Building Consultants
Accreditation Pty Ltd

COMPETENCY

STANDARDS

for the

Provision of Building

Design Services

Version 5 – March 2005

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INTRODUCTION TO COMPETENCY STANDARDS

INTRODUCTION

This document sets out the competency based occupational standards for persons practicing in the design of buildings in Australia. The standards cover a wide range of workplace activities which examine the design and documentation process in its entirety and interpret it in terms of performance. The competency standards do not attempt to portray an entry level into the industry or the range of competencies which all persons practicing within the industry are required to achieve. These standards describe the full range of workplace activity allowing for maximum flexibility in packaging and implementing training and accreditation programs appropriate to all industry sectors.

EFFECTIVE USE OF COMPETENCY STANDARDS

The public and other users of building design services have a right to expect that those operating within the industry are competent in the area of service they offer. They also have the right to choose the range of service appropriate to their situation. These standards provide a vehicle for the provision of relevant information to the users of design services. This document in isolation will not provide that information but can be packaged and used as the basis for assessment of competency.

Competency is the ability to apply skills and knowledge to the job in order to achieve the required outcomes in the workplace. Competency standards define the outcomes required, provide benchmarks which allow the assessment of competency and provide a means of recognition of competency wherever or however it is gained.

Because of the variety of backgrounds of persons currently involved in the building design industry it is important that these standards provide measurable benchmarks on which the competence of the individual can be gauged.

These standards may be used in a variety of ways.

Assessment of building designer competency
- for consumer information
- for regulation of the design industry
- to increase the professional reputation of building designers

The design and evaluation of education and training
- for the design of educational curriculum packages
- for the evaluation and accreditation of tertiary courses
- for the design of continuing professional development packages
- for the implementation of workplace training

Identification of career path
- to provide a clear path for articulation within the design industry
- to provide entry levels into the profession of building design

Mutual recognition
- to provide for mutual recognition of competency across state borders
- to allow for reciprocal arrangements internationally

These competency standards are structured to generally follow the design and documentation process and to provide for the effective management of a professional practice.

They are relevant to building designer practitioners who are sole operators or who own and manage a design practice. With appropriate interpretation they can also apply to technicians who are employed within a professional design practice.

The standards consist of a set of units which in whole describe the building design and management process. Each unit describes a series of elements and corresponding performance criteria which will result in the satisfactory performance as required in the workplace.

Each unit also includes a guide to the evidence of competency required during the assessment process allowing for a consistent and transparent process.

Packaging of the standards for a particular use is not addressed within this document. The scope of units and elements required for particular applications must be described within individual packages and will be defined during a broad consultation process.

Building Types and Sizes
These competency standards relate to buildings of all types, heights and sizes. It should be recognized that practitioners will have the opportunity to choose to undertake projects of a particular type or a range of types of building or to provide services for all types, heights and sizes of building.

This issue is not addressed in these standards because it is more appropriately handled in the accreditation process, education packages or regulation system which may utilize these standards. It is flagged here to allow flexibility in the application of these standards.

TERMINOLOGY

The terminology used within the performance criteria of the competency units relate directly to the type of activity undertaken by the building designer. The building design process is very much a team exercise. During the completion of the work the building designer will be required to manage the whole process.

The role will include:

Doing activities
These activities are usually referred to with terms such as *undertake, develop, determine, research, define and the like.*

Seek and receive advice and/or input from other consultants
This requires an *understanding* of concepts or issues or a *knowledge* of a subject.

Apply concepts or skills to particular situations
This also requires an *understanding* and *knowledge* of concepts or particular personal or professional *skills.*

INDUSTRY ACCEPTANCE

These competency standards have been developed following broad consultation with members of the Building Designers Association of Australia (BDAA). The BDAA represents those practitioners within the industry who are not architects registered under current relevant legislation.

The BDAA has ratified these standards as suitable for use by individual state BDAs for packaging and use as appropriate in each state situation.

PART 1 - DESIGN

Unit 1.1 Design Brief

DEFINITION
This unit relates to the collection of information and generation of a project brief for buildings of all types and sizes.

APPLICATION
The unit has application where a building designer working unsupervised will demonstrate competence in assessing client and user requirements and expectations, community expectations, environmental and legislative constraints and feasibility issues and using these to develop a detailed functional brief.

