covers the maintenance, preparation and operation of hand-held chainsaws in a work environment. It requires the application of skills and knowledge to cross-cut fallen timber using appropriate cutting techniques to maximise volume and quality recovery. It also requires knowledge of licensing and OHS legislative requirements associated with chainsaw operation along with duty of care to self, others and the environment. The work in this standard is likely to be carried out under routine supervision with intermittent checking within enterprise guidelines.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Recognise and apply workplace safety procedures	1.1 **OHS** procedures relevant to the maintenance and operation of **chainsaws** are recognised and applied according to **enterprise requirements.**
	1.2 **Hazards** in the work area are identified and controlled according to OHS and enterprise requirements **.**
	1.3 Suitable **personal protective equipment** is selected, used, maintained and stored according to OHS and enterprise requirements **.**
	1.4 Relevant licensing and legislative requirements with regard to the operation of chainsaws are recognised and accessed.
2. Check and maintain chainsaw	2.1 Tools and materials required for maintenance procedures are selected, checked and confirmed against **maintenance plan.**
	2.2 Routine **checks and maintenance** procedures are conducted prior to operation and according to manufacturers specifications and maintenance plan.
	2.3 Chainsaw faults or malfunctions are identified, tagged and reported for repair according to OHS and enterprise requirements.
	2.4 Completed chainsaw maintenance procedures are detailed and recorded according to enterprise requirements.

3. Operate chainsaw	3.1	A **safe working site** is maintained and **sawing materials** identified and positioned for operation according to OHS and enterprise guidelines.
	3.2	**Risks** to self, others and the environment are recognised and controlled according to OHS and enterprise requirements.
	3.3	**Cutting methods** are determined appropriate to species of material, and chainsaw is operated according to manufacturers specifications and enterprise requirements.
	3.4	Effective **worksite communication** is maintained to ensure efficient workflow and address immediate problems.
	3.5	**Environmental implications** associated with chainsaw operation are identified, assessed and controlled according to enterprise requirements.
4. Complete and check chainsaw operation	4.1	Chainsaw damage, malfunctions or irregular performance are recorded and reported according to enterprise requirements.
	4.2	Chainsaw is cleaned, maintained and stored according to manufacturers specifications and enterprise requirements.
	4.3	Relevant **reports** are maintained to industry standards according to enterprise requirements.
	4.4	Personal protective equipment is cleaned, maintained and stored.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Safely cross-cut fallen timber using compression and tension cuts with a hand held chainsaw.
- Maximise volume and quality of recovery.
- Demonstrate safe and environmentally responsible workplace practices.
- Obtain relevant licences and permits.
- Read and interpret manufacturers specifications, work and maintenance plans, and MSDSs.
- Effectively communicate information, interpret and apply task instructions, and maintain records and reports.
- Estimate and measure dimensions, and calculate volumes.

Required knowledge:

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:

- Relevant State/Territory legislation and regulations with regard to the operation of chainsaws.
- OHS legislative requirements and Codes of Practice.
- Hazards and risks when using chainsaws.
- Operating principles and operating methods.
- Various types of chainsaws and respective functions.
- Effects of timber defects on recovery.
- Environment Codes of Practice with regard to chainsaw operation.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to chainsaws, their application and cutting methods may be discussed with the supervisor and others in the work group.	1
Collecting analysing and organising information	Information with regard to chainsaw performance, faults and maintenance requirements may be detailed and monitored for analysis, and organised by records and reports.	1
Planning and organising activities	Checks and maintenance activities may be planned and coordinated around work schedules or sequenced as required.	2
Working with others and in teams	Team work may be applied in the communication and coordination of tasks to achieve specified work requirements.	1
Using mathematical ideas and techniques	Mathematics may be applied in the calculation and measurement of fuel consumption and volume dimensions.	2
Solving problems	Chainsaw malfunctions or breakdown will require arrangements for repair or replacement to meet work requirements.	2
Using technology	To communicate, record operational records, and troubleshoot chainsaw performance problems.	1

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **OHS** requirements may be relevant to this standard?	- Safe systems and procedures for: - operating and maintaining chainsaws - hazard and risk control - manual handling including lifting and carrying - handling, application and storage of hazardous substances - outdoor work including protection from solar radiation, dust and noise - the appropriate use, maintenance and storage of personal protective equipment. - It may also include systems to ensure the assessment of workers safety skills, compliance with enterprise OHS induction, and the provision of appropriate training programs.

What types of **chainsaws** may be applicable to this standard?	• Types may include engine or electrically operated hand-held chainsaws including top handle chainsaws and pole saws.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators' manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.
What **hazards** may be associated with chainsaw operation?	• Hazards may include exposure to loud noise and exhaust fumes, cutting of treated timbers, solar radiation, dust, mechanical vibration, vibration injury, struck by tree or tree limbs, kick back from saw, presence of dangerous insects and spiders, hazardous substances (fuel), the presence of bystanders, livestock and wildlife, adverse weather conditions and confined spaces.
What **personal protective equipment** may be relevant to this standard?	• PPE may include steel cap boots, hard hat, ear protection, protective eyewear, hearing protection, cut resistant trousers or chaps, reflective vest, gloves, helmets with face masks, and sun protection (e.g., sun hat, sunscreen).
What information might be included in a **maintenance plan?**	• This may include details of scheduled pre-operational checks and maintenance procedures, designated job tasks, selection of equipment, resources and materials to be used, supervisors instructions, timeframe for work completion, and reporting requirements.
What might be involved in routine **checks and maintenance** procedures?	• This may include pre-start checks, inspections of chainsaw body, chain guards and chain sprockets, checks of air filters and spark plugs, checks and adjustments of chain tension, oil and fuel, and the replacement of worn or faulty parts. It may also include an assessment of saw sharpness.
What are the requirements for a **safe working site?**	• A level and clear surface on which to cut the material, and the regular removal of off-cuts and other debris during sawing operations to maintain surfaces and worksite.
What **sawing materials** may be identified and positioned?	• Sawing materials may include logs and packs of timber (hardwood or softwood), and may range in size and weight. Preparation involves the safe lifting of the material to be sawed onto a clear and level surface and securing into position with chains or wedges.

What **risks** may be associated with the operation of chainsaws?	• This may include 'kickback' which is a sudden upward and backward movement of the saw which occurs when the tip of the bar nose makes contact with the sawing material. To prevent kickback, ensure chainsaw is fitted with an inertia-activated chain break, ensure the break mechanism is clean and operates effectively, use low-kickback chain types and avoid lowering the depth gauges too much when sharpening. Risks may also include being stuck by tree or limb, vibration injury from poorly maintained chainsaw, permanent hearing loss, cutting above shoulder height, handling the chainsaw with one hand, and fire risk as a result of fuel spillage or sparks.
What **cutting methods** and procedures may be considered?	• Types of cutting techniques may include bridging, swinging, boring, limbing and horizontal cuts. Procedures may involve a visual assessment of the sawing material for defects, the selection of cutting positions and patterns to minimise capping and splitting, and maximise volume and quality of recovery.
Who might be involved in the facilitation of **worksite communication?**	• This may include the supervisor and other workers.
What **environmental implications** may be associated with the operation of chainsaws?	• Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oils and oil containers), and hazardous substances (fuel).
What **reports** may be recorded and maintained?	• This may include production and tally sheets, quality forms, production sheets, mandatory or statutory inspections, maintenance outcomes, faults, malfunctions and damage details, and hazard and incident reports.

EVIDENCE GUIDE

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

Competence in this standard requires evidence of the ability to demonstrate safe workplace practices in the preparation of a suitable worksite, perform cross-cutting operations, and conduct routine pre-operational checks and maintenance of a range of hand-held chainsaws. It also requires the ability to communicate effectively, recognise and control hazards, implement risk control measures, apply basic mathematical procedures such as estimation and measurement, and monitor and maintain relevant enterprise records. The skills and knowledge required to operate and maintain chainsaws must be transferable to a different work environment. For example, this could include different types of timber, environments and chainsaws.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2306A

Unit Descriptor

Operate vehicles

This competency standard covers the process of maintaining and operating vehicles in rural, horticultural or land management setting. Competency requires the application of basic driving skills to safely utilise various controls and features of a range of vehicles, and demonstrate safe driving techniques. Competency requires knowledge of legislative requirements with regard to licensing, and an awareness of duty of care to self, others and the environment. The work is likely to be carried out under minimal supervision within enterprise guidelines.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare vehicle for use	1.1 **Occupational Health and Safety hazards** in the work area are identified and reported to the supervisor 1.2 **Routine checks and maintenance** of **vehicle** are conducted prior to use according to manufacturers specifications and **enterprise requirements** 1.3 Faults or malfunctions are identified and reported for repair according to enterprise requirements 1.4 Loads are secured according to safe operational specifications, Occupational Health and Safety, legislative and enterprise requirements
2. Drive vehicle	2.1 Suitable *personal protective equipment* is selected, used, maintained and stored according to Occupational Health and Safety and enterprise requirements 2.2 Vehicle is driven in a *safe and controlled manner* and monitored for performance and efficiency 2.3 Driving hazards are identified, anticipated and controlled through the application of safe and defensive driving techniques 2.4 **Environmental implications** associated with vehicle operation are recognised and positive enterprise environmental procedures applied where relevant
3. Complete and record vehicle performance	3.1 **Shut-down procedures** are conducted according to manufacturers specifications and enterprise requirements 3.2 Malfunctions, faults, irregular performance or damage to vehicle is detailed and reported according to enterprise requirements 3.3 Vehicle is cleaned and decontaminated (where necessary), secured and stored according to enterprise and Occupational Health and Safety requirements 3.4 Vehicle operational *reports* are maintained to industry standards according to enterprise requirements

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Steer, manoeuvre and position vehicles in a smooth and controlled manner in on and off-road conditions.
- Demonstrate safe and environmentally responsible workplace practices.
- Obtain relevant licences and permits.
- Demonstrate emergency procedures and safe driving techniques.
- Read and comprehend operator manuals.
- Effectively communicate faults, malfunctions and workplace hazards.
- Interpret and apply task instructions, report and maintain operational records.

Required knowledge:

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:

- Components, controls and features of vehicles and their functions.
- Operating principles and operating methods.
- Load limits and the principles of weight distribution with regard to load shifting and vehicle movement.
- Effects of adverse weather and terrain conditions on the operation of vehicles.
- OHS legislative requirements and Codes of Practice.
- Environmental Codes of Practice with regard to the operation of vehicles.
- Relevant State/Territory legislation and regulations with regard to licensing, road and traffic requirements.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to hazards and unsafe work practices associated with vehicle operation may be reported to the supervisor and work team.	1
Collecting analysing and organising information	Information with regard to vehicle performance, faults and maintenance carried out may be detailed and recorded for reference and organised by reports.	1
Planning and organising activities	Maintenance and repairs may be planned and coordinated around work schedules or sequenced as required.	1
Working with others and in teams	Team work may be applied in the application of methods and procedures to complete maintenance procedures and complete records.	1
Using mathematical ideas and techniques	Mathematics may be applied in the calculation and measurement of load and weight, servicing requirements, and distance and fuel consumption.	1
Solving problems	Breakdown, faults or malfunctions will require arrangements for repair or replacement to achieve work schedules.	2
Using technology	To communicate, measure and record information with regard to maintenance, usage and performance of vehicle.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **OHS** requirements may be relevant to this standard?	• Safe systems and procedures for: • the safe operation and maintenance of vehicles • checks to ensure loads are secure and within working specifications • hazard and risk control • manual handling including lifting and carrying • the application of emergency/defensive driving techniques • handling, application and storage of hazardous substances • outdoor work including protection from solar radiation, dust and noise • the appropriate use, maintenance and storage of personal protective equipment • passengers only carried when there is a seat approved by the manufacturer.
What **hazards** may be associated with the operation of vehicles?	• Hazards may include exposure to loud noise and fumes, hazardous substances (fuel, oils), solar radiation and organic and other dusts. It may also include ergonomic hazards associated with posture and mechanical vibration. Other hazards may include bystanders, livestock and wildlife, difficult terrain and varying gradients, broken ground, potholes, ditches, gullies, embankments, obstacles, adverse weather conditions, electricity, overhead hazards including powerlines, loose clothing, speed and fatigue, load shifts, mechanical malfunctions, exposed moving parts including hydraulics, run over by vehicle, crushed by roll over, loads being carried, and other machinery.
What **routine checks and maintenanc** e might be carried out prior to operation?	• This may include cabin drills, pre-start and safety checks including an assessment of tyres, wheels, controls and cables, lights, safety mirrors, electrics, safety restraints, chain/driveshaft, chassis and suspension. Service and maintenance of cooling system, fuel, oils and lubricants, battery levels; tyre pressure, fan belts, leads, lines, connections, air filters, air conditioning, brakes, clutch, gearbox, steering, lighting and transmission.
What **vehicles** might be covered in this standard?	• This may include utilities, four wheel drive vehicles, motorcycles (2 and 4 wheel), and light trucks.

What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.
What **personal protective equipment** may be relevant to this standard?	• This may include boots, overalls, gloves, protective eyewear, hearing protection, respirator or facemask, and sun protection (sun hat, sunscreen).
How might the operation of a vehicle be demonstrated in a **safe and controlled** manner?	• Appropriate selection and use of controls, features, settings and operational techniques for the terrain and weather conditions without causing damage to machinery, equipment, person, property or environment.
What **environmental implications** may be associated with the operation of vehicles?	• Negative environmental impacts may result from excessive noise and exhaust emissions, the unsafe use and disposal of maintenance debris (oil containers, chemical residues) and hazardous substances (fuel, oils). High traffic activity, particularly the repeated use of tracks, may negatively impact in soil disturbance, dust problems and increased run-off flows from unsafe cleaning and servicing activities.
What may be involved in shut **down procedures** for vehicles?	• This may include turning the engine off, safe dismounting and securing the vehicle. It may also include parking away from hazards, maintaining a clear thoroughfare, refuelling and cleaning the vehicle of soil, plant and animal material.
What vehicle **reports** may be maintained?	• This may include routine checks and maintenance, scheduled maintenance activities, mandatory or statutory inspections, faults, malfunctions, and damage details, hazard and incident reports.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2307A   Operate machinery and equipment

Unit Descriptor   This competency standard covers the maintenance and operation of machinery and equipment. A practical application of skills and knowledge is required to carry out pre-operational checks, calibrate equipment, report faults and maintain operational records. In addition, an awareness of workplace safety and positive environmental practices associated with machinery and equipment operation is essential. This work is likely to be carried out under routine supervision within enterprise guidelines.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare machinery and equipment for use	1.1 **Machine and equipment** is selected appropriate to job requirements and confirmed against a **work plan** 1.2 Routine **pre-operational checks** of machinery and equipment are carried out to manufacturers specifications and **enterprise requirements** 1.3 Equipment is securely attached and calibrated for operation to manufacturers specifications 1.4 Faulty machinery and equipment is identified, safety tagged, and reported to supervisor according to enterprise requirements 1.5 **Occupational Health and Safety hazards** in workplace are identified, risk assessed and reported according to enterprise requirements
2. Operate machinery and equipment	2.1 Machinery and equipment is operated in a **safe and controlled** manner, and monitored for performance and efficiency 2.2 Risk to self, others and the environment are recognised and minimised according to enterprise and Occupational Health and Safety requirements 2.3 Suitable **personal protective clothing and equipment** is selected, used, maintained and stored according to Occupational Health and safety requirements 2.4 **Environmental implications** associated with machinery operation are identified, assessed and reported to the supervisor
3. Check and complete machinery and equipment operation	3.1 Machinery and equipment **shut-down** procedures are carried out to manufacturers specifications and enterprise requirements 3.2 Machinery and equipment operational records are maintained according to enterprise requirements 3.3 Machinery and equipment damage, malfunctions or irregular performance are recorded and/or reported according to enterprise requirements 3.4 Machinery and equipment is cleaned, secured and stored according to manufacturers specifications and enterprise requirements

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Operate machinery and equipment to industry standards.
- Demonstrate safe and environmentally responsible workplace practices.
- Read and interpret manufacturers specifications, work and maintenance plans, and Material Safety Data Sheets.
- Interpret and apply instructions, communicate with work team and supervisor, record and report equipment faults, workplace hazards, and accidents.
- Measure and calculate volumes, consumption and servicing requirements.

Required knowledge:

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:

- Manufacturers specifications for servicing of machinery and equipment.
- Operating principles and operating methods for machinery and equipment.
- Principles of weight distribution with regard to load shifting and machinery movement.
- Procedures for cleaning, securing and storing machinery, equipment and materials.
- Potential risks and hazards associated with the operation of machinery and equipment.
- Legislation, regulations and Codes of Practice with regard to workplace OHS, and the use and control of hazardous substances.
- Relevant State/Territory legislation, regulations and Codes of Practice with regard to licensing, roads and traffic requirements.
- Environmental impacts and minimisation measures associated with the operation of machinery and equipment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information and ideas with regard to machinery and equipment, safety procedures and their application may be discussed with colleagues and the supervisor.	1
Collecting analysing and organising information	Information with regard to the performance and efficiency of machinery and equipment may be observed and recorded for analysis and organised by reports.	1
Planning and organising activities	Activities involving maintenance and repairs to machinery and equipment may be planned and coordinated around work schedules or sequenced as required.	1
Working with others and in teams	Team work may be applied in methods and procedures to complete maintenance and job functions to achieve work plan requirements.	1
Using mathematical ideas and techniques	Mathematics may be applied in the calculation and measurement of load weights, distance, consumption and oil and fuel requirements.	1
Solving problems	Machinery and equipment breakdown, faults or malfunctions will need to be arranged for repair or replacement to achieve work plan requirements.	1
Using technology	To communicate, measure and record information with regard to maintenance, usage and performance of machinery and equipment.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What range of **machinery and equipment** may be applicable to this standard?	• Hydraulic equipment, stationary engines, spraying equipment, stump grinders, mulchers and chippers equipment, powered trailer and three point linkage equipment. Excludes chainsaws, tractors, vehicles and earth moving equipment.

What may be included in a **work plan?**	• Pre-operational and safety checks, routine maintenance procedures, designated job tasks, equipment, resources and materials for use, supervisors instructions, timeframe for work completion and reporting requirements.
What may be involved in routine **pre-operational checks** of machinery and equipment?	• Pre-start and safety checks including the service and maintenance of cooling system. • Checking fuel, oils and lubricants, electrolyte levels, wheels, tyre pressure, fan belts, leads, lines, connections, air filters, brakes, clutch, gearbox, steering, lighting, and transmission. • Inspection of safety guards, PTO stubs and shafts, and hitch and towing points. • Checking and confirming equipment calibration settings and operating methods for turbo-charged engines. • Observing and monitoring noise levels for correct operation. • Preparation of independently powered tools may include cleaning, priming, tightening, basic repairs and adjustments. • Identify and segregate unsafe or faulty equipment for repair or replacement.
What **enterprise requirements** may apply to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), OHS procedures, supervisors oral or written instructions, work and routine maintenance plans.

What **OHS** requirements may be relevant to this standard?	• Systems and procedures for:
	  • the safe operation and maintenance, machinery and equipment including hydraulics, and guarding of exposed moving parts.
	  • hazard identification, assessment and reporting.
	  • emergency operating and defensive driving procedures.
	  • ensuring working loads are secure and within working specifications.
	  • safe lifting, carrying and handling.
	  • appropriate use, maintenance and storage of personal protective equipment.
	  • outdoor work including protection from solar radiation.
	  • passengers only been carried where there is a seat provided by manufacturer.
	  • protection of people in the workplace.
	  • protection from hazardous noise, mechanical vibration, and organic and other dusts.

What OHS **hazards** may be encountered in the workplace?	• This may include exposure to loud noise and fumes, solar radiation, dust, ergonomic hazards associated with posture and vibration, hazardous substances (fuel, oils, fertiliser), oil and grease spills. It may also include the presence of bystanders, livestock and wildlife, difficult terrain and varying gradients, potholes, ditches, gullies, embankments, obstacles (rocks, logs, fences, debris, buildings), extreme weather conditions, electricity, overhead powerlines, mechanical malfunctions and exposed moving parts, and other machinery including hydraulics.

How might **safe and controlled** operation of machinery and equipment be demonstrated?	• This may include:
	  • Appropriate selection and use of machinery and equipment.
	  • Using operational techniques for the specific terrain (on and off-road environments) and weather conditions.
	  • Maintaining working loads within specifications including ensuring hitch-points are operated at the correct height.

What **personal protective clothing and equipmen** t may be relevant to this standard?	• Boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, respirator or facemask, and sun protection (sun hat, sunscreen).
What **environmental implications** may be associated with the operation of machinery and equipment?	• Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oils containers, chemical residues), and hazardous substances (fuel, fertiliser). Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities, soil disturbance and dust problems from high speed and frequent traffic (including irrigation equipment).
What procedures may be included in the **shut-down** of machinery and equipment?	• Safe dismount procedures (including turning engine off), maintaining a clear thoroughfare, parking away from hazards, securing, engaging handbrake, removing keys, refuelling and cleaning.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2309A Operate tractors

Unit Descriptor

This competency standard covers the operation of tractors with or without attached equipment. It requires the application of skills to safely utilise the various components and controls of tractors, check and confirm operational status, and set and secure equipment for operation. It also requires knowledge of the distinguishing characteristics of individual tractors including rated power, steering systems, and operational complexities. In addition, competence in tractor operation requires an awareness of licensing and legislative requirements, duty of care to self, others and the environment. The work in this standard is likely to be carried out under some supervision with regular checking within enterprise.

Unit Sector Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare tractor for operation	1.1 **Occupational health and safety hazards** in the work area are identified, risk assessed and reported to the supervisor
	1.2 **Routine checks of tractors** are conducted prior to use according to manufacturers specifications and **enterprise requirements**
	1.3 **Attached equipment** is identified and selected appropriate to work requirements, checked for safety and set for operation
	1.4 Tractor and attached equipment faults or malfunctions are identified and reported for repair according to enterprise requirements
2. Operate tractor	2.1 **Risks** to self, others and the environment are recognised and avoided according to Occupational Health and Safety and enterprise requirements
	2.2 Suitable *personal protective equipment* is selected, used, maintained and stored according to Occupational Health and Safety and enterprise requirements
	2.3 Tractor is operated in a *safe and controlled manner* and monitored for performance and efficiency
	2.4 Hazards are identified, anticipated and controlled through the application of safe and defensive driving techniques
	2.5 *Environmental implications* associated with tractor operation are recognised and positive enterprise environmental procedures applied where relevant

3. Complete and check tractor operation	3.1	***Shut-down procedures*** are conducted according to manufacturers specifications and enterprise requirements
	3.2	Malfunctions, faults, irregular performance or damage to tractor and attached equipment is detailed and reported according to enterprise requirements
	3.3	Tractor and attached equipment is cleaned and decontaminated where necessary, secured and stored according to enterprise and Occupational Health and Safety requirements
	3.4	Tractor operational ***reports*** are maintained to industry standards according to enterprise requirements

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Calculate and measure distance, volumes and weights.
- Steer, manoeuvre and position tractor in a smooth and controlled manner.
- Safely and effectively operate tractors in adverse weather and difficult terrain conditions.
- Demonstrate safe and environmentally responsible workplace practices.
- Interpret manufacturers specifications, work and maintenance plans, and MSDS.
- Effectively communicate faults and hazards, interpret and apply task instructions, report and maintain operational records.

Required knowledge:

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:

- Tractor components, controls and features and operational functions.
- Tractor steering systems and features.
- Attached equipment, features and operational functions and procedures.
- Operating principles and operating methods.
- Load limits and the principles of weight distribution with regard to load shifting and tractor movement.
- Effects of adverse weather and difficult terrain conditions on tractor operation.
- Environmental Codes of Practice with regard to machinery operation.
- OHS legislative requirements, hazard identification and risk assessment.
- Relevant legislation with regard to machinery operation and licensing requirements.
- OHS Codes of Practice including the use and control of hazardous substances.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to hazards and unsafe work practices associated with the operation of tractors may be reported to the supervisor and work team.	1
Collecting analysing and organising information	Information with regard to tractor performance, faults and maintenance requirements may be detailed and recorded for reference and organised by reports.	1
Planning and organising activities	Tractor operation may be planned and coordinated around work schedules.	1
Working with others and in teams	Team work may be applied in the application of methods and procedures to complete operating procedures and maintain records.	1
Using mathematical ideas and techniques	Mathematics may be applied in the calculation and measurement of load and weight, servicing requirements, and distance and fuel consumption.	1
Solving problems	Breakdown, faults or malfunctions will require arrangements for repair or replacement to achieve work schedules.	1
Using technology	To communicate, measure and record information with regard to maintenance, usage and performance of tractor.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **OHS** requirements may be relevant to this standard?	• Safe systems and procedures for:
	  • the safe operation of tractors and attached equipment including the fitting of guards and shields
	  • hazard and risk control
	  • safe mounting and dismounting
	  • manual handling including lifting and carrying
	  • the application of emergency/defensive driving techniques
	  • handling, application and storage of hazardous substances
	  • outdoor work including protection from solar radiation, dust and noise
	  • the appropriate use, maintenance and storage of personal protective equipment
	  • roll over protection secured if required
	  • wearing a seatbelt
	  • passengers only been carried when there is a seat approved by manufacturer.

What **hazards** may be associated with the operation of tractors?	• Hazards may include exposure to loud noise and fumes, hazardous substances (fuel, oils), solar radiation and organic and other dusts. It may also include ergonomic hazards associated with posture and mechanical vibration. Other hazards may include bystanders, livestock and wildlife, difficult terrain and varying gradients, broken ground, potholes, ditches, gullies, embankments, obstacles, adverse weather conditions, electricity, overhead hazards including powerlines, loose clothing, speed and fatigue, load shifts, mechanical malfunctions, exposed moving parts including hydraulics, run over by tractor, crushed by roll-over, and other machinery.
What **routine checks** might be carried out prior to operation?	• This may include cabin drills, pre-start and safety checks including an assessment of tyres, wheels, controls and cables, lights, safety mirrors, electrics, safety restraints, chain/driveshaft, chassis, seatbelts, suspension, power take-off equipment and guards, roll-over protection, spark arresters, pneumatic and hydraulic systems. It may also include checking of cooling system, fuel, oils and lubricants, battery levels; tyre pressure, fan belts, leads, lines, connections, air filters, air conditioning, brakes, clutch, gearbox, steering, lighting and transmission. Inspection of hitch and towing points.

What operational characteristics may vary in **tractors?**	• Tractors may be two wheel drive, four wheel drive, front wheel assist, articulated tractors including scrapers, track or crawler driven. Steering systems may include conventional front-wheel steering, all wheel steering and articulated. Variational characteristics also include rated horsepower and complexities of operations and controls.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.
What range of operations may be conducted using **attached equipment?**	• Tractors may be set up and operated for blade, belt pulley, drawbar, front-end loader, power-take-off, remote hydraulics, linkage mounted equipment.
What **risks** may be associated with the operation of tractors?	• Tractor rollover, which may be caused by traversing a steep slope or cornering too sharply at speed. Tractor back flip which may be caused by driving off in low gear but with high engine speed, rapid acceleration (particularly when driving uphill or pulling a heavy load), attempting to drive forward when the wheels are unable to move forward (bogged), rapid engagement of the clutch of the tractor. Power-take-off entanglement (loose clothing).
What **personal protective equipment** may be relevant to this standard?	• Boots with non-slip soles, overalls, seatbelts, gloves, protective eyewear, hearing protection, respirator or facemask, and sun protection (sun hat, sunscreen).
How might the operation of a tractor be demonstrated in a **safe and controlled** manner?	• Appropriate selection and use of tractor controls, features, settings and operational techniques for the terrain and all weather conditions without causing damage to tractor, equipment, person, property or environment.
What **environmental implications** may be associated with the operation of tractors?	• Negative environmental impacts may result from excessive noise and exhaust emissions, the unsafe use and disposal of maintenance debris (oil containers, chemical residues), and hazardous substances (fuel, oils). High traffic activity, particularly the repeated use of tracks, may negatively impact in soil disturbance, dust problems and increased run-off flows from unsafe cleaning and servicing activities.

What may be involved in shut **down procedures** for tractors?	• This may include turning the engine off, safe dismounting and securing the tractor, and ensuring hydraulic equipment is lowered to a safe position. It may also include parking away from hazards, maintaining a clear thoroughfare, refuelling and cleaning the tractor, engaging handbrake and removing keys.
What **reports** may be relevant to this standard?	• This may include routine checks and maintenance, scheduled maintenance activities, mandatory or statutory inspections, log books, faults, malfunctions and damage details, and hazard and incident reports.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2401A   Treat weeds

Unit Descriptor   This competency standard covers the process of treating weeds using cultural, biological and chemical methods. Treatment will follow strict work instructions and will be under supervision. Competency involves the application of knowledge and skills in recognising common weeds, monitoring and recording the severity of the weed problem, applying a range of treatments, and recording relevant information.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to treat weeds	1.1 Weeds which impact on commercial crops, gardens and turf, and natural areas are recognised by common name
	1.2 **Details** of the weed occurrence are recorded and reported to the supervisor
	1.3 **Treatment methods** are selected in consultation with the supervisor
	1.4 **Equipment** is selected and prepared for use according to enterprise guidelines and manufacturers specifications
	1.5 *Occupational Health and Safety hazards* are identified, *risks* assessed and reported to the supervisor
2. Treat weeds	2.1 Suitable *personal protective equipment* (PPE) is selected, used, maintained and stored
	2.2 Treatments are prepared according to supervisor's instructions and manufacturers guidelines
	2.3 Treatments are applied in such a way that non-target damage is minimised
	2.4 Treatments are applied according to *Occupational Health and Safety* and *regulatory requirements*
3. Carry out post treatment operations	3.1 Equipment is shut down and cleaned with full consideration of *environmental impacts* and Occupational Health and Safety requirements
	3.2 Treatment waste is disposed of causing minimal environmental damage
	3.3 **Records** are maintained according to enterprise guidelines

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Read and interpret chemical labels, Material Safety Data Sheets (MSDSs), manufacturers specifications for setting up equipment, and maintain spray records.
- Prepare to treat weeds.
- Apply weed treatments.
- Carry out post treatment operations.

Required knowledge:

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:

- Recognition of common weeds for a particular enterprise/situation.
- Weed growth characteristics.
- Different types of control measures, treatments and their principles.
- Modes of action of different chemicals.
- Equipment capability and limitations.
- Legislation relation to the use of chemicals for weed control.
- OHS responsibilities of employees.
- OHS legislative requirements and associated hazardous substances regulations and Codes of Practice.
- Correct wearing/fit of personal protective equipment.
- Environmental considerations when using chemicals for weed control.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to applying weed treatments should be discussed with other members of the work team and the supervisor.	1
Collecting analysing and organising information	Information will be collected by inspecting the weed and the information gained will be recorded and discussed with the work team and supervisor. Enterprise work procedures and weed control programs should be consulted, interpreted and applied with clarification from the supervisor where necessary.	1
Planning and organising activities	Equipment, materials and work procedures for applying treatments will need to be arranged before and between work periods, and there may be some responsibility for coordinating work with others.	1
Working with others and in teams	The application of treatments may involve working with other members of a team to complete the program and ensuring other activities are scheduled around the application of weed treatments.	1
Using mathematical ideas and techniques	Mathematical ideas in relation to calculating rates, and areas, will be required.	1
Solving problems	Problems solving may be demonstrated in cases of machinery malfunctions or chemical spillage.	1
Using technology	Technology may be applied in the preparation, use and maintenance of spray equipment.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What type of **details** about the weed might be required?	• Details might include location of weeds, area covered by the weed, possibility of off target damage, and potential threats that the weed may present to surrounding areas.
What **treatments** might be applied?	• Treatments may include hand weeding, herbicides, release of biological agents, cultivation, slashing, cutting, burning and ripping.

What **equipment** is appropriate for treatment application?	• Equipment may include backpack sprayers, spray tanks, fertiliser spreaders, ladders, tractor drawn cultivation equipment, rippers, weedicide applicators, handsaws, chainsaws and brushcutters.
What **OHS hazards** might apply to this standard?	• OHS hazards may include use of hazardous chemicals, use of tractors and machinery, solar radiation, manual handling, falls, tripping and noise.
What or who may be at **risk** from OHS hazards?	• Hazard may cause risk to workers, equipment, people and animals external to the workplace (such as members of the public, wildlife, pets, bees, fish, birds), and the environment.
What **personal protective equipment (PPE)** may be required to apply treatments?	• Personal protective equipment may include hat, rubber boots, chemical resistant overalls, face protection, hearing protection, gloves, goggles, respirator or facemask, sunscreen lotion.
What **OHS requirements** might apply to this standard?	• OHS requirements may include identifying hazards, assessing and reporting risks, safety procedures involved in chemical handling and use, weather conditions, safety procedures for protecting others, cleaning, maintaining and storing tools and equipment, appropriate use, maintenance and storage of personal protective equipment including sun protection, drinking to avoid dehydration, safe operation of tools and equipment, personal hygiene and reporting problems to supervisors.
What **regulatory requirements** might apply to this standard?	• Regulatory requirements may include the use and disposal of chemicals, record keeping, transport of chemicals, access to area, use of chainsaws, reporting accidents and dangerous goods.
What **environmental impacts** may apply to this standard?	• Environmental impacts may include leaching and contamination of the water table, soil contamination, spray drift, damage to off target organisms, contaminated produce, surface run off, changes in soil structure.
What **records** need to be kept when treating weeds?	• Records may include accident and dangerous occurrence reports, name of operator, treatments applied, rate, date, settings of equipment, weed numbers, numbers of beneficial organisms.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2404A

Unit Descriptor

Treat plant pests, diseases and disorders

This competency standard covers the process of treating plant pests, diseases and disorders using cultural, biological and chemical methods. Treatment will follow strict work instructions and will be under supervision. Competency involves the application of knowledge and skills in recognising common plant pests, diseases and disorders, monitoring and recording the severity of the plant pest or disease problem, applying a range of treatments, and recording relevant information.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to treat plant pests, diseases and disorders	1.1 Plant pests, diseases and disorders which impact on commercial crops, gardens and turf, and natural areas are recognised by common name
	1.2 **Details** of the plant pest, disease and disorder occurrence are recorded and reported to the supervisor
	1.3 **Treatment methods** are selected in consultation with the supervisor
	1.4 **Equipment** is selected and prepared for use according to enterprise guidelines and manufacturers specifications
	1.5 **Occupational Health and Safety hazards** are identified, *risks* assessed and reported to the supervisor
2. Apply treatments to plant pests, diseases and disorders	2.1 Suitable *personal protective equipment* (PPE) is selected, used, maintained and stored
	2.2 Treatments are prepared according to supervisor's instructions and manufacturers guidelines
	2.3 Treatments are applied in such a way that non-target damage is minimised
	2.4 Treatments are applied according to *Occupational Health and Safety* and *regulatory requirements*
3. Carry out post treatment operations	3.1 Equipment is shut down and cleaned with full consideration of *environmental impacts*
	3.2 Treatment waste is disposed of causing minimal environmental damage
	3.3 **Records** are maintained according to enterprise guidelines

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Read and interpret chemical labels, Material Safety Sata Sheets (MSDSs), manufacturers specifications for setting up equipment, and maintain spray records.
- Prepare to treat plant pests and diseases.
- Apply plant pest, disease and disorder treatments.
- Carry out post treatment operations.
- Wear personal protective equipment appropriate to task.

Required knowledge:

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:

- Recognition of common plant pests, diseases and disorders for a particular enterprise/situation.
- Different types of control measures and their principles.
- Modes of action of different chemicals.
- Legislation relation to the use of chemicals for plant pest, disease and disordercontrol.
- OHS responsibilities of employees.
- Environmental considerations when using chemicals for plant pest, disease and disorder control.
- OHS legislative requirements and Codes of Practice.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to applying plant pest, disease and disorder treatments should be discussed with other members of the work team and the supervisor.	1
Collecting analysing and organising information	Information will be collected by inspecting the plant pest or disease and the information gained will be recorded and discussed with the work team and supervisor. Enterprise work procedures and control programs should be consulted, interpreted and applied with clarification from the supervisor where necessary.	1
Planning and organising activities	Equipment, materials and work procedures for applying treatments will need to be arranged before and between work periods, and there may be some responsibility for coordinating work with others.	1
Working with others and in teams	The application of treatments may involve working with other members of a team to complete the program and ensuring other activities are scheduled around the application of plant pest or disease treatments.	1
Using mathematical ideas and techniques	Mathematical ideas in relation to calculating rates, and areas, will be required.	1
Solving problems	Problems solving may be demonstrated in cases of machinery malfunctions or chemical spillage.	1
Using technology	Technology may be applied in the preparation, use and maintenance of spray equipment.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What may be included under **plant pests, diseases and disorders?**	• Plant pests and diseases may include chewing, sucking and boring invertebrates, nematode, fungi, viruses, and bacteria. Disorders include toxic soil, air and water. This unit excludes vertebrate pests, nutrient deficiencies and extreme environmental conditions.
What type of **details** about the plant pest or disease might be required?	• Details might include location and occurrence of plant pests, diseases and disorders, possibility of off target damage and potential threats that the plant pest or disease may present to surrounding areas.
What **treatments** might be applied?	• Treatments may include use of fertilisers, foliar nutrients, insecticides, fungicides, dips, release of biological agents, pheromone traps, baits, hormones, cultivation, slashing, cutting, burning and ripping.
What **equipment** is appropriate for treatment application?	• Equipment may include backpack sprayers, spray tanks, fertiliser spreaders, ladders, rippers, pesticide applicators and handsaws.
What **OHS hazards** might apply to this standard?	• OHS hazards may include use of hazardous chemicals, use of tractors and machinery, solar radiation, and working from ladders.
What or who may be at **risk** from OHS hazards?	• Hazard may cause risk to workers, equipment, people and animals external to the workplace (such as members of the public, wildlife, pets, bees, fish, birds), and the environment.
What **personal protective equipment (PPE)** may be required to apply treatments?	• Personal protective equipment may include hat, rubber boots, chemical resistant overalls, gloves, goggles, respirator or facemask, sunscreen lotion.

What **OHS requirements** might apply to this standard?	• OHS requirements may include identifying hazards, assessing and reporting risks, cleaning, maintaining and storing tools and equipment, appropriate use of personal protective equipment including sun protection and drinking to avoid dehydration, safe operation of tools and equipment, personal hygiene and reporting problems to supervisors, appropriate use, maintenance and storage of personal protective equipment, safety procedures in chemical handling and use, safety procedures for the protection of others.
What **regulatory requirements** might apply to this standard?	• Regulatory requirements may include the use and disposal of chemicals, record keeping, transport of chemicals, and access to area.
What **environmental impacts** may apply to this standard?	• Environmental impacts may include leaching and contamination of the water table, soil contamination, spray drift, damage to off target organisms, contaminated produce, surface run off, changes in soil structure.
What **records** need to be kept when treating plant pests, diseases and disorders?	• Records may include name of operator, treatments applied, rate, date, settings of equipment, plant pest's numbers, numbers of beneficial organisms.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2701A	**Follow OHS procedures**
Unit Descriptor	This competency standard covers the process of following enterprise Occupational Health and Safety (OHS) policies and procedures. It requires the ability to comply with workplace procedures in hazard identification and risk control, observe safe practices during work operations, and participate in arrangements for maintaining health and safety of all people in the workplace. Following OHS policies and procedures requires knowledge of employee and employer responsibilities under the OHS Act, enterprise procedures relating to hazards, fires, emergencies, accidents and risk control, and OHS signs and symbols relevant to area of work.

