

SEPP 65 Design Verification Statement and Response to ADG's Part 3 and 4 Objectives

Independent Living Units and Residential Care Facility

PROPOSED REDEVELOPMENT FOR **ABEL TASMAN VILLAGE**

222 Waldron Road and 138 Campbell Hill Road CHESTER HILL NSW 2162



client



Abel Tasman Village

A Culture of Care

222 Waldron Road and 138 Campbell Hill Road,
CHESTER HILL NSW 2162

architects



boffa robertson group

SUITE 7, LEVEL 1 EPICA, 9 RAILWAY STREET
CHATSWOOD NSW 2067

Telephone : 02 9406 7000

Facsimile : 02 9406 7099

Email : ton@brgr.net / mark @brgr.net

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Project: Abel Tasman Village Redevelopment

Location: 222 Waldron Road and 138 Campbell Hill Road
CHESTER HILL NSW 2162

Pursuant to the provisions of **State Environmental Planning Policy No. 65 – Design Quality Residential Flat Development**, I hereby confirm that I am a qualified designer within the meaning of clause 3 of the Environmental Planning and Assessment Regulation 2000.

I verify that:

- A) I directed the design amendments for the Development Application of the above-mentioned project and
- B) That the design quality principles set out in Part 2 of State Environmental Planning Policy No. 65 – Design Quality Residential Flat Development are achieved for the above-mentioned project.

FULL NAME OF ARCHITECT:	Mark Boffa
QUALIFICATIONS:	Registered and Nominated Architect B.Arch (Hons) FRAIA NSW ARB Reg. No. 5506
COMPANY	BOFFA ROBERTSON GROUP
ADDRESS	Suite 7, Level 1 Epica, 9 Railway Street CHATSWOOD NSW 2067

Signature

Mark Boffa, Principal
October 30, 2025

INTRODUCTION

This project involves the full redevelopment of an existing aged care village in Chester Hill.

Despite significant work in the last decade to improve the standard of accommodation, the existing buildings still feel and look institutional and have serious operational limitations.

They no longer meet the required or expected standards for residential care, due to several shortcomings, namely:

- Limited activity space
- Limited outdoor areas despite being on such a large site
- Not enough community spaces
- Restricted vistas
- Shortage of parking. Deliveries and pickups are all in one zone
- No obvious reception / front desk
- Inadequacies in kitchen and laundry operation.

Staff are hampered by the spread-out layout of the predominantly single storey buildings.

Present access is only possible at Waldron Road for both pedestrian and vehicles.



PROPOSED DEVELOPMENT

The proposed redevelopment involves the demolition of all existing buildings and construction of new ILU and RCF buildings including basement carparking and landscape areas.

The redevelopment meets the contemporary standards set by the Commonwealth Department of Health and Aged Care, as well as the needs of the community in providing for high quality care for the elderly.

The total site area inclusive of the adjoining service station site is 12,730 square metres.

The proposed development will:

- Consolidate two lots into one.
- Provide improved common areas, extensive quality landscaping and better accessibility for the residents, relatives, and staff.
- Create a place that is comfortable and operationally workable.
- Promote independence for residents by providing:
 - Predominantly single rooms with ensuite for the RCF
 - A variety of indoor and outdoor spaces for both ILUs and RCF
 - The ability to age in place via a variety of accommodation options:
 - Independent dwellings
 - Predominantly single rooms in the RCF
 - A number of double rooms (10) for flexibility
 - Specialist dementia care
- Create an environment that is more familiar to residents – not institutional.
- Propose a plan that is legible for all users – residents, visitors and staff.
- Create an environment that is safe and secure.
 - Securable site
 - Securable building
 - Securable areas within the building (such as the ground floor dementia specific unit)
- Be fully self-contained with all activities on site.
- Provide increased setbacks from side boundaries to allow the introduction of landscaped zones that are presently not possible.
- Have rooftop outdoor areas to supplement the various landscaped gardens at ground level.

The surrounding properties comprise medium density residential, commercial, and industrial.

Key overall site planning goals include:

- The improvement of the streetscape along Waldron Road and Campbell Hill Road
- The new development to have a form, scale and density that is compatible with the local heritage and surrounding land uses.
- Ensuring that any existing trees along Waldron Road are retained where possible to maintain the tree canopy in the area.

Site detailed dimensions and topography (spot levels, north point) are shown on the **Survey Plans** prepared by Rygate Surveyors included in this DA submission.



DESIGN QUALITY PRINCIPLES (SEPP 65)

Principle 1

Context and neighborhood 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.

Statement of Compliance

The proposal is for the provision of a modern Abel Tasman Village to replace an existing facility that has provided aged care services to the community for many years.

The buildings have been designed to a scale that is comparable to other buildings and will contribute to the character of the neighbourhood area.

The contemporary design provides a pleasing aesthetic that integrates the desirable elements of the area's existing and future character.

References to the local context and neighbourhood character were considered and where appropriate incorporated – this includes references in the hip roof details and specific finishes in the façade of the proposed buildings.

These finishes, materials and roof shapes are common elements that contribute to the area's character and enforce its historical context.

The façade of the proposed development along Waldron Road and Campbell Hill Road is designed to present to and face the street much like most of the buildings in the locality, rather than be hidden behind landscaping, thus responding positively to its surroundings.

The use of timber-look cladding, aluminium screening and brick finishes reference the more historic buildings along Waldron Road and Campbell Hill Road.

Colours have been chosen to complement historic references while also proposing a contemporary interpretation that is supportive of the quality development intended for the site.

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.

Statement of Compliance

The building form along Waldron Road and Campbell Hill Road was articulated using both the building's overall form as well as in its finishes and colours.

Conscious of the long façade, buildings have been broken into modules separated by recessive elements. Colours and finishes have been carefully chosen to emphasise this articulation. Lighter colours have been used in the recessive sections to emphasise the stepping in the façade.

The existing trees along Waldron Road will be retained as much as possible and will therefore retain their prominent scale in the existing streetscape. These trees will also provide internal amenity and outlook.

The form and external appearance of the proposed buildings will be that of a contemporary architecturally designed building with features that don't just fit into but also contribute to and help define the future identity and character of the area.

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.

Statement of Compliance

A maximum of 1.25:1 floor space ratio (FSR) to Zoning R4 area of the site and 3.125:1 floor space ratio (FSR) to Zoning B2 area apply to the proposed development. These include the applicable FSR bonus.

Gross Floor Area Diagrams have been included in the DA submission to demonstrate the calculation of the stated FSR figures.