ELEMENT		PERFORMANCE CRITERIA	
1.1.1	Compile information	1.1.1(a)	Demonstrate client interview skills and an understanding of the information required for the development of a project brief.
		1.1.1(b)	Undertake a preliminary site evaluation for the purpose of providing sufficient information to allow the development of the brief.
		1.1.1(c)	Understand the constraints imposed on a project by planning and building legislation.
1.1.2	Develop the Design/Client Brief	1.1.2(a)	Determine client expectations and user requirements and establish appropriate solutions.
		1.1.2(b)	Develop relationships plans and circulation diagrams.
		1.1.2(c)	Understand the role of the feasibility study in the development of the brief.
1.1.3	Develop the Functional/Project Brief	1.1.3(a)	Undertake a full site analysis.
		1.1.3(b)	Research and complete a detail report on planning and building legislation impact on a project.
		1.1.3(c)	Research and define all spaces and/or rooms required for a project.
		1.1.3(d)	Research and complete a detail report on options for preferred materials, finishes and services for a project.
		1.1.3(e)	Research and complete a detail report on relationships and circulation requirements.
		1.1.3(f)	Understand the role of the designer, other consultants, client, user, regulatory authorities and the community in the development of a functional brief.
1.1.4	Apply interpersonal and communication skills	1.1.4(a)	Demonstrate an understanding of personality types and communication mediums.
		1.1.4(b)	Demonstrate the skills required to respond to conflict situations.
		1.1.4(c)	Demonstrate knowledge of verbal and non-verbal cues, listening skills and writing skills.

REQUIRED WORKPLACE PERFORMANCE

Work will be carried out by the Building Designer as director of the design team or as an individual without supervision and will generally involve an initial meeting with the client followed by research in various areas and the development of a sufficiently detailed brief to allow the design and documentation to be completed in such a way as to satisfy the needs and expectations of the client, the reasonable expectations of the community and the statutory regulation requirements.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- Highly developed communication and interpersonal skills
- The ability to conduct a client interview and undertake a preliminary site evaluation
- A detail knowledge and understanding of planning and building legislation
- The ability to establish design solutions appropriate to user requirements and with appropriate space relationships and circulation solutions
- A general understanding of the roles of the design team, client, building user, statutory authorities and the community
- A general understanding of the role of feasibility studies
- Detail knowledge of building materials, finishes and services.

Unit 1.2 Design Concepts

DEFINITION
This unit relates to the development of design concepts which respond appropriately to the brief, have a positive impact on the built environment and relate well to client and user expectations.
APPLICATION
The unit has application where a building designer working unsupervised will demonstrate competence in the development and communication of designs which are capable of being constructed and when constructed will satisfy the brief, the client and building users and meet reasonable community expectations.

ELEMENT		PERFORMANCE CRITERIA	
1.2.1	Identify Project Requirements and Establish Design Constraints	1.2.1(a)	Interpret the functional brief and the site analysis report.
		1.2.1(b)	Understand the role of client and community expectations and the processes for assessing these.
		1.2.1(c)	Understand the structure and importance of feasibility studies and the project budget.
		1.2.1(d)	Interpret town planning legislation and apply legislative requirements.
		1.2.1(e)	Demonstrate highly developed skills in the application of building codes, standards and other building legislation.
1.2.2	Determine Design Options	1.2.2(a)	Develop schematic design options.
		1.2.2(b)	Research and report on options for structural concepts and building materials.
		1.2.2(c)	Conduct an evaluation of compliance with the functional brief.
1.2.3	The Decision Making Process	1.2.3(a)	Understand decision making processes including brainstorming, lateral and parallel thinking and mind mapping.

		1.2.3(b)	Demonstrate highly developed creative thought processes.
1.2.4	Proportions and Spatial Relationships	1.2.4(a)	Understand the theories of form and function.
		1.2.4(b)	Undertake an analysis of spatial relationships and circulation requirements and demonstrate the ability to appropriately plan spaces and rooms.
		1.2.4(c)	Demonstrate a knowledge of psychology as related to building design.
1.2.5	Originate Design Concepts	1.2.5(a)	Understand structural elements, services requirements, materials and applied finishes.
		1.2.5(b)	Develop building elevation and aesthetic detail.
1.2.6	Communicate Design Concepts	1.2.6(a)	Prepare presentation drawings and understand the use of models for presentation.
		1.2.6(b)	Demonstrate verbal and visual presentation skills.

