Draft 0.1
This is a draft update to CPPSIS5037 Maintain spatial data systems:
https://training.gov.au/Training/Details/CPPSIS5037

Changed PCs to active voice.

Changed 'person' to 'candidate' in PE.

Haven't added Range of Conditions (below) . TAG please assess whether/how to add this:

Appropriate persons must include at least two of the following:

- client
- manager
- spatial technician
- staff.

Validated must include at least two of the following methods:

- confounding bias
- information/data bias
- observational bias
- recall bias
- selection bias.

Metadata must include at least four of the following:

- availability
- conditions of use
- coordinate system
- currency
- custodian
- data accuracy
- data description
- date of acquisition
- licence
- quality
- source
- spatial data acquisition methodologies
- version control.

Unit of Competency

CPPSUR5037 Maintain spatial data systems

Modification history

Release	Comments
1	Replaces superseded equivalent CPPSIS5037A Maintain complex spatial data systems. This version first released with CPP Property Services Training Package Version 3.
	Supersedes and is equivalent to CPPSIS5037 Maintain spatial data systems

Application

This unit specifies the skills and knowledge required to implement a full cycle of maintenance of spatial data, including updating, backup, recovery and archiving. The unit covers analysing spatial data systems to determine maintenance requirements and constraints; confirming the reliability of spatial data by editing, updating and integrating existing and new spatial data; and problem solving to test and validate data currency and retrieval and backup systems. The unit requires the ability to use computers and software to manage spatial data, create metadata, and apply spatial data input, output and distribution technologies.

The unit supports those who work in a lead role in a surveying or spatial information services team in areas such as surveying, cartography, town planning, mapping or geographic information systems (GIS).

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. Determine data maintenance requirements.	1.1. Identify and document data maintenance objectives and constraints in consultation with appropriate persons. 1.2. Analyse data system to determine components to be maintained according to project objectives. 1.3. Determine and evaluate maintenance techniques according to organisational requirements. 1.4. Allocate work to appropriate persons and supervisory processes are implemented to ensure work is completed within time available.
2. Confirm reliability of spatial data.	2.1. Access and check spatial data updates to confirm currency and record relevance according to organisational requirements. 2.2. Check and edit spatial data to ensure it is compatible and in an acceptable format according to project requirements. 2.3. Maintain integrity and consistency of data according to organisational requirements.
3. Replace spatial data.	3.1. Amend and replace spatial data according to project and organisational requirements.

	3.2. Edit, prepare and integrate existing and new data according to project requirements. 3.3. Test and validate spatial datasets to ensure integrity, quality and currency according to project requirements. 3.4. Amend and update documentation according to organisational requirements.
4. Carry out backup and recovery of spatial data.	4.1. Implement data backups to ensure data is accessible in contingency situations according to organisational requirements. 4.2. Test backup system to ensure that data can be retrieved and resolve any problems or manage contingencies according to organisational requirements.
5. Archive spatial data.	5.1. Check spatial dataset to be archived for completeness and manipulated where necessary. 5.2. Create metadata according to organisational requirements. 5.3. Store archived spatial data in a secure location and record details according to organisational requirements.

Foundation Skills

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

- planning and organising skills to schedule and prioritise work tasks to meet project timeframes
- numeracy skills to apply error tolerances when manipulating datasets and solve problems relating to height, dimension, direction, position, flow rates and slope
- oral communication skills to ask questions to determine maintenance objectives
- reading skills to interpret query language and graphic interfaces
- technology skills to apply spatial data input, output and distribution technologies and use scripting, queries, macros, networks and remote access when maintaining spatial data systems
- problem-solving skills to verify accuracy and currency of data and identify errors.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS5037 Maintain spatial data systems

Links

Companion Volume Implementation Guide:

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

Assessment Requirements for CPPSUR5037 Maintain spatial data systems

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by:

- complementing the full cycle of maintenance of spatial data systems for two different projects, including the full cycle of updating, backup, recovery and archiving.

While maintaining the above spatial data systems, the candidate must:

- allocate tasks within the work team, and provide supervision to ensure work is completed within required timeframes
- apply industry-accepted standards for:
    - accuracy, precision and error tolerances to ensure data systems are accurately maintained
    - creating and recording metadata
- comply with administrative and legal requirements for storing and retrieving spatial data, including data privacy and information copyright
- comply with organisational requirements and manufacturer specifications when using the equipment specified in the assessment conditions
- comply with organisational requirements for recording data and completing documentation, and working safely when using screen-based equipment
- evaluate and decide appropriate data maintenance techniques
- use spatial data input technologies, including:
    - digitising
    - scanning
    - remote sensing
    - satellite imagery
- use spatial data output and distribution technologies, including:
    - scripting
    - query language
    - macro development
    - graphic interfaces
    - networks
    - remote access.

Knowledge Evidence

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

- administrative and legal requirements for accessing, storing, retrieving and archiving digital and hard copy spatial data, including data privacy and information copyright
- advanced spatial data reduction processes
- key features of coordinate reference systems
- industry-accepted standards relating to accuracy and precision, error tolerances and metadata
- types of map projections
- methods for validating test results to identify systematic distortions
- organisational policy and procedures relating to work tasks, including:
    - health and safety when using the equipment specified in the assessment conditions
    - maintaining the quality and integrity of spatial data
    - reporting, including completing records and documentation
    - storing and retrieving data
- software that can be used to manage spatial data, create metadata, and apply spatial data input, output and distribution technologies
- types of spatial data formats
- techniques for using spatial data input technologies, as specified in the performance evidence
- techniques for using spatial data output and distribution technologies, as specified in the performance evidence
- types of storage media for a range of spatial data.

Assessment Conditions

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

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

- equipment:
    - computer with software appropriate for spatial data management and retrieval
    - hard copy and digital data storage media
    - printer
- specifications:
    - organisational policies and procedures relating to:
    - work health and safety
    - data privacy and information copyright
- physical conditions:
    - access to equipped work station
- relationships with team members and supervisor:
    - working in a team.

Timeframe:

- as specified by task and organisational requirements.

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