



Morris Goding
Access Consulting

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Younghusband – Stage 2

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Universal Design / DDA / Accessibility Principles and Concept Design Report

Stage: Town Planning Design

Project No: 4010
Date: 24th February 2021
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1. EXECUTIVE SUMMARY

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Morris Goding Access Consulting (MGAC) has reviewed the town planning designs for Stage 2 of the Younghusband Woolstores project, located at 2-50 Elizabeth Street Kensington.

This document represents the key principles of Universal Design, the technical requirements of the Australian Standards AS 1428 series and the spirit and intent of the Disability Discrimination Act (DDA) that will aim to be encompassed during the design and construction program.

Younghusband Stage 2 will deliver two distinct buildings, S3 & S4. S3 fronts onto Elizabeth Street and involves the conversion of the existing warehouse for commercial use. The building will retain the existing heritage façade and include a new 5 storey office space with associated underground car park, ground floor retail and amenity areas.

S4 will deliver a new commercial tower building. The building is an energy efficient 8 storey office building with associated underground car park, lower ground end of trip facilities, ground floor retail and amenity spaces. The building will connect to Stage 1 along the northern boundary at the railway line and to Town Square.

The design review includes general areas of the proposed development through-out all levels of the precinct including but not limited to items as noted below:

- Key entrances to the buildings to be accessible.
- Provision of vertical transport at key transition points across the site.
- Doors (hinged/sliding) & doorway circulation space.
- Continuous accessible path of travel.
- Stairs, ramps and walkway/pathway requirements.
- Carparking.
- End of Trip facilities.
- Sanitary Facilities including Unisex accessible toilets and ambulant facilities.
- Landscaping.

In general, the designs highlight functional and technical compliance to the Access to Premises Standard, AS 1428 series and the Disability Discrimination Act (DDA). As the designs progress through to construction finalisation, MGAC and the project team will provide updated reports that highlight technical recommendations as well as any design departures or performance solutions against the NCC.



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3. SITE PLAN

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4. LEGISLATION & REGULATIONS

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The provision of accessibility to the built environment and access to services is supported by the Disability Discrimination Act (DDA). The DDA is the Federal legislation that supports the rights of 20% of Australia's population who have a disability, their carers, companions or associates to functional, independent, equitable and dignified access to premises and services.

The Access to Premises Standard (APS) highlights the minimum level compliance requirements for accessibility or Deemed to Satisfy provisions as required under the NCC 2019. The Australian Standards, in particular the AS1428 suite, references the technical requirements of the built environment. Where a technical compliance to the NCC cannot be achieved, a performance solution or alternative building solution, can be sought. The performance solution must as a minimum, demonstrate an equivalent modification, development or operation as to the Deemed to Satisfy requirements that is unable to be met.

Where this is not achieved a "complaint maybe placed with Human Rights and Equal Opportunity commission for conciliation or a claim of "unjustifiable hardship" heard by the Building Appeals Board in the relevant State of the development.

KEY REGULATIONS AND STANDARDS

- NCC Part D3 – Access for People with a Disability
- NCC Part E3 – Passenger Lifts
- NCC Part F2 – Sanitary and other facilities
- Disability Discrimination Act (DDA) 1992.
- National Construction Code 2019
- AS1428.1 2009 Part 1: General Requirements for access – new building work.
- AS1428.2 1992 Part 2: Enhanced and additional requirements – Buildings and facilities.
- AS1428.4.1 2009 Part 4.1: Means to assist the orientation of people with vision impairment – TGSI.
- AS2890.6 2009 Part 6: Off-street parking for people with disabilities.
- AS1735.12 1999 Lift facilities for people with disabilities.
- AS 1657 Walkways, Stairs and Ladders



5. UNIVERSAL DESIGN

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The following highlights the key considerations of Universal Design. Universal Design allows everyone, to the greatest extent possible, and regardless of age or disability, to use buildings, transport, products and services without the need for specialised or adapted features. It helps to provide more inclusive facilities than relying on minimum standards prescribed in building codes.

While this strategic document primarily focuses on physical accessibility to the built environment it is important to also consider other dimensions of accessibility such as the social, communication and information systems within the built environment.

When applied successfully, the key beneficiaries include:

- Families who use strollers or have young children
- The aging population
- People with temporary injuries, fatigue easily or those with recurring illnesses
- Artists, performers, speakers or participants with diverse community members
- Cyclists (including recumbent and hand cyclist), skateboarders (ensuring they use the designated areas)
- Non-English speaking
- Service and Emergency services personnel
- Mass movement of people





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UNIVERSAL DESIGN PRINCIPLES

Equitable Use	<ul style="list-style-type: none"> The design encapsulates the needs of the whole community without disadvantaging or stigmatising any one individual or group e.g. encompasses diversity and inclusion
Flexibility in Use	<ul style="list-style-type: none"> The design accommodates a wide range of individual preferences and abilities e.g. different event modes
Simple and Intuitive Use	<ul style="list-style-type: none"> Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level e.g. seamless and predictable movement
Perceptible Information	<ul style="list-style-type: none"> The design communicates necessary information effectively to the user, regardless of the ambient conditions or the user's sensory abilities e.g. new wayfinding technologies such as "Blind Square"
Tolerance for error	<ul style="list-style-type: none"> The design minimises hazards and the adverse consequences do accidental or unintended actions e.g. the primary pathway is the accessible pathway for all
Low physical effort	<ul style="list-style-type: none"> The design can be used efficiently and comfortably with a minimum of fatigue e.g. large vertical rises have lifts and / or rest hubs along extensive pathways
Size and Space for approach and use	<ul style="list-style-type: none"> Appropriate size and space is provided for approach, reach, manipulation and use regardless of the user's body size, posture, or mobility. It also recognises