REQUIRED WORKPLACE PERFORMANCE

The building designer will work as director of the design team or as an individual and will fully develop design concepts, establish constraints and solutions which fully satisfy the brief and are practical to construct. The role includes the presentation of the design concepts to the client and other stakeholders.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- The ability to establish the requirements and constraints established by the brief, legislation and client and community expectations
- The ability to develop design options which incorporate suitable structural, services, material and finishes solutions
- An understanding of decision making processes and theories of proportion, form and style
- The ability to plan spaces and rooms to successfully address spatial relationships and circulation requirements
- Creative thinking skills and the ability to develop appropriate aesthetic solutions
- The ability to use presentation drawings and models to sell the design concepts to all stakeholders

Unit 1.3 Design Development

DEFINITION

This unit relates to the development of the design from approved concepts to a stage where they can be passed on to a drawing office technician for completion of documentation.

APPLICATION

The unit has application where a building designer working unsupervised will demonstrate competence in the development and communication of design concepts into a working brief for the completion of working drawings and specifications.

ELEMENT		PERFORMANCE CRITERIA	
1.3.1	Establish Design Requirements and Design Constraints	1.3.1(a)	Demonstrate competency in elements 1.2.1, 1.2.2, 1.2.4 and 1.2.5 of Unit 1.2 of these standards.
		1.3.1(b)	Establish services locations and distribution methods.
		1.3.1(c)	Understand site/building relationships and integration issues.

1.3.2	Develop Design Standards	1.3.2(a)	Prepare a detailed report on design requirements and constraints.
		1.3.2(b)	Research and report on ecologically sustainable design issues.
		1.3.2(c)	Demonstrate a detail knowledge of fittings, finishes and architectural detail.
		1.3.2(d)	Prepare a drawing office brief
1.3.3	Proposals, Approvals and the Law	1.3.3(a)	Understand the development assessment process and the ability to prepare a job plan for the approval process.
		1.3.3(b)	Develop project proposals for approval, finance procurement, sales and the like.
		1.3.3(c)	Understanding the Australian legislative process.
		1.3.3(d)	Demonstrate a knowledge of the law of torts, law of contract and associated legislation.
		1.3.3(e)	Demonstrate a knowledge of associated legislation relating to building design and construction.

REQUIRED WORKPLACE PERFORMANCE

The building designer will work as director of the design team or as an individual and will fully develop the design concepts to prepare a detailed brief from which the working drawings and specifications can be prepared.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- The ability to determine and confirm the requirements and constraints established by the brief, legislation and client and community expectations
- The ability to develop design solutions which incorporate suitable structural, services, material and finishes solutions
- A working knowledge of urban planning legislation and building codes and standards
- The ability to develop project proposals and undertake planning for the approval process
- The ability to develop a drawing office brief
- An understanding of the law of torts, the law of contract, disability discrimination legislation and copyright law
- An knowledge of workplace health and safety, environmental protection and similar associated legislation

Unit 1.4 Sustainable Design

DEFINITION

This unit relates to the environmental and social responsibility of building industry and the role of the building designer in providing a built environment that reflects that responsibility throughout the life of the buildings.

APPLICATION

The unit has application where a building designer will demonstrate a detailed knowledge of environmental issues and is able to develop design solutions which seek to limit the resultant greenhouse gas emission to acceptable levels as established from time to time and the impact of construction on the natural environment and social fabric.

