15th July 2020

General Manager
Strathfield Council
65 Homebush Road,
STRATHFIELD, NSW, 2135

Attention:

Senior Development Assessment Officer

**11-17 COLUMBIA LANE, HOMEBUSH, NSW**
**Design Verification Statement**

Pursuant to Clause 50 (1A) of the Environmental Planning and Assessment Regulation 2000, I hereby declare that I am a qualified designer, which means a person registered as an architect in accordance with the Architects Act 2003 as defined by Clause 3 of the Environmental Planning and Assessment Regulation 2000.

This statement is to be read in conjunction with the Statement of Environmental Effects prepared by Urbis and the Architectural Documentation prepared by MPA.

I confirm that the design quality principles set out in State Environmental Planning Policy No. 65 (SEPP 65) and the objectives in Parts 3 and 4 of the Apartment Design Guide (ADG) have been considered and addressed as outlined in the accompany Design Principles and ADG Compliance Report.

Yours faithfully
Mosca Pserras Architects

Steve Pserras
Registered Architect
NSW ARB no 5001

mosca pserras architects

# ARCHTECTURAL DESIGN STATEMENT

## 11-17 Columbia Lane HOMEBUSH

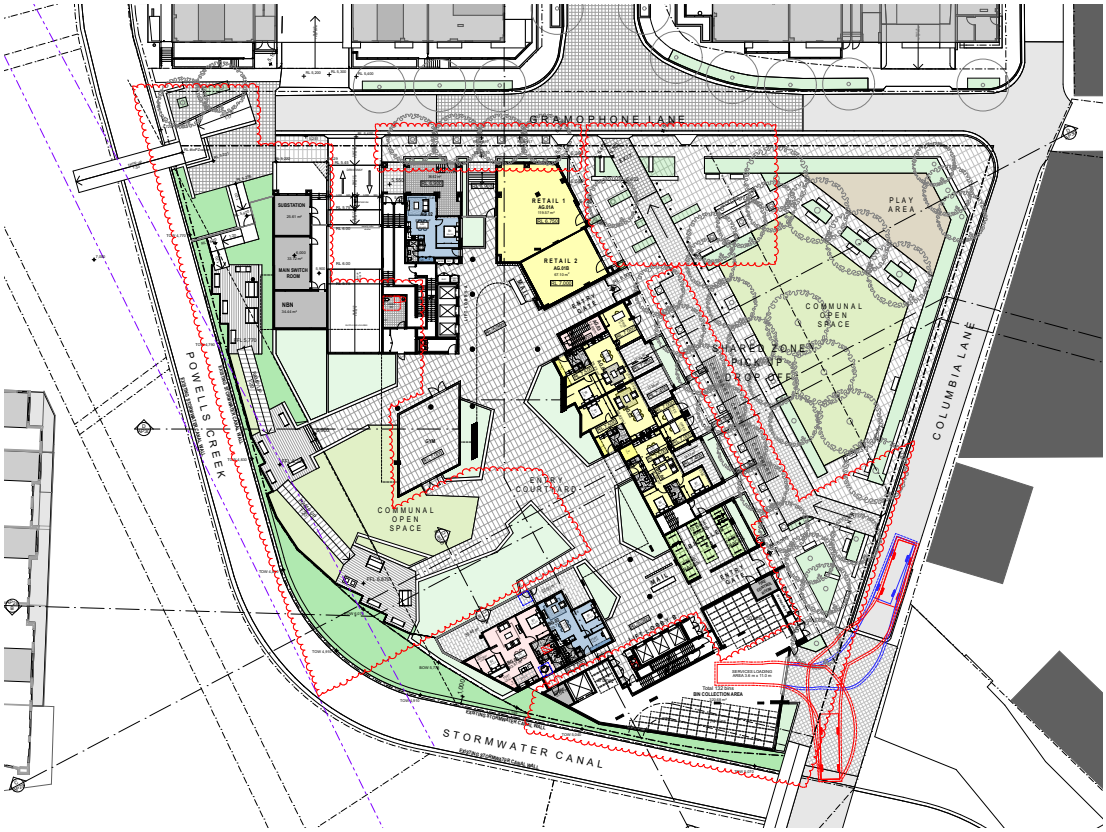
## VISION

A challenging site that required a full understanding of the precinct and context. The proposal for two simple elegant towers of varying heights linked by a podium that defines and responds to a shared zone, communal open space, laneways, canal and surrounding development. This development will encourage activation, pedestrian permeability, local amenity and strengthen existing urban connections

Corner Columbia and Gramophone Lanes View

## OPPORTUNITIES AND CONSTRAINTS

An informative approach that directs urban built form and general arrangement. The north eastern part of the site is burdened by an imposed zero height limit. This forces development to occur on the western portion of the site only. A Storm water canal running along the entire south western boundary. This allows for separation from adjoining developments. Over the western side of this boundary an overhead transmission line easement affects part of the site further reducing the development footprint. Existing development to the north, affecting solar access.




Site and Ground Floor Plan

## BUILT FORM CONCEPT

To differentiate from adjoining built forms it was important to explore the notion of controlled pedestrian permeability. To achieve this a shared zone was created thus providing an informal dialogue between the eastern and western portions of the site.

With a zero height limit applying to the north east, a proposed communal open space feeds off the new-shared zone and adjoining laneways. It provides separation between existing and future development and an opportunity to provide a substantial amount of deep soil by limiting any basement to the western part of the site. This communal open space is perceived as a lung to the precinct.

Development to the west of the new-shared zone has been carefully considered taking into account all possible amenity such as solar access, cross ventilation and natural light. Two slender tower forms strategically positioned from one another and located to the north eastern side and southern side of the developable site create a visual view corridor between the towers and increases the separation distance from the adjoining developments across the canal to west.

A podium linking the two towers form a street edge along the share zone with live/work suites occupying the ground floor providing activation and passive surveillance over the communal open space to the north east. This podium encompasses the developable site on three sides creating a more private courtyard style communal open space. The western orientation is open to the canal providing visual relief, aids in providing separation from adjoining development and engages with Powell's Creek Corridor.

Roof terraces located on levels 7 and 8 vertically enhance communal open space taking advantage of specific orientations thus creating varying microclimates and opportunities to accommodate different activities.

The slender tower forms are further articulated by varying their heights, a tool used to break down bulk and scale. The northern tower A is split with its lower portion ending at a height of 22 storey's and the overall height ending at 25 storey's. A three storey height differential. It is further reduced in scale by the 8 storey podium base. This addresses the laneway and completes the northern boundary frontage. Tower B to the rear also has a variation in height with its lower portion ending at a height of 17 storey's with a maximum height of 26 storey's, the upper most floors are recessed and terminate the tower appropriately. An 8 storey podium between the two towers not only links the northern and southern parts of the development but also provides a valuable backdrop for both communal open spaces located on the ground floor.

The varying built forms described above have been expressed architecturally different thus further aiding the breakdown of bulk and scale. Varying façade compositions are articulated in a simplistic manner not to compete with one another but to complement one another.

Gramophone Lane

## MATERIAL PALETTE

The material palette draws upon the essence of Homebush's heritage buildings, green corridors and river banks. The surrounding context has informed the palette strengthening the dialogue between the natural environment and new buildings, whilst also responding to the Bakehouse Quarter village heritage precinct to the north.

Nipper Street and Shared Zone

Powell's Creek Parkland Corridor

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# SEPP 65
# DESIGN QUALITY PRINCIPLES

## 11-17 Columbia Lane HOMEBUSH

## Principle 1: Context and Neighbourhood Character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

**Proposal**

The site is approximately 12km west of Sydney CBD on the southern side of Parramatta Road. It is bounded by a recently completed mixed use development to the north, Columbia lane to the east, Powell's Creek to the south and west. The Bakehouse Quarter village is located to the north on the opposite side of Parramatta Road. The site has been identified to be within the Parramatta Road Corridor Urban Transformation Strategy.

A Gazetted Planning Proposal amended the zoning from R4 High Density to B4 Mixed Use with a new maximum building height of 80 metres and a new floor space ratio of 5:1.

The site is ideally located to assist in fulfilling the Parramatta Road Corridor vision `Homebush can be transformed into an active and varied hub, blending higher density housing and a mix of different uses, supported by a network of green links and open spaces with walking access to four train stations'

The hub of activity between Homebush, North Strathfield, Concord West and Strathfield Stations will be achieved by 'Parramatta Road and George Street will form main streets to build on the character of the Bakehouse Quarter and the curve of Parramatta Road'.

The Mixed Use development proposes 30,763m2 of residential accommodation inclusive of ground floor Live-Work apartments. The establishment of 3,693 m2 of Communal Open Space.

## Principle 2: Built Form and Scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

**Proposal**

The Mixed Use development comprises an eight-storey podium with two tower elements at twenty-five and twenty-six storeys respectively. This form allows for good solar access, natural cross–ventilation, acoustic and visual privacy while presenting elegant thin forms, and large areas of communal open space on ground and levels 7 and 8. The eight storey podium provides an urban edge, consistent street wall to the shared zone and the communal open space to the east.

This communal open space will interface with two streets Columbia Lane and Gramophone Lane. Vehicular and service access to the development will be from both Gramophone and Columbia Lanes. Pick up and drop off will occur on a raised shared pedestrian zone. Bollards will delineate street width and provide seamless connection between the internal courtyard, ground floor Live-Work suites and Public Open Space. Reinforcing axial views through the development to the canal.