Additional Items	
Reasonable adjustment – DDA	<ul style="list-style-type: none"> Have reasonable adjustments been made for barrier free common areas & flexible workspaces.
Fit for purpose – WHS	<ul style="list-style-type: none"> Is the finished product fit for purpose, does it function correctly as intended & with ease of use?
Safety in Design - WHS	<ul style="list-style-type: none"> Has safety in design been considered in regard to all accessible areas, steps/ramps etc?



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6. DESIGN PRINCIPLES

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The following highlights the key accessibility features that are to be encompassed as the design progresses. It should be noted that for technical specifications, relevant Australian Standards are to be utilised.

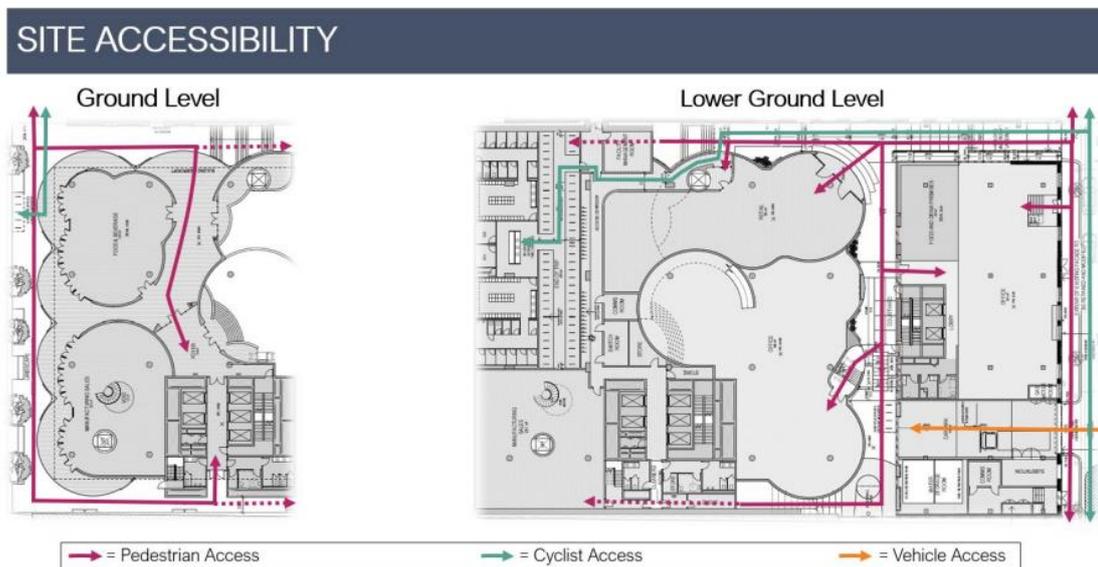


6.1 Vehicle, Bicycle and Pedestrian access into the site

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The site is well served by public transport, with three train stations within 1 kilometre of the site and a fourth-proposed station currently being built. Kensington Station on the Craigieburn railway line is located approximately 400 m walking distance north, and Macaulay Station on the Upfield railway line located approximately 500 m walking distance north east of the site. Bus and trams also service the site in close proximity.

The main pedestrian and cyclist access is from either Elizabeth Street entering on Lower Ground Level or along the railway corridor interface on Ground Level, providing access to the site as indicated in the image below.



Significant provision of on-site bicycle parking facilities is proposed as well as end of trip facilities to ensure that cycling to the precinct is a viable option. The provision of an end of trip facility located on the lower ground level within S4 will encourage the use of active transport options for tenants and the broader community. Current design highlights access through the precinct from Elizabeth Street alternatively via the railway corridor. The facility highlights bike storage and male and female change and shower facilities, with two separate unisex accessible shower facilities.

Dedicated carparking is supplied over the basement levels to be used by office tenants and visitors, including two accessible car parking spaces, located on basement 1 in close proximity to the core building lifts. One adjacent to the lifts connecting to S3 and one adjacent to the lifts connecting S4. These are to comply with the NCC, AS 1428.1 and AS 2890.6.

The master plan highlights and enhances the accessible routes into the site with pedestrian access and fluid movement being as a priority, to be reviewed further as the design progresses.