Note: The unit is based on the national guidelines for integrating OHS competencies into national industry Competency Standards. |
| **Unit Sector** | No sector assigned |

ELEMENT	PERFORMANCE CRITERIA
1. Follow workplace procedures for hazard identification and risk control	1.1 **Hazards in the workplace** are recognised and reported to designated personnel according to enterprise procedures.
	1.2 Assessment of risk associated with identified hazards is made in accordance with enterprise procedures.
	1.3 Workplace procedures and work instructions for controlling risks are followed accurately.
	1.4 Workplace procedures for dealing with accidents, fire and emergencies are followed whenever necessary within the scope of responsibilities and competencies.
	1.5 **Risks** to fellow workers, other people and animals are recognised, and action is taken to eliminate or reduce them.
	1.6 **Employee responsibilities** prescribed in OHS legislation are recognised and carried out.
	1.7 Safety **training** is undertaken as directed.
2. Observe safe practices during work operations	2.1 Work for which **protective clothing or equipmen** t is required is identified and personal protection equipment is used, maintained and stored in accordance with enterprise procedures.
	2.2 Basic safety checks on all machinery and equipment are undertaken before operation according to enterprise procedures.
	2.3 Hazards associated with handling of hazardous substances are identified and notified, and risk assessed in accordance with enterprise **procedures** and OHS requirements.
	2.4 Noise hazards are identified and notified, and risk assessed in accordance with enterprise procedures and OHS requirements.
	2.5 **Manual handling** job risks are assessed prior to activity and work carried out according to currently recommended safe practice.
	2.6 Information on OHS is accessed as required.

3.	Participate in arrangements for maintaining health and safety of all people in the workplace	3.1	Individuals have input into on going monitoring and reporting on all aspects of workplace safety.
		3.2	OHS issues are raised with designated personnel in accordance with enterprise procedures and relevant OHS legislation.
		3.3	Contributions to **participative arrangements** in the workplace are made within organisational procedures and scope of responsibilities and competencies.
		3.4	Contributions are provided towards the development of effective solutions to control the level of risk associated with enterprise activities.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Follow workplace procedures for hazard identification and risk control.
- Ability to read safety warning signs.
- Observe safety during work operations.
- Participate in arrangements for maintaining health and safety of all people in the workplace.

Required knowledge:

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:

- Employee and employer responsibilities under the OHS Act.
- Enterprise procedures relating to hazards, fires, emergencies, accidents, risk control.
- OHS signs and symbols relevant to area of work.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	By raising OHS issues verbally with supervisor and others.	1
Collecting analysing and organising information	By recognising hazards, keeping maintenance records and reporting accidents and dangerous occurrences.	1
Planning and organising activities	Following OHS procedures requires limited planning and organising.	1
Working with others and in teams	Following OHS procedures will require participation with others in a team.	1
Using mathematical ideas and techniques	To determine liquids and weights used in the workplace.	1
Solving problems	To determine appropriate action in emergency.	1
Using technology	By the use of communication equipment to raise OHS issues.	1

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What **hazards in the workplace** may be included?	• Equipment and machinery operation and maintenance (including powered tools), vehicles, noise, chemicals, gases, manual handling, plants and animals, solar radiation, electricity, overhead hazards including powerlines, confined spaces, tripping hazards, water bodies, firearms, explosives, damaged or broken structures, damaged or worn equipment, items blocking exits, items of equipment in areas used for access, poor surfaces, and spillages and breakages.

What **employee responsibilities** in OHS legislation may be included in this unit?	• Co-operation with the employer/supervisor in any action taken to comply with OHS legislation, taking reasonable care for own health and safety; accepting responsibility for protection of the health and safety of others through avoidance of personal action which puts others at risk. This includes smoking in the workplace, use of substances which modify mood or behaviour, inappropriate behaviour, not wilfully interfering with, or misusing anything provided to protect health and safety, not wilfully placing at risk the health or safety of any person in the workplace.
What OHS **training** may be relevant?	• OHS induction, specific OHS training, safe machinery operation and maintenance, hazard identification and assessment, and safe chemical use.
What may constitute **participative arrangements?**	• OHS committees and team or work group meetings.
What might be included in workplace for which **protective clothing or equipment** could be required?	• Noise associated with plant, machinery and animals, pesticides, dusts, work in the sun, welding and use of grinders. Personal protective equipment (PPE) may include ear, eye and chemical protection, protective clothing, sunscreen lotion, safety harness, and headgear.
What could be some of the **manual handling** hazards?	• Moving, lifting, shovelling, loading materials, pulling, pushing, up-ending materials, hand tool use, storing materials at heights too high or too low, bending, repetitious tasks, and handling plants and animals.
What **risks** to people and animals might be relevant?	• Drowning in waterways, run over and injury associated with vehicles and machinery, machinery entanglement, exposure to noise, splash, scalding, and drift and volatility of chemicals.
What **procedures** may be included?	• Hazard policies and procedures, emergency policies and procedures, procedures for use of personal protective clothing and equipment, hazard identification and issue resolution procedures, job procedures and work instructions, reporting procedures, and the installation of workplace safety signage.
Which OHS **emergencies** may apply to this unit?	• Electrocution, fire, flood, chemical spills, storms and cyclones, gases in confined spaces, gas leaks, serious injury associated with tractors, machinery and equipment, animals, vehicles, firearms and grain suffocation.

EVIDENCE GUIDE

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

Competence in following Occupational Health and Safety (OHS) procedures requires evidence that hazards have been recognised and reported, that relevant workplace procedures are complied with, and that contributions have been made to participative arrangements. The skills and knowledge required to follow (OHS) procedures must be transferable to a range of work environments and contexts. For example, this could include different workplaces, OHS issues, work situations and teams.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2702A   Observe environmental work practices

Unit Descriptor This competency standard covers the process of observing and contributing to positive environmental work practices. It requires the ability to follow workplace directions and instructions, recognise basic environmental hazards and threats and communicate accurately with supervisors and workplace colleagues, and keep simple records. Observing environmental work practices requires awareness of relevant environmental legislation, policies and workplace/industry practices, approaches to improving environmental performance, and environmental issues (especially in regard to water catchments, air, noise, ecosystems, habitat, efficient use of resources, sustainability and waste minimisation).

Unit Sector No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Follow environmental workplace practices	1.1 **Workplace practices and work instructions** relating to potential environmental impacts are **recognised and followed** , and clarification is sought where necessary.
	1.2 Changes to work practices and procedures are responded to positively and promptly in accordance with enterprise requirements.
	1.3 Relevant **legislation, codes and national standards** that impact on workplace environmental practices are recognised and followed.
2. Contribute to improved environmental work practices	2.1 **Suggestions** are made to **designated personnel** for improvements to workplace practices where possible.
	2.2 Information is gathered and improvements are suggested to support the development of improved **workplace approaches to environmental practices.**
	2.3 **Environmental issues** and their relationship to workplace practices are discussed in the workplace with colleagues and designated personnel.
	2.4 Contributions to the review of **environmental practices and policies** are made within limits of responsibility.
3. Recognise and report on a potential environmental threat	3.1 **Signs or symptoms** of the potential environmental threat are recognised.
	3.2 Information about or observations of a potential environmental threat are **reported** to supervisors and/or appropriate authorities.
	3.3 Location and extent of the potential environmental threat is accurately recorded.
	3.4 Reports on the potential environmental threat are completed according to enterprise guidelines.
4. Maintain environmental records	4.1 Environmental records are accurately prepared as required according to enterprise policies and procedures.
	4.2 Environmental records are stored securely in a form accessible for reporting purposes.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Communicate with supervisors and workplace colleagues.
- Recognise basic environmental hazards and threats.
- Follow workplace directions and instructions.
- Keep simple records.

Required knowledge:

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:

- Relevant legislation from all levels of government on environmental issues.
- Relevant environmental policies and workplace/industry practices and procedures.
- Good practice approaches relevant to work area particularly in regard to minimising environment hazards and risks, and improving environmental performance.
- Environmental issues, especially in regard to water catchments, air, noise, ecosystems, habitat, efficient use of resources, sustainability and waste minimisation.
- Potential environmental threats and problems relevant to a given region and occupation.
- General work place practices and their potential impact on the environment .

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Verbally with supervisor and others on environmental work practices and potential hazards and risks.	1
Collecting analysing and organising information	Through maintaining and analysing environmental records.	1
Planning and organising activities	According to enterprise environmental and work place practices and policies.	1
Working with others and in teams	Through working with others to follow and improve environmental practices.	1
Using mathematical ideas and techniques	Through quantification (e.g., counting, estimating areas) of environmental hazards or problems and through collection of data.	1
Solving problems	Through recognition of and responses to environment hazards and risks, and determining ways that work practices can be more environmentally friendly.	1
Using technology	Technology may be required to record information, deal with environmental hazards, and improve work practices to be more environmentally friendly.	1

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What does recognise and follow mean?	• That a person will acknowledge that environmental impacts, hazards and risks exist and that they have a responsibility to work in a manner which will minimise the impact on the environment within the guidelines established by the workplace.

What might environmental workplace procedures and work instructions include?	• These could include written procedures or work instructions for environmental hazard and risk identification, avoiding or minimising environmental risks, improving environmental performance, waste minimisation and segregation, environmental monitoring, signs and labels (e.g., chemical labels), emergency procedures, hazard and incident recording and reporting procedures, and environmental data recording and reporting procedures where applicable. Verbal instructions from persons with responsibility related to environmental work practices are also included in this definition.
What legislation, codes and national standards may be relevant to this competency standard?	• Award and enterprise agreements, relevant environmental legislation from all levels of government, Australian standards, international agreements and relevant industry Codes of Practice.
What environmental threats and hazards may be included in this competency standard?	• These could include spills, leaks, pollution, planned and unplanned emissions, soil compaction, disturbance and erosion, accidents and disposal of waste, and damage or disruption to ecosystems resulting from work practices. Also includes plants, animals or diseases that are classified as an environmental threat or problem in an area, unauthorised changes in land use, fire risks and threats, and inappropriate human interaction on the environment. This may include damage to habitat resources, disruption of animal behaviour and territorial use, illegal vegetation clearance, seed collection, firewood gathering, nest disturbance and egg collecting.
Who are designated personnel in a workplace?	• Managers, supervisors, and people who are responsible for work area or who may be assigned to act as a mentor/trainer to a person under instruction.
What suggestions may be included?	• Ideas to minimise hazards and risks, reduce waste, make more efficient use of resources and improve environmental performance, reduce soil disturbance and improve habitat resources.
What workplace approaches to environmental practices may be relevant to this competency standard?	• Preventing and minimising the production of pollution (e.g., discharges to air, land and water, hazardous waste, reducing 'burning off', composting, recycling materials, conservation practices), and improving workplace maintenance practices (e.g., using a broom instead of a hose, using environment-friendly cleaning agents).

What environmental issues are included in this competency standard?	• Sustainability, reduction and disposal of waste, water quality, energy efficiency, biodiversity and habitat protection, conservation of natural resources, air quality, land contamination, noise, soil and salinity management and fire management.
What may be listed under environmental policies?	• Waste minimisation and management, sustainability, local, regional, state and national strategies on weed and pest management, protection of land and habitat and conservation of resources, energy use, greenhouse gas emissions, use of chemicals and plant and equipment.
What may be listed as signs or symptoms of a potential environmental threat?	• Observation of the presence of weeds, pest animals or chemicals; damage caused to plants, animals or the environment, changes in plant (e.g., dieback of trees) and animal health, erosion of soils, soils in water suspension, and presence of salt.
How may a report be made?	• Verbally (face-to-face or through communication equipment) and in writing (notes, faxes, email or electronic messages).
What environmental records may be included?	• Environmental data, maintenance and inspection reports, incident or accident reports, and complaints from the public.

EVIDENCE GUIDE

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

Competence in observing environmental work practices requires evidence that skills and knowledge have been successfully and appropriately applied and demonstrated in a work place or equivalent situation. The skills and knowledge required to observe environmental work practices must be transferable to a range of work environments and contexts. For example, this could include different workplaces, environmental hazards and risks, and workplace practices and procedures.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2704A Provide basic first aid

Unit Descriptor

This competency standard covers the process of providing essential first aid in recognising and responding to an emergency using basic life support measures. The first aider is not expected to deal with complex casualties or incidents, but to provide an initial response where first aid is required. The first aider will generally be working under supervision. It requires the ability to respond positively to emergencies in line with practised actions and demonstrate basic first aid casualty management principles. Providing basic first aid requires knowledge of the use of safe working practices, the emergency network, and first aid casualty management principles.

Note: This competency standard can be acquired through completion of St John's Basic Life Support (Level 1), the Australian Red Cross' Essential First Aid or other equivalent one-day programs.

Unit Sector

Business Management Services

ELEMENT	PERFORMANCE CRITERIA
1. Assess the situation	1.1 **Emergency situation** is recognised.
	1.2 **Physical hazards** to personal and others health and safety are identified.
	1.3 Immediate risk to self and casualty's health and safety are minimised by isolating the **hazard** .
	1.4 The casualty's physical condition and vital signs are assessed.
2. Apply basic first aid techniques	2.1 Casualty is reassured in a caring and calm manner and made comfortable using available resources.
	2.2 First aid care is provided in accordance with established first aid procedures.
	2.3 First aid assistance is sought from others as appropriate.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Respond positively to emergencies in line with practised actions.
- Apply first aid casualty management techniques.

Required knowledge:

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:

- The use of safe working practices.
- The emergency network.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Verbally including through communication systems.	1
Collecting analysing and organising information	Observation and reporting to supervisor or appropriate authorities.	1
Planning and organising activities	According to Occupational Health and Safety practices and policies.	1
Working with others and in teams	Through reacting to emergency situations in a coordinated way.	1
Using mathematical ideas and techniques	Calculating pulse rates.	1
Solving problems	Identifying solutions to preserve life or counteract emergencies.	1
Using technology	Use of communications equipment.	1

RANGE STATEMENT

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 **emergency situations** that impact on the operation may be included in this unit?	• Fire, fuel spillage, anhydrous ammonia emergencies and chemical spillage. Emergency situations can also arise due to trauma, e.g., road accidents, snakebite or poisoning, respiratory or cardiac arrest, and electrocution.
What may be included as **hazards?**	• Proximity of other people, lack of oxygen, vehicles and machinery, fire, gas, fume and electrical situations.
What maladies might be relevant to this standard?	• Bleeding and shock, burns, fits, choking, heart attack, fractures, poisoning and drowning.

EVIDENCE GUIDE

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

Competence in providing basic first aid requires evidence that an individual has the skills and knowledge to recognise and respond to an emergency using basic life support measures. The skills and knowledge required to act to provide basic first aid must be transferable to a range of work environments and contexts. For example, this could include different workplace environments and signs and symptoms requiring attention.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2705A Work effectively in the industry

Unit Descriptor   This competency standard covers the process of working effectively on an individual basis and with others. It requires the ability to obtain information about the industry, observe employment requirements, accept responsibility for quality of own work, maintain safety of self and others, participate in workplace teams, and follow work schedules. Working effectively in the industry requires knowledge of industry/workplace awards and conditions, employer expectations, relevant legislation and Codes of Practice applying to the industry, OHS policies and procedures, workplace policies and procedures, emergency procedures, organisational structure, and workplace communication channels.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Obtain information about the industry	1.1 **Sources** of **information** about the industry are correctly identified and accessed.
	1.2 Information to assist effective and safe work performance within the industry is collected.
	1.3 Specific information on sector of work is obtained and updated.
	1.4 Industry and OHS information is correctly applied to day-to-day work activities.
	1.5 Employment **terms and conditions** are defined.
	1.6 Career pathways within the industry are identified.
2. Observe employment requirements	2.1 **Industry developments** are used in workplace context to improve quality, productivity and conditions.
	2.2 Work practices comply with Codes of Practice and workplace expectations.
	2.3 Faults and abnormalities in workplace practices are recognised and remedial **action** is taken to enterprise requirements.
	2.4 Dress and personal requirements comply with workplace standards.
	2.5 Punctuality in work attendance is observed.
	2.6 Employers expectations are met through completion of workplace routines and specific instructions within enterprise policies and procedures.
3. Accept responsibility for quality of own work	3.1 Personal work space is kept in a well organised and safe condition, and is in accordance with relevant standards and policies.
	3.2 Workplace code of conduct is adhered to.
	3.3 Variations in the quality of service and/or products from required standards are detected and reported in accordance with workplace procedures.

4.	Plan own work	4.1	Instructions are interpreted correctly and observed.
		4.2	**Factors affecting work requirements** are identified and appropriate action is taken.
		4.3	Work load is assessed and prioritised within allocated timeframes.
		4.4	The need for assistance to improve performance is communicated clearly to the appropriate person.
5.	Promote workplace co-operation	5.1	Responsibilities and duties are undertaken in a positive manner to promote co-operation and good relationships.
		5.2	Co-operation with others is conducted in a courteous manner and is appropriate to culture, **special needs** and linguistic background and position in the organisation.
		5.3	Problems and conflict are recognised and resolved, where possible, through personal communication and/or are referred to a supervisor, manager or employer for resolution.
6.	Contribute to a productive work environment	6.1	Commitments to undertake work or assist colleagues/co-workers are fulfilled.
		6.2	Information relevant to work is shared with colleagues/co-workers to ensure designated work goals are met.
		6.3	Knowledge and skills are shared with colleagues/co-workers through conversations and meetings.
		6.4	Contribution of individuals of different gender and social and cultural backgrounds is recognised and sought.
		6.5	The principles of equal employment opportunity are observed and implemented.
		6.6	Work is consistent with workplace standards relating to anti-discrimination and workplace harassment.
7.	Undertake an activity to workplace requirements	7.1	Interpretation of work schedules is consistent with the schedule and tasks defined.
		7.2	Knowledge and skills required for task are discussed with supervisors and co-workers.
		7.3	Availability of materials and equipment are checked to ensure they are consistent with work schedules and the requirements of the tasks.
		7.4	A daily schedule for completing **workplace activities** and allocated tasks including priorities, allocated start times, estimation of completion times and materials, equipment and assistance required for completion is decided upon.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Collate information on the industry.
- Observe employment requirements.
- Accept responsibility for quality of own work.
- Manage own work.
- Maintain safety of others.
- Promote workplace co-operation.
- Contribute to a productive work environment.
- Interpret work schedules.

Required knowledge:

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:

- Industry/workplace awards and conditions.
- Employer's expectations.
- Relevant legislation and Codes of Practice applying to the industry.
- OHS policies and procedures.
- Workplace policies and procedures including those relating to quality systems.
- Emergency procedures.
- Organisational structure.
- Workplace communication channels.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Verbally with supervisor and others using enterprise terminology relating to work conditions.	1
Collecting analysing and organising information	Working effectively in the industry will require basic information to be gathered and organised accordingly.	1
Planning and organising activities	Working effectively in the industry requires limited planning and organising.	1
Working with others and in teams	Working effectively in the industry will require participation with others in a team.	1
Using mathematical ideas and techniques	Not Applicable.	-
Solving problems	Problems requiring simple solutions may arise.	1
Using technology	Technology may be required to obtain and record information.	1

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What **information** about the industry may be relevant to this standard?	• Different sectors of the industry and the services available in each sector, relationship between sectors and other industries, industry working conditions including OHS hazards, legislation that affects the industry, industrial relations issues and major organisations, career opportunities within the industry, work ethic required to work in the industry and industry expectations of staff, and quality assurance.
What **terms and conditions** may be included in this unit?	• Workplace agreements, relevant union bodies, relevant awards, employment contracts and workplace requirements and etiquette.

What **legislation** may be relevant to those working in the industry?	• OHS, workplace relations, workers compensation, consumer protection and trade practices, duty of care, building regulations, hygiene, equal employment opportunity (EEO), and anti-discrimination.
How might **industry developments** be relevant?	• Implications of technology changes on employment, industry environment, and changes in market conditions.
What may be seen as **factors affecting work requirements?**	• Time and weather contingencies, other work demands
What types of **workplace change** might be relevant to this standard?	• Implementation of new work practices and services, enterprise restructuring, introduction of new technology or communication systems, and changes in staff numbers and individuals.
What can be defined as **special needs?**	• People with a disability, children, elderly people, and people from non-English speaking background.
What **policies and procedures** may be relevant to this standard?	• Quality system policies and procedures, environmental policies, OHS policies and procedures including accident reports, responsibilities and duties
What **workplace activities** may be included in this unit?	• Daily routines, periodic routines and ad hoc activities.
What sorts of **action** may be relevant to this unit?	• Reporting, rectifying faults, and prevention of damage.
What **sources** of information are relevant to this standard?	• Media, reference books, libraries, unions, industry associations, industry journals, internet sites, personal observation and experience.

EVIDENCE GUIDE

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

Competence in working effectively in the industry requires evidence that skills and knowledge to work effectively in the industry have been successfully demonstrated in a work place or equivalent situation. The skills and knowledge required to working effectively in the industry must be transferable to a range of work environments and contexts.

For example, this could include different workplaces, groups of co-workers, and within enterprise policies and procedures.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC2706A Apply chemicals under supervision

Unit Descriptor
This competency standard covers the process of applying chemicals and biological agents for the control of weeds, pests and diseases using workplace specific application equipment. The work functions in this standard will be carried out under supervision. A thorough knowledge and the application of safety procedures and regulations when using chemicals is required.

NB: This competency standard may be deemed to have a time limit when used as part of an accreditation or licence to purchase or use chemicals

Unit Sector
Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Follow instructions to check and maintain application and personal protective equipment	1.1 Pre and post operational checks and maintenance on *application equipment* are carried out according to manufacturers specifications and enterprise procedures 1.2 **Application and personal protective equipment** are prepared and adjusted for use appropriate to the situation and in accordance with Occupational Health and Safety requirements 1.3 Instructions are followed to identify and maintain damaged, non-functioning or worn equipment 1.4 Occupational Health and Safety hazards are identified and reported to the supervisor
2. Use application and personal protective equipment	2.1 **Chemical** label is interpreted 2.2 Application and personal protective equipment appropriate to the task are recognised and used, maintained and stored according to enterprise procedure and Occupational Health and Safety requirements 2.3 Measurement and decanting of substances comply with directions 2.4 **Safe working practices** relevant to the situation are followed 2.5 Procedures in the event of a chemical spill are identified and followed
3. Apply chemicals	3.1 **Hazards** are identified and associated risks recognised 3.2 Requirements for application equipment to accurately and effectively apply the required dose of the chemical to the target are followed 3.3 Safe working practices relevant to the situation are followed
4. Follow instructions to empty and clean equipment and containers according to directions	4.1 Instructions for clean-up are identified 4.2 Equipment and clean up methods using appropriate *tools* are followed 4.3 Instructions for disposal of containers and unused chemicals or biological agents are identified

5.	Complete chemical records	5.1	Chemical inventory is recorded as instructed and as required by regulations
		5.2	Chemical *application details* are reported as instructed and as required by regulations
6.	Transport, handle and store chemicals according to instructions and legislative requirements	6.1	Transport, handling and storage requirements for chemicals used are recognised and followed
		6.2	Requirements for storage of chemicals at the workplace are recognised and followed

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Accurately interpret labels, record relevant information and measure application amounts

- Work using a variety of chemical application tools and pieces of equipment that are suitable for the particular application task using safe and environmentally responsible work practices.
- Respond to emergencies and apply first aid in the event of pesticide poisoning.

Required knowledge:

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:

- Environmental effects of selected chemicals and how to minimise damaging effects of chemicals.
- Different broad chemical types, e.g., insecticides, herbicides and fungicides and their mode of action symbols on the label.
- Principles of Integrated Pest Management.
- Paths of entry of poisons into the body and methods of limiting exposure.
- Methods of minimising risk during application.
- Personal protective equipment and how, when and why it should be used and stored.
- Maintenance of personal protective equipment.
- Relevant State or territory legislation, regulations and Codes of Practices with regard to hazardous substances or the use of chemicals.
- Occupational Health and Safety concerning personal safety and safety of others in the workplace.
- Use of chemicals as one tool of pest management.
- Possible effects on health of bystanders/public in addition to applicators.
- Weather conditions and means of assessing them in line with risks, and recognising when they become unsuitable for application to continue.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information about chemicals and how they will be applied and recorded may be communicated to work colleagues or the supervisor.	1
Collecting analysing and organising information	Information may be collected and analysed from chemical labels, MSDSs, operators manuals or from Codes of Practice and advisory materials outlining regulations relevant to chemical use.	1
Planning and organising activities	Recognising and using equipment, application and cleaning up of chemicals will require coordination of activities.	1
Working with others and in teams	Applying chemicals with others in the workplace or in conjunction with other team functions.	1
Using mathematical ideas and techniques	Correctly measuring volume of chemical to apply, recording information and working out time periods before work can continue in the area.	1
Solving problems	Taking action concerning faulty equipment may require problem solving.	1
Using technology	Recording information may require technology to be used.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **pre and post operational checks** might be relevant to this standard?	• Checks may be made to weather conditions (e.g., wind), nozzles, hoses, regulators/gauges, respirator cartridges, drench, and protective clothing and equipment.
What types of **application equipment** are relevant to this standard?	• Knapsacks or hand held pneumatic sprayers, drench guns, spot on applicators, syringes, or other equipment relevant to the workplace.

What **personal protective equipment** might be relevant to this standard?	• Personal equipment may include boots, overalls, chemical resistant gloves, aprons, face shields, respirators or hats.
Which **chemicals** may be relevant to this standard?	• Chemicals may include herbicides, insecticides, fungicides, algaecides, growth regulators, growth promotants, bio-agents or vaccines. Excludes application of S6 and S7 chemicals.
What **safe working practices** may be relevant to this standard?	• Safe working practices may include procedures for handling, transporting and storing chemicals, selecting and using personal protective clothing and equipment, safe operation of machinery and equipment, safe procedures for applying chemicals and following manufacturers instructions.
What **legislation or regulations** may be relevant to this standard?	• Legislation may include Pesticides Acts, Occupational Health and Safety Acts and associated Hazardous Substances Regulations/ Codes of Practice, Dangerous Goods Acts, Poisons Schedule or Protection of the Environment Acts.
What **procedures** may be followed in the event of a spill?	• May include procedures according to the label, Material Safety Data Sheets (MSDSs) or legislation.
What **hazards** may be relevant to this standard?	• Hazards will be listed on labels and the MSDSs for the chemical concerned and may include flammability, toxicity, health hazards, damage to non-target organisms, environmental damage or residues in food or feedstuffs.
What **tools** may be relevant to this standard?	• Tools may include hand tools, measuring jugs and cylinders, scales, syphoning equipment, drum rinse, and batching tank.
What **application details** may be recorded as part of this standard?	• Details such as time, date, quantity and type of chemical, weather, application equipment, host and pest, accidents or dangerous occurrences may be recorded or must be recorded where required by legislation.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

What are the special assessment conditions for this competency standard?	Where this competency standard is being used as part of an accreditation or licence for purchase or use of chemicals the assessor must meet the requirements of the issuing body. This may include:

- Accreditation with that issuing body
- Maintenance of current competency in this and the following standards:
  - RTC3704A - Prepare and apply chemicals
  - RTC3705A - Transport, handle and store chemicals
  - RTC4702A - Minimise risks in the use of chemicals
  - RTC4703A - Plan and implement a chemical use program
- Involvement in professional development programs comprising technical and legislative updates on an annual basis.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC2801A
Unit Descriptor

Participate in workplace communications

This competency standard covers the process of effectively participating in workplace communications. It requires the ability to follow simple spoken messages, perform routine workplace duties, follow simple written notices, obtain and provide information in response to workplace requirements, complete relevant work related documents, and participate in workplace meetings and discussions. Participating in workplace communications requires an understanding of different modes of communication, basic mathematical processes, and knowledge of communication procedures and systems and technology relevant to the enterprise and the individual's work responsibilities.

Unit Sector　　No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Follow routine spoken messages	1.1 Required information is gathered by listening, and is correctly interpreted. 1.2 Instructions/procedures are followed in appropriate sequence for tasks and in accordance with information received. 1.3 Clarification is sought from workplace supervisor on all occasions when any instruction/procedure is not understood.
2. Perform workplace duties following routine written notices	2.1 Written workplace notices and instructions are read and interpreted correctly. 2.2 Routine written instructions/procedures are followed in sequence. 2.3 Clarification is sought from workplace supervisor on all occasions when any instruction/procedure is not understood.
3. Obtain and provide information in response to workplace requirements	3.1 Specific, relevant information is obtained. 3.2 Important information is interpreted correctly. 3.3 Information is written completely, accurately and legibly. 3.4 Sources of required information are identified and appropriate **contact** established. 3.5 Personal **interaction** is courteous and inquiries carried out clearly and concisely. 3.6 Defined workplace procedures for the location and **storage** of information are used.
4. Complete relevant work related documents	4.1 Range of **forms** relating to conditions of employment are completed accurately and legibly. 4.2 Workplace data is recorded on standard workplace forms and documents. 4.3 **Basic mathematical processes** are used for routine calculations. 4.4 Errors in recording information on forms/documents are identified and rectified. 4.5 Reporting requirements to supervisor are completed according to enterprise guidelines.

5.	Participate in workplace meetings and discussions	5.1	Team meetings are attended on time.
		5.2	Own opinions are clearly expressed and those of others are listened to without interruption.
		5.3	Meeting inputs are consistent with the meeting purpose and established **protocols.**
		5.4	**Workplace interactions** are conducted in a courteous manner appropriate to cultural background and authority in the enterprise procedures.
		5.5	Questions about simple routine workplace procedure and matters concerning conditions of employment are asked and responded to.
		5.6	Meeting outcomes are interpreted and implemented.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Follow simple spoken messages.
- Perform routine workplace duties following simple written notices.
- Gather and provide information in response to workplace requirements.
- Complete relevant work related documents.

- Estimate, calculate and record routine workplace measures.
- Basic mathematical processes of addition, subtraction, division and multiplication.
- Estimation processes.
- Participate in workplace meetings and discussions.

Required knowledge:

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:

- Effective communication.
- Different modes of communication.
- Written communication.
- Effective communication in a work team.
- Communication procedures and systems, and technology relevant to the enterprise and the individual's work responsibilities.
- OHS legislative requirements and Codes of Practice.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	By discussion with supervisor and others.	1
Collecting analysing and organising information	By obtaining various workplace documents and processing them accordingly.	1
Planning and organising activities	Participating in workplace communications requires limited planning and organising.	1
Working with others and in teams	Participating in workplace communications will require participation with others in a team.	1
Using mathematical ideas and techniques	Mathematical ideas and techniques can be applied by calculating and recording workplace information.	1
Solving problems	In emergencies or communication breakdown, technical problems may arise requiring simple solutions.	1
Using technology	Equipment such as calculators, computers, telephones and radios may be required to communicate and calculate.	1

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What types of **notices** may be relevant to this unit?	• Instructions, labels, symbols, signs, tables, simple graphs, personnel information, notes, rosters, safety material, dockets with customer/client details, messages, enterprise specific data, and industry network details.
What other **contact** may be included?	• Suppliers, industry bodies, local government, regulatory bodies, trade personnel, training personnel, contractors and advisers.

How should **interaction** with others be conveyed?	• Efficiently, effectively, responsively, courteously and supportively, using correct forms of greeting, identification and address as required, and presenting the enterprise in a positive way.
What forms of data **storage** may be included?	• Manual or computer based filing systems.
What workplace **forms** may be included?	• Personnel forms, telephone message forms, safety reports and work rosters.
What different types of work groups and teams does this standard apply to?	• Formal and informal groups/teams, small and large groups/teams and teams based on work function, level of supervision, work rosters or other.
What **routine workplace measures** may be included?	• Estimates and calculations of pay, leave entitlements, workplace allowances, materials usage, product characteristics (length, weight, capacity, time, temperature, stock numbers and age), product tallies, and packing and storing of stock/product.
What are defined as **basic mathematical processes?**	• Addition, subtraction, multiplication and division.
What meeting **protocols** may be included?	• Observing meeting convention, compliance with meeting decisions, and obeying meeting instructions.
What industry standards for **workplace interaction** may be specified?	• Courtesy requirements, discretion, confidentiality, and structured follow-up procedures.
What **workplace interactions** may be relevant to this standard?	• Verbal discussions including face to face, telephone, electronic and two-way radio, written including electronic, memos, instructions and forms, and non-verbal including gestures, signals, signs and diagrams.
What **enterprise requirements** may be relevant?	• Clear and concise organisation, defined procedures for storage, and accurate and legible recording.

What **personal presentation** standards may be included?	• Dress requirements for personal safety in the working environment, the wearing or use of personal protective equipment, personal and workplace hygiene and personal presentation for safety, e.g., the need to cover long hair or remove jewellery.
Which forms of **communication** may be relevant?	• Face to face, telephone, written means, computers, e-mail, facsimile, 2-way radio, mobile phone, attendance at industry forums, paging systems and answering machines.

EVIDENCE GUIDE

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

Participating in workplace communications in the workplace requires evidence that effective communications have been carried out according to the elements and performance criteria in this competency standard and according to workplace guidelines and procedures. The skills and knowledge required participate in workplace communications must be transferable to a range of work environments and contexts. For example, this could include different workplaces, types of communication and work teams.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3016A   Provide information on plants and their culture

Unit Descriptor   This competency standard covers the process of providing information to clients and others about plants and their cultural requirements. The provision of information is likely to be under limited supervision from others with checking only related to overall effectiveness. The provision of information requires the application of extensive horticultural knowledge and a broad range of plant-related skills. The provision of information is normally done within routines, methods and procedures where some discretion and judgement is required.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Identify the issue	1.1 Contact is initiated with the **client**, when appropriate, according to **enterprise work procedures** 1.2 The client is assisted in explaining the **issue** by the use of attentive listening and questioning techniques according to enterprise work procedures 1.3 The nature of the issue is clarified by gathering all relevant **information** from the client according to enterprise work procedures 1.4 The issue is defined according to **researched and experimental awareness** and enterprise work procedures
2. Decide on preferred solution	2.1 Options and/or strategies are identified and devised according to researched and experimental awareness, and enterprise work procedures 2.2 Options and/or strategies are examined and evaluated according to sound problem-solving techniques and enterprise work procedures 2.3 The optimal solution is determined based on reasoned argument, appropriate evidence, sound cultural principles, and enterprise work procedures
3. Provide the preferred solution	3.1 The recommended solution, method of application and probable outcomes are clearly explained to the client according to enterprise work procedures 3.2 The original source of the plant and its cultural requirements is referred to where necessary 3.3 Client requests for clarification or expansion are responded to by the use of attentive listening and questioning techniques according to enterprise work procedures 3.4 Recommendations are recorded and reports are made to the supervisor according to enterprise work procedures

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate with clients, work team members, supervisors, suppliers, contractors and consultants.
- Interpret information sheets, labels, horticultural literature, specifications and design symbols.
- Utilise proforma reporting and work procedure documents.
- Estimate treatment and product requirements, material sizes and quantities.
- Interpret site designs, ground plans and specifications.
- Calculate ratios, proportions and application rates.
- Coordinate own work activities to gain knowledge about plants, products and treatments.
- Investigate client requests for information, identify and evaluate options, decide on a solution, and deliver recommendation and information to the client.

- Provide customer service to satisfy the clients need for information.
- Research and access information.
- Inform the client of any recommended solution using verbal explanations, available audio-visual or multimedia materials, literature, and demonstrations of the solution offered by a plant, product or treatment.

Required knowledge:

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:

- Broad range of plant species and their cultural relevant to the workplace.
- Awareness of legal issues, OHS issues and requirements, and environmental implications, regulations and cultural sensitivities of clients.
- Problem-solving techniques.
- Plant identification techniques and basic physiology, habit and growth characteristics of the plants specific to the enterprise.
- Soil characteristics, particularly in relation to the geographical and climatic region from which clients generally originate.
- Pest and disease symptoms, basic physiology and life cycle of pests and diseases, vulnerable plant growth stages, treatment thresholds, treatment products, effective application procedures and environmental implications.
- Weed species, growth stages, treatment thresholds, treatment products, effective application procedures and environmental implications.
- Local plant suppliers, consultants, services, products and contractors.
- Awareness of duty of care in provision of advice and recommendations to retail, commercial and private clients.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Written, oral and tele- communication of ideas and information relating to the horticultural issue and the recommended solution will be required with the client, work group, supervisor and industry contacts.	2
Collecting analysing and organising information	Enterprise work procedures, customer service standards and resources should be consulted, interpreted and applied to coordinate client service and information delivery about plants, products and treatments, with further clarification sought from the supervisor when necessary.	2
Planning and organising activities	Own work activities, in coordination with the work team, will be planned prior to and adjusted during client service work periods.	2
Working with others and in teams	The provision of information to clients may require coordination and consultation with team members to deliver effective and accurate information to the clients satisfaction.	2
Using mathematical ideas and techniques	Mathematical application will be required to calculate area, quantities, volumes and application rates for plants, products and treatments.	2
Solving problems	Problem-solving techniques will be required to satisfy the clients needs. Inadequate knowledge in an area of customer query and inadequate plants, products or treatments available within the specific enterprise to meet client needs, will also require problem-solving techniques.	2
Using technology	Technological understanding will be required to access and apply information about plants, products and treatments to meet clients needs, communicate with clients and others, and keep records.	2

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What type of **client** may be relevant to this standard?	• Clients may include general public, customers, clients, community groups, staff members and industry counterparts.

What **enterprise work procedures** may apply to this standard?	• Work procedures will be based on sound plant cultural principles and practices and may include supervisors oral or written instructions, enterprise policy and guidelines, enterprise Standard Operating Procedures (SOP), specifications, routine maintenance schedules, work notes, product labels and Material Safety Data Sheets (MSDS), manufacturers service specifications and operators manuals, waste disposal, recycling and re-use guidelines, and OHS procedures.
What **issues** may be identified by the client?	• Issues may include weeds, pest and disease control measures, selection and use of plant materials, basic garden design and maintenance, soils, irrigation, plant nutrition, products and services, local geographical variables, habitat and conservation use, bush restoration, and other plant cultural information.
What **information** may be relevant to an issue?	• Information may include soil characteristics, proximity of plantings and structures to buildings, plant positioning, material types, origin of the plant, environment and environmental threats, watering regime, propagation techniques, seed collection methods, habitat and conservation value, natural and assisted regeneration, drainage and cultural practices.
What **researched and experiential awareness** may be relevant to this standard?	• Knowledge of the species and its culture may be increased through consultation with team members, the supervisor, own knowledge, specific literature, supplier specifications, local historical performance data, and industry best practice guidelines. • Resources may include enterprise or public library, horticultural and land management-related business and research organisation websites, industry consultants, suppliers and contractors, enterprise supervisor and team colleague experience, and experts in the local area or industry sector.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC3201A   Conduct operational inspection of park facilities

Unit Descriptor   This competency standard covers the process of inspecting park/recreational facilities to identify hazards, existing and/or potential risks, and non-conformities with Australian Standards and OHS requirements. The operational inspection of park/recreational facilities is likely to be under limited supervision from others and with checking only related to overall progress. The work is normally done within routines, methods and procedures where some discretion and judgement is required in the selection of equipment and materials, organisation of work, services, actions and the achievement of outcomes within time and budgetary constraints.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for operational inspection	1.1 Specific **facilities and equipment** to be inspected and purpose of the inspection are determined according to operational request.
	1.2 **Tools and equipment** for testing and inspection are selected according to **enterprise work procedures.**
	1.3 Pre-operational and safety checks are carried out on tools and equipment according to manufacturers specifications and enterprise work procedures.
	1.4 Appropriate checklists and reporting formats are prepared to suit the application.
	1.5 Different types of facilities are identified from checklist descriptions.
	1.6 Specific terminology used in checklists is clarified with the supervisor.
2. Undertake operational inspection	2.1 Modes of **non-conformity** with **Australian Standards** , OHS guidelines and enterprise standards are identified and recorded.
	2.2 **Hazards** and indications and signs of hidden faults are detected and recorded.
	2.3 Checklist entries are concise and accurate.
	2.4 Inspections are undertaken according to **OHS requirements.**
3. Recommend effective rectification action	3.1 Situations requiring urgent action are reported immediately to supervisors.
	3.2 Recommendations to rectify non-conformities are noted as required.
	3.3 An inspection report is submitted to the supervisor according to enterprise work procedures.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate with work team members and supervisors.
- Utilise proforma reporting and work procedure documents.
- Understand design symbols and terminology.
- Compare actual measurements of inspected components with legal, OHS and/or enterprise standards and specifications.
- Organise and coordinate own work activities with other work groups to sequentially and effectively complete operational inspection in a timely and cost effective manner.