ELEMENT		PERFORMANCE CRITERIA	
1.4.1	Environmental Responsibility	1.4.1(a)	Understand the environmental, social and political issues of greenhouse gas emissions.
		1.4.1(b)	Demonstrate knowledge of environmental responsibility including issues of ecosystem interdependency, sustainability of the environment, waste management and recycling and resource efficiency.
		1.4.1(c)	Understand the impact of mining and mineral processing, manufacturing and life-cycle implications in relation to construction industry materials and processes.
1.4.2	Life-cycle Implications	1.4.2(a)	Understand human physiology and comfort zones in terms of temperature, air movement and relative humidity.
		1.4.2(b)	Understand life-cycle implications and costings including embodied energy and environmental restoration.
		1.4.2(c)	Develop a maintenance plan to provide for the continued energy and environmental performance of the building.
1.4.3	Energy Management	1.4.3(a)	Define the climatic conditions of appropriate regions.
		1.4.3(b)	Understand the concepts of passive heating and cooling including the role of materials and thermal mass, solar access and natural ventilation.
		1.4.3(c)	Understand the various energy rating systems in use in Australia.
		1.4.3(d)	Research and report on alternative energy management processes.
1.4.4	Energy Conversion	1.4.4(a)	Understand alternative energy conversion systems.
1.4.5	Social Responsibility	1.4.5(a)	Understand the social impact of development in terms of population dynamics and ecological models.

REQUIRED WORKPLACE PERFORMANCE

The building designer will play a leading part in the building industry's role in the national responsibility to reduce greenhouse gas emissions and protect the natural environment. The role will include developing ecologically sustainable building designs, marketing concepts to clients and contributing to public debate.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- Highly developed communication and interpersonal skills
- An understanding of the social and environmental responsibilities of the construction industry
- A detail knowledge and understanding life-cycle costings and the implications of occupation and use throughout the life of the building
- The ability to establish design solutions which apply the concepts of energy management and efficiency and ecological sustainability
- An understanding of alternative energy sources and systems and their role in the building industry

Unit 1.5 The Built Environment

DEFINITION
This unit relates to the social, political and historical issues that make up the built environment.
APPLICATION
The unit has application where a building designer working unsupervised will utilize lessons from the past, issues from the present and concern for the future to develop designs which work to enhance the built environment now and into the future.

ELEMENT		PERFORMANCE CRITERIA	
1.5.1	The History and Heritage of the Built Environment	1.5.1(a)	Demonstrate knowledge of architectural styles of the past and present.
		1.5.1(b)	Understand the lessons to be learnt from the disasters of history which have shaped modern building regulation.
		1.5.1(c)	Recognise the importance of Australia's built heritage and understand the role of the designer in preserving heritage.
		1.5.1(d)	Demonstrate the ability to resolve issues of safety, structure and equity in heritage buildings.
		1.5.1(e)	Develop strategies for resolving community heritage issues.
1.5.2	Social Responsibility and Community Dynamics	1.5.2(a)	Recognise the importance of responsible design to future generations.
		1.5.2(b)	Understand the responsibility of the designer to the community.
		1.5.2(c)	Understand the role of community expectations in urban planning.
		1.5.2(d)	Develop strategies for evaluating and verifying community expectations.
1.5.3	Urban Planning Concepts	1.5.3(a)	Demonstrate a knowledge of the history and philosophy of urban planning.
		1.5.3(b)	Understand how planning schemes are developed.
		1.5.3(c)	Demonstrate a knowledge of the structure and language of planning schemes.
		1.5.3(d)	Demonstrate skills in the interpretation and application of planning schemes.
		1.5.3(e)	Understand the background, structure and use of various types of impact statement.
		1.5.3(f)	Demonstrate an awareness of the social and environmental impact of the various land uses.

REQUIRED WORKPLACE PERFORMANCE

The building designer working as director of the design team or as an individual will recognize the need to sustain and enhance the natural and built environments and develop designs which address the needs and aspirations of the community and work within the parameters of urban planning regulation and intent.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- A knowledge of the history of architectural form and the heritage of Australian architecture
- A knowledge of major historical events which have shaped modern building codes and an understanding of the lessons learnt
- An understanding of the social responsibility the designer has to present and future communities
- The ability to understand and evaluate community expectations and develop strategies to verify expectations
- An understanding of the history, development, language and structure of planning schemes
- An awareness of the social and environmental impact of land use
- The ability to understand and work with various types of impact statement

Unit 1.6 Building Renovation and Extension Planning

DEFINITION

This unit relates the issues covered in units 1.1 to 1.5 to and introduces particular competencies required for the design of building renovations and extensions.

APPLICATION

The unit has application where a building designer working unsupervised will demonstrate the competencies required to evaluate the feasibility and successfully design renovations and extensions to existing buildings.

