TELOPEA MASTERPLAN - STAGE 1A RESIDENTIAL
REVISED DA DEVELOPMENT SCHEDULE

plus architecture

Job No 20320
Date 19/01/2024

ADG Ref.	Item Description	Compliance	Notes
PART3	**SITING THE DEVELOPMENT**		
3A	SITE ANALYSIS		
3A-1	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		z
	Design Guidance	YES	The Development has been designed to respond to the site analysis undertaken in relation to orientation, views, internal apartment amenity and both the current surrounding context as well as the projected future context for the area, particularly in relation to the vision for the Telopea Masterplan.
	Each element in the Site Analysis Checklist is addressed.	YES	
3B	ORIENTATION		
3B-1	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		
	Design Guidance	YES	The alignment and orientation of the buildings have been assessed to ensure both the apartments as well as the context will maintain sufficient solar access. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0329* .
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	YES	
	Where the street frontage is to the east or west, rear buildings are orientated to the north	N/A	
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	YES	
3B-2	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		
	Design Guidance	YES	The proposal has been designed to minimise both overshadowing of communal areas within the site and potential overshadowing to neighbouring sites. The site orientation allows the northern public communal landscape zones to receive generous solar access during the day. The proposal also has a limited impact on the adjacent development to the south. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301.*
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	YES	
	Solar access to living rooms, balconies & private open spaces of neighbours are considered	YES	
	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%	YES	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	YES	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	YES	Roof top expression have been setback to further reduce the bulk and scale.
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development	YES	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C	PUBLIC DOMAIN INTERFACE		

3C-1	Objective: Transition between private & public domain is achieved without compromising safety & security.		
	Design Guidance	YES	The lobby on ground floor will present as a clearly defined and legible entry point to the development and mediating the transition between public street and private development.
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	YES	
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	YES	
	Upper level balconies & windows overlook the public domain	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	YES	
	Length of solid walls is limited along street frontages	YES	
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	YES	
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	YES	
3C-2	Objective: Amenity of the public domain is retained & enhanced.		
	Design Guidance	YES	The architecture and building composition define a network of landscaped areas which celebrate the clusters of existing trees. The neighbourhood park, public link and communal open spaces are well defined by the built form and allow for a variety of uses and program. **Refer to Landscape Architects Details.*
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	YES	
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	YES	
	The visual prominence of underground car park vents is minimised & located at a low level where possible	YES	
	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	YES	
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	YES	
	Durable, graffiti resistant & easily cleanable materials are used	YES	
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	YES	
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	YES	
3D	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		

Design Criteria		CONSIDERED	The proposal achieves a generous 6,301 m2 (**34.7%** of total site area 18,150 m2) as open space. This is inclusive of the public open space, of which accounts for **19.9% (10.7%)** of the site area. Great residential amenity will still be achieved as the development is generally sited adjacent the generous public domain (1,954sqm). This public domain will provide a variety of active spaces, gardens and shelters to support the community all while achieving 100% solar amenity (2hours beween 9am-3pm 21/06) enhanced by the passive surveillance from the 4 buildings around it. These buildings are also within walking distance to the future Telopea light rail plaza. (Fig. 3D1.1 & Fig. 3D1.2). The proposed communal open space can achieve the required 50% solar amenity between 9am - 3pm 21/06. The overall open space receives **82%** solar amenity(Fig. 3D1.2). **Refer to Landscape Architects details.* **Refer to Telopea Revised DA Report pg.22* **Refer to Architecturals PLA-AR-DA0350.*
1 Communal open space has a minimum area equal to 25% of the site		CONSIDERED	 Fig. 3D1.1 Stage 1A Communal Open Space
2 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)		YES	 Fig. 3D1.2 Solar Access within Open Space
Design Guidance		YES	Retention of trees is the main driver for communal open space on ground - as such deep soil areas and communal open space are largely co-located. This along with podium communal spaces creates pocket spaces across the overall development ensures easy access for all users. The variety of open spaces creates easily identifiable spaces for relief. **Refer to Landscape Architects Details.*
Communal open space is consolidated into a well designed, easily identified & usable area		YES	
Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions		YES	

	Communal open space are co-located with deep soil areas	YES	
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	YES	
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof	YES	
	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 need to: 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 & facilities and/or provide contributions to public open space	N/A	
3D-2	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		
	Design Guidance	YES	The communal open space proposed is intended to be an activated, inviting space that can be used for a variety of functions. The proposed roof level communal space will allow for diversity in use and it is proposed to provide shading structures and seating arrangements with generous soft landscaping to encourage sustained use. Each building receives well defined communal spaces while also maintaining a clear pedestrian link through to the heart of the public open space as well as the future Telopea Light rail plaza. **Refer to Landscape Architects Details.*
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	YES	
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	YES	
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	YES	
3D-3	Objective: Communal open space is designed to maximise safety.		
	Design Guidance	YES	The overall developments' communal open space will be naturally supervised through passive surveillance by adjacent apartments. These open spaces will also be well illuminated in conjunction with CCTV camera surveillance to further enhance safety. Walkways though these space will have clear legible view lines and are clearly defined reducing blind spots.
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	YES	
	Communal open space is well lit	YES	
	Communal open space/facilities that are provided for children & young people are safe and contained	YES	
3D-4	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		
	Design Guidance	YES	The development provides public open space at ground level and has direct connection to the Light Rail Plaza to the north encouraging natural pedestrian movement through the site (Fig. 3D1.1). **Refer to Landscape Architects Details.*
	Public open space is well connected with public streets along at least one edge	YES	
	POS is connected with nearby parks & other landscape elements	YES	
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	YES	
	Solar access is provided year round along with protection from strong winds	YES	
	Opportunities for a range of recreational activities is provided for all ages	YES	
	Positive street address & active street frontages are provided adjacent to POS	YES	
	Boundaries are clearly defined between POS & private areas	YES	
3E	DEEP SOIL ZONES		
3E- 1	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		

	Design Criteria	YES	The objective of the Concept Plan was to retain existing trees which in turn acts as the primary driver for deep soil location. The proposed basement is largely contained below the proposed built from and maintains **4,065 m2 (22.4% of total site area 18,150 m2)** of deep soil area for existing and proposed planting (Fig.3E1.1). **Refer to Telopea Revised DA Design Report pg 22.* **Refer to Architecturals PLA-AR-DA0350.*
1	Deep soil zones are to meet the following minimum requirements: Site Area (sqm) — Minimum Dim (m) — Deep Soil Zone (% of site area) less than 650 — - — 7 650-1500 — 3 greater than 1500 — 6	YES	 Fig.3E1.1 Deep Soil Diagram
	Design Guidance	YES	The Public open space is intended to support large scale planting, providing for a deep soil zone within the site.
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm	YES	
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & 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	YES	
	Achieving the design criteria may not be possible on some sites including where: location & 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 is achieved & alterna-tive forms of planting provided	YES	
3F	VISUAL PRIVACY		
3F-1	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		
	Design Criteria	YES	Stage 1A is compliant generally compliant with side and rear setbacks to existing context. There are a few non-compliances within the development that we believe achieves the overall ADG objective (Fig. 3F1.1). Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens - which Stage 1A implements. And despite being largely overshadowed by the Core Precinct to its north which hosts towers ranging from 14 – 24 stories, Stage 1A achieves 70% solar amenity (9am-3pm). **Refer to Architecturals PLA-AR-DA0098-PLA-AR-DA0115 and PLA-AR-DA0201 - PLA-AR-DA0208 & PLA-AR-DA0271 - PLA-AR-DA0275 for privacy screen location.* **Refer to Telopea Revised DA Report pg.81*

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

Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)
up to 12 (4 storeys)	6	3
up to 25 (5-8 storeys)	9	4.5
over 25 (9+ storeys)	12	6

CONSIDERED

Fig. 3F1.1 Stage 1A Separation Diagram

Building Separation on Site (Minor non-compliances)

Building A-B

BLD A is on a slope and is largely perceived as a 4 storey building separated from building B by 15m (Fig. 3F1.2).