The proposal accommodates 360 apartments of varying sizes with four levels of basement car parking. Ground floor apartments have been designed as flexible Live-Work suites providing street level activation and encourage employment generating uses.

## Principle 3: Density

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

**Proposal**

The proposed density will benefit the public by enabling the development to better respond to the future character proposed by the Parramatta Road Corridor and Homebush Precinct. The proposed floor space ratio of 4.68:1 and maximum building height of 80m yield will allow for a high-quality design outcome and demonstrate investment in the precinct.

The site is well supported by public transport with Homebush, North Strathfield and Strathfield Railway Stations located within walking distance. Local and regional bus services through the area are provided by Sydney Buses with bus stops on both sides of Parramatta Road.

The proposed development density is appropriate for the site and projected urban context.

## Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling

and reuse of materials and waste, use of sustainable materials, and deep soil zones for groundwater recharge and vegetation.

**Proposal**

The floor plate arrangement provides a maximum of six and seven apartments per typical tower level and all circulation corridors are provided with access to natural light and ventilation. The design incorporates a high number of corner-orientated apartments that achieve natural cross-ventilation. Towers are orientated to capture maximum solar access while also capitalising on views.

The living areas of all apartments have been located along the façade edge to maximise sunlight, daylight and ventilation. All service areas were practical have been located within the building footprint close to circulation corridors.

Overall the development provides for 81.0% (290) apartments with 2 hours or more solar access between the hours of 9.00am and 3.00pm. All apartments have been designed to promote natural ventilation with 64.4 % (96) apartments achieving natural cross ventilation.

The development has been designed in response to all BASIX requirements. The carbon footprint will be further reduced by high efficiency air conditioning, energy efficient appliances, fittings and services such as water reduction showerheads, dual flush toilets, gas cook tops, microwave ovens and energy efficient hot water systems.

Waste minimisation and recycling strategies have also been incorporated into the development.

## Principle 5: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.

**Proposal**

Public Domain streetscape is characterised by high quality paving materials including black granite pavers on footpaths and granite cobblestones to the threshold areas of the carriageway along the shared zone. Along with avenue street tree planting this high quality treatment provides a continuation of the character that exists in the Bakehouse Quarter.

Communal open space is located on deep soil, and the proposed design takes full advantage of on grade tree, shrub and lawn planting. A range of robust and low maintenance furniture including benches, seats, tables, etc will cater to the needs

of the residents.

The communal open space courtyard located on the ground floor Is framed on 3 sides by buildings with the western edge overlooking Powell's Creek Corridor. Large flexible open paved areas located in both lift lobbies face into the courtyard. View permeability though the ground floor is an important feature of the courtyard space. Visually linking the communal open space to the east with the more enclosed courtyard to the west.

A connecting roof top garden located on level 8 is a linear space connecting Tower buildings A and B. This is an informal gathering space for residents to sit and chat with friends. The north western end of the roof top garden has a central paved space flanked by planting creating shelter. This paved area is flexible, allowing for a range of uses such as yoga, tai-chi, picnics and BBQ's.

## Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, and ease of access for all age groups and degrees of mobility.

**Proposal**

The development has been designed to enhance amenity through physical, spatial and environmental qualities. All apartments have been designed to achieve maximum solar access, visual and acoustic privacy. Well-planned apartments with diverse layouts, storage areas and ease of access and mobility cater for all age groups.

A typical floor plate arrangement provides a maximum of six and seven apartments per tower level and all circulation corridors are provided with access to natural light and ventilation. The design incorporates a high number of corner-oriented apartments, which achieve natural cross ventilation.

The towers are oriented to capture maximum solar access and views while allowing for adequate internal and external separation distances. Floor plate arrangement and apartment layouts have been designed to orient living areas away from noise sources presented by the adjacent railway line.

Communal open space will provide passive and active recreational opportunities. Raised garden beds, benches for seating, grass for playing, paved and planted surfaces providing shade and sun.

## Principle 7: Safety

Good design optimises safety and security, within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety. A positive relationship between public and private

spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.

**Proposal**

The design of the development optimises safety and security, both internal to the development and to the public domain. Safety and security has been considered in accordance with CPTED principles of surveillance, access and space management.

The thresholds between public, communal and private areas are clearly defined to ensure a sense of ownership between the public and private domains. Entry points are highly visible and allow safe access and egress to and from the development. Ground floor Live Work suites activate Nipper Street shared zone and provide passive surveillance.

Ground floor residential courtyard and roof top gardens create activation coupled with night lighting enhances passive surveillance. Main lift lobbies have direct sight lines to the street encouraging passive surveillance to street gate entries. Apartments and open gallery walkways overlook communal open spaces thus providing passive surveillance and improves safety. Access to each building and apartments will be coordinated with a security key system.

Controlled vehicular access to the development is provided by secure car park access from the laneway, with direct access from the car park to apartment lift lobbies. An audio intercom system at the main entry gates and car park entry allows visitors to communicate with residences to gain access into the car park and appropriate floors within the building. The entrance to the car park ramp is minimised to maximise street activation and surveillance.

## Principle 8: Housing Diversity and Social Interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

***Proposal***

The development provides for a variety of 1,2 and 3 bedroom apartment types with varying floor plan layouts appealing to all age groups and demographics. The mix available is as follows:

- 33 % (118) one bedroom apartments
- 58 % (210) two bedroom apartments
- 9% (32) three bedroom apartments

Inclusive of this number, 20% (73) apartments achieve the Silver Liveable Housing Australia Standard and 15% (54) apartments of mixed types are capable of being adapted to accessible apartments.

The ground floor apartments are design as live work suites catering for self employed

professionals who would prefer to work from home. The live work apartment suites have been carefully designed to address the shared zone and have direct access to communal open space.

Dedicated residential communal open spaces on the ground floor and on three roof top garden terraces cater for all age groups and social needs. This arrangement coupled with the shared zone strongly supports the communal life of the development.

## Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

**Proposal**

An appropriate composition of simple building elements, materials and colours have been utilised to provide a positive contribution to the neighbourhood. It has been designed to promote visual interest and avoid blank walls. All facades are composed to be viewed in the round, and provide a cohesive expression of the architectural language.

The two residential towers have their own architectural language and are broken down in scale by varying heights and splitting the upper levels of each tower. An eight storey podium provides an urban edge, a street wall and links the two towers with a consistent base.

The key façade design elements of face brickwork, aluminium framed glazing and concrete balcony balustrades are used in a constraint but elegant way to express an individual architectural language. The material and colour palette are used appropriately to reflect the desired character of the proposed development. It breaks down the mass of the development yet maintaining a limited material palette for cohesion.

The development will set an aesthetic benchmark for the desired future character of the precinct. This design responds well to the present and future character of the surrounding area with the use of simple material selections, proportions and legible building forms.

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# SEPP 65
# COMPLIANCE TABLE

