PUATEA002B, CPPSIS3001A CPPSIS3005A, CPPSIS4006A AND CPPSIS4015A

Mapping Team Member

ASSESSMENT GUIDE

(DRAFT VERSION 2)

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EMSINA consists of representatives from state, territory and federal government GIS user groups.

ACT Emergency Services Agency

Australian Federal Police

Australian Maritime Safety Authority

Bureau of Meteorology

Country Fire Authority (Vic)

Country Fire Service (SA)

Department of Agriculture, Fisheries and Forestry

Department of Defence - Defence Imagery and Geospatial Organisation

Department of Environment and Conservation (WA)

Department of Primary Industries, Parks, Water & Environment

Department of Sustainability and Environment (Vic)

Emergency Management Australia

Emergency Services Telecommunications Authority

Fire and Emergency Services Authority (WA)

Geoscience Australia

NSW Police

NSW Rural Fire Service

NSW State Emergency Service

QLD Fire and Rescue Service

QLD Police

Tasmania Fire Service

Section 1

Introduction

Purpose

This Assessment Guide is part of the Mapping Team Member Training Resource Kit (TRK) intended to train members of Australasian fire and emergency service agencies in the knowledge and skills required to perform the role of Mapping Team Member in the Australasian Inter-service Incident Management System (AIIMS) during an emergency response.

The TRK for Mapping Team Member comprises the following parts:

- Facilitator Guide
- Learner Guide
- Assessment Guide.

The training has been designed to meet the needs of the Australasian fire and emergency services and is intended to be delivered within the context of emergency management.

Australian Qualifications Framework

The principles and concepts covered by these assessment materials are aligned to the following units of competency from the Australian Qualifications Framework (AQF).

PUA00 Public Safety Training Package - Industry Wide Competency Standards

- PUATEA002B Work autonomously

CPP07 Property Services Training Package - Spatial Information Services Units of Competency

- CPPSIS3001A Apply map presentation principles
- CPPSIS3005A Collect basic spatial data
- CPPSIS4006A Read and interpret basic image data
- CPPSIS4015A Apply GIS software to problem-solving techniques

On successful completion of these units, participants will be awarded a nationally recognised Statement of Attainment.

The units of competency included in this training can be assessed on their own or in combination.

Pre-requisite requirement

If applied within the fire context, learners are to possess the following unit of competency, which is a pre-requisite to the unit PUATEA002B Work autonomously:

- PUATEA001B Work in a team

These two units of competency can be co-assessed if required.

The TRK, including this Trainer Guide, contains materials for the co-assessment of PUATEA001B Work in a team and PUATEA002B Work autonomously.

Non-fire agencies can disregard this requirement.

Implementation

This Training Resource Kit (TRK) may only be implemented by a Registered Training Organisation (RTO) in accordance with the requirements of the Australian Quality Training Framework standards for RTOs. The RTO must ensure that the assessment is consistent with the requirements of these standards.

Further detailed information on delivery and assessment is available in a generic Public Safety Training Package Implementation Handbook and an accompanying Information Booklet for Assessors. Copies of both of these are available from AFAC.

Trainer and Assessor competencies

RTOs must ensure that training and assessment is delivered by trainers and assessors who:

(a) have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and

(b) have the relevant vocational competencies at least to the level being delivered or assessed, and

(c) can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and

(d) continue to develop their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence

Learning pathways

All learners can seek recognition for this training through the Recognition of Prior Learning (RPL)/ Recognition of Current Competence (RCC) process of the RTO.

RTOs must ensure that their processes for the RPL/RCC are consistent with the National Framework requirements for mutual recognition and RPL.Compliance

Compliance issues must be addressed before undertaking delivery of this unit. The following information provides some guidance but may need to be supplemented with agency-specific details.

OH&S

Specific OH&S legislation in each state and territory provides a framework for improving standards of workplace health and safety, and for reducing work-related accidents and diseases.

Such OH&S legislation in some cases has provided for Codes of Practice to give practical guidance for operations in specific types of workplaces. Where such Codes of Practice specify operational

guidelines, these should be observed. Operational guidelines may require risk assessment before work commences, and risk controls measures during work.

Legislation

Specific state, territory or agency legislation or regulations may apply to this assessment. Assessors must ensure they take account of this in assessments.

Standard Operating Procedures (SOPs)

Any relevant agency specific SOPs must be adhered to. SOPs are any organisational directives that establish a standard course of action. They are written, official, applied to all situations and enforced and integrated into the organisation's management systems.