It largely complies within the ADG requirements, and is only at the extreme frontage on the northern facade which portrays itself as 5 storey building, thus creating a minor non-compliance of 3m on one floor (Fig.3F1.3 & Fig.3F1.4). This equates to about 36 m2 (GBA) of non-compliance or 6.5% non-compliance on that storey or 1.3% across the whole of BLD A.

Screens are proposed on BLD A western facade as design resolution to improve visual privacy while maintaining solar & view amenity (Fig.3F1.2 & Fig.3F1.3).

**Refer to Architecturals PLA-AR-DA0102,*
**Refer to Architecturals PLA-AR-DA0201*

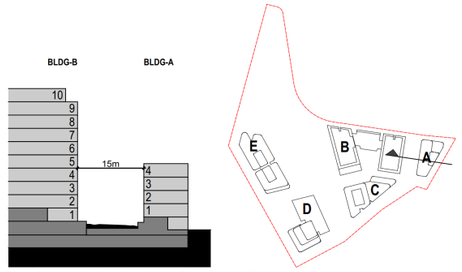


Fig. 3F1.2 Building A-B Section1 & Key Plan

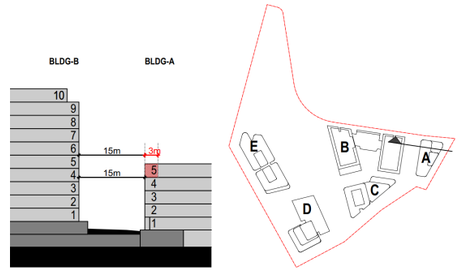


Fig. 3F1.3 Building A-B Section2 & Key Plan

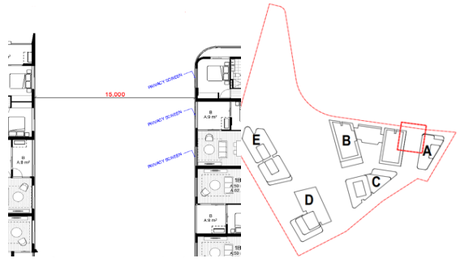


Fig. 3F1.4 Building A Plan. Privacy screens location annotated in blue

Building B-B (internal)

Minor non-compliance occurs on internal apartments between Upper ground to L04.

Within the L01 – L04 privacy concerns are alleviated with the use of privacy screens.

Overall primary habitable space (living room to the north) remains unaffected and achieves great northern amenity.

**Refer to Architecturals PLA-AR-DA0101 - PLA-AR-DA0104,*
**Refer to Architecturals PLA-AR-DA0203*

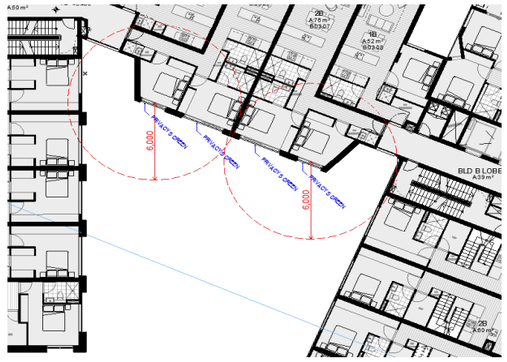


Fig. 3F1.5 Building B Plan. Privacy screens annotated in blue

Building B-C
Building separation is consistent with the ADG design criteria for building separation between Levels 1 to 8.

Level 9 of Building C results in a non-compliance with the suggested 24m building separation distance design criteria for habitable-to-habitable rooms. This equates to 91sqm of floor space or approximately 25% of that level's GFA (91/362sqm) or 2% of the whole building's GFA (91/3969sqm).

Visual amenity of the primary habitable spaces are still maintained as primary glass line faces away from one another. Intent of the design was to maintain a strong tower expression and to avoid a ziggurat appearance with multiple setbacks. The setbacks are on average is compliant with the required setback concerns.

Privacy screens have been provided on the southern facade of building B - to mitigate privacy issues to C, whilst ensuring building C achieves great solar amenity (Fig. 3F1.6 & Fig. 3F1.7).

**Refer to Architecturals PLA-AR-DA0107,*
**Refer to Architecturals PLA-AR-DA0203*

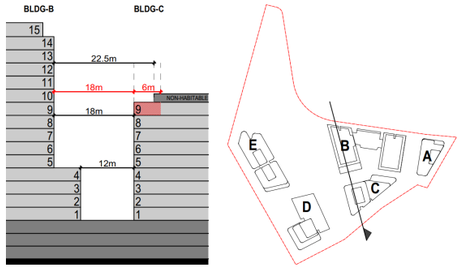


Fig. 3F1.6 Building B-C separation & Key Plan

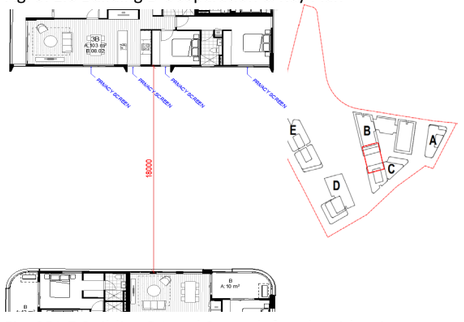


Fig. 3F1.7 Building B Level 9_south façade with privacy screens annotated in blue

Building D-C
BLD D carefully considers the adjacent Building C position by splaying away from it. This ensures a higher visual amenity and maximises views and solar amenity. Building C's rounded corner also minimises extent of non-compliance.

Non-complaince equivalent of 5 m2 per floor (less than 1% of the GBA per floor or 0.3% of the whole building) occurs **only in the southern balcony on one storey**, storey 9, with a separation of 22.65m at its most extreme. It however, is separated on average of 25m between the towers. Privacy screening elements have been implemented on Building C's southern corner to provide better visual privacy (Fig. 3F1.8).