The proposed density lies within the controls expressed in the current CB LEP 2023 and DCP 2023.

The density is sustainable with nearby facilities including transport, retail, services, and medical practices.

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.

Statement of Compliance

The proposed development is to be built predominantly of prefinished materials: concrete, prefinished steel roofing and FC cladding all of which are low maintenance and long-life materials.

Sustainability principles are achieved with substantial deep soil zones and minimal excavation, natural cross breezes and solar access, and an energy efficient development. Waste management will include recycling.

Bedrooms to ILUs and RCF will provide a variety of options to incoming residents and will range from those with balconies, those with primary solar access, and those with street views.

Large windows have been provided for good ventilation and natural light. The design incorporates energy efficient and sustainable design features such as recessed areas of full glass with balconies with adjustable louvres for sun screening in summer.

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.

Statement of Compliance

Extensive quality landscaping is a feature of the proposed development particularly in the recessive spaces noted above. The main activity areas have been oriented to provide a strong visual connection to external landscaping and the adjoining oval. Carefully detailed landscape features will assist residents in wayfinding.

The landscaped areas address the specific needs of Abel Tasman Village with different inclusions such as sensory gardens, dementia garden, walking trail, podium garden, private open spaces for dwellings, community spaces and landscaped general areas on the village.

All of these spaces and features will provide a level of landscape amenity that will enhance recreational potential for all users including residents, visitors, relatives and staff.

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.

Statement of Compliance

Appropriate room dimensions and shapes, optimising solar access, natural cross ventilation, measures to achieve acoustic and visual privacy, provision of private open spaces and good outlooks are incorporated into the design.

Considerable care has been taken to ensure full accessibility throughout, enabling residents to enjoy the various amenities provided in the development.

The design provides for disabled car parking spaces located at the ground and basement levels in compliance with SEPP Seniors Living, Australian Standards, resident requirements, and the operational brief.

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.

Statement of Compliance

Safety measures are provided in the form of identifiable access points, separation of pedestrian and vehicular zones, passive and active surveillance, controlled access measures, suitable lighting, and a development of sufficient scale that these measures are sustainable and can be maintained in the longer term.

Residents, relatives and guest car parking are located in the basement which will be monitored and access secured.

The lighting provided will be appropriate to the function of the spaces and will be compliant with the requirements of SEPP Seniors Living throughout the site.

External areas will be well lit but designed to limit light spill.

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.

Statement of Compliance

The proposed development will provide a positive and valuable contribution to the community by enabling 'ageing in place' to occur, and permit residents to be properly cared for within the facility as their care needs increase.

The proposed development contains a mix of units of various sizes including 1 and 2 bed RCF rooms and 1,2, and 3 beds ILUs to cater to a wide mix of occupants and their accommodation requirements.

The facility will also provide dementia specific care.

Communal spaces provide opportunities for social interaction within the landscaped grounds, within the community centre, and at the public domain interface.

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.

Statement of Compliance

Facades are modulated and articulated by a mix of window and balcony openings, and associated treatment and detailing to create strong visual interest.

The overall result is a legible and ordered composition, responding to the context of the site's location and respectful of the scale of buildings in the immediate area.

The owners of the development contend that the proposed development exhibits superior architectural expression, responding well to recent modern developments in the precinct and clearly expressing the architecture desired for the precinct.

Response to the Objectives of Parts 3 (Siting the Development) and 4 (Designing Buildings) of the ADG

3A Site Analysis

Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context

Design Guidance

Each element in the Site Analysis Checklist should be addressed (see ADG Appendix 1)

Statement of Compliance

Site analysis included in this application shows that the opportunities and constraints of the site conditions and their relationship to the surrounding context were considered in the design decisions.

Refer to Site Analysis Checklist at the end of this report.

3B-1 Orientation

Building types and layouts respond to the streetscape and site while optimising solar access within the development.

Design Guidance

Buildings along the street frontage define the street, by facing it and incorporating direct access from the street.

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.

Statement of Compliance

Building A and Future Building C facing the street have direct access from Waldron Road and Campbell Hill Road.

Primary street frontage at Waldron Road is south facing.

Buildings E and Building B located behind the street frontage are generally oriented east and west.

3B-2 Overshadowing.

Overshadowing of neighbouring properties is minimised during midwinter.

Design Guidance

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.

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.

Overshadowing should be minimised to the south or downhill by increased upper-level setbacks.

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.

A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings.

Statement of Compliance

No significant impact on solar access to adjacent properties.

Future Building C and the shorter elevation of Building A facing south have minimal impact to adjacent properties which are located across Waldron Road and have significant setback from the boundary.

Three of the four proposed buildings are oriented east and west to minimize overshadowing and privacy impacts.

There are no solar collectors identified on immediate neighbouring properties affected by overshadowing of this development.

3C-1 Public Domain

Transition between private and public domain is achieved without compromising safety and security.

Design Guidance

Terraces, balconies, and courtyard apartments should have direct street entry, where appropriate.

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.

Upper-level balconies and windows should overlook the public domain.

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.

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

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*

Opportunities for people to be concealed should be minimised.

Statement of Compliance

Units on the ground floor of Building A facing Campbell Hill Road are designed to have direct street entry. These units have front planted garden beds, and a level change stepping up from the natural ground level to the terrace level has been allowed.

The lift lobbies are designed as generous spaces, with the central opening signalling the entry to the building, with covered canopies and opportunities for encounter. The mailbox is securely set just inside the secure entry point with direct access to the entrance.

The buildings' design creates a legible environment for residents assisted in the use of articulation and detailing.

3C-2 Amenity to Public Domain

Amenity of public domain is retained and enhanced.

Design Guidance

Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking.

Mailboxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided.

The visual prominence of underground car park vents should be minimised and located at a low level where possible.

Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view.

Ramping for accessibility should be minimised by building entry locations and setting ground floor levels in relation to footpath levels.

Durable, graffiti resistant and easily cleanable materials should be used.

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*

On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking

Statement of Compliance

Planting allowed at the edges of raised terraces along Campbell Hill Road.

Mailbox is located within the lobby past the secure point.

There are no parking vents visible to the ground.

Substation to the site is existing but will be screened with planting.

Building A and Building C have garbage chutes with the Garbage Store located at the basement car park to be out of view from the ground floor.

Ramping gradient to the entry is generally kept to a minimum or almost flat and complying with AS 1428.1.

The development considered the interface to Frank Bamfield Oval by allowing for direct access, using solid and low fencing adjoining the public open space.

The majority of required carparking is underground and there is minimum carparking proposed at ground level.

