SJB Architects

SEPP65 Design Statement

634-638 High Street & 87-89 Union Road
Penrith
NSW 2750

We create spaces people love.
SJB is passionate about the possibilities of architecture, interiors, urban design and planning.
Let's collaborate.

Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

Prepared for
TOGA

Issued
4 October 2021

We create amazing places

At SJB we believe that the future of the city is in generating a rich urban experience through the delivery of density and activity, facilitated by land uses, at various scales, designed for everyone.

Ref: 6111
Version: 02
Prepared by: MG
Checked by: NH

Contact Details:

SJB Architects
Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia

T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

SJB Architecture (NSW) Pty Ltd
ABN 20 310 373 425
ACN 081 094 724
Adam Haddow 7188 John Pradel 7004

Contents

Design Verification Statement

1

The purpose of this statement is to outline the design rationale and process that was adopted to prepare the application scheme.

Design Verification Statement

Prepared to accompany the Development Application submitted to Council

04 October 2021

Project Address

634-638 High Street & 87-89 Union Road
Penrith
NSW 2750

Prepared on behalf:
TOGA

Prepared by:
SJB Architects NSW

Verification of Qualifications

Nick Hatzi (Registered name: Nicholas Hatzianagnostou) is registered as an Architect in New South Wales and is enrolled in the Division of Chartered Architects in the register of Architects pursuant to the Architect Act 1921.
Their registration Number is 9380.

Statement of Design

Nick Hatzi has been responsible for the design of the project since its inception and have worked with related professionals and experts in respect of the matter. The project has been designed to provide a development that is respectful of local planning and design controls and responds to the nine design quality principles of SEPP No. 65.

Nick Hatzi verify that as required by the Clause 50 (1AB) of the Environmental Planning and Assessment Regulation 2000 the design quality principles set out in Schedule 1, design quality principles of the State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development and the objectives in Part 3 and Part 4 of the Apartment Design Guide have been achieved for the proposed development as described in the following document.

Nick Hatzi
Director
Registered Architect NSW, No. 9380

SEPP65 Design Quality Principles

2

The following content outlines the architectural scheme against the nine Principles of Design.

2.1 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.

The site is located along John Tipping Grove to the west and bound by Union Road to the south and High Street to the North. To the east, the site is envisaged to be partially dedicated to a new road link which at the north-east section will sit adjacent to a vacant lot owned by Urban Apartments, flanked by termination of Union Lane with an 9 storey apartment block to the south-east portion of the eastern boundary.

Mulgoa Road runs parallel to the Nepean River and defines the western extent of Penrith's CBD with High Street connecting the approach from the west across the river to the centre of Penrith.

Surrounding context is a mix of various urban grids.
To the south of the city is a mix of small single dwellings interrupted by medium scale 3-storey walk-ups and high density residential apartment blocks.

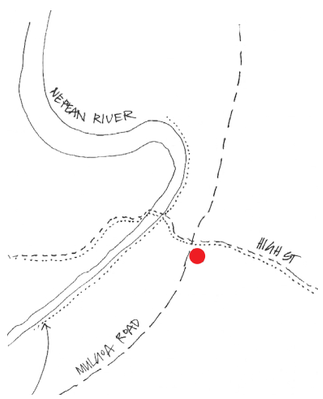
To the east adjacent to Mulgoa Road, the site opens to large vacant pastures with small single dwellings along the Nepean River. North and directly across from High Street is a mix of major Penrith City civic buildings and a major retail precinct (Penrith City Council chambers , Joan Sutherland Performing Arts Centre & Penrith Westfield). East is dominated by on grade parking lots, a mix of specialty retail sites of various grid and grain and sparse residential apartment blocks along Union Road.

Our approach is to accept the city edge condition and consider this project as an opportunity to define that edge with the view to reinvigorating the urban opportunities along High Street.

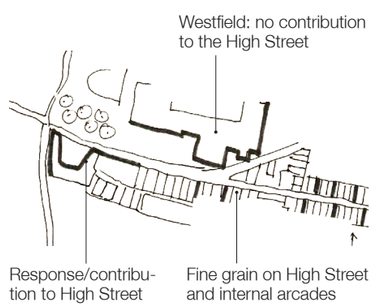
The retail heart of Penrith is the Penrith Plaza and Westfield also located on High Street. Typical of urban developments of the 70s & 80s, this internalises and privatises Penrith's urban life with limited contribution to the wider urban experience. Elsewhere, significant setbacks, such as the council building, that envisage a 'garden city' model limit High Street's historical urban role, with limited contribution to the wider urban experience.

There is an opportunity with this project to develop a contemporary alternative to the homogeneous environment of the internal shopping mall that enriches Penrith's urban fabric. In particular, the creation of a rich and innovative space connected externally and truly public.

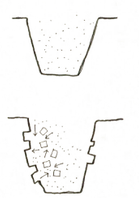
Defining an edge



Contribution to the street



Public space density



The civic square responds to the scale of the city/landscape

Fragmented edges and pavilions provide finer grain and spacial richness and complexity

2.2 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.

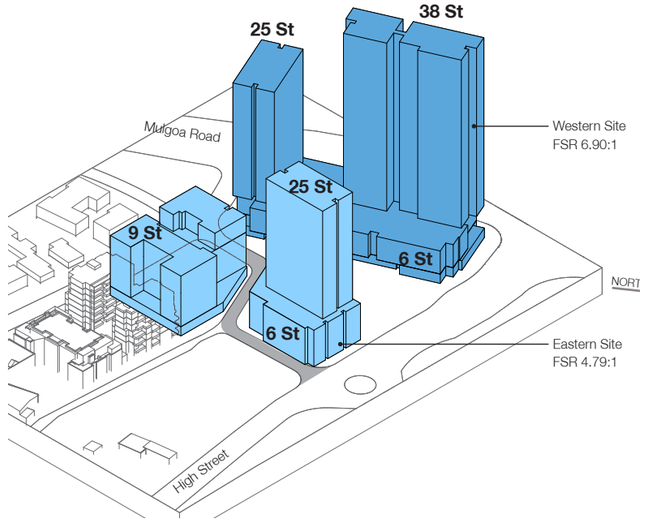
Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.

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.

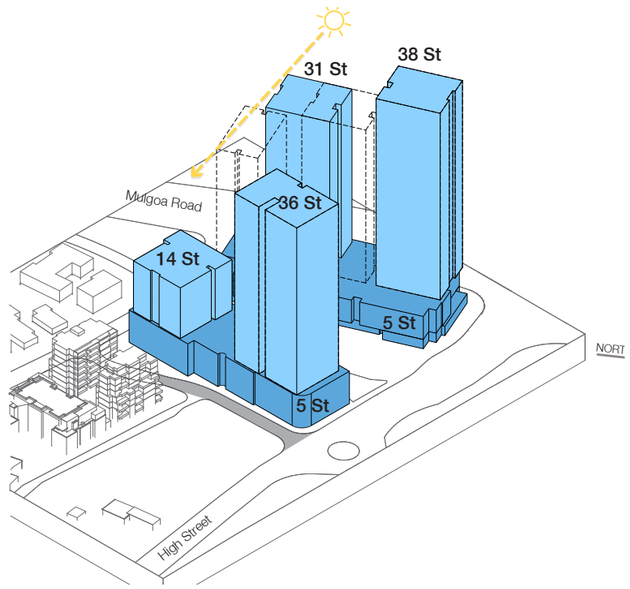
In December 2017 SJB Architects and Architect Prineas were awarded a winning architectural scheme for the site at 634–652 High Street and 87–91 Union Road, Penrith NSW. Immediately after work begun on a DA submission for the east site identified as Site 10 in PLEP 2010 as part of a staged development approach with envisaged future submissions for the site 03 to follow. The staged approach is to eventually deliver what has been a winning architectural schemes for site 03 and site 10.

Through numerous discussions with council and the Design Intergrity Panel workshops, the design has evolved in order to ensure the highest urban design outcomes are met.