**Refer to Architecturals PLA-AR-DA0108,*
**Refer to Architecturals PLA-AR-DA0206*

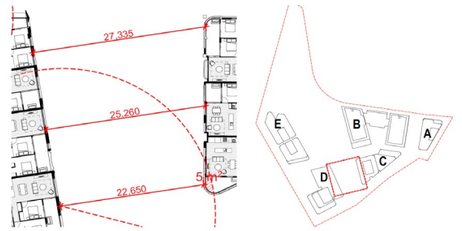


Fig. 3F1.8 Building D-C non compliant separation (Level 08 Only) & Key Plan

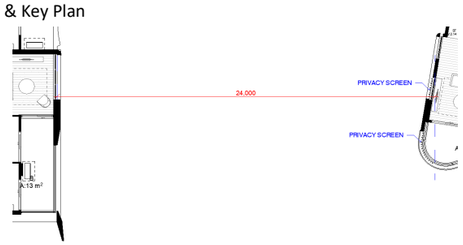


Fig. 3F1.8_A Building D-C separation (storeys 9). Privacy screens annotated in blue

Building D-E

Buildings D and E are designed offset from each other to maximise visual amenity and views (Fig. 3F1.9).

Minor non-compliance on storeys 5-8 where there's a 15m separation, however due to the oblique orientation of the buildings, visibility between apartments is greatly reduced.

Privacy screens have been implemented both BLDG D & E to increase visual privacy (Fig. 3F1.9). This non-compliance of 24sqm GBA between storey 5-8 is only equates to approximately 2% of each floors GBA or 1% of total building GBA.

**Refer to Architecturals PLA-AR-DA0103 - PLA-AR-DA0107,*
**Refer to Architecturals PLA-AR-DA0208*

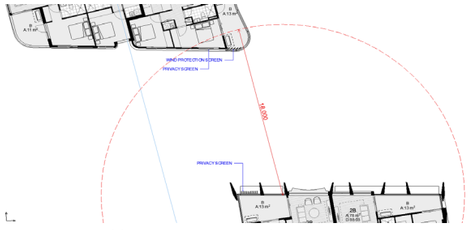


Fig. 3F1.9 Building D-E separation (storeys 3-9) Privacy screens annotated in blue

Building Separation to boundary

Bldg A Separation Side boundary Separation
The design of bldg. A seeks to maintain a vertical tower expression to suggest a gentle transition between the low density to high density whilst also refrains from multiple setbacks that would suggest a ziggurat form.

Bldg. A seeks to minimise privacy concerns through the careful planning of unhabitable and habitable space. Unhabitable spaces are generally located on the eastern boundary to reduce privacy concerns.

Non-compliance occurs on the habitable space of Level 01 only, resulting a in minor compliance of 7% (29/525sqm of the total level's GFA).

Although the non-compliance of L01 applies to only two apartments, however, primary habitable space (living room) achieves amenity in privacy. Privacy screens have been implemented to alleviate privacy concerns (Fig. 3F1.11).

**Refer to Architecturals PLA-AR-DA0101 - PLA-AR-DA0102,*
**Refer to Architecturals PLA-AR-DA0201*

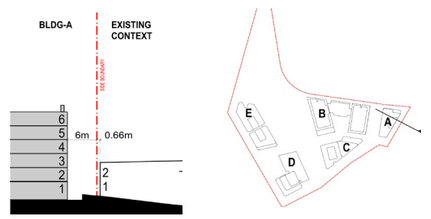


Fig. 3F1.10 Building A boundary condition & Key Plan

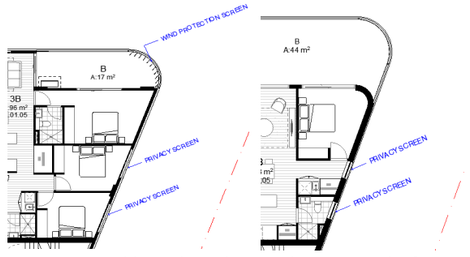
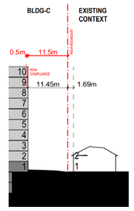
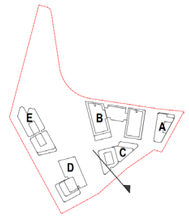
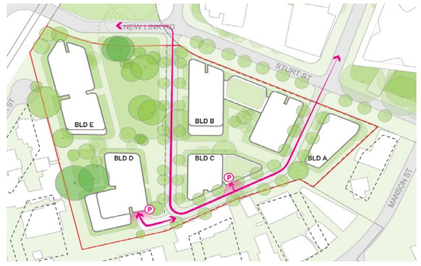


Fig. 3F1.11 Building A boundary condition at Level 5 & 6. Privacy screens annotated in blue

Building C Rear Separation
The design of Bldg. C seeks to maintain a vertical tower expression throughout this facade. This resulted in Lower Ground to L06 (stories 1-8) exceeding setback requirements of 6m (stories 1-4) and 9m (stories 5-8), as such we believe this minor-infringement of ~0.5m is acceptable on the top two stories as the overall design outcome as future developments does not exceed over 6 storeys.

			  Fig. 3F1.11 Building C boundary condition & Key Plan
	Design Guidance	YES	The proposal seeks to maintain building separation for both privacy and acoustic purpose. In locations where ADG building separation could not be met, privacy screens have been used throught to further protect the residents to ensure privacy is maintained.
	Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	YES	
	For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	N/A	
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)	YES	
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)	N/A	
	Direct lines of sight are avoided for windows & balconies across corners	YES	
	No separation is required between blank walls	YES	
3F-2	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		
	Design Guidance	YES	The communal open space proposed on the ground level, as well as the roof level communal space, common areas and access paths have been designed to be screened from apartments through the use of privacy screen.
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on 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 & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & 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 on windows and/or balconies	YES	
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	YES	
	Balconies & private terraces are located in front of living rooms to increase internal privacy	YES	
	Windows are offset from the windows of adjacent buildings	YES	
	Recessed balconies and/or vertical fins are used between adjacent balconies	YES	
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1	Objective: Building entries & pedestrian access connects to and addresses the public domain.		
	Design Guidance	YES	The building has been designed to clearly define entry points and to ensure each lobby has direct street address. The private road to along the southern boundary of the site has been introduced to ensure all entries have direct street access. (Fig.3G1.1). **Refer to Architecturals PLA-AR-DA0098 - PLA-AR-DA0100.* **Refer to Landscape Architects Details.*

	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	YES	 Fig. 3G1.1 Overall Stage 1A entries and paths
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	YES	Fig. 3G1.1
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	YES	
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	YES	
3G-2	Objective: Access, entries & pathways are accessible & easy to identify.		
	Design Guidance	YES	The overall proposal for Stage 1A, contains a new private road cutting through heart of the site. This ensures all buildings receive clear pedestrian entry points (Fig.3G1.1). Each buildings' entries are clearly defined by the architecture of the lobby entrance which increases its visibility from the proposed through road. Stage 1A also implements ramps and steps to absorb the natural level changes on site - thus creating an accessible and easily distinguishable entry. **Refer to Architecturals PLA-AR-DA0098 - PLA-AR-DA0100* **Refer to Architecturals PLA-AR-DA0201 - PLA-AR-DA0208*
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	YES	
	The design of ground floors & underground car parks minimise level changes along pathways & entries	YES	
	Steps & ramps are integrated into the overall building & landscape design	YES	
	For large developments 'way finding' maps are provided to assist visitors & residents	YES	
	For large developments electronic access & audio/video intercom are provided to manage access	YES	
3G-3	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		
	Design Guidance	YES	An internal through-site link has been provided as a connection between light rail plaza and Manson Street (Fig.3G3.1).
	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	YES	 Fig.3G3.1 Built form and connectivity
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	YES	Fig.3G3.1
3H	VEHICLE ACCESS		
3H-1	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		