Required knowledge:

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:

- The range, use and safety parameters of park/recreational facilities and equipment, their material construction and maintenance requirements.
- The operational expectations and enterprise standards for the presentation and working order of a range of park/recreational facilities and equipment.
- Different modes of non-conformity that may be identified in reference to relevant Australian Standards and OHS requirements.
- Terminology used to describe different components of park/recreational facilities and equipment.
- Inspection procedures and techniques, and legal and enterprise reporting requirements for maintenance, repair and replacement recommendations.
- OHS legislative requirements and Codes of Practice associated with public use of park facilities.
- Identification, assessment and control of hazards.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Written, oral and tele- communication of ideas and information relating to inspection activities and problems encountered will be required with the work group and supervisor.	1
Collecting analysing and organising information	Enterprise work procedures, site plan and inspection checklists should be consulted, interpreted and applied to conduct operational inspection, with further clarification sought from the supervisor when necessary.	2
Planning and organising activities	Own work activities will be planned prior to and adjusted during the operational inspection.	1
Working with others and in teams	The inspection program may involve facilitating and leading members of a team to complete the program on time and budget.	1
Using mathematical ideas and techniques	Mathematical application will be required to assess the scope and extent of replacement or repair of components of park/recreational facilities and equipment.	1
Solving problems	Site contingencies, personnel difficulties, timeline failures and assessing and controlling hazards may require problem-solving techniques.	1
Using technology	Technological understanding will be required to use testing and inspection equipment, undertake inspection activities, communicate and keep records.	1

RANGE STATEMENT

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.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What **facilities and equipment** may require operational inspection?	• Facilities and equipment may include playgrounds, playground softfall and pathways, play equipment, parks and street furniture and structures, fences, barbeques, steps and stairs, bollards, tree and grass protection devices, bins, signs, toilets, shelter buildings and structures, and paved, turf and/or grassed recreational areas.
What **tools and equipment** may be required?	• Tools and equipment may include a ladder, torch and electronically and manually operated testing equipment appropriate to the facilities and equipment to be inspected.
What **enterprise work procedures** may apply to this standard?	• Work procedures will be based on OHS and national standards, practices and procedures and may include supervisors oral or written instructions, inspection program, enterprise Standard Operating Procedures (SOP), specifications, routine maintenance schedules, work notes, manufacturers' service specifications and operator's manuals, waste disposal, recycling and re-use guidelines, and OHS procedures.
What modes of **non-conformity** may be identified?	• Modes of non-conformity may include obvious or hidden hazards, worn or damaged components such as bearings and moving joints, structural instability and defective operation of equipment.
What **Australian standards** may be relevant to this competency standard?	• Australian Standards may include those covering playgrounds, boardwalks, shelters, pathways, lookouts and fences (e.g., AS4486.1, AS4422, AS1924.1 and AS1924.2).
What **hazards** may be identified?	• OHS hazards may include damaged parts, broken glass, syringes, overfilled litter and recycling bins, waterlogged areas, dysfunctional water bodies and features, loss of soft surfacing, protruding nails, bolts and splinters, sudden changes in surface levels such as holes and trip points, and worn, rusted and weathered components.

What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing tools and equipment, appropriate use, maintenance and storage of personal protective equipment including sun protection, safe operation of tools and equipment, basic first aid, personal hygiene, and reporting problems to supervisors.

EVIDENCE GUIDE

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

Competence in conducting an operational inspection of park/recreational facilities requires evidence that a person is able to prepare for inspection activities and undertake testing and checking of park/recreational facilities to effectively identify hazards, existing and/or potential risks, and non-conformities with Australian Standards and OHS requirements. The skills and knowledge required to conduct an operational inspection must be transferable to a different work environment. For example, this could include different park/recreational facilities, inspection guidelines and environments.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **critical 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3206A Unit Descriptor

RTC3206A

Unit Descriptor

Erect timber structures and features

This competency standard covers the process of erecting timber structures and features as a component of landscape project works. These structures and features may include fences, pergolas, trellises, lattices, gazebos, small bridges, handrails, boardwalks, steps, decking, sheds, playhouses, screens, and site furniture. The erecting of timber structures and features is likely to be under limited supervision from others with checking only related to overall progress, and is usually done within established industry guidelines. Some discretion and judgement may be required in the selection, assembly and securing of the timber components used in the structure or feature.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Plans and specifications are interpreted and clarified with the supervisor.
	1.2 The quantity and quality of materials are checked to ensure they conform to design drawings and specifications.
	1.3 **Tools and equipment** are selected and checked for serviceability according to enterprise guidelines.
	1.4 **OHS hazards** are identified, risks assessed, and controls implemented **.**
	1.5 **Environmental implications** of erecting timber structures are identified and reported to the supervisor.
2. Prepare the site for the structure	2.1 **Services** are identified and located from site plans.
	2.2 The position of the structure is marked out according to design drawings and specifications.
	2.3 Profiles are established to conform to the tolerances nominated within the design drawings and specifications.
	2.4 **Footings** are excavated and prepared according to the type of structure to be erected.
3. Prepare and cut timber components	3.1 Components are **prepared** for assembly to the requirements contained in the design drawings and specifications.
	3.2 The length of components and the positions of cuts and joints are marked out with a pencil according to designated specifications in design drawings.
	3.3 **Cutting tools** are selected, used and maintained according to manufactures recommendations and **OHS specifications.**
	3.4 Components are cut, checked out and drilled accurately in preparation for **joining** and assembly.
	3.5 Appropriate personal protective equipment is worn.

4.	Assemble and erect structure	4.1	Timber components are assembled into position and **fixed** into place according to design drawings and specifications.
		4.2	Remaining components are installed and fixed into position according to design drawings and specifications.
		4.3	Structure is **finished off** to ensure all components are secure and complete.
		4.4	**Coatings** are applied according to specifications, manufacturers recommendations and OHS guidelines.
5.	Check quality of work and clean up site	5.1	Quality of finished works is given a final check to ensure the standard of the finished structure or feature is in accordance with design drawings and specifications.
		5.2	Debris is cleaned from structure and site according to enterprise guidelines.
		5.3	Waste material is disposed of according to OHS and environmental requirements.
		5.4	Unused timber is **stored and stacked** for future re-use according to enterprise guidelines.
		5.5	Tools and equipment are cleaned and stored according to enterprise guidelines and OHS requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Interpret design drawings and specifications.
- Measure and mark lengths of timber accurately.
- Join timbers using a variety of recognised methods.
- Use some surveyors instruments.
- Use hand and power tools according to OHS requirements.
- Demonstrate safe working practices.

Required knowledge:

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:

- Levelling principles and techniques.
- Timber properties and characteristics.
- Common timber joints.
- Timber fixing methods and product.
- Footings and their construction used for timber structures.
- OHS requirements associated with erecting structures and features.
- Environmental implications associated with excavation and construction activity.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information regarding timber selection may need to be discussed with suppliers, the client and other members of the work team.	2
Collecting analysing and organising information	The information on design drawings, specifications and site plans may need to be collected, analysed and then transferred to site.	2
Planning and organising activities	Activities on the work site may need to be planned and organised to ensure efficient use of time and resources.	2
Working with others and in teams	Team work may be required when assembling and erecting timber structures and features.	2
Using mathematical ideas and techniques	Mathematical techniques may be applied when calculating lengths of timber and marking out cuts and joints.	2
Solving problems	Problems may arise if calculations of timber lengths are inaccurate.	2
Using technology	The use of technology may be applied when using levelling equipment to mark out the structure site.	2

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **tools and equipment** are likely to be used when erecting timber structures and features?	• Tools and equipment may include levelling equipment, ladders, guy ropes, string lines, tape measures, marking gauges, spades, shovels, crow bars, chisels, hammers, spanners, nails, nail punches, planes, clamps, power tools such as electric drills and saws, handsaws, sanding blocks, paint brushes and putty knives.
What **OHS hazards** apply to this standard?	• OHS hazards may include manual lifting, use of power tools, use of sharp hand tools, dust, sun exposure, working at heights, falling objects, overhead powerlines, and contact with treated timber.

| What **environmental implications** are likely to be considered? | • Consideration may be given to the impact of soil disturbance and the alteration to water flow during construction, and after the structure or feature has been erected, use and disposable of treated timbers. |

| What **services** are likely to be located on site? | • Services may include power, gas, water, stormwater, sewerage or septic connections, phone and optical cables. |

| What types of **footings** are likely to be prepared for timber structures and features? | • Footings may be concrete or in some case rammed earth. The depth of footings and timing of footing installation may vary according to the type of structure to be erected. Some structures (e.g., fences) need the post and footing installed at the beginning, others may be supported by bracing during assembly and when complete, the footings are filled. |

| What **timber components** are likely to be included in a timber structure or feature? | • Timber components may include beams, rafters, joists, battens, slats, rails and planks. |

| How is the timber likely to be **prepared** before assembly? | • Timber preparation may include planing arising from the identification of knots. |

| What **cutting tools** are likely to be used? | • Cutting tools may include handsaws, electric saws and chisels. |

| What **OHS specifications** may be included for the use of power tools? | • OHS specifications may include routine pre-start checks such as cleaning air filters, blades, brakes, safety bars, nuts, bolts and screws, and the operating of power tools according to manufacturers recommendations including correct handling, guards, electrical safety, the wearing of protective clothing, regular servicing, and safe storage when not in use. |

| What methods are likely to be used for **joining** timber? | • Timber joints may include corner halving, tee halving, bevelled tee halving, stopped halving, cross halving, halved scarf, through dovetail halving and stopped dovetail halving. |

| How can timber components be **fixed** into place? | • Timber fixing methods may include galvanised plates, saddles, nails, cup head bolts, coach screws, dyna bolts, timber glues or other fasteners. |

How can a structure or feature be **finished off** to ensure completeness and security of components?	• Finishing off may include the cutting off of overhangs, sanding, and the plugging of holes and any other cosmetic work that may be required.
What **coatings** are likely to be applied to timber structures and features?	• Coatings may include paint, varnishes and lacquers.
How is unused timber likely to be **stored and stacked?**	• Storing and stacking may include the use of ground sheets, chocks, waterproof covers and strapping in accordance with safe stacking procedures.

EVIDENCE GUIDE

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

Competence in erecting timber structures and features requires evidence that the work can be planned and prepared for, that the structure site can be marked out according to design drawings and specifications, and that the structure or feature can then be assembled, erected and finished off according to the required standards. The skills and knowledge required to erect timber structures and features must be transferable to a different work environment. For example, this could include different timber structures, timbers, locations, environments and work conditions.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3209A
Unit Descriptor

Plan and construct conventional fencing

This competency standard covers the functions required to plan and construct conventional fencing. Conventional fencing refers to post and wire/wire netting under tension and can be used for animal control or as a deterrent for people and vehicles. It requires the application of skills and knowledge to identify and incorporate fencing needs and enterprise objectives into an efficient and cost-effective fence. It also requires the ability to match fencing requirements to the property's topography. It requires an awareness of workplace safety and environmental practices associated with maintenance activities. The work in this standard is likely to be carried out under routine supervision within enterprise guidelines.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA	
1. Determine fencing requirements	1.1	**Fencing requirements** are assessed and clarified according to enterprise objectives.
	1.2	**Equipment, materials** and labour requirements are determined, and estimated costings are maintained within budgetary constrains.
	1.3	**Plan** is prepared giving consideration to siting fences in relation to natural features and proposed uses.
	1.4	Legal requirements associated with fencing construction are identified.
2. Prepare for construction	2.1	Proposed fencing is checked and verified against property maps and **work plan.**
	2.2	Services, structures and features, which may impact on the fencing work, are identified and incorporated into the fencing plan.
	2.3	Tools and fencing equipment (including safety equipment), are arranged and safely and **efficiently** transported to the work site.
	2.4	Labour requirements are arranged and confirmed according to **enterprise requirements.**
	2.5	Potential and existing **hazards** in the workplace are risk assessed and minimised according to **OHS** requirements.
3. Construct conventional fence	3.1	Suitable **personal protective equipment** is selected, used, maintained and stored according to OHS and enterprise requirements.
	3.2	Fence lines are marked out and checked against work plan and property maps.
	3.3	**Fence is constructed** according to work plan, OHS and enterprise requirements.
	3.4	Gates are attached and appropriately positioned for **correct operation** and function according to work plan.
	3.5	All work is carried out safely according to OHS and enterprise requirements.

4. Complete fencing operations	4.1	Work site is **cleared and tidied** and all waste is disposed of in an environmentally responsible manner.
	4.2	Tools and fencing equipment are transported safely from the work site and stored according to manufacturers recommendations and enterprise requirements.
	4.3	Tools and equipment faults or malfunctions are reported for repair or replacement according to enterprise requirements.
	4.4	Relevant information is recorded and maintained according to enterprise requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Draft fencing plans and specifications.
- Cost fencing plans.
- Arrange and purchase supplies.
- Demonstrate safe workplace practices.
- Minimise environmental impacts.
- Read and interpret plans.
- Consult with and report to management.
- Calculate and measure fencing requirements and calculate costings.

Required knowledge:

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:

- Issues affecting property fence planning and construction.
- Procedures for planning fencing in relation to the whole property plan.
- Range of fencing designs, construction methods and materials.
- Types of fencing construction tools and equipment.
- Fencing materials and costings.
- Common fencing hazards and safety precautions.
- OHS legislative requirements and Codes of Practice.
- Relevant Codes of Practice with regard to the protection of the environment.
- Hazard identification, assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to fencing requirements and planning may be sourced from management and the property network.	1
Collecting analysing and organising information	Information with regard to the type of fencing, siting details and resource requirements may be prepared and included in a plan.	1
Planning and organising activities	Activities involving the purchasing of materials and arranging their transportation to worksite may be planned and arranged prior to work schedule.	1
Working with others and in teams	In the application of methods and procedures to construct fencing according to plan within timeframes and health and safety meetings.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in quantity surveying, costing alternatives and measuring and drafting.	1
Solving problems	Problems of topography, stock pressures, location of gates may be solved by revising and making changes to the fencing plan.	1
Using technology	Technology may be used to communicate, process information and assist in construction processes.	1

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What may be identified in **fencing requirements?**	• This may include types of fencing and the purposes for which it is to be used.
What **equipment and materials** may be required for the construction of fences?	• This may include post driver, post hole diggers, fencing pliers, wire strainers, wire cutters, wire spinners, shovel, crowbar/rammer, brace and bit, drill, fencing wire might include: plain, barbed, ringlock, netting, posts, droppers, wire, staples, gates, hinges and chains.

What information may be included for consideration in a fencing **plan?**	• This may include the type of materials required and costs, type of stock/animal/people control required, soils, topography, water, layout of site/land to be fenced, machinery use and access.
What information may be included in a **work plan?**	• This may include designated work tasks, allocated tools and equipment, materials requirements, procedures for pre-start and safety checks of tools and equipment, timeframe for work completion, managers instructions and reporting requirements.
What may be involved in the **efficient** transport of tools and equipment?	• This may involve methods and procedures to minimise possible damage or loss to tools, equipment and personnel.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.
What **hazards** may be relevant to this standard?	• This may include exposure to hazardous noise, dust solar radiation and adverse weather conditions, PTO shafts, manual handling, trip or uneven surfaces, splinters, insect, spider and snakebites, and wire breakage when straining. It may also include electricity associated with powered tools.

What **OHS** requirements may be applicable to this standard?	• Safe systems and procedures for:
	  • the use of fencing tools and equipment
	  • the operation of vehicles
	  • hazard and risk control
	  • lifting, carrying and handling techniques
	  • manual handling especially when handling posts and coils of wire and using a rammer
	  • the use, maintenance and storage of personal protective equipment
	  • outdoor work including protection from solar radiation
	  • protection from dusts
	  • the administration of first aid.

What **personal protective equipment** may be relevant to this standard?	• This may include boots, overalls, gloves, eye protection, hearing protection, respirator or face mask, and sun protection.

What may be involved in the **construction of a fence?**	• This may include constructing end assemblies, positioning marker wire, installing and securing intermediate posts along the marker wire, attaching wires to posts which are then joined, strained and fixed using correct knots. It may also include laying out and securing droppers to the wires.
When might gates be determined as **operating correctly?**	• Gates are attached to a gate post, hung, swung and secured for closure.
What may be involved in **clearing and tidying** a work site?	• This may involve replacing dirt, and the removal and safe disposal of waste.

EVIDENCE GUIDE

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

Competence in this standard requires evidence of the ability to develop conventional fencing plans and implement its construction. It requires the ability to access and interpret plans, arrange surveys and analyse results, calculate cost structures, obtain legal authorisations for development, and provide alternative options. Evidence must also be demonstrated in an awareness of legislative requirements associated with planning and construction activities. The skills and knowledge required to plan and construct conventional fencing must be transferable to another rural environment.

For example, this could include different fencing situations, materials, terrain and environments.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3211A   Implement a maintenance program for an aquatic environment

Unit Descriptor   This competency standard covers the process of implementing a maintenance program for an aquatic environment. This maintenance includes the monitoring of aquatic plant and/or animals, water quality, and the movement of water into and out of the environment. The maintenance and monitoring of an aquatic environment is usually undertaken according to enterprise guidelines and within established routines, methods and procedures. Some discretion and judgement may be required depending on the type and size of the aquatic environment.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for maintenance activities	1.1 **Enterprise guidelines** and legislative requirements for the maintenance of the **aquatic environment** are identified, interpreted and applied.
	1.2 **Tools, equipment and machinery** are selected and prepared for use according to enterprise guidelines and manufacturers specifications.
	1.3 **OHS hazards** are identified, risks assessed, and **suitable controls** implemented.
	1.4 **Environmental implications** associated with maintenance activities are identified and reported to supervisor.
2. Maintain aquatic organisms	2.1 **Identification** of indigenous, exotic and pest aquatic animals and/or plants is undertaken for the specific aquatic environment.
	2.2 **Aquatic plant and/or animal monitoring** is undertaken and relevant data is recorded, maintained and applied to aquatic plant maintenance activities.
	2.3 **Aquatic animal and/or plant issues** are reported to supervisor, with recommendations for action.
	2.4 **Control methods** are implemented for excess aquatic animals and/or plants, and identified pest animals and/or plants.
	2.5 **Waste plant material** is **processed** according to enterprise guidelines.

3.	Maintain water quality	3.1	Where appropriate, **water quality monitoring** is undertaken for the aquatic environment and the **input water resource** according to standards for the **end use** of the aquatic environment.
		3.2	Monitoring data is recorded, maintained and applied to water quality maintenance activities.
		3.3	**Debris** is removed and processed using appropriate equipment according to enterprise guidelines.
		3.4	Water quality issues are reported to supervisor, with suggestions for remedial action.
		3.5	Where required, water is **discharged** , environment is **cleaned** , and water is recharged from the designated storage area or other input water resource.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate verbally and in writing with work team members, supervisors, contractors and consultants.
- Interpret site plans and maintenance program requirements, and utilise proforma reporting, recording, analysis and work procedure documents.
- Measure materials, and aquatic site dimensions.
- Schedule and implement monitoring activities correctly, and record, interpret and apply monitoring data.
- Coordinate and supervise work group and own activities to sequentially and effectively complete maintenance activities in a timely, and cost effective manner.

Required knowledge:

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:

- Recognition, physiology and biological characteristics of animals and/or plants specific to the aquatic environment.
- Aquatic systems ecology.
- Relevant legislation regarding water pollution and management.
- Wildlife habitats associated with the aquatic environment.
- Food chain and nutrient cycling in aquatic systems.
- OHS legislative requirements and Codes of Practice.
- Regulations and/or Codes of Practice pertaining to Hazardous Substances.
- Safe systems and procedures for handling, transporting and storing chemicals and hazardous substances taking into account toxicity levels and environmental impacts.
- Regulations, Codes of Practices, enterprise systems and procedures for the safe operation and maintenance of machinery and equipment in aquatic environments, and in observing correct safety procedures in working from boats or adjacent to large bodies of water.
- Regulations and industry standards for water quality requirements in association with specified use.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Written, oral and telecommunication of ideas and information relating to maintenance activities and problems encountered will be required with the supervisor and work group.	2
Collecting analysing and organising information	Information about the features and components of the aquatic environment, enterprise guidelines, site plans and maintenance program should be consulted, interpreted and applied to conduct and/or coordinate aquatic maintenance activities with further clarification sought from the supervisor where necessary.	3
Planning and organising activities	Work activities for the work group and self will be planned prior to and adjusted during the maintenance program.	3
Working with others and in teams	The aquatic maintenance program will involve facilitating and leading members of a team to complete maintenance activities on time and budget.	3
Using mathematical ideas and techniques	Mathematical application will be required to calculate areas, volumes, application rates and the logistical requirements of the maintenance program.	1
Solving problems	Site contingencies, personnel difficulties and timeline failures of a maintenance nature may require problem-solving techniques.	3
Using technology	Technological understanding will be required to access and apply maintenance program requirements specifications, to undertake maintenance in an aquatic environment, communicate and keep records	3

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **enterprise guidelines** may apply to the specific aquatic environment?	• Work guidelines will be based on sound aquaculture, horticultural and environmental principles and practices, and may include supervisors oral or written instructions, maintenance programs, site plans, enterprise Standard Operating Procedures (SOPs), specifications, routine machinery maintenance schedules, work notes, product labels and Material Safety Data Sheets (MSDSs), manufacturers service specifications and operators manuals, waste disposal, recycling and re-use guidelines, and OHS procedures.
What **aquatic environment** may require maintenance?	• This may include contained water bodies, such as ponds and lakes and moving water bodies such as streams, creeks and rivers which may be artificially lined or have a natural bed. Aquatic systems may be still or reticulated, with water movement between a series of pools. Aquatic systems may support only plant life, but may also include fauna such as fish, amphibians and naturally occurring micro and macro invertebrates.
What **tools, equipment and machinery** may be selected?	• Tools may include shears, secateurs, rakes, shovels, spades, buckets, wheelbarrows, brushes and hoses. Equipment and machinery may include aqua/marine harvester, brush-cutter, boats, pumps, filters and hoses.
What **OHS hazards** may be associated with the maintenance of an aquatic environment?	• Hazards may include disturbance or interruption of services, drowning, the use of powered equipment in an aquatic environment, solar radiation, dust, noise, air, soil and water borne organisms, chemicals and hazardous substances, manual handling, moving machinery and machinery parts, uneven surfaces and flying objects.

What **suitable controls** are likely to be implemented?	• Controls may include pre operational and safety checks of tools, equipment and machinery, erection of safety signs and barriers, maintaining a clean and safe work area, training in boating skills and the appropriate use of boating equipment, the observance of correct safety procedures in working from boats or adjacent to large bodies of water, appropriate use of personal protective equipment including sun protection and the wearing of life jackets, basic first aid training, safe handling, use and storage of chemicals and hazardous substances, and correct manual handling techniques.
What **environmental implications** may be associated with the maintenance of an aquatic environment?	• Beneficial environmental impacts may include control of the growth and spread of environmental weeds, and improving water and plant quality. • Detrimental environmental impacts may include the use of environmentally harmful chemicals in or near a water body, soil erosion from inappropriate discharge and recharge procedures, or discharge of water for disposal.
What **identification** procedures may be relevant for maintaining an aquatic environment?	• These may include identifying plants to genus, species and cultivar where relevant, collecting samples and developing an herbarium.
What **aquatic animals and/or plants monitoring** procedures may be undertaken?	• Monitoring may include tallying of aquatic animals and/or plants organisms at established observation points against existing checklists, noting new species and incorporating them into the monitoring program, and collating monitoring data over time for analysis of the population dynamics of desired and pest aquatic plant and animal species.
What **aquatic animals and/or plants issues** may be identified and reported to the supervisor?	• These may include issues for control of invasive and pest plants, population manipulation and individual plant pruning and/or animal removal, visitor and service access, and aesthetic and ecological balance.
What plant **control methods** may be applied in an aquatic environment?	• Control methods for aquatic plants may include the application of herbicide to semi submerged or dry plants via spray or weed wand. Aquatic plants may also be controlled by pruning, slashing or manual removal. Animals may be controlled by removal from site or humane destruction. Access for control application may be from the bank of the water body, a boat or by wading.

What **waste plant material** may require processing for disposal?	• This may include noxious weed material, and excess leafy and woody material removed from the aquatic environment.
How may waste and debris be **processed?**	• Workplace waste processing procedures may include composting, toxic material separation and appropriate disposal, and separation and storage of litter and other non-toxic debris for rubbish collection.
What **water quality monitoring** procedures may be undertaken?	• Monitoring of water quality may include field testing or the collection and analysis of water samples for micro and macro invertebrates, turbidity, salinity, acidity, pH, total phosphates, nitrates, dissolved oxygen, Biological Oxygen Demand (BOD), Iron, Chloride, Calcium Carbonate, temperature, total solids and micro-flora such as algae, and recording of water levels, and quantity and type of debris in the aquatic environment.
What **water quality issues** may be identified for the aquatic environment?	• These may include non-compliance with standards and legal requirements, nutrient imbalances, toxicity, salinity, acidity, low or high water levels and algal blooms.
What **water resource** may provide water to the aquatic environment	• Water resources may include mains water, sub-surface water, rain water, landscaped rain catchment, enterprise run-off, rain water tank, and a lake or natural waterway.
What **end use** may influence the maintenance requirements of the aquatic environment?	• Use may include recreational activities and aesthetic display. Recreational use may include swimming and boating in large systems. Display may support aesthetic plants, fish and amphibians.
What **debris** may require removal from the aquatic environment?	• This may include light litter such as fast food wrappings and containers, syringes, condoms, large, dumped refuse such as car bodies and drums, large plant waste, animal faeces and animal remains.
What work may be required when water is **discharged?**	• Pre-operational and safety checks should be conducted on the water discharge system, animals and/or plants that require removal during cleaning are removed to a suitable environment for the duration of the cleaning process, and water is discharged to a designated storage or disposal location.

| What **cleaning** may be required once water is discharged? | • Cleaning may involve manual removal of algae and build-up material from the water body floor according to enterprise and OHS guidelines and sound environmental management. |

EVIDENCE GUIDE

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

Competence in implementing a maintenance program for an aquatic environment requires evidence that the person is able to recognise and assess desired and pest plant populations, apply controls where necessary to maintain balance and remove weeds, and maintain water quality to the required standard for the end use of the aquatic environment. The skills and knowledge required to implement a maintenance program for an aquatic environment must be transferable to a different work environment. For example, this could include different aquatic systems, maintenance techniques and environments.

| **Are there other competency standards that could be assessed with this one?** | This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function. |

| **Essential Assessment Information** | There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.** |

RTC3213A   Implement property improvement, construction and repair

Unit Descriptor   This competency standard covers the functions required to carry out maintenance and construction of improvements to properties. It requires the application of basic skills and knowledge to assess condition of structures and plan for new improvements. It requires an awareness of workplace safety and environmental practices associated with maintenance activities. The work is likely to be carried out under routine supervision within enterprise guidelines.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Assess property condition	1.1 **Property structures** are assessed for soundness and recorded according to **enterprise requirements.**
	1.2 Property improvements and maintenance requirements are identified and determined according to enterprise objectives.
	1.3 Budgetary parameters are identified and maintained according to enterprise requirements.
2. Prepare tools and equipment	2.1 **Tools, equipment and materials** required to carry out property improvements are identified and arranged on site.
	2.2 Tools and equipment are checked for serviceability according to manufacturers specifications.
	2.3 Faulty or unsafe tools and equipment are identified and segregated for repair or replacement according to enterprise requirements.
	2.4 Existing and potential **hazards** to health and safety are identified, assessed and reported according to **OHS** and enterprise requirements.
3. Carry out property improvements	3.1 Suitable **personal protective equipment** is selected, used, maintained and stored according to OHS and enterprise requirements.
	3.2 Property structures are **constructed, repaired or dismantled** as required according to manufacturers specifications and/or **work plan and regulations** (e.g., demolition code).
	3.3 **Basic concrete, masonry or metal repairs** are carried out according to manufacturers specifications and work plan.
	3.4 **Maintenance to roads and tracks** are determined and carried out according to work plan and enterprise requirements.

4. Complete maintenance and improvement activities	4.1	Property structures and surrounds are monitored, maintained and improved as required.
	4.2	Worksite, tools and equipment are cleaned, returned to operating order, and stored according to OHS and enterprise requirements.
	4.3	Unwanted materials and waste from maintenance activities is collected, treated and disposed of or recycled according to enterprise environmental and OHS requirements.
	4.4	**Relevant information** is documented and reported according to industry and enterprise requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Operate a broad range of tools and equipment.
- Apply hand/eye coordination.

- Construct assemblies.
- Assess the nature and priority of required repairs and maintenance.
- Complete a range of earthworks to specification.
- Weld using oxy and arc equipment.
- Lay and tie reinforcing to specifications.
- Demonstrate safe workplace practices.
- Minimise impacts to the environment.
- Observe and report on the condition of structures and equipment.
- Interpret and apply task instructions.
- Communicate with work team and supervisor.
- Read and interpret maps, plans, site drawings and simple technical drawings.
- Record and report on repairs.
- Estimate and calculate volumes, usage and measurements.

Required knowledge:

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:

- Machinery and equipment required to carry out property improvements, construction and repairs.
- Types of building materials.
- Concreting and welding procedures and techniques.
- Wood and steel fabrication procedures.
- Drainage requirements around structures, tracks and roads.
- Legislative requirements with regard to construction and structural improvements.
- Types of building cladding and finishes, purpose and use.
- OHS issues, legislative requirements and Codes of Practice.
- Relevant Codes of Practice with regard to protection of the environment.
- OHS standards and how to assess and control hazards.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information with regard to property improvements and maintenance requirements may be discussed with the management.	1
Collecting analysing and organising information	Information with regard to repair requirements and may be detailed and organised by reports for analysis.	1
Planning and organising activities	Activities involving programmed maintenance may be planned and coordinated around work schedules or sequenced as required.	1
Working with others and in teams	In the application of methods and procedures to effectively complete scheduled maintenance or repairs within timeframes.	1
Using mathematical ideas and techniques	Basic mathematical techniques may be applied in the calculation and measurement of materials.	1
Solving problems	Contingency plans may be prepared for adverse weather conditions to minimise disruption to work schedules and how to eliminate or control a hazard.	1
Using technology	Technology may be used to communicate, repair and maintain property structures.	1

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What may be included in **property structures?**	• Property structures may include buildings, yards, livestock handling structures, fences, water supply systems, roads, tracks, soil conservation works, irrigation and drainage channels, silage pits, grain and fodder storage, trellises, shelters and shadecloth drying racks.

What **enterprise requirements** may apply to this standard?	• This may include local building codes, Australian Quality Standards, Standard Operating Procedures (SOPs), industry standards, work notes, product labels, manufacturers specifications, Material Safety Date Sheets (MSDSs), operator and emergency procedures manuals, technical information, enterprise policies and procedures (waste disposal, recycling and re-use guidelines), supervisors oral or written instructions and reporting requirements.
What **tools, equipment and materials** may be used?	• This may include hand or small power tools, ladders, spanners, hammers, crowbars, post hole diggers, shovels, pliers, cutters, ponger bar, rattle gun, wire strainers, star picket drivers, string lines, socket sets, power saws, spirit levels, tape measures, hand drills, hand saws, chain saws. Structural finishes may require paint, stains. Cladding maintenance may require corrugated iron, weatherboards, glass, shade cloth, plastic, cement sheeting. Basic welding equipment.
What **hazards** may be associated with maintenance activities?	• Workplace hazards may include exposure to loud noise and fumes, solar radiation, working at heights, in confined spaces, moving machinery and equipment, manual handling, dust and hazardous substances. It may also include oil and grease spills and electricity while using powered tools.

What **OHS** requirements may be relevant to this standard?	• Safe systems and procedures for:
	  • operation of tools and equipment.
	  • maintenance and repair methods.
	  • operation of vehicles.
	  • working at heights, including roof framework and cladding.
	  • operation and maintenance of machinery and equipment including hydraulics and guarding of exposed moving parts.
	  • protection against electrical hazards including overhead powerlines and electrical fittings.
	  • identifying and reporting hazards.
	  • lifting, carrying and manual handling.
	  • handling and storage of hazardous substances.
	  • appropriate use, maintenance and storage of personal protective equipment.
	  • outdoor work including protection from solar radiation.
	  • protection from hazardous noise, organic and other dusts.
	  • confined space entry.

What **personal protective equipment** may be relevant to this standard?	• This may include boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, safety harness, respirator or face mask, and sun protection.

What may be involved in the **construction, repair or dismantling** of property structures?	• Structural maintenance is coordinated with licensed trades to meet State and local government requirements. Repairs may include (but is not restricted to):
	  • Window: replacement of glass panes or louvres, replacement of insect screens or flywire, repair or replacement of window sashes.
	  • Internal or external wall: refastening of cladding, use of brickwork and bricklaying, use of sealants, replacement of sheets, correct use of levels.
	  • Roof surface: corrugated iron, tiles, colorbond, guttering and spouting, downpipes.

What information may be included in a **work plan?**	• This may include details and procedures of designated work tasks, allocated tools and equipment, materials requirements, procedures for pre-start and safety checks of tools and equipment, timeframe for work completion, risk assessments, managers instructions and reporting requirements.
What may be involved in **basic concrete, masonry or metal repairs?**	• Concrete and masonry repairs should include correct use of levels, correct design, measurement and installation of formwork, preparation of damaged masonry, correct mix of cement for a given concreting situation, correct laying and tying of reinforcing, finish surface to match existing wall/structure, or as suitable non-slip surface for floor or path areas. Metal work should include basic fabrication and repair.
What requirements may be involved in the **maintenance to roads and tracks?**	• Required repairs for roads and tracks should include adequate camber for drainage, thorough compacting of materials, safe operations of vehicles and implements, avoidance of damage to property and equipment. • Effectiveness of repairs to roads and tracks may be checked according to cleared culverts or sump holes to allow effective drainage, suitable surface for vehicles or livestock, and minimum ongoing maintenance during a range of weather conditions.
What **relevant information** may be documented?	• This may include the use and performance of tools and equipment, operational faults or malfunctions, completed maintenance and repair tasks and outcomes, and hazard and incident reports.

EVIDENCE GUIDE

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

Competence in implementing property improvements, construction and repairs requires evidence of the ability to maintain property improvements and surrounding areas. It also requires the ability to use a range of hand and power tools, prepare basic plans, carry out fabrication in wood and steel, and complete a range of earthworks to specification. The skills and knowledge to implement property improvements, construction and repairs must be transferable to a different work environment. For example, this could include different properties, improvements, structures, maintenance requirements and work environments.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3218A

Unit Descriptor

Undertake a site assessment

This competency standard covers the process of undertaking a site assessment as part of preliminary tasks leading to the development of a landscape or project design. It requires the ability to identify the purpose for site assessment, collect and collate base information, prepare for the site visit, undertake a site inspection and document information. Undertaking a site assessment requires knowledge of map reading, soil pH and texture, plant recognition, basic measuring and survey equipment and environmental threats and problems to site. Undertaking a site assessment is likely to occur under limited supervision from others with checking only related to overall progress.

Unit Sector　　　　Resource management

ELEMENT	PERFORMANCE CRITERIA
1. Identify purpose for site assessment	1.1　Client brief is prepared and agreed 1.2　Project objectives are outlined
2. Collect and collate base information	2.1　Existing resources are identified and acquired 2.2　Site maps and plans are sourced 2.3　Base plan is prepared of the site
3. Prepare for a site visit	3.1　***Occupational Health and Safety hazards*** associated with undertaking a site visit, are assessed for potential risks and controls implemented accordingly 3.2　Location, ownership and site boundaries are verified 3.3　**Covenants** which could affect the landscape design are identified and recorded 3.4　Climate and weather conditions are ascertained from historical data 3.5　Where required, formal approval is sought to visit site
4. Undertake site inspection	4.1　**Site orientation** is undertaken. 4.2 Existing on-site and adjacent site features that may impact upon the project objectives are identified and recorded. 4.3 Site grades are visually identified and recorded. 4.4 Soil characteristics are identified from soil identification reference chart guidelines and soil maps, and recorded on site inventory report. 4.5 The species, health and location of vegetation is recorded on site inventory report. 4.6 The presence, location and/or extent of **other site features** are recorded on site inventory report. 4.7 Where required, soil samples for **testing** by others are gathered and forwarded for analysis according to enterprise guidelines.

| 5. Document information | 5.1 | Site survey information is ***documented*** in accordance with enterprise procedures |
| | 5.2 | Documents are completed and forwarded to supervisor/manager according to enterprise procedures |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Identify purpose for site assessment.
- Collect and collate base information.
- Prepare for site visit.
- Undertake site inspection.
- Document information.

Required knowledge:

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:

- Plant recognition.
- Map reading.
- Soil pH, texture and type.
- Current land use and environrmental threats and problems to site.
- OHS hazards associated with undertaking a site assessment.
- Protocols of accessing and visiting the site.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information may need to be communicated to the client via a site inventory report and other site plans.	2
Collecting analysing and organising information	Information on existing site features may need to be collected, analysed and organised from visual inspections and/or inspections of existing plans and maps.	2
Planning and organising activities	A logical sequence of events may need to be implemented in the form of a checklist when undertaking a site assessment, and all details of that assessment need to be recorded.	2
Working with others and in teams	Team work may be required when visiting a site and recording information.	2
Using mathematical ideas and techniques	Mathematical ideas and techniques such as the reading of measurements and site levels may be required.	2
Solving problems	Problems may arise when assessing site boundaries and caveats	2
Using technology	Technology may be applied when using levelling equipment and when using computers to generate plans and record information.	2

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What are the existing **features** likely to be found on site?	• Features may include topography, vegetation, hydrology, services above and below ground, amenities, buildings and structures, access points, site modifications, fauna, location of boundaries, aspect, watercourses and paths.
What **covenants** are likely to be taken into consideration?	• Covenants may include easements, right of ways, altered boundaries, council regulations or restrictions.
What is covered by **site orientation?**	• Compass bearings and magnetic north, points of access, utility service locations, physical constraints of site, safety threats and hazards, environmental problems.

What **OHS hazards** may apply to undertaking a site assessment?	• Hazards may include solar radiation, uneven surfaces, tapes, strings and levelling equipment that may be tripped over, and existing on-site obstacles.
What may be included under **other site features?**	• Other site features may include structures, buildings, cultural elements, historical features, fauna and animal habitats, services, access to and across site, environmental problems, safety hazards and risks.
What soil **testing** is likely to be undertaken?	• Soil tests may include tests for PH, salinity, texture and soil type. Samples for testing may include plugs and core samples.
How will information be **documented?**	• Through plans, maps, reports, schedules and field notes.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

| **Are there other competency standards that could be assessed with this one?** | This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function. |
| **Essential Assessment Information** | There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.** |

RTC3310A   Operate specialised machinery and equipment

Unit Descriptor

This competency standard covers the functions involved in operating specialised machinery and equipment. It requires particular skills and knowledge to operate specialised agricultural, horticultural or conservation and land management machinery. An ability to perform pre-operational checks on machinery, assess work requirements, determine work plans, monitor performance and maintain records is also required. In addition, it requires knowledge of licensing requirements, workplace safety, and positive environmental practices associated with the operation of machinery. Judgement and discretion combined with the ability to work under minimal supervision is necessary.

Unit Sector   Business Management Services

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare specialised machinery and equipment for use	1.1 **Specialised machinery and equipment** is selected and prepared to job requirements and confirmed against **work plan.**
	1.2 Routine **pre-operational checks** of specialised machinery and equipment are completed to manufacturers specifications and **enterprise requirements.**
	1.3 **OHS hazards** in the workplace are recognised, risk assessed and minimised according to enterprise requirements.
2. Operate specialised machinery and equipment	2.1 Machinery and equipment is operated in a **safe and controlled** manner and monitored for performance and efficiency.
	2.2 Risks to self, others and the environment are anticipated and minimisation strategies implemented accordingly.
	2.3 Suitable **personal protective clothing and equipment** is selected, used, maintained and stored according to OHS requirements.
	2.4 **Environmental implications** associated with machinery operation are identified, assessed and reported to the supervisor.
3. Complete and report on specialised machinery and equipment operation	3.1 **Shut-down** procedures for specialised machinery and equipment are completed to manufacturers specifications and enterprise requirements.
	3.2 Specialised machinery and equipment operational records are completed and maintained according to enterprise requirements.
	3.3 Malfunctions, faults, irregular performance and damage to specialised machinery and equipment are detailed and reported according to enterprise requirements.
	3.4 Specialised machinery and equipment is cleaned, secured and stored according to OHS and enterprise requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Operate specialised machinery and equipment in normal and adverse conditions to industry standards.
- Demonstrate emergency operating procedures in normal and adverse conditions.
- Attach and detach a range of three point linkage implements, front-mounted and PTO operated equipment.
- Demonstrate safe and environmentally responsible workplace practices.
- Obtain relevant licences and permits.
- Interpret manufacturers specifications, work and maintenance plans, and MSDS.
- Communicate faults, malfunctions and workplace hazards, report and maintain operational records.
- Measure and calculate volumes, load weights, consumption and servicing requirements.

