



Australian Government

RIICWM504D Prepare civil works bill of quantities

Release: 2

RIICWM504D Prepare civil works bill of quantities

Modification History

Release	Comment
1	This unit replaces RIICWM504A Prepare civil works bill of quantities
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to prepare a civil works bill of quantities in Civil construction.

This unit is appropriate for those working in supervisory roles or as a technical specialist.

No licensing or certification requirements apply to this unit at the time of publication.

Unit Sector

Civil construction

Elements and Performance Criteria

1. Plan for the civil works bills of quantities	1.1 Access, interpret and apply civil works bill of quantities documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Prepare a draft works program that details the tasks or activities to be undertaken 1.4 Gain agreement on the draft works program
2. Identify and calculate on-site labour requirements	2.1 Interpret and analyse the data and identify the types and numbers of on-site labour required to undertake each stage 2.2 Identify the total number of on-site labour required overall to safely, effectively and efficiently meet the required project outcomes 2.3 Complete the documentation of the stage by stage and overall labour requirements
3. Identify and	3.1 Interpret and analyse the data and identify the types and

calculate materials requirements	quantities of materials required to undertake each stage 3.2 Identify the total quantity of materials required overall to safely, effectively and efficiently meet the required project outcomes 3.3 Complete the documentation of the stage by stage and overall materials requirements
4. Identify and calculate the on-site sub-contractor service requirements	4.1 Interpret and analyse the data and identify the types and numbers on-site sub-contractor services required to undertake each stage 4.2 Identify the total number of on-site sub-contractor services required to safely, effectively and efficiently meet the required project outcomes 4.3 Complete the documentation of the stage by stage and overall on-site subcontractor services requirements
5. Finalise civil works bills of quantities process	5.1 Complete and submit bill of quantities and other reporting 5.2 Gain approval of the bill of quantities 5.3 Ensure filing of bill of quantities is completed
6. Support and review the application of the bill of quantities	6.1 Provide clarification and advice to those applying the bill of quantities 6.2 Review the application of the bill of quantities and recommend improvements to the civil works bill of quantities preparation processes

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIICWM504A Prepare civil works bill of quantities

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICWM504D Prepare civil works bill of quantities

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- implements appropriate procedures and techniques for the safe, effective and efficient preparation of civil works bills of quantities including accessing, interpreting and applying:
 - plans and drawings
 - specifications
 - engineering survey information
 - hydrological data
 - geotechnical information
 - civil works construction materials test results
 - meteorological data
 - cultural and heritage data
 - civil works options selection data
 - computer based works planning technology
 - client feedback techniques
 - risk assessments
 - size civil works components
 - calculation of areas, volumes, labour hours, materials quantities, sub-contractor service capabilities, productivity and required hours

- works effectively with others to prepare a civil work bill of quantities that meets all the required outcomes including:
 - providing clear and timely instruction and supervision using a range of communication techniques to those involved
 - preparing for and conducting briefings, toolbox and site meetings
 - maintaining clear and legible written records and the reporting systems
 - consulting with stakeholders
- demonstrates completion of preparing civil works bill of quantities that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - identification of the relevant information and scope of the work required
 - identification of viable options and selects civil works bill of quantities
 - consultation with the clients (internal and external)
 - consultation with others within the organisation
 - consultation with relevant authorities
 - conducting a risk assessment of the existing and potential hazards
 - obtaining further site data, including:
 - known and potential hazards, constraints and conditions
 - cultural and heritage data
 - geological data
 - geotechnical data
 - hydrological data
 - survey data
 - metrological data

Knowledge Evidence

The candidate must demonstrate knowledge in preparation of a civil works bill of quantities through:

- accessing, interpreting and applying legislative, organization and site requirement and procedures for:
 - risk assessment and management
 - statutory compliance
 - work health and safety
 - environmental management
 - cultural and heritage
 - quality management
 - communication
 - bill of quantities review
 - documentation
 - reporting

- bills of quantities approval
- bills of quantities records filing

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry	

	standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.
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*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

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