	Design Guidance	YES	Vehicle access points have been carefully considered. Due to the natural sloping topography of the site, the entry points have been provided at two ends of the site at its lowest point to minimise carpark ramp being exposed onto the street front (Fig.3H1.1). Separate entries have also been designed to separate loading dock from residential vehicle access, reducing vehicle conflicts. Pedestrian entries are also located away from the vehicle entries in high visibility areas further reducing vehicular and pedestrian conflict (Fig.3H1.1).  Fig.3H1.1 Stage 1A vehicle access point
	Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	YES	
	Car park entries are located behind the building line	YES	
	Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	YES	
	Car park entry & access are located on secondary streets or lanes where available	YES	
	Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	YES	
	Access point is located to avoid headlight glare to habitable rooms	YES	
	Adequate separation distances are provided between vehicle entries & street intersections	YES	
	The width & number of vehicle access points are limited to the minimum	YES	
	Visual impact of long driveways is minimised through changing alignments & screen planting	YES	
	The need for large vehicles to enter or turn around within the site is avoided	YES	
	Garbage collection, loading & servicing areas are screened	YES	
	Clear sight lines are provided at pedestrian & vehicle crossings	YES	
	Traffic calming devices, such as changes in paving material or textures, are used where appropriate	YES	
	Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	YES	
3J	BICYCLE & CAR PARKING		
3J-1	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		
	Design Criteria	YES	The proposed development meets the required through basement carparking and on-street carparking . **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to the accompanying traffic report.*
1	For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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.	YES	
	Design Guidance	YES	**Refer to the accompanying traffic report.*
	Where a car share scheme operates locally, car share parking spaces are provided within the development.	YES	
	Where less car parking is provided in a development, council do not provide on street resident parking permits	YES	
3J-2	Objective: Parking & facilities are provided for other modes of transport.		
	Design Guidance	YES	The proposed carpark will provide secure undercover bicycle and motorbike parking spaces for residents and visitors. Carparking meets requirements with on street and basement parking.
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	YES	
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	YES	
	Conveniently located charging stations are provided for electric vehicles, where desirable	YES	

3J-3	Objective: Car park design & access is safe and secure.		
	Design Guidance	YES	The Basement has been designed to maximise efficiency within the floorplate while maintaining site lines where possible. Storage cages and bicycle parking will be accessed from dedicated pedestrian areas. Pedestrian paths through the carpark will be clearly delineated through signposting and line marking, with adequate lighting throughout
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	YES	
	Direct, clearly visible & well lit access is provided into common circulation areas	YES	
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	YES	
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	YES	
3J-4	Objective: Visual & environmental impacts of underground car parking are minimised.		
	Design Guidance	YES	The extent of excavation required to the basement levels has been minimised as much as possible. This has been achieved through an efficient carpark layout with double loaded corridors throughout. Whilst the site itself slopes significantly, the design of the basement carpark allows for it to be entirely submerged The basement carpark will be mechanically ventilated to allow for fresh air supply.
	Excavation minimised through efficient car park layouts & ramp design	YES	
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	YES	
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	YES	
	Natural ventilation is provided to basement & sub-basement car parking	YES	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	YES	
3J-5	Objective: Visual & environmental impacts of on-grade car parking are minimised.		
	Design Guidance	YES	All residential carparking has been provided in the basement levels. Few visitor carparking that are located on the private road adjacent the proposed public park which will have landscaping to reduce its visibility and buffer it from pedestrians.The loading dock entry has also been carefully considered to be located south of the site away from the public park and primary pedestrian movement (Fig.3G1.1). The number of on grade parking is minimised. On grade parking has a maximum gradient of 1:50. **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to Landscape Architects Details.*
	Parking is located on the side or rear of the lot away from the primary street frontage	YES	
	Cars are screened from view of streets, buildings, communal and private open space areas	YES	
	Safe and direct access to building entry points is provided	YES	
	Parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space	YES	
	Stormwater run-off is managed appropriately from car parking surfaces	YES	
	Bio-swales, rain gardens or on site detention tanks are provided, where appropriate	YES	
	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	YES	
3J-6	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		
	Design Guidance	YES	See 3J-5 Above ground parking will be provided on site
	Exposed parking should not be located along primary street frontages	YES	
	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	YES	
PART4	**DESIGNING THE BUILDING**		

4A	SOLAR & DAYLIGHT ACCESS		
4A-1	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		
	Design Criteria	YES	Stage 1A proposes a total of 450 new apartments. Of these, **335** receive a minimum of 2 hours sunlight **(74%)** From 8am-4pm in winter. **314** apartments **(70%)** achieve solar access from 9am-3pm. **7.3%** of total apartments proposed with south facing aspect receiving no solar access. **Refer to 20320 Development Schedule - Overall & Staging.* **Refer to Architecturals PLA-AR-DA0320 - PLA-AR-DA0322, PLA-AR-DA0327 - PLA-AR-DA0329.*
1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	YES	
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter	N/A	
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	YES	
	Design Guidance	YES	
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	YES	
	Single aspect, single storey apartments have a northerly or easterly aspect	YES	
	Living areas are located to the north and service areas to the south & west of apartments	YES	
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used:Dual aspect apartments, Shallow apartment layouts, Two storey &mezzanine level apartments, Bay windows	YES	
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	YES	
	Achieving the design criteria may not be possible 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; significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.	YES	
4A-2	Objective: Daylight access is maximised where sunlight is limited.		
	Design Guidance	YES	Skylights have been proposed to apartments with limited solar access to ensure living spaces are well lit throughout the day. **Refer to Architecturals PLA-AR-DA0108, PLA-AR-DA0109, PLA-AR-DA0115*
	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	YES	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	YES	
	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 site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	YES	
4A-3	Objective: Design incorporates shading & glare control, particularly for warmer months.		
	Design Guidance	YES	The proposed design incorporates overhangs to balconies to allow shading from summer sun as well as fixed and sliding louvre screens for additional layer of glare control. Windows are recessed into the facade to provide overhangs for solar control, and screens are utilised to minimise glare.
	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 & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	YES	
4B	NATURAL VENTILATION		

