

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Training Package	Construction, Plumbing and Services Integrated Framework (CPC08)		HSC Requirements and Advice
Unit title	Read and interpret plans and specifications		
Unit code	Competency field	Unit sector	HSC Indicative Hours
CPCCCM2001A	Common	Construction	20

Unit descriptor	This unit of competency specifies the outcomes required to read and interpret plans and specifications relevant to construction operations. It includes the identification of types of plans and drawings and their functions, the recognition of commonly used symbols and abbreviations, the identification of key features and specifications on a site plan, the comprehension of written job specifications and the recognition of document status and amendment detail.
Prerequisite units	Nil
Co-requisite units	Nil
Application of the unit	This unit of competency supports achievement of basic reading and interpretation of plans and specifications commonly used in the construction industry.
Employability skills	This unit contains employability skills.

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.

Overview of assessment	Critical aspects for assessment and evidence required to demonstrate competency in this unit	Context of and specific resources for assessment	Method of assessment
This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.	<p>A person who demonstrates competency in this unit <u>must</u> be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> locate, interpret and apply relevant information, standards and specifications comply with site safety plan, OHS regulations and state and territory legislation applicable to workplace operations comply with organisational policies and procedures, including quality requirements communicate and work effectively and safely with others 	<p>This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.</p> <p>Assessment of essential underpinning knowledge will usually be conducted in an off-site context.</p> <p>Assessment is to comply with relevant regulatory or Australian standards' requirements.</p> <p>Resource implications for assessment include:</p>	<p>Assessment methods <u>must</u>:</p> <ul style="list-style-type: none"> satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Integrated Framework Training Package include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application reinforce the integration of employability skills with workplace tasks and job roles

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

	Critical aspects for assessment and evidence required to demonstrate competency in this unit cont/d	Context of and specific resources for assessment cont/d	Method of assessment cont/d
	<ul style="list-style-type: none"> • for a minimum of two different projects, read and interpret the project plans, including: <ul style="list-style-type: none"> - confirmation of amendment status and drawings confirmed 'for construction' - orientation of plans to the ground - six key features on both the plan and the site - confirmation of six items of information from the title block of the project plans - six construction dimensions, levels and locations from the project plans - six ancillary works dimensions, levels and locations from the project plans • for a minimum of two formal specifications, identify the dimensions, material requirements and processes to be followed. 	<ul style="list-style-type: none"> • an induction procedure and requirement • realistic tasks or simulated tasks covering the mandatory task requirements • relevant specifications and work instructions • tools and equipment appropriate to activity • support materials appropriate to applying safe work practices • workplace instructions relating to safe work practices and addressing hazards and emergencies • material safety data sheets • research resources, including industry related systems information. <p>Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.</p>	<ul style="list-style-type: none"> • confirm that competency is verified and able to be transferred to other circumstances and environments. <p>Validity and sufficiency of evidence <u>requires</u> that:</p> <ul style="list-style-type: none"> • 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 be related to a number of performance assessments at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge • all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence. <p>Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.</p> <p>Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.</p>

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Required Skills and Knowledge		HSC Requirements and Advice
This section describes the skills and knowledge required for this unit.		
<p>Required skills</p> <p>Required skills for this unit are:</p> <ul style="list-style-type: none"> • communication skills to: <ul style="list-style-type: none"> – enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand – read and interpret: <ul style="list-style-type: none"> ▪ documentation from a variety of sources ▪ drawings and specifications • use language and concepts appropriate to cultural differences • use and interpret non-verbal communication, such as hand signals • identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials • numeracy skills to apply measurements and make calculations, including heights, areas, volumes and grades • organisational skills, including the ability to plan and set out work • teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities • technological skills to: <ul style="list-style-type: none"> – use a range of mobile technology, such as two-way radio and mobile phones – voice and hand signals to access and understand site-specific instructions. 	<p>Required knowledge</p> <p>Required knowledge for this unit is:</p> <ul style="list-style-type: none"> • basic calculations of heights, areas, volumes and grades • commonly used construction symbols and abbreviations • construction terminology • drawing conventions • features of plans and elevations, including direction, scale, key, contours, symbols and abbreviations • job safety analysis (JSA) and safe work method statements • key features of formal job specifications • processes for application of scales in plan preparation and interpretation • project quality requirements • site and equipment safety (OHS) requirements • techniques for orienting/confirming the orientation of a plan. 	<p>Key Terms and Concepts</p> <ul style="list-style-type: none"> • amendments • dimensions • document status • drawing conventions • key features • legend • orientation • plans and drawings • project documentation • quality requirements • scale • specifications • symbols and abbreviations • title panel • tolerances.

