



Australian Government

# **CPCCB5006 Apply site surveys and set-out procedures to building projects up to three storeys**

Release: 2

# **CPCBC5006 Apply site surveys and set-out procedures to building projects up to three storeys**

## **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 5.0.

Supersedes and is equivalent to CPCBC5006B Apply site surveys and set-out procedures to medium rise building projects. Change to title. Updated to meet the Standards for Training Packages 2012.

## **Application**

This unit of competency specifies the skills and knowledge required to apply site surveys and set-out procedures to building and construction projects up to three storeys. It includes the skills and practices required to set out building projects, measure, record and interpret data using measuring and levelling equipment.

It applies to National Construction Code (NCC) classifications:

- Residential - Class 1 and 10 buildings, maximum three storeys
- Commercial - Class 2 to 9, Type B and C.

This unit of competency supports builders, surveyors and related construction industry professionals who have responsibility for applying design concepts and principles to survey and site set-out on building and construction projects up to three storeys.

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.

Licensing, regulatory or registration requirements apply to this unit of competency in some jurisdictions. Relevant state and territory regulatory authorities should be consulted to confirm these requirements.

## **Pre-requisite Unit**

Nil.

## **Unit Sector**

Building and Construction

## Elements and Performance Criteria

Elements describe the essential outcomes.

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

- |                                               |                                                                                                                                               |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Assess and select levelling equipment.      | 1.1 Identify specialised levelling and surveying equipment available on large building projects for various set-out and levelling procedures. |
|                                               | 1.2 Research and record differences between types of specialised surveying equipment.                                                         |
|                                               | 1.3 Identify components of levelling devices.                                                                                                 |
| 2 Select, test and operate levelling devices. | 2.1 Select levelling devices appropriate for the set-out                                                                                      |
|                                               | 2.2 Perform basic tests on levelling device accuracy in accordance with manufacturer specifications.                                          |
|                                               | 2.3 Calculate and record effects of maladjustment in levelling devices using standard operating procedures (SOPs).                            |
|                                               | 2.4 Carry out temporary adjustments to set up levelling equipment in accordance with SOPs.                                                    |
|                                               | 2.5 Determine horizontal and vertical angles using levelling devices.                                                                         |
| 3 Conduct site set-out.                       | 3.1 Obtain, read and identify site information and dimensions from project working drawings, site plan and surveyor's plans.                  |
|                                               | 3.2 Access, read and follow relevant workplace safety requirements.                                                                           |
|                                               | 3.3 Identify correct location of survey pegs prior to positioning pilot pegs.                                                                 |
|                                               | 3.4 Locate profile pegs at a working distance from survey pegs and parallel to pilot line.                                                    |
|                                               | 3.5 Set out overall of building and load bearing members to plans and specifications.                                                         |
|                                               | 3.6 Check vertical accuracy of each survey to a tolerance of                                                                                  |

10 mm using different levelling devices.

- |   |                                         |     |                                                                                                                |
|---|-----------------------------------------|-----|----------------------------------------------------------------------------------------------------------------|
| 4 | Compute grid distances and coordinates. | 4.1 | Calculate coordinates and bearings, distances related to grids and general set-out work.                       |
|   |                                         | 4.2 | Demonstrate angular relationship between different bearings (whole circle).                                    |
|   |                                         | 4.3 | Calculate bearing and distance between coordinates.                                                            |
|   |                                         | 4.4 | Calculate coordinates of a point given the bearing and distance from a point with known coordinates.           |
|   |                                         | 4.5 | Determine offsets from a coordinated point given the bearing and distance from a point with known coordinates. |
|   |                                         | 4.6 | Determine information necessary to set-out a structure using a site plan.                                      |

## Foundation Skills

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

- numeracy skills to:
  - interpret, calculate and transfer project plan dimensions to on site set-out.
- technology skills to:
  - use a range of sophisticated levelling equipment to optimise set-out outcomes
  - use applications to access, extract and share information.

## Unit Mapping Information

Supersedes and is equivalent to CPCBC5006B Apply site surveys and set-out procedures to medium rise building projects.

## 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 CPCBC5006 Apply site surveys and set-out procedures to building projects up to three storeys**

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## **Performance Evidence**

To demonstrate competency, a candidate must meet the performance criteria of this unit by site surveying and setting out one building project, up to three storeys.

In doing this, the candidate must:

- use two different surveying and levelling devices
- apply survey and levelling principles for site set-out
- perform calculations and conversions using collected survey data.

## **Knowledge Evidence**

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

- design principles and work drawings and specifications
- the National Construction Code (NCC) and Australian Standards
- building systems and application to survey and site set-out
- level and grade checking used to perform survey control to accuracy criteria
- functional and operational features of surveying and levelling equipment:
  - electronic distance measuring (EDM) equipment
  - laser
  - optical levels
  - peg methods
  - theodolite
- workplace safety requirements.

## Assessment Conditions

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

Assessment can be undertaken in the workplace or in a simulated workplace environment.

A simulated environment is one that realistically replicates workplace conditions, materials and equipment, interactions with others and workplace irregularities, and which meets industry standards for safety and environmental practices.

Candidates must have access to:

- project working drawings, specifications and site set-out plans
- relevant building, safety and environmental legislation
- current relevant building codes and standards
- at least two survey and levelling devices
- relevant computer software packages and technology applicable to collecting, calculating, analysing and recording survey data.

## 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>