4B-1	Objective: All habitable rooms are naturally ventilated.		
	Design Guidance	YES	All habitable rooms are naturally ventilated with careful consideration of window placement to optimise natural ventilation.
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	YES	
	Depths of habitable rooms support natural ventilation	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	YES	
	Light wells are not the primary air source for habitable rooms	YES	
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	YES	
4B-2	Objective: The layout & design of single aspect apartments maximises natural ventilation.		
	Design Guidance	YES	Single aspect apartments have been designed to have limited depth in order to facilitate airflow within the apartment. Building breaks are employed in single aspect apartments to encourage cross ventilation in apartments
	Apartment depths limited to maximise ventilation & airflow	YES	
	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	YES	Capable of complying
4B-3	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		
	Design Criteria	YES	
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	YES	The development proposes a total of **450** apartments up to 15 storeys, **400** are within the first 9 storeys. Of these, **250** are naturally cross ventilated **(63%)**
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	YES	
	Design Guidance	YES	
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	YES	
4C	CEILING HEIGHTS		
4C-1	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		
	Design Criteria	YES	The minimum ceiling heights have been accommodated with 2.7m for habitable rooms and 2.4m for non-habitable rooms.
1	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	YES	
	Minimum Ceiling Height for apt and mixed-used buildings (m)		
	Habitable rooms 2.7		
	Non-habitable rooms 2.4		
	For 2 storey apts 2.7 for main living area floor		
	2.4 for second floor, where its area does not exceed 50% of the apt area		
	Attic spaces 1.8 at edge of room with 30deg minimum ceiling slope		
	If located in mixed-used area 3.3 for ground and first floor to promote future flexibility of use		
	These minimums do not preclude higher ceilings if desired		
4C-2	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.		
	Design Guidance	YES	The hierarchy of rooms within apartments will be emphasised by providing 2.7m ceiling heights for habitable rooms such as bedrooms and living areas, with 2.4m ceilings to service zones such as bathrooms.
	A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	YES	
4C-3	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.		
	Design Guidance	N/A	

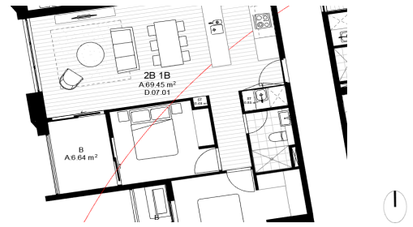
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses	N/A	The development of the ground floor is designed for residential use and is not zoned for mixed use or commercial use.
4D	APARTMENT SIZE & LAYOUT		
4D-1	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.		
	Design Criteria	YES	Almost all of the apartment internal areas are greater than the required minimum sizes, including the provision of 5sqm for additional bathrooms. All habitable rooms have windows.
1	Apartments have the following minimum internal areas:	YES	
	Apartment Type Minimum Internal Area (sqm) Studio 35 1 Bedroom 50 2 Bedroom 70 3 Bedroom 90	YES	Stage1A largely complies with minimum areas, few apartmentsin BLD D are short 0.5 m2. Solar amenity and cross ventilation are still achieved. Internal floor area can be easily refined in Design Development. (Fig.4D1.1).
			 Fig.4D1.1 BLD D Typical 2B +1B Unit (D.UG.01 - D.08.01)
	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each. A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each	YES	
2	Every habitable room has 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 & air is not borrowed from other rooms	YES	
	Design Guidance	YES	All apartments have been designed carefully and oriented sensibly within the Concept Plan to achieve the most amenity.
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	YES	
	A window is visible from any point in a habitable room	YES	
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.	YES	
4D-2	Objective: Environmental performance of the apartment is maximised.		
	Design Criteria	YES	
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	YES	
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	YES	Most open plan layouts comply with maximum ADG depth. In cases where external facade is on an angle, dimensions are averaged and maximum depth are not breached. Minor non-compliance in depth occur in a few apartments. These however, meet the ADG objectives as they're oriented north with expansive glazing to maximise solar amenity, daylighting, cross ventilation. Refinement will be made in Design Development.

Fig.4D2.1 Example of minor non-compliance BLD.E - E.UG.03 to E.07.03

	Design Guidance	YES	
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths	YES	
	All living areas & bedrooms are located on the external face of building	YES	
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	YES	
4D-3	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		
	Design Criteria	YES	
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	YES	
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	YES	Majority of the bedrooms comply with the ADG. Some bedrooms have irregular wall shapes due to angled or rounded walls. In theses few instances where dimensions vary, an average 3m dimension is always achieved and functionally the room exceeds the suggested sqm requirement and can accommodate a variety of needs (Fig.4D3.1).

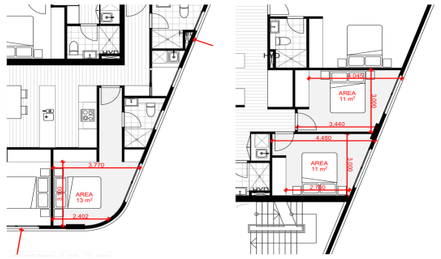
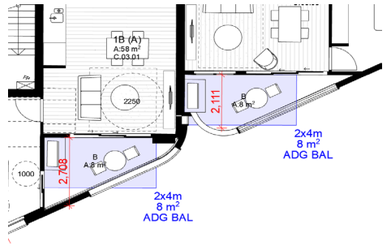
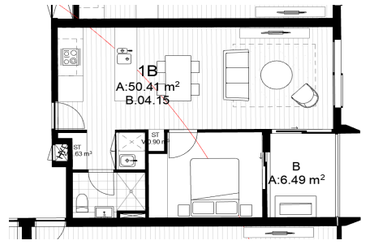


Fig.4D3.1 Example of irregularity. BLD A typical bedroom measurement, functionality of the rooms are maintained.

3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	YES	
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	YES	
	Design Guidance	YES	The habitable rooms within the development has been designed in accordance to the ADG.
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	YES	
	All bedrooms allow a minimum length of 1.5m for robes	YES	
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	YES	
	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & 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 BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	YES	
4E	PRIVATE OPEN SPACE & BALCONIES		
4E -1	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		
	Design Criteria	CONSIDERED	

1	All apartments are required to have primary balconies as follows: Apartment Type — Minimum Area (sqm) — Minimum Depth (m) Studio — 4 — - 1 Bedroom — 8 — 2 2 Bedroom — 10 — 2 3+ Bedroom — 12 — 2.4 The minimum balcony depth to be counted as contributing to the balcony area is 1m		CONSIDERED	Most apartment balconies comply with ADG requirements. In cases where balcony geometry is triangular or rounded due to the facade articulation, an average minimum dimension is achieved with ample area for a small table and chairs. Articulation can be refined in Design Development (Fig.4E1.1). In cases where balconies have rounded corners, no negative impacts are imposed on the functionality of the space (Fig.4E1.1). Non-compliances occur in various 1 Bedroom units where balcony areas amount to 6.5 m2. This will refined during Design Development, where internal planning, balcony extents or facade articulation will be amended. (Fig.4E1.2). Generous communal open spaces have been proposed to alleviate the slight non-compliance of these balconies (FIG.3D1.2).
				 Fig.4E1.1 Example of Irregular rounded ear shaped balcony configuration - BLD.C  Fig.4E1.2 Example of non compliance. Various 1 Bedroom apartment balcony in BLD B
	2 For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m		YES	
	Design Guidance		YES	
	Increased communal open space are provided where the number or size of balconies are reduced		YES	
	Storage areas on balconies is additional to the minimum balcony size		YES	
	Balcony use may be limited in some proposals where:consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated		YES	
4E -2	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents			