3D-1 Communal and Public Open space

An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.

Design Guidance

Communal open space has a minimum area equal to 25% of the site.

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).

Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions.

Communal open space should be co-located with deep soil areas.

Direct, equitable access should be provided to communal open space areas from common circulation areas, entries, and lobbies.

Where communal open space cannot be provided at ground level, it should be provided on a podium or roof.

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.*

Statement of Compliance

A significant area is provided for communal open space. The site also has access to Frank Bamfield Oval which is directly adjacent to the western side of the site.

The main public open space which located in between Buildings B, E and future building C achieves direct solar access for a substantial part of the day.

All communal open space can be accessed from the main circulation areas at Ground Floor.

Open space is also provided at the roof level of Buildings A, E and B

3D-2 Communal and Public Open space

Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting.

Design Guidance

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 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.

Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks.

Statement of Compliance

The communal open areas are designed to enable connections through landscape, through urban ecology, edible landscape and green outlooks. The landscape approach allows opportunity for social encounters and interactions to occur, with seating and shading, and communal gardens. The area is equipped with storage to house garden tools and equipment.

Frank Bamfield Oval can be accessed easily and is an existing communal amenity with sporting facility such as a full-scale sports field, barbeques and playground.

3D-3 Communal open space is designed to maximise safety.

Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting.

Design Guidance

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*

Communal open space should be well lit.

Where communal open space/facilities are provided for children and young people they are safe and contained

Statement of Compliance

Balconies overlook the communal open spaces. This allows good passive surveillance, and an ideal outlook for residents. The landscape design incorporates deep planted edges from the building edge, to provide a buffer and visual privacy for the residents.

3D-4 Public open space

Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood.

Design Guidance

The public open space should be well connected with public streets along at least one edge.

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.

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.

A positive address and active frontages should be provided adjacent to public open space.

Boundaries should be clearly defined between public open space and private areas.

Statement of Compliance

There is a strong focus on the landscape being sympathetic to the adjacent reserve.

The common lobbies are designed to have direct sightlines out to the communal open spaces.

Edible gardens are being provided, to encourage native foraging and interaction with ecology. There are areas to stroll as well as shaded seating and areas for quiet contemplation.

Boundaries will be fenced and landscaped.

3E-1 Deep Soil Zones

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.

Design Guidance

Deep soil zones are to meet the following minimum requirements.

Site area	Minimum dimensions	Deep soil zone (% of site area)
Less than 650m ²	-	
650m ² – 1,500m ²	3m	
Greater than 1,500m ²		
Greater than 1,500m ² with significant existing cover		

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

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.

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

Statement of Compliance

Total Deep soil of 2,925.6 sqm has been provided to the ILUs (35.7% of ILU site area).

Large deep soil zones have been provided by keeping the basement design to the building footprint.

Please refer to landscape plan and Deep Soil calculations on A3DA37

3F-1 Visual Privacy

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.

Design Criteria

1. Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:

Building height	Habitable rooms and balconies	Non-habitable rooms
up to 12m (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.

Design Guidance

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.

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

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)

Direct lines of sight should be avoided for windows and balconies across corners.

No separation is required between blank walls.

Statement of Compliance

To avoid rooms that may get direct line of sight privacy screens have been provided.

Adequate separation has been achieved between ILUs

- Buildings A and C (43.65m)
- Buildings C and E (24.86m)

3F-2 Visual Privacy

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 spaces.

Design Guidance

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.*

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.

Statement of Compliance

Landscape, fencing, planter boxes and other screening devices are provided as buffers between private open spaces and communal open spaces and access paths.

Balconies are generally located in front of living rooms to increase internal privacy.

3G Pedestrian Access and Entries

Good pedestrian access delivers high quality, equitable, safe and pleasant walking environments along the street, into the development and to individual apartments. Pedestrian access and entries must be priorities over vehicle access.

Building entries provide a connection with the public space and an address for a building or group of buildings. The design of building entries and their integration with the building and landscape design contributes to the identity of the building and the

character of the streetscape. Building entries may lead into a common entry or directly into the private space of an apartment.

3G-1 Building entries and pedestrian access connect to and addresses the public domain.

Design Guidance

Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge.

Entry locations relate to the street and subdivision pattern and the existing pedestrian network.

Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries.

Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries.

Statement of Compliance

Minimal ramping to main entry of Building A along Campbell Hill Road is required to achieve a street level to the retail spaces facing Waldron Road.

Ramping was minimized leading to entries of Buildings B, C, and E

3G-2 Access, entries and pathways are accessible and easy to identify.

Design Guidance

Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces.

The design of ground floors and underground car parks minimise level changes along pathways and entries.

Steps and ramps should be integrated into the overall building and landscape design.

For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3)

For large developments electronic access and audio/video intercom should be provided to manage access

Statement of Compliance

Way finding signs will be provided as required (subject to future design) including audio and video intercom for access.

3G-3 Large sites provide pedestrian links for access to streets and connections to destinations.

Design Guidance

Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport.

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

Statement of Compliance

Pedestrian link to Frank Bamfield Oval is proposed to be incorporated in the development. The link will be visible from the main landscape and open area of the facility.

3H Vehicle Access

The location, type and design of vehicle access points have significant impacts on the streetscape, the site layout and the building facade design. It is important that vehicle access is integrated with site planning from an early stage to balance any potential conflicts with traffic patterns, streetscape elements and safe pedestrian access.

3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.

Design Guidance

Car park access should be integrated with the building's overall facade. Design solutions may include.

- *the materials and colour palette to minimise visibility from the street.*
- *security doors or gates at entries that minimise voids in the façade.*
- *where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed.*

Car park entries should be located behind the building line.

Vehicle entries should be 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 should be located on secondary streets or lanes where available.

Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided.

Access point locations should avoid headlight glare to habitable rooms.

Adequate separation distances should be provided between vehicle entries and street intersections.

The width and number of vehicle access points should be limited to the minimum.

Visual impact of long driveways should be minimised through changing alignments and screen planting.

The need for large vehicles to enter or turn around within the site should be avoided.

Garbage collection, loading and servicing areas are screened.

Clear sight lines should be provided at pedestrian and vehicle crossings.

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*

Statement of Compliance

Car park entries for Buildings A, B and E are located far from the street front envelope of building A. Entry for future Building C will be discreetly located at the western corner of the building.

Garbage collections to all buildings will be at the basement.

Traffic calming devices will be used as required.

Pedestrian and vehicle access points are separated from each other and will be distinguishable by following steps above.