Required knowledge:

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:

- Components, controls and features of specialised machinery and equipment and their functions.
- Risks associated with the operation of machinery and equipment in different weather and difficult terrain conditions.
- Relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace OHS, and the use and control of hazardous substances, chemical and biological agents.
- Relevant State/Territory legislation, regulations and Codes of Practice with regard to licensing, roads and traffic requirements, and the use and control of specialised machinery and equipment.
- Environmental impacts and minimisation measures associated with the operation of specialised machinery and equipment.
- Personal protective equipment and when and how it should be used.
- Enterprise policies with regard to specialised machinery and equipment use, recording and reporting routines.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information and ideas with regard to specialised machinery and equipment, their components and application to complete work tasks may be discussed with colleagues and the supervisor.	1
Collecting analysing and organising information	Information with regard to performance, faults and maintenance may be observed and monitored for analysis and organised by records and reports.	1
Planning and organising activities	Activities involving maintenance and repairs to specialised machinery and equipment may be planned and coordinated around work schedules or sequenced as required.	1
Working with others and in teams	Team work may be applied in communication, methods and procedures to complete maintenance and repairs to complete work tasks.	1
Using mathematical ideas and techniques	Mathematics may be applied in the calculation and measurement of load weights, distance, consumption, and oil and fuel requirements.	1
Solving problems	Specialised machinery and equipment breakdown, faults or malfunctions will need to be arranged for repair or replacement to meet work plan requirements.	1
Using technology	To access, communicate, measure and record information with regard to maintenance, usage and performance of specialised machinery and equipment.	1

RANGE STATEMENT

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

What range of **specialised machinery** and **equipment** may be covered in this standard?	• Skidsteer loaders, self-propelled harvesters and pickers, front end loaders, irrigation equipment, scissor lifts, excavators, forklifts, land levellers, feed mixers, milking machinery, specialised turf equipment, specialised nursery equipment, livestock feeding systems, watering systems, filtering and pumping equipment, poultry performance monitoring equipment, cultivation equipment, fertilising application and grain handling equipment. • **This unit does not include machinery and equipment covered under RTC2306A - Operate vehicles, RTC2307A - Operate machinery and equipment and RTC2309A - Operate tractors** .
What may be included in a **work plan?**	• Pre-operational checks and maintenance procedures, designated job tasks, equipment, resources and materials for use, supervisors instructions, timeframe for work completion and reporting requirements.
What may be involved in routine **pre-operational checks** of machinery and equipment?	• Pre-start and safety checks including the service and maintenance of cooling system. • Checking fuel, oils and lubricants, electrolyte levels, wheels, tyre pressure, fan belts, leads, lines, connections, air filters, brakes, clutch, gearbox, steering, lighting, and transmission. • Inspection of safety guards, PTO stubs and shafts, and hitch and towing points. • Checking and confirming equipment calibration settings and operating methods for turbo-charged engines. • Observing and monitoring noise levels for correct operation. • Preparation of independently powered tools may include cleaning, priming, tightening, basic repairs and adjustments. • Identify and segregate unsafe or faulty equipment for repair or replacement.
What **enterprise requirements** may apply to this standard?	• Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes, product labels, manufacturers specifications, operators manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), OHS procedures, supervisors oral or written instructions, work and routine maintenance plans.

What **OHS** requirements may be relevant to this standard?	• Systems and procedures for
	• the safe operation and maintenance of specialised machinery and equipment.
	• hazard and risk identification.
	• emergency operating and defensive driving procedures ensuring working loads are secure and within specifications.
	• appropriate use, maintenance and storage of personal protective equipment.
	• outdoor work include protection from solar radiation, hazardous noise, mechanical vibration and organic and other dusts.
	• protection of people in the workplace.
	• passengers are carried only when there is a seat approved by the manufacturer.

What **hazards** may be encountered in the workplace?	• Exposure to loud noise and fumes, solar radiation, heat stress, fatigue, crushed by a roll over, dust, ergonomic hazards associated with posture and vibration, hazardous substances (fuel, oils, fertiliser), oil and grease spills, the presence of bystanders, livestock and wildlife, difficult terrain and varying gradients, potholes, ditches, gullies, embankments, obstacles (rocks, logs, fences, debris, buildings), extreme weather conditions, electricity, overhead hazards including powerlines, mechanical malfunctions and exposed moving parts, and other machinery including hydraulics.

How might **safe and controlled** operation of machinery and equipment be demonstrated?	• This may include:
	• Appropriate selection and use of machinery and equipment.
	• Using operational techniques for the specific terrain (on and off-road environments) and weather conditions.
	• Maintaining working loads within specifications including ensuring hitch-points are operated at the correct height.

What **personal protective equipment** may be relevant to this standard?	• Boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, high visibility clothing, respirator or face mask, and sun protection (sun hat, sunscreen).

What **environmental implications** may be associated with the operation of machinery and equipment?	• Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oil containers, chemical residues), and hazardous substances (fuel, fertiliser). Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities, soil disturbance and dust problems from high activity traffic (including irrigation equipment).

What procedures may be included in the **shut-down** of machinery and equipment?	• Safe dismount procedures (including turning engine off), maintaining a clear thoroughfare, parking away from hazards, securing, refuelling, cleaning, engaging handbrake and removing vehicle keys.

EVIDENCE GUIDE

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

Competence in the operation of specialised machinery and equipment requires evidence of the ability to effectively utilise their respective various components, controls and features to perform specific tasks. It involves selecting the appropriate machinery and equipment for the job, determine operating methods, provide solutions for faults or breakdowns, demonstrate emergency operating procedures, evaluate performance and maintain records. Evidence must also be demonstrated in safe workplace and environmentally responsible practices. The skills and knowledge required to operate specialised machinery and equipment must be transferable to a different work environment. For example, this could include different machinery, equipment, workplaces and environments.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **Sector Booklet.**

RTC3311A
Unit Descriptor

Perform specialised machinery maintenance

This competency standard covers the process of maintaining specialised machinery and equipment. Specialised machinery and equipment refers to machinery and equipment used principally in agriculture, horticulture, and conservation and land management work where there is high wear and tear on components. It requires the ability to carry out engine and equipment checks, undertake transmission checks, maintain high wear components and attachments, and record maintenance work. Performing specialised machinery maintenance requires knowledge of general machine function principles and maintenance, and operational replacement wear component requirements and procedures.

Unit Sector

Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Carry out engine/equipment checks	1.1 Timed and regular **engine equipment** checks are carried out on **specialised machinery and equipment** as specified in operator's manual
	1.2 All relevant grease or lubricant points are lubricated according to manufacturers' specifications
	1.3 Oils and filters are changed at intervals prescribed in operator's manual
	1.4 Hydraulic hoses and systems checked for deterioration and defects actioned in line with supervisor's instructions
	1.5 **Occupational Health and Safety hazards** in the workplace are identified, risk assessed and reported according to enterprise requirements
2. Carry out transmission checks	2.1 Drive and steering clutches are checked for operation and adjustment in line with operator manual
	2.2 Transmission oil levels are checked in line with operator manual
	2.3 Tracks/wheels and undercarriage are checked for oil leaks and wear
	2.4 Faulty seals or leaks are identified and corrective actions taken according to operator's instructions
	2.5 Machine is regularly cleaned as an integral part of maintenance checks

3. Maintain components and attachments	3.1	Suitable ***personal protective equipment*** is selected, used, maintained and stored according to ***Occupational Health and Safety requirements***
	3.2	**Machine operational replacement wear components** are checked for wear and condition
	3.3	Worn or unserviceable replacement components are replaced as part of daily routines
	3.4	Component inspection and replacement activities are completed safely following enterprise and industry guidelines
	3.5	**Moving operational components** are checked for wear and condition and adjusted to the tolerances specified in the operator's manual where applicable
	3.6	Work areas are cleaned, returned to operating condition and maintained according to enterprise and Occupational Health and Safety requirements
4. Record maintenance	4.1	Identified faults and defects are recorded in machine record
	4.2	Maintenance procedures including duplicates usage are recorded in workshop record
	4.3	Service or repair requirements are reported and actioned according to prescribed procedures

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Carry out engine/equipment checks.
- Carry out transmission checks.
- Maintain machinery and equipment components.
- Record maintenance.

Required knowledge:

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:

- Engine function principles.
- Turbo charging and after cooling.
- Assessing engine specifications in line with power requirements.
- All engine electric and hydraulic indicators and gauges.
- Transmission and drive systems.
- Safety including relevant OHS issues, OHS legislative requirements and Codes of Practice.
- Machinery and equipment operation principles.
- OHS responsibilities of employees and employers.
- Hazard identification and control.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	By discussing verbally specialised machinery and equipment maintenance with supervisors.	1
Collecting analysing and organising information	Maintaining specialised machinery and equipment will require basic maintenance information to be gathered and organised accordingly.	1
Planning and organising activities	Maintaining specialised machinery and equipment requires limited planning and organising.	1
Working with others and in teams	Maintaining specialised machinery and equipment may require participation with others in a maintenance team.	1
Using mathematical ideas and techniques	Basic mathematical techniques associated with machinery and equipment servicing and maintenance can be applied.	1
Solving problems	While maintaining specialised machinery and equipment, technical problems may arise requiring simple solutions.	1
Using technology	Technology may be required to maintain specialised machinery and equipment.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

Which **specialised machinery and equipment** may be covered by this standard?	• Heavy earthmoving equipment, skid steer loaders, self-propelled harvesters and pickers, front end loaders, irrigation equipment, scissor lifts, forklifts, land levellers, feed mixers, milking machinery and equipment, specialised turf equipment, specialised nursery equipment, livestock feeding systems, watering systems, filtering and pumping equipment, poultry performance monitoring equipment, cultivation equipment, fertilising application and grain handling equipment.
What **engine equipment** may be included?	• Fuel filters, crankcase vents, air cleaners.

What **hazards** may be associated with maintenance activities?	• Workplace hazards may include exposure to loud noise and fumes, solar radiation, dust, and hazardous substances. It may also include oil and grease spills, electricity, mechanical malfunctions and entanglement with machinery and equipment from exposed moving parts including hydraulics.
What **personal protective equipment** may be relevant to this standard?	• This may include boots, hat/hard hat, overalls, gloves, protective eyewear, safety harness, hearing protection, respirator or face mask, and sun protection (sun hat, sunscreen).
What **OHS** requirements may be relevant to this standard?	• Safe systems and procedures for: 　• operating and maintaining machinery and equipment including hydraulics and guarding of exposed moving parts. 　• hazard and risk control. 　• manual handling including lifting and carrying. 　• the provision of safety decals and signage. 　• handling, application and storage of hazardous substances. 　• outdoor work including protection from solar radiation, dust and noise. 　• lock out or danger tag procedures. 　• protection of people in the workplace. 　• the appropriate use, maintenance and storage of personal protective clothing and equipment.
Which **regular maintenance checks** may be included?	• Gauges, fan, engine oil, air cleaners (wet and dry), visible gaskets, exhaust colour, tyres, tracks, track rollers and carriers, fuel and oil filters, crankcase ventilation, cooling systems, belts and chains, transmission, gearbox, hydraulic hoses, hydraulic systems, final drives, oilers, batteries and electrical systems, level linkage wear, oil and fuel leaks, brakes, Rollover Protection Systems/safety guards, guards over exposed parts, sources of hazardous noise.
Which **machinery and equipment maintenance** may this standard relate to?	• Operating checks, daily checks, programmed maintenance, breakdown maintenance, prescribed lubrication.
Which **transmission** checks may be included?	• Clutches, gearbox, direct drive and power shaft transmission, torque converter, final drives.

Which **tracks/wheels and undercarriage** wear and tear checks may be included?	• Sprockets, idler wheels, track roller frames, track rollers, carrier rollers, track chains, track shoes and grousers, tyre pressure and abnormal wear patterns.
Which **engine equipment** checks may be included?	• Oil/coolant levels, filters, oil, air, fuel, and air conditioner.
Which **machine operational replacement wear components** may be included?	• Ground engaging components, buckets, blades, cutter teeth and forks.
Which **moving operational components** may be included?	• Elevator and loading chains, cutters/knives.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	For information about **assessing this competency standard for consistent performance** and **where and how it may be assessed,** refer to the Assessment Guidelines for this Training Package.

RTC3401A
Unit Descriptor

Control weeds

This competency standard covers the process of controlling weeds, taking into consideration integrated pest management options. Implementation is likely to be under limited supervision from others with checking only related to overall progress. Responsibility for and limited organisation of the work of others may be involved. Implementation requires the application of knowledge in areas such as weed recognition, biology and control, and the lifecycles of weed predators and hosts.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Assess weed infestation	1.1 Scope and size of the infestation is assessed 1.2 **Weeds and beneficial organisms** are identified and reported or recorded in field notes 1.3 Levels of weed infestations tolerated by the client, market or environment are identified from the Integrated Pest Management (IPM) strategy 1.4 Infestation levels, about which plant health or growth objectives are compromised are identified 1.5 Professional advice is obtained as required according to enterprise guidelines
2. Plan the implementation of control measures	2.1 **Control measures** suitable for the infestation are selected from Integrated Pest Management strategy 2.2 **Tools, equipment and machinery** are selected from Integrated Pest Management strategy 2.3 **Occupational Health and Safety hazards** are identified, risks assessed, controls implemented and reported to the supervisor 2.4 Suitable safety equipment and ***Personal Protective Equipment (PPE)*** are selected, used, maintained and stored 2.5 Control measures selected need to be in full consideration of ***environmental implications***
3. Implement control measures	3.1 Enterprise work team, contractors and Integrated Pest Management product suppliers are coordinated in a sequential, timely and effective manner in consultation with the supervisor 3.2 Control measures are implemented according to the ***Integrated Pest Management standards*** or industry Code of Practice 3.3 Implementation of Integrated Pest Management activities is undertaken according to ***Occupational Health and Safety requirements*** 3.4 A ***clean and safe work area*** is maintained throughout and on completion of each work activity 3.5 **Records** are maintained as required by legislation and enterprise guidelines

4. Monitor control methods	4.1	Control methods are monitored to identify side effects to other plants, animals or external environment
	4.2	Effectiveness of control methods are assessed in reference to specified industry and enterprise standards
	4.3	Adjustments to Integrated Pest Management control methods are implemented where necessary to meet enterprise specifications

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Recognise of a range of weeds and beneficial organisms within a particular enterprise.
- Communicate with work team members, supervisors, contractors and consultants.
- Utilise proforma reporting, analysis and work procedure documents.
- Understand IPM symbols and information.
- Interpret and apply IPM program spatial and logistical specifications.
- Correct fitting, cleaning and storage of personal protective equipment.
- Interpret and apply test results and calculate the quantities and applications rates of control materials.
- Coordinate work group, contractors and own activities to sequentially and effectively complete IPM activities in a timely and cost effective manner.

Required knowledge:

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:

- Weed recognition.

- Economic, aesthetic or environmental thresholds for a range of weeds.
- Chemical, biological and cultural control methods and treatments available to the enterprise within the parameters of an IPM program.
- Range and use of tools, equipment and machinery available to the enterprise for implementing the control measures.
- Range of site monitoring and analysis techniques that may be used to implement an IPM program.
- Association of IPM methods with site limitations, environmental implications, end market and horticultural objectives for the site.
- OHS issues and legislative requirements associated wth hazardous sunbstances. regulations and Codes of Practice.
- OHS responsibilities of employers and employees.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Written, oral and telecommunication of ideas and information relating to IPM implementation, activities and problems encountered will be required with the supervisor, work group, contractors or consultants.	2
Collecting analysing and organising information	Enterprise work procedures and IPM program should be consulted, interpreted and applied to coordinate weed control activities with further clarification sought from the supervisor, contractors or consultants where necessary.	2
Planning and organising activities	Work activities for the work group, contractors and self will be planned prior to and adjusted during implementation of the IPM program.	3
Working with others and in teams	Implementation of the IPM program will involve facilitating and leading members of a team to complete IPM activities, and meet IPM standards and specifications on time and budget.	2
Using mathematical ideas and techniques	Mathematical application will be required to implement the spatial and logistical and quantitative requirements of the IPM program.	2
Solving problems	Site contingencies, personnel difficulties and control and timeline failures may require problem-solving techniques.	3
Using technology	Technological understanding will be required to access and apply IPM specifications to work activities, undertake IPM activities, communicate and keep records.	3

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **weeds** may be relevant to this standard?	• These may include weeds which:
	  • present a potential risk for the enterprise, industry or environment.
	  • are notifiable to authorities.
	  • are part of a local, regional, State or national strategy.

What **beneficial organisms** may be relevant to this standard?	• These may include volunteer or cultivated plants that out-compete the weed, insects and other non-vertebrates, and microorganisms that attack the weed.

What **control measures** may be employed as part of an IPM program?	• These may include targeted chemical application, the application of non-chemical controls including organically or naturally ingredient based sprays, controlled release of predatory organisms, or the application of cultural control methods including removal and disposal of weeds.
What **tools, equipment and machinery** may be required?	• Standard horticultural tools such as gardening implements, mechanised and manually operated spray applicators and cultivators, tractors and trailed equipment may be required. Monitoring equipment for the implementation of an IPM program may include insect traps, soil, fertiliser and plant tissue test kits and sampling equipment.
What **OHS hazards** may be associated with this standard?	• Hazards may include chemicals and hazardous substances, manual handling, operating machinery tools and equipment, noise, dust, solar radiation, falls and tripping.
What **PPE** may be included?	• PPE may include hat, boots, overalls, gloves, goggles, respirator or face mask, hearing protection, sunscreen lotion.
What **environmental implications** may be associated with controlling weeds?	• Beneficial environmental impacts may occur where reduced and informed targeting of chemicals, fertilisers and water to the site and recycling within the system, result in minimal escape of contaminants to the external environment. Beneficial impacts may also result from improved production, healthier ecosystems, more efficient water and nutrient utilisation and reduced weed numbers. • Detrimental environmental impacts may arise where IPM activities produce excess noise, dust or water, or the systems do not function effectively because of inadequate implementation techniques.
What **IPM Standards** may be specified?	• Standards may include those established by registered industry associations, clients or markets of the enterprise, land management agencies or quality assurance program.

What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing tools, equipment and machinery, appropriate use, maintenance and storage of PPE including sun protection, safe operation of tools, equipment and machinery, safe handling, use and storage of chemicals, organically based materials and hazardous substances, correct manual handling, basic first aid, safety procedures for protection of others, personal hygiene, and reporting problems to supervisors.
How may a **clean and safe work area** be maintained?	• Tasks may include disabling unused tools, equipment and machinery and storing neatly out of the way of IPM activities, correct storage of personal protective equipment, safely storing materials on site, and swiftly and efficiently removing and processing debris and waste from the work area.
What **records** may apply to controlling weeds?	• Records may include types of weeds and beneficial organisms present, numbers of weeds and beneficials present, treatments applied, date of application, application rates, success of treatments, economic thresholds.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is critical 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. All users of these competency standards must have access to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3404A	**Control plant pests, diseases and disorders**
Unit Descriptor	This competency standard covers the process of controlling plant pests, diseases and disorders taking into consideration integrated pest management options. Implementation is likely to be under limited supervision from others with checking only related to overall progress. Responsibility for and limited organisation of the work of others may be involved. Implementation requires the application of knowledge in areas such as pests and disease recognition, lifecycles, biology and control, and predators and hosts.
Unit Sector	Horticulture

ELEMENT	PERFORMANCE CRITERIA	
1. Assess pests and disease infestation	1.1	Scope and size of the infestation is assessed.
	1.2	**Plant pests, diseases and disorders** and **beneficial organisms** are identified and reported or recorded in field notes.
	1.3	Levels of pest infestations tolerated by the client, market or environment are identified from the integrated pest management (IPM) strategy.
	1.4	Infestation levels, above which plant health or growth objectives are compromised, are identified.
	1.5	Professional advice is obtained as required according to enterprise guidelines.
2. Plan the implementation of control measures	2.1	**Control measures** suitable for the infestation are selected from Integrated Pest Management strategy
	2.2	**Tools, equipment and machinery** are selected for each work activity according to enterprise work procedures
	2.3	**Occupational Health and Safety hazards** are identified, risks assessed, controls implemented and reported to the supervisor
	2.4	Suitable safety equipment and ***personal protective equipment (PPE)*** are selected, used, maintained and stored
	2.5	Control measures selected need to be in full consideration of Occupational Health and Safety and ***environmental implications***
3. Implement control measures	3.1	Enterprise work team, contractors and Integrated Pest Management product suppliers are coordinated in a sequential, timely and effective manner in consultation with the supervisor
	3.2	Control measures are implemented according to the ***Integrated Pest Management standards*** or industry Code of Practice
	3.3	Implementation of Integrated Pest Management activities is undertaken according to ***Occupational Health and Safety requirements***
	3.4	A ***clean and safe work area*** is maintained throughout and on completion of each activity
	3.5	**Records** are maintained as required by legislation and enterprise guidelines

4.	Monitor control methods	4.1	Control methods are monitored to identify side effects to other plants, animals or external environment
		4.2	Effectiveness of control methods are assessed in reference to specified industry, Occupational Health and Safety and enterprise standards
		4.3	Adjustments to Integrated Pest Management control methods are implemented where necessary to meet enterprise specifications

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Recognise of a range of pests, diseases and beneficial organisms within a particular enterprise.
- Communicate with work team members, supervisors, contractors and consultants.
- Interpret and apply the Integrated Pest Management Program.
- Utilise proforma reporting, analysis and work procedure documents.
- Understand IPM symbols and information.
- Interpret and apply IPM program spatial and logistical specifications.
- Interpret and apply test results, and calculate the quantities and applications rates of control materials.
- Coordinate work group, contractors and own activities to sequentially and effectively complete IPM activities in a timely and cost effective manner.

Required knowledge:

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:

- Pests and disease recognition.
- Economic, aesthetic or environmental thresholds for a range of plant pests, diseases and disorders.
- Chemical, biological and cultural control methods and treatments available to the enterprise within the parameters of an IPM program.
- Range and use of tools, equipment and machinery available to the enterprise for implementing the control measures.
- Range of site monitoring and analysis techniques that may be used to implement an IPM program.
- Association of IPM methods with site limitations, environmental implications, end market and production or environmental objectives for the site.
- OHS responsibilities for employees and employers.
- OHS procedures.
- OHS legislative requirements including hazardous substances regulations and Codes of Practice.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Written, oral and telecommunication of ideas and information relating to IPM implementation, activities and problems encountered will be required with the supervisor, work group, contractors or consultants.	2
Collecting analysing and organising information	Enterprise work procedures and IPM program should be consulted, interpreted and applied to coordinate plant pest, disease and disorder control activities with further clarification sought from the supervisor, contractors or consultants where necessary.	2
Planning and organising activities	Work activities for the work group, contractors and self will be planned prior to and adjusted during implementation of the IPM program.	3
Working with others and in teams	Implementation of the IPM program will involve facilitating and leading members of a team to complete IPM activities, and meet IPM standards and specifications on time and budget.	2
Using mathematical ideas and techniques	Mathematical application will be required to implement the spatial and logistical and quantitative requirements of the IPM program.	2
Solving problems	Site contingencies, personnel difficulties, control and timeline failures and identifying, assessing and controlling hazards may require problem solving techniques.	2
Using technology	Technological understanding will be required to access and apply IPM specifications to work activities, undertake IPM activities, communicate and keep records.	2

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **plant pests, diseases and disorders** may be relevant to this standard?	• These may include plant pests, diseases and disorders which:
	  • present a potential risk for the enterprise, industry or environment.
	  • are notifiable to authorities.
	  • are part of a local, regional, State or national strategy.

What **beneficial organisms** may be relevant to this standard?	• These may include volunteer or cultivated plants, insects, spiders and microorganisms that out-compete, parasitise or predate on the pests and disease relevant to the IPM program.
What **control measures** may be employed as part of an IPM program?	• These may include targeted chemical application, the application of non-chemical controls including organically or naturally ingredient based sprays, controlled release of predatory organisms, or the application of cultural control methods including removal and disposal of plant pests, diseases and disorders.
What **tools, equipment and machinery** may be required?	• Standard tools, such as gardening implements, mechanised and manually operated spray applicators and cultivators, tractors and trailed equipment may be required. Monitoring equipment for the implementation of an IPM program may include insect traps, soil, fertiliser and plant tissue test kits and sampling equipment.
What **OHS hazards** may be associated with this standard?	• Hazards may include chemicals and hazardous substances, manual handling, falling branches, overhead powerlines, operating machinery tools and equipment, noise, dust, solar radiation.
What **PPE** may be included?	• PPE may include hat, boots, overalls, gloves, goggles, respirator or face mask, hearing protection, sunscreen lotion.
What **environmental implications** may be associated with controlling plant pests, diseases and disorders?	• Beneficial environmental impacts may occur where reduced and informed targeting of chemicals, fertilisers and water to the site and recycling within the system, result in minimal escape of contaminants to the external environment. Beneficial impacts may also result from improved production, healthier ecosystems, more efficient water and nutrient utilisation, and reduced pest numbers. • Detrimental environmental impacts may arise where IPM activities produce excess noise, dust or water, or the systems do not function effectively because of inadequate implementation techniques.
What **IPM Standards** may be specified?	• Standards may include those established by registered industry associations, clients or markets of the enterprise, land management agencies or quality assurance program.

What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing tools, equipment and machinery, appropriate use, maintenance and storage of PPE including sun protection, safe operation of tools, equipment and machinery, safe handling, use and storage of chemicals, organically based materials and hazardous substances, correct manual handling, basic first aid, personal hygiene, and reporting problems to supervisors and safety procedures for the protection of others.
How may a **clean and safe work area** be maintained?	• Tasks may include disabling unused tools, equipment and machinery and storing neatly out of the way of IPM activities, safely storing materials on site, and swiftly and efficiently removing and processing debris and waste from the work area.
What **records** may apply to controlling plant pests, diseases and disorders?	• Records may include types of plant pests, diseases and disorders and beneficial organisms present, numbers of pests and beneficials present, treatments applied, date of application, application rates, success of treatments, economic thresholds, accident and dangerous occurrence records.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is critical 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3701A

Unit Descriptor

Respond to emergencies

This competency standard covers the process of recognising and responding to emergencies and implementing a range of life support measures across a broad spectrum of situations /incidents. It requires the ability to accurately evaluate the emergency, avoid/control escalation of the emergency, efficiently implement a plan of action, and render first aid care. Responding to emergencies requires knowledge of Occupational Health and Safety legislation and regulations, the emergency network, and first aid casualty management principles.

Note: Element 5 and First Aid components of the underpinning knowledge in the Evidence Guide of this competency standard can be satisfied through successful completion of St John's Basic Life Support (Level 2) Certificate, the Australian Red Cross' Senior First Aid Certificate or equivalent.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for emergency situations	1.1 Appropriate actions are taken to maximise safety and minimise health hazards in the workplace.
	1.2 Options for action in cases of emergency are identified and evaluated.
	1.3 Organisational emergency procedures and policies are correctly implemented as part of the **workplace procedures.**
	1.4 **Occupational health and safety procedures** and safe working practices are applied including the selection of **personal protective equipment (PPE)** to suit the emergency situation.
	1.5 Regular checks of the workplace are carried out to minimise potential hazards.
	1.6 Emergency procedures are carried out as required by established workplace procedures.
	1.7 Safety equipment and aids required for emergencies are selected, used, maintained and stored in good order.
	1.8 Near misses and potential hazards are reported to supervisor and/or documented according to enterprise guidelines.
2. Implement fire prevention and control on site and in the workshop	2.1 Fire hazards are minimised as specified in workplace and/or fuelling procedures.
	2.2 Appropriate fire extinguishers and fire fighting equipment are used in fire situations, and appropriate authority notified according to established procedures.
	2.3 Evacuation procedures are followed according to enterprise policy and plan including nominated assembly points.
	2.4 Where required, specific safety procedures for the handling and use of **industrial gases** are carried out in line with standard industry practice and regulations.

3. Evaluate the emergency	3.1	Emergency and potential emergency situation reports and signals are promptly recognised and assessed.
	3.2	Advice is sought from **relevant people** in evaluating the emergency.
	3.3	The possible development of the emergency situation is assessed and further potential hazards to staff and/or clients are evaluated.
	3.4	Needs, including those for assistance, are prioritised promptly and accurately.
4. .Act in an emergency	4.1	The plan of action is implemented using techniques appropriate to the situation and available resources and abilities.
	4.2	Equipment is operated safely and, where necessary, equipment and techniques are improvised.
	4.3	Strategies for group control are identified and implemented, and clients and other individuals are removed from danger.
	4.4	The condition of all staff **and others** assisting is constantly monitored.
	4.5	The information required to assist emergency services, where relevant, is acquired and documented.
	4.6	Emergency services are notified as necessary.
	4.7	The plan of action is changed to accommodate changes in the **situation variables.**
	4.8	Casualty evacuation methods are demonstrated where relevant to the context.
	4.9	Organisational procedures and policies and legal requirements are correctly implemented in the event of a major injury or death.
5. Apply essential first aid techniques	5.1	Immediate risk to self and casualty's health and safety are minimised by isolating the **hazard.**
	5.2	The casualty's **injuries** and vital signs are assessed.
	5.3	Casualty is reassured in a caring and calm manner and made comfortable using available resources.
	5.4	First aid care is provided in accordance with established first aid procedures.
	5.5	First aid assistance is sought from others as appropriate.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Accurately evaluate the emergency.
- Avoid/control escalation of the emergency.
- Develop a plan of action decisively.
- Efficiently implement a plan of action.
- Render first aid care.
- Deal with contingencies.
- Communicate with others.

Required knowledge:

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:

- The use of safe working practices.
- The emergency network.
- Enterprise plan and evacuation procedures.
- OHS legislative requirements and Codes of Practice.
- Legal responsibilities and Duty of Care.
- Use of communications equipment.

- Organisational and legal policies and procedures in the event of an accident/incident.
- Local call out procedures to access emergency services personnel.
- Practical first aid skills using prepared and improvised materials.
- Hazard identification, assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Verbally including through communication systems.	2
Collecting analysing and organising information	Observation and reporting to supervisor or appropriate authorities.	2
Planning and organising activities	According to Occupational Health and Safety practices and policies.	2
Working with others and in teams	Through reacting to emergency situations in a coordinated way.	2
Using mathematical ideas and techniques	Determining pulse rates.	1
Solving problems	Identifying solutions to preserve life or counteract emergencies.	2
Using technology	Use of communications equipment.	1

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What might **workplace procedures** refer to?	• Search procedures (search of likely routes followed, systematic search, voice or whistle contacts), evacuations, use of isolating equipment, prevention of escalation of risk, containment, clean up, control of fire, administering of first aid, assistance to injured team member, retrieval of team member and activity-specific rescue techniques.
Where may **occupational health and safety requirements** be found?	• State/Territory/Commonwealth legislation, Australian Standards, Occupational Health and Safety legislation, industry Codes of Practice and organisation's policies and procedures and Material Safety Data Sheets (MSDSs).

What **personal protective equipment** is relevant to this standard?	• Firefighter protective clothing, helmets and hardhats, boots, gloves, breathing apparatus, protective clothing, protective hose lines or sprays, safety eye washes and safety showers.
Which **industrial gases** may be included?	• Compressed and liquefied fuel gases, oxygen, acetylene, nitrogen, anhydrous ammonia and carbon dioxide.
What **emergencies** may be relevant to this standard?	• Fire, hazardous releases, fuel spillage, gases, chemical spills, bomb threats, civil disorder, medical (e.g., bites, stings, epileptic fit, heart attack), road accidents, injury from machinery and equipment, fall, climbing accident, swimming or diving accident, snake bite or poisoning, respiratory or cardiac arrest, and electrocution, injuries, panic and other emotional responses, equipment failure, lost team or team member, result of environmental conditions (e.g., heat, cold, wet, snow, wind, lightning, bushfires, floods, high seas), and activity-specific.
Who may be classified as **relevant people?**	• Managers, OHS officers, workplace first aiders, fire wardens, emergency service people, other external experts and consultants.
What types of **hazards** could this standard refer to?	• Biological, chemical, mechanical, electrical, thermal, explosive, structural, climatic, psychological (e.g., critical incident stress), nuclear, proximity of other people, vehicles and machinery, fire, gas, fumes, electrical situations, security related and wildlife related situations.
What **injuries** might be relevant to this standard?	• Shock, external bleeding, burns, limb, abdominal and pelvic injuries, head and neck injuries, poisoning, bites and stings, facial injuries and management of a casualty with chest pains, who is fitting, who is known to have diabetes and collapses, who is choking, who is drowning, who has a swollen neck, who has asthma, who is not breathing, who is suffering from overexposure, who is suffering from a chest injury, and/or who has been hit by a motor vehicle or injured by machinery and equipment.
Who may be classified as **others** in this competency standard?	• Participants in an activity or program, colleagues, general public, small group or larger group, experienced or inexperienced personnel.
What might be classified as a **development of the situation?**	• Spread of fire, threat to adjoining areas, danger of explosion, loss of communications and involvement of additional persons.

What **emergency reports and signals** are included?	• Observation, verbal, emergency warning system, emergency alarm system, hand signals, verbal reports, telephone communications, radio communications and whistles.
What **emergency services** may be relevant to this standard?	• Police Search and Rescue, State Emergency Service, Fire Brigade, Ambulance Service, Land Management Authorities (e.g., National Parks, Forestry) and Australian Volunteer Coastguard.
Who may be classified as **management authorities?**	• Land and facility owners, city councils, local government authorities, national parks and forestry services, fisheries departments, agricultural producers, private land owners, crown land lessees, defence forces, Aboriginal communities, water authorities and utility agencies and commissions.
What **situation variables** may apply to this standard?	• Capabilities of the group/clients, weather conditions, topography, time factors, human resources, available food and water, size of search area, distance from emergency response providers, delays in accessing emergency help, time of day, communications facilities and difficulties, and emotional and physical condition of casualties.

EVIDENCE GUIDE

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

Competence in responding to an emergency requires evidence that an individual has the skills and knowledge to recognise and respond to an emergency appropriately to a broad range of situations. The skills and knowledge required to respond to emergencies must be transferable to a range of work environments and contexts. For example, this could include different workplace environments, emergencies and situation variables.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3704A   Prepare and apply chemicals

Unit Descriptor

This competency standard covers the process of preparing and applying chemicals for the control of weeds, pets and diseases. It requires knowledge of the chemicals related to the workplace, the hazards and risks involved in their use, and the specific safety procedures prescribed for working unsupervised within organisational guidelines. It requires the ability to handle and apply chemicals ensuring minimum risk to self, others and environment and accurately record their use.

Unit Sector

Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Determine the need for chemical use	1.1 Nature and level of the pest, weed infestation or disease as identified
	1.2 Need for action is assessed
	1.3 Assess the requirement for chemical use as an option within an integrated pest management strategy
	1.4 Hazard and risk analysis of different chemical options is undertaken
	1.5 Requirement for chemical application including coverage by appropriate insurance is identified and confirmed
2. Prepare appropriate chemical	2.1 Chemical label and Material Safety Data Sheets (MSDS) are read and understood
	2.2 Labels are checked to ensure chemicals meet user requirements and specifications
	2.3 Chemicals are prepared from those registered for the intended purpose, and to suit the organisation's chemical use strategy
	2.4 **Legislation and regulations** concerning chemical use are identified and followed
	2.5 **Occupational Health and Safety(OHS)hazards and risks** and **risk control requirements** associated with use of the chemicals are identified
3. Prepare to use chemicals according to the label and MSDS	3.1 **Personal protective equipment** is selected and checked for use according to the product label and Material Safety Data Sheets
	3.2 Requirements for *pre and post-operative checks* on equipment are followed
	3.3 Damage, wear or malfunctions of any equipment is identified and reported or repaired
	3.4 Requirements for the selection, preparation and adjustment of *application equipment and tools* for the appropriate chemicals are followed
	3.5 Mixing rates are defined and calculated
	3.6 **Directions, standards** and legislative requirements for mixing chemicals are followed

4. Apply chemicals	4.1	**Meteorological conditions** and forecasts are assessed prior to and during application
	4.2	**Hazards** of particular chemicals are identified
	4.3	**Risks** to others and the environment are assessed and controlled
	4.4	Application equipment calibration procedures are followed
	4.5	Procedures and precautions for the use of the chemicals are interpreted from labels and accreditation requirements
	4.6	Requirements for chemical handling and application are determined from directions, standards and legislative requirements
	4.7	Chemicals are applied safely and effectively according to directions
	4.8	Chemical spills or accident procedures are followed
	4.9	First aid equipment is made available on site
5. Clean up following chemical application	5.1	**Tools or equipment** required to clean up chemicals are selected
	5.2	Requirements for cleaning equipment and sites are defined and followed according to directions and standards
	5.3	Requirements for disposing of unused chemicals, empty containers or spilled material are defined from directions and standards
	5.4	Procedures for reporting chemical spills are followed
6. Record application details	6.1	Application of chemicals is recorded according to **organisational procedures,** label directions and legislation.
	6.2	Details of the specific chemical concerned are recorded correctly in the chemical inventory according to regulations
	6.3	Inventory of personal protective equipment and application equipment is recorded
	6.4	Procedures and requirements for reporting application details to senior management or client are followed
	6.5	Records of injury or poisoning associated with application of chemical are made and provided to the **appropriate person**

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate orally and in writing.
- Read and interpret labels.
- Measure quantities, application rates and calibrate equipment.
- Report on and record activities.
- Use safe and environmentally responsible work practices.

Required knowledge:

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:

- Chemical free options for pest control.
- Use, maintenance and storage of equipment to prepare and apply chemicals.
- OHS issues, legislative requirements and Codes of Practice relevant to chemical use and hazardous substances.
- Use, maintenance and storage of personal protective equipment, including how, when and why it should be used.
- Licensing requirements and relevant State authorities.
- Modes of chemical absorption and paths of entry associated with risks to bystanders/public and applicators.
- Environmental effects of chemicals.
- Drift management.
- Calibration and adjustments.
- Integrated Pest Management and Integrated Resistance Management principles.
- Cost effective use of chemicals.
- Hazard identification, assessment and control, and emergency response.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Reporting and recording information about chemical application.	2
Collecting analysing and organising information	Information in labels, directions, standards and accreditation conditions (in the case of 'prescribed chemicals), need to be interpreted and analysed.	2
Planning and organising activities	Planning the application of chemicals in conjunction with other workplace activities.	2
Working with others and in teams	A chemical strategy may be implemented in a team through health and safety meetings.	2
Using mathematical ideas and techniques	Calibration of equipment, mixing chemicals and calculations.	2
Solving problems	Matching the correct chemical to the problem and ensuring the all accreditation conditions are met.	2
Using technology	Recording information may require the use of appropriate technology.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **chemicals** may be considered for use?	• Chemicals may include insecticides, fungicides, herbicides, bactericides, algaecides, bio-agents, nematacides, rodenticides, antimicrobial agents, anthelmintics, hormone growth promotants or a range of veterinary chemicals used to treat animals for disease.
What **legislation and regulations** may be relevant to this standard?	• Legislation may include Pesticides Acts, Occupational Health and Safety Acts and associated Hazardous Substances Regulations/ Codes of Practice, Dangerous Goods Acts, Poisons Act or Protection of the Environment Acts.