	Design Guidance	YES	Ground level apartments have extended generous front garden which have direct access to the private communal spaces. Privacy screen has been used throughout the ground floor apartment to ensure privacy is maintained. Balconies have been carefully positioned adjacent to living rooms to promote indoor and outdoor living and to maximise solar amenity and ventilation.
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	YES	
	POS & balconies predominantly face north, east or west	YES	
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	YES	
4E -3	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		
	Design Guidance	YES	The architecture of private open spaces and balconies have been carefully considered. They are well balanced and oriented to create articulated apartments which responds to solar amenity, visual amenity, privacy amenity. The design of the ground level extended gardens are an integral part of the overall articulation of the proposal. Their extents define the overall form of the tower elements and their generous sizing, as well as their relationship to internal spaces encourage sustained use. **Refer to Architecturals PLA-AR-DA0201 - PLA-AR-DA0208*
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	YES	
	Full width full height glass balustrades alone are generally not desirable	YES	
	Projecting balconies are integrated into the building design. The design of soffits are considered	YES	
	Operable screens, shutters, hoods & pergolas control sunlight & wind	YES	
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	YES	
	Downpipes & balcony drainage are integrated with the overall facade & building design	YES	
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	YES	
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	YES	
	Ceilings of apartments below terraces are insulated to avoid heat loss	YES	
	Water & gas outlets are provided for primary balconies & private open space	YES	
4E -4	Objective: Private open space & balcony design maximises safety		
	Design Guidance	YES	Private open space on ground level consists of planter walls and fencing which are consistent with the level it sits on. They also provide screening and buffering from the street and through-site links. All balconies to be designed and constructed in accordance with the BCA.
	Changes in ground levels or landscaping are minimised	YES	
	Balcony design & detailing avoids opportunities for climbing & falling	YES	
4F	COMMON CIRCULATION & SPACES		
4F-1	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		
	Design Criteria	CONSIDERED	
1	The maximum number of apartments off a circulation core on a single level is eight	CONSIDERED	Stage 1A provides between 1-13 apartments per circulation core which generally meets the design guidance of 12 apartments per floor per core. Only two floor plates in BLD B provide up to 13 apartments per circulation core.
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	CONSIDERED	The building is slightly non-compliant with the ADG requirement by 18 apartments. The building is comfortably serviced with the proposed amount of lifts and is supported by the vertical transportantion engineers based on assesment of the building and proposed lift speed and selection.

	Design Guidance	YES	The proposal does not strictly comply with the design criteria as it has floorplates between 8 and 13 apartments per level and a single core. However, the core is adjacent to an opening in the building floorplate, which allows for the provision of natural daylight creating an inviting circulation space.
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	YES	
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	YES	
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	YES	
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	CONSIDERED	
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	YES	
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	YES	
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	CONSIDERED	
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	YES	
4F-2	Objective: Common circulation spaces promote safety & provide for social interaction between residents		
	Design Guidance	YES	The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Corridors will have ample daylight and will be clearly lit at night.
	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	YES	
	Tight corners & spaces are avoided	YES	
	Circulation spaces are well lit at night	YES	
	Legible signage are provided for apartment numbers, common areas & general wayfinding	YES	
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	YES	
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	YES	
4G	STORAGE		
4G-1	Objective: Adequate, well designed storage is provided in each apartment		
	Design Criteria	YES	The proposal will accommodate the recommended amount of storage per apartment. 50% or greater of the required area being accessible from with the apartment living areas. Details will be finalised during design development. 50% of required storage will be provided in the basement. Apartment storage allocation at this stage is as follows: studio apartments: 4m3 1 bedroom 6m3 2 bedroom 8m3 3 bedroom 10m3
1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Apartment Type — Storage Size Volume (cubic m) Studio — 4 1 Bedroom — 6 2 Bedroom — 8 3+ Bedroom — 10	YES	
	At least 50% of the required storage is to be located within the apartment		
	Design Guidance	YES	
	Storage is accessible from either circulation or living areas	YES	
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	YES	
	Left over space such as under stairs is used for storage	YES	

4G-2	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		
	Design Guidance	YES	Additional storage not located in apartments will be located in carpark levels in secure storage 'cages'. These stores will be clearly allocated to specific apartments and be readily accessible from common aisles or from adjacent allocated car spaces.
	Storage not located in apartments is secure and clearly allocated to specific apartments	YES	
	Storage is provided for larger & less frequently accessed items	YES	
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	YES	
	If communal storage rooms are provided they are accessible from common circulation areas of the building	YES	
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	YES	
4H	ACOUSTIC PRIVACY		
4H-1	Objective: Noise transfer is minimised through the siting of buildings & building layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	YES	
	Window & door openings are orientated away from noise sources	YES	
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	YES	
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	YES	
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	YES	
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	YES	
4H-2	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	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	YES	
	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	YES	
4J	NOISE & POLLUTION		
4J-1	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & 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 & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	YES	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation	YES	
4J-2	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Design solutions to mitigate noise include: Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	YES	
4K	APARTMENT MIX		
4K-1	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		
	Design Guidance	YES	A variety of apartment types are proposed ranging from Studio, 1B, 1B+Study, 2B, 2B+Study, 3B and 3B+Study apartments.
	A variety of apartment types is provided	YES	
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	YES	

	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	YES	
4K-2	Objective: The apartment mix is distributed to suitable locations within the building		
	Design Guidance	YES	The apartment mix is distributed throughout the building. There are larger apartments on both lower and upper levels and each level accommodates a diversity of apartment types.
	Different apartment types are located to achieve successful facade composition & to optimise solar access	YES	
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	YES	
4L	GROUND FLOOR APARTMENTS		
4L-1	Objective: Street frontage activity is maximised where ground floor apartments are located		
	Design Guidance	YES	Ground floor apartment with extended front garden helps to activate the open communal spaces.
	Direct street access are provided to ground floor apartments	YES	
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	YES	
	Retail or home office spaces are located along street frontages	YES	
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	N/A	
4L-2	Objective: Design of ground floor apartments delivers amenity & safety for residents		
	Design Guidance	YES	1800mm fencing has been proposed throughout on the ground level apartments to ensure privacy is maintained. Planter boxes with screen planting and glass screens act as buffers which provides visual amenity and wind protection to residents.
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	YES	
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	YES	
4M	FACADES		
4M-1	Objective: Building facades provide visual interest along the street while respecting the character of the local area		
	Design Guidance	YES	The buildings are composed to be clearly legible and to clearly establish a base, middle and top. Warm shades of brick are used to differentiate the base from the middle and bronze perforated metal screens and create a break through the building form to provide further contrast and warmth within the overall composition. **Refer to Telopea Revised DA Report pg 25.* **Refer to Architecturals PLA-AR-DA0201 - PLA-AR-DA0208 & PLA-AR-DA0271 - PLA-AR-DA0275*  Fig.4M1.1 Warm brick podium expression in brown dash