## 11-17 Columbia Lane HOMEBUSH

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **PART 3** | **SITING THE DEVELOPMENT** | | | | |
| **3A** | **SITING ANALYSIS** | | | | |
| **3A-1** Objective | Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context | | | | |
| **3A-1.1** | Each element in the Site Analysis Checklist should be addressed (see Appendix 1 in ADG) | | • | | ✓ |
| **3B** | **ORIENTATION** | | | | |
| **3B-1** Objective | Building types and layouts respond to the streetscape and site while optimising solar access within the development | | | | |
| **3B-1.1** | Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1 in ADG) | | • | Buildings face the street and incorporate direct access where possible and appropriate. | ✓ |
| **3B-1.2** | Where the street frontage is to the east or west, rear buildings are orientated to the north | | • | | ✓ |
| **3B-1.3** | Where the street frontage is to the north or south, overshadowing to the south should be minimised and buildings behind the street frontage should be orientated to the east and west (see figure 3B.2 in ADG) | | • | | ✓ |
| **3B-2** Objective | Overshadowing of neighbouring properties is minimised during mid winter | | | | |
| **3B-2.1** | Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and publicn open space and 4A Solar and daylight access | | • | | ✓ |
| **3B-2.2** | Solar access to living rooms, balconies and private open spaces of neighbours should be considered | | • | | ✓ |
| **3B-2.3** | Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20% | | • | | ✓ |
| **3B-2.4** | If the proposal will reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy | | • | | ✓ |
| **3B-2.5** | Overshadowing is minimised to the south or downhill by increased upper level setback | | • | | ✓ |
| **3B-2.6** | It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimize overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development | | • | | ✓ |
| **3B-2.7** | A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings | | • | | N/A |
| **3C** | **PUBLIC DOMAIN INTERFACE** | | | | |
| **3C-1** Objective | Transition between private and public domain is achieved without compromising safety and security | | | | |
| **3C-1.1** | Terraces, balconies and courtyard apartments should have direct street entry, where appropriate | | • | | ✓ |
| **3C-1.2** | Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy<br>for ground level dwellings (see figure 3C.1 in ADG) | | • | | ✓ |
| **3C-1.3** | Upper level balconies and windows should overlook the public domain | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **3C-1.4** | Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls is limited to 1m | | • | Courtyard fencing and street walls are modulated and varied incorporating solid and visually permeable elements which balance surveillance needs with privacy. | ✓ |
| **3C-1.5** | Length of solid walls should be limited along street frontages | | • | | ✓ |
| **3C-1.6** | Opportunities should be provided for casual interaction between residents & the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets | | • | | ✓ |
| **3C-1.7** | In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions:<br>· Architectural detailing<br>· Changes in materials<br>· Plant species<br>· Colours | | • | Residential Building lobbies are visible from the street. Materials and articulation have been used to differentiate entrances and provide legibility. | ✓ |
| **3C-1.8** | Opportunities for people to be concealed should be minimised | | • | Clear sight lines with minimal obstructions, passive surveillance and secure entries minimises concealment. | ✓ |
| **3C-2** Objective | Amenity of the public domain is retained and enhanced | | | | |
| **3C-2.1** | Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking | | • | | ✓ |
| **3C-2.2** | Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided | | • | Mail boxes intergrated into main entry lobbies. | ✓ |
| **3C-2.3** | The visual prominence of underground car park vents should be minimised and located at a low level where possible | | • | Visual prominence of car park vents is minimised by incorporating them into landscape features and building façade. | ✓ |
| **3C-2.4** | Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view | | • | Plant and garbage storage areas are restricted wherever possible to basement areas. Substation and garbage collection area is provided on ground and out of view.. | ✓ |
| **3C-2.5** | Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels | | • | | ✓ |
| **3C-2.6** | Durable, graffiti resistant and easily cleanable materials should be used | | • | | ✓ |
| **3C-2.7** | Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions:<br>• street access, pedestrian paths and building entries which are clearly defined<br>• paths, low fences and planting that clearly delineate between communal/private open space and the adjoining public open space<br>• minimal use of blank walls, fences and ground level parking | | • | A raised shared pedestrian zone providing seamless connection between the internal courtyard, ground floor Live Work units, entry lobbies and public open space. | ✓ |
| **3C-2.8** | On sloping sites protrusion of car parking above ground level should be minimized by using split levels to step underground car parking | | • | | ✓ |
| 3D | **COMMUNAL AND PUBLIC OPEN SPACE** | | | | |
| **3D-1** Objective | An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping | | | | |
| **3D-1.1** | Communal open space has a minimum area equal to 25% of the site (see figure 3D.3 in ADG) | • | | 3,693 m2 of Communal open space is provided which equates to 56%. (min COS requirement is 1642m2)<br>2,964m2 is on ground and 729m2 on roof top terraces. These spaces have a variety of active and passive areas. | ✓ |
| | Developments achieve a minimum of 50% direct sunlight to the principal usable part of the | | | 918 m2 receive greater than the min 2 hours of direct sunlight, which equates to 56% | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **3D-1.2** | communal open space for a minimum of 2 hours between 9am and 3pm on 21 June (mid winter) | • | | (min COS requirement is 1642m2 and 50% equates to 821m2) | |
| **3D-1.3** | Communal open space should be consolidated into a well designed, easily identified and usable area | | • | | ✓ |
| **3D-1.4** | Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions | | • | | ✓ |
| **3D-1.5** | Communal open space should be collocated with deep soil areas | | • | | ✓ |
| **3D-1.6** | Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies | | • | | ✓ |
| **3D-1.7** | Where communal open space cannot be provided at ground level, it should be provided on a podium or roof | | • | | N/A |
| **3D-1.8** | Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should:<br>• provide communal spaces elsewhere such as a landscaped roof top terrace or a common room<br>• provide larger balconies or increased private open space for apartments<br>• demonstrate good proximity to public open space and facilities and/or provide contributions to public open space | | • | | N/A |
| **3D-2** Objective | Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting | | | | |
| **3D-2.1** | Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements:<br>• eating for individuals or groups<br>• barbecue areas<br>• play equipment or play areas<br>• swimming pools, gyms, tennis courts or common rooms | | • | A number of measures have been taken to provide facilities suitable for a variety of individuals and age groups. Communal open space is designed to accommodate a variety of active and passive uses. Refer to Landscape consultant report. | ✓ |
| **3D-2.2** | The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts | | • | Common open space locations and facilities respond to various microclimates around the site. Refer to Landscape consultant report. | ✓ |
| **3D-2.3** | Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks | | • | Visual impact of services is minimised through screening and carefully located services within basements and plant zones. | ✓ |
| **3D-3** Objective | Communal open space is designed to maximise safety | | | | |
| **3D-3.1** | Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include:<br>• bay windows<br>• corner windows<br>• balconies | | • | Balconies are provided to each apartment which either overlook common open space or the public domain. Windows also enable visual connection with public and private domains. A combination of screening, shading, fixed blades and other techniques ensure that privacy is balanced with surveillance. | ✓ |
| **3D-3.2** | Communal open space should be well lit | | • | | ✓ |
| **3D-3.3** | Where communal open space / facilities are provided for children and young people they are safe and contained | | • | | ✓ |
| **3D-4** Objective | Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood | | | | |
| **3D-4.1** | The public open space should be well connected with public streets along at least one edge | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **3D-4.2** | The public open space should be connected with nearby parks and other landscape elements | | • | | ✓ |
| **3D-4.3** | Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid | | • | | ✓ |
| **3D-4.4** | Solar access should be provided year round along with protection from strong winds | | • | | ✓ |
| **3D-4.5** | Opportunities for a range of recreational activities should be provided for people of all age | | • | | ✓ |
| **3D-4.6** | A positive address and active frontages should be provided adjacent to public open space | | • | | ✓ |
| **3D-4.7** | Boundaries should be clearly defined between public open space and private areas | | • | | ✓ |
| **3E** | **DEEP SOIL ZONES** | | | | |
| **3E-1** Objective | Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality | | | | |
| **3E-1.1** | Deep soil zones are to meet the following minimum requirements:<br>Site area / Minimum dim / Deep soil zone (% of Site area)<br>< 650m2 / — / 7%<br>650m2-1500m2 / 3m / 7%<br>> 1,500m2 / 6m / 7%<br>> 1,500m2 with significant existing tree cover / 6m / 7% | • | | 1,484 m2 of deep soil is provided across the site which equates to 20% This is shared between the western and eastern communal open spaces on ground. | ✓ |
| **3E-1.2** | On some sites it may be possible to provide larger deep soil zones, depending on the site area and context:<br>• 10% of the site as deep soil on sites with an area of 650m2-1,500m2<br>• 15% of the site as deep soil on sites greater than 1,500m2 | | • | 1,364 m2 of deep soil is provided across the site which equates to 22% | ✓ |
| **3E-1.3** | Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. Design solutions may include:<br>• basement and sub basement car park design that is consolidated beneath building footprints<br>• use of increased front and side setbacks<br>• adequate clearance around trees to ensure long term health<br>• co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil | | • | | N/A |
| **3E-1.4** | Achieving the design criteria may not be possible on some sites including where:<br>• the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres)<br>• there is 100% site coverage or non-residential uses at ground floor level<br>Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure | | • | | N/A |
| **3F** | **VISUAL PRIVACY** | | | | |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **3F-1** Objective | Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy | | | | |
| **3F-1.1** | Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:<br><br>Building height / Habitable rooms and balconies / Non-habitable rooms<br>Up to 12m (4 storeys): 6m / 3m<br>Up to 25m (5-8 storeys): 9m / 4.5m<br>Over 25m (9+ storeys): 12m / 6m<br><br>Note: Separation distances between buildings on the same site should combine required building separations depending o<br><br>Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties | • | | Required separation setback distances from side and rear boundaries are achieved. | ✓ |
