



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

The University of Western Australia

Design and Construction Standards

BUILDING AND ARCHITECTURE

A

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1 Introduction

1.1 PURPOSE

The *UWA Design and Construction Standards* (the *Standards*) outline UWA's expectations for its built forms in order to achieve consistency in the quality of the design and construction of those built forms. They are aligned with the UWA's Campus Plan 2010 planning principles and UWA's requisites for aesthetic appeal, maintainability and environmental sustainability, while ensuring that there is sufficient scope for innovation and technological advancements to be explored within each project.

The Standards are intended for use by any parties who may be involved in the planning, design and construction of UWA facilities. This includes external consultants and contractors, UWA planners, designers and project managers as well as faculty and office staff who may be involved in the planning, design, maintenance or refurbishment of facilities. These Standards also provide facility managers, maintenance contractors and other service providers with an understanding of UWA services in order to assist in the maintenance and operation of facilities.

1.2 SERVICES

The *UWA Design and Construction Standards for **Building and Architecture*** (this document) are a part of *UWA Design and Construction Standards* set of documents (the Standards). The Standards are divided into the following service documents for ease of use, but must be considered in its entirety, regardless of specific discipline or responsibilities:

- A Building and Architecture (this document)**
- B Mechanical Services
- C Electrical Services
- D Communication Services
- E Hydraulic Services
- F Security Services
- G Fire Services and Fire Safety Engineering
- H Structural Works
- I Civil Works
- J Irrigation Services
- K Sustainability
- L Vertical Transport

1.3 RELATED DOCUMENTS

1.3.1 Documents

The Standards are to be read in conjunction with the following relevant University documents:

- UWA General Preliminaries Document
- UWA Specification for As-Constructed Documentation
- Relevant UWA planning and policy documents such as the *UWA Campus Plan*, *Commercial Masterplan*, *Landscape Vision* and *Integrated Infrastructure Strategy*, *University Policy on Alterations to University Buildings*, etc.
- Relevant UWA operational and maintenance documents such as preferred vendors lists, room data sheets, operational and maintenance manuals, etc.
- Other documents as referenced within the *UWA Design and Construction Standards*.

1.3.2 Relevant Legislation

The planning, design and construction of each UWA facility must fully comply with current relevant legislation, including but not limited to:

- Relevant Australian or Australian / New Zealand Standards (AS/NZS),
- National Construction Code (NCC),
- Occupational Safety and Health (OSH) legislation,
- Disability Discrimination Act (DDA),
- Accessibility Aspiration Design Factors, and
- Local council and authority requirements.

1.3.3 Manufacturer Specifications and Data Sheets

All installation must be carried out in accordance with manufacturer specifications and data sheets to ensure product performance over its intended life and so as not to invalidate any warranties.

1.3.4 Project Specific Documentation

Requirements specific to a particular project, campus or other variable, will be covered by project specific documentation, such as client briefs, specifications and drawings. These Standards will supplement any such project specific documentation.

The Standards do not take precedence over any contract document, although they will typically be cross-referenced in such documentation.

Extracts from the Standards may be incorporated in specifications, however it must remain the consultant's and contractor's responsibility to fully investigate the needs of the University and produce designs and documents that are entirely 'fit for purpose' and which meet the 'intent' of the project brief.

1.4 DISCREPANCIES

The Standards outline the University's generic requirements above and beyond the above mentioned legislation. Where the Standards outline a higher standard than within the relevant legislation, the Standards will take precedence.

If any discrepancies are found between any relevant legislation, the Standards and project specific documentation, these discrepancies should be highlighted in writing to the Associate Director Capital Works, Campus Management.

1.5 DEPARTURES

The intent of the Standards is to achieve consistency in the quality of the design and construction of the University's built forms. However, consultants and contractors are expected to propose 'best practice / state of the art' construction techniques, and introduce technological changes that support pragmatic, innovative design.

