



Australian Government

Department of Education, Employment and Workplace Relations

RTF3011A Implement a plant establishment program

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency standard covers the installation and consolidation of planted areas as part of a horticultural, agricultural or land management tree and shrub planting program. Establishing a planted area is likely to be under limited supervision from others, with checking only related to overall progress. The work requires the application of plant knowledge with depth in some areas and a broad range of horticultural skills. Planting is normally done within routines, methods and procedures where some discretion and judgement are required in the selection of equipment and materials, organisation of work, and the achievement of outcomes within time and budgetary constraints. This unit excludes planting of sports and recreational turf, intensive plant crops and revegetation works.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Prepare to establish a planted area	1.1 The planting site, planting methods and plant species and cultivars are identified according to the site plan and enterprise work procedures. 1.2 Materials, tools, equipment and machinery are selected according to planted area design requirements and enterprise work procedures. 1.3 Pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers' specifications and enterprise work procedures. 1.4 OHS hazards are identified, risks assessed, controls implemented and reported to the supervisor. 1.5 Suitable safety and personal protective equipment (PPE) is selected, used, maintained and stored.
2 Coordinate establishment of the planted area	2.1 Enterprise work team and contractors are identified and work tasks are co-ordinated in a sequential, timely and effective manner in consultation with the supervisor. 2.2 Establishment of the planted area is undertaken according to OHS requirements, and with due consideration of the environmental implications. 2.3 A clean and safe work area is maintained throughout and on completion of work.
3 Prepare the planting area	3.1 Layout of services is recognised, depths checked against the site plan, and discrepancies are reported to the supervisor and the relevant authority. 3.2 Earthworks are undertaken according to enterprise work procedures. 3.3 Additives are selected and applied, as required, according to site conditions and enterprise work procedures.

- 3.4 The planting site is watered, where required, according to the planting method and enterprise work procedures.
- 3.5 Positions of plants are marked out on site according to the plant establishment program.
- 3.6 Debris and pollutants are removed from the site and disposed of in an environmentally aware and safe manner according to enterprise work procedures and OHS requirements.
- 4 Undertake planting operation
 - 4.1 All plants are inspected prior to being planted, and plants with **major defects** are discarded according to enterprise work procedures.
 - 4.2 Plants with **minor defects** are trimmed or treated to maintain health and vigour according to enterprise work procedures.
 - 4.3 Plants are planted at a spacing sufficient to enable them to develop their full potential according to enterprise work procedures and the plant establishment program.
 - 4.4 Planting methods comply with the **growing requirements** of individual plant species and cultivars.
 - 4.5 Newly installed plants are provided with **post-planting care** according to enterprise work procedures.
 - 4.6 **Pruning** is undertaken, where necessary, according to the needs of the species and cultivar to ensure plants develop a sound framework for their growth and habit according to enterprise work procedures.
- 5 Monitor the plant establishment program
 - 5.1 The plant establishment program is monitored according to enterprise work procedures.
 - 5.2 Plants incorrectly planted, or situations that will prevent plants from reaching their full potential are identified, recorded and reported according to enterprise work procedures.
 - 5.3 Remedial action is undertaken to ensure all requirements of the plant establishment program are implemented.

- 6 Complete program of works
- 6.1 Earthworks are completed to plan specifications and enterprise work procedures.
 - 6.2 **Waste material** is removed from the planting site and disposed of in an environmentally aware and safe manner according to enterprise work procedures and OHS requirements.
 - 6.3 Tools, equipment and machinery are cleaned, maintained and stored according to OHS and enterprise work procedures.
 - 6.4 Work outcomes are recorded or reported to the supervisor according to enterprise work procedures.

Required Skills and Knowledge

Not applicable.

Evidence Guide

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

Competence in establishing planted areas on a large scale requires evidence that a person is able to prepare for establishment activities, co-ordinate work groups, prepare the site, install plants, and monitor the establishment program including post-planting care of the planted area.

The skills and knowledge required to establish planted areas must be **transferable** to a different work environment. For example, this could include different plant species, environments, planted area locations and planting techniques.

What specific knowledge is needed to achieve the performance criteria?

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

the objectives of the plant establishment program, including finished plant forms, site appearance, end use and time constraints

the physiology of required plant species and cultivars, culture and planting procedures including growth rates, main nutrient and water requirements, deficiency symptoms, recommended treatments and associated environmental implications

the identification of pests and diseases, plant symptoms of infections, treatment threshold levels, recommended treatments, methods of application and environmental implications

soils and soil amelioration techniques

OHS legislative requirements and codes of practice, OHS procedures, OHS employee and employer responsibilities, and hazard identification, assessment and control.

What specific skills are needed to achieve the performance criteria?

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

- communicate orally and in writing with work team members, supervisors, contractors and consultants
- utilise proforma recording, reporting, analysis and work procedure documents
- interpret site plans, plant establishment specifications and test results
- measure quantities, calculate material requirements, area, volume, ratios and application rates
- co-ordinate work group, contractors and own work activities.

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.

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| 1. How can communication of ideas and information (1) be applied? | Written, oral and tele-communication of ideas and information relating to plant establishment activities and problems encountered will be required with the work group, supervisor, contractors and consultants. |
| 2. How can information be collected, analysed and organised (1) ? | Enterprise work procedures and site and plant establishment plans should be consulted, interpreted and applied to co-ordinate plant establishment activities, with further clarification sought from the supervisor when necessary. |
| 3. How are activities planned and organised (1) ? | Work activities for the work group, contractors and self will be planned prior to and adjusted during the plant establishment program. |
| 4. How can team work (2) be applied? | The plant establishment program will involve facilitating and leading members of a team to complete the establishment program on time and budget. |
| 5. How can the use of mathematical ideas and techniques (1) be applied? | Mathematical application will be required to calculate the spatial and logistical requirements of the plant establishment program. |
| 6. How can problem-solving skills (1) be applied? | Site contingencies, personnel difficulties and timeline failures may require problem-solving techniques. |
| 7. How can the use of technology (1) be applied? | Technological understanding will be required to access and apply program specifications, undertake plant establishment activities, communicate and keep records. |

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.