Competition entry - view from Mulgoa Rd and High Street



Competition entry Massing



Evolved massing at DA submission

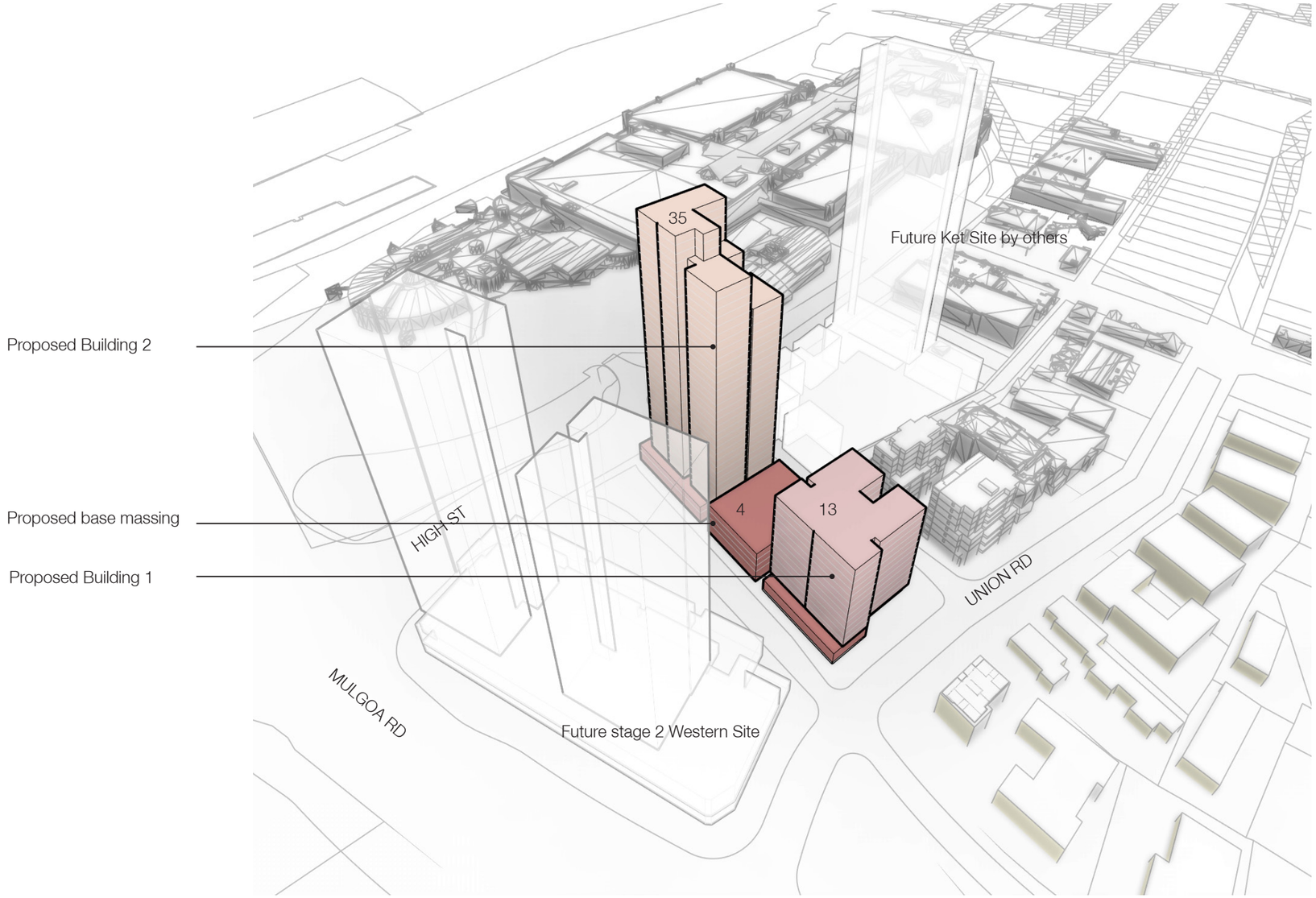
2.3 Principle 2: Built Form and Scale

The architectural response contemplates two residential tower buildings; Building 1 along Union Road and Building 2 along High Street connected by a ground level commercial space and above ground parking with majority sleeved with apartments.. The design and placement of the buildings respond well to the key natural and urban features of its locality and has been considered to adopt seamlessly to a larger master-plan strategy contemplated in the future stages of development.
The site topography is relatively flat with minimal cross fall between High Street and Union Road of around 1.25m over 107m length.

The proposed development for the site provides the following benefits:
- Active frontages to the New Road, Union Road, John Tipping Grove and High Street at ground level.
- Quality residential apartments with good amenity (good solar orientation and cross-ventilation).
- Good apartment mix with a high number of apartments with dual aspect.
- Excellent view opportunities to the Blue Mountains.
- Provides better visual permeability from High Street towards Union Road
- Substantial communal open space.
- Good pedestrian access and pedestrian permeability afforded by an array of pedestrian connection options.
- Balanced street and site setbacks.

In addition to responding to its natural, built and urban context, the proposed built form enhances the public domain and maximises internal amenity:

- The ground floor provides a continuous colonnade to High Street and John Tipping Grove, an new footpath and landscape edge to New Road and pedestrian link connecting Union Lane and John Tipping Grove.
-
- The proposal provides great communal open space with supporting communal room facilities. The communal open space has dual aspect which allows for passive surveillance to both John Tipping Grove and the New Road and amazing views to the Blue Mountains.
- The proposed scale is appropriate for the site and is consistent with future strategy for Penrith City.



Proposed Massing of Stage 1

2.4 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.

The Penrith Progression locates the site in the civic and retail zone, tasked with complementing the Central Hub with opportunities for housing, and small business uses.

The proposed development achieves an appropriate density that is consistent with the aims and objectives of the Penrith Progression.

The site has the potential to mark the western edge of the city centre and provide a generous open space which complements an existing network of smaller spaces throughout the city. The open space is envisaged to provide good anchor for small business enterprises supported by future contemplated night character, food and beverage options as well as new opportunities to provide community event and play spaces.

All apartments experience a high level of amenity, with views, generous private open spaces, good access to daylight and communal facilities such as a gym, common room and BBQ area.

The proposal is exceptionally well served by public transport, within 700m to Penrith station and 100m to main retail precinct of Penrith CBD.

The proposal provides a total of 357 apartments, and an apartment mix:

- 1 Bedroom Apartments 30% 50-60sqm
- 2 Bedroom Apartments 60% 70-86sqm
- 3 Bedroom Apartments 10% 95-100sqm

Artist impression, View from corner of John Tipping Grove looking North

2.5 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.

The proposal incorporates a number of principles of sustainability:

- Extensive landscaping to the roof top podium.
- The majority of apartments are cross-ventilated.
- The scheme maximises direct sunlight to apartments while utilising overhangs and shading devices to control summer heat gain (min. 70% of apartments receive a minimum of 2 hours direct sunlight in mid-winter)
- Materials demolished to be reused or recycled where possible.
- Predominantly constructed from locally produced, sustainable materials chosen favouring longevity and minimising maintenance.
- Energy-efficient lighting and appliances.
- Water-efficient fixtures.
- On site rainwater detention and reuse.
- Photovoltaic panels.
- Proximity to public transport and local shops.

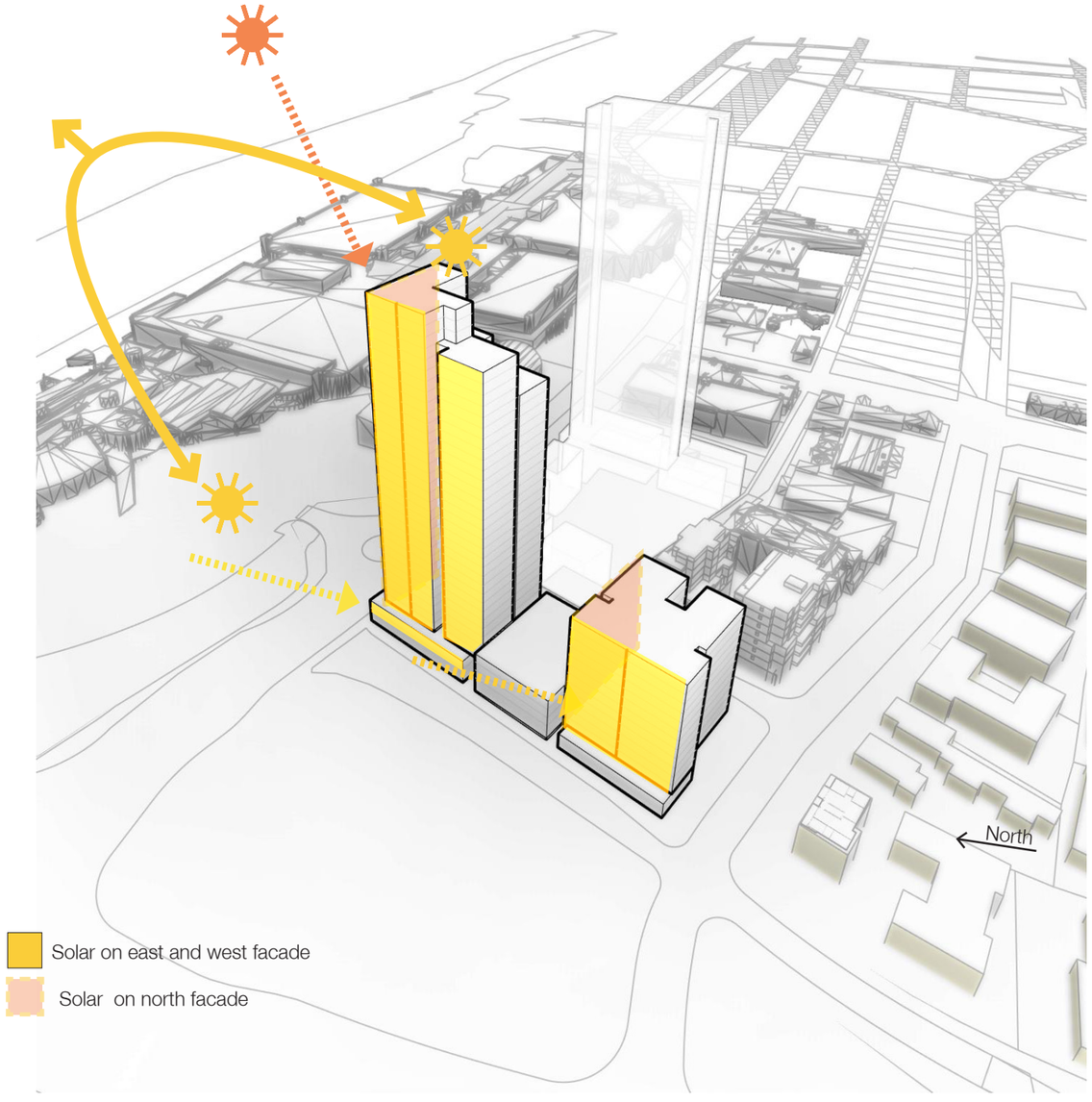


Diagram Showing Solar on Building 1 & 2

2.6 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.

At a regional scale, Penrith Town Center is surrounded by extensive rural open space, recreation offerings, and regional attractors. It is approximately 2km from the Sydney International Regatta Center and 5km from the foot of the Blue Mountains.

The connection to the Blue Mountains resonates deeply with the residents of Penrith and this development seeks to maintain and enhance this connection. Where possible, tree and low-level planting will draw on the local endemic species. The materiality of the project will reference the Nepean River and mountains.

The podium landscape will be designed to allow residents to gather at the edge of the building directing views west to the mountains.

The public domain and landscape for the High Street Penrith development will be the conduit and facilitator for a new type of social life for Penrith. This development will be a vibrant, active civic precinct. It will be a flexible platform for activity as well as a generator of life and energy. Landscape occurs at the ground plane and level 5.

