

# Timber Truss and Frame and Estimation and Design



## Summary of changes document

**February 2020**

The timber truss and frame industry is critically important to Australia's economy and its people, as a high proportion of modern homes and buildings require its products. This project aims to support the development of technical skills that are needed by employees to design and manufacture timber frames and trusses.

Industry experts have been consulted to review the job roles of people working in this industry and draft qualifications, skill sets and units of competency that are consistent with the workplace requirements to design (estimate and detail) and manufacture timber frames and trusses.

Draft qualifications, skill sets and units are now available for your review and feedback:

- Three draft qualifications have been developed, corresponding to each job role within the timber frame and truss industry - timber systems estimators, timber systems detailers, timber systems fabricators.
- Five new skill sets have been developed to provide for the technical skills required to perform at each workstation within the fabrication process. These work functions include cutting timber, assembling wall frames, roof trusses or floor trusses and stacking and storing the timber components.
- Twenty-five units of competency have been revised and improved to meet the current task requirements. Of the revised units, eight have been merged into four units and the content from one unit incorporated in two other units, resulting in a total of 20 draft units.
- A new unit has been developed for timber system designers to develop and apply knowledge of processes of timber systems design and work effectively with a broad range of individuals and teams.
- Four current qualifications are proposed for deletion. These qualifications are available for comment in the section named 'Qualifications Proposed for Deletion'.

The draft documents are available for comment and feedback on the [Skills Impact website](#) until 28 February 2020.

We are seeking your feedback on whether the draft units reflect current industry practice, and whether job functions are accurately described.

## Revised Qualifications

Two draft qualifications have been developed to replace the current Certificate III in Timber Truss and Frame Design and Manufacture by separating and streamlining the learning outcomes of the two distinct jobs that are designers (estimators) and fabricators.

In addition, the current Certificate IV in Timber Truss and Frame Design has been updated to reflect the job role requirements of senior designers (detailers). The changes include a new title to reflect the current job role terminology in the industry, an improved structure and list of units that are relevant to the job requirements.

Qualification name	Description
FWP3XXXX Certificate III in Timber Frame or Truss Manufacturing	This qualification reflects the job role requirements of fabricators in the timber truss and frame industry. It describes the skills and knowledge required to communicate and work in teams in a fabrication workplace and safely use specialist equipment to cut timber and assemble wall frames and/or floor or roof trusses.
FWP3XXXX Certificate III in Timber Systems Design	This qualification reflects the skills and knowledge requirements of people who work in timber systems designer roles in the timber truss and frame industry. It describes the skills and knowledge required to create drawings, produce estimates of material quantities and costs for timber frames or trusses from architectural plans and drawings, and communicate effectively with customers and colleagues.
FWP4XXXX Certificate IV in Timber Systems Design	This qualification reflects the job role requirements of people who work as timber systems designers in the timber truss and frame industry. It describes the skills and knowledge required to read architectural plans to calculate material quantities and costs, and produce building code compliant timber system wall and/or truss fabrication plans and documents.

## New Skill Sets

Five new skill sets have been developed to support fabricators who wish to develop technical skills related to a job function as opposed to a complete end-to-end manufacturing process. Each skill set is a subset of, and will provide credits toward, the proposed Certificate III in Timber Frame or Truss Manufacturing.

Skill set name
FWPSS000XX Cutting Timber to Length and Angle Skill Set
FWPSS000XX Timber Wall Frame Manufacture Skill Set
FWPSS000XX Timber Roof Truss Manufacture Skill Set
FWPSS000XX Timber Floor Truss Manufacture Skill Set
FWPSS000XX Stacking and Storing Timber Frames and Trusses Skill Set

## Revised Units

Twenty-five units of competency have been revised, resulting in twenty units that are available for your feedback. A number of units have been re-titled to reflect the required skills and knowledge accurately. All units have been reviewed and rewritten for clarity, sequencing and to reflect the Standards for Training Packages 2012. Eight units have been merged into four units following feedback from experts in the industry. Content from FWPCOT3243 Operate a truss press has been incorporated into two units (assemble timber roof trusses and assemble timber floor trusses).