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Key UD principles

- Accessible drop-off locations with direct kerb ramp access to wide pathways and undercover areas with flexibility for drivers, passengers, or rear loading vehicles for people with disabilities
- Provision of accessible parking spaces in carpark to satisfy specific requirements
- Provision of undercover waiting areas, that include rest seating, garbage bins and drinking fountains
- Consideration of handcycle / recumbent cycles within the End of Trip facilities
- Bicycle pathways from surrounding areas provide direct and accessible links, particularly across roads, where the pedestrian is the priority.
- Minimisation of tactile indicators through the use of distinctive colour and texture to define key pathways, transition spaces or vertical rises
- Design of pathways that are linear and follow a clear building line to key entrances

Access to Premises requirements

NCC Clauses	AS 1428 references
D3.2	AS2890.6 Sections 2 & 3
D3.5	AS1428.1-2009 Section 10

Specific recommendations

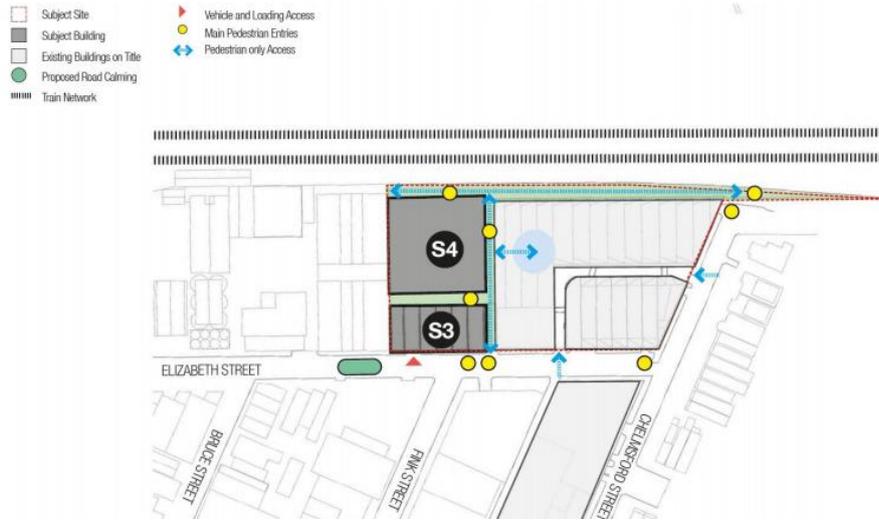
Area	Recommendation	Response



6.2 Entrances

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There are multiple entry points available to access the precinct as highlighted below. Visitors and tenants shall enter the building lobbies via the main pedestrian links on lower ground level from Elizabeth Street and Town Square, ground level railway corridor link or via the basement level carparking.



The development will as a priority ensure each key building entrance has an accessible entry, is seamless and intuitive in design.

Individual tenancies within S3 and S4 will ensure “step less / threshold free” entrances from common corridors and to the tenancy balconies/terraces.

Key UD principles

- All primary entrances to the building are accessible and automated / easy to operate, as well as clearly identifiable via signage that includes pictograms
- Signage and wayfinding systems to highlight alternative routes and / or building facilities, prior to entry
- Ensure all entrance mats are recessed without exposed edges
- Use of distinctive decals and door operating signage are a strong consideration
- Provision of an undercover waiting area with rest seating at the main entrance

Access to Premises requirements

NCC Clauses	AS 1428 references
D3.2	AS1428.1 Section 13

Specific recommendations

Area	Recommendation	Response



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6.3 Access to and within the lifts

Passenger lifts are highlighted on the proposed designs servicing all levels of the development.

S3 highlights two (2) core passenger lifts servicing the proposed commercial building, basement 02 to level 04, with an additional Vertical Platform Lift (VPL) indicated at the Elizabeth Street building entrance providing tenancy access.

S4 highlights five (5) core passenger lifts servicing basement 02 to level 07 with an additional three (3) lifts positioned at key transitional locations, providing vertical pedestrian access from lower ground to ground level.

As the design progresses further reviews and recommendations will ensure accessibility functionality is a priority for anyone to gain direct and predictable access to entrances within the precinct.

Furthermore, the lift specifications have yet to be detailed however there are two options available in the marketplace. The first, is a traditional lift with an external call button and internal control panel with raised Braille features that gets you to your desire level. The second may also have “destination control” which groups people based on their destination to allow efficient and effective movement.

Key UD principles

- Lift locations are predictable and allow direct access from all levels
- Where a lift does not allow entry and egress through front and rear doors, ensure the lift allows 180-degree turn by a large wheelchair i.e. 1400 minimum width x 1600 mm depth

Access to Premises requirements

NCC Clauses	AS 1428 references
E3.6	AS1735.12 Sections 2 & 3

Specific recommendations

Area	Recommendation	Response



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6.4 Stairs and Ramps

All stairs and ramps throughout the development are to be compliant including landings, gradients, widths, dual handrails with appropriate extensions, opaque risers, stair nosing with 30% luminance contrast and Tactile Ground Surface Indicators (TGSIs).

The proposed design highlights a series of ramps and graded walkways of differing gradients across the development, requiring further review as the design progresses to ensure seamless high quality pedestrian links.

The design also features a circular / spiral stair within S3 – Manufacturing Sales, which are generally unsafe due to their inconsistent tread widths.

All pedestrian stairs and ramps are to be reviewed during the design phases to ensure compliance.

