



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEM09218A Participate in drafting projects for building services**

**Release: 1**

## **MEM09218A Participate in drafting projects for building services**

### **Modification History**

Release 1 - New unit of competency

### **Unit Descriptor**

This unit of competency covers the skills and knowledge required to participate in the coordination of services within buildings sites. This entails interpreting plans and specifications of other services, negotiating with other services and participating in project meetings. It also necessitates the sequencing of plans to meet the requirements of other services in a multi-service site.

### **Application of the Unit**

This unit would be applied by draftspersons providing detailed engineering drawings that must be integrated with other building services. It requires interpretation of drawings and specifications from a variety of services and application of knowledge of building construction components and types to drawings development.

If work requires entering construction worksite, then the unit CPCCOHS1001A Work safely in the construction industry, should also be selected.

### **Licensing/Regulatory Information**

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

### **Pre-Requisites**

MEM09002B Interpret technical drawing

MEM09204A Produce basic engineering detail drawings

### **Employability Skills Information**

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

1	Examine site information	1.1	Identify building features and types of building services from drawings and project information
		1.2	Identify functions of building services, requirements for installation of components and implications for drawing work
		1.3	Extract all required information from services and project documentation
2	Integrate information from other services	2.1	Prepare drawings that incorporate protocols for a multi-service site
		2.2	Facilitate sequencing and coordination with other services
		2.3	Integrate the functions of other building services into drafting work practices
		2.4	Ensure installation plans are appropriate for building types and components
3	Participate in site and coordination meetings	3.1	Identify and apply meeting procedures and objectives
		3.2	Present points of view and comments, including agreement and dissent, in a logical, persuasive and orderly manner
		3.3	Obtain and consider points of view of other members
		3.4	Submit drawings to project supervisor
		3.5	Integrate feedback into drawings and prepare final draft

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|---|------------------|-----|--|
| 4 | Complete drawing | 4.1 | Check final drawing and documentation to ensure all required specifications, symbols, dimensions and components are included according to standards and the design specification |
|   |                  | 4.2 | Present and store drawing and documentation according to organisational procedures   |

## Required Skills and Knowledge

### Required skills

Required skills include:

- drafting skills and interpreting drawings from full range of building services
- interpersonal skills to work with others and negotiate final plans
- applying various codes of practice, specifications and standards
- producing plans according to industry standard
- numeracy skills sufficient to interpret technical information and conduct mathematical problem solving as required in the scope of this unit
- literacy skills sufficient to read and interpret instructions, relevant codes of practice and specifications for drawing work
- applying knowledge of building construction components and types to drawings

### Required knowledge

Required knowledge includes:

- general knowledge of different approaches to drawing
- awareness of copyright and intellectual property issues and legislation in relation to drawing
- types and functions of building services and building construction components and requirements for installation
- location of building services on drawings
- protocols for coordination of building services
- strategies for cooperative practices
- a range of building types (concrete, timber, block work, steel-framed, and so on)
- a range of construction types (slabs, walls, ceilings and roofs)
- a range of architectural/structural features

## Evidence Guide

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

<b>Overview of assessment</b>	A person who demonstrates competency in this unit must be able to interpret and apply drawing specifications and industry standards in the production of drawings that integrate with other building services.
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.</p> <p>Specifically the candidate must be able to:</p> <ul style="list-style-type: none"> <li>• work within typical site/teamwork structures and methods</li> <li>• apply worksite communication procedures</li> <li>• comply with organisational policies and procedures, including quality requirements</li> <li>• participate in work meetings</li> <li>• comply with quality requirements</li> <li>• use industry terminology</li> <li>• apply appropriate safety procedures</li> <li>• consult with other services in a multi-service worksite to interpret functions, protocols and negotiate processes and timelines</li> <li>• modify drafting plans and sequences to integrate information from other services</li> <li>• modify plans and sequences in response to delays</li> <li>• participate in site and coordination meetings</li> <li>• correlate processes, timelines with drawings and specifications.</li> </ul>
<b>Context of and specific resources for assessment</b>	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.

	<p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with drafting or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
<b>Method of assessment</b>	<p>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</p>

## Range Statement

<b>Types of services in a building</b>	<p>Types of services in a building include:</p> <ul style="list-style-type: none"> <li>• architectural</li> <li>• structural</li> <li>• electrical</li> <li>• power</li> <li>• lighting</li> <li>• fire</li> <li>• hydraulic</li> <li>• mechanical</li> <li>• communications</li> <li>• lift</li> <li>• syphonic drawings</li> </ul>
<b>Building types</b>	<p>Building types include:</p> <ul style="list-style-type: none"> <li>• concrete</li> <li>• block</li> <li>• tilt panel</li> <li>• in-situ</li> <li>• pre-cast</li> <li>• formed</li> <li>• bondeck</li> <li>• hollow core</li> </ul>
<b>Available information</b>	<p>Available information may include:</p> <ul style="list-style-type: none"> <li>• floor plans, elevations, sections and site layout drawings</li> <li>• construction documents</li> <li>• building and coordination information</li> <li>• work specifications</li> <li>• information for plant services equipment</li> <li>• industry codes, standards and regulations</li> <li>• project brief</li> </ul>
<b>Protocols for a multi-service site</b>	<p>Protocols for a multi-service site include:</p> <ul style="list-style-type: none"> <li>• sequencing of installation</li> <li>• consultations</li> <li>• meetings</li> </ul>
<b>Codes, standards and industry regulations</b>	<p>Codes, standards and industry regulations may include:</p> <ul style="list-style-type: none"> <li>• Australian Standards (AS):             <ul style="list-style-type: none"> <li>• AS/NZS 1668 Set:2005 The use of ventilation</li> </ul> </li> </ul>

	<p>and air conditioning in building Set</p> <ul style="list-style-type: none"><li>• AS 1682.1–1990 Fire dampers – Specification</li><li>• AS 4254–2002 Ductwork for air-handling systems in buildings</li><li>• building codes</li><li>• gas, water and electricity regulations</li><li>• standards for smoke alarms</li><li>• occupational health and safety (OHS) codes of practice</li></ul>
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## Unit Sector(s)

Drawing, drafting and design

## Custom Content Section

Not applicable.