Fig.4M1.2 Diverse tower expression in coloured dashes

	Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	YES	
	Building services are integrated within the overall façade	YES	
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	YES	
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	YES	
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	YES	
4M-2	Objective: Building functions are expressed by the façade		
	Design Guidance	YES	The built form is clearly defined into 3 distinct elements; ground level, main form and top expression. Ground level entry has also been clearly defined through articulation of the portal expression.
	Building entries are clearly defined	YES	
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	YES	
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	YES	
4N	ROOF DESIGN		
4N-1	Objective: Roof treatments are integrated into the building design & positively respond to the street		
	Design Guidance	YES	The overall proposal carefully considers the expression of the fifth facade. To compliment the variety in height, diversity in the roof plane is proposed through the use of activated landscaped roof terraces (communal and private),skylights, materiality, solar cells and planting. This creates visual variation across the development and animates the roof plane. **Refer to Architecturals PLA-AR-DA0115.*
	Roof design relates to the street. Design solutions include: Special roof features & 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 pitched form complementary to adjacent buildings	YES	
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials compliment the building, Service elements are integrated	YES	
4N-2	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		
	Design Guidance	YES	Podium level landscaping provides great residential amenity. See response to Objective 4N-1 **Refer to Landscape Architects Details.*
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	YES	
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	YES	
4N-3	Objective: Roof design incorporates sustainability features		

	Design Guidance	YES	Eaves have been incorporated on setback roof forms to mititgate solar. Skylights have also been incorporated to improve solar access to several residential units. Solar cells support the energy needs of the building.Light coloured roof assists In heat reflection. Landscaping and pergola on communal roof forms part of the overall sustainability agenda assisting with amenity, reduction of heat load and reflection. **Refer to Architecturals PLA-AR-DA0109 & PLA-AR-DA0115.* **Refer to NatHERs Assessment*
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	YES	
	Skylights & ventilation systems are integrated into the roof design	YES	
4O	LANDSCAPE DESIGN		
4O-1	Objective: Landscape design is viable & sustainable		
	Design Guidance	YES	The overall development contains a mix of well considered public, communal and private spaces. Generous deep soil planting, diverse selection of planting along with retention of existing trees aid in its overall sustainability. **Refer to Landscape Architects Details.*
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	YES	
	Ongoing maintenance plans are prepared	YES	
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	YES	
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	YES	
4O-2	Objective: Landscape design contributes to streetscape & amenity		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	YES	
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	YES	
	Plants selected are endemic to region & reflect local ecology	YES	
4P	PLANTING ON STRUCTURES		
4P-1	Objective: Appropriate soil profiles are provided		
	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*
	Structures are reinforced for additional saturated soil weight	YES	
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	YES	
	Minimum soil standards for plant sizes should be provided in accordance with: Site Area (sqm) — Recommended Tree Planting Up to 850 — 1 medium tree per 50sqm of deep soil zone 850 - 1500 — 1 large tree or 2 medium trees per 90sqm of deep soil zone Greater than 1500 — 1 large tree or 2 medium trees per 80sqm of deep soil zone	YES	
4P-2	Objective: Plant growth is optimised with appropriate selection & maintenance		
	Design Guidance	YES	Appropriate selection of planting is used to ensure planters are well maintained. **Refer to Landscape Architects Details.*
	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	YES	
	A landscape maintenance plan is prepared	YES	
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	YES	
4P-3	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		

	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*
	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	YES	
4Q	UNIVERSAL DESIGN		
4Q-1	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		
	Design Guidance	YES	
	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	YES	Capable of complying
4Q-2	Objective: A variety of apartments with adaptable designs are provided		
	Design Guidance	YES	Stage 1A comprises a total of 450 apartments. Based on the agreed 5% of dwellings required to be accessible under the State Significant Development Application (SSDA), a minimum of 23 adaptable dwellings are required. Stage 1A proposes 23 adaptable dwellings. **Refer to DA Access Report pg.16* **Refer to Architecturals PLA-AR-DA0501-PLA-AR-DA0513*
	Adaptable housing should be provided in accordance with the relevant council policy	YES	
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	YES	
4Q-3	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		
	Design Guidance	YES	
	Flexible design solutions 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 & bathroom	YES	
4R	ADAPTIVE REUSE		
4R-1	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		
4R-2	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		
4S	MIXED USE		
4S-1	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		
	Design Guidance	N/A	Stage 1A is purely a residential zoned site. Although not zoned for mixed use, the proposed private through road ensures good access and connectivity to the mixed use core to the north.
	Mixed use development are concentrated around public transport & centres	N/A	
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	N/A	
4S-2	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		
	Design Guidance	YES	The overall development of Stage 1A contains only residential apartments, as such residential circulation are clear and separated. Each lobby will provide swipe access as well as security cameras. Building entries are situated away from vehicle access points (Fig.3G1.1).
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	YES	
	Landscaped communal open space are provided at podium or roof	YES	
4T	AWNING & SIGNAGE		
4T-1	Objective: Awnings are well located and complement & integrate with the building design.		
	Design Guidance	N/A	
	Awnings are located along streets with high pedestrian activity & active frontages	N/A	
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	N/A	

	Awnings are located over building entries for address & public domain amenity Capable of complying.	N/A	
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	N/A	
	Gutters & down pipes are integrated and concealed	N/A	
	Lighting under awnings is provided for pedestrian safety	N/A	
4T-2	Objective: Signage responds to context & desired streetscape character.		
	Design Guidance	N/A	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	N/A	
	Legible & discrete way finding is provided for larger developments	N/A	
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	N/A	
4U	ENERGY EFFICIENCY		
4U-1	Objective: Development incorporates passive environmental design.		
	Design Guidance	YES	
	Adequate natural light is provided to habitable rooms	YES	
	Well located, screened outdoor areas are provided for clothes drying	YES	
4U-2	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		
	Design Guidance	YES	
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	YES	Proposed building orientations and massing have been carefully considered with passive solar design strategies to maximise solar amenity. Cross ventilation in the overall development has also been achieved thus reducing the need for cooling. Balcony overhangs and screens mitigate harsh direct summer sun. While permeable screens and balconies permits winter sun. High thermal mass of brick retains heat during winter.
	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	YES	
4U-3	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		
	Design Guidance	YES	
	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 & as many non-habitable rooms, common areas & circulation spaces as possible	YES	
4V	WATER MANAGEMENT & CONSERVATION		
4V-1	Objective: Potable water use is minimised.		
	Design Guidance	YES	The development aims to minimise potable waterconsumption through efficient fixtures and fittings as well as reduction in landscape irrigation. Planting on the rooftop areas and podium levels will be drought resistant and will be coordinated with the landscape architect's specifications of planting.Fire protection testing water is recycled into the system to avoid wastage. **Refer to Basix Report*
	Water efficient fittings, appliances & wastewater reuse are incorporated	YES	
	Apartments are individually metered	YES	
	Rainwater is collected, stored & reused on site	YES	
	Drought tolerant, low water use plants are used within landscaped areas	YES	
4V-2	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		
	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. **Refer to waste management report for more details.*
	Water sensitive urban design systems are designed by a suitably qualified professional	YES	
	A number of the following design solutions are used:, Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	YES	
4V-3	Objective: Flood management systems are integrated into site.		
	Design Guidance	YES	**Refer to Civil Engineers Drawings.*
	Detention tanks are located under paved areas, driveways or in basements	YES	
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	YES	
4W	WASTE MANAGEMENT		
4W-1	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		