Key UD principles

- Ensure all handrails on stairs do not extend into adjoining pathways or are turned down to the ground for added safety
- Stairs should have appropriate stair nosing with 30% luminance contrast
- Stairs to have Tactile Ground Surface Indicators (TGSIs) minimized or removed and replaced with colour and textural contrasting surface

Access to Premises requirements

NCC Clauses	AS1428 references
D3.2	AS1428.1 Section 10, 11, 12
DP1	

Specific recommendations

Area	Recommendation	Response
<i>Stairs General</i>	<ul style="list-style-type: none"> • Ensure stairs comply to AS 1428.1, 2009 including: <ul style="list-style-type: none"> ○ Dual handrails with appropriate extensions ○ Minimum 1000 mm clear width between dual handrails ○ Stair nosings with 30% luminance contrast ○ Opaque risers ○ Tactile Ground Surface Indicators (TGSIs) ○ Going & risers dimensions comply ○ Landings 	



<i>Ramps General</i>	<ul style="list-style-type: none">• Ensure ramps comply to AS 1428.1, 2009 including gradient, dual handrails with extensions & Tactile Ground Surface Indicators (TGSIs)	ADVERTISED PLAN
<i>Handrail Extensions</i>	<ul style="list-style-type: none">• Ensure stairs and ramps are set back to allow obstruction free adjoining pathway i.e. handrail extensions	



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6.5 Walkways, Pathways and Corridors

There are significant existing level changes across the precinct requiring the lower ground level of S3 to connect with the upper levels of S4. Creating accessible pedestrian connections through the precinct, the key walkways and pathways are to have appropriate widths and fall gradients to ensure high quality pedestrian links with direct sightlines to key features enhancing safety and functionality as a priority.

Further options will be discussed and presented to ensure accessible pathways links all key areas of the site.

The design of the walkways should follow the principles of universal design to maximise widths, with the use of distinctive colour, contrast and texture used to define roadways, pathways and the change in surface level.

The design of the internal pathways and corridors should comply to AS 1428 and follow the principles of universal design to maximise widths, turning and passing spaces.

Key UD principles

- Provision of clear building lines between key facilities to allow those who use a cane or mobility aid to follow with predictability
- Incorporation of distinctive colour and textural contrasting pathways / floor that delineates pathways, change in gradients or direction, particularly by people with vision impairments
- Primary and secondary pathways of sufficient widths to allow a person who uses a mobility aid and ambulant person to pass without modification of gait
- Creation of turning spaces at key transition points that allow fluid motion, rather than multiple turns by users of large wheelchairs
- Create zones where mobility aids or strollers can be located clear from pathways as not to become a hazard for people moving through the building

Access to Premises requirements

NCC Clauses	AS1428 references
D3.2	AS1428.1 Section 7
DP1	AS1428.4 Section 3
	AS1428.2 Section 27

Specific recommendations

Area	Recommendation	Response
<i>General</i>	<ul style="list-style-type: none"> • See Section 6.12 – Landscaping, Streetscapes & Terraces below 	



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6.6 Doors and Doorways

All doorways are to have sufficient clear opening widths (min. 850 mm), circulation spaces and latch side clearances. Doors are to be “easy operating” i.e. 20N weight of operation, consideration should be given to automated doors.

Decals will be provided where a doorway could be mistaken as a thoroughfare.

Key UD principles

- Primary entrances that are automated sliding door to key facilities.
- Creation of a “Stepless / threshold free” doors across all sites.
- Manual swing or sliding doors with light operation
- As a minimum, all doorways in the public areas to have D shaped door handles, enhanced clear opening widths, circulation spaces and latchside clearances.
- Distinctive decals only need to be utilised where “a door can be mistaken as a thoroughfare”

Access to Premises requirements

NCC Clauses	AS1428 references
D3.3	AS1428.1 Section 13
D3.2	

Specific recommendations

Area	Recommendation	Response
<i>Doors and Doorways General</i>	<ul style="list-style-type: none"> • Ensure all doors / doorways to comply to AS 1428.1, 2009: <ul style="list-style-type: none"> ○ 850 mm clear opening width ○ Light operating force not exceeding 20N ○ D-shaped lever door handles installed between 900-1100 mm AFL 	
<i>Circulation spaces at doorways</i>	<ul style="list-style-type: none"> • Ensure circulations spaces at doorways with swinging doors comply to AS 1428.1, 2009 Figure 31 • Ensure circulations spaces at doorways with swinging doors comply to AS 1428.1, 2009 Figure 32 	



6.7 Unisex Accessible and Ambulant accessible toilets

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Accessible sanitary facilities including unisex accessible and ambulant accessible toilets are a requirement under the NCC and are currently documented in both S3 and S4.

As a requirement under the NCC a mix of left-hand and right-hand transfer unisex accessible toilets should be provided on alternative levels across both buildings.

Additionally, direct access to the unisex accessible toilets should be provided eliminating requirement to enter via the male or female airlocks.

A key consideration is to provide a unisex ambulant toilet facility outside the male and female sanitary facilities which allows for flexibility and enables the facility to be utilised by a wider range of user groups.

Provision of a baby change table and showers within the unisex accessible toilet will also add to the flexibility of use.

Directional signage will be provided at key access ways to ensure their location is easily identified. Compliant braille and tactile signage to be provided.