What **OHS hazards and risks** are relevant to this standard?	• OHS hazards include exposure of the operators and others in the workplace to the absorption of chemicals through the skin and by inhalation and ingestion. Risks may include acute poisoning, chronic or long-term health effects, and lack of appropriate insurance coverage.
What **OHS risk control requirements** are relevant to this standard?	• OHS risk control measures may include safe application techniques, use and maintenance of personal protective equipment, safe wash down procedures, safe procedures for container rinsing and management.
What **personal protective equipment** might be relevant to this standard?	• Personal equipment may include boots, overalls, chemical resistant gloves, aprons, face shields, respirators or hats.
What **pre and post operational checks** might be relevant to this standard?	• Checks may be made to weather conditions (e.g., wind), nozzles, hoses, regulators/gauges, respirator cartridges, drench and protective clothing and equipment.
What **application equipment** may be relevant to this standard?	• Include knapsacks or hand held pneumatic sprayers, drench guns, spot on applicators, CDA and air assisted units, self-propelled sprayers, controllers or power operated equipment like boomsprays, pressure wands, jetting race, shower/plunge dips, hand jetting or air blast sprayer.
What **directions and standards** may be relevant to this standard?	• May include the instructions on the chemicals label, in an operator's manual, on a MSDS, in an industry standard, or from Codes of Practice and advisory material explaining legislation relevant to chemical use.
What **hazards** may need to be addressed in this standard?	• Hazards will be listed on labels and the MSDS for the chemical concerned and may include flammability, toxicity, health hazards, damage to non-target organisms, uneven surfaces, trip points, solar radiation, manual handling, faulty equipment, environmental damage or residues in foods.
What **risks** may need to be assessed in this standard?	• Risks that may be assessed include spillage, contact of chemical with skin or eyes, accidental ingestion, incorrect concentrations in mixtures, faulty or inappropriate storage containers, incorrectly calibrated equipment, spray drift, contamination of waterways, incorrect disposal of unused chemicals or faulty equipment

What **meteorological conditions** might be assessed?	• Rain, wind, temperature, relative humidity, inversion or stable air conditions.
What **tools and equipment** may be used for cleaning up after chemical application or spill?	• Include washing soda, chlorine, containers for disposal of chemicals, non-flammable absorbent materials and shovels, booms, sausages and sandbags.
What **organisational procedures** may be in place for recording?	• Written journal or computer record may be used for recording.
Who may be the **appropriate person** to receive reports about accidents and spills?	• Include relevant authorities, supervisor, manager, business owner or colleague.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

What are the special assessment conditions for this competency standard?	Where this competency standard is being used as part of an accreditation or licence for purchase or use of chemicals, the assessor must meet the requirements of the issuing body. This may include:
	
	• Accreditation with that issuing body.
	• Maintenance of current competency in this and the following standards:
	  • RTC3705A -.Transport, handle and store chemicals
	  • RTC4702A -.Minimise risks in the use of chemicals
	  • RTC4703A -.Plan and implement a chemical use program.
	• Involvement in professional development programs comprising technical and legislative updates on an annual basis.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC3705A	**Transport, handle and store chemicals**
Unit Descriptor	This competency standard covers the process of transporting, handling and storing chemicals safely without supervision. It requires minimising risks, including avoiding spills and accidents, and following procedures, safety and environmental regulations, and Occupational Health and Safety (OHS) requirements to protect the health and safety of everyone in the workplace when handling chemicals. It requires knowledge of the chemicals used in a particular environment and the hazards involved in their handling and storage.
	NB: This competency standard may be deemed to have a time limit when used as part of an accreditation or licence to purchase or use chemicals
Unit Sector	Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Transport and handle chemicals and biological agents	1.1 Transport methods according to label and Material Safety Data Sheets (MSDS) are identified and confirmed to safely transport the **chemical**
	1.2 **Risks** involved in transport and handling are identified and minimised
	1.3 **Personal Protective Equipment(PPE)** is used to transport and handle chemicals where required
	1.4 Requirements for **safe working procedures** and **legislation** are recognised and followed during transport
	1.5 **Procedures** and risk control measures are in place and followed in the event of a spill or accident
	1.6 Reports of injury or poisoning associated with transport of chemicals are made to the manager
2. Store chemicals in the workplace	2.1 **Storage method** selected is appropriate for the chemical concerned
	2.2 Occupational Health and Safety hazards in the **storage area** are identified and risks controlled
	2.3 Storage method selected is appropriate to prevent contact with people or animals, and contamination of produce or the environment
	2.4 Requirements to maintain storage area in accordance with **directions and standards** related to chemicals are defined
	2.5 Safe working procedures for the storage of chemicals are defined
3. Record storage details	3.1 Chemical store inventory is maintained
	3.2 Requirements to maintain storage area in accordance with **Occupational Health and Safety** and enterprise requirements
	3.3 Records of injury or poisoning associated with transport and storage of chemicals are made and provided to the manager

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RTC3705A Transport, handle and store chemicals

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Accurately read and interpret instructions for transporting and handling chemicals.
- Accurately read and interpret instructions for action to be taken to control and minimise the effects of a spillage of chemicals.
- Communicate with others regarding transport and storage processes.

Required knowledge:

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:

- Australian Standards Association (ASA) levels and standards.
- Risks to the environment.
- Different methods of transport.
- OHS risks management principles as they apply to hazardous substances.
- Hazards and risks involved in the transport of the specific chemical concerned and related control measures.
- Relevant OHS legislative requirements and Codes of Practice with regards to hazardous substances and the use of chemicals.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information about the transport arrangements for chemicals will need to be communicated to relevant authorities, supervisor and colleagues.	2
Collecting analysing and organising information	Information about hazards and risks associated with transporting chemicals will be collected and analysed.	2
Planning and organising activities	Transport and storage will need to occur without harming or interrupting other workplace activities.	2
Working with others and in teams	Ensuring others are aware of transport of chemicals, and the hazards and control measures.	3
Using mathematical ideas and techniques	Amounts of chemical that can be safely transported in one load and how they can be stored.	2
Solving problems	Difficulties with transport vehicles or the storage area may require problem solving.	2
Using technology	The use of the storage manifest may require use of appropriate technology.	2

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **chemicals** may be transported, handled and stored?	• Chemicals may include insecticides, fungicides, herbicides, bactericides, algaecides, biologicals, nematacides, rodenticides, antimicrobial agents, anthelmintics, hormone growth promotants, molluscicides and avicides, or a range of veterinary chemicals used to treat animals for disease.

What **risks** may need to be minimised during the transport and storage of a chemical?	• May include serious potential affects on worker's health during transport due to spillage or accident, poisoning, affects on public health through possible cross-contamination of produce, damage to the environment and the general public in the event of spillage or leakage during transport, lack of appropriate insurance coverage, chemicals flowing into drains, water sources or produce growing areas.
What **hazards and risks** may occur during the transport of a chemical?	• Contact with chemicals through the skin, inhalation or ingestion may cause acute poisoning, or chronic or long-term health effects. These may occur through direct contact with a spilled chemical, or through contamination of food. Material Safety Data Sheets (MSDS) provide health information. Other hazards and risks include fire and explosion.
What **personal protective equipment** may be relevant to this standard?	• May include boots, overalls, chemical resistant gloves, aprons, face shields, respirators or hats.
What **hazards** may be relevant to this standard?	• Hazards will be listed on labels and the MSDS for the chemical concerned and may include flammability, toxicity, health hazards, damage to non-target organisms, environmental damage or residues in foods.
What **storage methods** might be relevant to this standard?	• Storage methods may include on site or off site, approved drums, bottles or containers.
What equipment may be found in a **storage area?**	• Equipment may include specific dispensing and preparation equipment, recording of processes and use, and associated safety equipment such as eyewash and emergency showers.
What **directions and standards** might be relevant to this standard?	• May include directions on a label, in an operator's manual, on a MSDS, in an industry standard, or from Codes of Practice, and advisory material outlining legislation relevant to chemical use. Regulations to be followed may include segregation, wash down areas and sumps.

What **safe working procedures** are relevant to this standard?	• Safe working procedures may include following manufacturers instructions, separating chemicals from passengers, observing loading instructions, ensuring liquids are top side up, ensuring chemicals are correctly labelled, ensuring no cross-contamination, safe driving and vehicle operation, ensuring load is not stacked too high, ensuring the chemicals are protected from the weather, and ensuring the load is secure.
What **legislation** may be relevant to this standard?	• Legislation may include Pesticides Acts, Occupational Health and Safety Acts and associated Hazardous Substances Regulations/ Codes of Practice, Dangerous Goods Acts, Poisons Schedule or Protection of the Environment Acts.
What **procedures** following a spill or accident might be relevant to this standard?	• Procedures may include directions on labels, MSDS, OHS and environmental regulations or operator's manuals, and may cover cleaning the site, monitoring and protecting the environment where possible, securing the area and notifying authorities.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

What are the special assessment conditions for this competency standard?	Where this competency standard is being used as part of an accreditation or licence for purchase or use of chemicals, the assessor must meet the requirements of the issuing body. This may include:
	• Accreditation with that issuing body.
	• Maintenance of current competency in this and the following standards:
	• RTC3704A - Prepare and apply chemicals
	• RTC4702A - Minimise risks in the use of chemicals
	• RTC4703A - Plan and implement a chemical use program.
	• Involvement in professional development programs comprising technical and legislative updates on an annual basis.
Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

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RTC3805A Coordinate work site activities

RTC3805A
Unit Descriptor

Coordinate work site activities

This competency standard covers the process of coordinating work site activities for small-scale projects. Responsibility may be for the basic direction and coordination of small groups working on a site remote from the main enterprise, small projects or parts of projects, or small areas within the enterprise. The coordination of work site activities is likely to be under limited supervision with checking only related to overall progress. Work site coordination requires the application of extensive agricultural, horticultural and/or conservation and land management knowledge, and a broad range of relevant skills. The work is usually done within routines, methods and procedures where some discretion and judgement is required in the selection of equipment, work organisation, services, actions, and achieving outcomes within time constraints.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work site activities	1.1 Requirements of the work are clarified with supervisor of the project.
	1.2 Personnel, equipment and material **resource requirements** are identified according to the scope of the project and supervisors instructions.
	1.3 The order of activities and time allocation is identified, documented and presented to the supervisor for verification.
	1.4 The **environmental implications** of the proposed work site activities are identified and the likely outcomes assessed and reported to the supervisor.
	1.5 **OHS hazards** are identified, risks assessed and reported to the supervisor.
	1.6 **Personal protective equipment** (PPE) is selected, used, maintained and stored according to the type of work site activities to be undertaken.
2. Organise resources	2.1 **Materials** are purchased and **equipment/machinery** is hired as authorised by the supervisor and according to enterprise guidelines.
	2.2 **External agency permits** are gained in the correct order as necessary.
	2.3 Neighbours and affected parties are **notified** of works to be undertaken as necessary.
	2.4 Delivery of materials and equipment/machinery to site is organised according to documented order of activities.
	2.5 Personnel are organised to be on site when they are required.

3.	Coordinate and report on activities	3.1	All resources are coordinated and timed to suit the scope of the project and order of activities.
		3.2	Personnel are directed in activities for each period of work.
		3.3	Personnel, activities, timelines and resource usage are monitored and **documented** according to enterprise guidelines.
		3.4	**Contingency situations** are recognised and reported to the supervisor, and corrective actions taken according to enterprise guidelines.
		3.5	A simple **project report** is written to inform management of work site activities undertaken and completed.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Read and interpret documentation associated with work site activities.
- Calculate material and resource requirements.
- Coordinate a team to achieve optimum performance.
- Communicate with personnel at all levels.
- Document results clearly and concisely.
- Perform an OHS risk assessment.

Required knowledge:

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:

- Environmental awareness associated with undertaking project works to ensure the impact on the environment is minimal.
- Work schedule programming.
- Hiring and subcontracting of labour.
- Possible causes of disruption to work activities and their effect on quality and time schedules.
- Responsibilities and requirements for obtaining external agency permits as necessary.
- The range, use and availability of materials, equipment and machinery that may be required for the project.
- OHS issues, legislative requirements and Codes of Practice.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information may need to be communicated with the supervisor as work site activities progress.	2
Collecting analysing and organising information	Information on personnel and resource requirements may need to be collected, analysed and organised according to the scope of the project to be coordinated.	2
Planning and organising activities	Activities may need to be planned and organised to ensure that the needs of management are met and that the site activities are completed on time.	2
Working with others and in teams	Team work may be applied to ensure that all site works are completed successfully.	2
Using mathematical ideas and techniques	Mathematical ideas and techniques may be applied when organising time frames for each activity in the project.	2
Solving problems	Site contingencies, personnel difficulties, timeline failures, and assessing hazards and identifying controls may require problem-solving skills.	2
Using technology	Technology may be used to communicate and record progress of work site activities.	2

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What might be included in **work site activities?**	• Work site activities may be part of small or short-term projects or be part of larger projects.

What material, equipment/ machinery and personnel **resource requirements** are likely to be identified?	• Materials may include goods that will be consumed by the project such as fertilisers, plants, stakes and mulch in a planting program. Equipment and machinery may include hand tools, tractors, vehicles, watering equipment and personal protective equipment. Personnel may include those obtained from within an enterprise, staff "borrowed" from another enterprise, hired from a contracting firm, or hired for the project from outside the industry.
What might be the **environmental implications** of proposed work site activities?	• Environmental implications may include threats to flora and fauna; risk of contamination of soils, water or adjoining property through fertilisers and chemicals flowing into drains and water sources. Land used for a planting program for example may include chemical residues in the soil, spray drift, contaminated run-off water, run off from over-watering, diseased plant material, waste plant material, and physical damage such as soil compaction from machinery. • Where new sites are established the interruption of native corridors and degradation of the ecosystem edge may compromise existing native ecosystems. • If the project involves construction activities, this may impact on the environment due to excess noise, dust or water. • Compliance with local, State/Territory, and Commonwealth environmental legislation may be required if removing trees for example. • Legislation may address management requirements for water, natural heritage, vegetation clearance and waste.
What **OHS hazards** may apply to work site activities?	• Hazards may include disturbance of services, solar radiation, dust, noise, through traffic, uneven surfaces and holes, moving machinery and machinery parts, powered equipment and hand tools, confined spaces, hazards from use of hired equipment (untrained staff), and overhead hazards including powerlines.
What **PPE** is likely to be selected?	• PPE will be determined by the type of activity being undertaken and may include work boots, gloves, overalls, sun hat and sunscreen lotion, safety harness, hard hat, hearing or eye protection, respirator or face mask.
Where might the **materials** be available from?	• Materials to be consumed by the activity may be available through the enterprise as a stockpile or stored goods, or it may be purchased for the job. Materials are often available through supply companies. The enterprise may have purchasing policies and procedures and existing accounts with some suppliers.

Where might **equipment/machinery** be sourced?	• Equipment and machinery to be used for the activity may be available through the enterprise, or hired or "borrowed" for the job. There are many commercial places that hire machinery on a daily charge out rate, or some enterprises may lend specialist equipment or machinery as part of a reciprocating arrangement.
What type of activities may require **external agency permits?**	• Some typical activities that may need a permit include: pruning or removal of large trees, connecting to water systems, application and disposal of chemicals and polluted waters, operating specialised machinery (e.g., chainsaws, skid steer loaders, forklifts), working outside normal hours, setting up traffic and pedestrian barriers and digging near services (phone, gas, power, water, sewerage and drains).
What situations may require neighbours and affected parties to be **notified?**	• Neighbours may need to be notified if the activities involve high levels of noise, dust or chemical use. Often the local council requires notices to be sent out in advance of such work.
Why would activities etc be **documented?**	• Documentation of work site activity may allow you to determine if the work is on track, provide progress reports to supervisors, and plan for delivery and storage of materials and hiring of equipment to minimise costs and time wasting for the enterprise.
What might be considered **contingency situations?**	• Contingency situations may include the delay in delivery and/or breakdowns with equipment and machinery, poor weather conditions, poor quality materials and unforseen soil problems. A coordinator of work site activities may need to be prepared for such situations and provide other work on the project until the problem is fixed, provide other work away from the site, or delay the project if possible.
What might be included in a simple **project report?**	• A project report may include the project name, authors name and date, project description, progress of activities, major issues, OHS issues, expenditure and any future activities that may need to be planned.

EVIDENCE GUIDE

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

Competence in coordinating work site activities construction works requires evidence that a person can prepare and plan for activities, organise all resources required, and monitor and report on activities undertaken. The skills and knowledge required to coordinate work site activities must be transferable to a different work environment. For example, this could include different projects, workplaces and labour force situations.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4024A

Unit Descriptor

Recommend plants and cultural practices

This competency standard cover the process of providing recommendations on plants and their cultural requirements for specific situations and uses. Recommending plants is likely to be undertaken without supervision. Responsibility for and organisation of the work of others involved in providing information on plants may be required. Recommending plants requires knowledge of principles and practices of plant establishment and maintenance, plant nomenclature, botanical features of plants, plant physiology, soil characteristics, customer service and communication skills.

Unit Sector   Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Identify client preferences and requirements	1.1 Contact is initiated with the ***client*** when appropriate and according to enterprise customer service policy 1.2 The purpose of the planting and ***cultural and environmental factors*** of the intended planting site are clarified and defined by gathering all relevant information from the client according to enterprise customer service policy 1.3 **Botanical** and **common names** are used to describe plants according to client preferences and requirements 1.4 The client is informed of the enterprises policy on the provision of advice and customer service under law
2. Select plants to suit specific situations	2.1 **Plants** and their **growth and performance characteristics** that suit the specific situation are identified according to **research and experiential awareness** and enterprise guidelines 2.2 Available plants are compared, assessed and evaluated according to sound problem-solving techniques and enterprise guidelines 2.3 The best choice is determined, based on reasoned argument, appropriate evidence, sound **principles** , enterprise customer service policy and industry standards

3.	Advise on plants for specific situations	3.1	The recommended plants for specific situations and uses, their growth and performance characteristics and particular planting, **cultural and maintenance requirements** are clearly explained to the client according to enterprise customer service policy
		3.2	The original supplier of the plant is referred to where necessary
		3.3	Client requests for clarification or expansion are responded to by the use of attentive listening and questioning techniques according to enterprise customer service policy
		3.4	**Purchase options and availability** of recommended plants are outlined according to enterprise customer service policy and industry standards
		3.5	Recommendations are recorded and reports are made to the manager according to enterprise customer service policy

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate and negotiate orally and in writing with the client, staff, managers, suppliers and consultants.
- Conduct literature and industry research, and collate and analyse findings on plant species and cultivars, their characteristics and requirements.
- Record all relevant information according to enterprise and industry standards.
- Comply with legislative requirements.
- Explain to the client OHS requirements or basic safety precautions relevant to the establishment and on-going maintenance of plants.
- Comply with OHS requirements of the workplace.
- Calculate plant costs, supply volumes and rates of planting.

Required knowledge:

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:

- Principles and practices for the establishment and maintenance of plants recommended by the enterprise.
- Nomenclature to plant family, genus species and cultivar for the range of plants recommended by the enterprise.
- Botanical features of plant species and/or cultivars relevant to the industry and region.
- Practical understanding of the physiology of the range of plants supplied and recommended by the enterprise and their comparative growth and performance characteristics in response to different cultural and environmental factors.
- Soil characteristics, particularly in relation to the geographical and climatic region from which clients generally originate.
- Responsibilities and liabilities in respect to the provision of recommendations and customer service under current Trade Practice laws.
- Enterprise customer service policy and procedures.
- Problem-solving techniques.
- Innovation and recent practices in plant selection, use and performance relevant to the region.
- Customer service and communication skills.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information about recommendations should be communicated with the client and manager orally and in writing. There is likely to be negotiation with the client to achieve outcomes that satisfy client preferences and requirements and enterprise policy.	3
Collecting analysing and organising information	Information about plants will need to be researched. Information addressing the specific preferences and requirements of the client should be interpreted and applied in the light of research to structured recommendations.	3
Planning and organising activities	Customer service, identification of preferences and requirements, information research and recommendations should proceed in an orderly and efficient manner. Timely and appropriate information needs to be available for decision-making. The recommendation should meet client needs and offer alternatives where necessary.	3
Working with others and in teams	Recommending plants to clients may require coordination and consultation with team members to deliver effective and accurate recommendations to the client's satisfaction.	3
Using mathematical ideas and techniques	Mathematical application will be required to calculate area, quantities, plant unit costs and recommended planting rates.	3
Solving problems	Problem-solving techniques will be required to satisfy the client's preferences and requirements. Inadequate knowledge in an area of client query and unavailability of plants within the specific enterprise to meet client needs will also require problem-solving techniques.	3
Using technology	Technology will be required to record, store and communicate ideas and information. It will also be used to research, collate and analyse relevant information to produce recommendations.	3

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What type of **client** may be relevant to this standard?	• Clients may include retail customers, commercial clients, staff members, community groups, and industry counterparts.
What **cultural factors** may influence the recommendation of plants?	• Cultural factors may include the growth stage at which the plant is purchased, growth media and plant monitoring, weed, pest and disease control, irrigation and scheduling, drainage, application of nutrients, growth media management and canopy management.
On what **principles** should the best choice be based?	• This will vary according to the environment and situation and may include horticultural, botanical and conservation and land management principles.
What **environmental factors** may influence the recommendation of plants?	• Environmental factors may include controlled environments, a field, nursery, indoor or aquatic growth environment, humidity, aspect, mean temperatures, artificial light, season, day length, water availability, quality and form of delivery to plants (e.g., sprinklers, spray jets, drip), growth media (e.g., field soil, container soil, artificial solid or hydroponic media), and growth media type, quality, and specific features or limitations (e.g., rock, clay, loam, sandy type soils, acidity or salinity, indoor container volume, and drainage aspects).
What elements of **botanical names** may be included when recommending plants?	• Botanical names may include family, sub-family, genus, species and cultivar of recommended plants.
What **common names** may be used when recommending plants?	• Common names for the same plant may vary nationally and internationally. Identical common names may refer to different plants, nationally and internationally. Common names should be provided in the context of the area in which the plant is grown or originates and in the company of the botanical name of the plant.
What **plants** may be available for recommendation to clients?	• Plants may include trees, shrubs, groundcovers, turf, herbaceous, indoor, bedding, lilies and grasses and aquatic species and cultivars.

What **growth and performance characteristics** may be considered when recommending plants?	• These may include the rate of growth, growth habit, form, lifespan, reproduction, seasonal and growth stage influences on flowering, cropping, foliage and presentation, susceptibility to weeds, pests and diseases, form flexibility, pruning requirements or advantages, and responsiveness to cultural, environmental and climatic conditions.
What **researched and experiential awareness** may be relevant to this standard?	• Knowledge of plants and their growth and performance characteristics may be increased through consultation with team members, the manager, own knowledge, specific literature, supplier specifications, catalogues, local historical performance data and industry best practice guidelines. • Resources may include enterprise or public library, business and research organisation websites, industry consultants, community groups, suppliers and contractors, enterprise manager and team colleague experience, and experts in the local area or industry sector.
What **cultural and maintenance requirements** may be considered when recommending plants?	• These may include establishment or after-care requirements for pruning, staking, irrigation, drainage, weed, pest and disease control, nutrition, shade, shelter and soil treatments.
What **purchase options and availability** may be relevant when recommending plants?	• These may include options in plant stages of growth, presentation of plants, unit quantities in which plants are available and subsequent pricing, delivery times and methods of payment. Where plants are not available from the enterprise, arrangements and pricing schedules may be in place to obtain the plants through an alternative enterprise.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC4206A
Unit Descriptor

Supervise landscape project works

This competency standard covers the process of supervising landscape project works across a range of situations and environments including amenity and natural resource areas. Such project works may include a planting program, construction of landscape features such as structures, paving, installation of drainage or irrigation, building retaining walls, land shaping and stabilising or a combination of these. Work is likely to be under limited supervision with only general guidance on progress sought by management and/or the client. Responsibility for the work of others may be required. The supervision of landscape project works requires a broad range of skills and knowledge and an ability to coordinate and monitor activities efficiently and effectively.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Identify scope of landscape project works	1.1 Nature of landscape project works and extent of responsibilities are identified and checked against relevant **landscape documentation.**
	1.2 Personnel and other resources required to undertake landscape project works are identified according to the scope of the project and relevant landscape documentation.
	1.3 A work program is developed according to the needs of management and/or the client to ensure that project outcomes are reached within designated time lines.
	1.4 The **environmental impact** of the proposed landscape project works is considered.
	1.5 **OHS hazards** are identified, risks assessed and **suitable controls** planned.
2. Coordinate the supply of materials/equipment	2.1 Material quantities and equipment requirements are calculated to ensure an on-going work program is maintained according to the scope of the project.
	2.2 Material quantities are ordered, checked for quantity and quality, then stockpiled according to enterprise guidelines.
	2.3 Any specific delivery instructions are conveyed and confirmed with suppliers to ensure materials are delivered according to the work program.
	2.4 Any rejected material is sent back to supplier and re-ordered according to enterprise guidelines.

3.	Monitor landscape project works	3.1	Work program is monitored and adjusted to ensure the site is developed according to the needs of management and/or the client, and to ensure that project outcomes are reached within designated time lines.
		3.2	Variations to the work program, **issues likely to cause delays, and contingencies beyond the scope of the project** are identified, recorded and reported to management and/or the client according to enterprise guidelines.
		3.3	The work site is monitored to ensure it remains in a clean, tidy and safe condition throughout and on completion of landscape project works.
4.	Prepare site for completion	4.1	Site is inspected prior to practical completion to ensure all works have been undertaken according to management and/or client needs and the relevant landscape documentation.
		4.2	Any works not complying are noted and rectified according to enterprise guidelines.
		4.3	A completed landscape project works report is produced, recorded and communicated to management and/or the client according to enterprise guidelines.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Read and interpret the associated documentation for landscape projects.
- Calculate material and resource requirements.
- Coordinate a team to achieve optimum performance.
- Communicate with personnel at all levels.
- Document results clearly and concisely.
- Demonstrate safe working practices.

Required knowledge:

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:

- Environmental awareness associated with undertaking landscape project works to ensure the impact on the environment is minimal.
- Project contracts, documentation, plans and specifications.
- Possible causes of disruption to work programs and their effect on quality and time schedules.
- Site assessment and work site establishment.
- Supervision of labour and sub-contractors.
- Job reporting including format, frequency and documentation.
- Issuing of instructions, variations and RFI.
- Legislative requirements and legal responsibilities (including OHS).
- OHS responsibilities of employers and employees.
- Hazard identification, assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information may need to be communicated with management and/or the client as the landscape project works progress.	3
Collecting analysing and organising information	Information on personnel and resource requirements may need to be collected, analysed and organised according to the scope of the project to be supervised.	3
Planning and organising activities	Activities may need to be planned and organised to ensure that the needs of management and/or the client are met, and that the project works are completed on time.	3
Working with others and in teams	Team work may be applied to ensure that all project works are completed successfully.	3
Using mathematical ideas and techniques	Mathematical ideas and techniques may be applied when ordering the materials required for the landscape project works.	3
Solving problems	Problem-solving skills may be applied when time delays are experienced due to inclement weather.	3
Using technology	Technology may be used to communicate and record progress of landscape project works.	3

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What might be included in **landscape project works?**	• Landscape project works may include a planting program, turf installation and cultivation, the erection of landscape structures and features, installation of drainage and irrigation and garden maintenance or restoration, construction of walking tracks, boardwalks and safety rails, and earthworks involving land shaping and stabilisation of slopes and embankments. Landscape project works can occur across a range of environments and may include amenity and/or natural areas.

What **landscape documentation** is likely to guide the supervision of landscape project works?	• Landscape documentation may include drawings, plans, specifications, contracts, bill of quantities and quotations, reports and computations
What might be considered an **environmental impact** in relation to proposed landscape project works?	• Any landscape project works may impact on the environment in either a positive or negative manner. If it involves drainage and irrigation, this may reduce excess water, nutrient and chemical flow into natural waterways. I f the works involve excavation, then this may damage the soil structure and stability of the site, damage remnant vegetation and affect water flow.
What **OHS hazards** may apply to landscape project works?	• Hazards may include disturbance of services, solar radiation, dust, noise, through traffic, uneven surfaces, overhead and underground services, holes, moving machinery and machinery parts, powered equipment and hand tools.
What **suitable controls** are likely to be implemented?	• Suitable controls should be in line with enterprise guidelines and may include cleaning and storing of materials and equipment, appropriate use, maintenance and storage of personal protective equipment such as sun, noise and dust protection, safe operation of machinery and equipment, correct manual handling, appropriate use of safety equipment such as signage and protective barriers, and basic first aid services on site.
What **issues likely to cause delays and contingencies beyond the scope of the project** are likely to be identified?	• Delays/contingencies to the project may include industrial disputes, inclement weather, site access, labour/material shortages, and equipment breakdowns.

EVIDENCE GUIDE

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

Competence in supervising landscape works requires evidence that the work can be scheduled, supplies of materials and equipment can be coordinated, the landscape works can be monitored, and the site can be prepared for hand over. The skills and knowledge required to supervise landscape works must be transferable to a different work environment. For example, this could include different landscape projects, teams of workers, environments and landscape features.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4306A   Supervise maintenance of machinery and equipment

Unit Descriptor

This competency standard covers the functions involved in supervising the maintenance of property, machinery and equipment. It requires the application of skills and knowledge to develop and implement a maintenance plan which is cost efficient, and causes minimal disruption to enterprise operations. It involves determining and scheduling staff and resources and maintaining relevant legislative requirements, safe workplace and positive environmental practices. The work functions in this standard are likely to be carried out independently within enterprise guidelines.

Unit Sector

Horticulture

ELEMENT	PERFORMANCE CRITERIA
1. Prepare maintenance plan	1.1 **Maintenance requirements** for property, machinery and equipment are identified form relevant **information sources**
	1.2 Maintenance costs are identified and quantified
	1.3 Maintenance requirements are checked against warranty, insurance agreements and indemnity provisions
	1.4 **Maintenance plan** is develop to promote and sustain performance and production systems in line with **enterprise requirements**
	1.5 Effective workplace communication strategies are established with regard to maintenance plan, **environmental and Occupational Health and Safety policies** , and enterprise requirements
2. Implement maintenance plan	2.1 **Resource and supply** requirements are identified, secured and included in enterprise budgets and operational considerations
	2.2 Prepared maintenance schedules and procedures are effectively communicated to staff, contractors and suppliers to minimise negative impacts on production and costs
	2.3 Maintenance plan is implemented and scheduled to minimise disruption to enterprise operations
	2.4 Potential risks are assessed with regard to staff and supply problems, and contingency plans prepared accordingly
	2.5 Machinery and equipment are operated to manufacturers specifications, Occupational Health and Safety and enterprise requirements

3.	Monitor maintenance plan	3.1	Maintenance activities and performance are monitored against maintenance plan for efficiency and effectiveness
		3.2	Workplace **hazards** and environmental implications associated with maintenance procedures are monitored and controlled in line with Occupational Health and Safety and enterprise requirements
		3.3	Costs are monitored and controlled within enterprise budget requirements
		3.4	**Relevant information** with regard to the maintenance plan is documented in accordance with enterprise requirements
		3.5	Property, machinery and equipment are maintained in clean and safe operational conditions

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Plan, cost and schedule maintenance requirements
- Establish and monitor performance targets for maintenance team.
- Maintain accurate record and report keeping procedures.
- Monitor and assess performance of maintenance activities.
- Interpret maintenance requirements from information sources.
- Observe the emergence and supervise the removal of workplace hazards and risks.
- Document plans and write reports.
- Estimate and calculate resources requirements, machinery and servicing costings.

Required knowledge:

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:

- Types of maintenance requirements with regard to property, machinery and equipment.
- Maintenance and servicing cycles for property, machinery and equipment.
- Relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace OHS and environmental protection requirements, and the use and control of hazardous substances.
- Hazards and risks and respective control measures.
- Training and instruction techniques for directing the learning of staff.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information with regard to maintenance requirements and costings may be discussed with staff, contractors and suppliers.	1
Collecting analysing and organising information	Information with regard to the performance and outcomes of maintenance activities may be documented and organised by records.	1
Planning and organising activities	Maintenance activities may be planned and coordinated with staff around enterprise operations.	2
Working with others and in teams	Team work may be applied in the coordination of methods and procedures to monitor and conduct maintenance activities to achieve maintenance plan.	1
Using mathematical ideas and techniques	Mathematical techniques may be applied to estimate and calculate maintenance and repair costings within budgetary guidelines.	2
Solving problems	Problems of staff, resources or supply may be planned for and prepared in a contingency plan to minimise disruption to work schedules.	2
Using technology	To access information, communicate, monitor, measure and record information with regard to maintenance activities and performance.	1

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What factors may necessitate the **requirement for maintenance** procedures?	• Wear, corrosion, design problems, equipment modifications, incorrect use and accidents, acts of nature.

What **information sources** may be consulted?	• Operational diaries, staff comment and/or personal testing, observation of structures, machinery and equipment, manufacturers in-service updates, operator's manuals, property improvement groups, relevant government departments, other enterprise operators, contractors and service representatives.
What might be included in a **maintenance plan?**	• Maintenance activities and schedules, maintenance costs and budget details, staff, resource and supply requirements, staff roles and responsibilities, contingency plan for staff and supply problems, reporting requirements, hazard and risk control measures, OHS procedures, personal protective clothing and equipment requirements, and environmental impact control measures.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOP), industry standards, production schedules, Material Safety Data Sheets (MSDS), legislative and licensing requirements, work notes, product labels, manufacturers specifications, operator's manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and OHS procedures.
What environmental impacts may be addressed in enterprise **environmental** policies?	• Environmental impacts resulting from excessive noise and exhaust emissions, damage to native vegetation and animals, the unsafe use and disposal of maintenance debris (oil containers, chemical residues), and hazardous substances (fuel, oils). It may also include dust problems, soil disturbance and increased run-off flows from machinery use and unsafe cleaning and servicing activities.
What **OHS requirements** may be relevant to this standard?	• Systems and procedures for the safe maintenance of property, machinery and equipment including hydraulics and exposed moving parts. Hazard and risk assessment of workplace and maintenance activities and control measures. Safe lifting, carrying and handling techniques including manual handling, and the handling and storage of hazardous substances. The appropriate use, maintenance and storage of personal protective clothing and equipment which may include overalls, gloves, eye and hearing protection, respirator or face mask and boots. Safe systems and procedures for outdoor work including protection from solar radiation, fall protection, confined space entry, the protection of people in the workplace, and the appropriate workplace provision of first aid kits and fire extinguishers.

What may be included in **resource and supply** provisions?	• Machinery, equipment and materials including welders (arc, gas and MIG), lathes, bench presses, multimeters and ohm meters, inspection pits, lifting and support equipment (jacks, overhead gantry, blocks), power tools (grinders, drills), hand tools (spanners, hammers, screw drivers). Workshop storage requirements may include racks for commonly used steel angle, rods, tube metal, wire, racks or boards for orderly placement of tools.
What **hazards** may be encountered in the workplace?	• Exposure to loud noise and fumes, solar radiation, dust, mechanical vibration, and hazardous substances (fuel, oils), hazardous atmosphere, oil and grease spills, the presence of bystanders, livestock and wildlife in the workplace, adverse weather conditions, electricity, powerlines, mechanical malfunctions and other machinery including hydraulics and exposed moving parts.
What **relevant information** may be documented?	• This may include maintenance performance, costs, problems, priorities, solutions, schedules and completed work.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4512A
Unit Descriptor

Prepare acid sulphate soil management plans

This competency standard covers the development of acid sulphate soil (ASS) management plans, which address the relevant legislation and issues associated with land and ground water disturbing activities. It requires the ability to relate the proposed development to the site, complete relevant field investigations, align appropriate legislation, and develop management strategies in line with ASS relevant consent authority requirements. Developing acid sulphate soil management plans requires a knowledge of relevant environmental, planning and ground water legislation, ASS assessment tools, application of duty of care, environmental impacts of ASS, environmental plans, strategies and options for management and remediation.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Conduct desktop assessment of the land and groundwater disturbing activity for potential and actual ASS risk	1.1 **Current/proposed land use** established and documented following discussions with landholder and relevant consent authority. 1.2 **Site data** assessed following industry guidelines and relevant consent authority standards. 1.3 **Compliance issues** established/checked with relevant regulatory authority or environmental legislation and/or industry procedures. 1.4 **Site investigations communicated** to proponent/ landholder and concurrence is established to develop a management plan in accordance with relevant consent authority requirements.
2. Develop ASS remediation/management strategy	2.1 **Field investigation** and laboratory test data reviewed and matched to strategy options consistent with industry principles and relevant consent authority standards. 2.2 **ASS management options** identified consistent with industry guidelines and relevant consent authority requirements. 2.3 **Remediation/management strategies** identified and documented in consultation with the landholder/developer and relevant consent authority.
3. Prepare an ASS site management plan	3.1 Remediation/management strategies are checked against industry guidelines and relevant consent authority requirements. 3.2 **Design specifications** for structures incorporated in management plan details. 3.3 **Monitoring strategies** for the site are detailed in line with prevailing site factors and industry guidelines and relevant consent authority standards. 3.4 **On site responsibilities** listed following industry guidelines and relevant consent authority requirements. 3.5 Contingency procedures in accordance with industry guidelines and relevant consent authority requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- ability to assess field and laboratory results from AASS and PASS sites
- collaborate with designers and relevant consent authority
- effectively communicate to the landowner, relevant consent authority and contractors
- develop remediation and management strategies
- develop monitoring strategies
- prepare works action plans
- prepare ASS management plans
- prepare reports on materials management and remediation and site rehabilitation to implement approved ASS plans.

Required knowledge:

- 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:
- relevant environmental, planning and groundwater legislation
- planning process for remediation and management plans
- principles of duty of care and due diligence
- soils and soil chemistry
- levels and levelling
- earthmoving principles
- total catchment issues
- environmental impact issues
- managing acid leachate water flows
- subsurface and surface drainage principles and systems.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	By discussing ASS management plans and strategies at meetings, or formally in writing with clients and stakeholders.	3
Collecting analysing and organising information	Planning ASS management plans and strategies will require detailed information to be collected, analysed and organised by research and consultation	3
Planning and organising activities	Planning ASS management plans and strategies requires extensive planning and organising of resources and others according to enterprise guidelines, industry best practice, and relevant consent authority standards.	3
Working with others and in teams	Planning ASS management plans and strategies will require the development and management of ASS aware work teams to achieve outcomes.	3
Using mathematical ideas and techniques	Complex mathematical techniques relating to ASS management plans and strategies and design could be applied in the design capacities of infrastructure and the implementation of laboratory result recommendations.	3
Solving problems	While planning ASS management plans, strategies and contingencies, technical, organisational and cultural problems may arise requiring complex solutions.	3
Using technology	Analysis, design, monitoring and presentation technology may be required.	3

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What current/proposed land use may be included?	• Stock grazing, cropping, farm forestry, dairying, water, plantation, horticulture, aquaculture, drainage schemes, subdivisions, access tracks, infrastructure development, urban development and managed riparian zone, wetlands, open space reserve areas and emergency works.
What site data may be included?	• Desktop indicators including interpretation of ASS risk and planning maps and Local Environmental Plans, site investigation of surface and ground water, soils, plants, and laboratory test results on soils and water.
What ASS assessment tools may be included?	• Risk maps (NSW), planning maps (NSW), ASS Manual (NSW), relevant guidelines, field testing procedures, analysis of ASS laboratory tests and results, and associated amelioration recommendations.
What ASS management factors may be included?	• Type of land use and/or works, land class (LGA zoning and ASS Planning and Risk Map classes), site characteristics, land tenure, drainage administration, construction methodology, materials remediation, and site rehabilitation to industry guidelines and relevant consent authority standards.
Which remediation/ management strategies may be included?	• Avoidance, dilution, containment, neutralisation and transformation.
Which remediation management planning options may be included?	• Options may include but not be limited to soil and water management on site and off site, schedule of works, and contingency procedures.
Which site design specifications may be included?	• Civil, agricultural and remediation works such as capacities of drains and pipes, and engineering specifications of stabilising ponds, excavations, stabilising structures, flood gates, and materials stockpile areas. Soil and water amelioration and disposal.

Which monitoring procedures may be included?	• Monitoring the approved plan to industry guidelines and relevant consent authority standards by establishing a record and documentation system, detailing the roles and responsibilities of people involved in the monitoring process, and implementing contingency procedures to address any unsuccessful management strategy or treatment.
What other site responsibilities may be included?	• Site induction of all stakeholders with regard to individual responsibilities, duty of care, and reinforcement of the requirement to implement the approved planned works to industry guidelines and relevant consent authority standards.