ELEMENT		PERFORMANCE CRITERIA	
1.6.1	Establish Requirements	1.6.1(a)	Demonstrate competency in all areas described in unit 1.1 of these competency standards.
1.6.2	Inspection and Measurement Procedures	1.6.2(a)	Demonstrate the knowledge and skills required to undertake a detailed inspection of existing facilities.
		1.6.2(b)	Understand the use of and demonstrate the ability to acquire a structural adequacy report.
		1.6.2(c)	Undertake a survey of existing facilities to develop an accurate measured drawing of the site including site levels.
1.6.3	Feasibility Studies	1.6.3(a)	Develop a feasibility report on the work required.
		1.6.3(b)	Identify site, legislative and other constraints on the project.
		1.6.3(c)	Understand the concept of strategic planning and its impact on the project feasibility.
		1.6.3(d)	Identify and evaluate alternative solutions.
1.6.4	Design of Renovations and Extensions	1.6.4(a)	Demonstrate competency in all areas described in units 1.2 and 1.3 of these competency standards.
1.6.5	Services Requirements	1.6.5(a)	Demonstrate the knowledge and ability to review existing services.
		1.6.5(b)	Demonstrate an understanding of the service requirements for a redeveloped building.
		1.6.5(c)	Demonstrate an understanding of the capacity of existing services to accept the additional loads required.

REQUIRED WORKPLACE PERFORMANCE

The building designer working as director of the design team or as an individual will establish the requirements for the renovation or extension of an existing building, survey and produce accurate measured drawings showing existing facilities, establish the feasibility of refurbishment and create suitable design solutions.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- Competency in units 1.1 to 1.3 of these competency standards
- The ability to accurately survey existing buildings and produce measured drawings
- An understanding of feasibility studies as related to refurbishment of existing facilities
- The knowledge of the issues involved in the design of building services
- An understanding of structural analysis processes

PART 2 - DOCUMENTATION

Unit 2.1 Project Drawings

DEFINITION
This unit relates to the production of design sketches and construction drawings for buildings of all types and sizes.
APPLICATION
The unit has application where a building designer working as a practice manager or an individual practitioner will oversee/undertake the production of all drawings required for a project.

ELEMENT		PERFORMANCE CRITERIA	
2.1.1	Design and Presentation Drawings	2.1.1(a)	Prepare sketches, plans and elevations used for the presentation of design concepts.
		2.1.1(b)	Understand the use of 3D drawings and perspectives, rendered views and models for the presentation of developed designs.
2.1.2	Management and Production of Construction Drawings	2.1.2(a)	Demonstrate effective communication with and management of drawing office technicians and office quality and management procedures.
		2.1.2(b)	Produce drawings which are accurate, clear, readable, correct and conform to the project brief.
		2.1.2(c)	Demonstrate an understanding of industry standards and drawing protocols.
		2.1.2(d)	Review and monitor drawings sourced from external consultants and other providers.
2.1.3	Management of Consultants	2.1.3(a)	Understand the role of the design team in the documentation process.
		2.1.3(b)	Demonstrate effective communication with and management of a design team.

REQUIRED WORKPLACE PERFORMANCE

The building designer working as practice manager or as an individual will supervise the preparation of or personally prepare all drawings for buildings of all types and sizes. The drawings must be accurate and conform to the brief, be clear, readable and correct in scale and content and conform to industry standards and protocols.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- Competency in element 1.2.6 of unit 1.2 of these competency standards
- An understanding of drawing protocols, industry standards and drawing office quality procedures
- A highly developed knowledge of construction technology, building practice and on-site processes
- The ability to produce drawings which are clear, accurate and correct in scale and content and which facilitate efficient construction practices and comply with the project brief using either cad or manual drafting processes
- The ability to effectively communicate with and manage a drawing office team
- The ability to effectively appoint, communicate with and manage a team of outside consultants

Unit 2.2 Contract Documentation

DEFINITION
This unit relates to the preparation of contract documentation other than drawings.
APPLICATION
The unit has application where a building designer working as a practice manager or an individual practitioner will oversee/undertake the preparation of full contract documentation for buildings of all types and sizes.