Key UD principles

- AS 1428.1 2009 compliant Unisex accessible toilets to be provided in public areas and may be enhanced to include showers, lockers, first aid kits, sharps disposal bin or baby change tables for added flexibility
- Consider creating unisex ambulant toilets as this creates added flexibility and comfort of use by people who are trans gender
- Ambulant accessible toilets to be provided in all gender facilities
- It should be noted that the BCA provides a base level of accessible toilets

Access to Premises requirements

NCC Clauses	AS1428 references
F2.4	AS1428.1 Sections 8, 15 & 16
D3.6	

Specific recommendations

Area	Recommendation	Response
<i>Unisex Accessible Toilets</i>	<ul style="list-style-type: none"> • Ensure a mix of left- and right-hand transfer unisex accessible toilets alternating each level in both buildings. Not indicated on current design. 	
<i>Ambulant Sanitary Facilities</i>	<ul style="list-style-type: none"> • Consider providing unisex ambulant facilities outside male and female facilities on each level 	



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6.8 Changing Places Facility

The provision of a changing places facility within the development should be considered in the town planning design stage. A changing places facility provides flexibility for a diverse range of people and allows people with high support needs to participate in the community.

Key UD principles

- Changing places facilities allow people with high person or attendant care needs to participate in employment, community or sport and recreation
- A changing places facility is a secured facility and does not replace the need for a unisex accessible toilet
- Consideration of a hybrid changing places amenity as the secondary facility i.e. enhance circulation space, provision of a portable hoist and fold down change table or bench

Access to Premises requirements

NCC Clauses	AS1428 references
F2.9	Refer www.changingplaces.org

Specific recommendations

Area	Recommendation	Response
<i>Changing Places</i>	<ul style="list-style-type: none"> • Dimensions – 3200 x 4360 mm • A fully accessible adult change room with hoist, shower and seat, toilet rails and a lowered sink • MLAK key 	



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6.9 Wayfinding

A signage and wayfinding strategy should be created to ensure key accessible transition points are identified and captured around the precinct i.e. highlighting vertical transportation where stair only access is provided.

All signage and wayfinding will ensure viewing ranges are accessible and use of pictograms and Braille lettering to assist the accessible wayfinding include those people from non-English speaking backgrounds.

Where possible tactile indicators will be minimised, in particular “Back of House” areas and emergency evacuation routes, in lieu of colour and textural contrasting floor surfaces / paving being provided to highlight the changes in level or to identify features.

Key UD principles

- Where possible tactile indicators are to be minimised in lieu of distinctive colour and textural contrast and linear building lines to define movement between buildings and rooms
- Consideration should be given to “iBeacon” technology that is used by “Blind Square” as a method of wayfinding
- Signage utilising plain English and pictograms ensure direct wayfinding
- Consider utilising the new icon for all accessibility operations and wayfinding signage. The logo was deemed progressive, movement based and more widely recognised by people who did not use a wheelchair.

Access to Premises requirements

NCC Clauses	AS1428 references
D3.8	AS1428.4 Section 2

Specific recommendations

Area	Recommendation	Response
Accessibility Logo	<ul style="list-style-type: none"> • Consider utilising the new icon for all accessibility operations and wayfinding signage. The logo was deemed progressive, movement based and more widely recognised by people who did not use a wheelchair. 	



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6.10 Hearing Augmentation

Hearing augmentation is not highlighted as a requirement at this stage as there is no specific Audio Visual / stage area that would require it. There may be a requirement for meeting rooms or as required when fitted out and their exact purpose is determined.

Key UD principles

- The provision of a hearing augmentation system is a requirement where an audio-visual system is also provided
- FM systems utilise a FM transmitter of the audio-visual equipment i.e. microphone that is then use by a person with a FM receiver who can then either plug a neck look or head phones
- A loop system is hard wired and transmits a frequency that is picked up by people utilising a T switch within a hearing aid.
- A loop system is less flexible than an FM system as it only assists people with a hearing aid where as an FM system also assist people who maybe hard of hearing

Access to Premises requirements

NCC Clauses	AS1428 references
D3.7	AS1428.5 Sections 2 & 3
D3.6	

Specific recommendations

Area	Recommendation	Response



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6.11 Emergency evacuation

In general, most standard emergency evacuation plans generally do not detail an accessibility specific emergency evacuation. It is highly recommended an accessible version of an evacuation plan is developed including specific training.

The key consideration of communal tenancies is establishing a buddy system, where a staff member will accompany any person who cannot use stairs and notify the fire warden on each floor, that there is an issue of evacuation. Once the emergency type or location has been identified then appropriate action can be directed by the warden, which may include:

- Stay in place near the fire stair and lift and wait for instruction as there is no imminent danger
- Wait for the fire brigade to validate if the lift is safe to use to evacuate the building and then move down through building through their guidance
- Move into the stair well as there is an imminent threat and wait for the fire brigade to evacuate