Section 2

Assessment guidelines

Definitions

Within this Assessment Guide, learners are referenced as 'candidates' while they are undergoing the assessment process.

Assessment overview

Assessors should ensure that the assessment for Mapping Team Member is:

- Based on the performance criteria, evidence guide, range statement, and required skills and knowledge of the units of competency covered by this TRK.
- Demonstrated over a period of time and observed by the assessor (or assessment team working together to conduct the assessment).
- Demonstrated in a range of situations, that may interruptions and involvement in related activities normally experienced in the workplace.
- Obtained by observing activities in an emergency management context. If this is not practicable, observation in realistic simulated environments may be substituted.

Assessors should provide feedback to candidates on their performance during the assessment process.

A candidate will be deemed 'competent' when they can consistently demonstrate their skills and knowledge to the standards specified in the units of competency and to the expectations of the agency.

Customisation

The assessment may be customised to the extent that where the term 'agency' or 'organisation' occurs in the assessment criteria; specific agency or organisational requirements may be used.

Learning outcomes cannot be omitted from the assessment, although additional learning outcomes may be added as required.

Assessment method

A candidate may be assessed through a combination of the following methods:

- practical demonstration;
- oral questioning;
- case studies;
- written assessment;
- simulation role play;
- practical or written projects/assignments; and
- log books.

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.

Oral questioning or written assessment and hypothetical situations (scenarios) may be used to assess underpinning knowledge (in assessment situations where the candidate is offered a preference between oral questioning or written assessment, questions are to be identical).

This document contains some sample assessment activities that may be incorporated into the assessment process.

Collection of evidence

Evidence should be gathered over a period of time in a range of actual or simulated workplace environments.

Supplementary evidence may be obtained from relevant authenticated correspondence from existing supervisors, team leaders or specialist training staff.

A record of the evidence collected should be retained according to RTO requirements.

Recognition of prior learning or competence

Candidates can seek recognition for prior learning or competence through the Recognition of Prior Learning (RPL)/ Recognition of Current Competence (RCC) process of the RTO.

Re-assessment

Any candidate deemed ‘not yet competent’ will be re-assessed in accordance with agency policy and procedures.

Appeals and grievances

An appeal against an assessment outcome or process may be lodged at any time if the candidate undergoing assessment feels that they have been disadvantaged or discriminated against. All appeals and grievances will be conducted in accordance with documented agency policy and procedures.

Section 3

Sample assessment activities

The following activities are provided for the Assessor to incorporate into the assessment process as required.

These activities are to be supported by the collection of a range of other evidence to confirm the learner's acquisition of competence.

Activity 1- Working autonomously

Introduction

The unit PUATEA002B Work autonomously requires the candidate to work both:

- As a member of a team or as an individual for periods without direct supervision; and
- For mentoring and coaching others in a leadership capacity.

This activity requires the candidate to work within the Mapping Team under the limited supervision of either a Mapping Team Leader or a Situation Officer during with an actual or simulated incident.

The agency will need to specify the activities required to be undertaken by the candidates during the assessment process, but it is suggested this activity be conducted concurrently with other assessment activities.

This activity additionally covers the assessment of PUATEA001B Work in a team (pre-requisite to PUATEA002B Work autonomously) if co-assessment of these two units of competency is required.

Activity

Candidates are to work in a small team (the Mapping Team) for an extended period, and to assume leadership of that team for a defined period.

Leadership of the team should be rotated amongst the team members.

The nominated team leader should lead their Mapping Team - organising and supervising the activities of the team for a set period of time.

The nominated team leader should conduct a 'shift handover' to the new team leader at the conclusion of their period of leadership.

Standard

All activities should adhere to agency standards, including:

- Occupational health and safety standards; and
- Workplace policy standards.

The candidate must be able to provide evidence of:

- Undertaking required work activities;
- Accepting responsibilities;
- Setting performance requirements;
- Maintaining team performance; and
- Acting as a team leader as required.

Activity 2 – Produce the agency's standard map products

Introduction

This activity requires the candidate to work within the Mapping Team under the limited supervision of either a Mapping Team Leader or a Situation Officer during an actual or simulated incident.

Activity

Under direction, the candidate is to produce and store the agency's standard emergency management mapping products. These should include:

- Planning maps e.g.
    - Incident Overview Map;
    - Situation Map; and
    - Strategic Map;
- Maps for the Incident Action Plan;
    - Incident Overview Map (same map as for the Planning Section but only smaller); and
    - Division and/or Sector Maps;
- Public information maps; and
- Any other standard map as specified by the agency.