Unit code and name	Proposed changes or rationale
FWPCOR2XXX Communicate and interact effectively in the workplace	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application updated with the context and whom it applies to and added the expected level of performance required in the workplace</li> <li>• Performance Criteria wording amended to clarify performance</li> <li>• Foundation skills - deleted learning and problem solving and added oral communication</li> <li>• Performance Evidence - added frequency and changed the grammar</li> <li>• Knowledge Evidence - added organisational protocols and guidelines for communicating and communication devices and equipment</li> <li>• Assessment conditions - updated to stipulate mandatory conditions</li> </ul>
FWPCOT2XXX Stack and bind material	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application - changed grammar and added the expected level of performance required in the workplace</li> <li>• Performance Criteria-Element 1: added risk assessment, workplace safety and traffic management, communication and re-sequenced. Element 2: re-sequenced. Element 3: added workplace requirements and avoiding damage to materials</li> <li>• Foundation Skills- deleted numeracy, reading and planning and organising and updated writing and oral communication</li> <li>• Performance evidence - added volume to comply with Standards for Training Packages, re-sequenced and changed grammar</li> <li>• Knowledge - added plant for mechanical lifting and transport, added to workplace safety and processes and techniques</li> <li>• Assessment conditions - updated to stipulate mandatory conditions</li> </ul>
FWPCOT2XXX Use hand-held tools	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application - changed the grammar and added the expected level of performance required in the workplace</li> <li>• Assessment Conditions - updated to stipulate mandatory conditions</li> </ul>

	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Element 3 - Clean up added</li> <li>• Performance Criteria – 1.1 changed wording, 1.2 altered to include workplace safety, 1.3 altered to check serviceability. 2.1, 2.2, 2.3, 2.4, 2.7 minor wording change</li> <li>• Foundation Skills - deleted numeracy, reading, writing, planning and organising and problem-solving and added oral communication</li> <li>• Performance Evidence - updated the process, added volume and changed grammar</li> <li>• Knowledge Evidence- reformatted, added battery operated tools and workplace safety</li> </ul>
FWPCOT2XXX Store materials	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application - changed grammar and added the expected level of performance required in the workplace</li> <li>• Assessment Conditions - update to stipulate mandatory conditions</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Elements - re-sequenced elements 1 and 2 and added element 3 Clean up</li> <li>• Performance Criteria - 1.2 included workplace safety and environmental requirements. 2.4 added sort and safely place materials, 2.5 added regularly clear area. 3.1 to 3.4 reworded</li> <li>• Foundation Skills - deleted numeracy, reading, planning and organisation and updated oral communication and writing</li> <li>• Performance Evidence – updated the process, added volume and manual lifting techniques</li> <li>• Knowledge Evidence - included additional workplace safety factors</li> </ul>
FWPCOT3XXX Assess timber for manufacturing potential	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application - added the expected level of performance required in the workplace and minor word changes</li> <li>• Performance Criteria - minor word changes and re-sequenced</li> <li>• Foundation Skills - deleted numeracy, reading, writing, planning and organising, problem-solving and updated oral communication</li> <li>• Performance Criteria - added frequency and changed grammar</li> <li>• Knowledge Evidence - reformatted processing operations and added operational and functional features of tools</li> <li>• Assessment Conditions - updated to stipulate mandatory conditions</li> </ul>