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**.

Range Statement

Range of Variables

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

What **planting sites** may be relevant to this standard?

Planting sites may include large-scale or broadacre woodlots, parks and gardens, landscaped areas and recreational reserves. It excludes sports turf or recreational turf surfaces, intensive plant production and revegetation areas which are covered elsewhere.

What **planting methods** may be used to establish a planted area?

Planting methods may include tube planting, hand or machine assisted planting of seedlings, planting of divisions, and transplanting.

What **plant species and cultivars** may be relevant to this standard?

Species and cultivars may include exotic, native, endemic, evergreen, deciduous, conifer and palm trees and shrubs, ground cover plants, bedding displays, and aquatic plants.

What **enterprise work procedures** may apply to this standard?

Work procedures will be based on sound horticultural principles and practices and may include supervisors oral or written instructions, the plant establishment program, enterprise standard operating procedures (SOPs), specifications, routine 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 **materials** may be required to implement a plant establishment program?

Materials may include additives, ameliorants, fertilisers, materials for protecting plants, and weed, pest and disease control chemicals and materials.

What **tools, equipment and machinery** may be required?

Tools, equipment and machinery may include hand tools; trailed, 3-point linkage and motorised machinery for excavation, planting and post-planting care operations; and irrigation and drainage systems and

components.

What **OHS hazards** may be associated with the establishment of planted areas?

Hazards may include disturbance or interruption of services, solar radiation, dust, noise, soil-, water- and air-borne micro-organisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, moving vehicles, machinery and machinery parts, spider and insect bites, uneven surfaces, and flying objects.

What **safety equipment** may be required?

Safety equipment may include first aid kit, high visibility vests, reversing alarms on mobile equipment, signage and barriers.

What **personal protective equipment (PPE)** may be required to establish planted areas?

PPE may include hat, boots, overalls, gloves, goggles, respirator or face mask, face guard, spray jacket or suit, hearing protection, sunscreen lotion and hard hat.

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 and hazardous substances; correct manual handling; basic first aid; personal hygiene, and reporting problems to supervisors.

What **environmental implications** may be associated with the establishment of planted areas?

The establishment of planted areas may have beneficial environmental impacts where actively growing young trees and shrubs help to fix carbon dioxide from the atmosphere, lower the watertable and associated likelihood of seepage and salinisation in linked catchment areas, and reduce water, nutrient and chemical flow into the external environment including natural waterways.

Detrimental environmental impacts may arise where establishment activities produce excess noise, dust or water run-off, or the implementation of post-planting care activities such as fertilisation, irrigation and pest control apply inappropriate levels of chemical, nutrients and water, resulting in escape to the external environment.

What tasks may be undertaken to maintain a clean and safe work area ?	Tasks may include disabling unused tools, equipment and machinery and storing neatly out of the way of plant establishment activities; safely storing materials on site; using signage and safety barriers during and removing after plant establishment activities are completed; and swiftly and efficiently removing and processing debris and waste from the work area.
What services may need to be located?	Services may include water supply, gas, power (electricity), telecommunications, irrigation, stormwater and drainage.
What earthworks may be required when establishing a planted area?	Earthworks may include ripping and cultivating the area to be planted, constructing soil profiles for sports turf playing surfaces, and installation of irrigation and drainage systems.
What additives may be required for the successful establishment of plants?	Additives may include lime, gypsum, emollients, fertilisers, organic materials, and fungal and disease control agents.
What site conditions may affect the plant establishment program?	The establishment program may be affected by soil, moisture content, pH levels, salinity, texture, compaction, aspect, pollutants, toxicity, climate, buildings, roadworks, and shade.
What major defects may require the rejection of plants?	Major defects include any condition that will prevent the plant from reaching its full potential, including wilt, stunted growth, root damage and severely root-bound seedlings.
What minor defects may be repairable in required plants?	Minor defects that may be repaired may include damage or breaks sustained by plants that can be trimmed or treated so that the plants can still reach their desired potential.
What growing requirements may affect the planting method?	Growing requirements may include seasonal aspects, the growth stage at planting, and pruning, depth and drainage required for successful establishment.
What aspects of post-planting care are required when establishing a planted area?	Post-planting care may include watering, fertilisation, controlling pests and diseases, weeding, rolling, mowing, renovating, mulching, pruning, protecting, staking,

trellising, and monitoring plant health.

What **pruning** techniques may be appropriate to this standard?

Techniques may include formative pruning, training, removal of damaged or dead materials, canopy reduction, thinning and lifting.

What **waste material** may be relevant to this standard?

Waste material may include specified noxious or toxic materials (such as weed seed heads, noxious weeds and toxic chemicals), recyclable materials (such as paper, plastic and metal-based litter), composting waste (such as soft plant materials), reusable materials (such as cloths and containers for washing, woody waste), and returnable materials (such as oils and chemical containers).

Waste may be removed to designated areas for recycling, reuse, return to the manufacturer, or disposal.

What growth media disinfection procedures may be required?

Growth media disinfection procedures may include fumigation, pasteurisation or sterilisation.

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

Unit Sector(s)

Not applicable.