ELEMENT		PERFORMANCE CRITERIA	
2.2.1	Specifications and Schedules	2.2.1(a)	Examine the project brief, working drawings, development approval and other relevant documents to identify specification inclusions.
		2.2.1(b)	Identify and examine standard forms of contract which are suitable for the project and edit accordingly.
		2.2.1(c)	Develop non-standard specifications where required.
		2.2.1(d)	Research and include all detail necessary to describe the nature and scope of works including both prescriptive and performance requirements for the works.
		2.2.1(e)	Prepare schedules of fittings and fixtures which accurately and adequately detail the scope of work in conjunction with the specification and drawings.
		2.2.1(f)	Cross-reference and review to ensure consistency between the brief, drawings and specification and ensure clarity of intent and conformity to industry standards and practice.
		2.2.1(g)	Understand the use of bills of quantities.
2.2.2	Contracts	2.2.2(a)	Demonstrate the ability to choose the appropriate type of contract for the particular project.
		2.2.2(b)	Demonstrate an understanding of Australian Standards and industry standards for conditions of contract.
		2.2.2(c)	Review and select appropriate standard forms of contract.
		2.2.2(d)	Prepare standard forms of contract or enlist specialist expertise to prepare suitable contracts.

REQUIRED WORKPLACE PERFORMANCE

The building designer working as practice manager or as an individual will supervise the preparation of or personally prepare specifications, schedules, bills of quantities and contract forms for buildings of all types and sizes.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- An understanding of the documentation requirements for specifications, schedules and bills of quantities
- The ability to read, interpret and understand a range of documents including brief, drawings, regulations and codes
- The ability to identify specification requirements

- A knowledge of standard specification forms and the ability to edit standard forms for specific projects
- A knowledge of industry codes of practice, australian standards and relevant legislation
- A knowledge of the form, contents and use of schedules, bills of quantities and contract forms
- An understanding of the various types of contract and their application.

Unit 2.3 Post Construction Documentation

DEFINITION
This unit relates to the preparation of documentation suitable to facilitate the final approval of the building for occupation and the on-going use and maintenance of the building and the fixtures, fittings and service installations contained within the building.

APPLICATION
The unit has application where a building designer working as a practice manager or an individual practitioner will oversee/undertake the delivery of required certification and the preparation of as constructed drawings and user manuals for buildings of all types and sizes.

ELEMENT		PERFORMANCE CRITERIA	
2.3.1	As Constructed Drawings	2.3.1(a)	Design and detail variations required or requested during construction are incorporated into the construction drawings.
		2.3.1(b)	The location, detail and operation of services installations are recorded and detailed.
2.3.2	Certification	2.3.2(a)	All required completion and compliance certificated are sourced, catalogued and delivered.
2.3.3	User Manuals	2.3.3(a)	Maintenance schedules and operation manuals for all fittings, fixtures and service installations are sourced and catalogued.
		2.3.3(b)	Recommended on-going building and services maintenance is researched and recorded.
		2.3.3(c)	A user manual for on-going maintenance and operation of the building and all installations within the building is compiled.

REQUIRED WORKPLACE PERFORMANCE

The building designer working as practice manager or as an individual will supervise the preparation of or personally prepare as constructed drawings and user manuals and provide all required completion and compliance certificates to facilitate approval, occupation, maintenance and use of the building.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- The ability to observe, record and document design and detail variations
- An understanding of the role of certification in the approval and risk management processes
- Appropriate technical writing skills
- A knowledge of the operation of buildings and the various installations within the building.

PART 3 - CONSTRUCTION

Unit 3.1 Construction

DEFINITION
This unit relates to the knowledge of construction processes, structural and services systems and building materials required to develop designs which are able to be constructed in an efficient and practical manner.
APPLICATION
The unit has application where a building designer working unsupervised will incorporate practical solutions to design issues into all projects.