Standard

Several different maps must be produced.

The maps are to be digital and produced on the agency's Geographic Information Systems, according to standards specified by the agency, for example:

- Use of the agency's standard symbology;

- Agency logo and disclaimer;
- Incident name and map type;
- When prepared (time, date and shift);
- The time and date the information was collected;
- North arrow;
- Scale (including a bar scale);
- Grid lines;
- Legend; and
- Essential features.

The maps are to be produced within a timeframe specified by the supervisor.

The maps are to be named and stored according to the agency's naming and filing protocols.

Activity 3 - Collect basic spatial data

Introduction

This activity requires the candidate to work within the Mapping Team under the limited supervision of either a Mapping Team Leader or a Situation Officer during an actual or simulated incident.

For a specified incident, the candidate is to identify data sources, develop a plan for the collection of data, download the data and produce a mapping product. Field collection of data is not required.

The agency is to specify the type of incident and the information that is required on the mapping product, for example:

- The extent (or perimeter) of the incident;
- Buildings or structures affected by the incident;
- Communities likely to be impacted by the incident; and/or
- Rare or threatened species likely impacted by the incident etc.

Activity

For an incident specified by the agency, the candidate is to:

- Identify the types of spatial data required to achieve the mapping product required by the supervisor;
- Identify likely sources of the spatial data; and
- Prepare a plan for the collection of required data.

Once the data has been sourced (agency to provide), the candidate is to:

- Download the data into the agency's database (correctly naming and storing the data);
- Using the data obtained, produce the required mapping product.

Standard

The activity requires the collection of several sets of data, for example:

- Grid references;

- Simple hand-drawn maps;
- GPS data;
- Shape files; and
- Spatial data from other databases.

At least some of the data should be obtained using equipment, such as a GPS.

All activities should meet agency standards, including:

- Occupational health and safety standards;
- Equipment operating and maintenance standards;
- Data downloading and storage standards; and
- Mapping standards, including timeliness.

The data is to be named and stored according to the agency's naming and filing protocols.

Activity 4 - Interpreting basic image data

Introduction

This activity requires the candidate to work within the Mapping Team under the limited supervision of either a Mapping Team Leader or a Situation Officer during an actual or simulated incident.

The agency is to define the incident and provide the image data for interpretation.

Several different types of image data are required – preferably a combination of digital (satellite images, digital photographs etc) and hard copy (hard copy photographs or maps etc).

Activity

The supervisor is to provide the candidate with a base map and related images (digital and hard copy) relating to an incident.

The supervisor is to provide candidate with an objective, for example, to identify the extent of the incident and to identify locations potentially impacted by the incident (for example, to identify the current fire perimeter and to identify settlements in the path of the fire).

The candidate is to:

- Identify, analyse and evaluate incident information from the image data, related to the exercise objective;
- Accurately transfer information, relevant to the objective, onto a digital map base; and
- Brief the supervisor on the information gained from the image data, using both the updated map and a verbal or written summary.

Standard

The candidate should:

- Analyse the location, extent and the features of the incident, as depicted by the image data;
- Interpret the shape, size, colour, shadow, texture, pattern, association, site, time and resolution of the image data (dependant upon what is covered by the image data);
- Align the image data scale to the map scale; and

- Convert the image data to a standard map coordinate system.

The interpretation processes (listed above) should be undertaken electronically if the agency's GIS package has this capability.

All activities should meet agency standards, including:

- Occupational health and safety standards;
- Equipment operating and maintenance standards;
- Data downloading and storage standards; and
- Mapping standards, including timeliness.

The assessor will need to determine;

- The degree of accuracy that is acceptable by the agency; and
- Whether the candidate has met the specified activity objective.

Activity 5 – Problem-solving using GIS software

Introduction

This activity requires the candidate to work within the Mapping Team under the limited supervision of either a Mapping Team Leader or a Situation Officer during with an actual or simulated incident.

The agency is to define the incident and the problems for the candidate to solve during the activity.

Activity

Candidates are to resolve problems using GIS software, relating to the following functions (or similar functions):

- Simple feature and attribute queries;
- Presenting results from queries graphically;
- Integrating new data;
- Integrating aspatial data (such as a table of population data from the census);
- Geo-processing analysis functions such as:
    - Buffer;
    - Clip;
    - Dissolve;
    - Intersect;
    - Merge;
    - Union; and
    - Spatial overlay.