| **3F-1.2** | Generally one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance | | • | | ✓ |
| **3F-1.3** | For residential buildings next to commercial buildings, separation distances should be measured as follows:<br>• for retail, office spaces and commercial balconies use the habitable room distances<br>• for service and plant areas use the non-habitable room distances | | • | | N/A |
| **3F-1.4** | New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include:<br>• site layout and building orientation to minimise privacy impacts (see also section 3B Orientation)<br>• on sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4 in ADG) | | • | Visual privacy is maximized between buildings within the development by orientation and separation distances. Issues of visual privacy are also mitigated through the implementation of a range of privacy devices such frosted glazing and landscaping. | ✓ |
| **3F-1.5** | Apartment buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for a transition in scale and increased landscaping (figure 3F.5 iN ADG) | | • | | N/A |
| **3F-1.6** | Direct lines of sight should be avoided for windows and balconies across corners | | • | | ✓ |
| **3F-1.7** | No separation is required between blank walls | | • | | ✓ |
| **3F-2** Objective | Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space | | | | |
| **3F-2.1** | Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows.<br>Design solutions may include:<br>• setbacks<br>• solid or partially solid balustrades to balconies at lower levels<br>• fencing and/or trees and vegetation to separate spaces<br>• screening devices | | • | Communal open spaces have been carefully considered to minimise impact on privacy. A range of strategies have been used such as: orientation, courtyard fencing, screening devices and landscaping. | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | • bay windows or pop out windows to provide privacy in one direction and outlook in another<br>• raising apartments/private open space above the public domain or communal open space<br>• planter boxes incorporated into walls and balustrades to increase visual separation<br>• pergolas or shading devices to limit overlooking of lower apartments or private open space<br>• on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies | | | | |
| **3F-2.2** | Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas | | • | | ✓ |
| **3F-2.3** | Balconies and private terraces should be located in front of living rooms to increase internal privacy | | • | | ✓ |
| **3F-2.4** | Windows should be offset from the windows of adjacent buildings | | • | | ✓ |
| **3F-2.5** | Recessed balconies and / or vertical fins should be used between adjacent balconies | | • | | ✓ |
| **3G** | **PEDESTRIAN ACCESS AND ENTRIES** | | | | |
| **3G-1** Objective | Building entries and pedestrian access connects to and addresses the public domain | | | | |
| **3G-1.1** | Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge | | • | There are two main entry points for the development, identifying each residential tower. Ground floor Live / Work units have individual street access . | ✓ |
| **3G-1.2** | Entry locations relate to the street and subdivision pattern and the existing pedestrian network | | • | | ✓ |
| **3G-1.3** | Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries | | • | Clear identifiable double height volume entry portals provided. | ✓ |
| **3G-1.4** | Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries | | • | | ✓ |
| **3G-2** Objective | Access, entries and pathways are accessible and easy to identify | | | | |
| **3G-2.1** | Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces | | • | Clear line of sight between lift lobby areas and front entry gates provided. | ✓ |
| **3G-2.2** | The design of ground floors and underground car parks minimise level changes along pathways and entries | | • | | ✓ |
| **3G-2.3** | Steps and ramps should be integrated into the overall building and landscape design | | • | Access is integrated into landscape design wherever possible. Where this is not possible stairs and ramps have been considered as part of the architectural design | ✓ |
| **3G-2.4** | For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3 in ADG) | | • | | N/A |
| **3G-3** Objective | Large sites provide pedestrian links for access to streets and connection to destinations | | | | |
| **3G-3.1** | Pedestrian links through sites facilitate direct connections to open space, main streets, centres | | | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | and public transport | | • | | |
| **3G-3.2** | Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate | | • | | ✓ |
| **3H** | **VEHICLE ACCESS** | | | | |
| **3H-1** Objective | Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes | | | | |
| **3H-1.1** | Car park access should be integrated with the building's overall facade.<br>Design solutions may include:<br>• the materials and colour palette to minimise visibility from the street<br>• security doors or gates at entries that minimise voids in the façade<br>• where doors are not provided, the visible interior reflects the façade design and the building services, pipes and ducts are concealed | | • | | ✓ |
| **3H-1.2** | Car park entries should be located behind the building line | | • | | ✓ |
| **3H-1.3** | Vehicle entries should be located at the lowest point of the site minimizing ramp lengths, excavation and impacts on the building form and layout | | • | | ✓ |
| **3H-1.4** | Car park entry and access should be located on secondary streets or lanes where available | | • | Basement car park entry is located on Gramophone Lane. | ✓ |
| **3H-1.5** | Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided | | • | | ✓ |
| **3H-1.6** | Access point locations should avoid headlight glare to habitable rooms | | • | | ✓ |
| **3H-1.7** | Adequate separation distances should be provided between vehicle entries and street intersections | | • | | ✓ |
| **3H-1.8** | The width and number of vehicle access points should be limited to the minimum | | • | | ✓ |
| **3H-1.9** | Visual impact of long driveways should be minimised through changing alignments and screen<br>planting | | • | | ✓ |
| **3H-1.10** | The need for large vehicles to enter or turn around within the site should be avoided | | • | Loading area is provided at the end of Columbia Lane. | ✓ |
| **3H-1.11** | Garbage collection, loading and servicing areas are screened | | • | Garbage bin collection and loading area is located to the rear of the site and is screened from Columbia Lane. | ✓ |
| **3H-1.12** | Clear sight lines should be provided at pedestrian and vehicle crossings | | • | | ✓ |
| **3H-1.13** | Traffic calming devices such as changes in paving material or textures should be used where appropriate | | • | | ✓ |
| **3H-1.14** | Pedestrian and vehicle access should be separated and distinguishable.<br>Design solutions may include:<br>• changes in surface materials<br>• level changes | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | • the use of landscaping for separation | | | | |
| **3J** | **BICYCLE AND CAR PARKING** | | | | |
| **3J-1** Objective | Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas | | | | |
| **3J-1.1** | For developments in the following locations:<br>• on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or<br>• on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre<br>The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking<br>requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street | • | | All minimum residential and visitors car parking requirements are accommodated below ground within 4 levels of basement | ✓ |
| **3J-1.2** | Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site | | • | Located on ground within the shared zone. | ✓ |
| **3J-1.3** | Where less car parking is provided in a development, council should not provide on street resident parking permit | | • | | N/A |
| **3J-2** Objective | Parking and facilities are provided for other modes of transport | | | | |
| **3J-2.1** | Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters | | • | Motorbike parking spaces allocated within basement. | ✓ |
| **3J-2.2** | Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas | | • | Bicycle parking spaces located on ground within entry courtyard for visitors. Residential spaces provided in basement levels. | ✓ |
| **3J-2.3** | Conveniently located charging stations are provided for electric vehicles, where desirable | | • | Able to provide, not nominated. | Can be met |
| **3J-3** Objective | Car park design and access is safe and secure | | | | |
| **3J-3.1** | Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas and car wash bays can be accessed without crossing car parking spaces | | • | | ✓ |
| **3J-3.2** | Direct, clearly visible and well lit access should be provided into common circulation areas | | • | | ✓ |
| **3J-3.3** | A clearly defined and visible lobby or waiting area should be provided to lifts and stairs | | • | | ✓ |
| **3J-3.4** | For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards | | • | | ✓ |
| **3J-4** Objective | Visual and environmental impacts of underground car parking are minimised | | | | |
| **3J-4.1** | Excavation should be minimized through efficient car park layouts and ramp design | | • | | ✓ |
| **3J-4.2** | Car parking layout should be well organised, using a logical, efficient structural grid and double loaded<br>aisles | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **3J-4.3** | Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites | | • | | ✓ |
| **3J-4.4** | Natural ventilation should be provided to basement and sub basement car parking areas | | • | Basement car parking levels to be mechanically ventilated, due to depth and size. | ✗ |
| **3J-4.5** | Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design | | • | | ✓ |
| **3J-5** Objective | Visual and environmental impacts of on-grade car parking are minimised | | | | |
| **3J-5.1** | On-grade car parking should be avoided | | • | | ✓ |
| **3J-5.2** | Where on-grade car parking is unavoidable, the following design solutions are used:<br>• parking is located on the side or rear of the lot away from the primary street frontage<br>• cars are screened from view of streets, buildings, communal and private open space areas<br>• safe and direct access to building entry points is provided<br>• parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space<br>• stormwater run-off is managed appropriately from car parking surfaces<br>• bio-swales, rain gardens or on site detention tanks are provided, where appropriate<br>• light coloured paving materials or permeable paving systems are used and shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving | | • | N/A | N/A |
| **3J-6** Objective | Visual and environmental impacts of on-grade car parking are minimised | | | | |
| **3J-6.1** | Exposed parking should not be located along primary street frontages | | • | N/A | N/A |
| **3J-6.2** | Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade.<br>Design solutions may include:<br>• car parking that is concealed behind the facade, with windows integrated into the overall façade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels)<br>• car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage (see figure 3J.9 in ADG) | | • | N/A | N/A |
| **3J-6.3** | Positive street address and active frontages should be provided at ground level | | • | N/A | N/A |
| **PART 4** | **DESIGNING THE BUILDING** | | | | |
| **4A** | **SOLAR AND DAYLIGHT** | | | | |
