Morris Goding
Access Consulting

Cox Architecture

Building C4- Epping Road,
Macquarie Park, NSW 2113

DA Access
Review – Final V2

3 August 2021

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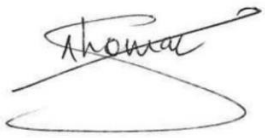
This report prepared by:



Andrew Shomar
Access Consultant
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1. Executive Summary

The Access Review Report is a key element in the design development of C4 Epping Road, Macquarie Park, NSW 2113 and an appropriate response to the AS1428 series, Building Code of Australia (BCA), DDA Access to Premises Standards (including DDA Access Code) and ultimately the Commonwealth Disability Discrimination Act (DDA).

Morris-Goding Accessibility Consulting has prepared the Access Report to provide advice and strategies to maximise reasonable provisions of access for people with disabilities.

The review will ensure that ingress and egress, paths of travel, circulation areas, adaptable units, silver-level units and sanitary facilities comply with relevant statutory guidelines, and in addition, compliance with a higher level of accessibility and inclusiveness benchmarks set by the project.

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2. Introduction

2.1 Background

Cox Architecture has engaged Morris-Goding Access Consulting, to provide a design review of C4 Midtown. The proposed development falls under a number of BCA classifications:

- Class 2 (multi-dwelling sole-occupancy units)
- Class 7a (carpark)

The requirements of the investigation are to:

- Review supplied drawings of the proposed development.
- Provide a report that will analyse the provisions of disability design of the development, and
- Recommend solutions that will ensure the design complies with the Disability Discrimination Act (DDA), Building Code of Australia (BCA), relevant Australian Standards, and enhanced benchmark requirements set by the project.

2.2 Objectives

The Report seeks to ensure compliance with statutory requirements and enhanced benchmark requirements set by the project. The Report considers user groups, who include students, staff, and members of the public. The Report attempts to deliver equality, independence and functionality to people with a disability inclusive of:

- People with a mobility impairment (ambulant and wheelchair);
- People with a sensory impairment (hearing and vision); and
- People with a dexterity impairment

The Report seeks to provide compliance the Disability Discrimination Act 1992. In doing so, the report attempts to eliminate, as far as possible, discrimination against persons on the ground of disability.

2.3 Limitations

This report is limited to the accessibility provisions of the building in general. It does not provide comment on detailed design issues, such as: internals of accessible/ambulant toilet, fit-out, lift specification, slip resistant floor finishes, door schedules, hardware and controls, glazing, luminance contrast, stair nosing, TGSIs, handrail design, signage etc. that will be included in construction documentation.

2.4 Accessibility of Design

The proposed design will utilise the Federal Disability Discrimination Act (DDA), Disability (Access to Premises – Buildings) Standards 2010, BCA/DDA Access Code, Universal Design principles, the AS 1428 Series, and other design guidelines, to develop appropriate design documentation, to provide reasonable access provisions for people with disabilities.

The Project Architect and an appropriately qualified accessibility consultant will examine key physical elements during design development stage, to identify physical barriers and incorporate solutions as a suitable response to disability statutory regulations and other project objectives.

The design will be developed to ensure the principles of the DDA are upheld. Under the DDA, it is unlawful to discriminate against people with disabilities in the provision of appropriate access, where the approach or access to and within a premise, makes it impossible or unreasonably difficult for people with disabilities to make use of a particular service or amenity.

The design will comply with the requirements of the DDA Access to Premises Standards and include requirements for accessible buildings, linkages and the seamless integration of access provisions compliant with AS1428.1. The developed design will consider all user groups, who include members of the public, visitors, students and staff members.

2.5 Statutory Requirements

The statutory and regulatory guidelines to be encompassed in the developed design to ensure effective, appropriate and safe use by all people including those with disabilities will be in accordance with:

- Federal Disability Discrimination Act (DDA);
- Disability (Access to Premises – Buildings) Standards 2010;
- Building Code of Australia (BCA) Part D3, F2, E3;
- AS 1428.1:2009 - (General Requirement of Access);
- AS 1428.4.1:2009 - (Tactile Ground Surface Indicators);
- AS 2890.6:2009 - (Parking for People with Disabilities);
- AS 1735.12:1999 - (Lift Facilities for Persons with Disabilities);
- AS 4299: 1995 (Adaptable Housing)
- City of Ryde Development Control Plan 2014- Part 9.2 Access for People with Disabilities