The Ground level landscape includes public domain treatment and upgrades to:

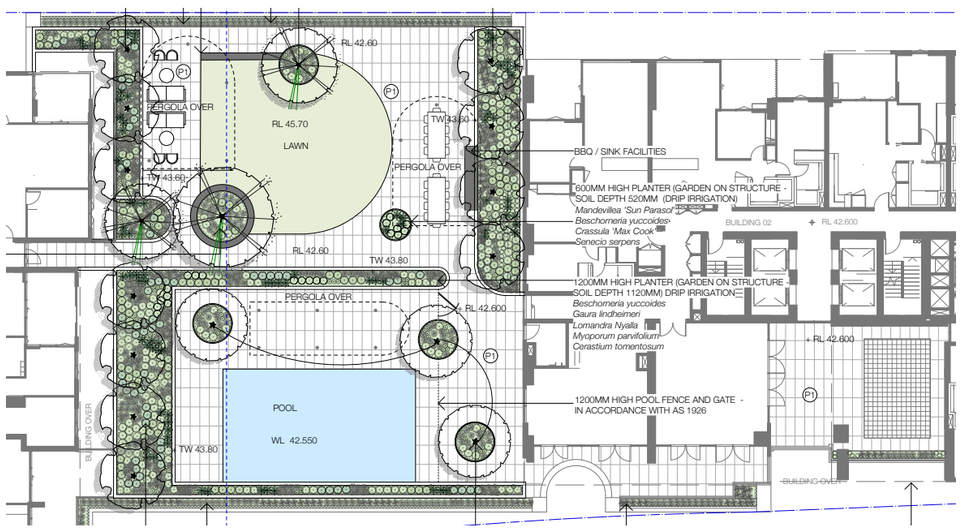
- High Street frontage;
- John Tipping Grove; and
- The proposed New Road to the east of the site.

All public domain upgrades meet the requirements of the Penrith City Council Public Domain Technical Manual and are designed to ensure the proposed development sits seamlessly within the Penrith City fabric.

The level 4 landscape features the communal open space for the project with a variety of gathering and activation options for residents.

The landscape for the development will promote connection to the open space that surrounds Penrith - particularly capitalising on the views to the Blue Mountains. These connections will run through all facets of the space including the materiality, plant species, interpretation, and furniture.

The podium landscape on residential level 4 aims to facilitate these opportunities. The generous turf zone and adjacent seating areas allow for groups of various sizes to gather and socialise, and the inclusion of more passive areas accommodate for quieter and more relaxing private areas.



Level 4 Podium Plan

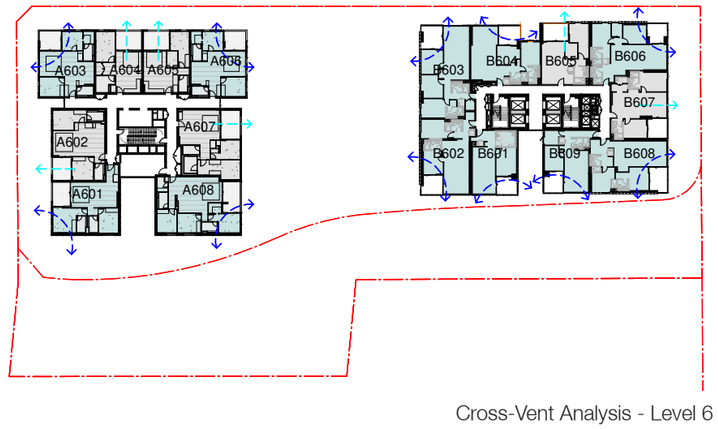
2.7 Principle 6: Amenity

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.

Throughout the development of the scheme the following design issues were considered:

- Access to daylight for the general amenity of all apartments. While driven by the existing street orientations, the location and design of the apartments maximises daylight access and minimising apartment depth
- Public space within the buildings - lobbies to each level are generous in size, and well lit.
- Significant communal open spaces have been provided for the residents, achieving 25.9%.
- The development contributes to the general public amenity at ground floor level through the activation of frontages via lobby spaces, commercial component with an active colonnade, on grade access, activated pedestrian site through link, and balcony orientation.
- Provision of open space amenity
- Views from both private apartments and communal terraces.
- Balconies of corner apartments are protected by use of screens to assist with mitigating windy conditions.
- Generous street verge to the New Road.
- Great views to Blue Mountains escarpment.



Cross-Vent Analysis - Level 6

Solar Analysis - Level 6

2.8 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.

Design initiatives which have been incorporated into the design are:

- Principle building entrances are clearly identifiable and allow for passive surveillance.
- Building entrances have secure access points with video intercom.
- Car park layouts are designed to minimise opportunities for alcoves. Columns or walls do not obstruct sight lines and the car parks are generally open. Security access is in the form of swipe cards and remote controllers will be provided.
- Entries are well lit.
- Passive surveillance improved along site-through link along eastern and western entry points by providing generous building articulation open to sky and viewing from communal open space, secure gates at either end of the link.
- Generous active commercial strip along site through link, the north end of the 'New Road link' and the full length of John Tipping Grove.
- Increased pedestrian traffic will be a result of this development.

2.9 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.

The development proposes a mix of amenity and activity offerings to residents throughout the common areas. By creating spaces that can be shared and enjoyed by all age groups.

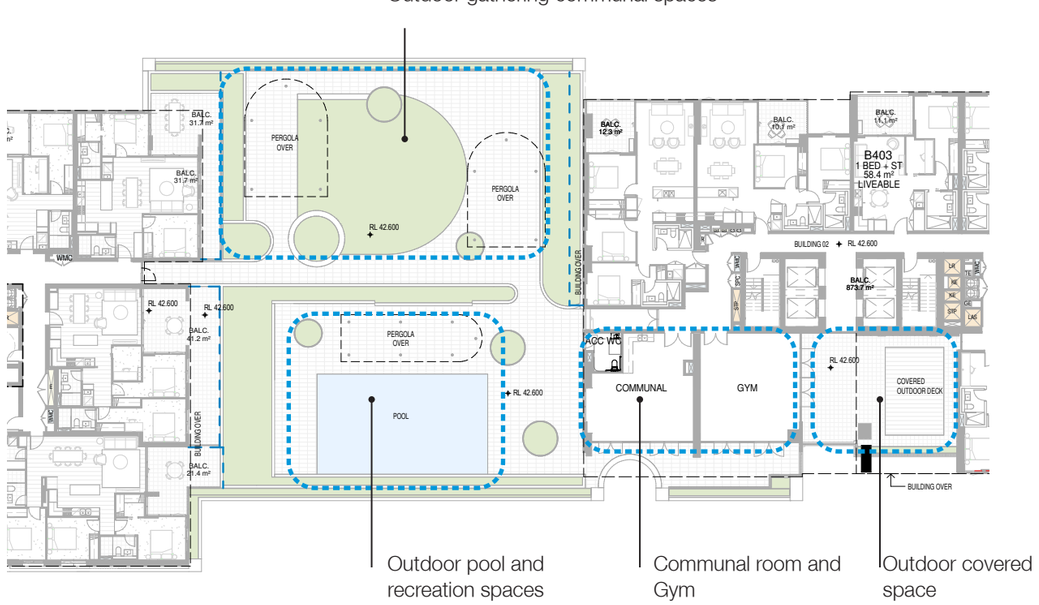
The design features that provide opportunities for social interaction include:

- Swimming pool
- Terraced seating adjacent the pool
- Lawn area
- BBQ facilities and seating area
- Shaded pergola
- Media room
- Gymnasium

In a broader context, this project offers an excellent opportunity to provide activity in an emerging area that has good access to public transport with:

- Walking distance to Penrith train station
- Walking distance to public amenities and employment
- Bicycle parking for each resident and visitor bikes in accordance with the controls, connectivity to wider cycling network
- Adaptable and liveable housing in accordance with Council controls

Podium Communal open space



Level 4 Communal uses and interaction

2.10 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.

The proposal is carefully considered, with specific material choices responsive to its location.

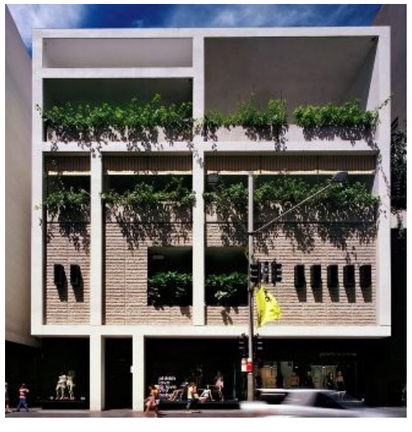
Massing and detailing is designed to respond to both the emerging character of the area and the existing surrounding building fabric.

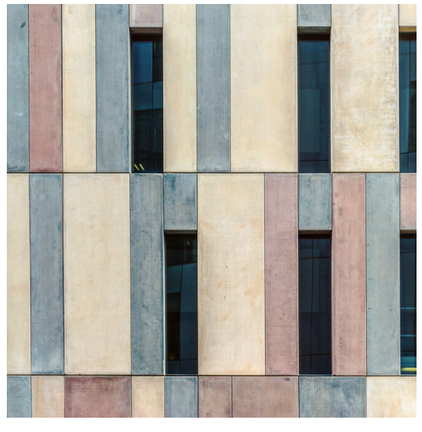
The following principles have been observed in the design process:

- Proposed colours are those which are found naturally rather than primary colours, ensuring that the building sits comfortably within the urban street scape.
- Careful articulation of the building form has been adopted to reduce the perceived bulk of the building
- The use of 'natural' materials which require minimal maintenance.
- Robust materials which are long lasting and weather naturally.
- A building which is scaled sensibly
- When used, applied colours which are found naturally rather than primary colours.
- The use of darker recessive colours so that the building is not 'shouting' to the surrounding context.
- Extensive use of landscaping elements and screening devices.

A palette of facade conditions have been devised as a response to the immediate context. These are illustrated on the following page.