| **4A-1** Objective | To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space | | | | |
| **4A-1.1** | Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local | • | | 290 apartments receive the minimum 2 hours of direct sunlight in mid winter between 9am and 3pm which equates to 81% | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | government areas | | | | |
| **4A-1.2** | In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter | • | | N/A | N/A |
| **4A-1.3** | A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter | • | | 42 apartments receive no direct sunlight in mid winter between 9am and 3pm which equates to 12% | ✓ |
| **4A-1.4** | The design maximises north aspect and the number of single aspect south facing apartments is minimised | | • | | ✓ |
| **4A-1.5** | Single aspect, single storey apartments should have a northerly or easterly aspect | | • | | ✓ |
| **4A-1.6** | Living areas are best located to the north and service areas to the south and west of apartments | | • | Living areas are located along the façade exterior of the apartment. Service areas are located to the rear adjacent to corridors of apartments where possible. | ✓ |
| **4A-1.7** | To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used:<br>• dual aspect apartments<br>• shallow apartment layouts<br>• two storey and mezzanine level apartments<br>• bay windows | | • | Design features incorporated are dual aspect apartments and shallow apartment layouts. | ✓ |
| **4A-1.8** | To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m2 of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes | | • | | ✓ |
| **4A-1.9** | Achieving the design criteria may not be possible on some sites.<br>This includes:<br>• where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source<br>• on south facing sloping sites<br>• where significant views are oriented away from the desired aspect for direct sunlight<br><br>Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective | | • | Proposed East / West orientation of units coupled with positioning of living rooms and balconies on the façade are measures taken to maximize solar access opportunities. | ✓ |
| **4A-2** Objective | Daylight access is maximised where sunlight is limit | | | | |
| **4A-2.1** | Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms | | • | | ✓ |
| **4A-2.2** | Where courtyards are used:<br>• use is restricted to kitchens, bathrooms and service areas<br>• building services are concealed with appropriate detailing and materials to visible walls<br>• courtyards are fully open to the sky<br>• access is provided to the light well from a communal area for cleaning and maintenance<br>• acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4A-2.3** | Opportunities for reflected light into apartments are optimised through:<br>• reflective exterior surfaces on buildings opposite south facing windows<br>• positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light<br>• integrating light shelves into the design<br>• light coloured internal finishes | | ● | Reflected light has been optimised through the provision of light coloured internal finishes as well as maximising glazing. | ✓ |
| **4A-3** Objective | Design incorporates shading and glare control, particularly for warmer months | | | | |
| **4A-3.1** | A number of the following design features are used:<br>• balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas<br>• shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting<br>• horizontal shading to north facing windows<br>• vertical shading to east and particularly west facing windows<br>• operable shading to allow adjustment and choice<br>• high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided) | | ● | All balconies have statigically been reccessed into the façade to provide summer shade and allow winter sun to penetrate living and bedroom areas. | ✓ |
| **4B** | **NATURAL VENTILATION** | | | | |
| **4B-1** Objective | All habitable rooms are naturally ventilated | | | | |
| **4B-1.1** | The building's orientation maximizes capture and use of prevailing breezes for natural ventilation in habitable rooms | | ● | Corner apartments have been provided to maximise natural cross ventilation. | ✓ |
| **4B-1.2** | Depths of habitable rooms support natural ventilation | | ● | Depths of habitable rooms have been limited. | ✓ |
| **4B-1.3** | The area of unobstructed window openings should be equal to at least 5% of the floor area served | | ● | | ✓ |
| **4B-1.4** | Light wells are not the primary air source for habitable rooms | | ● | | N/A |
| **4B-1.5** | Doors and openable windows maximise natural ventilation opportunities by using the following design solutions:<br>• adjustable windows with large effective openable areas<br>• a variety of window types that provide safety and flexibility such as awnings and louvres<br>• windows which the occupants can reconfigure to funnel breezes into he apartment such as vertical louvres, casement windows andexternally opening doors | | ● | Strategies have been implemented including the use of adjustable windows with large openable areas and a variety of window types that provide safety and flexibility. | ✓ |
| **4B-2** Objective | The layout and design of single aspect apartments maximises natural ventilation | | | | |
| **4B-2.1** | Apartment depths are limited to maximise ventilation and airflow<br>(see also figure 4D.3 in ADG) | | ● | | ✓ |
| **4B-2.2** | Natural ventilation to single aspect apartments is achieved with the following design solutions:<br>• primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation)<br>• stack effect ventilation / solar chimneys or similar to naturally ventilate internal building | | ● | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | areas or rooms such as bathrooms and laundries<br>• courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells | | | | |
| **4B-3** Objective | The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents | | | | |
| **4B-3.1** | At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed | • | | 96 apartments are naturally cross ventilated, which equates to 64.4%<br>Achieved with the use of a combination of corner and cross through apartments. | ✓ |
| **4B-3.2** | Overall depth of a cross-over or cross through apartment does not exceed 18m, measured glass line to glass line | • | | No cross through apartment exceeds 18m | ✓ |
| **4B-3.3** | The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths | | • | Apartment depths have been minimised and dual aspect apartments have been used to maximise any opportunity for natural ventilation | ✓ |
| **4B-3.4** | In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) (see figure 4B.4 in ADG) | | • | | ✓ |
| **4B-3.5** | Apartments are designed to minimize the number of corners, doors and rooms that might obstruct airflow | | • | Air flow has been maximized with sensible internal planning wherever practicable. | ✓ |
| **4B-3.6** | Apartment depths, combined with appropriate ceiling heights, maximize cross ventilation and airflow | | • | Appropriate ceiling heights are used in combination with reduced apartment depths | ✓ |
| **4C** | **CEILING HEIGHTS** | | | | |
| **4C-1** Objective | Ceiling height achieves sufficient natural ventilation and daylight access | | | | |
| **4C-1.1** | Measured from finished floor level to finished cei level, minimum ceiling heights are:<br><br>Min. ceiling heigh out in the Apartment Design ts for apartment and mixed use buildings<br>Habitable rooms 2.7m<br>Non-habitable 2.4m<br>2 storey apartments 2.7m for main living area floor<br>2.4m for second floor, where its area does not exceed 50% of the apartment area<br>Attic spaces 1.8m at edge of room with a 30 degree minimum slope<br>If located in mixed use areas 3.3m for ground and first floor to promote future flexibility of use<br><br>These minimums do not preclude higher ceilings if desired | • | | Ceiling heights comply with the minimums set out in the Apartment Design Guide | ✓ |
| **4C-1.2** | Ceiling height can accommodate use of ceiling fans for cooling and heat distribution | | • | | ✓ |
| **4C-2** Objective | Ceiling height increases the sense of space in apartments and provides for well proportioned rooms | | | | |
| **4C-1.1** | A number of the following design solutions can be used:<br>• the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces<br>• well proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | • ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non habitable areas, such as robes or storage, can assist | | | | |
| **4C-3** Objective | Ceiling heights contribute to the flexibility of building use over the life of the building | | | | |
| **4C-3.1** | Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses (see figure 4C.1 in ADG) | | • | | ✓ |
| **4D** | **APARTMENT SIZE AND LAYOUT** | | | | |
| **4D-1** Objective | The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity | | | | |
| **4D-1.1** | Apartments are required to have the following minimum internal areas:<br><br>Apartment type — Min. internal area<br>Studio — 35m2<br>1 bedroom — 50m2<br>2 bedroom — 70m2<br>3 bedroom — 90m2<br><br>The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m2 each. A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m2 each | • | | All apartments types comply with the minimum internal areas set out by the Apartment Design Guide. | ✓ |
| **4D-1.2** | Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms | • | | | ✓ |
| **4D-1.3** | Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space) | | • | Complies | ✓ |
| **4D-1.4** | A window should be visible from any point in a habitable room | | • | Complies | ✓ |
| **4D-1.5** | Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits | | • | | N/A |
| **4D-2** Objective | Environmental performance of the apartment is maximised | | | | |
| **4D-2.1** | Habitable room depths are limited to a maximum of 2.5 x the ceiling height | • | | No habitable room exceeds the maximum depth of 2.5 x the ceiling height. | ✓ |
| **4D-2.2** | In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window | • | | No open plan layout is greater than 8m from a window | ✓ |
| **4D-2.3** | Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths | | • | N/A | N/A |
| **4D-2.4** | All living areas and bedrooms should be located on the external face of the building | | • | Complies | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4D-2.5** | Where possible:<br>• bathrooms and laundries should have an external openable window<br>• main living spaces should be oriented toward the primary outlook and aspect and away from noise sources | | • | As most bathrooms and laundries are located within the middle of the floor plate next to access corridors it is not possible to provide an operable window. Assisted ventilation is provided. All habitable living spaces are located on the external façade enjoying their respective aspect. | ✓ |
| **4D-3** Objective | Apartment layouts are designed to accommodate a variety of household activities and needs | | | | |
| **4D-3.1** | Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space) | • | | Complies | ✓ |
| **4D-3.2** | Bedrooms have a minimum dimension of 3m (excluding wardrobe space) | • | | Complies | ✓ |
| **4D-3.3** | Living rooms or combined living/dining rooms have a minimum width of:<br>• 3.6m for studio and 1 bedroom apartments<br>• 4m for 2 and 3 bedroom apartments | • | | Complies | ✓ |
| **4D-3.4** | The width of cross-over or crossthrough apartments are at least 4m internally to avoid deep narrow apartment layouts | • | | Complies | ✓ |
| **4D-3.5** | Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas | | • | Generally complies; direct access from living areas has been minimised within apartments, where this does occur it has been done to improve solar and ventilation amenity | ✓ |