In recognition of this, any departures from relevant legislation, or the Standards, if allowed, must be confirmed in writing by the Associate Director Capital Works, Campus Management.

Any departures made without such written confirmation shall be rectified at no cost to UWA.

1.6 PROFESSIONAL SERVICES

For all works, it is expected that suitably qualified and experienced professionals are engaged to interpret and apply these Standards to UWA projects. Works cannot be carried out by unqualified and unlicensed consultants or contractors.

1.7 STRUCTURE OF DOCUMENT

This document is structured into 4 parts:

- Part 1** Introduction (this Section)
- Part 2** General Requirements – outlines the general requirements or design philosophies adopted at UWA
- Part 3** Checklist for project team – checklist of items for consideration at various stages of a project
- Part 4** Specifications (if applicable) – materials specifications and/or preferred lists for materials, processes or equipment used by UWA.

1.8 DEFINITIONS

For the purpose of this document, the following definitions apply:

- Can:** Implies a capability of possibility and refers to the ability of the user of the document, or to a possibility that is available or might occur.
- May:** Indicates the existence of an option.
- Shall:** Indicates that a statement is mandatory.
- Should:** Indicates a recommendation.

2 General Requirements

2.1 GENERAL BUILDING PLANNING

All building projects must comply with the *Building Code of Australia (BCA)* and all referenced Australian Standards including the most current *Disability (Access to Premises – Buildings) Standards*.

New building projects, extensions and some refurbishment work will require a development application and all building works, other than very minor works not incurring structural changes or changes to fire exiting arrangements, require a building permit.

2.1.1 Planning Considerations

Refer [Campus Plan 2010](#) and Campus Management masterplanning documents such as *Commercial Masterplan*, *Landscape Vision* and *Integrated Infrastructure Strategy* (available from Campus Management).

2.1.2 Architectural Style and Scale

Refer to [Campus Plan 2010](#).

2.1.3 Space Planning

Refer to *Tertiary Education Facilities Management Association (TEFMA) Space Planning Guidelines* (available from Campus Management).

2.1.4 Heritage and Conservation

Refer to [Campus Plan 2010](#) and the *Crawley Campus Conservation Management Plan* (available from Campus Management).

2.1.5 Local sourcing

Where possible, materials and services should be sourced locally. Refer [UWA Sustainable Procurement Policy](#).

2.1.6 Siting, Orientation and Sun Shading

All buildings shall be orientated to maximise the potential for passive solar design. Sun shading shall be provided, as practical, to all windows to minimise reliance on mechanical cooling and heating and to avoid discomfort from direct glare.

Facades and windows shall be designed to maximise natural daylight within usable areas of the building. Skylights, light wells, internal atriums and courtyards shall be used to provide natural daylight and external views.

Suitable weather protection shall be provided to all entrances.

2.1.7 Flexibility

Where possible, buildings should be designed for future flexibility and possible expansion.

2.1.8 Durability / Maintenance

University buildings must be durable and cost effective to maintain.

Selection of external building materials shall take into account whole of life costs and to minimise maintenance requirements.

All building elements and services must be easily cleaned and maintained. Safe access must be provided for all cleaning and maintenance, including any equipment replacement.

2.1.9 Noise

All noisy activities shall be located so as to minimise impact to other campus activities. Particular regard needs to be taken in areas where sensitive equipment is located. The impact of both noise and vibration need to be considered.

2.1.10 Security

Refer to [Campus Plan 2010 'Security and Safety'](#) and *UWA Design and Construction Standards – Security Services*.

Planning and design shall provide a secure environment both within and around the building. Perimeter security shall be provided to all buildings.

2.1.11 Vehicular Access

Vehicular access within campus is limited to ensure safe pedestrian movement between buildings. However vehicular access will be required to buildings for service and deliveries, including waste collection and emergency access. Ensure a safe environment for pedestrians are maintained when designing how buildings are accessed by vehicles.