3J Bicycle and car parking

Integrating car parking within apartment buildings has a significant impact on site planning, landscape and building design. On site parking can be located underground, above ground within a structure or at grade.

The location, form and organisation of parking is usually a balance of development feasibility, site constraints, local context, apartment types and regulatory car parking requirements. Deep soil zones, stormwater management and the retention of trees can also affect the size and shape of a car park footprint.

Parking requirements should be determined in relation to the availability, frequency and convenience of public transport or proximity to a centre in regional areas. Reduced requirements promote a reduction in car dependency and encourage walking, cycling and use of public transport. Provision of parking for alternative forms of transport such as car share vehicles, motorcycles and bicycles should also be considered. Where less car parking is provided, councils should not provide on street resident parking permits.

3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.

Design Criteria

1. 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.

Design Guidance

Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site.

Where less car parking is provided in a development, council should not provide on street resident parking permits.

Statement of Compliance

N/A

3J-2 Parking and facilities are provided for other modes of transport.

Design Guidance

Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters.

Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas.

Conveniently located charging stations are provided for electric vehicles, where desirable

Statement of Compliance

Secure and under cover car and bicycle parking has been provided complying with required minimum numbers. Charging stations will also be provided for electric vehicles were considered appropriate.

3J-3 Car park design and access is safe and secure.

Design Guidance

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.

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.

Statement of Compliance

Basement car-parking will be safe and secure as it will be well lit, pedestrian access will be clearly defined and pedestrian areas protected by bollards as required.

3J-4 Visual and environmental impacts of underground car parking are minimised

Design Guidance

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 grilles or screening devices for car parking openings should be integrated into the facade and landscape design.

Statement of Compliance

Basement car parking has been designed to accommodate the minimum required numbers as efficiently as possible so that the area of the basement is not larger than it needs to be.

Ventilation grilles and screening devices will be used as recommended above.

3J-5 Visual and environmental impacts of on-grade car parking are minimised.

Design Guidance

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.

Statement of Compliance

On-grade car parking has been minimised or eliminated where possible.

3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised.

Design Guidance

Exposed parking should not be located along primary street frontages.

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)*

Positive street address and active frontages should be provided at ground level.

Statement of Compliance

There are no above ground enclosed car parks proposed on this development

4A Solar and Daylight Access

Solar and daylight access are important for apartment buildings, reducing the reliance on artificial lighting and heating, improving energy efficiency and residential amenity through pleasant conditions to live and work.

Solar access is the ability of a building to receive direct sunlight without the obstruction from other buildings or impediments, not including trees. Sunlight is direct beam radiation from the sun. Daylight consists of sunlight and diffuse light from the sky. Daylight changes with the time of day, season, and weather conditions

Access to sunlight for habitable rooms and private open space is measured at mid-winter (21 June) as this is when the sun is lowest in the sky, representing the 'worst case' scenario for solar access.

4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows, and private open space

Design Criteria

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.*
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.*
3. *A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter.*

Design Guidance

The design maximises north aspect and the number of single aspects south facing apartments is minimised.

Single aspect, single storey apartments should have a northerly or easterly aspect.

Living areas are best located to the north and service areas to the south and west of apartments.

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.*

1.

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.

Statement of Compliance

84% ILUs achieve direct sunlight to living rooms.

There is a good mix of dual aspect ILUs.

The benefit for residents of direct sunlight within living rooms is achieved to the majority of ILUs.

4A-2 Daylight access is maximised where sunlight is limited.

Design Guidance

Courtyards, skylights, and high-level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms.

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.*

Statement of Compliance

Direct natural light for all habitable rooms has been provided in preference to secondary sources such as skylights and internal courtyards

Light colour materials will be used to balconies' internal finishes to maximise light reflection

4A-3 Design incorporates shading and glare control, particularly for warmer months.

Design Guidance

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)*

Statement of Compliance

All ILU units have balconies with enough depth to shade summer sun but allow winter sun to penetrate living areas.

High performance glass will be considered to comply with Basix requirements.

4B Natural ventilation

Natural ventilation is the movement of sufficient volumes of fresh air through an apartment to create a comfortable indoor environment. Sustainable design practice incorporates natural ventilation by responding to the local climate and reduces the need for mechanical ventilation and air conditioning. To achieve adequate natural ventilation, apartment design must address the orientation of the building, the configuration of apartments and the external building envelope.

Natural cross ventilation is achieved by apartments having more than one aspect with direct exposure to the prevailing winds, or windows located in significantly different pressure regions, rather than relying on purely wind driven air. Apartment layout and building depth have a close relationship with the ability of an apartment to be naturally ventilated. Generally, as the building gets deeper, effective airflow reduces.

4B-1 All habitable rooms are naturally ventilated.

Design Guidance

The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms.

Depths of habitable rooms support natural ventilation.

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.

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.*

Statement of Compliance

A high number of apartments are facing NE - taking advantage of the summer afternoon high speed breezes (Jan 3pm). The living rooms and the habitable rooms are orientated towards the NE aspect.

79.7 % of the ILUs achieve cross ventilation. Windows are openable but are safe and flexible to occupants for the provision of natural ventilation.

4B-2 The layout and design of single aspect apartments maximises natural ventilation.

Design Guidance

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.*

Statement of Compliance

ILU's were designed to have limited depth to allow for effective ventilation and airflow. There are no proposed internal courtyards to any of the buildings.

4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents.

Design Guidance

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.*
2. *Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line.*

Statement of Compliance

79.7% of ILUs achieve cross ventilation.

4C Ceiling Heights

Ceiling height is measured internally from finished floor level to finished ceiling level. The height of a ceiling contributes to amenity within an apartment and the perception of

space. Well-designed and appropriately defined ceilings can create spatial interest and hierarchy in apartments.

Ceiling height is directly linked to achieving sufficient natural ventilation and daylight access to habitable rooms. The ground and first floor levels of mixed-use apartment buildings should have increased ceiling heights to ensure their longer-term adaptability for other uses.

4C-1 Ceiling height achieves sufficient natural ventilation and daylight access.

Design Criteria

1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are:

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

These minimums do not preclude higher ceilings if desired.

Design Guidance

Ceiling height can accommodate use of ceiling fans for cooling and heat distribution.

Statement of Compliance

All habitable rooms have a 2.7m ceiling height and non-habitable rooms have 2.4m

4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms

Design Guidance

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.

Statement of Compliance

There is flexibility with the services running through ceiling spaces. The intention is that there will be no bulkheads over kitchens or in bedrooms where the full 2.7m is desired.

