

Title	Plan for, manage, and perform quality control on a mechanised harvesting clear fell operation		
Level	5	Credits	15

Purpose	People credited with this unit standard are able to: interpret the job prescription or harvest plan and determine the production target and resource requirements of the operation; develop a felling plan, an extraction plan, a processing plan, and develop and establish a temporary traffic control plan for a mechanised harvesting clear fell operation; manage a mechanised harvesting clear fell operation; coordinate machine maintenance in a mechanised harvesting clear fell operation; and perform quality control on a mechanised harvesting clear fell operation.
----------------	---

Classification	Forestry > Forest Operations Management
-----------------------	---

Available grade	Achieved
------------------------	----------

Guidance Information

- 1 This unit standard is intended for crew foremen or operations managers within contracting companies managing mechanised harvesting clear fell operations. They are responsible for all personnel involved in the operation. Personnel involved in the operation may include operators of mechanised tree falling and processing machines, extraction and loading machines and personnel carrying out quality control of the log making process.
- 2 Legislation relevant to this unit standard includes the: Health and Safety at Work (HSW) Act 2015, Resource Management Act 1991; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and the Heritage New Zealand Pouhere Taonga Act 2014, and any subsequent amendments.
- 3 References
Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations, December 2012, available from <http://www.worksafe.govt.nz>
 New Zealand Forest Owners Association, *Forest Practice Guides (2019)*, and any subsequent amendments, available from <http://www.nzfoa.org.nz>
 NZ Transport Agency (Wellington, November 2012), *Transit Code of Practice* refers to the *Code of Practice for Temporary Traffic Management*, and any subsequent amendments. Available from NZ Transport Agency at <http://www.nzta.govt.nz/resources/>, or NZ Transport Agency, PO Box 5084, Wellington 6145

Safetree, *Temporary Traffic Control (2015)*, and any subsequent amendments, available from https://safetree.nz/wp-content/uploads/2015/02/safetree_safetycard_temp_traffic_control.pdf.

4 Definitions

Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.

Harvest plan – a document usually supplied by the forest manager. The harvest plan will include detailed information on how the stand is intended to be harvested. It will include information on any environmental requirements for the stand.

Job prescription – a document usually supplied by the forest manager detailing the requirements for the job. It will include stand details, operational requirements, quality standards, health and safety and environmental requirements for the stand.

Operational plan – the plan developed by the contractor. It details the way the contractor will work the stand to meet their production and quality targets while complying with the requirements of the forest manager.

Stand is a commonly used term in forestry. It describes an area containing trees that are the same species and were planted at the same time for the purpose of harvesting.

Stand map – a map of a block of trees that are similar or the same in age and species.

Worksite procedures – documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.

5 Assessment information

This unit standard must be assessed on-job.

Outcomes and performance criteria

Outcome 1

Interpret the job prescription or harvest plan and determine the production target and resource requirements of the operation.

Performance criteria

- 1.1 Boundaries of the area to be felled are located in accordance with the job prescription or harvest plan.
- 1.2 The method and direction of extraction and the location of the landings are identified from the job prescription or harvest plan.
- 1.3 Natural features of the area are identified, and any relevant natural features missing from the stand map are marked.
- 1.4 Physical structures and cultural features of the area are identified, and any relevant physical structures and cultural features missing from the stand map are marked.

- 1.5 Operational constraints are identified from the job prescription or harvest plan.
Range machine, environmental, manpower.
- 1.6 Hazardous areas are identified and recorded on the stand map in accordance with worksite procedures.
- 1.7 Production target of the mechanised harvesting clear fell operation is determined.
Range production target to be expressed as tonnes per day (t/day).
- 1.8 Resources required to meet average daily production are determined.
Range machinery, equipment, manpower.

Outcome 2

Develop a felling plan for a mechanised harvesting clear fell operation.

Performance criteria

- 2.1 The felling plan is developed to meet the operational requirements in accordance with accepted industry practice and the Forest Practice Guides.
Range may include but is not limited to – timing of felling, production target, boundaries, hazard management, felling pattern and/or direction, communication, environmental management, machinery availability.

Outcome 3

Develop an extraction plan for a mechanised harvesting clear fell operation.

