



Australian Government

CPCBIM4001 Plan to comply with BIM requirements for construction work

Release: 2

CPCBIM4001 Plan to comply with BIM requirements for construction work

Modification History

- Release 2 Updated reference to general construction induction training program.
- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 6.0.
New unit.

Application

This unit of competency specifies the skills and knowledge required to recognise a project's Building Information Modelling (BIM) requirements and plan subsequent activities related to own construction work. It includes preparing the tools and technologies required to enable digital processes such as accessing and comparing 2D drawings and 3D models and related data.

The unit applies to builders, tradespersons, project and site managers who work on construction projects that incorporate BIM interaction, collaboration and deliverables. It requires digital literacy skills to use software via information and communication technology (ICT), including applications on mobile devices to find, retrieve and communicate information.

A person who has achieved this unit of competency is able to work with autonomy and take responsibility for applying BIM processes to construction work.

Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

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

Pre-requisite Unit

Nil.

Unit Sector

Business information modelling

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

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|---|---|
| 1 Determine BIM requirements for construction work activities. | <div style="margin-left: 20px;">1.1 Access and interpret BIM Execution Plan to clarify BIM uses for construction project, specific work standards and methodologies.</div> <div style="margin-left: 20px;">1.2 Identify any gaps in the BIM Execution Plan relating to BIM activities required or already incorporated in the construction project.</div> <div style="margin-left: 20px;">1.3 Access, interpret and clarify available drawings, data and models within Common Data Environment (CDE) for collaborative project requirements.</div> <div style="margin-left: 20px;">1.4 Identify BIM tools and technologies required to comply with BIM Execution Plan.</div> <div style="margin-left: 20px;">1.5 Clarify BIM-required communication methods, roles and responsibilities of self and other project participants detailed in BIM Execution Plan.</div> |
| 2 Prepare BIM tools and technologies. | <div style="margin-left: 20px;">2.1 Access tools and technologies required to fulfil the BIM uses, standards and methodologies according to BIM Execution Plan.</div> <div style="margin-left: 20px;">2.2 Set up BIM tools and technologies according to project requirements.</div> <div style="margin-left: 20px;">2.3 Review BIM tools and technologies to ensure correct operation and interoperability with BIM systems for construction work.</div> |
| 3 Access and compare 2D and 3D construction information. | <div style="margin-left: 20px;">3.1 Access 2D drawings, 3D model and data relevant to construction work.</div> <div style="margin-left: 20px;">3.2 Use BIM tools and technologies to navigate and interpret 3D model and data, conduct measurements, enquire and extract data and quantities required for construction work.</div> <div style="margin-left: 20px;">3.3 Compare 3D model and data against 2D drawings to clarify understanding of requirements for planned</div> |

construction work.

Foundation Skills

As well as the foundation skills explicit in the performance criteria of this unit, candidates require:

- digital literacy skills to use software via ICT, including applications on mobile devices to find, retrieve and communicate information.

Unit Mapping Information

No equivalent unit.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCBIM4001 Plan to comply with BIM requirements for construction work

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Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by planning to ensure that construction work activities comply with Building Information Modelling (BIM) project requirements specified in a BIM Execution Plan and, in doing so:

- use at least two different BIM technologies (tools and software)
- identify own role and responsibilities and that of three other participants in the BIM workflow and detailed in the BIM Execution Plan, including their relationship to the identified BIM uses
- access one 3D model and associated data within a Common Data Environment (CDE) and relevant to planned construction work activities.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- definition and purpose of BIM and its benefits and limitations relating to the lifecycle management of built assets
- common BIM definitions and terminology
- common BIM tools and technologies
- BIM uses relevant to construction phases
- commonly understood meanings of 3D, 4D, 5D and 6D relating to BIM
- benefits of BIM in improving construction efficiency and safety:
 - planning, scheduling and sequencing
 - services and trades coordination
 - fabrication and assembly
 - resource procurement
 - accurate ordering of materials and quantities
- BIM maturity levels

- BIM adoption barriers
- BIM project delivery methods
- BIM standards relevant to planned construction work, including the BIM ISO 19650 *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)* - Information management using building information modelling (or its successor)
- graphical and data communication methods when working with BIM
- level of information need, incorporating definitions of level of development (LOD) and level of information (LOI) relevant to BIM project requirements
- meaning and benefits of visual communication and extended reality technologies during the construction phase of a BIM project
- meaning and purpose of ‘digital twin’, its relationship with BIM, and its context within the facets of the operations and maintenance phase
- meaning of open formats as distinct from proprietary formats and their role in interoperability and archiving of project information
- purpose and content of BIM Execution Plans and their relationship to project information requirements
- role of the CDE in managing project information
- roles and responsibilities of BIM project participants across multiple disciplines.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to documentation and technologies required to achieve the performance criteria and performance evidence.

Links

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