FPIH4003A Design log landings and snig tracks

Unit Descriptor
This unit specifies the outcomes required to design, plan and establish log landings and snig tracks and the provision of support for their construction and development.

Pre-requisite Unit(s)
FPICOR4001A Monitor SH&E policies and procedures

Application of the Unit
Competency Field Forest and Forest Products
Sector Harvesting and Haulage

ELEMENT PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency

PERFORMANCE CRITERIA
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.

1 Plan landing and recovery requirements
1.1 Applicable OH&S, legislative and organisational requirements relevant to designing log landings and snig tracks are verified and complied with
1.2 Logging and topography details are obtained and assessed while applying environmental management considerations
1.3 Landing location and construction requirements are verified according to the harvest plan and inspected to assess factors affecting harvesting operations
1.4 Timeframe for use of the site and likely weather conditions are verified
1.5 Log extraction methods and storage requirements for landings, roads, tracks, equipment placement, falling and recovery rates and delivery schedules are calculated and documented
1.6 Communication with others is established and maintained in accordance with OH&S requirements

2 Design landing and snig tracks
2.1 Specific landing site, size and level are calculated to meet all requirements and minimise landing environmental damage and optimise construction time
2.2 Number and location of snig tracks are planned to optimise track clearing and construction time, log handling requirements and minimise environmental damage
2.3 Track and road entry points to landing are located to
planned requirements, suit anticipated log handling procedures, provide vehicle and equipment access, turning and loading space

2.4 Landing and track design are to include provision for equipment availability and access for construction

2.5 Top soil removal and storage to provide for *restoration* is planned

2.6 Landing design and track locations are documented in accordance with regulations

3 Coordinate landing and track development

3.1 Landing and snig track design and construction plan is clearly communicated to site personnel to enable preparation

3.2 Operational procedures for tracks and landings are planned with site personnel in accordance with the design plan

3.3 Construction of landing and tracks are monitored and unexpected ground, water, vegetation or other environmental conditions reviewed and design modified in accordance with new conditions

3.4 Technical assistance is provided to site personnel in preparing landing and tracks

3.5 Design and development process is *recorded and reported* to the *appropriate personnel*

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required skills include:**

- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for designing log landings and snig tracks
- Use and maintain relevant tools, machinery and equipment
- Identify problems and equipment faults and demonstrate appropriate response procedures
- Use appropriate communication and interpersonal techniques with colleagues and others
- Accurately record and maintain information relating to designing log landings and snig tracks
- Efficiently and safely design log landings and snig tracks

**Required knowledge and understanding**

- State/Territory OHS legislation, regulations, standards and codes of practice relevant to the full range of...
include: processes for designing log landings and snig tracks

- Organisational and site standards, requirements, policies and procedures for designing log landings and snig tracks
- Environmental protection requirements relating to the disposal of waste material
- Established communication channels and protocols
- Problem identification and resolution
- Types of tools and equipment and procedures for their safe use, operation and maintenance
- Logging and harvesting operations
- Log extraction methods
- Cable recovery operations and planning
- Landing design and development
- Snig track requirements, design and development
- Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement

KEY COMPETENCIES
The seven key competencies represent generic skills considered necessary for effective participation by an individual in the workplace
Performance Level 1 – at this level, the candidate is required to undertake tasks effectively
Performance Level 2 – at this level, the candidate is required to manage tasks
Performance Level 3 – at this level, the candidate is required to use concepts for evaluating and reshaping tasks