Standard

The candidate is to use the features of the agency's GIS software correctly and according to agency procedure.

The assessor will need to determine;

- The degree of accuracy that is acceptable by the agency; and
- Whether the candidate has satisfactorily solved the problems.

Activity 6 – Producing information products

Introduction

This activity requires the candidate to work within the Mapping Team under the limited supervision of either a Mapping Team Leader or a Situation Officer during an actual or simulated incident.

The agency is to define the incident and the information product to be produced during this activity. It should be something other than the standard map products required by the agency. A suitable product ould be a PowerPoint presentation for a briefing, which incorporates both spatial, summary statistics and graphs, and aspatial data (such as a table of population data from the census).

Activity

Under supervision, candidates are to produce and store an information product that:

- Incorporates maps;
- Incorporates results, summary statistics and graphs from the GIS software; and
- Integrates aspatial data.

Standard

The assessor will need to determine;

- The degree of quality and accuracy that is acceptable by the agency; and
- Whether the candidate has produced the required information product.

The products are to be named and stored according to the agency's naming and filing protocols.

Section 4

Assessment templates

The templates on the following pages can be used to record the results of assessments against the units of competency.

Assessors should ensure that the assessment is:

- Based on the performance criteria, evidence guide, range statement, and required skills and knowledge of the units of competency.
- Demonstrated over a period of time and observed by the assessor (or assessment team working together to conduct the assessment).
- Demonstrated in a range of situations, that may interruptions and involvement in related activities normally experienced in the workplace.
- Obtained by observing activities in an emergency management context. If this is not practicable, observation in realistic simulated environments may be substituted.

Name of Candidate _____

Name of Assessor _____

Assessment result _____

Signature of Assessor _____

Note **✓ = evidence sighted**

PUATEA001B Work in a team

If applied in a fire context, this unit is a pre-requisite to PUATEA002B Work autonomously PUATEA001B Work in a team

Note – PUATEA001B Work in a team and PUATEA002B Work autonomously can be co-assessed if required. This assessment template has been provided accordingly.

Context

This unit covers competency in working with others and making a positive contribution to the effectiveness and efficiency of a team in a work environment when predominantly under direct supervision. Limited responsibility towards others is required.

Applied within the context of the Mapping Team Member training, trainees should be able to work under direct supervision as a Mapping Team Assistant during an emergency response,

A person who demonstrates competency in this unit must be able to provide evidence of:

- the effective communication and contribution to the achievement of tasks consistent with agreed goals.

Assessment of competency

Elements*	**Performance criteria***	✓	**Assessor comment**
1. Contribute to team activities	1.1 Roles and responsibilities of team members are recognised 1.2 Contribution is made to identifying team goals and objectives 1.3 Activities are completed to required standard within timeframe and in accordance with organisation's policies and procedures 1.4 Assistance in the completion of tasks is requested from other team members where appropriate 1.5 Team members are assisted to ensure efficient and safe completion of tasks in accordance with organisation's policies and procedures 1.6 Participation by team members is encouraged and acknowledged 1.7 Changes in allocated role and responsibilities are implemented 1.8 Team meetings are attended regularly and punctually		
2. Share knowledge and information	2.1 Information relevant to work is communicated effectively with team members to enable efficient completion of tasks in accordance with the organisation's policies and procedures 2.2 Knowledge and skills are shared between team members		

3. Give and receive support to/from team members	3.1 Feedback/assistance is given to other team members in an appropriate manner 3.2 Team members are supported in achieving workplace goals 3.3 Feedback from other team members is acted upon appropriately.		

Required skills and knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills	✓	**Assessor comment**
Encouraging others/team members		
Following instructions		
Interpersonal skills		
Listening and using a variety of communication skills		
Providing suggestions and information		
Reporting information		
Required knowledge	✓	**Assessor comment**
Composition of workplace teams and roles and responsibilities of team members		
Non operational and operational communication processes		
Techniques for giving and receiving feedback in a constructive manner		
Techniques for supporting others		

PUATEA002B Work autonomously

Context

This unit covers competency for working as a member of a team or as an individual for periods of time without direct supervision and for mentoring and coaching either in an operational or non-operational environment.

Applied within the context of the Mapping Team Member training, trainees should be able to work under limited supervision as a member of the Mapping Team during emergency response.