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
<p>1 Identify types of drawings and their functions.</p>	<p>1.1 Main types of <i>plans and drawings</i> used in the construction sector of the industry are identified.</p>	<p>The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. <i>Bold italicised</i> wording, if used in the performance criteria, is detailed below. 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) may also be included.</p> <p><i>Plans and drawings include:</i></p> <ul style="list-style-type: none"> • construction plans • cross-sectional plans • dimensions and notes • illustrations • longitudinal plans • project specifications • site plans • structural detail and specification providing illustrations and dimensions. 	<p>Learning experiences for the HSC must address:</p> <p>An awareness of the use of a range of technical drawings/plans.</p> <p>An understanding of the purpose of project documentation.</p>
	<p>1.2 <i>Key features</i> and functions of each type of drawing are identified.</p>	<p><i>Key features</i> of plans and specifications <u>include:</u></p> <ul style="list-style-type: none"> • characteristics • compatibility • construction • location • pattern dimension • quantities • sizes • type of product or service. 	<p>Learning experiences for the HSC must address:</p> <p>The function and key features of a range of drawings including:</p> <ul style="list-style-type: none"> • project plan <ul style="list-style-type: none"> - concept drawings - initial planning - time line details - major features of project • site plan <ul style="list-style-type: none"> - orientation - position of structures and ancillary works - boundary dimensions - setback from boundaries - contour lines • construction plans <ul style="list-style-type: none"> - overall dimensions - position of doors and windows - thickness and type of wall structures

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
			<ul style="list-style-type: none"> - position of services/outlets/switches - roofline • longitudinal plans <ul style="list-style-type: none"> - building design - position of doors and windows - floor and ceiling heights - windows sill heights - roof and external wall finishes - ground line • cross-sectional views <ul style="list-style-type: none"> - detail of features at the position of section - wall and floor/sub-floor structure and dimensions - roof structure and dimensions - structural members • detail drawings <ul style="list-style-type: none"> - notes and dimensions - clarify construction/location - improved scale for finer detail • specifications/illustrations and notes <ul style="list-style-type: none"> - details of practices and methods of construction and handling materials - information regarding material and associated properties - list compatibility of products and methods - identifies sources of information and warnings relevant to the product or process.
	1.3 <i>Quality requirements</i> of company operations are recognised and adhered to.	<i>Quality requirements</i> include relevant regulations, <u>including</u> : <ul style="list-style-type: none"> • Australian standards • internal company quality policy and standards • manufacturer specifications, where specified • workplace operations and procedures. 	Learning experiences for the HSC must address: An awareness of the role of employees in quality assurance.
	1.4 <i>Environmental requirements</i> and controls are identified from job plans, specifications and environmental plan.	<i>Environmental requirements</i> <u>include</u> : <ul style="list-style-type: none"> • clean-up management • waste management. 	Learning experiences for the HSC must address: An awareness of workplace site environmental policy and project environment management plan.

