



Australian Government

Department of Education, Employment and Workplace Relations

FPIFGM5208B Manage road construction and maintenance

Release: 1

FPIFGM5208B Manage road construction and maintenance

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit describes the outcomes required to plan for and implement road construction and maintenance procedures. Roads may include heavy duty, all weather logging roads through to unsurfaced earth roads

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

This unit replaces FPIFGM5208A Manage road construction and maintenance

Application of the Unit

Application of the unit The unit involves managing road construction and maintenance in a variety of work settings, including:

- forest environments
- agriculture
- workshops
- domestic
- nurseries
- local councils

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

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 performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan road construction and maintenance	1.1. Applicable occupational health and safety (OHS), environmental, legislative and organisational requirements relevant to managing road construction and maintenance are identified and followed 1.2. Logging and topography details are obtained and assessed while applying environmental management considerations 1.3. Road location, design and construction requirements are identified and inspected to analyse costs, benefits and impact on the forest 1.4. Timeframe for use of the road and likely weather conditions are checked 1.5. Timber extraction methods and storage requirements for roads, tracks, equipment placement, falling and recovery rates, and delivery schedules are calculated and documented 1.6. Authorities are consulted and approvals obtained for road development 1.7. Formal road construction/maintenance plan is prepared for approval in line with site procedures and environmental requirements 1.8. Communication with others is established and maintained in line with OHS requirements
2. Implement road construction	2.1. Road and track design and construction plan is clearly communicated to site personnel to enable preparation 2.2. Personnel, material and equipment required for the construction are coordinated and scheduled in line with organisational guidelines 2.3. Operational procedures for roads are planned with site personnel in line with design plan and environmental requirements 2.4. Construction of roads and tracks is monitored and unexpected ground, water, vegetation or other environmental conditions are reported to appropriate personnel 2.5. Technical assistance is provided to site personnel in preparing roads and tracks
3. Maintain roads	3.1. Roads and tracks are assessed for maintenance requirements and outcomes are recorded 3.2. Personnel, material and equipment required for

ELEMENT**PERFORMANCE CRITERIA**

	maintenance are coordinated and scheduled in line with organisational guidelines 3.3. Site environmental conditions are adhered to in line with regulations 3.4. Maintenance schedule for the site is organised in conjunction with operational personnel and source of equipment, taking seasonal weather conditions into consideration 3.5. Operational staff, clients and contractors are communicated with throughout maintenance activities to ensure smooth operations
4. Monitor and review road construction and maintenance	4.1. Monitoring schedule is developed and adhered to in line with organisational policy and environmental requirements 4.2. Checks are made to ensure OHS procedures are observed and followed and site environmental conditions are adhered to in line with regulations 4.3. Checks are made in line with organisational policy to ensure that performance indicators, targets and specifications are being met and process or methods are amended as required 4.4. Data and documentation from construction or maintenance activities are analysed against the plan in line with organisational guidelines 4.5. Recommendations are prepared, based on the analysis of data and feedback collected during the construction and maintenance process 4.6. Road construction and maintenance process is <i>recorded and reported to appropriate personnel</i>

Required Skills and Knowledge**REQUIRED SKILLS AND KNOWLEDGE**

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

Required skills

- Technical skills sufficient to manage road construction and maintenance
- Communication skills sufficient to obtain relevant approvals for road development; use appropriate communication and interpersonal techniques with colleagues and others

REQUIRED SKILLS AND KNOWLEDGE

- Literacy skills sufficient to coordinate and schedule resources, equipment and material; record and report workplace information; maintain documentation
- Numeracy skills sufficient to determine cost benefit analysis and environmental impact on proposed location, design and construction requirements
- Problem solving skills sufficient to identify problems; demonstrate appropriate response procedures

Required knowledge

- Applicable commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for managing road construction and maintenance
- Environmental protection requirements, including the safe disposal of waste material, the cleaning of plant, tools and equipment, and the minimisation of environmental impact and noise
- Organisational and site standards, requirements, policies and procedures for managing road construction and maintenance
- Environmental risks and hazards
- Using energy effectively and efficiently
- Using material effectively and efficiently
- Details of logging operations
- Log extraction methods
- Road construction and maintenance procedures
- Key features of road design and development
- Established communication channels and protocols
- Problem identification and resolution strategies, and common fault finding techniques
- Types of tools and equipment, and procedures for their safe use and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

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.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently manage road construction and maintenance in line with organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to, and satisfy, all of the requirements of the elements of this unit and include demonstration of:

- following applicable commonwealth, state or territory legislative and regulatory requirements and codes of practice relevant to managing road construction and maintenance
- following organisational policies and procedures relevant to managing road construction and maintenance
- managing road construction and maintenance in line with work order and within prescribed organisational tolerances
- coordinating development of roads in line with organisational requirements

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to undertaking work applicable to this unit
 - specifications and work instructions

Method of assessment

- Assessment must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package

EVIDENCE GUIDE

- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge
- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

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, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS requirements: are to be in line with applicable commonwealth,

RANGE STATEMENT

state or territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices, including required actions relating to forest fire
- manual handling including shifting, lifting and carrying
- legislation
- organisational policies and procedures
- workplace practices

Environmental requirements
may include:

Legislative requirements:

are to be in line with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

Organisational requirements
may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures

RANGE STATEMENT

	• ethical standards • recording and reporting requirements • equipment use, maintenance and storage requirements • environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
Logging may include:	• activities covering a full range of species, log sizes, falling and retention densities • slope and other environmental conditions • cable systems usage, including: • high lead (no skyline) • standing skyline and a running skyline with hauling both uphill and downhill • logs attached to optimise payload without exceeding the lift or haul capacity of the system
Topography is to include:	• map of the designated area showing terrain levels
Environmental management considerations may include:	• ground growth • canopy • general forest lean • wind speed and direction • fallen trees • density of trees • ground slope • soil and water protection • ground hazards and obstacles
Road location is to include:	where roads are constructed, taking into account: • site requirements • topographic information • environmental considerations
Construction is to include:	development method chosen to construct roads with: • control points • required grades • water crossing points and structures
Extraction is to include:	methods of removing logs from the work site with mechanical equipment and cables, considering site conditions and specific log location, in an order

RANGE STATEMENT

	that minimises downtime and risk of snags, breakages and hang-ups
Authorities are to include:	• local government councils • shires with local planning and zoning authority for a given region
Communication may include:	• verbal and non-verbal language • constructive feedback • active listening • questioning to clarify and confirm understanding • use of positive, confident and cooperative language • use of language and concepts appropriate to individual social and cultural differences • control of tone of voice
Material may include:	• road base • gravel • crushed rock • sand and bluestone • cords and pipes for water crossings
Equipment may include:	• earthmoving equipment
Maintenance	is the process of assessing road defects and undertaking the necessary rectification work
Records and reports may include:	• road construction and maintenance operations • difficulties or issues faced • environmental issues • costs • hazards • incidents • equipment malfunctions • recommendations for future work • results and may be: • manual • a computer-based system • other appropriate organisational communication system
Appropriate personnel may	• supervisors • suppliers

RANGE STATEMENT

include:

- clients
- colleagues
- managers

Unit Sector(s)

Not Applicable

Competency field

Competency field Forest Growing and Management