A person who demonstrates competency in this unit must be able to provide evidence of:

- Applying a defined range of skills
- Applying known solutions to a range of predictable problems
- Assessing and recording information from varied sources
- Demonstrating operational knowledge in a moderate range of areas
- Performing a range of tasks where choice between a limited range of options is required
- Taking responsibility for own outputs in work and learning

Prerequisite requirements

If applied within the fire context, the following prerequisite unit of competency applies:

- PUATEA001B Work in a team

Note - PUATEA001B Work in a team and PUATEA002B Work autonomously can be co-assessed if required.

PREREQUISITE MET ? (circle) **YES / NO / NOT APPLICABLE**

Assessment of competency

Elements	Performance criteria	✓	Assessor comment
1. Undertake work activities.	1.1 Work requirements are identified and undertaken. 1.2 Instructions and directions are understood and implemented. 1.3 Communication is maintained with team leader advising of progress of task/activity. 1.4 Personal safety and safety of others is maintained. 1.5 Any legal requirements and/or ramifications of activities are communicated to team leader. 1.6 Work area is determined or selected in accordance with operational or organisation's requirements. 1.7 Equipment is operated in accordance with the manufacturer's specifications, OH&S and the organisation's policies and procedures.		

Elements*	Performance criteria*	✓	Assessor comment
2. Accept responsibilities.	2.1 Responsibilities are accepted according to the organisation's policy and procedures. 2.2 Team leader is appraised of the outcome of task/activity. 2.3 Any activity that exceeds the scope of the defined task is referred to the supervisor.		
3. Set performance requirements.	3.1 Performance requirements are based on objectives and goals and agreed with supervisor.		
4. Maintain team performance.	4.1 Individual performance is monitored against defined performance requirements and appropriate action taken to maintain performance if required. 4.2 Performance of others is monitored and appropriate action is taken through coaching and mentoring to ensure team objectives and goals are met. 4.3 Supervisor is provided with feedback and constructive advice. 4.4 Issues which cannot be rectified or addressed are referred to the supervisor for appropriate action according to the organisation's policy. 4.5 Supervisor is advised of any changes in priorities or tasks. 4.6 All required documentation relevant to performance is completed.		
5. Act as a team leader as required.	5.1 Responsibility for the performance of the team is accepted. 5.2 Goals are set, tasks identified and presented to team members. 5.3 Instructions and directions are communicated to team members clearly and unambiguously. 5.4 Team members' concerns and queries are recognised, discussed and dealt with. 5.5 Any legal requirements and/or ramifications of team activities are communicated to team members. 5.6 Duties, rosters and responsibilities are allocated to team members having regard to the skills and knowledge required to properly undertake the assignment or task and according to organisation's policy and procedures. 5.7 Feedback on own performance is provided as required. 5.8 Level of authority is recognised and adhered to. 5.9 Operational debrief is conducted in accordance with the organisation's requirements.		

Required skills and knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills	✓	**Assessor comment**
Communication skills to: • communicate instructions and directions • communicate performance expectations • complete a range of documentation • encourage team members • informal performance counselling • providing feedback on performance • representing issues to management team building		
Required knowledge	✓	**Assessor comment**
• defined OH&S policies and procedures		
• current principles and practices		
• legal requirements and ramifications of team activities		
• method of monitoring performance		
• organisation's policy for referring performance issues		
• organisation's policy relevant to hours of work and work allocation		
• organisation's requirements for documenting team performance and activities procedures		
• methods of setting performance expectations required to work in a team		
• team members' duties and responsibilities.		

CPPSIS3001A Apply map presentation principles

Context

This unit of competency specifies the outcomes required to be able to interpret and create simple maps. It requires basic cartographical skills and knowledge and the ability to apply them. Functions would be carried out under supervision, within organisational guidelines.

Applied within the context of the Mapping Team Member training, trainees should be able to interpret and create simple digital maps using basic cartographic skills within organisational guidelines.

A person who demonstrates competency in this unit must be able to provide evidence of:

- Accessing and interpreting information to identify the components to be measured and monitored
- Creating basic maps
- Performing measurements.

Assessment of competency

Elements*	Performance criteria*	✓	Assessor comment
1 Apply understanding of cartography principles.	1.1 Purpose, application and scope of cartography are applied in the context of the project objective. 1.2 Different types of maps are identified and described. 1.3 Cartographic conventions used on maps are identified. 1.4 Skills and knowledge are updated to accommodate changes in cartographic requirements.		
2 Apply basic cartographical practical skills.	2.1 Major elements and features on maps are identified. 2.2 Spatial reference systems are used to measure, locate and plot features on maps. 2.3 Simple maps are created using correct cartographical design principles and according to project specifications. 2.4 Sound OHS practices are applied at all times according to organisational policies. 2.5 Quality assurance principles are observed under the direction of relevant personnel.		