Key UD principles

- Ensure the standard emergency evacuation plan also details an accessibility specific component, that includes a “buddy / supervisor system” for employees or customers with disabilities
- Create a number of refuges / waiting areas adjacent to where a fire warden would ideally coordinate an evacuation for people with accessibility needs
- Create a PEEP (Personal Emergency Evacuation Plan) for each employee or visitor for people with an accessibility need
- Where evacuation requires the use of a lift, ensure a 1-hour fire rated room is available until such time the fire brigade is able to validate the integrity of the lift
- *The use of evacuation chairs should be avoided as a last resort as this takes away the mobility of someone who uses their own mobility aid. In general, horizontal evacuation or evacuation via lift is the preferred method by the Fire Brigade once the emergency issue has been highlighted.*

Access to Premises requirements

NCC Clauses	AS1428 references
D1, D2, D3	AS1428.1 Section 6

Specific recommendations

Area	Recommendation	Response
General	<ul style="list-style-type: none"> • Create an accessibility specific emergency evacuation plan and maps across all buildings 	



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6.12 Landscaping, Streetscapes and Terraces

The proposed development is designed to enhance the public realm in a number of ways and significantly improve the landscape character and visual experience of the precinct, whilst incorporating the heritage and cultural aspect of the former wool stores and surrounds.

The proposal identifies a clear building line which incorporates a pedestrian laneway leading from Elizabeth Street, where pedestrians can transvers through the site, connecting the buildings through to the railway corridor.

Additionally, creating a pedestrian connection along the rail corridor is a vital access route and will encourage pedestrian movement and ease of access into the site.

As the design progresses, further accessibility and Universal Design input will be provided.

Key UD principles

- Maintain a clear building line / shoreline with contrasting paving recommended without obstructions along building line
- High- and low-level lighting
- Create clear garden bed lines for use by vision impaired
- Rest seating to be located away from passing traffic to allow strollers or wheelchairs to be beside seating without obstructing adjoining pathway movement
- Provision of rest seating with arm and back rests undercover or trees to provide shade and shelter

Access to Premises requirements

NCC Clauses	AS1428 references
D3.2	AS1428.1 Section 7
DP1	AS1428.4 Section 3
	AS1428.2 Section 27

Specific recommendations

Area	Recommendation	Response
<i>General</i>	<ul style="list-style-type: none"> • Where possible 1 in 20 is the benchmark to ensure seamless pathways without handrails and TGSIs 	
<i>Pathways</i>	<ul style="list-style-type: none"> • Recommend 1800 mm clear path of travel of pathways / walkways 	



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6.13 Lighting

There are currently no technical requirements under the NCC for accessible specific lighting. The key principle is general lighting as well as specific pathway lighting for enhanced visual perception.

Access to Premises requirements

NCC Clauses	AS1428 references
J6	AS1428.2, 1992 Section 19

Specific recommendations

Area	Recommendation	Response
<i>Lighting</i>	<ul style="list-style-type: none">To be determined as the design progresses	



7 NCC COMPLIANCE

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Access to Premises requirements	Compliance level
D2.20 Doors	Refer Design Summary
D2.13 Goings and Risers	Refer Design Summary
D2.17 Handrails	Refer Design Summary
D3.1. General building access	Refer Design Summary
D3.2 Access to Buildings	Refer Design Summary
D3.3 Parts of the building to be accessible	Refer Design summary
D3.4 Exemptions	To be confirmed
D3.5 Carparking	Refer Design Summary
D3.6 Identification of facilities - Signage	Refer Design Summary
D3.7 Hearing Augmentation	Refer Design Summary
D3.8 Tactile indicators	Refer Design Summary
D3.9 Wheelchair spaces in Class 9b assembly buildings	Not applicable
D3.10 Swimming Pools	Not applicable
D3.11 Ramps	Refer Design Summary
D3.12 Glazing on accessways	Refer Design Summary
E3.6 Passenger Lifts	Refer Design Summary
F2.2 - F2.4 Sanitary facilities	Refer Design Summary
H2.12 – Lighting	Refer Design Summary
H2.14 – Emergency Warning Systems	Refer Design Summary



8 PERFORMANCE SOLUTIONS

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As the design progresses, where compliance cannot be achieved via redesign, justification of non-compliances through a Performance Solution are to be confirmed in conjunction with the architect and building surveyor.

Non-compliance	Justification
<ul style="list-style-type: none"> To be confirmed as the design progresses 	

9 SUMMARY

The development of an accessible and universally designed multipurpose precinct such as Younghusband – Stage 2, will provide seamless and flexible use for all people. The key features to ensure access of the buildings including pathways, transport linkages, entrances, amenities, and vertical transport, have been provided.

The highlighted principles and recommendations are by no means an exhaustive list, rather a start of the options and opportunities to create seamless, accessible yet flexible environments that go well above minimum standards. Base level accessibility is encompassed by the NCC which references AS 1428.1 2009, however there are many components highlighted which should be considered to create “best practice or Universal Design”.

MGAC are satisfied that at Town Planning stage, sufficient consideration has been given to DDA Accessibility, to ensure not only compliance is achievable but functional design will also be delivered. As the design progresses, reviewing the design against the principles of this report, will ensure accessibility and Universal Design has been implemented successfully.

REVIEW PROVIDED BY:

Belinda Cameron
Consultant

Nick Morris O.A.M
B.A (Human Movement – RMIT)
Accredited Member – ACAA



Appendix 1 – Design Checklist

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The following summarises the primary project technical requirements as required to satisfy the National Construction Code and relevant referenced standards including the AS 1428 suite.