Colour scheme





ADG response table

3

The following content outlines the architectural scheme's response to Part 3 & Part 4 of the Apartment Design Guide.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
3	**SITING THE DEVELOPMENT**				
3A	Site Analysis				
	3A–1	**Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context**	•		
		Each element in the Site Analysis Checklist should be addressed (see ADG Appendix 1)	•		Refer to architectural drawings.
3B	Orientation				
	3B – 1	**Building types and layouts respond to the streetscape and site while optimising solar access within the development**			
		Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1)	•		Refer to architectural drawings 2 tower form typology with podium with varying height. Building faces and interacts with High Street and Union Road. Proposed development is within an area where the built form and density is changing.
		Where the street frontage is to the east or west, rear buildings should be orientated to the north	•		
		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)	•		
	3B–2	**Overshadowing of neighbouring properties is minimised during midwinter**			
		Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access	•		Generally compliant with ADG requirements. Marginal impact on neighbouring properties as most of the apartments receive more than 2 hours of solar access. Properties east of the site are not impacted by the proposed development from 9:00 to 11:30 am and properties south of the site achieve solar access requirements from 1:00 to 3:00 pm.
		Solar access to living rooms, balconies and private open spaces of neighbours should be considered	•		
		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%	•		
		If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy			N/A
		Overshadowing should be minimised to the south or downhill by increased upper level setbacks	•		Building forms are setback above the street wall.
		It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development	•		East and West apartments are orientated 90 degrees to boundaries
		A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings	•		Neighbouring houses have the opportunity to receive 4 hours of sunlight to roof spaces
3C	Public Domain Interface				
	3C–1	**Transition between private and public domain is achieved without compromising safety and security**			
		Terraces, balconies and courtyard apartments should have direct street entry, where appropriate	•		Tower form typology. No ground floor apartments. All proposed apartments have access through secured lobbies and lift cores from street.
		Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings (see figure 3C.1)	•		No ground level dwellings, access to apartments through secure lobby from street at ground level.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Upper level balconies and windows should overlook the public domain	•		Balconies and upper level window allow for passive surveillance.
		Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m	•		
		Length of solid walls should be limited along street frontages	•		Glazed commercial areas activate all street frontages and a covered colonnade
		Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets	•		There is a strong focus on casual interaction in the lift lobbies and corridors with areas to sit and generous spaces within the ground floor lobby area and mail rooms.
		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: · architectural detailing · changes in materials · plant species · colours	•		Awnings and building signage provides a strong identity to the building entries.
		Opportunities for people to be concealed should be minimised	•		The proposed design minimises opportunities for people to be concealed through activation of various areas, passive surveillance and designing out nooks and hidden areas.
	3C–2	**Amenity of public domain is retained and enhanced**			
		Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking	•		Refer to Landscape design.
		Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	•		Internal mail box rooms, accessed from lobbies and street.
		The visual prominence of underground car park vents should be minimised and located at a low level where possible	•		No car park vents located at ground level. Basement car park is exhausted at roof level by a riser through the building.
		Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view	•		Kiosk Sub-station is concealed with the use of landscape and screening to minimising potential visual impact.
		Ramping for accessibility should be minimised by building entry locations and setting ground floor levels in relation to footpath levels	•		Ramping is located only at lobby entries and the entry to the site link for equitable access.
		Durable, graffiti resistant and easily cleanable materials should be used	•		Entry points are visible and well exposed to passive surveillance from the ‘New Road Link’. Predominantly glazed lobby perimeter wall will minimise graffiti and vandalism.
		Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: · Street access, pedestrian paths and building entries which are clearly defined · Paths, low fences and plating that clearly delineate between communal/private open space and the adjoining public open space · Minimal use of blank walls, fences and ground level parking	•		The proposal provides a approx 3m wide colonnade along John Tipping Grove in anticipation of contemplated future development to John Tipping Grove as public open space. The colonnade is directly adjacent to ground level commercial component of the development. The commercial tenancies and site through link will provide an active edge between High St and Union Rd.
		On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking	•		The carpark that protrudes from the site on the north eastern corner by 640mm and 850mm above ground on the south western corner of the site and is incorporated in the landscape by planting and a colonnade.
3D	**Communal and public open space**				
	3D–1	**An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Communal open space has a minimum area equal to 25% of the site	•		The proposed communal open space area equates to 25.9% of the reduced site area. The reduced site area means the existing site area less the portion of the site dedicated to New Road Link.
		Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter)	•		The proposed development exceeds the minimum 50% direct sunlight for a minimum of 2 hours to the principal usable part of the communal open space.
		Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions	•		Refer to Level 4 Plan and Landscape Architects Plan.
		Communal open space should be co-located with deep soil areas		•	Communal open space is provided at the level 4 podium, therefore deep soil areas are located at ground level along the 'New Access Link' Southern section.
		Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies	•		All communal open space is provided with equitable access from the level 4 lobbies of Buildings 1 and 2.
		Where communal open space cannot be provided at ground level, it should be provided on a podium or roof	•		Communal open space is provided at podium level 4
		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: · provide communal spaces elsewhere such as a landscaped roof top terrace or a common room · provide larger balconies or increased private open space for apartments · demonstrate good proximity to public open space and facilities and/or provide contributions to public open space			N/A
	3D–2	**Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting**			
		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: · seating for individuals or groups · barbecue areas · play equipment or play areas · swimming pools, gyms, tennis courts or common rooms	•		The design has a defined relationship of communal space and communal open space. A substantial communal room has been provided various landscaped break-out and seating areas equipped with BBQ area, a swimming pool, shaded pergola seating area, gymnasium and lawn area has been provided to allow for rich interaction of various age groups. Refer to architectural and landscape plans.
		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	•		The orientation of the communal open space will allow a mix of sun and shade during the seasons. Covered areas have been provided and at the corners of the building with high wind long term uses have been avoided.
		Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	•		The location of services has been designed to minimise visual impact from communal open space and from public domain. The grilles, outlets and similar have been designed to be located near vehicular access ramps, rear boundary or such as to be directed away from communal open space. Kiosk Sub-station is in close proximity to driveway, and every effort has been made to embellish it through use of landscape and treat it architecturally with screening at the same time minimising potential visual impact.
	3C–3	**Communal open space is designed to maximise safety**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		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: · bay windows · corner windows · balconies	•		Majority of apartments will satisfy this guideline.
		Communal open space should be well lit	•		Refer to landscape plans
		Where communal open space/facilities are provided for children and young people they are safe and contained	•		Landscape barriers combined with raised seating walls enable contained activity zones. Refer to proposed landscape design.
	3D–4	**Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood**			
		The public open space should be well connected with public streets along at least one edge	•		The site-through link is well connects Union Lane and John Tipping Grove (JTG) allowing on grade access to the 'New Road'. The colonnade surrounding the commercial space provides an active, well connected interface to the public domain along JTG.
		The public open space should be connected with nearby parks and other landscape elements	•		
		Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid	•		Complies
		Solar access should be provided year round along with protection from strong winds	•		
		Opportunities for a range of recreational activities should be provided for people of all ages	•		BBQ's areas are being provided for groups, as well as sitting for quiet contemplation.
		A positive address and active frontages should be provided adjacent to public open space	•		Active frontages adjacent the through site link are provided.
		Boundaries should be clearly defined between public open space and private areas	•		Boundaries along the western and southern side will be raised and treated with planting and a balustrade, with ramping and stairs up to the commercial space for equitable access. The eastern side will be provided with graded footpath access.
3E	**Deep soil zones**				
	3E–1	**Deep soil zones provide areas on the site that allow for and support healthy plant tree growth. They improve residential amenity and promote management of water and air quality**			
		Deep soil zones are to meet the following minimum requirements.	•		· The proposed development provides basement parking to reduce the impact of above ground parking, the entire ground floor is dedicated to active commercial uses and presents a hard urban edge generally to boundary. A large component of the site is given back to public road, given the limited scope for deep soil the site dedicates **5%** of existing site area to deep soil space.

Site area	Minimum dimensions	Deep soil zone (% of site area)
Less than 650m²	–	7%
650m² – 1,500m²	3m	
Greater than 1,500m²	6m	
Greater than 1,500m² with significant existing cover	6m	

		On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: · 10% of the site as deep soil on sites with an area of 650m² – 1,500m² · 15% of the site as deep soil on sites greater than 1,500m²			N/A

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		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: · basement and sub-basement car park design that is consolidated beneath building footprints · use of increased front and side setbacks · adequate clearance around trees to ensure long term health · co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil	•		Large deep soil zones have been provided by keeping the basement design to the building footprint as well as utilise some side setbacks.
		Achieving the design criteria may not be possible on some sites including where: · 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) · There is 100% site coverage or non-residential uses at ground floor level · 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–1	**Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy**			
		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: **Building Height** / **Habitable Room and Balconies** / **Non Habitable** Up to 12 (4 storeys) / 6m / 3m Up to 25m (5-8 storeys) / 9m / 4.5m Over 25m (9+ storeys) / 12m / 6m Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2) Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties	•		Complies - Refer to architectural plans.
		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	•		The built form is typically consistent with some stepping at the upper most levels to provide tower height variation and reduced shadowing impacts to neighbouring buildings.
		For residential buildings next to commercial buildings, separation distances should be measured as follows: · for retail, office spaces and commercial balconies use the habitable room distances · for service and plant areas use the non-habitable room distances			N/A
		New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include: · site layout and building orientation to minimise privacy impacts (see also section 3B Orientation) · on sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4)	•		
		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)			N/A
		Direct lines of sight should be avoided for windows and balconies across corners	•		
		No separation is required between blank walls	•		