| **4D-3.6** | All bedrooms allow a minimum length of 1.5m for robes | | • | Complies | ✓ |
| **4D-3.7** | The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high | | • | Complies | ✓ |
| **4D-3.8** | Apartment layouts allow flexibility over time, design solutions may include:<br>• dimensions that facilitate a variety of furniture arrangements and removal<br>• spaces for a range of activities and privacy levels between different spaces within the apartment<br>• dual master apartments<br>• dual key apartments Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments<br>• room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1))<br>• efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms | | • | Efficient planning principles have been implemented particularly in relation to consolidation of circulation space in apartments to maximise usable space. | ✓ |
| **4E** | **PRIVATE OPEN SPACE AND BALCONIES** | | | | |
| **4E-1** Objective | Apartments provide appropriately sized private open space and balconies to enhance residential amenity | | | | |
| **4E-1.1** | All apartments are required to have primary balcony as follows:<br>Dwelling type — Minimum area — Minimum depth<br>Studio apartments — 4m2 — -<br>1 bedroom apartments — 8m2 — 2m<br>2 bedroom apartments — 10m2 — 2m<br>3+bedroom apartments — 12m2 — 2.4m<br><br>The minimum balcony depth to be counted as contributing to the balcony area is 1m s as follows: | • | | All apartment types achieve the minimum balcony areas and depths set out by the Apartment Design Guide. | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | Dwelling type / Minimum area / Minimum depth<br>Studio apartments 4m2 -<br>1 bedroom apartments 8m2 2m<br>2 bedroom apartments 10m2 2m<br>3+bedroom apartments 12m2 2.4m<br><br>The minimum balcony depth to be counted as contributing to the balcony area is 1m | | | | |
| **4E-1.2** | For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m2 and a minimum depth of 3m | • | | Complies | ✓ |
| **4E-1.3** | Increased communal open space should be provided where the number or size of balconies are reduced | | • | N/A | N/A |
| **4E-1.4** | Storage areas on balconies is additional to the minimum balcony size | | • | | ✓ |
| **4E-1.5** | Balcony use may be limited in some proposals by:<br>• consistently high wind speeds at 10 storeys and above<br>• close proximity to road, rail or other noise sources<br>• exposure to significant levels of aircraft noise<br>• heritage and adaptive reuse of existing buildings<br>In these situations, juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated | | • | | ✓ |
| **4E-2** Objective | Primary private open space and balconies are appropriately located to enhance liveability for residents | | | | |
| **4E-2.1** | Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space | | • | Complies | ✓ |
| **4E-2.2** | Private open spaces and balconies predominantly face north, east or west | | • | Complies | ✓ |
| **4E-2.3** | Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms | | • | Complies | ✓ |
| **4E-3** Objective | Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building | | | | |
| **4E-3.1** | Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred | | • | Balcony and facade design has been carefully considered attempting to balance protection from noise sources, passive surveillance, privacy requirements and opportunities for desirable district views. | ✓ |
| **4E-3.2** | Full width full height glass balustrades alone are generally not desirable | | • | | ✓ |
| **4E-3.3** | Projecting balconies should be integrated into the building design and the design of soffits considered | | • | | ✓ |
| **4E-3.4** | Operable screens, shutters, hoods and pergolas are used to control sunlight and wind | | • | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4E-3.5** | Balustrades are set back from the building or balcony edge where overlooking or safety is an issue | | • | | ✓ |
| **4E-3.6** | Downpipes and balcony drainage are integrated with the overall facade and building design | | • | | ✓ |
| **4E-3.7** | Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design | | • | | ✓ |
| **4E-3.8** | Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design | | • | | ✓ |
| **4E-3.9** | Ceilings of apartments below terraces should be insulated to avoid heat loss | | • | | ✓ |
| **4E-3.10** | Water and gas outlets should be provided for primary balconies and private open space | | • | Able to provide, not nominated | Can be met |
| **4E-4** Objective | Private open space and balcony design maximises safety | | | | |
| **4E-4.1** | Changes in ground levels or landscaping are minimised | | • | Transitions between levels has been considered and kept to a minimum | ✓ |
| **4E-4.2** | Design and detailing of balconies avoids opportunities for climbing and falls | | • | | ✓ |
| **4F** | **COMMON CIRCULATION AND SPACES** | | | | |
| **4F-1** Objective | Common circulation spaces achieve good amenity and properly service the number of apartments | | | | |
| **4F-1.1** | The maximum number of apartments off a circulation core on a single level is eight | • | | Varies between 5 and 10 apartments off a circulation core.<br>REF to CLAUSE 4F -1.8 & 1.9 | ✓ |
| **4F-1.2** | For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40 | • | | Proposal is to provide for 6 high performance lifts, 3 lifts per circulation core. | ✓ |
| **4F-1.3** | Greater than minimum requirements for corridor widths and/ or ceiling heights allow comfortable movement and access particularly in entry lobbies, outside lifts and at apartment entry doors | | • | Complies | ✓ |
| **4F-1.4** | Daylight and natural ventilation should be provided to all common circulation spaces that are above ground | | • | Complies | ✓ |
| **4F-1.5** | Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors | | • | Complies | ✓ |
| **4F-1.6** | Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include:<br>• a series of foyer areas with windows and spaces for seating<br>• wider areas at apartment entry doors and varied ceiling heights | | • | | ✓ |
| **4F-1.7** | Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments | | • | | ✓ |
| **4F-1.8** | Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including:<br>• sunlight and natural cross ventilation in | | • | All circulation corridors are naturally ventilated and have access to daylight.<br>From each lift core per level you have between 2 to 3 differing directions of travel to access apartments. Between 2 and 5 apartments are accessed per direction thus distributing apartments evenly across each | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | apartments access to ample daylight and natural ventilation in common circulation spaces<br>• common areas for seating and gathering<br>• generous corridors with greater than minimum ceiling heights<br>• other innovative design solutions that provide high levels of amenity | | | floor plate. | |
| **4F-1.9** | Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level | | • | Complies | ✓ |
| **4F-1.10** | Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled | | • | | ✓ |
| **4F-2** Objective | Common circulation spaces promote safety and provide for social interaction between residents | | | | |
| **4F-2.1** | Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines | | • | Complies | ✓ |
| **4E-2.2** | Tight corners and spaces are avoided | | • | Complies | ✓ |
| **4E-2.3** | Circulation spaces should be well lit at night | | • | Complies | ✓ |
| **4E-2.4** | Legible signage should be provided for apartment numbers, common areas and general way finding | | • | Complies | ✓ |
| **4E-2.5** | Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided | | • | Complies | ✓ |
| **4E-2.6** | In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally collocated with communal open space | | • | Level 8 communal lounge / meeting room provided. | ✓ |
| **4E-2.7** | Where external galleries are provided, they are more open than closed above the balustrade along their length | | • | Complies | ✓ |
| **4G** | **STORAGE** | | | | |
| **4G-1** Objective | Adequate, well designed storage is provided in each apartment | | | | |
| **4G-1.1** | In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:<br><br>Dwelling type — Storage size volume<br>Studio apartments — 4m2<br>1 bedroom apartments — 6m2<br>2 bedrooms — 8m2<br>3+bedroom apartments — 12m2<br><br>At least 50% of the required storage is to be located within the apartment | • | | All apartment types achieve the minimum storage volumes set out by the Apartment Design Guide.<br><br>Where the full volume of storage cannot be accommodated within the apartment, 50% has been accommodated within dedicated basement storage areas. | ✓ |
| **4G-1.2** | Storage is accessible from either circulation or living areas | | • | Complies | ✓ |
| **4G-1.3** | Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street | | • | Complies | ✓ |
| **4G-1.4** | Left over space such as under stairs is used for storage | | • | Complies | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4G-2** Objective | Additional storage is conveniently located, accessible and nominated for individual apartments | | | | |
| **4G-2.1** | Storage not located in apartments is secure and clearly allocated to specific apartments | | • | Complies | ✓ |
| **4G-2.2** | Storage is provided for larger and less frequently accessed items | | • | Complies | ✓ |
| **4G-2.3** | Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible | | • | Complies | ✓ |
| **4G-2.4** | If communal storage rooms are provided they should be accessible from common circulation areas of the building | | • | Complies | ✓ |
| **4G-2.5** | Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain | | • | Complies | ✓ |
| **4H** | **ACOUSTIC PRIVACY** | | | | |
| **4H-1** Objective | Noise transfer is minimised through the siting of buildings and building layout | | | | |
| **4H-1.1** | Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses (see also section 2F Building separation and section 3F Visual privacy) | | • | Complies | ✓ |
| **4H-1.2** | Window and door openings are generally orientated away from noise sources | | • | Complies | ✓ |
| **4H-1.3** | Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas | | • | Complies | ✓ |
| **4H-1.4** | Storage, circulation areas and nonhabitable rooms should be located to buffer noise from external sources | | • | Complies | ✓ |
| **4H-1.5** | The number of party walls (walls shared with other apartments) are limited and are appropriately insulated | | • | Complies | ✓ |
| **4H-1.6** | Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedrooms | | • | Where this may occur windows have been carfully positioned away from noise source and decorative blank wall provided. | ✓ |
| **4H-2** Objective | Noise impacts are mitigated within apartments through layout and acoustic treatments | | | | |
| **4H-2.1** | Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions:<br>• rooms with similar noise requirements are grouped together<br>• doors separate different use zones<br>• wardrobes in bedrooms are collocated to act as sound buffers | | • | Complies | ✓ |
| **4H-2.2** | Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions:<br>• double or acoustic glazing<br>• acoustic seals<br>• use of materials with low noise penetration properties<br>• continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements | | • | Complies | ✓ |
| **4J** | **NOISE AND POLLUTION** | | | | |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4J-1** Objective | In noisy or hostile environments the impacts of external noise and pollution are minimized through the careful siting and layout of buildings | | | | |