2.1.12 Hazardous Materials

All building materials, not manufactured in Australia, which have the potential to contain asbestos, shall be tested for asbestos at a NATA accredited laboratory and the appropriate certification shall be provided to UWA or its representative prior to procurement.

2.1.13 End of Trip Facilities

Provision of end of trip facilities shall be considered on a building by building basis taking into account proximity of existing facilities provided on campus.

2.1.14 Accessibility

The design of all buildings shall comply with the most current *Disability (Access to Premises – Buildings) Standards* and relevant clauses of the *BCA* with regard to accessibility.

2.1.15 Functional Planning

Buildings shall have a clearly defined entry point.

Highly utilised spaces should be located on the lower levels of buildings and quieter, less populated spaces at higher levels.

Design should minimise the requirement for electronic access control.

Staircases should be located in a prominent location to encourage physical activity through their use.

2.1.16 Easements

Refer to the most current *Integrated Infrastructure Strategy* (available from Campus Management).

2.1.17 Demolition

For refurbishment work all redundant services and equipment shall be removed. Refer *UWA Design and Construction Standards – Sustainability* for recycling of demolition waste.

2.2 ROOM PLANNING

2.2.1 Central Teaching Facilities

Teaching spaces shall reflect current teaching philosophy.

Central teaching facilities shall be designed in a flexible manner so that they can be used by a variety of

departments and for examinations.

Access to power and data is required by all users in lecture theatres.

UWA's Business Improvement and Technology Services will advise on the audio visual facilities to be provided within all teaching facilities.

2.2.2 Scientific and Engineering Laboratories

Laboratories shall comply with the following codes:

- *AS 2243 Safety in Laboratories*
- *AS 2982 Laboratory Design and Construction*

Where possible, laboratories are to be designed generically to allow for future change of use.

The choice of material for laboratory benches shall consider any potential chemical damage from the chemicals proposed to be used and any mechanical damage from the equipment proposed to be used.

PC2, PC3, PC4 Containment Laboratories

Special guidelines apply for laboratories, animal facilities, insectaries and plant houses in which some molecular biology, genetic manipulation and some infectious agents may be used.

Laboratories used for less hazardous recombinant DNA research require PC2 classification and no substantial design considerations are required.

PC3 classified laboratories involve a higher degree of design, while PC4 laboratories have the most stringent requirements.

PC2 and PC3 laboratories require inspection and approval by the UWA Institutional Biosafety Committee.

Laboratories classified as PC3 and PC4 require approval by the Office of the Gene Technology Regulator (OGTR).

2.2.3 Offices

Open plan office design should be maximised.

Open plan offices are preferred as they provide:

- Ease of communication which enables knowledge sharing
- The ability to accommodate both individual and collaborative ways of working
- More adaptable use of space
- Better air circulation and light penetration
- More cost effective solutions in terms of both capital costs and maintenance costs

- Greater flexibility to accommodate organisation change

Individual offices are to be provided on an as needed and agreed basis where high levels of privacy or confidentiality are required.

Enclosed offices should be located so as to not negatively impact on the light and views of adjacent open plan areas.

2.2.4 Meeting Rooms

Meeting rooms shall be distributed throughout buildings.

Meeting rooms shall be provided with audio visual equipment provided by UWA.

2.2.5 Tea Rooms

Where possible, tea rooms shall have the following facilities:

- Bench
- Cupboard and drawer storage including a cutlery drawer
- Sink with drainer with hot and cold water
- Boiling water unit
- Chilled water
- Space and power for a microwave
- Space and power for a fridge
- Space and services for a dishwasher (optional)
- Space for waste and recycling bins
- Space and power for other small appliances as required.
- Tea towel rack

2.2.6 Toilets

Wet areas shall be tiled floor to ceiling. Large profile rectified tiles shall be provided to all walls to reduce grout lines. Coloured grout (preferably brown or grey) shall be used to facilitate graffiti removal.

Floors to be sheet vinyl with slip resistance in accordance with the requirements of *AS4586 Slip Resistance Classification of New Pedestrian Surface Materials*.