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
	3F–2	**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**			
		Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include: · setbacks · solid or partially solid balustrades to balconies at lower levels · fencing and/or trees and vegetation to separate spaces · screening devices · bay windows or pop out windows to provide privacy in one direction and outlook in another · raising apartments/private open space above the public domain or communal open space · planter boxes incorporated into walls and balustrades to increase visual separation · pergolas or shading devices to limit overlooking of lower apartments or private open space · on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies	•		Provided on Level 4. 25.9% of the developable site area allowed for communal open space. Achieves minimum 2 hours of direct sun light. Landscape as well as fencing is provided as a buffer between private open space and communal open space and access paths.
		Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas	•		
		Balconies and private terraces should be located in front of living rooms to increase internal privacy	•		
		Windows should be offset from the windows of adjacent buildings	•		
		Recessed balconies and/or vertical fins should be used between adjacent balconies	•		
3G	**Pedestrian Access and Entries**				
	3G–1	**Building entries and pedestrian access connects to and address the public domain**			
		Multiple entries (including communal building entries and individual ground floor entries) are provided to activate the street edge	•		Proposed buildings are tower form and have individual entries articulated with architectural articulation and covered undercrofts, street edge is achieved through landscape design.
		Entry locations relate to the street and subdivision pattern and the existing pedestrian network	•		
		Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	•		
		Where street frontage is limited and multiple buildings are located on the site, a primary street address is provided with clear sight lines and pathways to secondary building entries			N/A
	3G–2	**Access, entries and pathways are equitable and easy to identify**			
		Building access areas including lift lobbies, stairwells and hallways are clearly visible from the public domain and communal spaces	•		Building lobbies are glazed and visible from the street. The lobbies are well articulated through the use of dramatic awnings and clearly visible from public domain.
		The design of ground floors and underground car parks minimise level changes along pathways and entries	•		On grade access provided to all lift lobbies.
		Steps and ramps are integrated into the overall building and landscape design	•		Refer to architectural plans and landscape design.
		For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3)			N/A
		For large developments electronic access and audio/video intercom should be provided to manage access			N/A
	3G–3	**Pedestrian links through developments provide access to streets and connect destinations**			
		Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport	•		A pedestrian site through link exists through the site in order to allow pedestrians to gain quick access from 'New Road' to John Tipping Grove.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		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	•		The pedestrian site through link is over looked by the ground floor commercial space and well lit. Secured at night time with gates.
3H	Vehicle Access				
	3H–1	**Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes**			
		Car park access is integrated with the building's overall facade, design solutions may include: · the materials and colour palette minimise visibility from the street · security doors or gates at entries that minimise voids in the facade · where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed	•		The car park entry is integrated well into the design of the podium elevations.
		Car park entries are located behind the building line	•		
		Vehicle entries are located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout	•		
		Car park entry and access is located on secondary streets or lanes where available	•		Car park entries have been located on the secondary street fronts along Union Road and the 'New Road Link' to keep the main pedestrian routes along High Street and John Tipping Grove clear of driveways.
		Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided	•		
		Access point locations avoid headlight glare to habitable rooms	•		
		Adequate separation distances are provided between vehicular entries and street intersections	•		
		The width and number of vehicle access points is limited to the minimum	•		Three vehicle access points have been provided. Two of these are for residnetial and visitor carparking, and third access point services the loading dock.
		Visual impact of long driveways is minimised through changing alignments and screen planting	•		Driveways have been designed to provide safe access and egress to and from the site. All driveways are complemented by landscape design and architectural articulation to minimise perceived visual impact .
		The requirement for large vehicles to enter or turnaround within the site is avoided	•		Pick up of garbage and manoeuvring with turntable occurs within the loading dock to eliminate large vehicles turning outside the building the site.
		Garbage collection, loading and servicing areas are screened	•		Garbage collection happens at ground level within the enclosed loading dock.
		Clear sight lines should be provided at pedestrian and vehicle crossings	•		Selected landscape species and architectural design maintains clear sight lines.
		Traffic calming devices such as changes in paving material or textures should be used where appropriate	•		
		Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: · changes in surface materials · level changes · the use of landscaping for separation	•		Landscape is used to separate the pedestrian paths and the vehicle entry points

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
3J		**Bicycle and Car Parking**			
	3J–1	**Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas**			
		For development in the following locations: **– on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or** **– on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre** **The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less** **The car parking needs for a development must be provided off street**	•		Refer to traffic engineers report
		Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site			N/A Car share schemes are not operating in the near vicinity.
		Where less car parking is provided in a development, council should not provide on street resident parking permits			Noted
	3J–2	**Parking and facilities are provided for other modes of transport**			
		Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters	•		Motorcycle spaces are provided in the basement - refer to Traffic report.
		Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas	•		Secure undercover bicycle parking has been provided.
		Conveniently located charging stations are provided for electric vehicles, where desirable		•	There is ability to provide if desired.
	3J–3	**Car park design and access is safe and secure**			
		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	•		Garbage / plant /storage and switch rooms can be accessed without crossing car parking spaces, car wash bay are co-located on ground level.
		Direct, clearly visible and well lit access should be provided into common circulation areas	•		
		A clearly defined and visible lobby or waiting area should be provided to lifts and stairs	•		
		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	**Visual and environmental impacts of underground car parking are minimised**			
		Excavation should be minimised through efficient car park layouts and ramp design	•		
		Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles	•		
		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	•		
		Natural ventilation should be provided to basement and sub-basement car parking areas			
		Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	•		Careful design and choice of materials achieves good amenity. Refer to elevations.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
	3J–5	**Visual and environmental impacts of on-grade car parking are minimised**			
		On-grade car parking should be avoided	•		
		Where on-grade car parking is unavoidable, the following design solutions are used: · parking is located on the side or rear of the lot away from the primary street frontage · cars are screened from view of streets, buildings, communal and private open space areas · safe and direct access to building entry points is provided · parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space · stormwater run-off is managed appropriately from car parking surfaces · bio-swales, rain gardens or on site detention tanks are provided, where appropriate · 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
	3J–6	**Visual and environmental impacts of above ground enclosed car parking are minimised**			
		Exposed parking should not be located along primary street frontages	•		A combination of basement and podium parking is provided. The majority of the parking is located within the basements, the above ground parking is typically sleeved with apartments on the major street frontages incuding High Street & Union Rd. Where above ground parking is exposed an architectural design and choice of quality finishes integrate above ground carpark seamlessly into overall design.
		Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: · car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) · 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)	•		Design features such as planting and robust screening minimise visual impact and soften visual perception of the above ground parking. Solid pre-cast facade minimise visual and acoustic intrusion. Parking is setback from building facade.
		Positive street address and active frontages should be provided at ground level	•		
4	**DESIGNING THE BUILDING**				
4A	**Solar and daylight access**				
	4A–1	**To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space**			
		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 government areas	•		a minimum 70% is achieved with 2hrs solar to living and balcony areas.
		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
		3. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter	•		
		The design maximises north aspect and the number of single aspect south facing apartments is minimised	•		Most apartments maximise on the east – west and northerly orientations, therefore south aspect facing apartments have been minimised.
		Single aspect, single storey apartments should have a northerly or easterly aspect	•		Generally complies

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Living areas are best located to the north and service areas to the south and west of apartment	•		Generally complies
		To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used: · dual aspect apartments · shallow apartment layouts · two storey and mezzanine level apartments · bay windows	•		Large number of apartments have dual aspect.
		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	•		
		Achieving the design criteria may not be possible on some sites. This includes: · where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source · on south facing sloping sites · where significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective			N/A
	4A–2	**Daylight access is maximised where sunlight is limited**			
		Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	•		Skylights provided to top level apartments as a secondary light source.
		Where courtyards are used: · use is restricted to kitchens, bathrooms and service areas · building services are concealed with appropriate detailing and materials to visible walls · courtyards are fully open to the sky · access is provided to the light well from a communal area for cleaning and maintenance · acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved	•		
		Opportunities for reflected light into apartments are optimised through: · reflective exterior surfaces on buildings opposite south facing windows · positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light · integrating light shelves into the design · light coloured internal finishes	•		
	4A–3	**Design incorporates shading and glare control, particularly for warmer months**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		A number of the following design features are used: · balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas · shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting · horizontal shading to north facing windows · vertical shading to east and particularly west facing windows · operable shading to allow adjustment and choice · 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)	•		A number of design features have been incorporated to meet the requirements of BCA and to achieve BASIX compliance.
4B	Natural Ventilation				
	4B–1	**All habitable rooms are naturally ventilated**			
		The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms	•		Large number of apartments have dual aspect.
		Depths of habitable rooms support natural ventilation	•		Majority of apartments have shallow apartment layouts.
		The area of unobstructed window openings should be equal to at least 5% of the floor area served	•		
		Light wells are not the primary air source for habitable rooms	•		No light wells used.
		Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: · adjustable windows with large effective openable areas · a variety of window types that provide safety and flexibility such as awnings and louvres · windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors	•		Use of large sliding doors, complimented by use of smaller mix of awning and sliding windows is proposed throughout the project.
	4B–2	**The layout and design of single aspect apartments maximises natural ventilation**			
		Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3)	•		
		Natural ventilation to single aspect apartments is achieved with the following design solutions: · primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) · stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries · 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	**The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents**			
		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		•	A minimum of 60% of apartments achieve cross ventilation.
		2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line			N/A
		The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths	•		Majority of apartments a dual aspect.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		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)	•		Majority of units listed as achieving natural cross-ventilation have openings that are equal to that of the inlet and outlet side.
		Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow	•		
		Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	•		
4C	Ceiling heights				
	4C–1	**Ceiling height achieves sufficient natural ventilation and daylight access**			
		Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	•		Habitable rooms are 2.7m ceiling height and non-habitable are 2.4m

Minimum ceiling height for apartment and mixed use buildings	
Habitable rooms	2.7m
Non-habitable rooms	2.4m
For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its apartment area does not exceed 50% of the apartment area
Attic spaces	1.8m at edge of room with a 30 people degree minimum ceiling slope
If located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use

		These minimums do not preclude higher ceilings if desired			
		Ceiling height can accommodate use of ceiling fans for cooling and heat distribution	•		
	4C–2	**Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms**			
		A number of the following design solutions can be used: · 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 · Well-proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings · 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	**Ceiling heights contribute to the flexibility of building use over the life of the building**			
		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)	•		

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
4D		Apartment size and layout			
	4D–1	**The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity**			
		1. Apartments are required to have the following minimum internal areas: Apartment Type: Studio — Minimum Internal Area: 35m² 1 bedroom — 50m² 2 bedroom — 70m² 3 bedroom — 90m² **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 achieve the minimum areas refer architectural plans
		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	•		
		Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space)	•		
		A window should be visible from any point in a habitable room	•		
		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	**Environmental performance of the apartment is maximised**			
		1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height			N/A Open plan layouts throughout.
		2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	•		
		Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maxi-mum depths			N/A Min required ceiling height provided
		All living areas and bedrooms should be located on the external face of the building	•		
		Where possible: · bathrooms and laundries should have an external openable window · main living spaces should be oriented toward the primary outlook and aspect and away from noise sources	•		
	4D–3	**Apartment layouts are designed to accommodate a variety of household activities and needs**			
		1. Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space)	•		
		2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	•		