	<ul style="list-style-type: none"> <li>Unit recoded to indicative level 3 to reflect skills/knowledge requirements of the unit</li> </ul>
<p>FWPCOT3XXX Take off material quantities</p>	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Application - added the expected level of performance required in the workplace and minor grammar changes</li> <li>Assessment Conditions – updated to stipulate mandatory conditions</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>Elements - 1 renamed to Identify materials, 2 renamed to Compile materials list</li> <li>Performance Criteria - 1.1 to 1.5 reworded to align with renamed Element and re-sequenced. 2.1 to 2.5 added create a material take off list, reworded to align with renamed Element. 3.5 added save digital records</li> <li>Foundation Skills - deleted reading, writing, planning and organisation and updated numeracy</li> <li>Performance Criteria – added volume and clarified performance</li> <li>Knowledge Evidence – added workplace safety and digital technology</li> </ul>
<p>FWPCOT3XXXX Interpret and quote from manufactured timber product plans</p>	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>Redesigned unit using content from FWPCOT3218 Quote and interpret from manufactured timber product plans and FWPCOT3220 Quote and interpret from computerised timber manufactured product plans</li> <li>Title - Re-named to Interpret and quote from manufactured timber product plans</li> <li>Application – updated statement to clarify unit outcome added the expected level of performance required in the workplace and</li> <li>Elements- merged and renamed elements to maintain outcomes from both units</li> <li>Performance Criteria – updated and re-sequenced to relate to the elements</li> <li>Foundation Skills – maintained and updated reading, writing and numeracy</li> <li>Performance Evidence – combined the outcomes from both units and included volume</li> <li>Knowledge Evidence – incorporated essential knowledge statements from the two units and listed under appropriate knowledge headings</li> </ul> <p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul>

<p>FWPCOT3XXX Create drawings using computer aided design systems</p>	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application – clarified scope of work</li> <li>• Performance Criteria – reworded to clarify work task</li> <li>• Assessment Conditions - updated to stipulate mandatory conditions</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Foundation Skills – deleted numeracy, oral communication, writing, planning and organising</li> <li>• Performance Evidence – added frequency and volume</li> <li>• Knowledge Evidence – added drawing outcomes, drawing elements, drawing tools and drawing features</li> </ul>
<p>FWPCOT4XXX Design timber structures</p>	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application - clarified scope of work, added the expected level of performance required in the workplace and minor grammar changes</li> <li>• Assessment Conditions – updated to stipulate mandatory conditions</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Elements – renamed 1, 2, 3 to refer to timber structure</li> <li>• Performance Criteria – redeveloped and re-sequenced to align with renamed elements</li> <li>• Foundation Skills – deleted reading, writing, planning and organising and update oral communication and numeracy</li> <li>• Performance Evidence – added volume, minor grammar changes</li> <li>• Knowledge Evidence – added communicating information, key features of construction plans</li> </ul>
<p>FWPTMM4XXX Interpret details of timber floor systems to inform design of plans and production documents</p>	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Redesigned unit using content from FWPTMM4206 Prepare and advise on a broad range of timber floor system details using computers and FWPTMM3205 Interpret designs to prepare timber floor system drawings and documents using computers</li> <li>• Title - Re-named Interpret details of timber floor systems to inform design of plans and production documents</li> <li>• Application - added the expected level of performance required in the workplace and incorporated outcomes from both units</li> <li>• Elements and Performance Criteria – combined to reflect outcome and performance of the unit</li> <li>• Foundation Skills – maintained and updated reading and writing</li> </ul>

	<ul style="list-style-type: none"> <li>• Performance Evidence – combined the outcomes from both units and included volume</li> <li>• Knowledge Evidence – incorporated essential knowledge statements from the two units and listed under appropriate knowledge headings</li> </ul> <p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul>
<p>FWPTMM4XXX Interpret details of timber roof trusses to inform design of plans and production documents</p>	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Redesigned unit using content from FWPTMM4205 Prepare and advise on a broad range of timber roof truss details using computers FWPTMM3204 Interpret designs to prepare timber roof truss drawings and documents using computers</li> <li>• Title - Re-titled to Interpret details of timber roof trusses to inform design of plans and production documents</li> <li>• Application - added the expected level of performance required in the workplace and incorporated outcomes from both units</li> <li>• Elements and Performance Criteria – combined to reflect outcome and performance of the unit</li> <li>• Foundation Skills – maintained and updated reading and writing</li> <li>• Performance Evidence – combined the outcomes from both units and included volume</li> <li>• Knowledge Evidence – incorporated essential knowledge statements from the two units and listed under appropriate knowledge headings</li> </ul> <p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul>
<p>FWPTMM4XXX Interpret details of timber wall frames to inform design of plans and production documents</p>	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Redesigned unit using content from FWPTMM4207 Prepare and advise on a broad range of timber wall frame details using computers and FWPTMM3206 Interpret designs to prepare timber wall frame drawings and documents using computers</li> <li>• Title - Re-titled to Interpret details of timber wall frames to inform design of plans and production documents</li> <li>• Application - added the expected level of performance required in the workplace and incorporated outcomes from both units</li> <li>• Elements and Performance Criteria – combined to reflect outcome and performance of the unit</li> <li>• Foundation Skills – maintained and updated reading and writing</li> </ul>