EVIDENCE GUIDE

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

Competence in planning ASS management and control measures requires evidence that ASS management and control measures have been planned and documented according to industry best practice and/or relevant consent authority standards.

The skills and knowledge required to plan ASS management and control measures must be transferable to a range of work environments and contexts. For example, this could include different industries, situations and topography.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC4513A

Supervise acid sulphate soil remediation and management projects

Unit Descriptor

This competency standard covers the implementation of acid sulphate soils (ASS) remediation and management plans for civil and agricultural activities. It includes the supervision of work teams, equipment operators and contractors. It requires the ability to plan and direct effective safe implementation of works, and site monitoring as per the approved rehabilitation, remediation and or management plans. Supervising on-site implementation of rehabilitation, remediation and management plans requires knowledge of acid sulphate soils remediation and management principles, site rehabilitation principles, and site monitoring techniques and procedures. It also includes comprehensive knowledge of ASS rehabilitation, remediation and management techniques as defined in the approved schedule of works and environmental site induction. It includes appropriate supervision techniques of staff, contractors and operation principles of equipment. It includes knowledge of an applied quality assurance system, and the processes and practices that comply with relevant legislation to prevent environmental impacts associated with works in ASS areas.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA	
1. Plan implementation	1.1	**Plans and specifications** are reviewed and related to the works site.
	1.2	**Work sequences** are planned and recorded in line with proposed work schedule.
	1.3	**Compliance with established** regulatory planning and environmental legislation is maintained.
2. Carry out environmental site induction	2.1	**Specific site** environmental and OHS issues are communicated to all stakeholders following relevant work schedule and special requirements.
	2.2	**Overall objectives** of the project are defined to all stakeholders noting individual responsibilities and duty of care.
	2.3	**Equipment operators** , contractors and other staff are briefed on special aspects of performance relating to specific equipment, and handling of hazardous materials for their specific function in accordance with the approved plan.
	2.4	**Monitoring requirements** for the site is defined and individual responsibilities identified in accordance with the works schedule as stated in the approved plan.
3. Direct implementation of planned works	3.1	**Equipment, materials** and personnel deployment ensures works stages are completed in accordance with the approved plan.
	3.2	**Works specifications** and regulatory requirements maintained in accordance with the approved plan.
	3.3	**Contingency** procedures implemented in accordance with the approved plan.

4.	Monitor works specifications and site environment	4.1	**Continual review** of works and site environment to ensure specifications, contracts and targets are in accordance with the approved plan.
		4.2	**Instructions to staff** and contractors to ensure compliance with the approved plan.
		4.3	**Modifications** are made to works in consultation with the approved plan provider.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- achieve efficient implementation of works
- protect natural areas from damage and pollution
- direct the implementation of planned works
- monitor work specifications and environmental requirements.

Required knowledge:

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:

- relevant environmental, planning and groundwater legislation
- principles of duty of care and due diligence
- ASS soils and soil chemistry
- subsurface and surface drainage principles and systems
- appropriate supervision techniques
- relevant OHS legislation
- work sequence knowledge
- equipment most suited to ASS site remediation and management
- Quality Assurance systems, processes and practices.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	By discussing supervision issues at meetings, or formally in writing with clients and stakeholders.	3
Collecting analysing and organising information	Supervising on-site implementation of ASS management and control measures will require detailed information to be collected analysed and organised by research and consultation.	3
Planning and organising activities	Supervising on-site implementation of ASS management and control measures requires extensive planning and organising of conservation earthworks and other resources to address ASS problems.	3
Working with others and in teams	Supervising on-site implementation of ASS management and control measures will require development and management of skilled and aware work teams to achieve outcomes.	3
Using mathematical ideas and techniques	Mathematical techniques relating to data gathering and interpretation can be applied.	2
Solving problems	While supervising on-site implementation of ASS management and control measures, environmental, technical, organisational and cultural problems may arise requiring complex solutions to implement approved contingency strategies.	3
Using technology	Not applicable.	-

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the relevant training instrument - i.e. for NSW the "Acid Sulphate Soil Manual"(latest edition)

Which group of people may be included?	• All persons, who plan, approve, supervise, implement, and monitor approved works in ASS. People engaged in agricultural, civil, rehabilitation and remedial works within ASS landscapes.

Which works may be included?	• All works that disturb soils and watertables in ASS landscapes.
Which materials may be included?	• Ameliorants, engineering products, site rehabilitation and remediation products.
What regulatory planning and environmental legislation may be included?	• All ASS relevant environmental, planning and ground water legislation.
Which OHS issues may be included?	• The handling of hazardous chemicals, site induction and risk/hazard assessment
What responsibilities and duty of care may be included?	• Site induction with regard to individual responsibilities, duty of care, and reinforcement of the requirement to implement the approved plan.
Which special aspects may be included?	• Those set by the environmental legislation.
Which monitoring requirements may be included?	• As per the approved plan and environmental legislation.

EVIDENCE GUIDE

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

Competence in supervising on-site implementation of ASS management and control measures works requires evidence that ASS management and control measures have been satisfactorily supervised according to enterprise guidelines, industry best practice, and the relevant consent authority standards.

The skills and knowledge required to supervise on-site implementation of ASS management and control measures must be transferable to a range of work environments and contexts. For example, this could include works in environmental and rehabilitation areas within different construction sites in agricultural, civil and extractive industries.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is essential 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. All users of these competency standards must have **access** to the **Assessment Guidelines.** Further advice may also be sought from the relevant **sector booklet.**

RTC4701A	**Implement and monitor the enterprise OHS program**
Unit Descriptor	This competency standard covers the process of implementing and monitoring the enterprise OHS program. It requires the ability to provide information to the work group about OHS, facilitate the participation of workers, implement and monitor enterprise procedures for identifying hazards and assessing and controlling risks, dealing with emergencies and hazardous events, and maintain occupational health and safety records. Implementing and monitoring the enterprise OHS program requires knowledge of hazards in the workplace, relevant OHS legislation and Codes of Practice, risk control measures, hierarchy of risk control, and relevant enterprise management systems and procedures.
Unit Sector	No sector assigned

ELEMENT		**PERFORMANCE CRITERIA**	
1.	Provide information about occupational health and safety	1.1	Relevant provisions of OHS legislation and Codes of Practice are accurately and clearly explained to the work group.
		1.2	Information on enterprise OHS policies, procedures and programs is provided in a readily accessible manner, and is accurately and clearly explained to the work group.
		1.3	Information about identified **hazards** and the outcomes of risk assessment and control procedures is regularly provided, and is accurately and clearly explained to the work group.
2.	Facilitate the participation of workers in OHS observance and decision-making	2.1	Enterprise procedures for consultation over OHS issues are implemented and monitored to ensure that all members of the work group have the opportunity to contribute.
		2.2	Procedures whereby workers report OHS hazards, risks are assessed and action taken to **control risks**, are clearly described to the work group.
		2.3	Issues raised through consultation are dealt with and resolved promptly, or referred to the appropriate personnel for resolution in accordance with workplace procedures for issue resolution.
		2.4	The outcomes of consultation over OHS issues are promptly communicated to the work group.

3.	Implement and monitor enterprise procedures for identifying hazards and assessing and controlling risks	3.1	Existing and potential hazards which are identified are reported so that adequate risk assessment and effective control measures are implemented.
		3.2	Work procedures to control OHS risks are implemented by the work group and regular monitoring occurs to ensure ongoing adherence and effectiveness of risk control.
		3.3	Inadequacies in existing risk control measures are identified in accordance with the **hierarchy of control,** and reported to designated personnel/management.
		3.4	Inadequacies in allocation of resources to ensure safe work practice are identified and reported to management.
		3.5	Existing risk control measures are monitored and results reported regularly in accordance with workplace procedures.
4.	Implement workplace procedures for dealing with emergencies and hazardous events	4.1	Workplace procedures for dealing with OHS emergencies are implemented where necessary to ensure that prompt and **effective control** action is taken.
		4.2	OHS emergencies are **reported** in accordance with established enterprise procedures.
		4.3	Control measures to prevent recurrence and minimise risk of emergencies and hazardous events are implemented based on the hierarchy of control, or alternatively, referred to designated personnel for implementation.
5.	Implement and monitor enterprise procedures for providing OHS training	5.1	OHS induction and training needs are identified accurately, specifying the gaps between OHS competencies required and those held by the work group.
		5.2	Arrangements are made for meeting identified OHS training needs in both on and off-the-job training programs in consultation with relevant parties.
6.	Implement and monitor enterprise procedures for maintaining occupational health and safety records	6.1	OHS records for work area are accurately and legibly completed in accordance with workplace requirements for OHS records, and legal requirements for the maintenance of records of occupational hazards, risk control, injury and disease events.
		6.2	Aggregate information from OHS records is used to identify hazards and monitor risk control procedures within work area according to enterprise procedures and within scope of responsibilities.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Provide information to the work group about occupational health and safety.
- Facilitate the participation of workers in OHS observance and decision-making.
- Identify OHS hazards and controls relative to work practices and processes in work area.
- Respond to OHS hazard identification in an appropriate and timely manner.

Required knowledge:

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:

- Hazards in the workplace.
- Relevant OHS legislation and Codes of Practice.
- Risk control measures.
- The hierarchy of OHS risk control and its implementation for hazards in land-based industries.
- Literacy levels and communication skills of workers.
- Suitable communication techniques.
- Relevant enterprise management systems and procedures.
- Accident/incident investigation.
- Participative work practices.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Provide regular updates on outcomes of risk assessment and control procedures.	2
Collecting analysing and organising information	With hazard audits in the workplace, implementing relevant OHS procedures, analysis of accident/incident records, and providing accessible information on enterprise OHS policies, procedures and programs.	2
Planning and organising activities	By organising meetings to provide updates, and running OHS committee meetings.	2
Working with others and in teams	By consulting with staff on OHS implementation issues.	2
Using mathematical ideas and techniques	By collecting and recording OHS related data/statistics.	2
Solving problems	By determining best possible options to reduce injury risk and identify training needs.	2
Using technology	By using word processor/email for communications.	2

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

Which **hazards** may be relevant to this unit?	• Hazards in the workplace (e.g., uneven surfaces, confined spaces, heights), hazardous manual handling tasks, hazards associated with machinery, risks associated with plants and animals, risks associated with bystanders, plants, animal and the environment, levels of health and fitness, hazards for which personal protective clothing or equipment is required.

What methods to **control risks** may be included?	• General duty of care, requirements for maintenance and confidentiality of records of occupational injury and disease, requirements for records relating to hazardous substances in the workplace, confined space entry, fall protection, workplace inspections for hazards, personal protective equipment, provision of information and induction and training, regulations and Codes of Practice including those relating to plant, hazardous substances, manual handling, noise, issue resolution, health and safety representatives and occupational health and safety committees in the larger enterprises.
What may be included to **implement and monitor** enterprise procedures?	• Supervision of the application of occupational health and safety principles and conformity with relevant legislation and Codes of Practice in each state, incident investigations, regular inspections, training records, accident and dangerous occurrence record analysis including the duties and responsibilities of all parties.
What does **hierarchy of control** refer to?	• The preferred order of risk control measures.
What protocols may be involved in **reporting** a major incident?	• Supervisor, enterprise, Workcover or appropriate authorities may establish reporting protocols.
What may be included in **effective control** action?	• The communication of the location, incident investigations, and directions to emergency personnel.

EVIDENCE GUIDE

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

Competence in implementing and monitoring the enterprise OHS program requires evidence that knowledge and skills has been applied in the implementation and monitoring of an enterprises OHS program as set out in the element and performance criteria of this competency standard, and according to enterprise guidelines and relevant acts. The skills and knowledge required to implement and monitor the enterprise OHS program must be transferable to a range of work environments and contexts. For example, this could include different workplaces, work teams and industry sectors.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information	There is **essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4702A

Minimise risks in the use of chemicals

Unit Descriptor   This competency standard covers the processes of developing, implementing and monitoring a risk control strategy in a workplace where chemicals are being handled and used. It requires knowledge of legislation and regulations surrounding chemical use, the ability to develop and implement procedures to ensure minimum risk to users, the environment and the produce, and the ability to carry out a risk assessment.

Unit Sector   Horticulture

ELEMENT		PERFORMANCE CRITERIA	
1.	Identify hazards involved in chemical use	1.1	**External guidelines and legislation** concerning **chemical** use are identified and sourced from relevant authorities
		1.2	**Hazards** involved in handling and application of chemicals are identified
2.	Assess risk and develop control procedures	2.1	**Risks** associated with chemical use are assessed
		2.2	Risk control measures including **Emergency** action plans are developed and implemented
		2.3	Industry requirements for chemicals are identified
		2.4	**Withholding periods** are identified and observed
		2.5	**Control procedures** for transport, storage and handling of chemicals are developed
		2.6	Continuous improvement strategy is implemented to minimise risk
3.	Implement and monitor procedures to ensure correct and safe use and application of chemicals	3.1	Appropriate **personal protective equipment** is provided for people in the workplace handling chemicals
		3.2	Procedures are implemented to ensure suitable **application equipment** is selected and used
		3.3	Restrictions on use of chemicals due to weather or unsuitable workplace activities are implemented
		3.4	Procedures covering chemical application rates are implemented and monitored
		3.5	Procedures for decontamination and disposal of chemicals and their containers are implemented and monitored
		3.6	Adherence to risk control procedures by people in workplace is monitored
4.	Record risk assessments	4.1	Record keeping system is developed as required by labels, industry, legislation and authorities
5.	Evaluate risk control measures	5.1	**Procedures for evaluating** the effectiveness of risk control measures are developed
		5.2	Shortcomings in existing risk control measures are identified and rectified

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Read and interpret all appropriate relevant chemical related documents.
- Communicate procedures to others.
- Manage chemical use to comply with industry standards.

Required knowledge:

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:

- Sources of information on chemicals, including labels, regulations, and MSDS.
- Relevant industry standards, Codes of Practice, State and Territory legislation and regulations governing application, transport, handling and storage of chemicals.
- OHS legislative requirements and Codes of Practice.
- Insurances required for chemical use, transportation and storage.
- Correct wearing/fit of personal protective equipment.

KEY COMPETENCIES

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information from a range of sources concerning chemical use will be communicated to others.	3
Collecting analysing and organising information	Information on risks involved with chemical use will be collected and analysed to develop risk control measures.	2
Planning and organising activities	Procedures developed to handle and use chemicals will have to incorporate workplace activities and their planning.	3
Working with others and in teams	Team work may be involved in implementing and monitoring procedures.	3
Using mathematical ideas and techniques	Interpreting Maximum Residue Limits will involve mathematical techniques.	2
Solving problems	Assessing comparative risks associated with a variety of chemicals will involve problem solving.	3
Using technology	Technology may be involved in developing and implementing procedures and monitoring outcomes.	2

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **external guidelines** and **legislation** may be relevant to this standard?	• Guidelines may include Quality Assurance systems or Codes of Practice. Legislation may include Pesticide Acts, Occupational Health and Safety Acts regarding hazardous substances and application equipment, Dangerous Goods Act, Poisons Act or Protection of the Environment Acts.
What **chemicals** may be involved?	• Chemicals may include insecticides, fungicides, herbicides, bactericides, algaecides, biologicals, nematacides, rodenticides, antimicrobial agents, anthelmintics, fumigants, hormone growth promotants or a range of veterinary chemicals used to treat animals for disease.
What **hazards** may be relevant to this standard?	• Hazards will be listed on labels and the Material Safety Data Sheets (MSDS) for the chemical concerned and may include flammability, toxicity, health hazards, damage to non-target organisms, environmental damage or residues in foods.
What **risks** may be relevant to this standard?	• Risks to environment may include pollution of ground or surface waters, damage to habitats, damage to off-target organisms, or damage to community amenity due to spray drift. • Risks associated with the produce include chemical residue in plant produce, livestock or water. • Risks associated with OHS include exposure to chemicals during handling and application, and public health risks. • Other risks include lack of appropriate insurance coverage.
What **emergencies** may be relevant to this standard?	• Emergencies may include spills, fire, explosion or poisoning.
What **withholding periods** may be relevant to this standard?	• May include export slaughter interval or withholding period.

What risk **control procedures** may be relevant to this standard?	• May include provision of adequate personal protective equipment, storage facilities that are suitable to the chemical, implementing buffer zones and other sensitive site strategies, erecting bunding, and sufficient training in transporting, handling and storing chemicals.
What **personal protective equipment** may be relevant to this standard?	• May include chemical resistant gloves, boots, overalls, breathing apparatus, goggles, face shields or hats.
What **application equipment** may be relevant to this standard?	• Include knapsacks or hand held pneumatic sprayers, drench guns, spot on applicators, CDA and air assisted units, self-propelled sprayers, controllers or power operated equipment like boomsprays, pressure wands, jetting race, shower/plunge dips, hand jetting or air blast sprayer.
What **procedures for evaluating** are relevant to this standard?	• May include analysing records to evaluate effectiveness of risk control measures.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

What are the special assessment conditions for this competency standard?	Where this competency standard is being used as part of an accreditation or licence for purchase or use of chemicals, the assessor must meet the requirements of the issuing body.
	This may include:
	• Accreditation with that issuing body.
	• Maintenance of current competency in this competency standard.
	• Involvement in professional development programs comprising technical and legislative updates on an annual basis.
Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4703A
Unit Descriptor

Plan and implement a chemical use program

This competency standard covers the process of planning and implementing a program for the use of chemicals in a workplace. It involves using chemicals as well as supervising others in the use of chemicals concerned, and the ability to modify application requirements as needed. It involves decision making in regards to the risk control measures to be applied when using chemicals in different situations, monitoring safety procedures, and ensuring that others are trained sufficiently in the use of the chemical concerned. It involves the selection and management of chemical application systems.

Unit Sector

Horticulture

ELEMENT	PERFORMANCE CRITERIA	
1. Identify the requirements of chemical use	1.1	**Chemical** use requirements relevant to the workplace are accessed and interpreted
	1.2	**Legislation and safety procedures** surrounding the use of chemicals are accessed and interpreted
	1.3	**Personal Protective Equipment** is used and provided for others for transport, storage and application of chemicals
	1.4	Industry standards for chemical use are identified
	1.5	Appropriate insurance policy cover is confirmed or arranged
2. Monitor the implementation of safety requirements	2.1	Implementation of safety practices and rules by others is monitored
	2.2	Safety incidents are investigated and reported in accordance with **directions, standards** and legislative requirements
	2.3	Safety **hazards** in the transport, storage and application of the chemicals are identified
	2.4	**Risk control measures** to minimise risk involved in chemical use
	2.5	Measures for controlling residue in the environment and produce are implemented
3. Plan and implement a maintenance program for chemical use equipment	3.1	Plan for maintenance of application and personal protective equipment is established according to manufacturers instructions
	3.2	Implementation of maintenance plan is supervised
	3.3	Faulty or damaged equipment is identified and repaired or replaced
4. 4 Determine the suitability of a chemical for use in a control program	4.1	Integrated Pest Management (IPM) or Animal Health Strategy (AHS) is planned
	4.2	Chemicals included in the Integrated Pest Management or Animal Health Strategy are selected according to situation
	4.3	Alternatives to chemical treatments are considered and applied according to Iinegrated Pest Management or Animal Health Strategy

5.	Ensure the correct selection and application of the chemical	5.1	Chemicals suitable for *situation* are identified, and procedures for preparation, application and *risk control* are read and interpreted
		5.2	**Application equipment** is selected in accordance with procedures
		5.3	Ensure calibration of equipment is implemented according to directions and standards
		5.4	Pre-operative checks and maintenance procedures are implemented
		5.5	**Meteorological conditions** are assessed as appropriate to application prior to and during chemical application
		5.6	Chemical application is conducted safely in accordance with hazards associated with the chemicals concerned
		5.7	Chemical spills or accidents are dealt with according to procedures
6.	Ensure personnel are adequately trained in chemical use	6.1	Training is provided to personnel who are handling or using chemicals
		6.2	**External training and assessment** opportunities are organised for staff involved in using chemicals
7.	Supervise clean up following chemical application	7.1	Clean up procedures are implemented following chemical applications
8.	Implement recording systems for chemical storage and use	8.1	Records comply with legislation and regulations surrounding chemical use
		8.2	Risk assessment and control strategies are recorded in accordance with requirements

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Access, accurately read and interpret conditions and labels information for chemicals.
- Communicate critical chemical information to others and ensure understanding.
- Direct others to perform tasks.
- Identifying hazardous situations.

Required knowledge:

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:

- Hazards involved in the use of the specific chemical concerned and related risk control measures.
- Signs of pest damage and signs of beneficial organisms.
- Life cycle of pests and target stages.
- Pest resistance to chemicals.
- Types of chemical and modes of action.
- Maximum residue limits.
- OHS legislative requirements and Codes of Practice relevant to chemical use and hazardous substances.
- Application equipment features.
- Calibration.
- Knowledge of record keeping systems.
- Knowledge and understanding of relevant control of use Acts.
- Use, maintenance and storage of personal protective equipment.
- Correct wearing/fit of personal protective equipment.
- First aid and emergency procedures.
- Insurances required for chemical use, transportation and storage.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Procedures, policies and safety information are communicated to others in the workplace.	3
Collecting analysing and organising information	Information on labels, MSDS and legislation need to be interpreted and analysed.	3
Planning and organising activities	Overall organisation management will require activities to be planned in conjunction with chemical use.	3
Working with others and in teams	Working with others, internal and external to the organisation, requires teamwork.	3
Using mathematical ideas and techniques	Calibration and calculation of equipment and chemicals requires mathematical techniques.	2
Solving problems	Identifying hazards and potential problems that may arise during chemical use and developing suitable solutions and risk control measures.	2
Using technology	Technology may be required to record and manage chemical information.	2

RANGE STATEMENT

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency:

What **chemicals** may be relevant to this standard?	• Chemicals may include insecticides, fungicides, herbicides, bactericides, algaecides, biologicals, nematacides, rodenticides, fumigants, antimicrobial agents, anthelmintics, hormone growth promotants or veterinary chemicals.
What **legislation and safety rules** may be relevant to this standard?	• May include approved Pesticide Acts, OHS Acts regarding hazardous substances and application equipment, Dangerous Goods Act, Poisons Act or Protection of the Environment Acts for chemical use.

What **personal protective equipment** may be relevant to this standard?	• May include boots, overalls, chemical resistant gloves, aprons, face shields, respirators and hats.
What **directions and standards** are relevant to this standard?	• May include the instructions on the chemical label, in an operator's manual, on a Material Safety Data Sheets (MSDS), in an industry standard, from an OHS manual or other regulation, or a hazardous substances regulation.
What **hazards** may occur in the use of chemicals?	• Hazards will be listed on labels and the MSDS for the chemical concerned and may include flammability, toxicity, health hazards, damage to non-target organisms, environmental damage, off target spray drift or residues in foods.
What **risk control measures** may be implemented and monitored as part of this standard?	• Risk control measures that may be implemented include those relating to spillage, fire, contact of chemical with skin or eyes, accidental ingestion, incorrect concentrations in mixtures, faulty or inappropriate storage containers, current insurance policies, likelihood of run-off post application, incorrectly calibrated equipment, spray drift, incorrect disposal of waste chemicals or faulty equipment.
What **situation** may be relevant to this standard?	• Situation may include weeds, insects, pathogens, and vertebrate animals.
What **application equipment** may be relevant to this standard?	• May include hand held knapsacks or pneumatics, drench guns, spot on or power operated equipment like boomsprays, pressure wands or air blast sprayer, jetting race, hand jetting and shower/plunge dips.
What **meteorological conditions** might be assessed?	• Rain, wind, temperature, relative humidity, inversion or stable air conditions.
What **external training and assessment** may be relevant to this standard?	• Training may include formal training and assessment by a Registered Training Organisation (RTO) either on or off the job, or Recognition of Prior Learning process.

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements.

What are the special assessment conditions for this competency standard?	Where this competency standard is being used as part of an accreditation or licence for purchase or use of chemicals, the assessor must meet the requirements of the issuing body.
	This may include:
	• Accreditation with that issuing body.
	• Maintenance of current competency in this competency standard.
	• Involvement in professional development programs comprising technical and legislative updates on an annual basis.
Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4905A

Unit Descriptor

Cost a project

This competency standard covers the process of obtaining, calculating, summarising and presenting the costs of materials, equipment and labour for a project to the best financial advantage of a rural, horticultural or land management enterprise. Costing a project is likely to be undertaken without supervision with only general guidance on progress sought by managers. Costing a project requires a broad range of analytical skills and involves the application of extensive underpinning knowledge that includes pricing structures and project financial requirements.

Unit Sector　　　　No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Obtain current prices for project resources	1.1 Project objectives, required **work activities** and available finance are identified and interpreted according to the project plan and **enterprise guidelines.** 1.2 **Resources** required for project works are identified according to the project plan. 1.3 **Factors** affecting resource costs are identified using **available information.** 1.4 **Add-on costs** are taken into consideration according to enterprise guidelines. 1.5 Appropriate **tools and equipment** are selected and used for the calculation and documentation of project costs.
2. Calculate individual itemised costs of the project	2.1 Unit and total cost for each resource item is calculated according to enterprise guidelines. 2.2 Total itemised resource costs are evaluated against the financial schedule for the project. 2.3 **Adjustments** are made where required to reconcile resource costs with project schedules in strict adherence to enterprise guidelines for costing a project.
3. Prepare a summary of the cost of the project	3.1 Resource costs are collated and scheduled according to the project plan and enterprise guidelines. 3.2 Total project costs are accurately calculated and **recorded** according to enterprise guidelines. 3.3 **Financial summary** is collated, organised and submitted to management for approval.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate and negotiate orally and in writing with staff, management, contractors, suppliers, manufacturers and consultants.
- Research and evaluate information.
- Accurately complete financial calculations, collate and organise quantitative and financial information.
- Comply with legislative requirements.
- Document financial summaries for the understanding of staff, managers and contractors.

Required knowledge:

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:

- Relevant State and Federal legislation, awards, enterprise agreements and management policies relating to labour hire and employment terms, and OHS.
- Current pricing structures and options for material supplies, services, contractors and consultants.
- Enterprise and industry standards and practices for formatting, organising and presenting financial and quantitative information.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Results of research and calculations should be communicated with the manager orally and in writing. There is likely to be negotiation between the trainee and the manager to achieve effective costing of the project.	1
Collecting analysing and organising information	Pricing information will be gathered from various sources and analysed and adjusted against the project plan. Costing of the project should be organised and presented as a financial summary.	1
Planning and organising activities	The costing process should proceed in an orderly and efficient manner. Timely and appropriate information needs to be available for calculation and reconciliation. Project costing should reflect the requirements of the project works.	1
Working with others and in teams	Costing a project may involve working with other members of a team to achieve an effectively costed project.	1
Using mathematical ideas and techniques	Mathematical concepts will be required to calculate, reconcile and summarise project costs.	1
Solving problems	Problems associated with availability of resources and pricing issues may arise during costing of the project and require the application of problem solving skills.	1
Using technology	Technology will be required to record, store and communicate ideas and information. It will also be used to research relevant information, obtain and calculate data and produce a financial summary of the costs of the project.	1

RANGE STATEMENT

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.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What **work activities** may be relevant to project costing?	• Work activities may include activities to implement the project plan, identifying and minimising OHS and environmental hazards, and monitoring, recording and reporting the project plan.
What **enterprise guidelines** may be referred to when costing a project?	• Enterprise guidelines may include the business, production, marketing, financial and human resource management plans, and enterprise policies and procedures.
What **resources** may be required for project works?	• Resources may include materials, tools, equipment and machinery, labour hours, staffing levels, technical skills and management requirements, consultant time and contracted services.
What **factors** may affect resource costs?	• Factors may include the lead time before the project can be completed, the repair and servicing requirements of tools, equipment and machinery, hire and purchasing options, material, consultancy and service supply and pricing issues, work hours and staffing levels required, individual hourly rates, and other conditions in contractual and enterprise agreements.
What sources may be consulted for **available information?**	• Sources may include the supervisor, enterprise records, employment agencies, State and Federal awards, individual enterprise agreements, manufacturers, repairers, suppliers, contractors and consultants, catalogues and journals, industry Codes of Practice and legal guidelines.
What **add-on costs** may need to be considered?	• Labour add-on costs may include State and Federal charges and taxes, training requirements, workers compensation levies, award-based penalty rates for work done out of regular hours, work with specified substances and in specified locations, leave entitlements and public holiday implications. • Resource add-on costs may include costs associated with materials quantities, ordering schedules and issues associated with urgency, imminence or duration of consultancy or contracted work to be provided.

What **tools and equipment** may be needed to cost a project?	• Tools and equipment may include calculators, computer hardware, accounting or project management software, and telecommunication equipment.
What **adjustments** may be made to resource costs?	• Adjustments may include identification of alternative resources, scheduling of resources and alternative resource quantities and pricing structures.
How may resource costs be **recorded?**	• Costs may be recorded on printed schedules, in a project report and against the project plan.
What items may be included in the **financial summary?**	• Items may include unit and itemised costs, total project costs, reconciliation with available finance, and financial justification for the selection and scheduling of individual resource items.

EVIDENCE GUIDE

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

Competence in costing a project requires evidence that a person is able to obtain current prices for required resources, calculate costs and present a summary of project costs that provides for cost effective project outcomes. The skills and knowledge required to cost a project must be transferable to a different work environment, particularly where the specific costings relate to the other work environment. For example, this could include different projects, clients and industry settings.

Are there other competency standards that could be assessed with this one?	This competency standard <u>could</u> be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet.**

RTC4908A

Supervise work routines and staff performance

Unit Descriptor

This competency standard covers the functions associated with the coordination and direction of staff. It requires the application of skills and knowledge to provide information and guidance to personnel in the conduct of their duties, facilitate staff discussions and agreements, and provide constructive evaluation to staff members. The work functions associated with this standard would usually be undertaken independently and with minimal reporting requirements.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Communicate work roles	1.1 **Roles and responsibilities** of staff are clearly defined and documented.
	1.2 Skills of staff are accurately identified and matched with available tasks and duties.
	1.3 Requirements of jobs are clearly identified and communicated to personnel.
	1.4 Information on activities are developed and provided to personnel.
	1.5 **OHS** policy and procedures are effectively communicated and implemented.
2. Coordinate activities	2.1 Work activities are prioritised to ensure completion of outcomes in accordance with available timelines.
	2.2 Work plans are developed to establish appropriate targets and objectives of activities.
	2.3 **Training and learning opportunities** are identified and incorporated into work activities.
	2.4 Supervisory and reporting responsibilities are clear and maintained in line with organisational requirements.
	2.5 Enterprise **environmental** policy and procedures are effectively communicated and implemented.
3. Maintain effective working relations	3.1 Problems are recognised and addressed through discussion with work group.
	3.2 Assistance is sought from work group members when difficulties arise in achieving allocated tasks.
	3.3 Discussion and information sharing is routinely used to communicate requirements of work activities through a participative approach.
	3.4 Disagreements and conflicts are managed constructively using appropriate conflict management strategies.

4. Provide feedback	4.1	Feedback is clear, constructive and provided promptly to individuals to support achievement of outcomes.
	4.2	**Difficult situations** are identified and negotiated to achieve results in line with organisational requirements.
	4.3	Team and individual performances are monitored regularly to ensure personnel are able to achieve goals.
	4.4	**Supervisory structures** and lines of reporting are maintained in accordance with organisational requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These include the ability to:

- Supervise and instruct staff to achieve work activities.
- Delegate and allocate tasks.
- Assess and evaluate staff competency.
- Identify and provide training requirements.
- Plan and monitor ongoing training needs.
- Plan timesheets and timetables to meet deadlines.
- Demonstrate effective time management.
- Demonstrate safe workplace and environmentally responsible practices.
- Solve problems (staffing, resources).
- Communicate information and instructions, provide feedback and prepare reports and performance appraisals.
- Calculate timesheets and measure productivity.

Required knowledge:

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:

- Enterprise personnel processes.
- Enterprise organisational structure and responsibilities.
- Techniques for building trust and relationships.
- Principles of team work and negotiation.
- Performance appraisal systems and procedures.
- Principles of time management.
- Conflict management techniques.
- Enterprise training requirements and processes.
- Relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace OHS, environmental protection, and the use and control of hazardous substances and machinery and equipment.
- Hazard identification, assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Information with regard to work tasks, their application and completion date may be communicated to staff.	3
Collecting analysing and organising information	Information with regard to staff performance may be observed and monitored and included in feedback via staff performance appraisals.	3
Planning and organising activities	Training activities may be planned and coordinated around work schedules or sequenced as required.	3
Working with others and in teams	Team work may be applied in methods and procedures to complete work tasks to achieve work plan requirements.	3
Using mathematical ideas and techniques	Mathematical techniques may be applied in the calculation of time sheets and the measurement of production outputs.	3
Solving problems	Staffing or resource problems may require alternative options to be implemented or may be addressed through adjustments to work schedule.	3
Using technology	To communicate job tasks, develop staff training programs, measure productivity, and record staff performance appraisals.	3

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

How might staff **roles and responsibilities** be defined and communicated?	• Duty statements, workplans, defined areas of decision-making, job description and employment arrangements, team structures, supervision and accountability requirements, and enterprise policy compliance.

What **OHS requirements** may be applicable to this standard?	• Systems and procedures for the safe operation and maintenance of machinery and equipment. • Assessment of hazards and appropriate control measures. • Procedures for safe lifting, carrying and manual handling. • Safe systems and procedures for the handling and storage of hazardous substances, and grain. • The appropriate use, maintenance and storage of personal protective clothing and equipment. • Accident/incident investigation. • Working at heights and confined spaces. • Safe systems and procedures for outdoor work, basic first aid procedures. • Personal hygiene standards. • Protection from hazardous noise. • Mechanical vibration.
What **training and learning opportunities** might be identified for staff?	• Coaching, mentoring and/or supervision, formal and informal learning programs, internal and external training, provision of work experience and exchange opportunities, personal study and career planning and development, performance appraisals, workplace skills assessment, recognition of prior learning, and self assessment.
What **positive environmental practices** associated with work activities may be implemented?	• Measures to reduce excessive noise and exhaust emissions, the safe use and disposal of hazardous substances and debris associated with machinery and equipment, effective water re-use systems and effluent disposal systems, the incorporation of organic matter into the soil, and measures to avoid soil disturbance associated with machinery operation and the protection of ground cover in holding or confined areas with high density animal activity.
What **difficult situations** might arise for negotiation?	• Conflicts in priorities, resource constraints, lack of information, supplier delays, differences in opinion, interpersonal conflict, hazardous events, time constraints, and shortfalls in expected outcomes.
What **supervisory structures** might be relevant to this standard?	• Coach/mentor, supervisor or manager, and work colleagues.

EVIDENCE GUIDE

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

Competence to supervise work routines and staff performance requires evidence of the ability to implement roles and responsibilities to efficiently and effectively achieve work activities within set timeframes. It involves the ability to communicate information and instructions, prioritise and schedule work activities, determine and implement training requirements, evaluate staff performance, and provide constructive feedback. Evidence must be demonstrated in providing leadership to the work team and the ability to promote and maintain effective relationships between staff.

The skills and knowledge required must be transferable to a different work environment. For example, this could include different workplaces, industries or work teams.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is **critical 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC4911A

Operate within a budget framework

Unit Descriptor
This competency standard covers the process of operating within an allocated cash flow budget in a rural, horticultural or land management setting. It requires the ability to participate in formulation of a budget, and supervise and monitor financial transactions. Operating within a budget framework requires knowledge of banking routines, record keeping systems for receipts and expenditure, cash flow analysis, and costing and forecasting mechanisms.

Unit Sector
No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Participate in formulation of a cash flow budget	1.1 Budget consultation is followed in line with enterprise policy. 1.2 Budget variations are requested to suit enterprise needs.
2. Supervise financial transactions	2.1 Expenditure is arranged within budget delegations. 2.2 Transactions are **recorded** to meet taxation and accounting requirements according to enterprise practices. 2.3 Actual sales and expenditure are compared to the enterprise budget. Financial reports are checked to ensure operations are within forecast limits. 2.4 Expenditure is adjusted to meet financial targets as required. 2.5 Actual and potential variations in budgeted income are reported to the manager according to enterprise requirements. 2.6 Recommendations to address budget variations are developed.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Participate in formulation of a budget.
- Supervise financial transactions.

Required knowledge:

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:

- Costing mechanisms.
- Forecasting mechanisms.
- Banking routines.
- Cash flow analyses and records.
- Recording systems.
- Records of receipts and expenditure.
- Work reports.
- Factors that impact upon the timing of sales and purchases (Taxation, GST, market conditions).

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Through discussions and meetings with management and staff in budget formulation and as a result of any operating issues.	3
Collecting analysing and organising information	To enable inputs into the budget formulation process, and record keeping according to procedures established by the enterprise.	3
Planning and organising activities	In line with enterprise procedures and policies.	3
Working with others and in teams	Through participating in budget formulation.	2
Using mathematical ideas and techniques	In undertaking budget calculations and financial transactions	3
Solving problems	Through dealing with issues such as budget shortfalls or excesses.	3
Using technology	Through the use of computers in operating a budget and reporting.	3

RANGE STATEMENT

The Range of Variables defines the different contexts, work environments and parameters governing the performance of this unit of competency. The variables chosen in training and assessment will need to reflect local industry and regional contexts.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What may be included in **budgets**?	• Budgets may include projected expenditure by item, projected income by source, cash flow budgets, budget delegations, variation and review procedures, credit and credit limits, security measures, reporting mechanisms, additional funds for particular projects, self-generated funds, fundraising requirements, project grants, funds received for winning tenders, and enterprise procedures and policies.
How may **financial reports** be checked?	• Through comparisons between planned cash flow and actual budget cash flow, and similar statements from previous planning periods.
What **types of records** may be relevant to this standard?	• Records may be paper or computer based, or enterprise accounting system

EVIDENCE GUIDE

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

Competence in operating within a budget framework requires evidence that contributions have been made to the formulation of a budget, that an individual has operated successfully within the framework of that budget, and that required reporting complies with industry and enterprise standards and expectations. The skills and knowledge required to operate within a budget framework must be transferable to a range of work environments and contexts. For example, this could include different budgets, workplaces and reporting mechanisms.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	For information about **assessing this competency standard for consistent performance** and **where and how it may be assessed**, refer to the **Assessment Guidelines** for this Training Package.

RTC5011A
Unit Descriptor

Collect and classify plants

This competency standard covers the process of collecting and identifying plants using taxonomic keys. It requires the ability to prepare for plant collecting, collect plant specimens, preserve specimens and identify plant specimens. Collecting and identifying plants requires knowledge of herbarium collection techniques and ethics, botany, physical and biological habitat types, and plant nomenclature and taxonomy.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for plant collecting	1.1 Purpose and objectives for collecting **range of plants** is confirmed.
	1.2 Area, location and/or habitat for collecting is defined.
	1.3 **Resources** to assist in plant location and identification are determined and prepared.
	1.4 **Equipment** required for collecting and preserving specimens is determined and prepared.
	1.5 Licences and/or permission to collect specimens are sought from landowner or managing agency.
	1.6 Range of likely operating conditions, hazards and difficult/sensitive environments are assessed for impact on collecting and preserving specimens.
	1.7 **OHS hazards** associated with plant collecting are identified.
2. Collect plant specimens	2.1 **Collecting ethics** are observed when selecting specimens for picking.
	2.2 **Relevant information** about the specimen, its characteristics and **occurrence** is entered into a field note book and location coordinates are noted.
	2.3 Specimen collected provides **adequate material** for identification and preserving.
	2.4 Specimens are correctly tagged and stored for later identification.
	2.5 Appropriate **OHS legislative requirements** and work practices are followed.
3. Preserve specimens	3.1 Preservation of specimen is undertaken while still fresh.
	3.2 Specimen is cleaned and prepared for preserving according to enterprise guidelines.
	3.3 Preserving of specimen carried out using either pressing or drying techniques.
	3.4 Dried specimen is mounted and labelled with accurate information from notebook.