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		3. Living rooms or combined living/dining rooms have a minimum width of: 3.6m for studio and 1 bedroom apartments 4m for 2 and 3 bedroom apartments	•		
		4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	•		
		Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas	•		
		All bedrooms allow a minimum length of 1.5m for robes	•		
		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	•		
		Apartment layouts allow flexibility over time, design solutions may include: · dimensions that facilitate a variety of furniture arrangements and removal · spaces for a range of activities and privacy levels between different spaces within the apartment · dual master apartments · 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 · room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) · efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms	•		
4E	Private Open Space and Balconies				
4E–1	**Apartments provide appropriately sized private open space and balconies to enhance residential amenity**				
		All apartments are required to have primary balconies as follows: Dwelling Type: Studio Apartments — Minimum Area: 4m² — Minimum Depth: - Dwelling Type: 1 bedroom apartments — Minimum Area: 8m² — Minimum Depth: 2m Dwelling Type: 2 bedroom apartments — Minimum Area: 10m² — Minimum Depth: 2m Dwelling Type: 3+ bedroom apartments — Minimum Area: 12m² — Minimum Depth: 2.4m **The minimum balcony depth to be counted as contributing to the balcony area is 1m**	•		
		For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a bal-cony. It must have a minimum area of 15m² and a minimum depth of 3m	•		
		Increased communal open space should be provided where the number or size of balconies are reduced	•		The communal open space has been enhanced to address the needs of the residents.
		Storage areas on balconies is additional to the minimum balcony size			N/A

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Balcony use may be limited in some proposals by: · consistently high wind speeds at 10 storeys and above · close proximity to road, rail or other noise sources · exposure to significant levels of aircraft noise · heritage and adaptive reuse of existing buildings In these situations, Juliet balconies, operable walls, enclosed winter gardens 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			N/A
	4E–2	**Primary private open space and balconies are appropriately located to enhance liveability for residents**			
		Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space	•		
		Private open spaces and balconies predominantly face north, east or west	•		
		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	•		
	4E–3	**Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building**			
		Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are de-signed 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	•		Solid balustrades dominate the design glass balustrades located to take advantage of preferred views.
		Full width full height glass balustrades alone are generally not desirable	•		The design incorporates a combination of glass and solid balconies throughout the development, facades ae generally optimised for shading, amenity and outlook.
		Projecting balconies should be integrated into the building design and the design of soffits considered	•		The balconies are completely integrated and form part of the façade design.
		Operable screens, shutters, hoods and pergolas are used to control sunlight and wind	•		
		Balustrades are set back from the building or balcony edge where overlooking or safety is an issue	•		
		Downpipes and balcony drainage are integrated with the overall facade and building design	•		Downpipes and balcony drainage cast in columns where possible or concealed within the facade.
		Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design	•		Condenser units located on balconies are screened to integrate into the building design.
		Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and inte-grated in the building design	•		A/C units located eother in concealed plant rooms, or on balconies where they can be setback from the facade and are not visibile from the public domain.
		Ceilings of apartments below terraces should be insulated to avoid heat loss	•		Thermal insulation provided to top level apartments.
		Water and gas outlets should be provided for primary balconies and private open space	•		Larger balconies that have access to landcape planters are provided with water points, and communal open space provides taps and BBQ areas for residents.
	4E–4	**Private open space and balcony design maximises safety**			
		Changes in ground levels or landscaping are minimised	•		
		Design and detailing of balconies avoids opportunities for climbing and falls	•		
4F	Common Circulation and Spaces				
	4F–1	**Common circulation spaces achieve good amenity and properly service the number of apartments**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		1. The maximum number of apartments off a circulation core on a single level is eight	•		Building 1 complies which has 8 apartments per lift core. Building 2 has 9 apartments per plate, this is acceptable given therare are 4 lifts in two banks provided for the main tower.
		2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40		•	Building 1 - 87 units serviced by 2 lifts. Building 2 - 270 units serviced by 4 lifts. The number of lifts provided to each tower has been supported by the services engineers. A statement to this has been provided.
		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	•		
		Daylight and natural ventilation should be provided to all common circulation spaces that are above ground	•		Corridors are naturally lit.
		Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors	•		Openable windows are provided to corridors.
		Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: · a series of foyer areas with windows and spaces for seating · wider areas at apartment entry doors and varied ceiling heights			N/A
		Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments	•		The majority of apartments are dual aspect/ corner apartments
		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: · sunlight and natural cross ventilation in apartments · access to ample daylight and natural ventilation in common circulation spaces · common areas for seating and gathering · generous corridors with greater than minimum ceiling heights · other innovative design solutions that provide high levels of amenity			N/A
		Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level			N/A
		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 con-trolled	•		
	4F–2	**Common circulation spaces promote safety and provide for social interaction between residents**			
		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	•		
		Tight corners and spaces are avoided	•		
		Circulation spaces should be well lit at night	•		
		Legible signage should be provided for apartment numbers, common areas and general wayfinding	•		
		Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	•		
		In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space	•		Communal room located adjacent and with direct access to communal open space.
		Where external galleries are provided, they are more open than closed above the balustrade along their length			N/A