Shelves are to be provided in all toilets for books and/or bags.

Refer *UWA Design and Construction Standards - Hydraulic Services* for fixture details.

2.2.7 Cleaners Rooms

A cleaner's store room shall be provided on each floor of a building for the storage of cleaning materials. The room shall include a cleaner's sink, shelving, wall hooks and a power point.

The cleaner's store room on the ground floor of each building is to have additional storage for consumables.

2.2.8 Baby Change Facilities

Wheelchair accessible toilets are to be fitted with baby change facilities.

2.2.9 Service Access

All plant rooms, services ducts shall be accessible and roof spaces shall have permanent fixed access and adequate lighting.

2.2.10 Roof Access

All buildings shall be provided with safe and convenient access to the roof surface to facilitate maintenance, including gutter cleaning.

A fall prevention system shall be installed in accordance with the requirements of *Worksafe WA Code of Practice for the Prevention of Falls* and the relevant Australian Standards. Roof mounted plant and equipment shall be avoided where possible.

2.3 ELEMENTS

2.3.1 Termite Protection

For new buildings, termite control must be provided in accordance with *AS 3660*.

The use of a sheet material termite management system is preferred.

2.3.2 Roofs

Minimum roof pitches shall not be less than manufacturers' recommendations and are to allow an appropriate safety factor for the prevailing conditions.

Penetration of the roof covering shall be avoided where possible. Locate required penetrations in areas of roofs that require minimum flashing details. Flashings shall be made of the same or similar material as the roof covering.

2.3.3 Gutters and Downpipes

Gutters should be avoided where possible.

Internal box gutters should be avoided to prevent water flowing back into the building if downpipes are blocked by leaves. If unavoidable, provision must be made for controlled overflow in case of such blockage.

Material selection of gutters and downpipes shall be compatible with roof material. Gutters and downpipes shall be fabricated from copper, stainless steel or Colorbond steel.

The face of eaves gutters shall not finish higher than the back of the gutter.

Care must be taken to ensure that valleys are of generous width and designed to cater for the leaf loading that occurs on campus.

Downpipes shall be free of sharp twists and turns and properly jointed, particularly if run internally. In certain cases this is unavoidable, a removable inspection plate shall be provided for cleaning out. Radius bends are preferred to mitres.

Shoes of downpipes must not be cemented in but shall finish 50mm above and discharge into a separate trap with grating.

Refer *UWA Design and Construction Standards - Hydraulic Services* for further details.

2.3.4 External Walls

Materials selected shall be robust and durable, resistant to mechanical damage and be low maintenance.

To minimise ongoing maintenance, external walls are not to be painted. Consideration should be given to the use of clear Graffiti coating.

Designs shall be detailed to shed water away from building to minimise any potential water damage.

2.3.5 Internal Walls

Internal walls shall be non-load bearing allowing for future planning flexibility. Internal walls shall be designed to support imposed loads from shelving and the like. Internal walls must be designed to achieve the required acoustic and fire ratings.

Wet areas are to be tiled floor to ceiling. Rectified tiles are preferred to all walls. If area is prone to graffiti, coloured grout (preferably brown or grey) shall be used.

2.3.6 Floors

Materials selected shall take into consideration the requirements for slip resistance.

All floor finishes shall have low TVOC emission levels.

Carpet

Carpet tiles shall be installed to allow for future maintenance and flexibility.

Carpet and carpet tiles shall be hard wearing and easy to clean. Carpet tiles shall be direct fixed to the substrate.

Loop pile, rubber backed carpet tiles are preferred.

Plain colours should be avoided where possible to lessen the visual impact of dust and debris and the potential for staining.

Vinyl

Vinyl shall be selected taking into account usage, slip resistance and cleaning requirements.

Skirtings to labs and wet areas shall be covered vinyl.

Door Mats

Suitable door mats shall be provided to all doors with access to the outside of the building.