	<ul style="list-style-type: none"> <li>• Performance Evidence – combined the outcomes from both units and included volume</li> <li>• Knowledge Evidence – incorporated essential knowledge statements from the two units and listed under appropriate knowledge headings</li> </ul> <p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul>
FWPTMM2XXX Cut material to length and angles	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application - updated to clarify scope of work and added the expected level of performance required in the workplace</li> <li>• Assessment Conditions – updated to stipulate mandatory conditions</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Performance Criteria – 1.4 added PPE, 2.7 added check products against work order, 3.5 added clean and maintain saw, 3.7 added report damage and reworded and re-sequenced criteria</li> <li>• Foundation Skills – deleted numeracy, reading, planning and organising, problem-solving, technology and updated writing and oral communication</li> <li>• Performance Evidence – added volume and updated and reworded to clarify performance</li> <li>• Knowledge Evidence – added processes and techniques, workplace safety</li> </ul>
FWPCOR3XXX Conduct quality and product care procedures	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application – minor grammar changes and added the expected level of performance required in the workplace</li> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Elements – 1, 2, 3 reworded to better group outcomes</li> <li>• Performance Criteria – added 1.2 industry standards and organisational procedures, 1.4 work health and safety and environmental requirements, 1.6 PPE, 1.8 best end use of materials. 2.1 to 2.6 reworded and re-sequenced. 3.2 package products, 3.6 clean work area</li> <li>• Foundation Skills – deleted numeracy, added writing and updated oral communication and reading</li> <li>• Performance Evidence – added volume, reworded performance to clarify outcome</li> </ul>



	<ul style="list-style-type: none"> <li>Knowledge Evidence – added material characteristics, and properties, included safety factors</li> </ul>
FWPCOT2XXX Dock material to length	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Application – minor grammar changes and added the expected level of performance required in the workplace</li> <li>Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>Performance Criteria – reworded and re-sequences</li> <li>Foundation Skills – deleted numeracy, oral communication, writing, planning and organising, problem-solving and updated reading</li> <li>Performance Evidence - added volume, deleted repeated performance</li> <li>Knowledge Evidence – included additional workplace safety</li> </ul>
FWPCOT3XXX Prepare sketches and drawings	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Application – minor grammar changes and added the expected level of performance required in the workplace</li> <li>Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>Title - Re-named deleted 'and interpret'</li> <li>Elements – renamed 1 and 2 to better describe the outcome, minor word changes to 3</li> <li>Performance Criteria – reworded and re-sequenced to relate to the renamed elements and re-sequenced</li> <li>Foundation Skill – deleted oral communication, reading, writing, planning and organising, updated numeracy</li> <li>Performance Evidence – added volume of two separate projects, reworded to clarify performance</li> <li>Knowledge Evidence – expanded types of sketches and drawings, added to drawing conventions</li> </ul>
FWPCOT3XXX Assemble timber wall frames	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Application – minor grammar changes and added the expected level of performance required in the workplace</li> <li>Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul> <p><b>Major</b></p>