Required skills and knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills	✓	**Assessor comment**
Ability to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities		
Analytical skills (basic)		
Skills to communicate in a clear and concise manner in both written and verbal modes		
Computer skills, including ability to use basic software systems		
Interpretation of technical task requirements		
Literacy skills to: • assess and use workplace information • interpret and understand basic legal, financial, procedural and technical requirements • process workplace documentation • read and record data		
Numeracy skills to: • accurately record and collate • undertake basic computations		
Organisational skills to: • prioritise daily activities • process customers routine needs		
Quality assurance skills		
Spatial skills to: • apply understanding of height, depth, breadth, dimension and position to actual operational activity and virtual representation • exercise precision and accuracy in relation to basic design application		
Time management skills.		
Required knowledge	✓	**Assessor comment**
Abilities and capabilities of work team		
Application of a graphic design package (basic)		
Cartographic conventions used on maps (basic)		
Information on maps and how to extract it		
Performance evaluation procedures		
Safe work practices		
Spatial information principles and their application (basic).		
Abilities and capabilities of work team		
Application of a graphic design package (basic)		
Cartographic conventions used on maps (basic)		

CPPSIS3005A Collect basic spatial data*

Context

This unit of competency specifies the outcomes required to collect basic data through a range of methods. It requires the ability to work with others in performing set task requirements within deadlines. It also requires the ability to perform a range of basic activities in the use of information technology and equipment within a spatial information handling framework. Functions would be carried out under supervision, often in a team environment, and within organisational guidelines.

Applied within the context of the Mapping Team Member training, trainees should be able to:

- Collect basic data using information technology and equipment within a spatial information handling framework.

A person who demonstrates competency in this unit must be able to provide evidence of:

- Applying a defined range of skills
- Applying known solutions to a range of predictable problems
- Assessing and recording information from varied sources
- Demonstrating operational knowledge in a moderate range of areas
- Performing a range of tasks where choice between a limited range of options is required
- Taking responsibility for own outputs in work and learning

Assessment of competency

Elements*	Performance criteria*	✓	Assessor comment
1. Prepare for the task.	1.1 Requirements for the task are clarified with appropriate persons. 1.2 Equipment, supplies and SIS technologies are selected according to task requirements. 1.3 Equipment is checked to ensure it is in safe working order. 1.4 Skills and knowledge are updated to accommodate changes in data collection techniques.		
2. Gather basic data.	2.1 Data and attributes are collected using methodologies detailed in a data collection plan. 2.2 Metadata is documented according to accepted industry standards. 2.3 Any discrepancies between specifications and actual activities are identified, recorded and reported. 2.4 Administrative and legal requirements for data collection are complied with and recorded. 2.5 Assistance is given to relevant personnel assisting in the data collection process. 2.6 OHS requirements are planned for and adhered to.		

Elements*	Performance criteria*	✓	Assessor comment
3. Use equipment.	3.1 Supervisor guidance is sought on the selection of appropriate equipment. 3.2 Appropriate equipment is operated according to the task requirements and manufacturer specifications. 3.3 All safety requirements are adhered to at all times. 3.4 Data is recorded correctly and according to specifications.		
4. Maintain equipment.	4.1 Supervisor guidance is sought on the manner in which equipment is to be maintained. 4.2 Operational maintenance of equipment is undertaken according to organisational guidelines. 4.3 Contingencies that may affect equipment usage are reported. 4.4 Unsafe or faulty equipment is reported and referred for repair. 4.5 Tools and equipment are stored safely in appropriate locations and according to manufacturer specifications.		
5 Contribute to finalising the collection process.	5.1 All required documentation is completed according to organisational requirements. 5.2 All data and documentation are stored according to organisational guidelines.		