4. Identify plant specimens	4.1	Resources are identified and accessed to assist in identification.
	4.2	The **basic characteristics** of a plant are identified and **documented.**
	4.3	Relevant plant key is used to identify plant.
	4.4	Plant **identity** is confirmed against botanical description of species.
	4.5	Plant identity is documented on label according to enterprise guidelines.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Prepare for plant collecting
- Collect plant specimens
- Preserve specimens
- Identify plant specimens.
- Follow safe work practices.

Required knowledge:

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:

- Herbarium collection techniques and ethics.
- Botany.
- Physical and biological habitat types (including vegetation associations and communities where appropriate).
- Plant nomenclature and taxonomy.
- OHS legislative requirements and Codes of Practice.
- Hazard identification assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information relating to plant identification can be recorded in field note books and discussed with colleagues.	3
Collecting analysing and organising information	According to current recommended botanical practices and with regard to collecting ethics.	3
Planning and organising activities	Equipment, materials and work procedures for identification will need to be sourced and arranged before collection activities.	3
Working with others and in teams	Plant identification may involve working with other members of a team to complete the program, or working alone.	2
Using mathematical ideas and techniques	Measuring the length, regularity and period of plant identifying features will require mathematical application.	2
Solving problems	Problems relating to the difficulty of identifying certain features of a plant or using a taxonomic key may arise.	1
Using technology	Technology may be applied in the identification and electronic recording of plants, research procedures and telecommunication used for the provision of information about plants to clients and customers.	1

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **range of plants** may be relevant to this standard?	• Plants may be native or introduced species including weeds.

What r **esources** may be used to identify plants?	• Resources may include enterprise or public library, business and research organisation websites, enterprise supervisor and experienced team colleagues, published books and journals (e.g., floras), and experts in the local area or industry sector. It may also include personal or enterprise reference collection.
What **equipment** may be used to recognise plants?	• Equipment may include computer assisted or manual word processors, telecommunication appliances, plant fixing materials, secateurs, folders and exercise books, hand lens, dissecting microscope, dissecting equipment, pens and pencils.
What **OHS hazards** can be included in this standard?	• Hazards may include manual handling, using tools and equipment, noise, dust, solar radiation, falls and tripping, spider and insect bites.
What **collecting ethics** should be observed in the field?	• Collecting ethics requires that, where necessary, no plant is collected from where it is prohibited, approval is gained from the landholder and/or permits are obtained to remove plants where required, that disruption to the site and surrounding vegetation and habitats is minimised, and that there is appropriate justification to collect less common or rare plant specimens from a site.
What may be included when **documenting a plants occurrence in natural areas**?	• Height, canopy cover, dominant species and distribution of associated vegetation association and/or plant community, and habitats and preferred habitat/s in which plant grows.
What **relevant information** will need to be entered into field note books?	• Information that 　• identifies the particular specimen by number, when it was collected and the collectors name. 　• describes the plant itself such as size, life form, flower colour, bark colour and any other characteristics about the plant. 　• outline the location of the plant specimen - this may require use of maps and recording of nearby landmarks. 　• describes the ecological characteristics of the area including the physical habitat such as type of soil, rocks, slope, elevation, aspect, moisture, and biological habitat such as vegetation structure, plant community/vegetation association and other nearby plants.

What is regarded as **adequate material** when collecting?	• Adequate material includes all the parts needed for accurate identification and can include leaves, flowers, twigs, fruit, and seeds. For small herbaceous plants, the roots and either whole stems or tops and bottoms as leaf shape, size, and arrangement may vary from top to bottom.
	• Plant materials should be tagged with a number as they are collected.

What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing tools, equipment and machinery, appropriate use, maintenance and storage of PPE including sun protection, safe operation of tools, equipment and machinery, safe handling, use and storage of chemicals, correct manual handling, basic first aid, and safety procedures for protection of others.

What **basic characteristics** may be useful when identifying plants?	• Plant characteristics may include the flower type, leaf arrangement and leaf shape. Other characteristics include flower colour, colours and/or markings, flower shape, size of the plant and its flowers and leaves, veining pattern of the leaves, texture of the leaves and stem, physical and biological habitat from where collected, number, size and shape of the reproductive parts, and any unusual features about the plant or its parts.

What **nomenclature** will be used to indicate a plants identity?	• Scientific names including authorship will be used in identification of plants.

What **documentation** is involved in identifying plants?	• Documentation may include a written description of the plant species including common and botanical names, visible characteristics, details of occurrence or origin, optimum growth requirements and/or a herbarium of plant samples preserved according to the requirements of the enterprise or industry sector.

EVIDENCE GUIDE

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

Competence in identifying plants requires evidence that a person can collect and identify plants correctly using taxonomic keys. The skills and knowledge required to identify plants must be transferable to a different work environment. For example, this could include different types of plants, workplace settings and environments.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5201A   Conduct comprehensive inspection of park facilities

Unit Descriptor   This competency standard covers the process of inspecting comprehensively and auditing the safety of park/recreational facilities to identify non-conformities with Australian Standards, legislative and OHS requirements, and manufacturers standards. Conducting comprehensive inspections of park/recreational facilities is likely to be undertaken without supervision with only general guidance on progress sought by managers. Responsibility for and limited organisation of the work of others involved in the inspection may be required. Conducting comprehensive inspections of park/recreational facilities requires a broad range of skills and involves the application of extensive knowledge such as asset auditing and management, Playground Safety Management Systems, and structural principles and practices.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA	
1. Prepare for comprehensive inspection of park facilities	1.1	Specific **facilities and equipment** to be inspected and purpose of the inspection are determined according to operational request.
	1.2	**Tools and equipment** for testing and inspection are identified, and availability confirmed with appropriate personnel.
	1.3	Pre-operational and safety checks are carried out on tools and equipment according to manufacturers specifications and enterprise work procedures.
	1.4	Appropriate checklists and reporting formats are prepared to suit the application.
	1.5	Different types of facilities are identified from checklist descriptions.
	1.6	Specific terminology used in checklists is consistent with enterprise policy and guidelines.
2. Undertake comprehensive inspection of park facilities	2.1	Instances of **non-conformity** with **Australian Standards**, OHS guidelines and manufacturers standards are identified and recorded.
	2.2	Inspections for **structural integrity** are undertaken in an efficient and safe manner according to enterprise policy.
	2.3	Safety risks and **hazards** and situations are identified and detailed.
	2.4	Checklist entries are concise and accurate.
	2.5	Inspections are undertaken according to **OHS requirements.**
3. Assess age and predict effective lifespan of existing park facilities	3.1	The manufacturer of playground equipment and structures is identified through reference to original plans and specifications.
	3.2	Age and future lifespan of park facilities are determined and recorded.
	3.3	Costs of repair or replacement of park facilities are estimated and recorded.

4.	Submit report and recommendations	4.1	Situations requiring urgent action are addressed according to OHS and enterprise policy.
		4.2	Concise and accurate reports are prepared and submitted to management.
		4.3	Existing **management systems** are reviewed, particularly regarding frequency of inspection, and improved in consultation with management.
		4.4	Recommendations for future action are consistent with industry standards and best practice.
		4.5	Collected data and information is submitted for inclusion on the asset management system.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate orally and in writing with work team members and managers.
- Interpret standards, specifications and legal requirements.
- Utilise proforma reporting and work procedure documents.
- Interpret design symbols and terminology.
- Compare actual measurements of inspected components with legal, manufacturers and/or enterprise standards and specifications.
- Coordinate own work activities with other work groups to sequentially and effectively complete comprehensive inspection in a timely and cost effective manner.

Required knowledge:

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:

- Working knowledge of a range of park facilities and equipment including installation methods, intended use, intended users and safety parameters.
- Practical understanding of the terminology used to describe different components of park facilities and equipment.
- The different modes of non-conformity that may be identified in relation to specific park facilities and equipment.
- Relevant national industry standards (e.g., AS4486.1, AS4422, AS1924.1 and AS1924.2).
- Information management systems (e.g., AS4456).
- Practical understanding of inspection and auditing procedures and techniques, and legal and enterprise reporting requirements for recommendations on maintenance, repair and replacement of park facilities.
- OHS hazards associated with conducting a comprehensive inspection of park facilities and equipment, and the controls necessary to remove or minimise associated risks.
- OHS legislative requirements and Codes of Practice.
- Hazard identification, assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Reports and recommendations resulting from the comprehensive inspection of park facilities should be communicated orally and in writing with the manager and other interested parties. There is likely to be discussion between the developer of the reports and recommendations and management to achieve objectives.	3
Collecting analysing and organising information	Some information will need to be researched and other obtained from inspection or audit results. Information addressing the specific requirements of the inspection should be analysed and outcomes discussed with the manager and other members of the work team. Inspection or audit results and recommendations for remedial action should be organised and presented as a documented report to management.	3
Planning and organising activities	Inspecting, auditing, reporting and making recommendations should proceed in an orderly and efficient manner. Timely and appropriate information needs to be available for decision-making.	2
Working with others and in teams	The comprehensive inspection of park facilities and equipment may require working with other members of the team to achieve the desired outcomes.	2
Using mathematical ideas and techniques	Mathematical application will be required to assess the scope, extent and costs of replacement or repair of components of park facilities and equipment.	3
Solving problems	Problems relating to non-conformities, existing management systems, maintenance techniques, workplace safety, tools and equipment, and hazardous situations may be identified when inspecting or auditing park facilities. Recommendations which identify possible solutions and remedial action should then be drafted and submitted to the manager.	3
Using technology	Technology will be required to record, store and communicate ideas and information. It will also be used to obtain and analyse data from facility and equipment tests, and to produce reports and recommendations.	3

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What **facilities and equipment** may be included in a comprehensive inspection?	• Facilities and equipment may include playgrounds, playground soft fall and pathways, play equipment, parks and street furniture and structures, bridges, boardwalks, decks and viewing decks, fences, barbeques, steps and stairs, bollards, tree and grass protection devices, and paved, turf and/or grassed recreational areas.
What **tools and equipment** may be required?	• Tools and equipment may include a ladder, torch and electronically and manually operated testing and recording equipment appropriate to the park facilities and equipment to be inspected.
What **modes of non-conformity** may be identified?	• Modes of non-conformity may include obvious or hidden hazards, worn or damaged components such as bearings and moving joints, structural instability and defective operation of equipment.
What **Australian standards** may be relevant to this competency standard?	• Australian Standards may include those covering playgrounds, boardwalks, shelters, pathways, ramps for people with disabilities, lookouts and fences (e.g., AS4486.1, AS4422, AS1924.1 and AS1924.2).
What **aspects of structural integrity** may be included in a comprehensive inspection?	• Structural integrity may include above or below ground assessment of damage, wear, rot, corrosion of posts, decks, load-bearing beams, fasteners, canopies and edging.
What **hazards** may be identified?	• Visible hazards may include damaged parts, broken glass, loss of soft surfacing, protruding nails, bolts and splinters, sudden changes in surface levels such as holes and trip points, and worn, rusted and weathered components.

What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing tools and equipment, appropriate use of personal protective equipment including sun protection, safe operation of tools and equipment, basic first aid, personal hygiene, and reporting problems to supervisors.
What **management systems** may be reviewed?	• Management systems may include Playground Safety Management Systems, asset registers, and physical resource, human resource and budget-related information systems.

EVIDENCE GUIDE

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

Competence in conducting a comprehensive inspection of park facilities requires evidence that a person is able to prepare for inspection activities and undertake testing and checking of park facilities to effectively identify non-conformities with Australian Standards, OHS requirements and manufacturers specifications, and to determine the effective lifespan of existing park facilities. The skills and knowledge required to conduct a comprehensive inspection of park facilities must be transferable to a different work environment. For example, this could include different facilities, environments, work sites and types of hazards.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5303A   Manage machinery and equipment

Unit Descriptor   This competency standard covers the functions involved in managing the maintenance and operation of machinery and equipment. It requires the application of skills and knowledge necessary to review and evaluate machinery and equipment operations as well as scheduling and monitoring maintenance requirements. In addition, it requires the ability to cost the productivity of machines and ensure the safe operation of equipment within enterprise environmental guidelines. The work will be carried out independently within own area of responsibility.

Unit Sector   No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate machinery and equipment	1.1 Operations of available **machinery and equipment** are reviewed and matched to production processes and OHS requirements.
	1.2 Operation and servicing costs of machinery and equipment are calculated to justify total purchasing price.
	1.3 Productivity returns from machinery and equipment are estimated to identify benefit to production processes.
	1.4 Machinery and equipment replacement cycles are monitored to identify improvement options and maximise life cycles of components.
	1.5 Machinery and equipment is accessed through appropriate **procurement options.**
2. Coordinate maintenance	2.1 Maintenance and service cycles are identified and scheduled to ensure servicing is according to manufacturers specifications and production processes.
	2.2 **Storing and housing** of machinery and equipment is costed and organised.
	2.3 Maintenance is documented and recorded to ensure operational and service history.
	2.4 **OHS hazards** in the workplace are identified, risk assessed and recorded according to enterprise requirements.
	2.5 Suitable **personal protective equipment** is selected, used, maintained and stored according to **OHS requirements.**
	2.6 Repair and maintenance routines are developed and monitored according to manufacturers specifications and OHS requirements.
3. Monitor operations	3.1 **Consumables and operational support materials** are available, maintained and disposed of according to **enterprise requirements.**
	3.2 **Environmental implications** and workplace safety practices are monitored according to **OHS** and enterprise requirements.
	3.3 Operational procedures are clear, documented and followed according to manufacturers specifications.
	3.4 Operators are provided with competent instruction and appropriate supervision according to OHS requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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:

- Servicing and maintaining machinery and equipment within area of responsibility.
- Methods of calculating the cost of machines and their contribution.
- Training and instruction techniques for directing the learning of staff.
- Relevant OHS issues, legislative requirements and Codes of Practice.
- Hazard identification, assessment and control.
- Environmental Codes of Practice with regard to maintenance of machinery and equipment and hazardous substances.

Required knowledge:

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

- Monitor machinery and equipment operations.
- Identify and remove potential workplace hazards.
- Evaluate machinery and equipment.
- Identify skill needs of staff.
- Keep records, including machine maintenance histories.
- Use written and oral information about workplace requirements.
- Plan and organise work arrangements.

- Communicate orally, document plans and write reports for staff and management.
- Calculate resources, machinery and equipment and servicing costings.
- Identifying, assessing and controlling hazards.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Ideas and information with regard to maintenance requirements and costings may be discussed with staff and suppliers.	3
Collecting analysing and organising information	Information with regard to the performance of machinery and equipment, faults and maintenance requirements, may be reported and organised by records.	3
Planning and organising activities	Activities involving managing maintenance requirements may be planned and coordinated with staff and work schedules.	3
Working with others and in teams	Team work may be applied in methods and procedures to monitor and carry out machinery and equipment maintenance.	3
Using mathematical ideas and techniques	Mathematical techniques may be applied in the calculation and measurement of volumes, weights and consumption particularly in relation to servicing requirements.	3
Solving problems	Equipment breakdown, faults or malfunctions will need to be arranged for repair or replacement to complete maintenance plan requirements.	3
Using technology	To access, communicate, monitor, measure and record information with regard to machinery and equipment maintenance, usage and performance.	3

RANGE STATEMENT

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

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What **machinery and equipment** may be applicable to this standard?	• Hydraulic equipment, agricultural and horticultural machinery and equipment, engines, irrigation equipment, earth moving equipment, spraying equipment, solar and wind powered equipment, lifting/elevated equipment, all vehicles/motorcycles, all types of park and turf maintenance machinery and equipment.

What **hazards** may be associated with these activities?	• Workplace hazards may include exposure to loud noise and fumes, solar radiation, dust, and hazardous substances. It may also include oil and grease spills, electricity, mechanical malfunctions and entanglement with machinery and equipment from exposed moving parts including hydraulics.
What **personal protective equipment** may be relevant to this standard?	• This may include boots, hat/hard hat, overalls, gloves, protective eyewear, safety harness, hearing protection, respirator or face mask, and sun protection (sun hat, sunscreen).
What **OHS requirements** may be relevant to this standard?	• Safe systems and procedures for: • operating and maintaining machinery and equipment including hydraulics and guarding of exposed moving parts. • hazard and risk control. • manual handling including lifting and carrying. • the provision of safety decals and signage. • handling, application and storage of hazardous substances. • outdoor work including protection from solar radiation, dust and noise. • lock out or danger tag procedures. • protection of people in the workplace. • the appropriate use, maintenance and storage of personal protective clothing and equipment.
What **procurement options** may be considered?	• Leasing, hiring, hire purchase, purchasing, share/part-purchasing, renting, and barter.
What **storing and housing options** may be considered?	• On site, off site, seasonal, covered, open air, security and protected.
What **consumables and operational support materials** may be used and maintained?	• Fuel, oils, lubricants, and battery levels. Wheels, tyres, fan belts, leads, lines, connections, and air filters.
What **enterprise requirements** may be applicable to this standard?	• Standard Operating Procedures (SOP), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes, minimising downtime, product labels, manufacturers specifications, operator's manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and OHS procedures.

What **environmental implications** may be associated with machinery and equipment operation?	• Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oil containers, chemical residues), and hazardous substances (fuel, fertiliser). Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities, soil disturbance and dust problems from machinery and equipment operation.

EVIDENCE GUIDE

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

Competence to manage machinery and equipment requires evidence of the ability to examine the specific needs of the production process and assess the applicability of specific kinds of machinery and equipment to these processes. It also requires the ability to conduct detailed testing and evaluation of the machinery and equipment. Evidence must be demonstrated in the employment of safe workplace practices including the elimination of occupational health and safety hazards, and an awareness of enterprise environmental practices to minimise negative impact. The skills and knowledge required to manage machinery and equipment must be transferable to a different work environment. For example, this could include different machinery and equipment, workplaces and industry sectors.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5504A

Develop a management plan for a designated area

Unit Descriptor

This competency standard covers the process of developing a management plan for a designated natural resource area. It requires the ability to define the need for a management plan, undertake preliminary planning activities, prepare a site description, analyse site information, identify management strategies and prepare the management plan. Developing a management plan for a natural resource area requires knowledge of management planning principles and issues, basic civil design, environmental assessment, survey and analysis techniques, native fauna and flora, pest plant and animals, revegetation techniques, wildlife habitats, and soil, plant and water testing processes and procedures.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Define the need for a management plan	1.1 **Management plan objectives** are identified for the designated area.
	1.2 Brief is agreed in consultation with client.
	1.3 Planning team including specialists and consultants is identified.
2. Undertake preliminary planning activities	2.1 Major stakeholders are identified.
	2.2 Availability of specialists to assist in management planning work is ascertained and contracts are prepared where required.
	2.3 Timelines for development of the management plan and reporting arrangements to **client** are established.
	2.4 **Resources** required for the development of management strategies are identified.
3. Prepare a site description	3.1 **Landscape values** of the area are identified and mapped **.**
	3.2 Physical **features and characteristics** of the area are identified and mapped.
	3.3 **Land uses,** including current, cultural, and **historical modifications**, are researched and their effects on the natural resource area are determined and recorded.
	3.4 **Physical condition** of site is assessed and documented
	3.5 **Biological characteristics** of the site are documented.

4.	Analyse site information and description	4.1	Information is evaluated in terms of core principles and objectives.
		4.2	Documents produced including plans, technical reports and maps.
		4.3	Priorities and key **conservation issues** are determined.
		4.4	Longitudinal projections of continuing impacts are prepared.
		4.5	**Land capability** is assessed.
		4.6	Opportunities and constraints to meeting planning objectives and goals are identified and documented.
		4.7	**Presentation** to stakeholders/clients is undertaken and feedback incorporated into planning documentation.
5.	Identify management strategies	5.1	**Managementstrategies** are identified that address defined objectives.
		5.2	Management strategies are designed to alleviate existing impacts or to target management actions.
		5.3	Management strategies are costed and compared to existing budgets and **available resources.**
		5.4	Staging of work is planned to prioritise outcomes and management resource allocation.
		5.5	Consultation with stakeholders/clients is undertaken and feedback incorporated into planning documentation.
6.	Prepare the management plan	6.1	Site information and management strategies are documented into a draft management plan for consultation.
		6.2	Consultation with stakeholders and clients is undertaken according to enterprise guidelines.
		6.3	Changes are made to the draft plan, and a final plan is prepared and presented to client

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Define the need for a management plan.
- Undertake preliminary planning activities.
- Prepare a site description.
- Analyse site information and description.
- Identify management strategies.
- Prepare the management plan.

Required knowledge:

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:

- Management planning principles and issues.
- Basic civil design.
- Environmental assessment, survey and analysis techniques and practical application to a range of habitats and landscapes.
- Native fauna and flora identification physiology, habitat requirements, and seasonal and nutritional influences on life cycle.
- Pest plant and animal and disease identification, physiology, control techniques, and equipment, pesticides and habitat requirements.
- Techniques and strategies for use in the management, rehabilitation and enterprise use of a range of native Australian habitats, species and landscapes.
- Indigenous flora regeneration and revegetation techniques, equipment and methods of application in relation to a range of landscape characteristics.
- Management and rehabilitation techniques for the wildlife and habitat relevant to the natural resource area.
- Wildlife habitats associated with the natural resource area and local geographic region.
- Soil, plant and water testing processes and procedures, interpretation and application of results.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Oral and written communication with implementation team, clients, suppliers, consultants, government agencies, community organisations, industry contacts and senior management is required.	3
Collecting analysing and organising information	Information on the native habitat and management systems can be collected through site assessment, research, consultation with experts and own experience. This information will be analysed and organised in relation to the development of natural resource management plan objectives and resource availability. Reports including statistical and financial data will need to be generated.	3
Planning and organising activities	Activities of self and other team leaders and members are planned and delegation is used to achieve outcomes.	3
Working with others and in teams	Teamwork with colleagues, staff, experts and senior management based on effective, timely communication and consultation will help to achieve wetland management objectives.	3
Using mathematical ideas and techniques	Advanced mathematical understanding will be required to analyse data from external agents regarding project costs, and physical aspects such as dimensions, analysis results, application rates, and quantitative environmental impacts. Statistical data will need to be provided to support monitoring and evaluation of implementation of natural resource management strategies.	3
Solving problems	Problems presented by collected data, known threats to the natural ecosystem, availability of information and resources, reconciling environment, financial and enterprise requirements in the development of strategies, will require problem-solving skills.	3
Using technology	Technology used to gather information, prepare strategies, communicate, make presentations and keep records, may include computerised word processing, financial planning, email, internet and drafting, photography, video and slide equipment.	3

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What comprises **a management plan**?	• Management plans define the core principles, objectives and responsibilities of the managing agent, cover the allocation of enterprise resources, and set parameters for resource access and use.
What **management plan objectives** may be identified for the natural resource area?	• These may include objectives to provide habitat for wildlife and native predators (such as insect eating birds, parasitic wasps), maintain biodiversity, moderate local weather conditions (e.g., wind speed, rainfall run-off, watertable recharge, provide shade), selective removal of tree limbs for firewood and timber, selective harvest of seed for revegetation or human consumption, genetic resource for plant propagation and medicinal components, contribution to sustainable land use, aesthetic contribution to enterprise(such as a home-stay farm, for tourism).
Who may be the **client**?	• The client may be a government agency or associated body, private landholder, or community group.
What **resources** may be accessed to develop the natural resource management plan?	• This may include topographical, vegetation, and aerial maps, government, university and library based consultation, literature and internet resources, local written and oral histories of migrant and Aboriginal or Torres Strait Islander communities in the area, catchment area information and catchment management associations, local experts such as flora and fauna preservation, cultivation and identification community groups.
What **landscape values** are relevant to this competency standard?	• Visual amenity, biodiversity, recreation and tourism, conservation, water and air quality, and cultural values.
What **features and characteristics** may be included in the site description?	• These may include boundaries, fences, gates, slope gradient, contours, water courses, current land use, buildings and structures, eroded areas, saline areas, soil toxicity, waterlogged areas, water table recharge and discharge sites, water-repellent soils, predominant wind directions, annual rainfall, surface stones and rocks, soil types and specific historic or cultural features.

What **historical modifications** may be identified for the natural resource area?	• These may include clearance, grazing, dry land and irrigated cropping, fire management for grass stimulation, and natural events, such as wildfire, flooding and drought.
What land uses may be relevant to this competency standard?	• Agricultural, horticultural, silvicultural, recreational, industrial, commercial, and cultural.
What may be included under the **physical condition** of a site?	• Impacts from weeds, pests, erosion, soil disturbance, run-off, water quality, people, vehicle intrusions, soil compaction, and adjacent land use.
What **biological characteristics** are relevant?	• Native and introduced plants and animals, habitats, vegetation structure, and rare and endangered species.
What **conservation issues** may be identified for action?	• Some examples of conservation issues may include priorities for protection, conservation and restoration works for key native flora and fauna species, disease and pest flora and fauna control, nutritional issues, and erosion, salinity and toxicity repair works and habitat rehabilitation and restoration of balance.
What may be included **under land capability**?	• Suitability of recreational use, engineering works, conservation values, wildlife potential, soil profiles, visual amenity, agricultural and horticultural production.
What **presentation techniques** may be utilised to effectively present a description of the wetland site?	• These may include video and photographic footage, documented historical, biological, physical and cultural descriptions, graphed and charted statistics, references and illustrations.
What **management strategies may be identified for the natural** resource management plan?	• These should address the conservation priorities identified in the site description and may include objectives to protect the natural resource area from grazing and pest animals, control pest plants and diseases, control human impact, manage fire events (e.g., controlled use of hot and cold fires, wildfire prevention), establish vegetation links to nearby habitat islands, remove and redirect infrastructure such as roads, troughs and fences, conserve and enhance biodiversity and habitat balance, and monitor native habitats over time.

What **available resources** may influence the selection and priority of management objectives?	• Resource availability issues may include private finance, government funding assistance, natural resource regulations and legislation, consideration for neighbouring enterprises, community in-kind support, existing indigenous flora and fauna, labour and existing administration facilities and infrastructure.

EVIDENCE GUIDE

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

Competence in developing a management plan for a natural resource area requires evidence that the person is able to work with a team to develop a management plan for an area that will address management objectives in accordance with the client's requirements for the area. The skills and knowledge required to develop a management plan for an area must be transferable to different work environments. For example, this could include different areas, environments and management objectives.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5519A
Unit Descriptor

Conduct biological surveys

This competency standard covers the process of surveying and assessing vegetation and/or animals. Responsibility for the planning and management of the work of others may be required. Biological surveys are usually conducted within policy guidelines and procedures where discretion and judgement are required in the selection of survey techniques, work organisation, and the achievement of outcomes within time and budgetary constraints.

Unit Sector　　　No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Carry out preliminary design activities for the biological survey	1.1 Survey **scope, objectives** and **constraints** are identified according to **client** requirements, **biological components** to be surveyed and enterprise policy.
	1.2 All **current data** relevant to survey requirements is sourced, collated and evaluated according to enterprise policy.
	1.3 Processes for **data collection** are developed, consistent with the survey scope, objectives and constraints.
	1.4 Processes for **data processing** are developed, consistent with the survey scope, objectives and constraints.
	1.5 A survey design that reflects client requirements and survey scope, objectives and constraints is developed and presented to the client for discussion and approval.
2. Determine requirements of the biological survey	2.1 **Survey indicators** are identified and **constraints and opportunities** for data collection identified and evaluated.
	2.2 Data collection points are identified that are **repeatable** and **statistically representative** for the **biological** survey.
	2.3 **OHS hazards** associated with conducting a **biological** survey are identified, risks assessed and **controls** developed according to enterprise guidelines, costed and documented in the survey design.
	2.4 **Tools, equipment and machinery** required for the **biological** survey are identified, costed and availability confirmed with suppliers, contractors and appropriate personnel.
	2.5 Scheduling of survey activities and **surveyor access** are determined according to the survey design.
	2.6 Survey procedures and schedules are documented according to scientific conventions and the survey scope and objectives, and are presented to appropriate personnel and the client for briefing and acceptance.

3.	Conduct the biological survey	3.1	Field visits are conducted to verify and consolidate previously collected data and to gather further information on species frequency, distribution, health and/or habitat values.
		3.2	The **biological** survey is conducted according to the survey design and enterprise policy.
		3.3	Survey activities are monitored for accuracy, compliance to the survey design and out-of-specification procedures or events.
		3.4	Staged data collection is undertaken according to survey design, survey scheduling and surveyor access requirements.
		3.5	All monitoring and survey data is recorded promptly and accurately, according to the specifications of the survey design.
4.	Compile a biological survey report	4.1	Analysis of collected data is undertaken according to industry policies and guidelines.
		4.2	Conclusions about the **biological** survey are drawn from relevant information and are based on appropriate evidence and reasoned arguments.
		4.3	A **biological** survey report is produced which conforms to industry standards for presentation, structure and content, and is presented to the client for acceptance.
		4.4	The report describes **biological** survey findings according to the survey scope and objectives, identifies areas requiring remedial action for improvement and details recommendations for action.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate and negotiate orally and in writing with the client, enterprise staff, managers and consultants.
- Research and evaluate information.
- Calculate the cost requirements of components of the biological survey.
- Assess survey findings and produce written reports and conclusions based on appropriate evidence and reasoned arguments.
- Comply with legislative requirements.

Required knowledge:

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:

- Biological classification systems.
- Plant/animal recognition.
- Environmental factors that impact on vegetation/animal populations.
- Ecological principles and terminology.
- Energy flows and trophic structures of communities.
- Legal requirements relating to the protection and clearance of vegetation and/or animal species.
- Assessment, reporting and client liaison procedures and best practice techniques.
- Enterprise work team management guidelines.
- OHS legislative requirements and Codes of Practice.
- Hazard identification, assessment and control.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Oral and written communication with the client, enterprise staff, senior management, consultants or industry contacts will be required. There is likely to be negotiation between the developer of the biological survey and the client to achieve the survey objectives.	3
Collecting analysing and organising information	Information about survey design and previous studies will be obtained through literature research and consultation. Survey design should be organised and presented as survey site plans, statements of projected outcomes, written work procedures, a timeline chart, and schedules for surveying activities. All individual records, collected field data, statistical analysis and findings should be organised, formatted and presented for the client according to enterprise standards and industry best practice.	3
Planning and organising activities	The planning and design process, conduct of the biological survey and organisation and presentation of findings should proceed in a logical, orderly and efficient manner. Timely and appropriate information needs to be available for decision-making. The survey design should reflect the activities required to effectively and accurately obtain objective results.	3
Working with others and in teams	Survey design, conduct, analysis and production of assessment reports will involve working with other members of a team to achieve the survey objectives.	3
Using mathematical ideas and techniques	Mathematical concepts will be required to measure quantities, distances and times, calculate areas, resources, costs, conduct analysis of data, and present results of the biological survey.	3
Solving problems	Problems relating to survey design, the variable nature of survey points, availability of resources and equipment, costs, monitoring of the surveying procedures and time line failures may arise as the survey proceeds and require remedial action.	3

Key Competency	Example of Application	Performance Level
Using technology	Technology will be required to record, store and communicate ideas and information consistently, reliably and accurately. It will also be used to research relevant information, collect and process data from survey points, and to produce the survey design, analysis and assessment report.	3

RANGE STATEMENT

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.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What **scope** may be specified for the biological survey?

- Survey scope may include the size of the area to be surveyed, the type of plant/animal community and the quantity and species within the community that are to be directly surveyed, regularity and replication of survey periods, and the extent of analysis and recommendations required.

What **objectives** may be specified for the biological survey?

- Objectives may include monitoring of health, rate of growth/fecundity, successful establishment, decline of individual species and/or the specified **biological** community.

What **constraints** may affect the biological survey?

- Constraints may be financial, time, scheduling, labour availability, seasonal, and government legislation and regulations.

Who may be referred to as a **client**?

- Clients may include the enterprises management, or a private individual, company, community group, government agency or a combination of these entities.

What **biological components** may be surveyed?	• Biological components cover vegetation and/or animals.
	• Vegetation may include plant communities in parks, along roadsides and on rural properties. The plant communities may include remnant native vegetation, weeds and introduced species, regenerated or revegetated native areas. The vegetation to be surveyed may include a particular species, specified group of species or a specified area of vegetation.
	• Animals may include native or introduced species in parks, urban bushland, along roadsides and on rural properties. Animals to be surveyed may include a particular species, specified group of species, or a specified area of occurrence or habitat.
What **current data** may be available for assessment?	• Current data may include written or oral records, existing studies, and local and State government policy and practices affecting the species or area to be surveyed. Current data may relate to human intervention (such as clearance, cultivation, grazing, settlements, revegetation), landscape degradation (such as salinity, accelerated wind and water erosion, edge die-back, species depletion), natural fire and flooding events, surface water levels, watertable levels, toxicity, soil type and status, pest plant populations and pest animal activity.
What processes for data collection may be developed for the biological survey?	• Processes may include the employment of staged visual assessments and checklists, photo points, aerial photography, plant/animal sampling, transect plant or associated animal counts, and examination of aerial or other existing photographs.
What processes for **data processing** should be developed for the biological survey?	• Processes should include data recording, organising, analysis and presentation techniques.
What **survey indicators** may be identified?	• Survey indicators should include a suite of linked, measurable units associated with the objectives of the survey.
What **constraints and opportunities** for data collection should be considered?	• These may include aspects of surveyed species/communities and associated indicators (e.g., seasonal behaviour) that may influence the quality of data obtained or ability to obtain the data.

How may the **data collection** points be repeatable?	• The data collection points must enable the surveyor to return at regular intervals (e.g., weekly, monthly, annually) to repeat the data collection activity so that the data may be comparatively analysed. The time of day or night for data collection may also require repeated consistency, to reduce variable factors.
How may the **data collection point** be statistically representative of the biological surveyed?	• The data collection points should be suitably distanced logistically, spatially or sequentially from other data collection points to prevent overlap of information or collection of variable data that may detrimentally affect the survey analysis.
What **OHS hazards** may be associated with conducting a biological survey?	• Hazards may include solar radiation, extreme weather conditions, air, soil and water borne microorganisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, insect, spider and snakebite, slippery and uneven surfaces, and moving vehicles.
What **controls** may be introduced to minimise the risk of OHS hazards?	• Controls should be introduced according to enterprise OHS policies and procedures and may include identifying hazards, assessing and reporting risks, cleaning, maintaining and storing tools, equipment and machinery, appropriate use, maintenance and storage of personal protective equipment including sun protection and high visibility clothing, safe operation of tools, equipment and machinery, safe handling, use and storage of chemicals and hazardous substances, correct manual handling, basic first aid available on site, personal hygiene, and reporting problems to managers.
What **tools, equipment and machinery** may be required to conduct a biological survey?	• Tools, equipment and machinery may include computers and appropriate software, photographic equipment, potentiometer, tape measure, flagging tape, site or district maps, compass, recording implements, survey point markers and drivers, Global Positioning System (GPS), specimen bags, secateurs, leaf tissue collection equipment, field testing reagents and tools, and binoculars.
What **requirements for surveyor** access may be considered?	• Regular access to survey points may require the issue of permits or land manager assistance. Access may be pedestrian or vehicular. Detrimental environmental impacts may be associated with the establishment of regular access routes, particularly in heritage, endangered or rare flora or fauna habitats.

EVIDENCE GUIDE

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

Competence in conducting a biological survey requires evidence that a person is able to identify a biological species or community and conduct a survey according to client requirements that enables detailed description and assessment of the specified biological components. The skills and knowledge required to conduct a biological survey must be transferable to a different work environment. For example, this could include different species, communities, survey methods or areas being surveyed.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5520A　　Manage parks and reserves

ELEMENT	PERFORMANCE CRITERIA
3. Manage the enterprise office	3.1

3.	Schedule park or reserve operations	3.1	Schedules and timelines of **operations** are documented in a form that is accessible and understandable to all relevant personnel.
		3.2	Quantity, quality and timing of supply of each input and service are identified and coordinated according to the financial, physical and human resource requirements of the operation.
		3.3	Operations are coordinated to ensure that available labour matches the quantity and type of work to be completed.
		3.4	Key performance outcomes and indicators are established to measure performance of all park or reserve operations and personnel.
		3.5	Benchmarking is undertaken according to enterprise policy.
		3.6	Coordination inefficiencies and problems are isolated, solutions identified, and systems modified according to **OHS requirements** and enterprise policy and procedures.
4.	Manage enterprise office	4.1	**Office and administrative systems** and communications necessary for the well-ordered running of a business enterprise are developed and implemented.
		4.2	Equipment relevant to the well-ordered running of the enterprises office is acquired where appropriate and is cost effective.
		4.3	**OHS hazards** are identified, risks assessed and suitable controls implemented.
		4.4	Innovations in office procedures are assessed and implemented where appropriate.
5.	Monitor, review and report on changing conditions	5.1	Systems are established to monitor operational objectives, identify variance from plans and adjust actions where necessary.
		5.2	Systems are established to monitor the **immediate and related environments**.
		5.3	Variances likely to affect the achievement of business, financial, marketing and human resource management goals and objectives are identified and reported to senior management in a timely fashion.
		5.4	Records are maintained, reports provided and reviews documented according to enterprise policy.
6.	Recommend improvements to operations	6.1	Operations are reviewed and possible improvements affecting business planning, personnel morale, productivity and systems efficiency are identified.
		6.2	Recommendations for improvements to operations are documented, supported by appropriate evidence and reasoned arguments, and presented to senior management.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Interpret business, financial, marketing and human resource management plans.
- Communicate clearly and effectively, orally and in writing for the understanding of staff, supervisors, managers, suppliers, contractors, external agencies, industry contacts, community organisations and the public, using a variety of media and techniques.
- Prepare and present effective operational reports to senior management.
- Assign work, receive and interpret staff feedback and consultants reports, and respond effectively to achieve management objectives.
- Implement performance and OHS management systems.
- Assess financial systems, prepare and monitor budgets and liaise effectively with consultants and other industry contacts on the spatial and logistical aspects of management systems and on-ground operations.
- Assess environmental impacts on the immediate and related environments and impact reduction techniques.
- Research and consult to obtain the information required for effective maintenance and development of the park or reserve.

Required knowledge:

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:

- Enterprise management policies and procedures.
- Budgeting, monitoring systems and allocation of monetary resources.
- Asset and resource management.
- Sports and recreational land use applications and associated environmental implications.
- Management information systems.
- Performance management and benchmarking.
- Staff training and development principles, practices and techniques.
- Technologically assisted management tools such as computing systems, software and hardware, and telecommunications equipment.
- Legislative and regulatory requirements relevant to parks and reserve land use applications and management activities (e.g., OHS, HAZCHEM, dangerous goods, duty of care and Australian Standards as they apply to Parks and Gardens - AS/NZS 4486.1:1997).
- Policies applying across all levels of government and within the specific region, including those under catchment plans.
- International treaties, agreements and charters including *Australian Natural Heritage Charter* and the *Burra Charter*.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Oral and written communication with staff, supervisors, managers, suppliers, contractors, external agencies, industry contacts, community organisations and the public will be required.	3
Collecting analysing and organising information	Information for the development of operational plans will be collected through interpretation of enterprise plans, consultation with appropriate personnel and from own experience. This information will be analysed and organised in relation to the achievement of enterprise goals and objectives and available financial, physical and human resources. Reports including statistical and financial data will need to be produced for senior management.	3
Planning and organising activities	The planning and organisation of own work and that of others should proceed in a logical, orderly and efficient manner. Timely and appropriate information needs to be available for decision-making. Park and office operations, purchasing, scheduling, monitoring, performance management and reporting should reflect the activities required to achieve the enterprise business plan.	3
Working with others and in teams	Park management will involve participating in, facilitating and leading a team or teams to achieve the enterprise business plan.	3
Using mathematical ideas and techniques	Mathematical understanding will be required to analyse data regarding maintenance and development budgets, income and expenditure, and physical aspects such as dimensions, application rates, energy conversion rates and quantitative environmental impacts. Statistical data will need to be provided to support monitoring and evaluation of park operations.	3
Solving problems	Problems of a complex nature relating to all aspects of management will require problem-solving skills.	3

Key Competency	Example of Application	Performance Level
Using technology	Technology will be required to record, store and communicate ideas and information related to management of the park or reserve. It will also be used to research relevant information, collect, process and analyse data from park operations and performance management, and to produce reports on performance and recommended improvements.	3

RANGE STATEMENT

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.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What **external agencies** may a manager of a park or reserve have to deal with?	• External agencies may include the taxation commissioner, government agencies, financing agencies, business organisations, industry bodies, community advisory committees, sporting or volunteer associations, and other community organisations.
What **assets** may be managed in parks and reserves?	• Assets may include buildings, facilities, vehicles, tools, equipment and machinery, sporting grounds, playgrounds, picnic areas, camping grounds and natural areas (e.g., native Australian flora, fauna species or ecological areas), historic or culturally significant areas, objects, structures and buildings, and heritage listed attributes within the park or reserve.
What **operations** may be undertaken when managing parks and reserves?	• Operations may include maintenance, monitoring and development activities for turf, gardens, aquatic and wetland areas, playgrounds, natural ecosystems, access roads and visitor facilities, organising special events, organising restoration of a site, revegetation, landscaping an area, and changing the use of a site.