Performance criteria

- 3.1 Requirements for the log or stem extraction operation are determined in accordance with accepted industry practice.
Range may include but is not limited to – drag size, haul distance, machine type, terrain conditions, weather conditions, forest owner requirements, environmental constraints.
- 3.2 An extraction plan is developed to meet operational requirements in accordance with accepted industry practice and the Forest Practice Guides.
Range may include but is not limited to – short and long-haul regulation, method for monitoring ground conditions, hazard management, environmental management, optimal machine utilisation, interface with felling, communication, interface with processing.

Outcome 4

Develop a processing plan for a mechanised harvesting clear fell operation.

Performance criteria

4.1 A processing plan is developed to meet operational requirements in accordance with accepted industry practice.

Range may include but is not limited to – manpower, machinery, location of processing area, location of surge stacks, location of log stockpiles, loadout requirements.

Outcome 5

Develop and establish a temporary traffic control plan for a mechanised harvesting clear fell operation.

Performance criteria

5.1 The temporary traffic control plan required for the operation is developed in accordance with the Temporary Traffic Control Guidelines and/or the Transit Code of Practice.

5.2 The temporary traffic control plan is established in accordance with the Temporary Traffic Control guidelines and/or the Transit Code of Practice.

Outcome 6

Manage a mechanised harvesting clear fell operation.

Performance criteria

6.1 The operational plan including safety, environmental production and quality requirements is communicated to crew in a pre-start meeting in accordance with worksite procedures.

6.2 The work of the felling machine or machines is managed to meet the operational plan in accordance with accepted industry practice.

Range may include but is not limited to – daily production target, quality, machine utilisation, environmental constraints, tree placement, communication.

6.3 Falling is managed to ensure trees which pose a specific hazard to people using roads, skids, or tracks are felled before extraction operations begin in accordance with accepted industry practice.

Range may include but is not limited to – manual felling, damaged trees, dead trees, trees leaning toward skid or extraction tracks, trees blocking extraction tracks, trees on the prevailing wind side, trees disturbed in skid or track formation.

- 6.4 The work of the extraction machine or machines is managed and meets the requirements of the operation, the harvesting plan or job prescription, accepted industry practice and the Forest Practice Guides.

Range production, wood supply to landing, extraction trails, optimising drag sizes, landing congestion, environmental constraints, optimal machine use.

Outcome 7

Coordinate machine maintenance in a mechanised harvesting clear fell operation.

Performance criteria

- 7.1 Daily maintenance of all machines is coordinated in accordance with the manufacturer's instructions and worksite procedures.

Range timing, pre-start checks, lubrication, refuelling, sharpening attachments, parking and/or shutdown procedures, record keeping.

- 7.2 Scheduled maintenance is planned to minimise downtime and maximise machine utilisation without compromising manufacturer's instructions and worksite procedures.

Outcome 8

Perform quality control on a mechanised harvesting clear fell operation.

Performance criteria

- 8.1 Felling quality is assessed against job prescription requirements and the operational plan in accordance with worksite procedures.

Range may include – damage to standing crop, breakage of felled trees, butt log damage, stump height.

- 8.2 Extraction quality and efficiency is monitored against job prescription requirements and operational plan in accordance with worksite procedures.

Range may include – stems per drag, logs per load, drags per hour, loads per hour, condition of extraction trails, salvage requirements, landing congestion.

- 8.3 Processing quality control is monitored against the cutting instruction and operational plan in accordance with worksite procedures.

Range may include – log making quality, landing efficiency, machine utilisation.

- 8.4 Quality control results are recorded and communicated to the crew and other interested parties in accordance with worksite procedures.
Range other interested parties may include but are not limited to – supervisor, contractor, forest owner.
- 8.5 Health and safety and quality issues identified during quality control checks are remedied in accordance with the job prescription and the company health and safety plan.
Range may include but is not limited to – training, auditing, incentives, penalties;
evidence of at least two issues remedied.

Planned review date	31 December 2028
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 May 2008	31 December 2011
Review	2	18 February 2011	31 December 2017
Review	3	10 December 2015	N/A
Review	4	23 July 2020	N/A
Rollover	5	26 April 2024	N/A

Consent and Moderation Requirements (CMR) reference	0173
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.