Required skills and knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills	✓	Assessor comment
Communication skills to: • communicate instructions and directions • communicate performance expectations • complete a range of documentation • encourage team members • informal performance counselling • providing feedback on performance • representing issues to management team building		
Required knowledge	✓	**Assessor comment**
Numeracy skills to: • accurately record and collate • undertake basic computations		
Organisational skills to prioritise daily activities		

Spatial skills to: • apply understanding of height, depth, breadth, dimension and position to actual operational activity and virtual representation • perform basic spatial and aspatial data collection in an accurate manner • use spatial information technology to perform basic data collection		
Work effectively as part of a team		
Use a range of equipment in the field safely, accurately and as required for the task.		
Required knowledge and understanding	✓	**Assessor comment**
Basic data collection methods using electronic equipment		
Spatial and aspatial data acquisition using electronic equipment		
Equipment capabilities, limitations and potential problems		
Basic organisational policies and guidelines, such as OHS guidelines		
Basic characteristics, capabilities and limitations of tools, technology and equipment used.		

CPPSIS4006A Read and interpret basic image data

Context

This unit of competency specifies the outcomes required to interpret information from various types of image data. It requires the ability to identify, analyse and evaluate image data to fulfil project requirements. Functions would be carried out under limited supervision and within organisational guidelines.

This unit of competency supports the application of accuracy, problem-solving and self-management skills, and an understanding of technological images. The skills and knowledge acquired upon completion of this unit would apply to the needs of employees in supporting positions for surveying, town planning, cartography, mapping and geographic information systems.

Applied within the context of the Mapping Team Member training, trainees should be able to interpret (i.e. to identify, analyse and evaluate) information from various types of image data.

A person who demonstrates competency in this unit must be able to provide evidence of:

- Accessing and interpreting information to identify the components of image data to be measured and monitored
- Managing quality processes
- Planning basic resources
- Performing measurements
- Writing reports and completing documentation.

Assessment of competency

Elements*	Performance criteria*	✓	Assessor comment
1 Apply understanding of basic image data.	1.1 Basic principles of image data are applied in the context of the project objective and project survey area. 1.2 Possible sources of image data are identified. 1.3 Properties of different types of image data are identified. 1.4 Constraints of different types of image data are identified. 1.5 Spatial reference systems are accessed as required. 1.6 Skills and knowledge are updated to accommodate changes in spatial reference systems.		
2 Calculate information from image data.	2.1 Scale of digital and hard copy image data is determined. 2.2 Problems involving acquired image data are solved according to organisational policies and principles.		
3 Interpret image data.	3.1 Information from acquired image data is used to fulfil project objectives. 3.2 Data image problems are resolved where possible.		
4 Document activity.	4.1 Required documentation is completed according to organisational policies.		

Required skills and knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills	✓	**Assessor comment**
Ability to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities		
Analytical skills		
Communication skills to: • discuss vocational issues effectively with colleagues • impart knowledge and ideas through oral, written and visual means		
Computer skills (technical user level) to complete business documentation		
Interpretation of technical task requirements		
Literacy skills to: • assess and use workplace information • interpret and understand legal, financial and procedural requirements • process workplace documentation • read, record data and write technical reports • research and access routine sources of spatial data		
Numeracy skills to: • record and interpret statistics • record with accuracy and precision • undertake computations		
Organisational skills to: • • prepare and administer documentation • prioritise activities to meet contractual requirements		
Quality assurance skills		
Spatial skills to: • interpret basic data imagery • perform spatial data archival and retrieval • perform spatial data management and manipulation • solve basic problems relating to height, depth, breadth, dimension, direction and position in actual operational activity and virtual representation • understand implications of height, depth, breadth, dimension and position to actual operational activity and virtual representation		
Time management skills.		

Required knowledge	✓	**Assessor comment**
Data formats (basic)		
Image data (basic)		
Information management		
Organisational policies and guidelines		
Quality assurance principles		
Planning		
Relevant industry requirements and standards		
Safe work practices		
Spatial reference systems		
Surveying requirements for capturing various sources of data (basic).		

CPPSIS4015A Apply GIS software to problem-solving techniques

This unit of competency specifies the outcomes required to apply geographic information systems (GIS) software to resolve problems, using spatial and aspatial data in an integrated manner. It requires the ability to operate GIS applications correctly in order to perform the required tasks of a spatial project. Functions would be carried out under limited supervision and within organizational guidelines.

This unit of competency supports the application of the use of technology for data interpretation and collation, supervised problem solving, teamwork and interpreting technical data. The skills and knowledge acquired upon completion of this unit would support the needs of employees in the spatial information services (SIS) industry sector in positions such as field hands, field work coordinators and data collection officers.

Applied within the context of the Mapping Team Member training, trainees should be able to:

- Apply GIS software correctly to resolve problems and use spatial and aspatial data in an integrated manner.
- Create a map, as required by the agency, with the aid of a GIS system.