1) Car Parking and Transport

Key Car parking and transport design recommendations:

- Dimensions of angled accessible parking bays 2400 x 5400mm with adjacent 2400mm x 5400mm shared area and bollard in shared area.
- Dimensions of parallel parking bays 3200mm x 7800mm.
- Provide direct kerb ramp access from adjacent to the accessible parking space to pathway.
- Accessible bays to be located near entrances, lift lobbies and ramps.
- Provide a designated area for accessible drop off from private vehicles, taxis and community vehicles with kerb ramp access to the pathway.

2) External Walkways, Kerbs and Pedestrian Crossings

External walkway dimensions:

- Walkways to be 1000mm wide (minimum), 1500mm preferred.
- Walkway gradient to be 1:20 (max) with landings every 15m and a cross-fall of not greater than 1:40.
- If gradient of walkway is less than 1:33 no landings are required.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm length.

Key kerb and pedestrian crossing recommendations:

- Kerb ramp to have gradient no steeper than 1:8, length no greater than 1520mm.
- Pathways from accessible parking across roadways to have designated line marking.

Access to buildings:

Access must be provided to a site from;

- The main points of pedestrian entry at the allotment boundary
- From another building (required to be accessible) linked by a pedestrian link
- From any accessible car parking spaces

And to the actual building, access must be provided via the main principal entrance and;

- Not less than 50% of all pedestrian entries (including the principal entrance) and
- And, a non-accessible entrance must not be located more than 50m from an accessible entrance.

3) Slip Resistance

Slip Resistance of Ramps, Steps and Landings: (D2.10, D2.13, D2.14)

- Ramp Surfaces, stair tread surfaces or nosing strips, and stair landings, or landing nosing strips to a flight below, must achieve slip-resistance classifications to AS4586-2013 as follows:
- Application:
- 1:14 or steeper- dry surface conditions P4 or R11, wet surface condition P5 of R12
- Ramps of 1:14 to 1:20- dry surface conditions P3 or R10, wet surface condition P4 of R11
- Tread of Landing Surface- dry surface conditions P3 or R10, wet surface condition P4 of R10
- Nosing Strip to Landing Strip- dry surface conditions P3, wet surface condition P4



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4) Entrances

Key entrance recommendations

- Main entry must be accessible (new buildings) or locate accessible entry within 50m of inaccessible entry (existing buildings).
- 50% of all entrances are required to be accessible (new buildings).
- Entry requires single door leaf width clearance of 850mm (920mm door size).
- Circulation space of 1450mm required either side of entry. Minimum grade & cross fall 1:40.
- Entrance doors to have operational weight of less than 20N of force or be automated.
- All frameless glazed doors must be marked with contrasting marking not less than 75mm wide for full width of doors with lowest edge at 900-1000mm.

5) Lifts

Key lift design recommendations:

- Lift dimensions to be 1400mm x 1600mm minimum. Where stretcher use indicated (in at least one lift for lifts travelling >12m) provision of 2000mm length is required.
- 1450mm floor circulation space required at lift entrances.
- Lift doorway clearance to be 900mm
- Fit out of lifts to include: Handrail 600mm (min) length; at height between 850-950mm, Tactile and Braille symbols on control buttons and panels, Automatic auditory information detailing lift stops.
- Lift controls to be installed at height between 700-1250mm. At lift landings controls to be located 500mm clear of any obstruction with 1350mm circulation space in front of controls. This is inclusive of side walls.

Vertical Platform Lift (VPL) Specifications:

- Lift dimensions to be 1100mm x 1400mm minimum
- Lift doorway clearance to be 900mm
- Fit out of lift to include: dual sided controls, automatic door operation, bilateral handrails, control operation via constant hold to run pressure.

6) Stairs

Key stair design recommendations:

- Stairs to be set back 900mm at property boundaries or sufficient space to accommodate required handrails internal corners.
- Where the intersection is at an internal corridor, the stair shall be set back in 300mm, so the handrails do not protrude into transverse path of travel.
- Circular or spiral stairs are generally unsafe due to their inconsistent tread width.
- Stairs shall have opaque risers.
- Stair nosing shall not project beyond the face of the riser and the riser may be vertical or have a splay backwards up to a maximum 25mm.
- Stair nosing profiles shall:
 - a. Have a sharp intersection;
 - b. Be rounded up to 5mm radius; or
 - c. Be chamfered up to 5mm x 5mm
- At the nosing, each tread shall have a strip not less than 50mm and not more than 75mm deep across the full width of the path of travel. The strip may be set back a maximum of 15mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall not exceed a difference of 5mm
- Common use stairs require AS1428 series compliant handrails, tread features and TGSI.



- Fire stairs require AS1428 series compliant stair nosing. They are exempt from other features although these are recommended to enhance safety of steps.

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7) Ramps

Key ramp design recommendations:

- Total vertical rise cannot exceed 3.6m.
- Ramps to be set back 900mm at property boundaries or 400mm at internal corners.
- Minimum gradient of a ramp exceeding 1900mm is 1:14. Gradient to be consistent throughout ramp.
- Ramp required to have unobstructed width of 1000mm
- Ramps to be provided with landings at bottom and top of ramp.
- Landings required every 9m where grade 1:14.
- Landings required every 15m where grade 1:20.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm x 2070mm length.
- Ramps require AS1428 series compliant handrailing and TGS1.

