

**Draft 0.2**

This is a draft update to CPPSIS6035 Conduct complex engineering set-out surveys:  
<https://training.gov.au/Training/Details/PPSIS6035>.

Code changed to CPPSSI6035.

Changed PCs to active voice.

PCs 1.1 and 1.2 removed

PC 2.2 removed

Changed 'person' to 'candidate' in PE for consistency.

Range of Conditions added to Knowledge Evidence.

## Unit of Competency

### CPPSI6035 Conduct complex engineering set-out surveys

#### Modification history

Release	Comments
1	<del>Replaces superseded equivalent CPPSIS6035A Conduct complex engineering set-out surveys.</del> <del>This version first released with CPP Property Services Training Package Version 3.</del>
	Replaces superseded equivalent CPPSIS6035 Conduct complex engineering set-out surveys

#### Application

This unit specifies the skills and knowledge required to conduct a complex engineering set-out survey based on specifications and client requirements.

The unit also covers implementing project management mechanisms relating to scheduling, measuring, recording, monitoring and reporting, and reviewing project progress and outcomes against enterprise goals. It covers planning for risks and contingencies and staff supervision and involves setting up and using specialised surveying equipment to measure, record and reduce surveying data using an established control network and spatial coordinate and reference systems. It also includes validation of the accuracy of data and identifying and resolving problems.

This unit is suitable for surveyors operating at this level who will use broad theoretical and technical knowledge to analyse information as well as interpret and transmit solutions to unpredictable and sometimes complex surveying/spatial information problems. The unit supports those who work in a technical management role in a surveying team.

All work must be carried out to comply with workplace procedures, in accordance with relevant State/Territory regulations that govern surveying work as well as work health and safety, regulations and legislation that apply to the workplace.

Cadastral surveying must be undertaken under the supervision of a registered surveyor. Users must check with the relevant regulatory state/territory authority before delivery.

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

#### Prerequisite Unit

None

#### Unit Sector

Surveying and Spatial Information Services

#### Elements and Performance Criteria

1. Prepare for complex engineering set-out survey.	1.1 Analyse survey set-out specifications, including cross-sections and plans, and technical descriptions of surveying data. 1.2 Identify any special equipment or resource requirements according to characteristics of the operating environment. 1.3 Identify safe work requirements including use of personal protective equipment (PPE) for surveying tasks.
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	1.4 Select and check surveying equipment to ensure correct operation and functionality according to manufacturer specifications.
2. Plan complex engineering set-out survey.	<p>2.1 Interpret design to identify surveying data components required for set-out.</p> <p>2.2 Develop plan detailing objectives, constraints, work activities, technologies and techniques to be used for set-out according to project specifications and client requirements.</p> <p>2.3 Implement project management mechanisms to schedule, measure, record and report progress of activities in relation to agreed schedule and plans.</p> <p>2.4 Implement and maintain agreed communication processes between client and other appropriate persons.</p> <p>2.5 Devise and follow risk management and contingency strategies to ensure project complies with legal and statutory standards and enterprise requirements.</p> <p>2.6 Allocate work responsibilities and supervisory processes and implement problem-solving techniques so that work is completed within time available.</p>
3. Manage complex engineering set-out survey.	<p>3.1 Set out identified project components accurately according to project specifications.</p> <p>3.2 Conduct, validate and record set-out measurements and calculations using control network according to project specifications.</p> <p>3.3 Review project progress and implement agreed changes to ensure consistency with project scope, timeframes, objectives and constraints.</p> <p>3.4 Identify and resolve problems and manage contingencies according to enterprise requirements.</p>
4. Finalise complex engineering set-out survey.	<p>4.1 Finalise and check project for compliance with project and enterprise requirements.</p> <p>4.2 Notify appropriate persons of project results according to enterprise requirements.</p> <p>4.3 Complete documentation and archive spatial data according to project and enterprise requirements.</p>
5. Review project.	<p>5.1 Review project achievements against enterprise strategic goals.</p> <p>5.2 Make recommendations on possible links between project achievements and enterprise goals.</p>

### Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

### Unit Mapping Information

Supersedes and is equivalent to CPPSIS6035 Conduct complex engineering set-out surveys

### Links

The Companion Volume Implementation Guide for the CPP Property Services Training Package is available at <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

## Assessment Requirements for CPPSSI6035 Conduct complex engineering set-out surveys

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### Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by conducting two different complex engineering set-out surveys.

For each complex engineering set-out survey, the candidate must:

- conduct set-out measurements and calculations to meet engineering specifications using two of the following pieces of surveying equipment:
  - current meter
  - global navigation satellite system (GNSS)
  - level
  - tape
  - theodolite
  - Total Station.

### Knowledge Evidence

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

- graphical and technical information in engineering plans
- data capture, set-out and reduction techniques
- accuracy and precision requirements for setting out surveying data
- industry-accepted methods for validating data to identify errors and discrepancies
- methods for calculating surveying data and verifying its accuracy using primary and secondary controls
- methods for establishing a control network that meets specified tolerances
- methods for setting up, levelling and calibrating surveying equipment
- enterprise policies and procedures relating to:
  - health and safety relating to surveying activities
  - reporting and documentation
  - using and allocating resources
  - using surveying equipment
- techniques for scheduling, measuring and monitoring work progress and planning for contingencies
- legislative, statutory and industry requirements and standards relating to work tasks associated with set-out surveys
- reference and coordinate systems for surveying data, including Australian Height Datum and Map Grid of Australia

## 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:

- PPE
- survey specifications, including relevant engineering plans and drawings.

## Links

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