	<ul style="list-style-type: none"> <li>• Elements – renamed 2 and 3 and added 4 Clean up</li> <li>• Performance Criteria – reworded and re-sequenced criteria to align with renamed elements</li> <li>• Foundation Skills – deleted numeracy, reading, writing, planning and organising and updated oral communication</li> <li>• Performance Evidence – added volume and reworded performance to clarify outcome</li> <li>• Knowledge Evidence – added inclusions in workplace safety, knowledge statements reworded and placed under appropriate knowledge sections</li> </ul>
FWPCOT3XXX Assemble timber roof trusses	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Redesigned unit using content from FWPCOT3242 Lay up timber roof trusses and FWPCOT3243 Operate a truss press</li> <li>• Title - Re-titled to Assemble timber roof trusses.</li> <li>• Application - added the expected level of performance required in the workplace and incorporated outcomes from both units</li> <li>• Elements – renamed 2 and added 5 Clean up</li> <li>• Performance Criteria – for Elements 1, 2, 3, rewritten to align with elements and clarify outcome and performance</li> <li>• Foundation Skills – maintained and updated writing</li> <li>• Performance Evidence – added volume</li> <li>• Knowledge Evidence – incorporated essential knowledge statements from the two units and listed under appropriate knowledge headings</li> </ul> <p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul>
FWPCOT3XXX Read and interpret timber truss or wall frame fabrication plans	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Application – added information to clarify application of unit, minor grammar changes and added the expected level of performance required in the workplace</li> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul> <p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Title - renamed to Read and interpret timber truss or wall fabrication plans. Recoded to indicative level 3 to reflect level of skills and knowledge required</li> </ul>

	<ul style="list-style-type: none"> <li>• Elements – renamed 1 and 2 and deleted Elements and Performance Criteria 3 and 4, no relationship to the unit</li> <li>• Performance Criteria – reworded and re-sequenced criteria to align with renamed elements</li> <li>• Foundation Skills – deleted numeracy, writing, planning and organising, problem-solving, technology and updated reading and oral communication</li> <li>• Performance Evidence – added volume and reworded expanded performance to state required outcome</li> <li>• Knowledge Evidence – altered and reworded the knowledge statements to relate to the performance criteria</li> </ul>
FWPTMM3XXX Assemble timber floor trusses	<p><b>Major</b></p> <ul style="list-style-type: none"> <li>• Redesigned unit using content from FWPTMM3207 Set up timber floor trusses and FWPCOT3243 Operate a truss press</li> <li>• Title - Re-titled to Assemble timber floor trusses.</li> <li>• Application - added the expected level of performance required in the workplace and incorporated outcomes from both units</li> <li>• Elements – renamed 2 and added 5 Clean up</li> <li>• Performance Criteria – for Elements 1, 2, 3, rewritten to align with elements and clarify outcome and performance</li> <li>• Foundation Skills – maintained and updated writing</li> <li>• Performance Evidence – added volume</li> <li>• Knowledge Evidence – incorporated essential knowledge statements from the two units and listed under appropriate knowledge headings</li> </ul> <p><b>Minor</b></p> <ul style="list-style-type: none"> <li>• Assessment Conditions – updated to stipulate mandatory conditions required in the workplace</li> </ul>

## New Unit

One new unit of competency has been developed to provide designers who work in the timber frame and truss industry the skills and knowledge required to work effectively with a broad range of individuals and teams, and to develop a sound understanding of the processes of timber systems design.

<b>Unit name</b>
FWPTMM3XXX Work effectively in the timber systems design industry

## Qualifications proposed for deletion

We are also seeking your views on four qualifications that are proposed for deletion due to:

- insufficient demand for training in these qualifications in the past and possibly in the future based on the statistics available and feedback received during initial consultations.
- industry feedback suggesting that the skills of the Leading Hand job roles to meet workplace responsibilities could be served adequately by the *FWP40216 Certificate IV in Timber Processing*. Also, the management and business skills of people in the decision-making roles could be achieved through other relevant qualifications from the Vocational Education and Training system while the technical skills could be gained through the proposed *FWP4XXXXX Certificate IV Timber Truss and Frame Design* and the *FWP40216 Certificate IV in Timber Processing*.

Please provide your response to Georgiana Daian [gdaian@forestworks.com.au](mailto:gdaian@forestworks.com.au).

Qualifications name
FWP20716 Certificate II in Timber Truss and Frame Design and Manufacture
FWP40316 Certificate IV in Timber Truss and Frame Manufacture
FWP50216 Diploma of Timber Truss and Frame Manufacture
FWP50316 Diploma of Timber Truss and Frame Design

## Other notes

Fourteen units of competency of the original 39 units (project scope) were not revised because they were not included in the proposed qualifications or skill sets