2.3.7 Ceilings

Where ceilings are not accessible, access hatches must be installed to all ceiling areas containing plant and equipment. Safe access to the hatch shall be considered within the design. Where possible, access hatches shall be provided within publicly accessible parts of the building. At a minimum, 600 x 600mm access hatches shall be provided.

Ceilings shall be white or light colours to maximise reflectance.

2.3.8 Windows

Generally, external windows are to be non-operable.

Any operable windows shall be lockable.

Provision shall be made for window cleaning and maintenance, including the replacement of glazing.

All windows shall be installed in accordance with manufacturer requirements.

2.3.9 Doors

Doors shall be of solid core construction with painted, laminate or veneer finish as appropriate.

Door stops shall be provided as required to minimise damage to adjacent walls and furniture.

Viewing panels shall be provided where there is the possibility of a collision hazard.

Door grilles shall not be used where acoustic privacy is required.

All doors shall be installed in accordance with manufacturer requirements.

Sliding Doors

Sliding door mechanisms shall be easily accessible for maintenance.

Automatic Power Operated Doors

Bi parting doors shall be installed where possible.

Single leaf doors shall only be installed where it is not possible to accommodate bi parting doors.

Doors shall be keyed to UWA master system.

Door and Window Hardware

The preferred hardware is Lockwood 1800 series with 70 series handles.

Satin chrome finish is preferred although aged brass may be appropriate in heritage buildings.

2.3.10 Keying Systems

All external doors shall be electronically locked. All electronically locked doors shall have key override.

All locks shall be grand master keyed to UWA master key system and restricted profile.

All operable windows shall be lockable on UWA master key system.

All lifts shall be on UWA master key system.

All drop and strap bolts shall be lockable on UWA master key system.

All services plant rooms, cabinets, risers, etc. shall be on the UWA master key system.

Refer UWA Security for preparation of keying schedule. Keying schedule shall be prepared at the commencement of the construction period. All locks shall be construction keyed. Final cylinders shall be changed over prior to Practical Completion. All locks and keys shall be provided to UWA Security.

2.3.10 Electronic Access Control

Refer *UWA Design and Construction Standards – Security Services* and consult with UWA Security for electronic access control requirements.

2.3.11 Handrails/Balustrades

Painted handrails shall be avoided as they are prone to damage requiring ongoing maintenance.

2.3.12 Tactile Indicators

Tactile indicators shall be installed as per the requirements of the *BCA*. For any other TGSIs applications, including directional installations, consult with an expert during the design stage to ensure:

- The application enhances access.
- TGSIs are necessary, as other navigational cues do not provide sufficient information.
- TGSIs application does not give incorrect, superfluous or confusing information, and
- TGSIs application does not create an additional hazard, particularly to people using wheeled mobility aids.

2.3.13 Miscellaneous Bathroom Fixtures

Toilet roll holders shall be jumbo type. Double toilet roll holders shall be provided in wheelchair accessible toilets.

Hand driers shall be air blade type.

The following fittings shall be compatible with the current UWA supplier of the associated consumables:

- Soap dispensers
- Paper towel dispensers
- Toilet roll holders

2.3.14 Window Treatments

The selection of window treatments shall ensure preserve consistent visual appearance from the outside.

Consideration shall be given, based on the function of the room, to the necessity to provide black out or brown out conditions.

2.3.15 Painting

All paint systems to be low VOC content. Product and colour specifications shall be provided to UWA as part of the handover documentation.

2.3.16 Signage

UWA has specific signage requirements which it applies to all its buildings.

UWA *Signage Specifications* are available from Campus Management.

2.3.17 Room Numbering

A standard method of room numbering is used throughout UWA. This system of numbering shall be used on all contract drawings and on room signs.

Refer UWA *Specification for As Constructed Drawings* for the procedure of assigning room numbers.

