Australian Government

Department of Education, Employment and Workplace Relations

DEFCA316B Supervise the construction of short-term roads or tracks

Release: 1

DEFCA316B Supervise the construction of short-term roads or tracks

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit covers the competency required to plan and direct the construction and to ensure the ***maintenance of***, ***a short-term road or track***.

The individual will always lead a team and work autonomously.

This Unit of Competency does not cover the design or construction activities associated with civil construction (such as plant operations).

Application of the Unit

Application of the Unit

The application of this unit in the workplace - the environments, complexities and situations involved - will be written during Phase II of the Review of the PUA00 Public Safety Training Package.

This text will be useful for the purposes of job descriptions, recruitment advice or job analysis; where possible, it will not be too job specific to allow other industries to import it into other Training Packages, where feasible.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite Unit/s Nil

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.	Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. **Plan road or track**	1.1 ***Data*** relating to road requirements and restrictions is interpreted from instructions, expected time frame for usage and likely weather conditions 1.2 Assistance is sought to survey road location 1.3 Water courses and other ground obstacles are surveyed and their impact on road design is noted 1.4 Crossing or entry points for other roads and tracks are planned 1.5 Soil conditions are investigated to establish profile to sub-base level 1.6 Extent and depth of clearing and cutting are planned 1.7 Soil dumping or storage areas are planned to meet volume of soil to be removed, and access and restoration requirements 1.8 Construction plan is developed in accordance with design, ***resources***, risks and environmental considerations 1.9 Availability of required road base and additional material is confirmed or material is ordered 1.10 Competence of team members is confirmed and monitored 1.11 Construction team is briefed in accordance with ***standard procedures*** 1.12 Liaison is undertaken with outside agencies as required 1.13 Occupational health and safety (OH&S) requirements and recognised safety precautions are applied throughout the operation in accordance with standard procedures
2. **Supervise road or track construction**	2.1 Construction team is directed and supervised in accordance with the road or track construction plan 2.2 All unexpected situations that require a quick and decisive response are recognised and responded to in accordance with operational requirements and standard procedures 2.3 Checks are completed for drainage, levelling, road alignment and soil stability 2.4 Support from outside agencies is organised and

	directed
	2.5 Technical advice is provided to higher authority or support agencies
3. **Supervise maintenance of road or track**	3.1 Condition of road/track is monitored in relation to volume of traffic and expected future requirements
	3.2 Specific damage likely to lead to safety or environmental issues is identified and repaired or reported to controlling body immediately
	3.3 Normal wear and damage repair is planned and carried out with minimal disruption
	3.4 Ineffective drainage is noted and modified
	3.5 Areas of consistent damage are redesigned and remade
4. **Finalise the task**	4.1 Post activity analysis is conducted and subsequent recommendations are made in accordance with standard procedures
	4.2 Equipment and stores are reconditioned, replaced or returned as applicable
	4.3 ***Documentation*** is completed in accordance with standard procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

- analyse pavement using cone penetrometer
- conduct reconnaissance for quarries and gravel pits
- conduct route reconnaissance:
- route formula symbols
- limiting factors
- construction materials
- over head obstructions
- tunnels and underpasses
- map overlays
- conduct soils testing - CBR
- design and construct culverts:
- improvised culverts
- commercial off the shelf (concrete pipe, Armco, etc.)
- determine ground bearing pressure and angle of repose
- determine soil characteristics and properties
- employ geo-textiles
- employ soil stabilisation methods
- measure roadway parts:
- pavement widths and thickness
- shoulders
- camber and crossfall
- drainage
- prepare terrain analysis

Required Knowledge

- compaction
- construction standards:
- horizontal curve radius
- sight distance
- maximum grades
- curve lengths
- geo-textiles
- ground bearing pressure and angle of repose
- legal responsibilities
- pavement analysis using cone penetrometer
- quarries and gravel pits

REQUIRED SKILLS AND KNOWLEDGE

- relevant legislation and procedures in relation to environmental requirements
- relevant OH&S regulations/requirements, equipment, material and personal safety requirements
- road systems and their relevant parts, including:
- pavement widths and thickness
- shoulders
- camber and crossfall
- drainage
- culvert design
- rainfall intensity
- catchment and runoff
- route reconnaissance:
- route formula symbols
- limiting factors
- construction materials
- over head obstructions
- tunnels and underpasses
- map overlays
- soil characteristics and properties
- soil stabilisation methods
- soil testing
- terrain analysis

Evidence Guide

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessment must confirm the ability to construct roads and track to a standard that they could be classified as all-weather dirt roads and tracks capable of sustained heavy vehicle traffic. The road or track must be able to be sealed without further construction. **Consistency in performance** Competency should be demonstrated over a time frame that encompasses all aspects of this Unit of Competency. Assessment need only be conducted supervising the construction of one road or track due to the high cost and complex nature of the task.
Context of and specific resources for assessment	**Context of assessment** Competency should be assessed in the workplace or in a simulated work environment. Specific resources for assessment Access to construction equipment and materials; communications equipment; suitable site; and construction team.

Range Statement

RANGE STATEMENT

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Maintenance of a short term road or track may include	Repairs to all weather dirt roads to prepare them for sealing without additional construction Repairs that will normally involve: • potholes that cause the slowing of traffic • removal and replacement of culverts emergency repairs to bomb damaged airfield runway, taxi-way and hard standings • small scale stabilisation tasks • construction of short distance emergency bypass routes • expedient roadways
Data may include	Airfield runway, taxi-way, hard-standing, etc. Carriage width Camber Damage to pavement Environmental Meteorological Road or track classification (weight limits)
Resources may include	Compacting machinery Concrete Construction machinery Geo-textiles Gravel Prefabricated culverts Signage Stabilisation materials Timber
Standard procedures may include	Australian Standards Job guides, pamphlets and other publications Manufacturers' handbooks, industry specifications and

RANGE STATEMENT

	technical instructions
	OH&S regulations
	Organisational policies and procedures
	Relevant local government by-laws
	Relevant state/territory or federal legislation or regulations
	Written and verbal orders and job instructions
Documentation may include	Construction documentation (design and construction plan)
	Environmental compliance
	Equipment documentation
	Maintenance records
	Maps

Unit Sector(s)

Not applicable.

Corequisite Unit/s

Co-requisite Unit/s Nil