4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building

Design Guidance

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

Statement of Compliance

There are no lower level ILUs in this development

4D Apartment Size and layout

The layout of an apartment establishes the way rooms of different functions are arranged and located, the size of the rooms, the circulation between rooms and the degree of privacy for each room.

In addition, the layout directly impacts the quality of residential amenity by incorporating appropriate room shapes and window designs to deliver daylight and sunlight, natural ventilation, and acoustic and visual privacy. The apartment layout also includes private open space and conveniently located storage.

4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity.

Design Criteria

1. Apartments are required to have the following minimum internal areas:

Apartment type	Minimum internal area
Studio	35m ²
1 bedroom	50m ²
2 bedroom	70m ²
3 bedroom	90m ²

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.

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.

Design Guidance

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.

Statement of Compliance

ILUs have been designed with generous internal areas.

- 1 Bed – 65 – 80 sqm.
- 2 Bed – 95 – 106 sqm
- 3 Bed – 100 – 138 sqm

4D-2 Environmental performance of the apartment is maximised.

Design Criteria

1. *Habitable room depths are limited to a maximum of 2.5 x the ceiling height.*
2. *In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.*

Design Guidance

Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths.

All living areas and bedrooms should be located on the external face of the building.

Statement of Compliance

ILU's are all complying with the design criteria and design guidance above

4D-3 Apartment layouts are designed to accommodate a variety of households activities and needs

Design Criteria

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)*
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.*

Design Guidance

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 overtime; 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.*

Statement of Compliance

Design of ILUs as follows:

Master bedrooms minimum area – 12.2 sqm

Bedroom minimum dimension – 3m

Living room for 1 bed minimum width – 4m

Living room for 2 & 3 bed minimum width – 4m

All ILUs comply with minimum store and robe requirements

4E Private Open Space and Balconies

Private open spaces are outdoor spaces of the apartment, including balconies, courtyards, and terraces, which enhance the amenity and indoor/outdoor lifestyle of residents. They capitalise on New South Wales' temperate climate, providing an area for external activities and an extension of living spaces.

Balconies that are safe and appropriately designed can provide space for children to play outdoors, and the opportunity for pet ownership.

Private open spaces are also important architectural elements on the outside of an apartment building, contributing to the form and articulation of the building with fences, balustrades, and screens.

4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity.

Design Criteria

1. All apartments are required to have primary balconies as follows:

<i>Dwelling type</i>	<i>Minimum area</i>	<i>Minimum depth</i>
<i>Studio apartments</i>	<i>4m²</i>	<i>-</i>
<i>1-bedroom apartments</i>	<i>8m²</i>	<i>2m</i>
<i>2-bedroom apartments</i>	<i>10m²</i>	<i>2m</i>
<i>3+ bedroom apartments</i>	<i>12m²</i>	<i>2.4m</i>

The minimum balcony depth to be counted as contributing to the balcony area is 1m

2. *For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m² and a minimum depth of 3m.*

Design Guidance

Increased communal open space should be provided where the number or size of balconies are reduced.

Storage areas on balconies is additional to the minimum balcony size.

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 wintergardens, or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated.

Statement of Compliance

Balcony areas for the proposed development are as follows.

1 Bed – 8.9 sqm

2 Bed - 18 sqm

3 Bed – 32.4 sqm

4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents

Design Guidance

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.

Statement of Compliance

Generally, most balconies are located adjacent to living, dining or kitchen spaces

4E-3 Private open space and balcony design are integrated into and contributes to the overall architectural form and detail of the building

Design Guidance

Solid, partially solid, or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred.

Full width full height glass balustrades alone are generally not desirable.

Projecting balconies should be integrated into the building design and the design of soffits considered.

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.

Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design.

Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design.

Ceilings of apartments below terraces should be insulated to avoid heat loss.

Water and gas outlets should be provided for primary balconies and private open space.

Statement of Compliance

The building mass is broken down vertically and treated with roofed verandas and framed balconies extending the living areas. Throughout the development, the buildings appear to "grow" out of an earthy brick base that merges with the landscaping.

4E-4 Private open space and balcony design maximises safety.

Design Guidance

Changes in ground levels or landscaping are minimised.

Design and detailing of balconies avoids opportunities for climbing and falls.

Statement of Compliance

Design of balconies consider safety as paramount and changes in ground level and landscaping are minimized.

4F Common Circulation and Spaces

Common circulation and spaces within a building are shared communally by residents. They include lobbies, internal corridors and external galleries, vertical circulation such as lifts and stairs, as well as community rooms and other spaces.

Common circulation spaces provide opportunities for casual social interaction among residents and can assist with social recognition. Important design considerations include safety, amenity, and durability. In addition, the choice of common circulation types has a direct influence on the apartment types provided, building form, articulation, and the building's relationship to the street.

4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments.

Design Criteria

1. *The maximum number of apartments off a circulation core on a single level is eight.*
2. *For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.*

Design Guidance

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.

Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of 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*

Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over 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*

Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level.

Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled.

Statement of Compliance

The maximum number of ILUs per floor to Buildings A, E and future C is 6.

Corridors have minimum widths of 1.8m and are provided with natural sunlight and ventilation at the lift lobby.

Primary living room or bedroom windows do not open directly onto common circulation spaces.

4F-1 Common circulation spaces promote safety and provide for social interaction between residents

Design Guidance

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 owner's corporation meetings or resident use should be provided and are ideally co-located with communal open space

Where external galleries are provided, they are more open than closed above the balustrade along their length.

Statement of Compliance

Buildings A, E and future building C will have direct and legible access between lift core areas and ILU's entries.

There are no tight or hidden corners and circulation spaces will be well lit at night.

Legible signage will be provided.

4G Storage

Adequate storage is an important component of apartment design. It is calculated by volume as opposed to floor area and should be provided proportionally to the size of the apartment.

4G-1 Adequate, well-designed storage is provided in each apartment.

Design Criteria

- In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:*

<i>Dwelling type</i>	<i>Storage size volume</i>
<i>Studio apartments</i>	<i>4m³</i>
<i>1-bedroom apartments</i>	<i>6m³</i>
<i>2-bedroom apartments</i>	<i>8m³</i>
<i>3+ bedroom apartments</i>	<i>10m³</i>

At least 50% of the required storage is to be located within the apartment.

Design Guidance

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, weatherproof and screened from view from the street.

Left over space such as under stairs is used for storage.

Statement of Compliance

Storage provided for all ILUs are as follows.

1 Bed – 6 sqm

2 Bed – 8 sqm

4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments

Design Guidance

Storage not located in apartments is secure and clearly allocated to specific apartments.