2.4 FURNITURE

2.4.1 Fixed

Fixed furniture shall be avoided where possible to allow for future flexibility. Fixed furniture will only be required in some lecture theatres, laboratories, tea preparation areas and reception areas.

All joinery units shall have backs.

No cam fittings shall be used. All furniture shall be glued and screwed.

Adjustable wall shelving shall be avoided. If wall shelving is required, then expected loads are to be confirmed.

18mm board shall be used for shelves and 25mm board shall be used for benches.

HMR board shall be used in wet areas.

Brass ferrules and pins shall be used for adjustable shelves.

Blum hinges are preferred.

E0 (lowest formaldehyde emissions) board shall be used.

2.4.2 Reception Counters

Reception counters shall be designed to allow for future modification for use by a staff member with a disability.

If the counter is to be used for the purposes of filling out forms, or other paperwork, then suitable allowance needs to be made for wheelchair users. Refer to AS1428.2.

2.4.3 Tea Room Cabinetwork

Finish and substrate are to be moisture resistant / impervious.

2.4.4 Loose Furniture

Refer to *Preferred Vendor List* for procurement of loose furniture (available from Campus Management).

When selecting loose furniture, consideration shall be given to local manufacturers with regard to the provision of services and availability of parts.

It is essential that careful consideration is given to lead times and the implications of extended storage periods in the process of ordering furniture.

Furniture should be consistent across the floor plate of a building. Where possible, furniture should be interchangeable to allow for future flexibility.

Task Chairs

Task chairs shall be ergonomically sound and fully adjustable (height, seat tilt back and forth, back height, back tilt).

Lumber support should be an option.

Arms are optional. It is not recommended for computer intensive work.

Heavy duty commercial fabric is required.

Minimum warranty period of 3 years is required. Warranty period of 5 years is preferred.

Meeting Chairs

Minimum warranty period of 3 years is required. Warranty period of 5 years is preferred.

Visitors Chairs

Minimum warranty period of 3 years is required. Warranty period of 5 years is preferred.

Lecture Room Chairs

Where possible, chairs should be stackable.

Heavy duty commercial fabric is required.

Minimum warranty period of 3 years is required. Warranty period of 5 years is preferred.

Lecture Theatre Chairs

Heavy duty commercial fabric is required.

Minimum warranty period of 5 years is required.

Workstations

Standard modular workstations should be used to allow for long term flexibility.

Standard sizes for workstations are 2100x1800mm and 1800x1800mm.

Cam fittings shall not be used. Modesty panels shall be installed as required.

Workstation screens should be between 1200 and 1350mm above floor level to maximise natural light and views for staff. Acoustic requirements and performance shall be considered in the selection of the screen system.

Mobile Pedestals

As a minimum, one mobile pedestal shall be provided per workstation.

Pedestal shall be lockable.

50mm dual wheel castors are preferred.

Minimum warranty of 5years is required.

Sit / Stand Desks

These are to be provided on an as needs basis based on ergonomic assessment. Consideration should be given to desk top arrangements for greater flexibility.

Tables

In teaching spaces, preference is for folding tables on castors for flexibility in teaching.

Tables must be durable, easy to maintain and easily handled into multiple configurations.

Fixed Shelving

Shelving should not be fixed to walls unless the wall has been designed specifically to allow for shelf loading.

The maximum span allowable shall be 900mm.

Shelves shall be adjustable with 25mm board thickness.

Compactus

It is important to consider compactus loading before installing any compactus shelving. Structural engineering advice is required.

The runner system of any compactus shelving should not create a trip hazard.

Appliances

Consideration should be given to the Energy Ratings Labels (ERLS) and Water Efficiency Labels (WELS) when purchasing appliances. It is recommended that appliances achieve a minimum of 4 star ELS and WELS rating.

All appliances shall be tested and tagged by Campus Management prior to installation and operation.

Whiteboards

Porcelain whiteboards are preferred.

Aluminium frames are preferred.

All whiteboards shall be easily cleaned.