<table>
<thead>
<tr>
<th>Key Competency</th>
<th>Example of Application</th>
<th>Performance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>How are ideas and information communicated within this competency?</td>
<td>Ideas and information, verbal and written, are communicated in simple English to confirm work requirements, convey information and requests to colleagues, and report and record outcomes for designing log landings and snig tracks</td>
<td>2</td>
</tr>
<tr>
<td>How can information be collected, analysed and organised?</td>
<td>Collect, organise, interpret and understand information required to undertake design of log landings and snig tracks</td>
<td>2</td>
</tr>
<tr>
<td>How are activities planned and organised?</td>
<td>Organise and conduct work task activities in the correct sequence for designing log landings and snig tracks to be completed within the designated timeframes</td>
<td>3</td>
</tr>
<tr>
<td>How is team work used within this competency?</td>
<td>Effective communication and interpersonal techniques are used with colleagues and others to maximise confidence, satisfaction and productivity during the process of designing log landings and snig tracks</td>
<td>2</td>
</tr>
<tr>
<td>How are mathematical ideas and techniques used?</td>
<td>Mathematical ideas and techniques are used to calculate time to complete tasks and to estimate tools, equipment and material requirements including calculating distances, topography and plans</td>
<td>2</td>
</tr>
<tr>
<td>How are problem solving skills applied?</td>
<td>Establish safe and effective processes for designing log landings and snig tracks which anticipate likely problems to avoid wastage and downtime</td>
<td>3</td>
</tr>
<tr>
<td>How is use of technology applied?</td>
<td>Select and use computers and survey equipment to design log landings and snig tracks</td>
<td>1</td>
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</table>

**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. Add any 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.

**OH&S requirements**
- are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures. Requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, first aid equipment, hazard and risk control and elimination of hazardous materials and substances, manual handling including lifting and carrying, and required actions relating to forest fire

**Legislative requirements**
- are to be in accordance with applicable legislation from all levels of government that affect organisational operation. Requirements may include but not be limited to award and enterprise agreements, industrial relations,
Australian Standards, confidentiality and privacy, OH&S, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care, and heritage and traditional land owners issues

**Organisational requirements**
- may include but not be limited to 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, OH&S, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines)

**Landing**
- is to include the location where the yarder is positioned to receive the logs

**Snig tracks**
- are to include but not be limited to equipment access tracks, hauling tracks, emergency escape routes and vehicular tracks

**Logging**
- may include but not be limited to activities covering a full range of species, log sizes, falling and retention densities, slope, other environmental conditions and use cable systems including high lead (no skyline), standing skyline and a running skyline with hauling both uphill and downhill. Logs attached optimise payload without exceeding the lift or haul capacity of the system

**Topography**
- is to include a map of the designated area showing terrain levels

**Environmental management considerations**
- may include but not be limited to 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

**Extraction**
- is to include the methods of removing the log from the worksite with mechanical equipment and cables, considering site conditions and specific log location, in an order which minimises downtime and risk of snags, breakage and hang ups

**Communication**
- may include verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and co-operative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language

**Restoration**
- is to include the provisions for placing and storing
topsoil in preparation for completion of activity at the site and to enable top soil to be returned to its original location

Records and reports
- may include but not be limited to landing and snig track design and development operations, extraction methods, hazards, incidents or equipment malfunctions

Appropriate personnel
- may include but not be limited to supervisors, suppliers, clients, colleagues and managers

EVIDENCE GUIDE
The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment
- A person who demonstrates competency in this standard must be able to provide evidence that they can safely and efficiently design log landings and snig tracks within organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit
- Compliance with OH&S, environmental, and organisational/site policies and procedures, and State/Territory legislation applicable to designing log landings and snig tracks
- Communicate effectively and work safely with others in the work area
- Efficiently design log landings and snig tracks in accordance with the work order and within prescribed organisational tolerances
- Effectively plan the layout of the landing and snig tracks in accordance with site conditions
- Efficiently coordinate the development of the landing and snig tracks in accordance with the hook tenders instructions

Context of, and specific resources for assessment
- The application of 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 essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements
• The following resources should be made available:
  - workplace location or simulated workplace
  - materials and equipment relevant to the design of log landings and snig tracks
  - specifications and work instructions

Method of assessment

• Assessment must satisfy the endorsed assessment guidelines of the Forest and Forest Products Industry Training Package

• Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge

• Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies

• Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning 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, including those listed above