Storage is provided for larger and less frequently accessed 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.

If communal storage rooms are provided, they should be accessible from common circulation areas of the building.

Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain.

Statement of Compliance

Additional caged storage has been provided at the basement and accessible to all residents.

4H Acoustic Privacy

Acoustic privacy is about protecting sound transmission between external and internal spaces, between apartments and communal areas and between apartments within a building.

Designing for acoustic privacy considers the site context, surrounding uses, building separation, the location of public and private open spaces and the arrangement of internal spaces in a building.

This section outlines typical considerations for acoustic privacy. For constrained sites such as sites near a rail corridor, major roads, or underneath flight paths, refer to section 4J Noise and pollution for further guidance.

4H-1 Noise transfer is minimised through the sitting of buildings and building layout.

Design Guidance

Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses (see also section 2F Building separation and section 3F Visual privacy)

Window and door openings are generally orientated away from noise sources.

Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas.

Storage, circulation areas and non-habitable rooms should be 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 equipment, active communal open spaces, and circulation areas should be located at least 3m away from bedrooms.

Statement of Compliance

Adequate building separation is provided from neighbouring buildings.

The ILUs service cupboards and circulation areas are centrally located, with bedrooms sitting on the outside of the apartments and non-habitable spaces on the inside of the apartments.

Refer to the Acoustic report.

4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments

Design Guidance

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.

Statement of Compliance

The walls and ceilings will be designed to comply with NCC's required acoustic rating for sole occupancy units. External walls and glazing to follow acoustic report's requirements.

4J Noise and Pollution

Properties located near major roads, rail lines and beneath flight paths can be subject to noise and poor air quality. Similarly, hostile and noisy environments such as industrial areas, substations or sports stadiums can have impacts on residential amenity. Careful design solutions can help to improve quality of life in affected apartments by minimising potential noise and pollution impacts.

This section addresses design responses on sites that are affected by significant noise and pollution sources. Section 4H Acoustic privacy deals with more typical residential developments that do not face these challenges.

Development near rail corridors and busy roads

The NSW Government's Development near Rail Corridors and Busy Roads - Interim Guideline as called up by State Environmental Planning Policy (Infrastructure) 2007 assists in the planning, design and assessment of development in, or adjacent to, rail corridors and busy roads. SEPP 65 development in these locations must have regard to this Guideline.

4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings.

Design Guidance

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, non-habitable 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*

Statement of Compliance

Same as 4H-2

4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.

Design Guidance

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*

Statement of Compliance

Same as 4H-2

4K Apartment Mix

Apartment mix refers to the percentage of apartments with different numbers of bedrooms in a development. The number of bedrooms is directly related to floor area which in turn determines the yield that can be generated on the site.

A mix of apartment types provides housing choice and supports equitable housing access. By accommodating a range of household types, apartment buildings support the needs of the community now and into the future. This is particularly important because apartment buildings form a significant and often long-term part of the urban fabric.

4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future

Design Guidance

A variety of apartment types is provided.

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 groups*

Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households.

Statement of Compliance

Variety of apartment types is provided – 1 Bed, 2 Bed, 3 Bed and Penthouse

The proposed development with its variety of accommodation types replaces the existing facility which has limited options for its residents

4K-2 The apartment mix is distributed to suitable locations within the building

Design Guidance

Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.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.

Statement of Compliance

Same as above

4L Ground Floor Apartments

Ground floor apartments offer the potential for at-grade landscaped private open spaces and direct access from the street. They also provide opportunities for the apartment building and its landscape to respond to the human scale of the streetscape. On steep sites they may be located over different floors of the building stepping down the site.

Ground floor apartments can be of particular benefit to the elderly and disabled as they are generally more accessible. They also suit families with small children and extend the lifestyle choices available in apartment buildings by facilitating activities such as home business, gardening, outdoor play and pet ownership.

4L-1 Street frontage activity is maximised where ground floor apartments are located

Design Guidance

Direct street access should be provided to ground floor apartments.

Activity is achieved through front gardens, terraces, and the facade of the building. Design solutions may include:

- *both street, foyer, and other common internal circulation entrances to ground floor apartments*
- *private open space is next to the street.*
- *doors and windows face the street.*

Retail or home office spaces should be located along street frontages.

Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases, provide higher floor to ceiling heights and ground floor amenities for easy conversion.

Statement of Compliance

4 of the ground floor ILUs have direct access from Campbell Hill Road.

Retail spaces have also been provided along Waldron Road in response to the need for an active frontage.

4L-2 Design of ground floor apartments delivers amenity and safety for residents

Design Guidance

Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include:

- *elevation of private gardens and terraces above the street level by 1-1.5m (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*

Solar access should be maximised through:

- *high ceilings and tall windows*
- *trees and shrubs that allow solar access in winter and shade in summer.*

Statement of Compliance

Ground floor terraces are generally elevated above street level with landscaping provided to help screen the private terraces. The landscaping is integrated with the balustrading.

The landscaping designed (particularly the large trees) for the south facing communal open space, is intended to be deciduous to ensure max shading in summer, and plenty of daylight in winter.

4M **Facades**

The design of facades contributes greatly to the visual interest of the building and the character of the local area. Facades that face the street have an impact on the public domain, while side and rear facades often influence the amenity of neighbouring buildings and communal and private open spaces.

High quality facades are a balanced composition of building elements, textures, materials, and colour selections. Well-designed facades also reflect the use, internal layout and structure of an apartment building.

The composition and detailing of a facade is not only important to the appearance of the building, it also influences its perceived scale. The pattern and repetitions of the facade, the proportions and articulation of external walls and the detailed design of facade elements are all important considerations.

4M-1 **Building facades provide visual interest along the street while respecting the character of the local area**

Design Guidance

Design solutions for front building facades may include:

- *a composition of varied building elements*
- *a defined base, middle and top of buildings*
- *revealing and concealing certain elements*
- *changes in texture, material, detail,*
- *and colour to modify the prominence of elements.*

Building services should be integrated within the overall façade.

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*

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 facade throughout the day with building articulation, balconies and deeper window reveals.

Statement of Compliance

A play of light and shadow can be seen through the articulation of the façade and rhythm of the ILUs.

The changes in façade materials and texture complement the arrangement of patterns and façade articulation which has resulted in a good well composed streetscape.

Services will be hidden from sightliness as much as possible.

4N Roof Design

The roof is an important element in the overall composition and design of a building. Quality roof design provides a positive addition to the character of an area and can form an important part of the skyline. Roofs also provide opportunities for open space where appropriate and can add to the sustainability performance of a building.