| **4J-1.1** | To minimise impacts the following design solutions may be used:<br>• physical separation between buildings and the noise or pollution source<br>• residential uses are located perpendicular to the noise source and where possible buffered by other uses<br>• non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces<br>• non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources<br>• buildings should respond to both solar access and noise. Where solar access is away from the noise source, non-habitable rooms can provide a buffer<br>• where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable (see figure 4J.4 in ADG)<br>• landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry | | • | Apartments orientaed away from rail coridoor noise source. | ✓ |
| **4J-1.2** | Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas:<br>• solar and daylight access<br>• private open space and balconies<br>• natural cross ventilation | | • | Complies | ✓ |
| **4J-2** Objective | Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission | | | | |
| **4J-2.1** | Design solutions to mitigate noise include:<br>• limiting the number and size of openings facing noise sources<br>• providing seals to prevent noise transfer through gaps<br>• using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens)<br>• using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and<br>• soffits | | • | Complies | ✓ |
| **4K** | **APARTMENT MIX** | | | | |
| **4K-1** Objective | A range of apartment types and sizes is provided to cater for different household types now and into the future | | | | |
| **4K-1.1** | A variety of apartment types is provided | | • | A mix of Live/Work, 1 bedroom, 2 bedroom, 3 bedroom and dual key apartments are provided. | ✓ |
| **4K-1.2** | The apartment mix is appropriate, taking into consideration:<br>• the distance to public transport, employment and education centres<br>• the current market demands and projected future demographic trends<br>• the demand for social and affordable housing<br>• different cultural and socioeconomic groups | | • | Complies | ✓ |
| **4K-1.3** | Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households | | • | Complies | ✓ |
| **4K-2** Objective | The apartment mix is distributed to suitable locations within the building | | | | |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4K-2.1** | Different apartment types are located to achieve successful façade composition and to optimise solar access (see figure 4K.3 in ADG) | | • | Complies | ✓ |
| **4K-2.2** | Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available | | • | Complies | ✓ |
| **4L** | **GROUND FLOOR APARTMENTS** | | | | |
| **4L-1** Objective | Street frontage activity is maximised where ground floor apartments are located | | | | |
| **4L-1.1** | Direct street access should be provided to ground floor apartments | | • | Ground floor Live Work apartments have direct access to their office from the street. | ✓ |
| **4L-1.2** | Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include:<br>• both street, foyer and other common internal circulation entrances to ground floor apartments<br>• private open space is next to the street<br>• doors and windows face the street | | • | Complies | ✓ |
| **4L-1.3** | Retail or home office spaces should be located along street frontages | | • | Complies | ✓ |
| **4L-1.4** | Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion | | • | Complies | ✓ |
| **4L-2** Objective | Design of ground floor apartments delivers amenity and safety for residents | | | | |
| **4L-2.1** | Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include:<br>• elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4 in ADG)<br>• landscaping and private courtyards<br>• window sill heights that minimize sight lines into apartments<br>• integrating balustrades, safety bars or screens with the exterior design | | • | Ground floor courtyards addressing street frontages are raised above street level providing privacy to the individual apartment and provides casual surveillance of the street. | ✓ |
| **4L-2.2** | Solar access should be maximized through:<br>• high ceilings and tall windows<br>• trees and shrubs that allow solar access in winter and shade in summer | | • | Complies | ✓ |
| **4M** | **FACADES** | | | | |
| **4M-1** Objective | Building facades provide visual interest along the street while respecting the character of the local area | | | | |
| **4M-1.1** | Design solutions for front building facades may include:<br>• a composition of varied building elements<br>• a defined base, middle and top of buildings<br>• revealing and concealing certain elements<br>• changes in texture, material, detail and colour to modify the prominence of elements | | • | Facades reflect contemporary building methods which include various techniques to create visual interest including: play with texture between articulated solid mass elements & smooth transparent planes, Subtle changes in façade detail orientation to create interesting shadow effects & increase appearance of depth. | ✓ |
| **4M-1.2** | Building services should be integrated within the overall facade | | • | Complies. | ✓ |
| **4M-1.3** | Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include:<br>• well composed horizontal and vertical elements<br>• variation in floor heights to enhance the human scale | | • | Facades are conceived to create visual interest when viewed from a range of distances. Materials and colour palette are used appropriately to reflect the desired character of the proposed development. | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | • elements that are proportionaland arranged in patterns<br>• public artwork or treatments to exterior blank walls<br>• grouping of floors or elements such as balconies and windows on taller buildings | | | | |
| **4M-1.4** | Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights | | ● | | ✓ |
| **4M-1.5** | Shadow is created on the façade throughout the day with building articulation, balconies and deeper window reveals | | ● | | ✓ |
| **4M-2** Objective | Building functions are expressed by the facade | | | | |
| **4M-2.1** | Building entries should be clearly defined | | ● | Building entries are expressed through vertical articulation and double height volume along façade. | ✓ |
| **4M-2.2** | Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height | | ● | The prominate corners are expressed with a distinctive architectural language. | ✓ |
| **4M-2.3** | The apartment layout should be expressed externally through façade features such as party walls and floor slabs | | ● | Patterning to the façade expresses apartment layouts in subtle ways and where appropriate in simple vertical & horizontal articulation. | ✓ |
| **4N** | **ROOF DESIGN** | | | | |
| **4N-1** Objective | Roof treatments are integrated into the building design and positively respond to the street | | | | |
| **4N-1.1** | Roof design relates to the street. Design solutions may include:<br>• special roof features and strong corners<br>• use of skillion or very low pitch hipped roofs<br>• breaking down the massing of the roof by using smaller elements to avoid bulk<br>• using materials or a pitched form complementary to adjacent buildings | | ● | | ✓ |
| **4N-1.2** | Roof treatments should be integrated with the building design. Design solutions may include:<br>• roof design proportionate to the overall building size, scale and form<br>• roof materials complement the building<br>• service elements are integrated | | ● | Roof top common open space intergrated into overall building form, mass and roof design. | ✓ |
| **4N-2** Objective | Opportunities to use roof space for residential accommodation and open space are maximised | | | | |
| **4N-2.1** | Habitable roof space should be provided with good levels of amenity. Design solutions may include:<br>• penthouse apartments<br>• dormer or clerestory windows<br>• openable skylights | | ● | | ✓ |
| **4N-2.2** | Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations | | ● | Landscape treatment to roof top terraces will provide visual privacy. | ✓ |
| **4N-3** Objective | Roof design incorporates sustainability features | | | | |
| **4N-3.1** | Roof design maximises solar access to apartments during winter and provides shade during summer.<br>Design solutions may include:<br>• the roof lifts to the north<br>• eaves and overhangs shade walls and windows from summer sun | | ● | | ✓ |
| **4N-3.2** | Skylights and ventilation systems should be integrated into the roof design | | ● | | ✓ |
| **4O** | **LANDSCAPE DESIGN** | | | | |
| **4O-1** Objective | Landscape design is viable and sustainable | | | | |
| **4O-1.1** | Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating:<br>• diverse and appropriate planting | | ● | Refer to Landscape Architects concept plans. | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | • bio-filtration gardens<br>• appropriately planted shading trees<br>• areas for residents to plant vegetables and herbs<br>• composting<br>• green roofs or walls | | | | |
| **4O-1.2** | Ongoing maintenance plans should be prepared | | • | | ✓ |
| **4O-1.3** | Microclimate is enhanced by:<br>• appropriately scaled trees near the eastern and western elevations for shade<br>• a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter<br>• shade structures such as pergolas for balconies and courtyards | | • | Refer to landscape architects indicative plant schedule | ✓ |
| **4O-1.4** | Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4 in ADG) | | • | Refer to landscape architects indicative plant schedule | ✓ |
| **4O-2** Objective | Landscape design contributes to the streetscape and amenity | | | | |
| **4O-2.1** | Landscape design responds to the existing site conditions including:<br>• changes of levels<br>• views<br>• significant landscape features including trees and rock outcrops | | • | | ✓ |
| **4O-2.2** | Significant landscape features should be protected by:<br>• tree protection zones (see figure 4O.5 in ADG)<br>• appropriate signage and fencing during construction | | • | N/A | N/A |
| **4O-2.3** | Plants selected should be endemic to the region and reflect the local ecology | | • | Refer to landscape architects indicative plant schedule | ✓ |
| **4P** | **PLANTING ON STRUCTURES** | | | | |
| **4P-1** Objective | Appropriate soil profiles are provided | | | | |
| **4P-1.1** | Structures are reinforced for additional saturated soil weight | | • | | ✓ |
| **4P-1.2** | Soil volume is appropriate for plant growth, considerations include:<br>• modifying depths and widths according to the planting mix and irrigation frequency<br>• free draining and long soil life span<br>• tree anchorage | | • | | ✓ |
| **4P-1.3** | Minimum soil standards for plant sizes should be provided in accordance with Table 5 (in ADG) | | • | | ✓ |
| **4P-2** Objective | Plant growth is optimised with appropriate selection and maintenance | | | | |
| **4P-2.1** | Plants are suited to site conditions, considerations include:<br>• drought and wind tolerance<br>• seasonal changes in solar access<br>• modified substrate depths for a diverse range of plants<br>• plant longevity | | • | Refer to landscape architects concept and plant schedule | ✓ |
| **4P-2.2** | A landscape maintenance plan is prepared | | • | Can Comply | ✓ |
| **4P-2.3** | Irrigation and drainage systems respond to:<br>• changing site conditions<br>• soil profile and the planting regime<br>• whether rainwater, stormwater or recycled grey water is used | | • | Can Comply | ✓ |
| **4P-3** Objective | Planting on structures contributes to the quality and amenity of communal and public open spaces | | | | |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4P-3.1** | Building design incorporates opportunities for planting on structures. Design solutions may include:<br>• green walls with specialized lighting for indoor green walls<br>• wall design that incorporates planting<br>• green roofs, particularly where roofs are visible from the public domain<br>• planter boxes<br>Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time | | • | Refer to landscape architects concept for common open space areas. | ✓ |