A person who demonstrates competency in this unit must be able to provide evidence of:

- Organising own work load
- Using a variety of desktop applications
- Using a variety of features available within a spatial information system
- Working in a team.

Elements*	Performance criteria*	✓	Assessor comment
1 Use GIS software to query spatial data.	1.1 Spatial data updates are accessed, read, interpreted and edited to ensure they are in an acceptable format to meet functional requirements. 1.2 Entities and attributes are used to display spatial information that will assist in the delivery of spatial information services. 1.3 Entity and attribute queries of spatial data are used to generate summary results. 1.4 Results from queries are used to present spatial data graphically according to organisational guidelines. 1.5 Entity and attribute queries are applied when using univariate statistics to explore the dataset. 1.6 Routine spatial data problems or irregularities are solved in the course of the activity or via consultation with relevant personnel. 1.7 Keyboard and computer hardware equipment are used to meet functional requirements on speed and accuracy and according to OHS requirements. 1.8 Skills and knowledge are updated to accommodate changes in GIS software.		

Elements*	Performance criteria*	✓	Assessor comment
2 Solve problems using GIS software.	2.1 Existing spatial and aspatial data is adjusted to integrate with new data to meet documentation and reporting requirements and to add to personal learning and organisational intelligence. 2.2 Geospatial techniques on appropriate software are used to combine spatial layers data to solve problems, highlight selected data features and improve the visual aspect and understanding of the project. 2.3 Spatial overlay techniques are used to solve problems and generate results pertaining to the spatial project as specified by relevant personnel. 2.4 Cartographic integrity is tested and validated to solve accuracy and quality problems.		
3 Produce reports based on basic spatial analysis.	3.1 Map or plans are integrated into project reports. 3.2 Results, summary statistics and graphs from a mapping application are incorporated into a project. 3.3 Legal and ethical requirements are adhered to according to organisational guidelines.		
4 Archive data.	4.1 Spatial dataset to be archived is manipulated where necessary to ensure completeness. 4.2 Metadata is created according to accepted industry standards. 4.3 New and existing spatial data is stored and archival details are recorded according to organisational guidelines.		

Required skills and knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills	✓	Assessor comment
Ability to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities		
Analytical skills in relation to routine areas		
Communication skills to:		
• discuss vocational issues effectively with colleagues		
• impart knowledge and ideas through oral, written and visual means		
Computer skills (technical user level)		
Decision making skills in relation to routine areas		
File management		
Literacy skills to:		
• assess and use workplace information		
• interpret and understand legal, financial and procedural requirements		
• process workplace documentation		

• read and record data		
• research and access routine sources of spatial data		
Numeracy skills to:		
• accurately record and collate		
• record and interpret statistics		
• undertake basic computations		
Organisational skills to prioritise activities to meet contractual requirements		
Spatial skills to:		
• combine spatial data layers (geoprocessing)		
• exercise precision and accuracy in all operations		
• load spatial data into a mapping application and perform entity and attribute queries		
• perform spatial data archival and retrieval		
• perform spatial data management and manipulation		
• perform file management		
• solve basic problems relating to height, depth, breadth, dimension, direction and position in actual operational activity and virtual representation		
• understand implications of height, depth, breadth, dimension and position to actual operational activity and virtual representation.		
Required skills	✓	**Assessor comment**
Cartographic design principles		
Datum and projections		
Geoprocessing		
Logging procedures relating to a computer		
OHS principles and responsibilities, such as ergonomic principles and practices to avoid muscle strain		
Operation of relevant software packages		
Organisational policies and guidelines (basic)		
Printing and image formats for map production		
Security management guidelines		
Spatial database operation (basic)		
Spatial data storage technology (basic)		
Spatial information systems (basic)		
Technical terminology in relation to reading help files and prompts		
Univariate statistics and charting.		

Section 5

Review and amendment

These resources are managed under a document and version control system which includes a formal review and amendments process and will be formally reviewed at periodic intervals as determined by the needs of individual agencies.

A pro-forma for the tracking and recording of any changes or amendments required is included at the end of this section. A record of recommended changes can then be tabled at the formal review.

The delivery of this training will be evaluated as part of an ongoing process. The pro-forma provided in this document is an example only. It can be used to gather feedback on the training delivery and resources for this unit as part of the ongoing process.

Amendment pro-forma

Amendment			Brief Description of Amendment	Effected	
No	Date	Pages		Initial	Date