



Australian Government

NWP209B Use maps, plans, drawings and specifications

Revision Number: 2

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Modification History

NWP209B Release 2: Layout adjusted. No changes to content.
NWP209B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to read and interpret maps, plans, drawings and specifications.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field and operational staff involved in the location, construction and maintenance or repair of assets, such as plants, pump stations and infrastructure.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit of competency contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Interpret maps, plans and drawings.	<p>1.1 Identify main <i>types of maps, plans, drawings and specifications</i> used to support work tasks.</p> <p>1.2 Identify parts of water systems and their interrelationship on a range of drawing types.</p> <p>1.3 Interpret commonly used symbols and abbreviations.</p> <p>1.4 Interpret function of the legend.</p> <p>1.5 Verify latest version of map, plan or drawing.</p>
2 Use maps and site plans to support work activities.	<p>2.1 Apply organisation's <i>system for managing maps and plans</i>.</p> <p>2.2 Apply relevant <i>technologies</i> used to gather, record and monitor, map and plan data.</p> <p>2.3 Identify function and <i>key features of maps and site plans</i> in the planning of work.</p> <p>2.4 Identify <i>orientation of the site</i>.</p> <p>2.5 Identify and isolate access from roadways to work site.</p> <p>2.6 Determine materials and distances from plans and drawings.</p>
3 Read and interpret specifications.	<p>3.1 Relate specifications to particular maps and plans and identify quality standards.</p> <p>3.2 Identify and determine types of details from works specifications.</p>

Required Skills and Knowledge

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

Required skills:

- read and interpret maps, plans, drawings and specifications
- measure accurately
- communicate effectively
- work effectively as part of a team
- use literacy skills in regard to verbal and written communication in the workplace
- use information provided in maps, plans and drawings to complete a job and in different work situations

Required knowledge:

- measurements and calculations
- contours
- datum points
- planes
- gradients
- sections
- orthographic projection
- symbols
- dimensions
- terminology

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to read and interpret maps, plans, drawings and specifications including:

- locating correct maps, plans, drawings and specifications for work tasks
- interpreting correctly all relevant information in maps, plans, drawings and specifications to enable the work to be performed correctly, effectively and according to organisational quality standards

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence only taken at the point when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence
- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based

activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator and cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the performance criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Types of maps, plans, drawings and specifications may include:

- urban and rural topographical maps
- site plans and elevations
- process flow sheets
- survey plans
- sectional plans and elevations
- channel drainage plans
- pipe system plans
- location of assets plans
- details and specifications providing illustrations and dimensions

System for managing maps and plans used within organisation may be:

- geographic information systems
- electronic plans management systems
- manual systems
- hard copy systems

Technologies used to gather, record and monitor map and plan data may:

- vary across organisations
- include use of global positioning system (GPS) technology and require the use of portable navigation devices by operators

Key features of maps and site plans will include combinations of:

- shape and orientation of site
- roads
- railways
- easements
- existing buildings and structures
- services, including:
 - drainage
 - sewerage
 - gas
 - water
 - electricity and telecommunications
- dimensions
- grades of pipelines and channels
- tree preservation orders
- geographical features
- power and transmission lines
- heritage and cultural features

- types of structure, including:
 - buildings
 - bridges
 - fabricated towers
 - fences
 - pipelines
 - regulators
 - poles
- environmental barriers
- environmental features, including:
 - fauna and flora habitats
 - cultural features
 - heritage features
 - water catchments
- shape of structure and building
- service requirements
- location of plant and equipment
- vertical and horizontal measurements
- clearance distance
- geological features
- service layouts
- bore and casing details
- relationship to north
- currency of plan
- relationship between plan and site

Orientation of the site may include:

Unit Sector(s)

Not applicable.

Competency field

Common.