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
4G	Storage				
	4G–1	**Adequate, well designed storage is provided in each apartment**			
		In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:	•		
		Dwelling type: Studio apartments — Storage size: 4m3 1 bedroom apart-ments — 6m3 2 bedroom apart-ments — 8m3 3 bedroom apart-ments — 10m3			
		At least 50% of the required storage is to be located within the apartment			
		Storage is accessible from either circulation or living areas	•		
		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			N/A
		Left over space such as under stairs is used for storage			N/A
	4G–2	**Additional storage is conveniently located, accessible and nominated for individual apartments**			
		Storage not located in apartments is secure and clearly allocated	•		
		Storage is provided for larger and less frequently accessed items, where practical	•		Storage cages are located in the basement parking levels for larger storage items.
		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	•		Storage will not be designed to impede the car parking spaces.
		If communal storage rooms are provided they should be accessible from common circulation areas of the building			N/A
		Storage not located in an apartment is integrated into the overall building design and not visible from the public domain	•		Additional storage is located in the basement parking levels.
4H	Acoustic Privacy				
	4H–1	**Noise transfer is minimised through the siting of buildings and building layout**			
		Adequate building separation is provided within the development and from neighbouring buildings / adjacent uses (also see section 2F Building separation and section 3F Visual Privacy)	•		
		Window and door openings are generally orientated away from noise sources	•		
		Noisy areas within buildings including building entries and corridors are located next to or above each other and quieter areas next to or above quieter areas	•		
		Storage, circulation areas and non-habitable rooms are located to buffer noise from external sources	•		
		The number of party walls (walls shared with other apartments) are limited and are appropriately insulated	•		
		Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equip-ment, active communal open spaces and circulation areas are located at least 3m away from bedrooms	•		
	4H–2	**Noise impacts are mitigated through internal apartment layout and acoustic treatments**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: · rooms with similar noise requirements are grouped together · doors separate different use zones · wardrobes in bedrooms are co-located to act as sound buffers	•		
		Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: · double or acoustic glazing · acoustic seals · use of materials with low noise penetration properties · continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	•		
4J	Noise and Pollution				
	4J–1	**In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings**			
		To minimise impacts the following design solutions may be used: · physical separation between buildings and the noise or pollution source · residential uses are located perpendicular to the noise source and where possible buffered by other uses · 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 · 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 · Buildings should respond to both solar access and noise. Where solar access is away from the noise source, nonhabitable rooms can provide a buffer · 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) · Landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry	•		
		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: · solar and daylight access · private open space and balconies · natural cross ventilation			N/A
	4J–2	**Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission**			
		Design solutions to mitigate noise include: · limiting the number and size of openings facing noise sources · providing seals to prevent noise transfer through gaps · using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens) · using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits	•		Refer to acoustic report.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
4K	Apartment Mix				
	4K–1	**A range of apartment types and sizes is provided to cater for different household types now and into the future**			
		A variety of apartment types is provided	•		1 Bed (+ Study) / 2 Bed (+ Study) / 3 Bed
		The apartment mix is appropriate, taking into consideration: · the distance to public transport, employment and education centres · the current market demands and projected future demographic trends · the demand for social and affordable housing · different cultural and socioeconomic group	•		1 Bed = 30% 2 Bed = 60% 3 Bed = 10%
		Flexible apartment configurations, such as dual key apartments, are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households	•		
	4K–2	**The apartment mix is distributed to suitable locations within the building**			
		Different apartment types are located to achieve successful facade composition and to optimise solar access. See figure 4A.3	•		
		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	•		
4L	Ground Floor Apartments				
	4L–1	**Street frontage activity is maximised where ground floor apartments are located**			
		Direct street access should be provided to ground floor apartments			N/A
		Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: · both street and foyer entrances to ground floor apartments · private open space is next to the street · doors and windows face the street			N/A
		Retail or home office spaces are located along street frontages			N/A
		Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for con-version into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion			N/A
	4L–2	**Design of ground floor apartments delivers amenity and safety for residents**			
		Privacy and safety is provided without obstructing causal surveillance. Design solutions may include: · elevation of private gardens and terraces above the street level by 1m – 1.5m (see Figure 4L.4) · landscaping and private courtyards · window sill heights that minimise sight lines into apartments · integrating balustrades, safety bars or screens with the exterior design			N/A
		Solar access is maximised through: · high ceilings and tall windows · trees and shrubs that allow solar access in winter and shade in summer			N/A
4M	Facades				
	4M–1	**Building facades provide visual interest along the street respecting the character of the local area**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Design solutions for front building facades may include: · A composition of varied building elements · A defined base, middle and top of the buildings · Revealing and concealing certain elements · Changes in texture, material, detail and colour to modify the prominence of elements	•		The textures of the facade material change through podium and tower with setbacks to the towers. There is variety between the 2 towers through colour, textures and materials. The podium allows for deep facade articulation.
		Building services should be integrated within the overall façade	•		Downpipes will not be visible along with condensers that are to be hidden on the roof and behind solid balustrades on balconies.
		Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: · Well composed horizontal and vertical elements · Variation in floor heights to enhance the human scale · Elements that are proportional and arranged in patterns · Public artwork or treatments to exterior blank walls · Grouping of floors or elements such as balconies and windows on taller buildings	•		The four storey podium facing the streets provides appropriate human scale for users of the nearby streets, awnings further enhance the human scale placing a more intimate setting, this is further enhanced with setbacks to the towers and landscaping to the podium to soften the building edge.
		Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	•		
		Shadow is created on the façade throughout the day with building articulation, balconies and deeper window reveals	•		A play of shadows can be seen through the screens and fins.
	4M–2	**Building functions are expressed by the façade**			
		Building entries should be clearly defined	•		Formal and material breaks in the façade highlight where the building entries exist, with sculptured awnings for clear identification
		Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height	•		
		The apartment layout should be expressed externally through façade features as party walls and floor slabs	•		
4N	Roof Design				
	4N–1	**Roof treatments are integrated into the building design and positively respond to the street**			
		Roof design relates to the street. Design solutions may include: · Special roof features and strong corners · Use of skillion or very low pitch hipped roofs · Breaking down the massing of the roof by using smaller elements to avoid bulk · Using materials or a pitched form complementary to adjacent buildings	•		Significant landscaping has been allowed to soften the roof line of the podium.
		Roof treatments should be integrated with the building design. Design solutions may include: · Roof design proportionate to the overall building size, scale and form · Roof materials complement the building · Service elements are integrated	•		Flat roofs are used throughout
	4N–2	**Opportunities to use roof space for residential accommodation and open space are maximised**			
		Habitable roof space should be provided with good levels of amenity. Design solutions may include: · Penthouse apartments · Dormer or clerestory windows · Openable skylights	•		Roof lights have been incorporated to the top floor apartments.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	•		Open space is provided to Level 4 podium
	4N–3	**Roof design incorporates sustainability features**			
		Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: · The roof lifts to the north · Eaves and overhangs shade walls and windows from summer sun	•		Overhangs and deep balconies shade the walls in the summer
		Skylights and ventilation systems should be integrated into the roof design	•		
4O	**Landscape Design**				
	4O–1	**Landscape design is viable and sustainable**			
		Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: · Diverse and appropriate planting · Bio-filtration gardens · Appropriately planted shading trees · Areas for residents to plant vegetables and herbs · Composting · Green roofs or walls	•		Refer to landscape design.
		Ongoing maintenance plans should be prepared	•		Refer to landscape design.
		Microclimate in enhanced by: · Appropriately scaled trees near the eastern and western elevations for shade · A balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter · Shade structures such as pergolas for balconies and courtyards	•		Refer to landscape design.
		Tree and shrub selection considers size at maturity and the potential for roots to complete (see table 4)	•		Refer to landscape design.
	4O–2	**Landscape design contributes to the streetscape and amenity**	•		Refer to landscape design.
		Landscape design responds to the existing site conditions including: · Changes of levels · Views · Significant landscape features including trees and rock outcrops	•		Refer to landscape design.
		Significant landscape features should be protected by: · Tree protection zones (see figure 40.5) · Appropriate signage and fencing during construction	•		Refer to landscape design.
		Plants selected should be endemic to the region and reflect the local ecology	•		Refer to landscape design.
4P	**Planting on Structures**				
	4P–1	**Appropriate soil profiles are provided**			
		Structures are reinforced for additional saturated soil weight	•		Refer to landscape design.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Soil volume is appropriate for plant growth, considerations include: · Modifying depths and widths according to the planting mix and irrigation frequency · Free draining and long soil life span · Tree anchorage	•		Refer to landscape design.
		Minimum soil standards for plant sizes should be provided in accordance with Table 5	•		Refer to landscape design.
	4P–2	**Plant growth is optimised with appropriate selection and maintenance**			
		Plants are suited to site conditions, considerations include: · Drought and wind tolerance · Seasonal changes in solar access · Modified substrate depths for diverse range of plants · Plant longevity	•		Refer to landscape design.
		A landscape maintenance plan is prepared	•		Refer to landscape design.
		Irrigation and drainage systems respond to : · Changing site conditions · Soil profile and the planting regime · Whether rainwater, stormwater r recycled grey water is used	•		Refer to landscape design.
	4P–3	**Planting on structure contributes to the quality and amenity of communal and public open spaces**			
		Building design incorporates opportunities for planting on structures. Design solutions may include: · Green walls with specialised lighting for indoor green walls · All design that incorporates planting · Green roofs, particularly where roofs are visible form public domain · Planter boxes Note: structures designed to accommodate green walls should be integrated into the building façade and consider the ability of the façade to change over time	•		Refer to landscape design.
4Q	Universal Design				
	4Q–1	**Universal design features are included in apartment design to promote flexible housing for all community members**			
		Developments achieve a benchmark of 20% of the total apartment incorporating the Liveable Housing Guideline's silver level universal design features	•		The proposed development has 20% of the apartments which are classed as Liveable Housing silver level universal standard.
	4Q–2	**A variety of apartments with adaptable designs are provided**			
		Adaptable housing should be provided in accordance with the relevant council policy	•		The proposed development has allowed for 10% of the apartments to be adaptable.
		Design solutions for adaptable apartments include: · Convenient access to communal and public areas · High level of solar access · Minimal structural change and residential amenity loss when adapted · Larger car parking spaces for accessibility · Parking titled separately from apartments or shared car parking arrangements	•		

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
	4Q–3	**Apartment layouts are flexible and accommodate a range of lifestyle needs**			
		Apartments design incorporates flexible design solutions which may include: · Rooms with multiple functions · Dual master bedroom apartments with separate bathrooms · Larger apartments with various living space options · Open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom	•		
4R	Adaptive Reuse				
	4R–1	**New additional to existing buildings are contemporary and complementary and enhance an area's identity and sense of place**			
		Design solutions may include: · New elements to align with the existing building · Additions that complement the existing character, siting, scale, proportion, pattern form and detailing · Use of contemporary and complementary materials, finishes, textures and colours			N/A
	4R–2	**Adapted buildings provide residential amenity while not precluding future adaptive reuse**			
		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: · Generously sized voids in deeper buildings · Alternative apartment types when orientation is poor · Using additions to expand the existing building envelope			N/A
		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: · 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 an daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation) · Alternatives to providing deep soil where less than the minimum requirement is currently available on the site · Building and visual separation – subject to demonstrating alternative design approaches to achieving privacy · Common circulation · Car parking · Alternative approaches to private open space and balconies			N/A
4S	Mixed Use				
	4S–1	**Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement**			
		Mixed use development should be concentrated around public transport and centres	•		
	4S–2	**Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents**			
		Residential circulation areas should be clearly defined. Design solutions may include: · Residential entries are separated from commercial entries and directly accessible from the street · Commercial service areas are separated from residential components · Residential car parking and communal facilities are separated or secured · Concealment opportunities are avoided	•		

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		Landscape communal open space should be provided at podium or roof levels	•		Communal open space provided at podium level.
4T	Awnings and Signage				
	4T–1	**Awnings are well located and complement and integrate with the building design**			
		Awnings should be located along streets with high pedestrian activity and active frontages	•		Awnings are located along all retail and active frontages.
		A number of the following design solutions are used: · Continuous awnings are maintained and provided in areas with existing pattern · Height, depth, material and form complements the existing street character · Protection from the sun and rain is provided · Awnings are wrapped around the secondary frontages of corner sites · Awnings are retractable in areas without an established pattern	•		
		Awnings should be located over building entries for building address and public domain amenity	•		
		Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure	•		
		Gutters and down pipes should be integrated and concealed	•		
		Lighting under awnings should be provided for pedestrian safety	•		
	4T–2	**Signage responds to the context and desired streetscape character**			
		Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development	•		
		Legible and discrete way finding should be provided for larger developments	•		
		Signage is limited to being on and below awnings and in single façade sign on the primary street frontage	•		
4U	Energy Efficiency				
	4U–1	**Development incorporates passive environmental design**			
		Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)	•		
		Well located, screened outdoor areas should be provided for clothes drying	•		Where possible solid balcony upstands have been provided to allow balcony drying facilities to be screened from the public domain. Dryers are provided to all apartments to reduce the requirement for balcony drying facilities.
	4U–2	**Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer**			
		A number of the following design solutions are used: · The use of smart glass or other technologies on north and west elevations · Thermal mass in the floors and walls of north facing rooms in maximised · Polished concrete floor, tiles, or timber rather than carpet · Insulated roofs, walls and floors and seals on window and door openings · Overhangs and shading devices such as awnings, blinds and screens	•		Performance glass is used to reduce solar heat gain.
		Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)		•	Condenser units to balconies. All AC units are hidden from street view behind balustrades and screens.
	4U–3	**Adequate natural ventilation minimises the need for mechanical ventilation**			

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		A number of the following design solution are used: · Rooms with similar usage are grouped together · Natural cross ventilation for apartments is optimised · Natural ventilation is provided to all inhabitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible	•		
4V	Water Management and Conservation				
	4V–1	**Potable water use is minimised**			
		Water efficient fittings, appliances and wastewater reuse should be incorporated	•		Refer BASIX certificate
		Apartments should be individually metered	•		
		Rainwater should be collected, stored and reused on site	•		Refer BASIX certificate
		Drought tolerant, low water use plants should be used within landscaped areas	•		Refer landscape design
	4V–2	**Urban stormwater is treated on site before being discharged to receiving waters**			
		Water sensitive urban design systems are designed by a suitably qualified professional	•		
		A number of the following design solutions are used: · Runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation · Porous and open paving materials is maximised · On site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits	•		refer to landscape
	4V–3	**Flood management systems are integrated into site design**			
		Detention tanks should be located under paved areas, driveways or in basement car parks	•		Detention tanks are located in Building 1 on ground level.
		On large sites parks or open spaces are designed to provide temporary on site detention basins			N/A
4W	Waste Management				
	4W–1	**Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents**			
		Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park	•		Storage of rubbish bins is located within the ground level loading dock of Building 1.
		Waste and recycling storage areas should be well ventilated	•		Garbage exhausts allow for well ventilated waste and recycling storage areas.
		Circulation design allows bins to be easily manoeuvred between storage and collection points	•		All garbage rooms provide adequate space and circulation for the manoeuvring of bins. Waste Room for Building 2 is located in the basement with provision for bins to be transported up to the loading dock/ holding bay via the goods lift for collection.
		Temporary storage should be provided for large bulk items such as mattresses	•		A bulky items storage room, that is separate from the waste rooms, has been provided on ground level.
		A waste management plan should be prepared	•		Refer waste management plan
	4W–2	**Domestic waste is minimised by providing safe and convenient source separation and recycling**			
		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	•		Kitchens will incorporate waste storage in the layout which will then be taken to the waste chutes in the shared lobbies.
		Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core	•		There are two chutes per lift core; one for garbage and one for recycling.