The Standard Instrument (Local Environmental Plans) Order 2006 allows for architectural roof features that can exceed the maximum building height. This is an important tool for achieving high quality roof design and articulation.

4N-1 Roof treatments are integrated into the building design and positively respond to the street

Design Guidance

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*

Roof treatments should be integrated with the building design. Design solutions may include:

- *roof design proportionates to the overall building size, scale and form.*
- *roof materials compliment the building.*
- *service elements are integrated.*

Statement of Compliance

All roof areas have been designed to be well landscaped with green roof planting. Planting selected are predominantly natives which require low maintenance.

4N-2 Opportunities to use roof space for residential accommodation and open spaces are maximised

Design Guidance

Habitable roof space should be provided with good levels of amenity. Design solutions may include:

- *penthouse apartments*
- *dormer or clerestory windows*
- *openable skylights*

Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety, and security considerations.

Statement of Compliance

Penthouse apartments were provided on Building A.

For Building B , safe and secure Roof Garden, Community Space and Multi-purpose room have been provided.

For Buildings E and future C, safe and secure roof gardens have been provided.

4N-3 Roof design incorporates sustainability features.

Design Guidance

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*

Skylights and ventilation systems should be integrated into the roof design.

Statement of Compliance

The roof overhangs and projecting balconies assist by shading the wall in summer.

4O Landscape Design

Successful landscape design complements the existing natural and cultural features of a site and contributes to the building's setting. Landscape design includes the planning, design, construction, and maintenance of all external spaces.

Incorporating landscape design early in the design process provides optimal outcomes for residential apartments. It needs to be coordinated with other disciplines to ensure the building design and service locations complement the landscape and public domain.

40-1 Landscape design is viable and sustainable.

Design Guidance

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*

Ongoing maintenance plans should be prepared.

Microclimate is 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.*

Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4)

Statement of Compliance

Refer to Landscape Plans and associated report

40-2 Landscape design contributes to the streetscape and amenity.

Design Guidance

Landscape design responds to the existing site conditions including:

- *changes of levels*
- *views*
- *significant landscape features including trees and rock outcrops.*

Significant landscape features should be protected by:

- *tree protection zones (see figure 40.5)*
- *appropriate signage and fencing during construction.*

Plants selected should be endemic to the region and reflect the local ecology.

Statement of Compliance

Refer to Landscape Plans and associated report

4P Planting on Structures

Planting on structures is where plants are on top of built structures such as basement car parks, podiums, roofs, and walls. Planting on structures can provide amenity, improve air

quality and microclimate, and reduce direct energy use and stormwater runoff. It can also supplement deep soil planting on sites where opportunities for this are limited or restricted, e.g. in high density areas.

Common ways of planting on structures include green roofs, green walls, raised planters and roof top gardens. Plants grown in these situations are subject to a range of environmental stressors that affect both the health and vigour of the plants. Designing soil profiles, irrigation and systems that provide adequate oxygen, water and nutrients is crucial for plant survival.

4P-1 Appropriate soil profiles are provided.

Design Guidance

Structures are reinforced for additional saturated soil weight.

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.*

Minimum soil standards for plant sizes should be provided in accordance with Table 5

Statement of Compliance

Refer to Landscape Plans and associated report.

4P-2 Plant growth is optimised with appropriate selection and maintenance.

Design Guidance

Plants are suited to site conditions, considerations include:

- *drought and wind tolerance*
- *seasonal changes in solar access*
- *modified substrate depths for a diverse range of plants*
- *plant longevity.*

A landscape maintenance plan is prepared.

Irrigation and drainage systems respond to:

- *changing site conditions*
- *soil profile and the planting regime*
- *whether rainwater, stormwater or recycled grey water is used.*

Statement of Compliance

Refer to Landscape Plans and associated report.

4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces

Design Guidance

Building design incorporates opportunities for planting on structures. Design solutions may include:

- green walls with specialised lighting for indoor green walls
- wall design that incorporates planting
- green roofs, particularly where roofs are visible from the public domain.
- planter boxes

Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time

Statement of Compliance

Refer to Landscape Plans and associated report.

4Q Universal Design

Universal design is an international design philosophy that enables people to continue living in the same home by ensuring that apartments are able to change with the needs of the occupants. Universally designed apartments are safer and easier to enter, move around and live in. They benefit all members of the community, from young families to older people, their visitors, as well as those with permanent or temporary disabilities.

Incorporating universal design principles in apartment design is a step towards producing a robust, flexible housing stock. It ensures that simple and practical design features are incorporated into new buildings that would be difficult and costly to retrofit at a later date.

Universal design is different to adaptable housing which is governed by Australian Standard AS 4299-1995 Adaptable Housing and is specifically designed to allow for the future adaptation of a dwelling to accommodate the occupant's needs.

In addition, flexible apartment design is also desirable to allow buildings to accommodate a diverse range of lifestyle needs such as different household structures, live/work housing arrangements and future changes in use.

4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members

Design Guidance

Developments achieve a benchmark of 20% of the total apartments incorporating the Liveable Housing Guideline's silver level universal design features.

4Q-2 A variety of apartments with adaptable designs are provided.

Design Guidance

Adaptable housing should be provided in accordance with the relevant council policy.

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.*

Statement of Compliance

The recommendations outlined above have been incorporated into the design.

4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs.

Design Guidance

Apartment 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*

Statement of Compliance

The area of ILUs are all larger than the minimums suggested in the ADG which provides long term flexibility of use

4R Adaptive Reuse

Buildings adapted for reuse as apartments can range from large houses, redundant industrial buildings, major institutional buildings, and groups of buildings to commercial office towers.

There are many benefits of retaining existing buildings including sustainability, aesthetics, character and valuing their social and cultural significance. Adaptation of an existing building for a new residential use provides for its repurposing and should be approached in a way that acknowledges the past and respects its sense of place. The significance of heritage items or buildings in conservation areas needs to be respected. Modifications should ensure the building's continued relevance in the future. Residential adaptive reuse projects should be sensitively designed, to respect existing elements and character.

Non-residential buildings often have dimensions, layouts and orientations that are not designed for residential use. A balance must be achieved between the benefits of retaining existing buildings versus the quality of residential amenity that can be achieved.

4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place.

Design Guidance

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*

Additions to heritage items should be clearly identifiable from the original building.

New additions allow for the interpretation and future evolution of the building.

Statement of Compliance

All proposed buildings are new and replace the existing building stock.