What **OHS requirements** may be relevant to this standard?	• Safe systems and procedures for:
	• operating and maintaining machinery including hydraulics and guarding of exposed moving parts.
	• hazard and risk control.
	• manual handling including lifting and carrying.
	• the provision of safety decals and signage.
	• handling, application and storage of hazardous substances.
	• outdoor work including protection from solar radiation, dust and noise.
	• lock out or danger tag procedures.
	• protection of people in the workplace.
	• the appropriate use, maintenance and storage of personal protective clothing and equipment.
What **administrative and office systems** may be developed for the management of parks and reserves?	• Systems may include incoming and outgoing mail, financial transactions, accounting, employee wage records (tax, workers compensation, superannuation, leave entitlements), and filing or archiving of statutory statistics.
What **hazards** may be associated with park and garden management?	• Hazards may include solar radiation, dust, hazardous substances, noise, through traffic, uneven surfaces, holes, and moving machinery and machinery parts.
What **elements** of the immediate and related environments may require monitoring?	• Immediate environments may include the naturally occurring or native ecosystem and cultivated environments within the park or reserve.
	• Related environments may include neighbouring and geographically linked land (e.g., a recharge or discharge area for a watertable), or water bodies outside the boundaries of the park or reserve.

EVIDENCE GUIDE

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

Competence in managing parks and reserves requires evidence that a person is able to apply technical and other skills such as communication, negotiation organisation and coordination to the management of personnel and systems necessary for the effective maintenance, monitoring, and development of parks and reserves. The skills and knowledge required to manage parks and reserves must be transferable to a different work environment. For example, monitoring, reviewing and developing work systems to improve operations will be required whether managing a publicly owned or privately owned park, reserve or garden.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5701A　Establish and maintain the enterprise OHS program

Unit Descriptor　This competency standard covers the process of establishing and maintaining the enterprise Occupational Health and Safety (OHS) program. It requires the ability to develop OHS policies and procedures that demonstrate enterprise commitment to OHS, establish and maintain participative arrangements, develop OHS safety induction and training programs, and evaluate the enterprise OHS system. Establishing and maintaining the enterprise OHS program requires knowledge of significant hazards in the workplace, relevant OHS legislation and Codes of Practice, risk control measures, and relevant management systems and procedures.

Unit Sector　No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Develop OHS policies and procedures	1.1 An OHS business plan and program is developed for the enterprise in consultation with designated personnel and/or management.
	1.2 OHS responsibilities and duties are clearly defined, allocated and included in job descriptions and duty statements for all relevant positions.
	1.3 Financial and human resources for implementation of OHS policies and procedures are identified, sought and/or provided as required.
	1.4 Information on the OHS system and procedures for the area of responsibility is provided and explained in a form which is readily understood by employees.
2. Establish and maintain processes to ensure the participation of all employees in the application of OHS	2.1 Consultation **processes** are established and maintained with employees and their representatives in accordance with relevant legislation and according to enterprise guidelines.
	2.2 Issues raised though participation and consultation are dealt with and resolved promptly and effectively in accordance with enterprise procedures for issue resolution.
	2.3 Information about the outcomes of participation and consultation is provided in a manner readily accessible to employees.

3.	Establish and maintain procedures for identifying hazards	3.1 Existing and potential hazards within the area of responsibility are identified and confirmed in accordance with legislation, Codes of Practice, and trends identified from the OHS records system.
		3.2 A procedure for ongoing identification of hazards is developed and integrated within systems of work and procedures.
		3.3 Activities are appropriately monitored to ensure that this procedure is adopted effectively throughout areas of managerial responsibility.
		3.4 Hazard identification is addressed at the planning, design and evaluation stages of any change in the workplace to ensure that new hazards are not created.
4.	Establish and maintain procedures for assessing risks	4.1 Risks associated with identified hazards are assessed in accordance with safe work practices, with information derived from workplace OHS records and industry wide information, and with relevant OHS legislation and Codes of Practice.
		4.2 A procedure for ongoing assessment of risks is developed and integrated within systems of work and procedures.
		4.3 Activities are monitored to ensure that risk assessment procedures are adopted effectively throughout the area of managerial responsibility.
		4.4 Risk assessment is addressed at the planning, design and evaluation stages of any change in the workplace to ensure that the risk from hazards is not increased.
		4.5 Accident and dangerous occurrences are investigated and recorded according to enterprise and OHS procedures.

5.	Interim risk control measures are implemented until a better or permanent control measure is developed	5.1	Measures to control assessed risks are developed and implemented in accordance with the hierarchy of control, relevant OHS legislation, Codes of Practice, and trends identified from the OHS records system.
		5.2	When measures which **control a risk** at its source are not immediately practicable, interim solutions are implemented until a permanent control measure is developed.
		5.3	A process of ongoing hazard identification and risk assessment, and review of effectiveness of control programs is developed and integrated into enterprise management arrangements.
		5.4	Activities are monitored to ensure that the risk control procedure is adopted effectively throughout the area of managerial responsibility.
		5.5	Risk control is addressed at the planning, design and evaluation stages of any change in the workplace to ensure that adequate risk control measures are included.
		5.6	Systems are designed to reduce risk and administrative arrangements to ensure safe OHS work practices are put in place where elimination of a hazard is not possible.
		5.7	Effective OHS risk management measures are set in place during any modification of the buildings and structures, machinery and work activities.
		5.8	Inadequacies in existing risk control measures are identified and resources enabling implementation of new measures are sought and/or provided according to appropriate workplace procedures.
6.	Plan and manage enterprise procedures for dealing with hazardous events	6.1	Potential emergencies posing risk to health and safety of workers and the public are correctly identified.
		6.2	Plans and procedures which control the risks associated with hazardous events and meet any legislative requirements as a minimum, are developed in consultation with appropriate emergency services.
		6.3	Appropriate information and training is provided to employees to enable implementation of correct emergency procedures.
		6.4	**Adequate numbers** of workers are trained in First Aid to ensure that first aid is applied to preserve life and minimise injury.
7.	Establish and maintain an OHS safety induction and training program	7.1	An OHS induction program is developed to meet the occupational health and safety needs of new employees.
		7.2	An OHS training program is developed as part of supervisors and employee's general training.
8.	Establish and maintain a system for OHS records	8.1	A system for keeping OHS records is established and monitored to allow identification of patterns of occupational injury and disease in the enterprise.
		8.2	Records are regularly updated and used to evaluate the effectiveness of the enterprise OHS program.

9.	Evaluate the enterprise OHS system and related policies, procedures and programs	9.1	The effectiveness of the OHS system and related policies, procedures and programs is assessed according to enterprise aims with respect to OHS.
		9.2	Improvements to the OHS system are developed and implemented to ensure more effective achievement of enterprise aims.
		9.3	Compliance with OHS legislation and Codes of Practice is assessed to ensure that legal OHS standards are maintained as a minimum.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Develop OHS policies and procedures which demonstrate enterprise commitment to OHS.
- Establish and maintain arrangements to ensure the involvement of all employees in the management of OHS.
- Establish and maintain procedures for identifying hazards.
- Establish and maintain procedures for assessing risks.
- Establish and maintain procedures for controlling risks
- Establish and maintain enterprise procedures for dealing with hazardous events.
- Establish and maintain an OHS safety induction and training program.
- Establish and maintain a system for OHS records.
- Evaluate the enterprise OHS system and related policies, procedures and programs.
- Analyse recorded data to determine where the OHS program can better meet enterprise and employee needs.

Required knowledge:

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:

- Significant hazards in the workplace.
- All relevant OHS legislation and Codes of Practice consistent with the elements of competence, the hierarchy of OHS risk control and its implementation for hazards in land-based industries.
- Risk control measures.
- Hierarchy of control.
- Relevant management systems and procedures.
- Public safety issues.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	By establishing and maintaining participative processes for the management of OHS.	3
Collecting analysing and organising information	By evaluating the enterprise OHS system.	3
Planning and organising activities	By ensuring compliance with OHS legislation and codes.	3
Working with others and in teams	By providing information and training to staff.	3
Using mathematical ideas and techniques	By calculating costs, setting priorities and developing OHS business plan.	3
Solving problems	By determining best possible options, setting priorities and overcoming difficulties to reduce injury risk.	3
Using technology	By using a computer to communicate and record OHS activities.	3

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What **processes** for consultation are relevant to this standard?	• OHS committees, consultation with health and safety representatives, issue resolution procedures and participative/consultative procedures conducted by supervisory staff within the area of managerial responsibility.
Which **hazards** may be relevant to this unit?	• Hazards in the workplace, risks associated with plants and animals, risks associated with bystanders/public, levels of heath and fitness, OHS emergencies in land-based workplaces.
What **methods to control** a risk may be included?	• General duty of care, following regulations and Codes of Practice, use of protective clothing or equipment, handling hazardous substances carefully.

What **procedures for dealing with hazardous events** may be associated with this unit?	• Provision of clear directions to the location of an emergency using relevant National, State and local references.
How can training of **adequate number** of workers be determined?	• By completion of recognised first aid training and maintaining skill levels to ensure that injured workers receive effective treatment while awaiting medical attention.
What **records** may be included in this standard?	• OHS audits and inspections, action taken to control OHS risk, OHS induction and training of workers, registers of hazardous substances (including pesticides), use of hazardous substances and health surveillance results, workers occupational injury and illness, and Material Safety Data Sheets (MSDS) of hazardous substances.

EVIDENCE GUIDE

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

Competence in establishing and maintaining the enterprise occupational health and safety program requires evidence that knowledge and skills has been applied in the establishment, maintenance and evaluation of an enterprise OHS system as set out in this competency standard, and according to enterprise guidelines and relevant acts. The skills and knowledge required to establish and maintain the enterprise occupational health and safety program must be transferable to a range of work environments and contexts. For example, this could include different workplaces, legislative frameworks and industry sectors.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

ELEMENT	PERFORMANCE CRITERIA

4. Monitor and evaluate management of chemicals	4.1 **Chemical usage** is monitored and usage patterns recorded.
	4.2 Chemical usage is evaluated against IPM, IRM and Integrated Animal Health Management principles and a strategy developed for improvement.
	4.3 **Documentation** relating to chemical use is reviewed and improvements implemented.

RANGE STATEMENT

The Range Statement provides advice to interpret the scope and context of this unit of competency, allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables may be present for this particular unit:

External requirements include	Legislation, regulations, codes of practice and advisory standards in relation to occupational health and safety, environmental protection, chemical registration and use, storage, handling and transport of chemicals, public health and the use of veterinary medicines.
Documentation may include	legislation, regulations, codes of practice, Material Safety Data Sheets, chemical labels, enterprise policies and procedures (including standard operating procedures), industry guidelines, permits and licences.
Chemicals include	agricultural and veterinary chemicals, fertilisers, fuels, oils, hardening agents, disinfectants and cleaning agents.
Information may be gained from	labels, Material Safety Data Sheets, technical bulletins, manufacturers' and suppliers' advice, enterprise policies and procedures.
Hazards may include	chemicals, spray drift and other environmental contaminants.
Risk factors may include	the chemicals being used, environmental implications, human health implications and storage, handling and transport implications.
Risk control measures may include	substitution, isolation, engineering controls, personal protective equipment, safe systems of work.
Legislation, regulations and codes of practice may include	Commonwealth, State/Territory and Local Government legislation.

4.	Identify training and supervision needs and solutions for chemical use in the workplace	4.1	An appropriate strategy is developed for the **training, assessment** and supervision of staff involved in chemical use including correct use/fit of personal protective equipment.
		4.2	Suitable internal on-the-job training and monitoring of performance in the implementation of the chemical use strategy is organised and provided.
		4.3	Appropriate external training and assessment in the management and use of chemicals is organised.
5.	Monitor and evaluate the implementation of a chemical use strategy	5.1	The implementation of the established chemical use strategy is monitored in terms of regulatory requirements and established **criteria**.
		5.2	The effectiveness of the established chemical use strategy is evaluated.
		5.3	Appropriate action is initiated where there are identified problems or where required procedures/precautions are not being correctly followed.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Accurately read and interpret labels on chemicals and MSDS.
- Determine the level of hazard and risk associated with chemical use in terms of human health, environment, fauna, flora and produce.
- Apply risk management techniques.
- Develop and evaluate management plans and organisational procedures.
- Communicate management plans, strategies and procedures to staff.

Required knowledge:

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:

- Hazards to human health, agricultural produce, and all aspects of the environment and non-target species of flora and fauna associated with the transport, storage, handling, application and disposal of chemicals.
- Factors that contribute to spray drift, measures to assess the potential for spray drift and prevent or control its occurrence, and the elements of a spray drift management strategy.
- Routes of entry of chemicals into the body and the implications of this on chemical use management strategies.
- Safety procedures including the maintenance, use, fit and decontamination of personal protective clothing and equipment.
- Influence of meteorological factors (temperature, humidity, rain) on quality of chemical application, drift potential, effectiveness and efficacy of use.
- Precautions and risk control measures that may be used to minimise risks and hazards associated with the use of chemicals.
- Principles of IPM/IRM/IAM and their benefits in terms of chemical use risk management.
- Emergency procedures for safety incidents involving chemicals.
- Requirements and options for the keeping of records on chemical use and equipment maintenance and repair.
- Principles of residue effects and their management including persistence in soil and water, accumulation in agricultural produce, rate of breakdown of residues in produce and in the environment, withholding periods, and ways in which residues can occur.
- Movement of and persistence and degradation of different types of chemicals in various areas of the environment such as soil, air and water.
- Industry waste agreements, for example drum MUSTER, and Chem Collect
- OHS legislative requirements and Codes of Practice.
- Appropriate insurances covering chemical use, transportation and storage.
- Correct wearing/fit of personal protective equipment.
- Use of chemicals as part of a comprehensive Quality Assurance (QA) system, Industry QA programs and performance standards.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Informing staff about the details of a chemical use management strategy will involve high level communication processes.	3
Collecting analysing and organising information	Identifying and analysing need for chemical use in a workplace. Accessing and interpreting information on chemicals, regulations and MSDS.	3
Planning and organising activities	Carrying out a risk management analysis on chemical use in a workplace requires multiple activities to be organised.	3
Working with others and in teams	Working with staff to ensure that a chemical use strategy fulfils the organisations needs, e.g., through health and safety meetings.	3
Using mathematical ideas and techniques	Carrying out calculations required in chemical use management strategies, e.g., chemical mixture calculations.	3
Solving problems	Identifying risks and potential problems associated with chemical use and developing solutions.	3
Using technology	Developing effective strategies for the maintenance, calibration and use of chemical application equipment.	3

RANGE STATEMENT

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.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What are **external requirements** for chemical use?	• Chemical use regulations and legislation, best practice systems, mandatory Codes of Practice, chemical manufacturers instructions, labels and Material Safety Data Sheets (MSDS).
How **might chemical** use be documented?	• Using computer records, log books, calendars or journals.

What **chemicals** may be considered for use?	• Chemicals may include insecticides, fungicides, herbicides, bactericides, algaecides, biologicals, nematacides, rodenticides, fumigants, antimicrobial agents, anthelmintics, hormone growth promotants, or a range of veterinary chemicals used to treat animals for disease.
What **information** may be relevant to chemical application?	• Information may include labels, MSDS, operator's manuals, industry standards, OHS manual or hazardous substances regulation.
What **hazards** may occur in the transportation, storage, handling and use of chemicals?	• Hazards will be listed on labels and the MSDS for the chemical concerned and may include flammability, toxicity, health hazards, damage to non-target organisms, environmental damage, or residues in foods.
What **risk factors** may be relevant to this standard?	• Risks to environment may include pollution of ground or surface waters, damage to habitats, damage to sensitive land, or damage to community amenity due to spray drift. • Risks associated with the produce include chemical residue in plant produces, livestock or water. • Risks associated with OHS include exposure to chemicals during handling and application, and public health risks.
What **risk control measures** may need to be applied in the transportation, storage, handling and use of chemicals?	• Measures may include providing instructions for handling, transport, storage, obtaining appropriate insurance policies, application and disposal of chemicals in the workplace, ensuring workers read and follow instructions on product label and MSDS, ensuring use, maintenance and storage of correct personal protective equipment, training and accreditation of all staff using chemicals, and ensuring all staff using a chemical understand the specific risks involved and the associated precautions required.
What **legislation and regulations** may be relevant to this standard?	• Legislation may include Pesticide Acts, OHS Acts regarding hazardous substances and application equipment, Dangerous Goods Act, Poisons Act, or Protection of the Environment Acts.

| What **procedures** may need to be addressed in a chemical use management strategy? | • Procedures may include identifying needs for specific chemical use as part of IPM/IRM, reading and interpreting product labels and MSDS, mixing chemicals, calibration of application equipment, application of specified products, disposal of unused product, checking, maintenance, repair and disposal of equipment and containers, procedures and precautions for transport and storage, emergency procedures in event of spillage, contamination, accidental contact or ingestion, procedures for keeping records (e.g., chemical inventory, details of chemical use), training and assessment strategy for staff. |

| What **directions and standards** may be relevant to this standard? | • Directions and standards may include a risk management strategy, registration requirements and IPM/IRM strategies. |

| What **training and assessment strategies** may need to be established as part of chemical use management? | • **Internal** training may include on-job coaching and instruction by qualified trainers, performance appraisal by supervisors, training programs conducted in the workplace by contracted registered training organisations.
 • **External** training and assessment options may include training programs conducted by registered training organisations, or workshops organised by registered training organisations. |

| What **criteria** may be established to evaluate chemical use strategy? | • Criteria may include monitoring pest levels over time from an established benchmark. |

EVIDENCE GUIDE

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

Overall competence in this standard requires evidence that a person can identify and consider the requirements for chemical use at a workplace and develop a chemical use management strategy based on a consideration of the available suitable chemicals, and the hazards and risks in their use. The evidence will demonstrate that the person has an understanding of a range of chemicals and the factors that need to be taken into account when carrying out a risk management analysis.

Evidence will include a chemical use management strategy that details chemical use requirements, details of selected chemicals (including specific identification and justification for chemicals selected), any special accreditation requirements for the use of any chemicals identified in the strategy, procedures and precautions for the transport, storage, handling and application of the identified chemicals including disposal of unused product, emergency procedures including first aid and reporting requirements, training or assessment arrangements and record keeping arrangements.

What are the special assessment conditions for this competency standard?	Where this competency standard is being used as part of an accreditation or licence for purchase or use of chemicals, the assessor must meet the requirements of the issuing body.
	This may include:
	• Accreditation with that issuing body.
	• Maintenance of current competency in this competency standard.
	Involvement in professional development programs comprising technical and legislative updates on an annual basis.
Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5801A   Provide specialist advice to clients

Unit Descriptor	This competency standard covers the process of providing specialist advice to clients relevant to agriculture, horticulture, or conservation and land management. It requires the ability to develop and maintain technical knowledge, communicate with clients, and formulate a response to client enquiries and needs. Providing specialist information to clients requires knowledge of environmental sustainability and land use issues, enterprise policy, legislation and consultation methods, techniques and protocols.
Unit Sector	No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Develop and maintain specialist knowledge	1.1 A comprehensive knowledge and understanding of **specialist information** is actively and regularly researched from **industry** and other sources.
	1.2 Characteristics of industry practices, products and services are identified and understood using available documentation.
	1.3 Information is accurately documented and maintained in a format consistent with **enterprise requirements.**
	1.4 Acquired knowledge is applied to improve quality within personal work areas.
2. Communicate with clients	2.1 **Communication** with **clients** is conducted in a professional and courteous manner according to enterprise requirements.
	2.2 Appropriate **interpersonal skills** are used to facilitate accurate and relevant exchange of information.
	2.3 Work reflects sensitivity to **client's requirements**, specific needs and cultural, family and individual differences.
3. Provide a response to client enquiries and needs	3.1 Information relevant to client's needs is provided in line with enterprise requirements.
	3.2 Information emphasises issues relevant to client needs.
	3.3 Information is based on sound environmental practices and procedures and is achievable within enterprise **resources.**
	3.4 Evidence in support of information is **researched**, shown to be verifiable and presented in a suitable format.
	3.5 Information is structured to identify clear benefits to clients and the organisation.
	3.6 Information is presented in a professional format and style to the client for consideration and discussion **.**
	3.7 **Client feedback** is evaluated to improve future provision of technical information.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Develop and maintain specialist knowledge.
- Communicate with clients.
- Provide a response to client enquiries and needs.

Required knowledge:

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:

- Products, treatments and/or services relevant to either agriculture, horticulture or conservation and land management workplaces.
- Environmental sustainability and land use issues relevant to the industry.
- Enterprise policy and procedures for customer service including handling customer complaints.
- Service standards and best practice models.
- Strategies for planning and monitoring activities.
- Consultation methods, techniques and protocols.
- Mechanisms to obtain and analyse customer feedback.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Through verbal and written responses to client enquiries on relevant technical matters.	3
Collecting analysing and organising information	Through documentation of research on technical information in a format that complies with enterprise guidelines.	3
Planning and organising activities	As a formal response to client enquiries, requirements and problems.	3
Working with others and in teams	In compiling responses and follow up to client enquiries.	2
Using mathematical ideas and techniques	Where a client enquiry relates to quantities or costs of product or services.	3
Solving problems	As a response to client enquiries or complaints of a technical nature.	3
Using technology	Through the use of communication equipment when providing information to clients.	2

RANGE STATEMENT

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 particular training and assessment requirements may depend on the work situations available.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

What **specialist information** may be relevant to this standard?	• Specialist information may cover plants and animals and their characteristics and habitats, weeds, pests and diseases and their control, agricultural, horticultural and/or land management practices, products and treatments, ecological restoration of natural areas and issues related to environmental sustainability and impacts. • Common and botanical names will be used when providing information and recommendations on plants. Common and scientific names may be used where required in describing animal species.
What **industry sources** of information may be relevant to this competency standard?	• Enterprise or public library, websites, suppliers and contractors, enterprise supervisor and team colleagues, and experts in the local area or industry sector. It may also include personal or enterprise reference collection.
What **enterprise requirements** may be relevant for this standard?	• These may include guidelines for compliance with industry best practice standards, client liaison policy, legal requirements, and enterprise OHS policy.
What **communication skills** are required for this competency standard?	• Listening, questioning, illustrating examples for confirmation and providing the client with an accurate and clear description of the service that the enterprise can provide.
What type of **client** may be relevant to this standard?	• Customers, members of the public, other businesses, fellow staff, supervisors, managers, team leaders and government agencies.
What is included under **interpersonal skills**?	• Appropriate body language, summarising and paraphrasing to check understanding of clients message, providing an opportunity for the client to confirm their request, questioning to clarify and confirm the clients needs, and listening actively to what the client is saying.

What **client requirements** and objectives may influence the development of strategies?	• Requirements may include financial, logistical, cultural, aesthetic, legal or environmental considerations, process or product specifications, company policy, OHS, maintenance services for project aftercare, and timelines for the program.
What **resources** can be used to develop strategies to meet client objectives?	• Resources may include appropriate bodies for consultation such as private consultants, industry experts, statutory authorities, government agencies, industry organisations, community action groups, published research and reports, written and oral social and natural histories, enterprise policies, financial resources and budget, and available technologies.
What **research** may be undertaken into the identified issue?	• Research processes may include a site inspection, a linked or off-site inspection, soil, vegetation and water surveys, leaf tissue analysis, individual plant or animal assessment, research into legal implications associated with the issue and collection of data for analysis and assessment.
What **organisational requirements** may need to be considered when providing information?	• Occupational Health and Safety policies, procedures and programs, enterprise policies and guidelines, access and equity principles and practice, quality and continuous improvement processes and standards, job description and available resources.
What types of **client feedback** may be relevant to this competency standard?	• Customer satisfaction questionnaires, audit documentation and reports, testimonials, informal and anecdotal feedback, quality assurance data, lapsed clients and complaints.

EVIDENCE GUIDE

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

Competence in providing specialist advice to clients relevant to agriculture, horticulture and/or conservation and land management requires evidence that a person can source and collate relevant information and respond professionally in writing to client enquiries and requirements. The skills and knowledge provide specialist information to clients relevant to agriculture, horticulture or conservation and land management must be transferable to different work environments. For example, this could include different industry settings, workplaces, and types of advice and client groups.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.

Essential Assessment Information

There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5908A   Prepare estimates, quotes and tenders

Unit Descriptor	This competency standard covers the process of preparing estimates, quotes and tenders in a horticultural, agricultural or land management enterprise. Estimates or quotes may be developed as stand alone estimates or quotes for a specific purpose, or they may be incorporated in tenders. Work is likely to be under limited supervision with checking related to overall progress by senior managers. Responsibility for the work of others and team coordination may be required. Estimating, quoting and tendering are usually performed within policy guidelines and procedures where discretion and judgement are required in the selection of technology, work organisation, and the achievement of outcomes within time and budgetary constraints.
Unit Sector	No sector assigned

ELEMENT	PERFORMANCE CRITERIA	
1. Carry out preliminary planning activities for estimating, quoting and/or tendering	1.1	Nature and scope of the **project** are identified in consultation with the **client** according to enterprise policy.
	1.2	Format, specifications and deadline for submission of the estimate, quote or tender are identified and confirmed with the client.
	1.3	Available **relevant documentation** is obtained and interpreted.
	1.4	**Project site** is inspected and reconciled with scaled drawings, project and other site plans in consultation with the client, agent or other authority.
2. Determine resource requirements	2.1	Detailed project information and monetary sums are interpreted and recorded from client specifications.
	2.2	Size, type and quantity of required project **resources** are identified and estimated according to client specifications.
	2.3	**Sources** are identified and evaluated for the procurement of suitable project resources consistent with client requirements.
	2.4	Appropriate **tools and equipment** are selected and used to calculate the correct size, type and quantity of each resource item.
	2.5	Unit and total cost for each resource item are calculated and documented.
	2.6	Necessary and appropriate contingency sums to complete the estimate, quote or tender are interpreted and documented.
	2.7	Calculations are accurately recorded on a price summary sheet.
3. Prepare schedules for the estimate, quote or tender	3.1	**Works schedule** is documented according to client specifications.
	3.2	Scheduling of resources is accurately documented consistent with the requirements of the works schedule.
	3.3	Scheduling of financial requirements is accurately documented according to **enterprise guidelines.**

4.	Prepare and document the estimate, quote or tender for submission to the client	4.1	Estimate, quote or tender price is calculated and checked according to enterprise guidelines.
		4.2	Costed **summaries** and works, resource and financial schedules are compiled according to client specifications.
		4.3	Quality assurance requirements, enterprise customer service procedures, conventional formatting and industry standards are strictly adhered to in the development of documentation.
		4.4	Total estimate, quotation and/or tender is completed accurately and submitted to the client within the specified deadline.
		4.5	Further information is provided and adjustments made according to client requirements.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

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

- Communicate and negotiate orally and in writing with staff, management, clients, contractors, suppliers, manufacturers and consultants.
- Liaise effectively with difficult clients and resolve issues.
- Research and evaluate information.
- Carry out financial, logistical and spatial estimations and calculations.
- Comply with legislative requirements.

Required knowledge:

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:

- Relevant State and Federal legislation, awards, enterprise agreements and management policies relating to labour hire and employment terms.
- Current pricing structures and options for supplies, services, contractors and consultants.
- Enterprise and industry standards and practices for formatting, organising and presenting financial and quantitative information.
- Business ethics in relation to confidentiality and the tendering process.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Oral and written communication with clients, suppliers, consultants, government agencies, community organisations, industry contacts and others in the enterprise work team is required.	3
Collecting analysing and organising information	Information may be collected through research, consultation and own experience. This information will be analysed and organised in relation to the achievement of client objectives and available resources. Estimates, quotes and/or tenders, including statistical, logistical and financial data, will be generated.	3
Planning and organising activities	Activities of self and other staff are planned, and delegation may be used to develop estimates, quotes and tenders.	3
Working with others and in teams	Teamwork with staff and experts based on effective, timely communication and consultation will help to achieve deadlines for the submission of estimates, quotes and tenders.	3
Using mathematical ideas and techniques	Mathematical understanding will be required to evaluate, collate, calculate and present data regarding costs and resource requirements for the project.	3
Solving problems	Problems relating to the requirements of the client, availability of information, resources and equipment, and price variations may arise when estimating, quoting and tendering, and will require problem-solving skills.	3
Using technology	Technology will be required to record, store and communicate ideas and information. It will also be used to research relevant information, obtain and calculate data and produce an estimate, quote or tender.	3

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RTC5908A Prepare estimates, quotes and tenders

RANGE STATEMENT

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.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

What type of **project** may apply to this standard?	• The subject of the estimate, quote or tender may include works relating to agricultural production, horticultural production, amenity horticulture projects, or conservation and land management-related projects.
Who may be referred to as a **client**?	• Clients may include the enterprise's management, or a private individual, company, community group, government agency or a combination of these entities.
What **relevant documentation** may be available for interpretation?	• Documentation may include schematic and detailed drawings, tender specifications, specified items recorded on a tender title sheet, technical data, manufacturers' specifications, enterprise policies and procedures, catalogues, price lists, project plans, designs and management plans, client financial limitations and allocations, OHS standards, statutory requirements, Australian standards, Codes of Practice, quality assurance requirements, timeline specifications, and legislation, industrial awards and enterprise agreements relating to labour and works.
What issues may be assessed during a **project site** inspection?	• Issues may include access, work conditions and work requirements.
What **resources** may be required for project works?	• Resources may include materials, tools, equipment and machinery, labour hours, staffing levels, technical skills and management requirements, consultant time and contracted services.
What **sources** may be identified for project resources?	• Sources may include suppliers, manufacturers, equipment and labour hire agencies, contractors, consultants, or the client enterprise which may already have some or all of the required resources on site or available for project implementation.
What **tools and equipment** may be used for estimating, quoting and tendering?	• Tools and equipment may include computing hardware, accounting, drafting and project management software, calculators and manual drafting and accounting tools and equipment.

What factors may be included in **works schedules**?	• Factors may include details of labour requirements, staged implementation and objectives, prioritising of work activities, and scheduling of works, resource orders and deliveries.
What **enterprise guidelines** may be relevant to this standard?	• Enterprise guidelines may include compliance with industry best practice standards, enterprise customer service policy, legal requirements, insurance limitations and guidelines, and enterprise OHS policy.
What items may be included in **summaries**?	• Items may include preliminary costs, summation of resource materials, equipment and labour required, and abstract sums.
What format may be utilised for **documentation** of the estimate, quote or tender?	• Format may include hand written, typed and printed hard copy or electronic formats, and may also support audiovisual, slide and photographic presentation.

EVIDENCE GUIDE

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

Competence in preparing estimates, quotes and tenders requires evidence that a person is able to negotiate effectively with a client and follow a logical plan to develop and document all aspects of an estimate, quote or tender to meet the requirements of the client. The skills and knowledge required to prepare estimates quotes and tenders must be transferable to a different work environment. For example, this could include different tenders and quotes for different clients.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	There is essential 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. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

RTC5913A | Collect and manage data

Unit Descriptor | This competency standard covers the process of collecting, analysing and managing data. It requires the ability to determine the type and extent of data to be collected, access and collate data, evaluate data, manage, analyse and retrieve data. Collecting and managing data requires knowledge of data collection techniques and procedures, data recording and evaluation techniques, data analysis and data storage and retrieval methods.

Unit Sector | No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Determine the type and extent of data to be collected.	1.1 Data requirements are clearly defined and communicated to all staff involved in data collection.
	1.2 Relevant data sources are identified.
	1.3 Type and extent of data required is clearly defined.
	1.4 **OHS hazards** associated with data collecting are identified
	1.5 Data collection methods and techniques are clearly defined relative to data requirements
2. Access and collate data	2.1 Data collection sheets are formatted to assist collection.
	2.2 Data is researched and/or collected from field sources according to enterprise guidelines and with standard research approaches.
	2.3 Data is collated by appropriate electronic means.
	2.4 Appropriateness of data is monitored and recorded during collection.
	2.5 Information is researched using appropriate methods and technologies.
	2.6 Sources of information are regularly reviewed for usefulness, validity, reliability and cost.
	2.7 Channels and **sources of information** are used effectively.
	2.8 Opportunities are taken to establish and maintain contacts with those who may provide useful information.
	2.9 Appropriate **OHS requirements** and work practices are followed
3. Evaluate data	3.1 Data collected is relevant, valid and sufficient.
	3.2 Where data is unclear or difficult to interpret, clarification and assistance is sought.
	3.3 Where data is inadequate, additional data is obtained.
	3.4 Information is anlysed for its validity and reliability.

4. Manage and retrieve data	4.1	Data is **stored** by appropriate electronic means.
	4.2	Data is presented using appropriate graphical aids and techniques
	4.3	Data is assembled and provided to the manager/client as required and in accordance with standard research approaches.
	4.4	Data is retrieved as required.
	4.5	New methods of **recording** and storing data are suggested/introduced as needed.
5. Analyse and interpret data	5.1	Data is analysed using appropriate statistical and analytical techniques
	5.2	Data is interpreted to determine its significance, validity and reliability.
	5.3	Findings based on the analysis and interpretation of the data is reported
	5.4	Data is organised into a suitable report format to aid decision-making.
	5.5	Conclusions drawn are based on reasoned argument and appropriate evidence.

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Determine the type and extent of data to be collected.
- Access and collate data.
- Evaluate data.
- Manage and retrieve data.
- Analyse the data
- Interpret the data
- Follow safe work practices.

Required knowledge:

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:

- Data collection techniques and procedures.
- Data recording and evaluation techniques.
- Data analysis and interpretive techniques
- Data storage and retrieval methods.
- Data reporting methods.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Through recording and presenting data to clients and enterprise personnel.	3
Collecting analysing and organising information	Through identification of sources of information, and retrieval, analysis and collation of data..	3
Planning and organising activities	In accordance with standard research approaches in line with enterprise procedures and policies.	3
Working with others and in teams	Through participating in reviews, collaboration with colleagues and the evaluation of data.	2
Using mathematical ideas and techniques	In compiling, analysing and evaluating data.	3
Solving problems	Through dealing with inconsistencies in data, and difficulties in obtaining and collecting valid data.	3
Using technology	Through the use of computers in sourcing, analysing, collating, reporting and storing data	3

RANGE STATEMENT

The Range of Variables defines the different contexts, work environments and parameters governing the performance of this unit of competency. The variables chosen in training and assessment will need to reflect local industry and regional contexts.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What may be included in **sources of information**?	• Data may be based on primary and secondary sources including field work and trials, research materials, published books, academic reports, industry reports, colleagues, computer software, internet, newspapers, photographic data, journals, industry publications, industry specialists and experts.
What **OHS hazards** can be included in this standard?	• Hazards may include manual handling, using tools and equipment, noise, dust, solar radiation, falls and tripping, spider and insect bites.

What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards; assessing risks and implementing controls; cleaning, maintaining and storing tools, equipment and machinery; appropriate use, maintenance and storage of PPE including sun protection; safe operation of tools, equipment and machinery; correct manual handling; basic first aid; and safety procedures for protection of others.
What methods of information **storage** may need to be accessed?	• Methods of information storage may include hard copy files, electronic databases, spreadsheets, file systems, and library collections.
What types of **recording techniques** may be relevant to this standard?	• Recording techniques may include written, audio, video, photographic and computers.

EVIDENCE GUIDE

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

Competence in collecting, analysing and managing data requires evidence that an individual has sourced, collected, analysed and evaluated data according to industry and enterprise standards and expectations. The skills and knowledge required to collect, manage and analyse data must be transferable to a range of work environments and contexts. For example, this could include different workplaces, types and sources of data, and reporting mechanisms.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies
Essential Assessment Information	For information about **assessing this competency standard for consistent performance** and **where and how it may be assessed**, refer to the **Assessment Guidelines** for this Training Package.

RTC5914A
Unit Descriptor

Prepare reports

This competency standard covers the process of preparing comprehensive reports for a rural, horticultural or land management setting. It requires the ability to research material., evaluate information, produce a document, and deliver an oral presentation. Preparing reports requires knowledge of information and research sources, report structure and presentation, and public presentation techniques and approaches.

Unit Sector

No sector assigned

ELEMENT	PERFORMANCE CRITERIA
1. Research material	1.1 Topic of the report is identified and described. 1.2 **Sources of information** are determined. 1.3 Information appropriate to the task is collected and organised according to enterprise standards.
2. Evaluate information	2.1 Information collected is relevant and sufficient to provide a full report. 2.2 Where information is unclear or difficult to understand, clarification and assistance is sought. 2.3 Where available information is inadequate, additional information is obtained. 2.4 Information is assessed for its validity and reliability, and is organised into a suitable form to aid decision-making. 2.5 Conclusions drawn from relevant information are based on reasoned argument and appropriate evidence.
3. Produce a document	3.1 Language is applicable to the task and audience. 3.2 The document is organised logically, is structured and balanced according to purpose, audience and context. 3.3 The document is formatted and presented according to business and enterprise standards. 3.4 Conclusions reached reflect the stated objectives of the report. 3.5 Preparation is completed within the specified timeframe. 3.6 Enterprise and **OHS requirements** and procedures are followed.
4. Deliver an oral presentation	4.1 Language is applicable to the task and audience 4.2 Presentation is organised logically, is structured and balanced according to purpose, audience and context. 4.3 Concise and well presented support materials are used in oral presentations to reflect industry standards. 4.4 Efficient time use allows clear presentation of the desired topic. 4.5 Oral presentation is delivered within a specified time

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Research material.
- Evaluate information.
- Produce a document.
- Deliver an oral presentation.

Required knowledge:

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:

- Information and research sources.
- Report structure and presentation.
- Public presentation techniques and approaches.

KEY COMPETENCIES

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.

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Through provision of written reports and oral presentations to clients and enterprise personnel.	3
Collecting analysing and organising information	Through identification of sources of information, and retrieval and collation of data.	3
Planning and organising activities	In accordance with standard research approaches in line with enterprise procedures and policies.	3
Working with others and in teams	Through participating in research and the preparation of reports and presentations.	2
Using mathematical ideas and techniques	In compiling and evaluating data for the report.	3
Solving problems	Through making recommendations based on reasoned argument.	3
Using technology	Through the use of computers in preparing reports and use in presentations.	3

RANGE STATEMENT

The Range of Variables defines the different contexts, work environments and parameters governing the performance of this unit of competency. The variables chosen in training and assessment will need to reflect local industry and regional contexts.

For more information on contexts, environment and variables for training and assessment refer to the Sector Booklet.

What may be included in **sources of information**?	• Sources of data may include field work, research materials, published books, academic reports, industry reports, colleagues, computer software, internet, newspapers, journals, industry publications, industry specialists and experts.
What **OHS requirements** may be relevant to this standard?	• OHS requirements may include identifying hazards, assessing risks and implementing controls, cleaning, maintaining and storing equipment, appropriate use, maintenance and storage of PPE including sun protection, safe operation of equipment, correct manual handling, basic first aid, and safety procedures for protection of others.

EVIDENCE GUIDE

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

Competence in preparing reports requires evidence that an individual has prepared and presented a report according to industry and enterprise standards and expectations. The skills and knowledge required to prepare reports must be transferable to a range of work environments and contexts. For example, this could include different workplaces, subject matter, and reporting formats.

Are there other competency standards that could be assessed with this one?	This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.
Essential Assessment Information	For information about **assessing this competency standard for consistent performance** and **where and how it may be assesse**d, refer to the **Assessment Guidelines** for this Training Package.

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