8) Information, Reception and Enquiries

Key information and reception design recommendations

- Provide 1450mm approach space in front of reception areas.
- Reception height to be 900mm or if higher an 850mm wide section of 850mm height is provided.
- If transactions to occur at counter total counter depth to not exceed 1100mm.
- On the staff approach an accessible under clearance of 680mm height is required.
- On the customer side if paperwork requires completion provide an 850mm wide section of 680mm high desk under clearance.

9) Internal Walkways and Surfaces

Key internal walkway and surface recommendations:

- Walkways to be 1800mm wide or 1500mm with passing bays (1800 x 2000mm) every 20m in high trafficable zones.
- Minimum width of internal walkway 1000mm.
- Path of travel in front of major thoroughfare doorways or those accessed from a frontal approach required to be 1450mm width (minimum).
- Path of travel in front of minor thoroughfare doorways accessed from the latch side to be 1240mm minimum width (for example corridor widths in low traffic areas).
- Landing spaces at directional changes of: at 90° - 1500mm x 1500mm (corner can be truncated); at 180° - 1540mm x 2070mm.
- Turning space at corridor terminations to be 1540mm width x 2070mm length.
- Tactile indicators are required to be provided to warn occupants of all stairs (except Fire Isolated stairs) and ramps regardless of public nature or private environment and where an overhead obstruction occurs less than 2.0m above the finished floor level.

Accessibility within building:

- A building required to be accessible is required to be equipped with either a 1428.1 compliant lift or 1428.1 compliant ramp, (but the maximum vertical rise of a ramp must not exceed 3.6m).



10) Internal Doorways

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Key internal doorway recommendations

- All doors require 850mm clearance width (920mm doors) inc. active leaf of double doors.
- Latch side clearance of 510mm to inward opening doors; 530mm to outward opening doors.
- Automated doors can negate latch side clearance and are preferred on entry/ outside opening doors.
- Circulation space of 1450mm required either side of doors in high traffic areas or that are approached from the front.
- Circulation space of 1240mm required in front of inward opening doors approached from latch side (for example corridor widths within low traffic areas).
- All frameless glazed doors must be marked with contrasting marking not less than 75mm wide for full width of doors with lowest edge at 900-1000mm.

11) Sanitary and Parenting Facilities

Key sanitary facility recommendations

- Accessible sanitary facilities to be in same location as gender facilities and located on all levels of a multi-level building.
- Room dimension with WC and basin: 1900mm x 2630mm or 2330mm x 2200mm.
- Room dimension with WC, basin, shower: 2300mm x 2690mm.
- Provide AS1428 series compliant fixtures inclusive of shelf, clothes hooks, full length mirror.
- Consider provision of baby change and/or shower to enhance operational flexibility for all users.
- Must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary towels and as per the following:
 - Building Type- Retail
 - Minimum accessible unisex sanitary compartments to be provided:
 - a) 1 on every storey containing sanitary compartments; and
 - b) Where a storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks
- At each bank of toilets where there are one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females; and
- Where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations.

12) Emergency Evacuation

Key emergency evacuation recommendations:

- Consideration of individuals with disabilities is required as part of emergency evacuation planning. The types of accessible emergency evacuation include "protect in place" i.e. 1 hour rated hotel rooms on non-fire effected levels; smoke isolated lift lobbies with managed lift access; horizontal evacuation movement to other building areas; or provision of fire refuges within fire stairs or identified zones.
- If areas of refuge are provided spaces of 1300mm x 800mm are required per individual. This space needs to be set back from the main egress thoroughfare.
- Fire evacuation plans should include provision of management plans to assist individuals with disabilities or access requirements. Individuals with accessible requirements should be provided with a "fire buddy" to escort them to pre-determined areas of refuge.
- Fire engineering reports should detail accessible evacuation within a sub section of the plan.



13) Signage

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Key Signage design recommendations

- Accessible way finding should highlight the pathway from entrance to reception to lifts/stairs, amenities and to key components of the facility.
- Ensure accessible way finding signage is:
 - Located at appropriate viewing heights
 - Perpendicular to the path of travel or beside identifiable features (e.g. door faces)
 - Of suitable colour contrast
 - Of compliant notation inclusive of use of the international symbol of access.
- Signage to accessible sanitary facilities requires identification with the international symbol of access, raised tactile and Braille signage and letters RH or LH to indicate side of transfer to the WC pan.
- Ensure parenting symbols are used to identify baby change locations.

14) Hearing Augmentation

Key Hearing augmentation recommendations

- Hearing Augmentation systems must be provided where inbuilt amplification is provided in rooms (e.g. auditoriums, conference rooms or meeting rooms)
- Hearing Augmentation systems must be provided where inbuilt amplification is provided to ticket offices, tellers booths, reception areas or the like where the public is screened from the service provider.
- Hearing augmentation systems can be permanent or portable. The nature of the built environment will dictate the desired outcome.