The articulation of the buildings takes a cue from the architectural character, building elements, forms and materiality of the existing facility. Building articulation and detailing was introduced to present a residential scale familiarity to the street frontage using features such: breaking down building mass, using a warm, tactile colour and material palette, incorporating roofed verandahs and framed balconies. Landscaping elements were introduced to reduce the impact of fencing and create a desirable, relatable streetscape.

4R-2 Adapted buildings provide residential amenities while not precluding future adaptive reuse

Design Guidance

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.*

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 and 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*

Statement of Compliance

Refer above

4S Mixed Use

Mixed use development includes multiple uses in one building. In apartment buildings this is commonly achieved vertically with different uses stacked above one another. A vertical mix of uses is more likely to increase activity through the day and night which in turn improves passive surveillance of the public domain.

In areas zoned for mixed use development building design should allow for a range of non-residential uses. Where the location or site constraints are not suited for retail uses, the design should accommodate other uses such as commercial offices. Non-residential uses should be located on lower levels of buildings in areas where residential use may not be appropriate or desirable, such as along main roads or railway lines.

4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement

Design Guidance

Mixed use development should be concentrated around public transport and centres.

Mixed use developments positively contribute to the public domain. Design solutions may include:

- *development addresses the street.*
- *active frontages are provided.*
- *diverse activities and uses.*
- *avoiding blank walls at the ground level*
- *live/work apartments on the ground floor level, rather than commercial*

Statement of Compliance

N/A

4S-2 Residential levels of the building are integrated within the development, and safety and amenity are maximised for residents.

Design Guidance

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.*
- *security at entries and safe pedestrian routes are provided.*
- *concealment opportunities are avoided.*

Landscaped communal open space should be provided at podium or roof levels.

Statement of Compliance

N/A

4T Awnings and Signage

Awnings are prominent streetscape elements requiring considerable design attention. Continuous awnings encourage pedestrian activity along streets and in conjunction with active frontages, support and enhance the vitality of the local area. Together with building entries, awnings provide a public address, thereby contributing to the identity of a development.

Signage is also an important consideration in the design of apartment buildings located in mixed use areas and should be integrated with the awning or street wall without obscuring or dominating important views.

4T-1 Awnings are well located and complement and integrate with the building design

Design Guidance

Awnings should be located along streets with high pedestrian activity and active frontages.

A number of the following design solutions are used:

- *continuous awnings are maintained and provided in areas with an existing pattern.*
- *height, depth, material, and form complement 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.

Statement of Compliance

Awnings proposed are only located along Waldron Road where the retail areas are located. The awning proposed generally follow the suggestions above.

4T-2 Signage responds to the context and desired streetscape character.

Design Guidance

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 a single facade sign on the primary street frontage.

Statement of Compliance

Signage will be designed to respond to the scale, proportion and detailing of the development.

4U Energy Efficiency

Passive environmental and energy efficient design is about the ability of an apartment to manage thermal performance (thermal comfort) and daylight access, providing increased amenity to occupants and reducing energy costs.

This section offers guidance on meeting BASIX sustainability requirements and other rating systems through better design practice. For additional design practice linked to passive environmental design and energy efficiency see sections 4A Solar and daylight access, 4B Natural ventilation and 4D Apartment size and layout.

4U-1 Development incorporates passive environmental design.

Design Guidance

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.

Statement of Compliance

Refer to Basix, ESD and Section J reports.

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 is maximised.*
- *polished concrete floors, 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*

Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)

Statement of Compliance

Balconies maximise shading to sliding doors.

Refer to Basix, ESD and Section J reports

4U-3 Adequate natural ventilation minimises the need for mechanical ventilation.

Design Guidance

A number of the following design solutions are used:

- rooms with similar usage are grouped together.
- natural cross ventilation for apartments is optimised.
- natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible.

4V Water Management and Conservation

Water sensitive urban design is the integrated management of water in urban areas. It takes into account all of the elements of the urban water cycle including potable (drinking quality) water, rainwater, wastewater, stormwater and groundwater.

Best practice water management considers water measures at all stages of the project. This ranges from initial site planning measures that maximise deep soil areas for water infiltration to detailed building design that captures and recycles stormwater and wastewater for building services.

The Building Sustainability Index (BASIX) ensures that all new dwellings are designed to minimise potable water use and reduce greenhouse gas emissions. To support the requirements of BASIX there are a number of planning and design considerations that are relevant to apartment developments.

4V-1 Potable water use is minimised.

Design Guidance

Water efficient fittings, appliances and wastewater reuse should be incorporated.

Apartments should be individually metered.

Rainwater should be collected, stored, and reused on site.

Drought tolerant, low water use plants should be used within landscaped areas.

Statement of Compliance

Refer to Basix Certificate

4V-2 Urban stormwater is treated on site before being discharged to receiving waters

Design Guidance

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.

Statement of Compliance

Refer to Stormwater Design

4V-3 Flood management systems are integrated into site design.

Design Guidance

Detention tanks should be located under paved areas, driveways or in basement car parks.

On large sites parks or open spaces are designed to provide temporary on-site detention basins

Statement of Compliance

Refer to Stormwater Design

4W Waste Management

The minimisation and effective management of domestic waste from apartments contributes to the visual and physical amenity of the building as well as limiting potentially harmful impacts on the environment.

Minimising waste is relevant to all stages of the building's life cycle and also includes safe and convenient collection and storage of waste and recycling. Waste management should be considered early on in the design process.

4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents.

Design Guidance

Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park.

Waste and recycling storage areas should be well ventilated.

Circulation design allows bins to be easily manoeuvred between storage and collection points.

Temporary storage should be provided for large bulk items such as mattresses.

A waste management plan should be prepared.

Statement of Compliance

Refer to Waste Management Report

4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling

Design Guidance

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.

Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core.

For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses.

Alternative waste disposal methods such as composting should be provided.

Statement of Compliance

Refer to Waste Management Report

4X Building Maintenance

Careful design and material selection can reduce the long-term maintenance obligations of apartment development. In addition, effective maintenance of the development ensures the longevity of buildings, sustaining the value of the property and reducing the life-cycle cost to owners.

4X-1 Building design detail provides protection from weathering.

Design Guidance

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.

Design Guidance

Window design enables cleaning from the inside of the building.

Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade.

Design solutions do not require external scaffolding for maintenance access.

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.

Statement of Compliance

A comprehensive maintenance programme will be developed for the long term management and maintenance of the development.

4X-3 Material selection reduces ongoing maintenance costs.

Design Guidance

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 finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors.*

Statement of Compliance

Refer to Basix, ESD and Section J reports.