ELEMENT		PERFORMANCE CRITERIA	
3.1.1	Construction Processes	3.1.1(a)	Understand and maintain an up to date knowledge of modern construction methods and building systems.
		3.1.1(b)	Demonstrate a knowledge of the sequencing of construction processes.
		3.1.1(c)	Understand current building legislation in use in Australia and demonstrate the ability to apply legislative requirements into building designs.
		3.1.1(d)	Demonstrate the ability to work with performance based requirements to develop innovative design features.
		3.1.1(e)	Demonstrate a knowledge of building industry best practice.
3.1.2	Structural Integrity	3.1.2(a)	Identify and understand the application of available structural systems.
		3.1.2(b)	Understand the loads and forces on structural elements and their effect on the structural system.
		3.1.2(c)	Understand geotechnical issues.
		3.1.2(d)	Understand the role of the structural engineer and the structural issues involved in the design process.
3.1.3	Building Materials	3.1.3(a)	Demonstrate a knowledge of the properties of building materials.
		3.1.3(b)	Understand the design considerations in the use of different materials and understand the limitations which apply.
		3.1.3(c)	Demonstrate the ability to make appropriate materials selections for a building project.
3.1.4	Building Services	3.1.4(a)	Apply the concepts of ergonomics and human comfort to the fittings and services incorporated in the project.
		3.1.4(b)	Apply a knowledge of the role of mechanical and electrical services in the design process.
		3.1.4(c)	Demonstrate a knowledge of fire protection measures and fire services and understand the role of the fire services engineer.
		3.1.4(d)	Understand the role of electronic and

			telecommunications services and the principles of energy management.
		3.1.4(e)	Refer as required to regulations, standards and codes applicable to building services installations.
		3.1.4(f)	Incorporate provision for services and equipment into the design at the design development stage.

REQUIRED WORKPLACE PERFORMANCE

The building designer working as director of the design team or as an individual and will ensure that adequate and appropriate allowance is made in the design and documentation of projects of all types and sizes for the construction process, structural elements and building services and that materials are used appropriately.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- A knowledge of construction methods and systems and sequencing
- The ability to incorporate the requirements of building legislation and industry best practice into the design and documentation of projects
- An understanding of structural issues and the role of the structural engineer
- The ability to use building materials appropriately and effectively
- A working knowledge of building services and equipment installations.

Unit 3.2 Contract Administration

DEFINITION

This unit relates to the administration of construction contracts.

APPLICATION

The unit has application where a building designer working unsupervised will demonstrate competence in the calling of tenders and selection of successful tenderers, overseeing the conduct of the contract during construction and managing procedures for completion of the contract once the work has been carried out.

ELEMENT		PERFORMANCE CRITERIA	
3.2.1	The Tender and Selection Process	3.2.1(a)	Demonstrate competency in all areas described in unit 2.2 of these competency standards.
		3.2.1(b)	Select a tender process which is fair, equitable and ethical and which appropriate to the scope of the project, in the clients best interests and complies with statutory requirements and industry practice.
		3.2.1(c)	Organise tender invitations which ensure competition and are appropriate to client requirements and industry practice.
		3.2.1(d)	Assess tenders against established benchmarks in an objective and ethical manner.
		3.2.1(e)	Demonstrate the ability to prepare an accurate and objective report setting out clear recommendations and allowing the client to make informed decisions.
3.2.2	Planning and Control of Documents and Records	3.2.2(a)	Demonstrate the skills necessary to develop a project plan in association with the builder and client incorporating a construction program, progress claim schedule and variation processes.
		3.2.2(b)	Develop appropriate procedures for document

			control and record management.
3.2.3	Site Meetings and Inspection Procedures	3.2.3(a)	Demonstrate competency in establishing communication channels, setting up and chairing site meetings.
		3.2.3(b)	Understand inspection procedures, problem solving methods, team building and team motivation.
3.2.4	Management of Variations to Contract and Progress Claims	3.2.4(a)	Manage the processes of variations and extensions to contracts.
		3.2.4(b)	Undertake evaluation of progress claims and the process for recording progress and providing advice to the principal.
3.2.5	Dispute Management	3.2.5(a)	Understand the processes of arbitration and mediation and apply these processes to the management of the contract.
3.2.6	Quality Assurance and Reporting	3.2.6(a)	Review and implement quality assurance programs for the performance of contract obligations.
		3.2.6(b)	Prepare reports on performance and progress of the contract works.

REQUIRED WORKPLACE PERFORMANCE

The building designer will, without supervision, undertake administration of building contracts in an ethical and objective manner which protects the interests of the client and provides an efficient and cost effective construction program resulting in the successful completion of the project to the satisfaction of all parties.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- Competency in all areas described in unit 2.2 of these competency standards
- A sound knowledge of tender processes and tender evaluation
- An understanding of the management of documents and records during the contract term
- The ability to conduct site meetings and inspection of works in progress
- A sound knowledge of evaluation of variations and progress claims
- Highly developed communication and interpersonal skills and an understanding of mediation and arbitration processes
- A sound knowledge of quality assurance procedures for contract management
- Highly developed reporting skills.