Please note that there are also additional advisory standards (not currently referenced by BCA or DDA Premises Standards) as well as other relevant guidelines that will be considered, as relevant to promote equity and dignity in line with over-arching DDA principles and aspirational objectives. These include:

- Universal Design Principles;
- Human Rights Commission (HEREOC)
- Advisory Note February 2013 on streetscape, public, outdoor areas, fixtures, fittings and furniture;
- AS1428.2:1992 Enhanced and Additional requirements;
- AS1428.4.1 Draft Way-finding Standard;
- AS3745:2010 – Planning for Emergencies in Facilities (to assist with design strategies for provision for escape for people with disability that may require assistance)

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3. General Access Planning Considerations

The Disability Discrimination Act 1992 (DDA) is a legislative law that protects the rights of all people. The Act makes disability discrimination unlawful and promotes equal rights, equal opportunity and equal access for people with disabilities. The Australian Human Right Commission is the governing body who control and enforce DDA compliance.

Nevertheless, building elements that provide insufficient accessible provisions for people with disabilities remain subject to the DDA. The improvement of non-compliant building elements and areas to meet current access requirements will mitigate the risk of a DDA complaint be made against the building owner.

Since the 1st May 2011, the Commonwealth's Disability (Access to Premises – Buildings) Standards 2010 (DDA Premises Standards) apply to all new building works and to affected parts of existing buildings.

The DDA Premises Standards' requirements (DDA Access Code) are mirrored in the access provisions of the BCA. New building work and affected parts must comply with the DDA Premises Standards and AS1428.1-2009 in the same manner as they would comply with the BCA by meeting deemed-to-satisfy provisions or by adopting an alternative solution that achieves the relevant performance requirements.

By utilizing AS 1428 suite of Standards, the overall aim is to provide continuous accessible paths of travel to connect the proposed development to and through public domain areas and between associated accessible buildings in accordance with the DDA Access Code.

MGAC supports the use and consideration of universal design (UD) principles into the design to maximize access for all people. We will assist the design team to incorporate UD principles where possible within the project, while still meeting mandatory compliance requirements.

A UD approach has numerous benefits for the client as an education provider, for businesses within the building, for individual users and for society in general. An inclusive environment that can be accessed, understood and used by as many people as possible, is good business sense, is more sustainable and is socially progressive, in line with the aims of the DAP.

Universal design principles consider the needs of a broad range of people including older people, families with children and pushing prams, people from other cultures and language groups, visitors in transit and people with disability. By considering the diversity of users, the design will embed access into and within it, so that benefits can be maximized, without adding on specialized 'accessible' features that can be costly, visually unappealing and may perpetuate exclusion and potential stigma.

The seven key Universal design principles to consider in the on-going design include:

- Principle 1: Equitable Use
- Principle 2: Flexibility in Use
- Principle 3: Simple and Intuitive Use
- Principle 4: Perceptible Information
- Principle 5: Tolerance for Error
- Principle 6: Low Physical Effort
- Principle 7: Size and Space for Approach and use

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4. Ingress & Egress

4.1 External Linkages

The BCA and DDA Premises Standards contain requirements for site approaches for the use of persons with disabilities. These requirements can be summarised as follows:

- It will be necessary to provide an accessible path of travel from main pedestrian entry points at the site allotment boundary to all building entrances compliant with AS1428.1:2009.
- An accessible path of travel between buildings (or parts of buildings) that are connected by a pedestrian linkage, within the site allotment boundary, compliant with AS1428.1:2009 is also required.
- An accessible path of travel to building entrances (required to be accessible) from associated accessible car-parking bays, compliant with AS1428.1:2009 is required.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

On the basis of the current level of detail all access requirements appear capable of achieving compliance subject to resolution of some minor issues subject to:

- The identification of the accessible path of travel from the site boundary into main pedestrian entrances
- The identification of an accessible path of travel from the accessible car parking bays to the passenger lifts within the basements.
- The provision of compliant walkways on an accessible path of travel from the boundary to the building entrances found on the premises.
- The identification of certain gradients at boundary areas demonstrating changes in level.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

4.2 Entrances

The BCA and DDA Premises Standards contain requirements for building entry for the use of persons with disabilities. These requirements can be summarised as follows:

- Access is required through at least 50% of entrances, including the principal pedestrian entrance/s to all buildings or parts of buildings (ie. when they have a separate function and/or use eg. external retail tenancy). Note it is preferred that all entrances are accessible.
- A non-accessible entry cannot be located more than 50m distance from an accessible entry (for buildings greater than 500m2).
- All accessible doors to have 850mm min. clear width opening and suitable door circulation area, compliant with AS1428.1:2009. Note: Manual doors require lightweight door forces to be operable by people with disabilities (20N max.). We recommend that main entrances include automated sliding doors to be used where possible. Revolving doors are not accessible, if maintained an alternate accessible door is required adjacent.
- An accessible path of travel eg. ramp or lift needs to be provided adjacent (or in reasonable proximity) to any stair access. Note: providing choice of access route directly adjacent so that people can start and finish in the same location/travel similar route promotes inclusion and UD principles.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

On the basis of the current level of detail all access requirements appear capable of achieving compliance subject to:

- The provision of automatic doors at the main entrances
- The provision of compliant clear door opening and door circulation to the northern entry gate found within the landscaped area.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

4.3 Emergency Egress

BCA 2016 Part D2.17 has requirements for all fire-isolated egress stairs from areas required to be accessible (not communication stairs) to include at least one continuous handrail designed to be compliant with AS1428.1 Clause 12. Provision of an off-set tread at the base of stair flights or an extended mid-landing that will allow a 300mm extension clear of egress route is considered appropriate for achieving a consistent height handrail (without vertical or raked sections). Such an off-set tread configuration has been shown at the majority of stairs and would appear to be possible elsewhere, subject to further detail design.

Where fire-isolated egress stairs will also be used for communication stair purposes between levels, they should be designed to meet AS1428.1:2009. Confirmation is required on the likely use of certain stairs for this purpose.

There is currently no mandatory requirement within BCA or DDA Premises Standards for provision of independent accessible egress for people with a disability in accordance AS1428.1 and this remains an important DDA issue. Consideration of an accessible egress strategy with emergency evacuation plan will be needed as a minimum starting point.

Consideration of waiting spaces within fire-stairs should be strongly considered for people with mobility impairment. The current configuration of stairs suggests the spatial requirements would not be incorporated without layout amendments, but if provided with future design development these would generally require:

- 850mm min. clear width egress door and 510mm min. external door circulation area, compliant with AS1428.1:2009;
- Wheelchair space (800mm W x 1300mm L min. dimensions) within fire-isolated stair, outside of the required egress path, that can be accessed on a continuous path of travel.
- Alternative evacuation means eg. emergency passenger lift/s could be provided instead of/or only in addition to ‘waiting spaces’ in line with ABCB Handbook and/or consideration of stair evacuation devices (with appropriate storage and staff training) within fire stairs.

5. Paths of Travel

5.1 Circulation Areas

The BCA and DDA Premises Standards contain requirements for circulation areas for the use of persons with disabilities. These requirements can be summarised as follows:

- Wheelchair passing bays (1800mm width x 2000 length) are also required when a direct line of sight is not available and are to be provided at 20m max. intervals along access-ways.
- Turning spaces (at least 1540mm W x 2070mm L) are required within 2m of every corridor end and at 20m.max intervals along all access-ways. This is needed for wheelchairs to make a 180-degree turn, compliant with AS1428.1:2009.
- All common-use doors (ie. not excluded under Part D3.4) to have 850mm min. clear width opening (each active door leaf) and suitable door circulation area, compliant with AS1428.1:2009.
- All common-use corridors and accessible paths of travel to be at least 1000mm min. width when travelling in linear direction. Note: Increased clear width paths of travel required for doorway circulation, turning areas etc.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance, subject to the provision of:

- 1800 x 2000 passing bays in areas where no direct line of sight is provided- MGAC can support a performance solution to this non-compliance.
- Provision of compliant door circulation spaces for common-use doors within the premises i.e. garbage rooms
- Provision of 1000mm path of travel within the sky garden
- The provision of a 1540 x 2070 turning space at end-of-corridors greater than 2m long- MGAC can support a performance solution for this non-compliance

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

5.2 Passenger Lifts

The BCA and DDA Premises Standards contain requirements for passenger lifts and circulation areas for the use of persons with disabilities. These requirements can be summarised as follows:

- Passenger lifts to have min. internal size at floor of 1400mm width x 1600mm depth, compliant with BCA/DDA Access Code Part E3.6 and AS1735.12.
- All lift lobbies and main corridors on each level to have 1800mm min. clear width to allow two wheelchairs ability to space pass each other.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements.