ADG response table

Part No.	Objective No.	Objective Design criteria Design guidance	Complies Yes	Complies No	Notes
		For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses			N/A
		Alternative waste disposal methods such as composting should be provided	•		This will be up to the body corporate to include as they see fit
4X	Building Maintenance				
	4X–1	**Building design detail provides protection from weathering**			
		A number of the following design solutions are used: · Roof overhangs to protect walls · Hoods over windows and doors to protect openings · Detailing horizontal edges with drip lines to avoid staining of surfaces · Methods to eliminate or reduce planter box leaching · Appropriate design and material selection for hostile locations	•		
	4X–2	**Systems and access enable ease of maintenance**			
		Window design enables cleaning from the inside of the building	•		
		Building maintenance systems should in incorporated and integrated into the design of the building form, roof and façade	•		
		Design solutions do not require external scaffolding for maintenance access	•		Roof anchors provided to the roof to allow external cleaning of windows.
		Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems	•		
		Centralised maintenance, services and storage should be provided for communal open space areas within the building	•		
	4X–3	**Material selection reduces ongoing maintenance costs**			
		A number of the following design solutions are used: · Sensors to control artificial lighting in common circulation and spaces · Natural materials that weather well and improve with time such as face brickwork · Easily cleaned surfaces that are graffiti resistant · Robust and durable materials and finished are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	•		

Site Analysis Checklist

4

Documentation	Required information	Provided	
		Yes	No
Site location	Broad map or aerial photo showing site location in relation to surrounding centres, shops, civic/community facilities and transport	•	
Aerial photograph	Colour aerial photographs of site in its context	•	
Local context plan	Plan(s) of the existing features of the wider context including adjoining properties and the other side of the street, that show:		
	· pattern of buildings, proposed building envelopes, setbacks and subdivision pattern	•	
	· land use and building typologies of adjacent and opposite buildings in the street	•	
	· movement and access for vehicles, servicing, pedestrians and cyclists	•	
	· topography, landscape, open spaces and vegetation	•	
	· significant views to and from the site	•	
	· significant noise sources in the vicinity of the site, particularly vehicular traffic, train, aircraft and industrial noise	•	
Site context and survey plan	Plan(s) of the existing site based on a survey drawing showing the features of the immediate site including:		
	· boundaries, site dimensions, site area, north point	•	
	· topography, showing relative levels and contours at 0.5 metre intervals for the site and across site boundaries where level changes exist, any unique natural features such as rock outcrops, watercourses, existing cut or fill, adjacent streets and sites	•	
	· location and size of major trees on site and relative levels where relevant, on adjacent properties and street trees	•	
	· location and use of existing buildings or built features on the site	•	
	· location and important characteristics of adjacent public, communal and private open spaces	•	
	· location and height of existing windows, balconies, walls and fences on adjacent properties facing the site, as well as parapet and ridge lines	•	
	· pedestrian and vehicular access points, driveways and features such as service poles, bus stops, fire hydrants etc.	•	
	· location of utility services, including easements and drainage	•	
	· location of any other relevant features	•	

Documentation	Required information	Provided	
		Yes	No
Streetscape elevations and sections	Photographs or drawings of the site in relation to the streetscape and along both sides of any street that the development fronts, that show:		
	· overall height (storeys, metres) and important parapet/datum lines of adjacent buildings	•	
	· patterns of building frontage, street setbacks and side setbacks	•	
	· planned heights	•	
Analysis	Plan that synthesises and interprets the context, streetscape and site documentation into opportunities and constraints that generate design parameters, including the following information:		
	· orientation and any overshadowing of the site and adjoining properties by neighbouring structures (excludes vegetation). The winter sun path should also be shown between 9 am and 3 pm on 21 June	•	
	· identification of prevailing wind	•	
	· the geotechnical characteristics of the site and suitability of the proposed development	•	
	· the public domain interface and street setback	•	
	· relationship to and interface with adjacent properties, including side and rear setbacks	•	
	· ventilation for the subject site and immediate neighbours	•	
	· proposed building footprint location	•	
	· retained and proposed significant trees and deep soil zones	•	
	· proposed communal open space	•	
	· proposed car park footprint and depth	•	
	· proposed building entries	•	
	· supporting written material - this should include technical advice from specialists involved in the development process including landscape architects, arborists, geotechnical engineers and/or contamination specialists where applicable	•	

Development Application Checklist

5

Documentation	Required information	Provided	
		Yes	No
Development details	A summary document that provides the key details of the development proposal. It contains information such as the:		
	· floor space ratio of the development	•	
	· number, mix, size and accessibility of apartments	•	
	· number of car parking spaces for use (residential, retail, accessible, visitor etc.)	•	
	· percentage of cross ventilation and daylight compliance	•	
Statement of Environmental Effects	In addition to the consent authorities requirements:		
	· An explanation of the design in terms of the design quality principles set out in Schedule 1 of State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development	•	
	· If the proposed development is within an area where the built form and density is changing, statements about how the proposed development responds to the existing context and contributes to desired future character of the area	•	
	· Description of how the proposed development achieves the relevant objectives and design criteria of the Apartment Design Guide	•	
Site analysis	Prepared consistent with Appendix 1 of the Apartment Design Guide	•	
Site plan	A scale drawing showing:		
	· any proposed site amalgamation or subdivision	N/A	
	· location of any proposed buildings or works in relation to setbacks, building envelope controls and building separation dimensions	•	
	· proposed finished levels of land in relation to existing and	•	
	· proposed buildings and roads	•	
	· pedestrian and vehicular site entries and access	•	
	· interface of the ground floor plan with the public domain and	•	
	· with open spaces within the site	•	
	· areas of communal open space and private open space	•	
	· indicative locations of planting and deep soil zones including retained or proposed significant trees	•	
Landscape plan	A scale drawing showing:		
	· the building footprint of the proposal including pedestrian, vehicle and service access	•	
	· trees to be removed shown dotted	•	
	· trees to remain with their tree protection zones (relative to the proposed development)	•	
	· deep soil zones and associated tree planting	•	
	· areas of planting on structure and soil depth	•	
	· proposed planting including species and size	•	
	· details of public space, communal open space and private open space	•	
	· external ramps, stairs and retaining wall levels	•	
	· security features and access points	•	
	· built landscape elements (fences, pergolas, walls, planters and water features)	•	
	· ground surface treatment with indicative materials and finishes	•	
	· site lighting	•	
	· water management and irrigation concept design	•	
	· external ramps, stairs and retaining wall levels	•	
Floor plans	A scale drawing showing:		
	· all levels of the building including roof plan	•	
	· layout of entries, circulation areas, lifts and stairs, communal spaces, and service rooms with key dimensions and RLs shown	•	
	· apartment plans with apartment numbers and areas, all fenestration, typical furniture layouts for each apartment type, room dimensions and intended use and private open space dimensions	•	
	· accessibility clearance templates for accessible units and common spaces	•	
	· visual privacy separation shown and dimensions where necessary	•	
	· vehicle and service access, circulation and parking	•	
	· storage areas	•	
Elevations	· A scale drawing showing:		
	· proposed building height and RL lines	•	
	· building height control	•	
	· setbacks or envelope outline	•	
	· building length and articulation	•	
	· the detail and features of the facade and roof design	•	

Development Application Checklist

Documentation	Required information	Provided	
		Yes	No
	· any existing buildings on the site	•	
	· building entries (pedestrian, vehicular and service)	•	
	· profile of buildings on adjacent properties or for 50m in each direction, whichever is most appropriate	•	
Sections	A scale drawing showing:		
	· proposed building height and RL lines	•	
	· building height control	•	
	· setbacks or envelope outline	•	
	· adjacent buildings	•	
	· building circulation	•	
	· the relationship of the proposal to the ground plane, the street and open spaces particularly at thresholds	•	
	· the location and treatment of car parking	•	
	· the location of deep soil and soil depth allowance for planting on structure (where applicable)	•	
	· building separation within the development and between neighbouring buildings	•	
	· ceiling heights throughout the development	•	
	· detailed sections of the proposed facades	•	
	· the location and treatment of car parking	•	
Solar access study	Where required, graphic documentation at winter solstice (21 June) at a minimum of hourly intervals showing:		
	· number of hours of solar access to the principal communal open space	•	
	· number of hours of solar access to units within the proposal and tabulation of results	•	
	· overshadowing of existing adjacent properties and overshadowing of future potential development where neighbouring sites are planned for higher density	•	
	· elevation shadows if shadow is likely to fall on neighbouring windows, openings or solar panels		
Cross ventilation study	· Where required, graphic documentation of unobstructed path of air movement through dual aspect apartments and tabulation of results	•	
Material and finishes board	· A sample board of the proposed external materials, finishes and colours of the proposal, keyed to elevations	•	

Documentation	Required information	Provided	
		Yes	No
Illustrative views	Photomontages or similar rendering or perspective drawings illustrating the proposal in the context of surrounding development. Note: Illustrative views need to be prepared using a perspective that relates to the human eye. Where a photomontage is prepared, it should use a photo taken by a full frame camera with a 50mm lens and 46 degree angle of view	•	
Models	A three dimensional computer generated model showing views of the development from adjacent streets and buildings	•	
	A physical model that shows the massing of the proposal that includes relevant context (particularly for developments of 20 apartments or more, or on contentious sites) if required by the consent authority		

SJB Architects

sjb.com.au

We create spaces people love.
SJB is passionate about the
possibilities of architecture,
interiors, urban design
and planning.
Let's collaborate.

Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au