PART 4 – PROFESSIONAL PRACTICE

Unit 4.1 Job Planning

DEFINITION
This unit relates to the planning of work within a professional building design practice.
APPLICATION
The unit has application where a building designer will manage the design, drawing and contract administration work within a professional building design practice.

ELEMENT		PERFORMANCE CRITERIA	
4.1.1	Develop and Implement Job Plan	4.1.1(a)	Clearly define objectives, establish quality standards, performance indicators and monitoring procedures.
		4.1.1(b)	Determine the resources and time required, the sequence and interdependence of tasks in consultation with all stakeholders.
		4.1.1(c)	Estimate costs and develop budgets. Implement budget monitoring procedures which ensure clear understanding and management of budgets.
4.1.2	Allocation and Management of Resources	4.1.2(a)	Allocate human and equipment resources to the project which ensure that the planned duration and budget are realized.
		4.1.2(b)	Monitor the performance of the work in relation to established objectives, indicators and budget considerations.
4.1.3	Quality Assurance Procedures	4.1.3(a)	Establish quality assurance procedures and monitor performance against the procedures
4.1.4	Progress Reporting and Client Liaison	4.1.4(a)	Establish and implement agreed communication processes between the project, client and other stakeholders.
4.1.5	Evaluation of Performance	4.1.5(a)	Undertake evaluation of the project in meeting objectives and quality standards.
		4.1.5(b)	Develop follow-up procedures to determine the level of client satisfaction including procedures for rectification if required and prevention of similar problems in future projects.

REQUIRED WORKPLACE PERFORMANCE

The building designer will, without supervision, undertake administration of projects within the practice ensuring that work is performed in a timely, quality assured and efficient manner, that the client is kept informed and performance is monitored.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- An ability to develop and monitor an appropriate job plan
- Skills in estimating time and resources required for completion of a project, development of work schedules and project (design & documentation, etc) budgets
- A knowledge of office management procedures
- The ability to implement, use and monitor quality assurance procedures

- Reporting and communication skills
- An ability to implement evaluation procedures

Unit 4.2 Practice Management

DEFINITION
This unit relates to the management of a professional building design practice.
APPLICATION
The unit has application where a building designer acting as the manager or sole operator of a professional building design practice will be responsible for the financial and operational performance of the practice.

ELEMENT		PERFORMANCE CRITERIA	
4.2.1	Office Management	4.2.1(a)	Demonstrate a knowledge of management principles including human resource management, communication issues and occupational health and safety issues.
		4.2.1(b)	Understand the role of industry stakeholders and industry networking.
		4.2.1(c)	Demonstrate a knowledge of information and risk management processes.
4.2.2	Ethical Practice	4.2.2(a)	Understand and apply principles of professional integrity and dignity.
		4.2.2(b)	Understand the concept of corporate responsibility to the community.
		4.2.2(c)	Understand the role of continuing professional and personal development in modern management.
4.2.3	Financial Management	4.2.3(a)	Maintain financial records and prepare financial reports.
		4.2.3(b)	Undertake business planning and review financial performance.
		4.2.3(c)	Understand financial control procedures and auditing and maintain taxation and business compliance mechanisms.
		4.2.3(d)	Monitor and maintain cash flow.
4.2.4	Practice Marketing	4.2.4(a)	Understand market research strategies.
		4.2.4(b)	Develop client relationships which develop repeat and referral business.
		4.2.4(c)	Understand the importance of business networking and develop networking strategies.
		4.2.4(d)	Understand the processes, attitudes and technology of marketing strategies.

REQUIRED WORKPLACE PERFORMANCE

The building designer will personally manage the practice in an ethical manner, maintaining financial viability and financial records and undertake appropriate marketing of the practice.

EVIDENCE GUIDES

Assessment should determine the extent to which the candidate is able to perform to the standard required in the workplace. Evidence of competency will include evidence of:

- A sound knowledge of modern management principles
- An understanding of the ethics and responsibilities of modern management
- The ability to apply financial management principles
- A sound knowledge of marketing processes.