On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

5.3 Stairs & Ramps

The BCA and DDA Premises Standards contain requirements for stairs and ramps for the use of persons with disabilities. These requirements can be summarised as follows:

- Ramps are to have maximum 1:14 gradient with landings at no more than 9 metre intervals
- Ramps are to have handrails on both sides with minimum 1 metre clearance in accordance with AS1428.1
- Landings are to have 1200mm length with 1500mm length at 90 degree turns
- Stairs are to have handrails on both sides in accordance with AS1428.1
- Stairs and ramps are to be offset to ensure no encroachment of handrail extensions into from transverse path of travel at top and bottom of stair/ramp

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance subject to the provisions of:

- Compliant intervals between landings for walkways and ramps found on the boundaries of the premises
- Compliant gradients of ramps found within the premises
- Compliant landing circulation space for the walkways found of the boundaries of the premises
- The provision of compliant bottom ramp landings

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

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6. Adaptable Units

6.1 Adaptable Unit Provision

The concept of adaptable housing is to design units with provisions in place from the outset (pre-adaption) so they can be easily adapted to meet changing needs of residents in the future (post-adaption) in accordance with AS4299.

The following requirements are to be satisfied in the provision of adaptable units

- A total of 5% adaptable units are required based on the approved Masterplan DA Design Guidelines
- The adaptable units are to be designed in accordance with AS4299 Class C

Assessment

A total of 488 dwellings have been proposed throughout the development. There are 24 apartments (5% of total) designed to be adaptable, which satisfies the Masterplan DA Design Guidelines.

The adaptable units that have been nominated include units within Building C4.2: Rooms 1.02- 11.02 and within Building C4.1: Rooms 4.10-17.10. The adaptable units found within the premises range between 1&2-bedroom types.

On the basis of the current level of detail, all access requirements appear to be capable of achieving compliance.

Further work will be required to ensure appropriate outcomes are achieved.

6.2 Adaptable Unit Design

The following requirements are to be satisfied in the provision of adaptable unit design at pre-adaptation stage.

- The entry door of the unit achieves 850mm clear width opening (920 door leaf). Latch side clearance of 530mm needs to be achieved at pre adaptation, externally and internally of the door in accordance with AS4299.
- The kitchen needs 1550mm circulation space outside of the kitchen work spaces
- The bathroom needs to be of an adequate size to achieve an AS1428.1 compliant bathroom of shower, WC and basin with required circulation spaces. Capped off service can be provided for the relocation of basin at post adaptation. The shower recess will require review during design development.
- The living area needs to be large enough to achieve a circulation space of 2250mm min diameter after furniture placement, compliant with AS4299.
- The bedroom needs to achieve 1 metre either side of queen size bed and 1550 x 2070mm at the base of bed or similar configuration
- The laundry area requires 1500mm in front of laundry appliances in accordance with AS4299.
- All doors need to achieve 850mm clear opening width from the outset and easily achievable latch side clearances at post adaptation, compliant with AS1428.1:2009.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

7. SEPP 65 Silver Livable Units

7.1 Silver Livable Unit Provision

The following requirements are to be satisfied in the provision of visitable units

- A total of 100% social units are required to satisfy the approved Masterplan DA Design Guidelines (including referenced Apartment Design Guide) requirements to incorporate Liveable Housing Guidelines Silver Level Universal design features.
- Note- the adaptable units can be counted in the calculation of the required amount of Silver Livable Units, if the apartment also meets the following requirements.

Assessment

A total of 216 dwellings have been proposed throughout the proposed social dwelling and an additional 14 within the market building. There are currently 216 apartments (100% of total within the social dwelling) designed to be visitable that meet the above requirements and additional 14 (5% within the market building) which are designed in surplus to no provisional requirements.

The livable housing units have been nominated as Silver Units include all dwellings within building C4.2 (Levels Ground-16) & units within C4.1, Rooms 4.10-17.10.

MGAC has reviewed the drawings and documentation in relation to the requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

7.2 Silver Livable Unit Design

The following requirements are to be satisfied in the design of these units

- The path of travel and the associated landings to relevant ramps and walkways are subject to the requirements of a 1200mm landing.
- The entry door into the units are to be detailed to achieve suitable clear width of at least 820mm during detailed design development stage to be compliant with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015:
- From the unit entry, there needs to be appropriate 1m clearances throughout the unit to allow suitable accessible paths of travel within accordance with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015.
- All internal doorways into bathroom, bedroom and out to balcony are required to achieve at least 820mm clear open widths in accordance with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015. This can be achieved during detailed design development.
- The silver levels units require bathrooms that can accommodate the required 900mm wide by 1200mm long clear visitable toilet circulation space in front of the leading edge of the pan compliant with Silver Level rating requirements in accordance with Livable Housing Design Guideline 2015.
- The walls surrounding the shower and toilet pan require sufficient reinforcements for the provision of grab rails in the future when required.

