



Australian Government

CPPSIS5051 Apply land and planning law to surveying

Release: 1

CPPSIS5051 Apply land and planning law to surveying

Modification History

Release 1.

Replaces superseded equivalent CPPSIS5051A Apply land and planning law to surveying.

This version first released with CPP Property Services Training Package Version 3.

Application

This unit of competency specifies the outcomes required to apply land and planning law to surveying. The unit covers marking out urban structures and identifying urban lots and related improvements using cadastral surveying methods and equipment. The unit also covers determining azimuth for identification and re-mark surveys, and undertaking mark-out surveys to fix front and rear corners, angles and line marks. It includes calculating identification surveys and preparing reports and sketches that identify physical constraints and environmental impacts. The unit requires the ability to set up, calibrate and use surveying equipment to measure, record and reduce surveying data; and to compile reports and sketches for submission to an approving authority as part of a development application. The unit requires knowledge of land and planning law, and of the submission process for local government building approvals.

The unit supports those who work under limited supervision in a surveying team, in areas such as town planning, surveying and mapping.

Licensing, legislative, regulatory or certification requirements apply to this unit in some States where cadastral surveying must be undertaken under the supervision of a registered surveyor. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

Pre-requisite Unit

Nil

Unit Sector

Surveying and spatial information services

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.

- | | |
|---------------------|---|
| 1. Determine survey | 1.1. Relevant information is gathered to determine survey |
|---------------------|---|

requirements and azimuth.	requirements in consultation with <i>appropriate persons</i> .
1.2.	Survey marks are located as indicated on survey plan.
1.3.	Position of parcel of land corners is established from identified survey marks.
1.4.	Right on boundary or parallel azimuth is established.
1.5.	Monumented and non-monumented occupations are used to establish an azimuth parallel to street boundary.
1.6.	Assumed azimuth is adopted to enable completion of field survey, and subsequent calculations and adjustments to swing onto azimuth are made.
1.7.	Azimuth derived from marks at opposite extremities of survey is calculated.
1.8.	Relationship between alignment marks, kerb lines, kerb as laid, and occupations is interpreted when azimuth is fixed using alignment marks, kerbs and occupations shown in alignment plans.
2.	Undertake mark-out survey and fix front and rear corners, angles and line marks.
2.1.	Azimuth is established by direct or indirect means and front corners of allotment are fixed.
2.2.	Side fix is established for the allotment using occupations, and monuments or reference marks.
2.3.	Direct methods are used to establish positions of rear corners.
2.4.	Traverse and calculations from street azimuth and side fix are made to set out rear corners by indirect means.
2.5.	Requirement to use line marks on long or obstructed boundaries is identified.
2.6.	Suitable checking procedure to validate positioning of all placed marks is identified and followed.
3.	Meet local government building
3.1.	Re-mark surveys and local government siting requirements for the issue of building certificate are met.
3.2.	Relevant survey regulations relating to supervision and

requirements.	accuracy of surveys, field procedures, and survey searching are adhered to.
	3.3. Field notes are prepared according to organisational requirements and legal and statutory standards.
4. Calculate identification survey.	4.1. Position of improvements in relation to boundaries is calculated using industry-accepted methods .
	4.2. Position of improvements in relation to set-out buildings is calculated using coordinate system.
5. Prepare draft survey report and sketches.	5.1. Draft survey report and accompanying sketches are prepared for a re-mark survey according to organisational requirements.
	5.2. Physical constraints and environmental impacts of development are incorporated into report.

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Learning skills to:	- conduct research to identify survey information and task requirements .
Planning and organising skills to:	plan and prioritise work to meet survey timeframes.
Numeracy skills to:	conduct precise measurements and computations relating to length, angle, elevation, area and volume.
Oral communication skills to:	- ask questions to clarify client requirements - discuss observations and evidence with appropriate persons.
Reading skills to:	analyse graphical and technical information in construction and engineering drawings and survey plans

- interpret legal information in land and planning laws.

Writing skills to:

- use templates to record field notes
- write field notes that can be interpreted by a third party.

Technology skills to:

- connect equipment to coordinate systems
- set up and calibrate specialised surveying equipment.

Problem-solving skills to:

- select appropriate validation methods to verify accuracy of data.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

Appropriate persons
must include at least
two of the following:

- client
- colleague
- engineer
- local government representative
- manager
- registered or qualified surveyor.

Industry-accepted methods
must include
at least one of the
following:

- coordinate system
- direct methods
- indirect methods, such as radiations.

Unit Mapping Information

CPPSIS5051A Apply land and planning law to surveying

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSIS5051 Apply land and planning law to surveying

Modification History

Release 1.

Replaces superseded equivalent CPPSIS5051A Apply land and planning law to surveying.

This version first released with CPP Property Services Training Package Version 3.

Performance Evidence

A person demonstrating competency in this unit must satisfy the requirements of the elements, performance criteria, foundation skills and range of conditions of this unit. The person must also apply land and planning law to two different surveying projects.

While applying land and planning law to above projects, the person must:

- accurately calculate position of improvements in relation to boundaries and set-out buildings
- apply road alignment design and associated computations with accuracy and precision
- check and validate position of all marks
- communicate clearly with others to clarify and report survey information
- comply with organisational requirements relating to:
 - completing records and documentation, including field notes
 - meeting local government building requirements
 - recording, storing and filing data
 - setting up and using surveying equipment
 - working safely and using personal protective equipment (PPE)
- comply with relevant legal and statutory requirements and standards to ensure accuracy of survey, field procedures and searches
- conduct research to obtain survey information relating to:
 - boundary dimensions
 - design information
 - land title information
 - topographic features
- apply traverse surveying techniques and calculations
- follow standard operating procedures to perform cadastral surveying tasks using two of the following pieces of surveying equipment:
 - global navigation satellite system (GNSS)
 - level
 - tape
 - total station

- identify physical constraints and environmental impacts of planned developments, including those relating to two of the following:
 - drainage
 - easements
 - public reserves
 - sediment control
 - sewerage control
- implement project management mechanisms to ensure survey is completed within required timeframes and complies with specifications
- prepare clear and concise survey report and related sketches to accompany development application.

Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- accuracy and precision requirements for cadastral surveying data
- aspects of land and planning law impacting on surveying tasks, including:
 - common law and old system title
 - community title
 - crown land, alienation and native title
 - environmental protection
 - set-back requirements
 - strata title
 - Torrens title system
- data capture and set-out methodologies used in surveying
- data reduction techniques
- industry-accepted methods for validating surveying data to identify errors and discrepancies
- legislative, statutory and industry requirements and standards relating to cadastral surveying and local government building requirements
- methods for setting up and calibrating surveying equipment
- purpose of monuments in marking lines
- organisational policies and procedures relating to:
 - health and safety relating to survey activities
 - reporting and documentation
 - using the surveying equipment specified in the performance evidence
- possible community issues and repercussions relating to building permits
- reference and coordinate systems for surveying data, including Australian Height Datum and Map Grid of Australia
- submission process for local government building approvals.

Assessment Conditions

The following must be present and available to learners during assessment activities:

- equipment:
 - as specified in the performance evidence, including PPE
- specifications:
 - survey specifications, including relevant surveying, construction and engineering plans and drawings
 - local land and planning laws
 - organisational policies, procedures and documentation relating to work health and safety and complying with planning submission processes
- relationships with team members and supervisor:
 - supervision by a registered or licensed land surveyor is required in some jurisdictions.

Timeframe:

- as specified by project requirements.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>