AV Equipment and Projection Screens

The supply and installation of all audio visual equipment will be arranged by UWA's Business Improvement and Technology Services. Consult with UWA to ensure that all the necessary space requirements and services are provided and completed in adequate time for the audio visual system installation.

Upholstery Fabrics

All upholstery fabrics must be commercial grade, stain resistant and durable with a minimum of 50,000 Martindale and be fire resistant as required to meet the current codes.

Fabric used on office chairs and furniture located in student areas shall be heavy duty commercial.

3 Checklist for Project Team

The following activities should be considered by the project team during the planning of the project.

Activity	Responsibility	Stakeholder(s)	Timeframe
Development Application / Planning Approval	Architect / Project Manager	Relevant Councils / CM (Planning and Design)	Gate 2 Feasibility
BCA Compliance Issues	Architect / Building Surveyor	CM (Planning and Design)	Gate 2 Feasibility
Provisions for future re-planning or alternate occupancy/use	Architect	CM (Planning and Design)	Gate 2 Feasibility
Consider the need for specialist sub-consultants, e.g., corrosion consultant, waste management consultant, etc.	Architect / Project Manager	CM (Planning and Design)	Gate 2 Feasibility
Heritage Issues	Architect / Heritage Architect	CM (Planning and Design)	Gate 2 Feasibility
Asbestos Management Plan	Architect	CM (Engineering Services)	Gate 2 Feasibility
Laboratory Design Compliance	Architect	HR (Health Safety and Wellness) / OGTR	Gate 2 Feasibility
Easements and Infrastructure Provisions	Architect / Services Consultants	CM (Engineering Services)	Gate 2 Feasibility
Transport Provisions	Architect	CM (Planning and Design)	Gate 2 Feasibility
Acoustic Issues	Acoustic Consultant	CM (Planning and Design)	Gate 2 Feasibility
Alternative Fire Solutions	Fire Engineer	CM (Engineering Services)	Gate 2 Feasibility
ESD Provisions	ESD Consultant	CM (Engineering Services)	Gate 2 Feasibility
Existing Structural Restrictions	Structural Consultant	CM (Engineering Services)	Gate 2 Feasibility
AV Requirements	Architect / Electrical Consultant	BITS	Gate 3 Planning Detail Design
Keying Requirements	Architect	CM (Security)	Gate 3 Planning Detail Design
Access Control Requirements	Security Consultant / Communications Consultant	CM (Security)	Gate 3 Planning Detail Design
Building Permits	Contractor	Relevant Councils	Gate 5 Implementation / Construction

Abbreviations

AV	Audio Visual
BCA	Building Code of Australia
BITS	Business Information and Technology Services
CM	Campus Management
DNA	Deoxyribonucleic Acid
ERLS	Energy Ratings Labels
ESD	Ecologically Sustainable Design
HMR	Highly Moisture Resistant
HR	Human Resources
NATA	National Association of Testing Authorities, Australia
OGTR	Office of Gene Technology Regulator
PC	Personal Containment
TVOC	Total Volatile Organic Compounds
TGSI	Tactile Ground Surface Indicator
UWA	The University of Western Australia
VOC	Volatile Organic Compounds
WEL	Water Efficiency Labels

References

- AS1428.2 Design for access and mobility Part 2: Enhanced and additional requirements – Building and facilities
- AS 2243 Safety in Laboratories
- AS 2982 Laboratory Design and Construction
- AS 3660 Termite Management
- AS 4586 Slip resistance classification of new pedestrian surface materials. Building Code of Australia
- Disability (Access to Premises – Buildings) Standards
- Tertiary Education Facilities Management Association (TEFMA) Space Planning Guidelines
- UWA Asbestos Register
- UWA Campus Plan 2010
- UWA Commercial Masterplan (under development)
- UWA Integrated Infrastructure Strategy
- UWA Landscape Vision (under development)
- UWA Sustainable Procurement Policy
- Worksafe WA Code of Practice for the Prevention of Falls



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