Assessment

MGAC has reviewed the drawings and documentation in relation to the requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8. Facilities & Amenities

8.1 Sanitary Facilities

The BCA and DDA Premises Standards contain requirements for sanitary facilities suitable for the use of persons with disabilities. These requirements can be summarised as follows:

- For Class 5, 6, 7a, 9b: Provide at least 1 unisex accessible toilet, adjacent to every bank of toilets (where provided) on each storey, compliant with AS1428.1 under BCA/DDA Access Code part F2.4. If more than 1 toilet bank provided on each level, accessible toilet is required at 50% min. of toilet banks at each level.
- For Class 9b: If common use change facilities provided (ie. both toilets and showers) a separate combined accessible WC/shower adjacent to male and female change rooms is required, compliant with AS1428.1 under BCA/DDA Access Code Part F2.4.
- An even number of left hand (LH) and right hand (RH) transfer WC pans (accessible toilets) is required within the building. Alternating LH/RH layouts on each subsequent level is the most appropriate and inclusive approach.
- Accessible WC requires 2300mm x 1900mm around the pan with the basin to sit outside this area in accordance with AS1428.1.
- An ambulant cubicle is required within every standard toilet bank adjacent to an accessible toilet under DDA Access Code Part F2.4 compliant with AS1428.1:2009.

Assessment

N/A

8.2 Common Areas

The BCA and DDA Premises Standards contain requirements for common use areas suitable for the use of persons with disabilities. These requirements can be summarised as follows:

- For class 2 and class 3 buildings, access is required to a unique common use facility such as swimming pool, sauna, common laundry, entertainment rooms.
- For swimming pools, a means of access is required into the pool in accordance with DDA Premises Standards
- Accessibility is required to common use courtyards within buildings.
- Mailboxes and garbage rooms within residential buildings require appropriate accessibility.
- Wheelchair access is required to any external and outdoor terrace areas including roof terraces compliant with AS1428.1.

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements. On the basis of the current level of detail all access requirements appear capable of achieving compliance subject to:

- The provision of compliant door circulation spaces to the entrances of garbage rooms

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

8.3 Car Parking

The BCA and DDA Premises Standards contain requirements for parking which are applicable to this project. These requirements can be summarised as follows:

- Class 5 commercial, 9b development: Provide 1 accessible car bay for every 100 car bays or part thereof, compliant with AS2890.6.
- Class 6 retail development: Provide 1 accessible car bay for every 50 car bays or part thereof, compliant with AS2890.6.
- Class 3 residential. Number of accessible car bays based on total number of car bays multiplied by percentage of accessible SOU to the total SOUs.
- Accessible car bays require 2.4 metre with 2.4 metre shared area.
- Class 2 residential. Provide an adaptable unit car bay for each adaptable unit. These car bays can have 3.8 metre width or 2.4 m with 2.4 metre shared zone.
- All accessible car bays to be located near relevant lifts and/or associated building entry points to minimise distance to relevant lift and ensure accessible path of travel between these areas.
- Ensure 2.5m min. height clearance, compliant with AS2890.6 fig 2.7 over accessible car bays with 2.2 m min. vertical clearance leading to the accessible and adaptable unit car bays (Note: consideration for 2.3 or 2.4m min. height preferred for higher vans/adapted vehicles is recommended as good practice).

Assessment

MGAC has reviewed the drawings and documentation in relation to the aforementioned requirements.

On the basis of the current level of detail all access requirements appear capable of achieving compliance subject to the provision of allocating the accessible car parking bays as close as possible to the lift lobbies each parking bay is designated to.

Further work will be required during design development stage to ensure appropriate outcomes are achieved.

Morris Goding
Access Consulting

9. Conclusion

MGAC has assessed the proposed scheme for Building C4 on Epping Road at Macquarie Park, NSW 2113. The proposed drawings indicate that accessibility requirements, pertaining to external site linkages, building access, common area access, sanitary facilities and parking can be readily achieved. It is advised that MGAC will work with the project team as the scheme progresses to ensure appropriate outcomes are achieved in building design and external domain design.