| **4Q** | **UNIVERSAL DESIGN** | | | | |
| **4Q-1** Objective | Universal design features are included in apartment design to promote flexible housing for all community members | | | | |
| **4Q-1.1** | Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features | | • | Complies | ✓ |
| **4Q-2** Objective | A variety of apartments with adaptable designs are provided | | | | |
| **4Q-2.1** | Adaptable housing should be provided in accordance with the relevant council policy | | • | Complies | ✓ |
| **4Q-2.2** | Design solutions for adaptable apartments include:<br>• convenient access to communal and public areas<br>• high level of solar access<br>• minimal structural change and residential amenity loss when adapted<br>• larger car parking spaces for accessibility<br>• parking titled separately from apartments or shared car parking arrangements | | • | Complies | ✓ |
| **4Q-3** Objective | Apartment layouts are flexible and accommodate a range of lifestyle needs | | | | |
| **4Q-3.1** | Apartment design incorporates flexible design solutions which may include:<br>• rooms with multiple functions<br>• dual master bedroom apartments with separate bathrooms<br>• larger apartments with various living space options<br>• open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom | | • | Incorporated open plan living/dining/kitchen spaces with large bedrooms. | ✓ |
| **4R** | **ADAPTIVE REUSE** | | | | |
| **4R-1** Objective | New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place | | | | |
| **4R-1.1** | Design solutions may include:<br>• new elements to align with the existing building<br>• additions that complement the existing character, siting, scale, proportion, pattern, form and detailing<br>• use of contemporary and complementary materials,<br>• finishes, textures and colours | | • | N/A | N/A |
| **4R-1.2** | Additions to heritage items should be clearly identifiable from the original building | | • | N/A | N/A |
| **4R-1.3** | New additions allow for the interpretation and future evolution of the building | | • | N/A | N/A |
| **4R-2** Objective | Adapted buildings provide residential amenity while not precluding future adaptive reuse | | | | |
| **4R-2.1** | Design features should be incorporated sensitively into adapted buildings to make up for any physical limitations, to ensure residential amenity is achieved. Design solutions may include:<br>• generously sized voids in deeper buildings<br>• alternative apartment types when orientation | | • | N/A | N/A |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | is poor<br>• using additions to expand the existing building envelope | | | | |
| **4R-2.2** | Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas:<br>• where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar and daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation)<br>• alternatives to providing deep soil where less than the minimum requirement is currently available on the site<br>• building and visual separation – subject to demonstrating alternative design approaches to achieving privacy<br>• common circulation<br>• car parking<br>• alternative approaches to private<br>• open space and balconies | | ● | N/A | N/A |
| **4S** | **MIXED USE** | | | | |
| **4S-1** Objective | Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement | | | | |
| **4S-1.1** | Mixed use development should be concentrated around public transport and centres | | ● | | ✓ |
| **4S-1.2** | Mixed use developments positively contribute to the public domain. Design solutions may include:<br>• development addresses the street<br>• active frontages are provided<br>• diverse activities and uses<br>• avoiding blank walls at the ground level<br>• live/work apartments on the ground floor level, rather than commercial | | ● | | ✓ |
| **4S-2** Objective | Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents | | | | |
| **4S-2.1** | Residential circulation areas should be clearly defined. Design solutions may include:<br>• residential entries are separated from commercial entries and directly accessible from the street<br>• commercial service areas are separated from residential components<br>• residential car parking and communal facilities are separated or secured<br>• security at entries and safe pedestrian routes are provided<br>• concealment opportunities are avoided | | ● | | ✓ |
| **4S-2.2** | Landscaped communal open space should be provided at podium or roof levels | | ● | | ✓ |
| **4T** | **AWNINGS AND SIGNAGE** | | | | |
| **4T-1** Objective | Awnings are well located and complement and integrate with the building design | | | | |
| **4T-1.1** | Awnings should be located along streets with high pedestrian activity and active frontages | | ● | | ✓ |
| **4T-1.2** | A number of the following design solutions are used:<br>• continuous awnings are maintained and provided in areas with an existing pattern<br>• height, depth, material and form complements the existing street character<br>• protection from the sun and rain is provided<br>• awnings are wrapped around the secondary | | ● | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| | frontages of corner sites<br>• awnings are retractable in areas without an established pattern | | | | |
| **4T-1.3** | Awnings should be located over building entries for building address and public domain amenity | | ● | | ✓ |
| **4T-1.4** | Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure | | ● | | ✓ |
| **4T-1.5** | Gutters and down pipes should be integrated and concealed | | ● | | ✓ |
| **4T-1.6** | Lighting under awnings should be provided for pedestrian safety | | ● | | ✓ |
| **4T-2** Objective | Signage responds to the context and desired streetscape character | | | | |
| **4T-2.1** | Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development | | ● | | ✓ |
| **4T-2.2** | Legible and discrete way finding should be provided for larger developments | | ● | | ✓ |
| **4T-2.3** | Signage is limited to being on and below awnings and a single façade sign on the primary street frontage | | ● | | N/A |
| **4U** | **ENERGY EFFICIENCY** | | | | |
| **4U-1** Objective | Development incorporates passive environmental design | | | | |
| **4U-1.1** | Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) | | ● | | ✓ |
| **4U-1.2** | Well located, screened outdoor areas should be provided for clothes drying | | ● | Laundries have provisions to accommodate dryers | N/A |
| **4U-2** Objective | Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer | | | | |
| **4U-2.1** | A number of the following design solutions are used:<br>• the use of smart glass or other technologies on north and west elevations<br>• thermal mass in the floors and walls of north facing rooms is maximised<br>• polished concrete floors, tiles or timber rather than carpet<br>• insulated roofs, walls and floors and seals on window and door openings<br>• overhangs and shading devices such as awnings, blinds and screens | | ● | Double glazing, floor and wall insulation are applied to some units to achieve energy efficiency targets. | ✓ |
| **4U-2.2** | Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement) | | ● | | ✓ |
| **4U-3** Objective | Adequate natural ventilation minimises the need for mechanical ventilation | | | | |
| **4U-3.1** | A number of the following design solutions are used:<br>• rooms with similar usage are grouped together<br>• natural cross ventilation for apartments is optimised<br>• natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible | | ● | | ✓ |
| **4V** | **WATER MANAGEMENT AND CONSERVATION** | | | | |
| **4V-1** Objective | Potable water use is minimised | | | | |
| **4V-1.1** | Water efficient fittings, appliances and wastewater reuse should be incorporated | | ● | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4V-1.2** | Apartments should be individually metered | | ● | | ✓ |
| **4V-1.3** | Rainwater should be collected, stored and reused on site | | ● | | ✓ |
| **4V-1.4** | Drought tolerant, low water use plants should be used within landscaped areas | | ● | | ✓ |
| **4V-2** Objective | Urban stormwater is treated on site before being discharged to receiving waters | | | | |
| **4V-2.1** | Water sensitive urban design systems are designed by a suitably qualified professional | | ● | Can comply, on site detention provided. | ✓ |
| **4V-2.2** | A number of the following design solutions are used:<br>• runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation<br>• porous and open paving materials is maximised<br>• on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits | | ● | Runoff is collected for reuse in irrigation and garden maintenance. | ✓ |
| **4W** | **WATER MANAGEMENT AND CONSERVATION** | | | | |
| **4W-1** Objective | Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents | | | | |
| **4W-1.1** | Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement carpark | | ● | | ✓ |
| **4W-1.2** | Waste and recycling storage areas should be well ventilated | | ● | | ✓ |
| **4W-1.3** | Circulation design allows bins to be easily manoeuvred between storage and collection points | | ● | | ✓ |
| **4W-1.4** | Temporary storage should be provided for large bulk items such as mattresses | | ● | | ✓ |
| **4W-1.5** | A waste management plan should be prepared | | ● | | ✓ |
| **4W-2** Objective | Domestic waste is minimised by providing safe and convenient source separation and recycling | | | | |
| **4W-2.1** | All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste and recycling | | ● | | ✓ |
| **4W-2.2** | Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core | | ● | | ✓ |
| **4W-2.3** | For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses | | ● | | ✓ |
| **4W-2.4** | Alternative waste disposal methods such as composting should be provided | | ● | Can Comply. | ✓ |
| **4X** | **BUILDING MAINTENANCE** | | | | |
| **4X-1** Objective | Building design detail provides protection from weathering | | | | |
| **4X-1.1** | A number of the following design solutions are used:<br>• roof overhangs to protect walls<br>• hoods over windows and doors to protect openings<br>• detailing horizontal edges with drip lines to avoid staining of surfaces<br>• methods to eliminate or reduce planter box leaching<br>• appropriate design and material selection for hostile locations | | ● | | ✓ |

| Ref | Item Description | Design Criteria | Design Guidance | Notes | Achieved ✓/✗ |
|---|---|---|---|---|---|
| **4X-2** Objective | Systems and access enable ease of maintenance | | | | |
| **4X-2.1** | Window design enables cleaning from the inside of the building | | ● | Not possible due to scale of development. | ✗ |
| **4X-2.2** | Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade | | ● | Can Comply. | ✓ |
| **4X-2.3** | Design solutions do not require external scaffolding for maintenance access | | ● | Can Comply. | ✓ |
| **4X-2.4** | Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems | | ● | Can Comply. | ✓ |
| **4X-2.5** | Centralised maintenance, services and storage should be provided for communal open space areas within the building | | ● | Can Comply. | ✓ |
| **4X-3** Objective | Material selection reduces ongoing maintenance costs | | | | |
| **4X-3.1** | A number of the following design solutions are used:<br>• sensors to control artificial lighting in common circulation and spaces<br>• natural materials that weather well and improve with time such as face brickwork<br>• easily cleaned surfaces that are graffiti resistant<br>• robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation<br>• areas and lift interiors | | ● | Can Comply. | ✓ |