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
2 Recognise amendments.	2.1 Title panel of <i>project documentation</i> is checked to verify latest amendments to drawing.	<p><i>Project documentation</i> <u>includes</u>:</p> <ul style="list-style-type: none"> • contracts • drawings • schedule of rates • specifications • standard procedures and practices • supplementary specifications • work schedules. 	<p>Learning experiences for the HSC must address:</p> <p>Identification of the components of the title panel including:</p> <ul style="list-style-type: none"> • date/version • drawing number • site location • architect • contractor • client • scale • number of pages.
	2.2 Amendments to <i>specifications</i> are checked to ensure currency of <i>information</i> and conveyed to others where appropriate.	<p><i>Specifications</i> <u>include</u>:</p> <ul style="list-style-type: none"> • detail relating to materials and quality of work, quality assurance, nominated subcontractors, and provision of site access/ facilities • details relating to performance, including: <ul style="list-style-type: none"> - characteristics - material types - standards of work - tolerances - treatments and finishes. <p><i>Information</i> <u>includes</u>:</p> <ul style="list-style-type: none"> • diagrams or sketches and graphics • instructions issued by authorised organisational or external personnel • manufacturer specifications and instructions • maps • material safety data sheets (MSDS) • memos • organisation work specifications and requirements. • plans and specifications • regulatory and legislative requirements pertaining to operations and the environment • relevant Australian standards • safe work procedures related to construction site operations 	<p>Learning experiences for the HSC must address:</p> <p>Importance of ensuring all amendments are current.</p> <p>Procedures for confirmation of amendment status on drawings confirmed 'for construction'.</p>

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
		<ul style="list-style-type: none"> • signage • verbal or written and graphical instructions • work bulletins • work schedules. 	
3 Recognise commonly used symbols and abbreviations.	3.1 Construction symbols and abbreviations are recognised.		Learning experiences for the HSC must address: Knowledge of drawing conventions for a range of symbols and abbreviations to indicate: <ul style="list-style-type: none"> • materials identification • services (such as gas, electricity and plumbing) • scale • projection • dimensions • direction • contours and datum • orientation/direction of north • situation of structures on site • inclusions.
	3.2 Legend is located on project drawings, and symbols and abbreviations are correctly interpreted.		
4 Locate and identify key features on a site plan.	4.1 Orientation of the plan with the site is achieved.		Learning experiences for the HSC must address: Procedures/techniques to orient/confirm the orientation of a plan with the site: <ul style="list-style-type: none"> • location of site with regard to nearest street/ intersection • compass direction • relative position of structures on site • setback from boundaries • key features located in relation to structures.
	4.2 Key features of the site are identified and located.		Learning experiences for the HSC must address: Key features including: <ul style="list-style-type: none"> • boundaries • contours

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
	<p>4.3 Access to site is gained and services, main features, contours and datum are identified.</p>		<ul style="list-style-type: none"> • services • protected areas/easements • access points • datum point. <p>Learning experiences for the HSC must address:</p> <p>Safe work practices and procedures for the construction industry.</p> <p>An awareness of the requirements of visitors to the site with regard to:</p> <ul style="list-style-type: none"> • occupational health and safety (OHS) • rights of access/permission to be on site. <p>Standard symbols/abbreviations/terminology used in plans and drawings to indicate:</p> <ul style="list-style-type: none"> • services • main features • contours • datum • reduced level (rl).
<p>5 Identify project requirements</p>	<p>5.1 Dimensions for project and nominated locations are identified.</p> <p>5.2 Construction types and dimensions for nominated locations are identified.</p> <p>5.3 Environmental controls and locations are identified.</p> <p>5.4 Location, dimensions and tolerances for ancillary works are identified.</p>		<p>Learning experiences for the HSC must address:</p> <p>Appropriate units of measurement and calculations.</p> <p>Importance of accurate measurements from datum point and correct location of boundaries.</p> <p>Learning experiences for the HSC must address:</p> <p>Standard symbols/abbreviations/terminology used in plans and drawings to indicate:</p> <ul style="list-style-type: none"> • construction types • environmental controls. <p>Understanding of levels and contours.</p> <p>Learning experiences for the HSC must address:</p> <p>Standard symbols/abbreviations/terminology used in plans and drawings to indicate ancillary works.</p>

The optional HSC examination is based on all components of this examinable unit of competency as detailed in Section 11.3 of Part A.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
			Positioning of ancillary works considering: <ul style="list-style-type: none"> • tolerances <ul style="list-style-type: none"> - drainage falls - boundary setback - distance from services • council requirements.
6 Read and interpret job specifications.	6.1 Job specifications are identified from drawings, notes and descriptions.		
	6.2 Standards of work, finishes and tolerances are identified from the project specifications.		
	6.3 <i>Material attributes</i> are identified from specifications.	<i>Material attributes</i> include: <ul style="list-style-type: none"> • characteristics • construction requirements • treatments and finishes • types. 	