	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. **Refer to waste management report for more details.*
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	YES	
	Waste & recycling storage areas are well ventilated	YES	
	Circulation design allows bins to be easily manoeuvred between storage & collection points	YES	
	Temporary storage are provided for large bulk items such as mattresses	YES	
	Waste management plan is prepared	YES	
4W-2	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		
	Design Guidance	YES	Each floor will have a dual waste chute system for both general waste and recycling, which is directed to a waste room in the basement.
	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	YES	
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	YES	
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	YES	
	Alternative waste disposal methods such as composting is provided	YES	
4X	BUILDING MAINTENANCE		
4X-1	Objective: Building design detail provides protection from weathering.		
	Design Guidance	YES	The building in its articulation and detailing is intended to be robust and low maintenance. A limited material palette is proposed - material choices have been carefully considered in relation to durability in environments close to water bodies.
	A number of the following design solutions are used:,Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	YES	
4X-2	Objective: Systems & access enable ease of maintenance.		
	Design Guidance	YES	
	Window design enables cleaning from the inside of the building	YES	
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	YES	
	Design does not require external scaffolding for maintenance access	YES	
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	YES	
	Centralised maintenance, services & storage are provided for communal open space areas within the building	YES	
4X-3	Objective: Material selection reduces ongoing maintenance costs.		
	Design Guidance	YES	The building façade is intended to be robust and hard-wearing. Materials such as bricks and metal panelling systems are proposed. Internally, common areas will be resilient in order to accommodate high traffic patterns, particularly around the lift lobby. Common areas will also have lighting that is triggered by motion detectors.
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	YES	

TELOPEA MASTERPLAN - STAGE 1A RESIDENTIAL - BLD A
REVISED DA DEVELOPMENT SCHEDULE

plus architecture

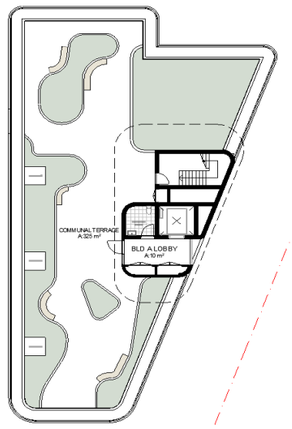
Job No 20320
Date 19/01/2024

ADG Ref.	Item Description	Compliance	Notes
PART3	**SITING THE DEVELOPMENT**		
3A	SITE ANALYSIS		
3A-1	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		
	Design Guidance	YES	The Development has been designed to respond to the site analysis undertaken in relation to orientation, views, internal apartment amenity and both the current surrounding context as well as the projected future context for the area, particularly in relation to the vision for the Telopea Concept Plan.
	Each element in the Site Analysis Checklist is addressed.	YES	
3B	ORIENTATION		
3B-1	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		
	Design Guidance	YES	The alignment and orientation of the buildings have been assessed to ensure both the Stage 1A apartments as well as the context will maintain sufficient solar access. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301, PLA-AR-DA0320 - PLA-AR-DA0329.*
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	YES	
	Where the street frontage is to the east or west, rear buildings are orientated to the north	N/A	
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	YES	
3B-2	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		
	Design Guidance	YES	The overall proposal has been designed to minimise both overshadowing of communal areas within the site and potential overshadowing to neighbouring sites. The site orientation allows the northern public communal landscape zones to receive generous solar access during the day. The proposal also has a limited impact on the adjacent development to the south. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301 .*
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	YES	
	Solar access to living rooms, balconies & private open spaces of neighbours are considered	YES	

	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%	YES	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	YES	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	YES	
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development	YES	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C	PUBLIC DOMAIN INTERFACE		
3C-1	Objective: Transition between private & public domain is achieved without compromising safety & security.		
	Design Guidance	YES	The lobby on ground floor will present as a clearly defined and legible entry point to the development and mediating the transition between public street and private development.
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	YES	
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	YES	
	Upper level balconies & windows overlook the public domain	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	YES	
	Length of solid walls is limited along street frontages	YES	
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	YES	
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	YES	
3C-2	Objective: Amenity of the public domain is retained & enhanced.		
	Design Guidance	YES	The architecture and building composition defines a network of landscaped areas which celebrate the clusters of existing trees. The neighbourhood park, public link and communal open spaces are well defined by the built form and allow for a variety of uses and program. **Refer to Landscape Architects Details* .
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	YES	
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	YES	
	The visual prominence of underground car park vents is minimised & located at a low level where possible	YES	
	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	YES	
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	YES	
	Durable, graffiti resistant & easily cleanable materials are used	YES	

	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	YES	
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	YES	
3D	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		
	Design Criteria	YES	BLD A is a 4-6 storey building situated south of the future Core Precinct which hosts towers that range between 15-20 stories. As a result of this scale and form, 50% solar amenity on communal open space is not possible to achieve even though roof top communal is proposed on top level facing north. Despite his shortfall, great residential amenity will still be achieved as the building has direct access to the generous public domain (1,954sqm). This public domain will provide a variety of active spaces, gardens and shelters to support the community all while achieving 100% solar amenity (2hours beween 9am-3pm 21/06) enhanced by the passive surveillance from the 4 buildings around it. These buildings are also within walking distance to the future Telopea light rail plaza. (Fig. 3D1.1 & Fig. 3D1.2). BLD A achieves 339 m^2 (or approximately 31% of the 1,092 m^2 site) communal open space that adequates 13.5 m^2 per unit provided. **Refer to Architecturals PLA-AR-DA0103*
1	Communal open space has a minimum area equal to 25% of the site	YES	 Fig. 3D1.1 BLD A Communal Open Space

	2 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)	YES	
	Design Guidance	YES	Fig. 3D1.2 Solar Access within Open Space Retention of trees is the main driver for communal open space on ground - as such deep soil areas and communal open space are largely co-located. This along with podium communal spaces creates pocket spaces across the overall development ensures easy access for all users. The variety of open spaces creates easily identifiable spaces for relief. **Refer to Landscape Architects Details.*
	Communal open space is consolidated into a well designed, easily identified & usable area	YES	
	Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions	YES	
	Communal open space are co-located with deep soil areas	YES	
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	YES	
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof	YES	
	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 need to: 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 & facilities and/or provide contributions to public open space	N/A	
3D-2	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		
	Design Guidance	YES	The overall development's communal open space proposed is intended to be an activated, inviting space that can be used for a variety of functions. The proposed roof level communal space will allow for diversity in use and it is proposed to provide shading structures and seating arrangements with generous soft landscaping to encourage sustained use. Each building receives well defined communal spaces while also maintaining a clear pedestrian link through to the heart of the public open space as well as the future Telopea Light rail plaza. **Refer to Landscape Architects Details.*

	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	YES	
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	YES	
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	YES	
3D-3	Objective: Communal open space is designed to maximise safety.		
	Design Guidance	YES	The overall developments' communal open space will be naturally supervised through passive surveillance by adjacent apartments. These open spaces will also be well illuminated in conjunction with CCTV camera surveillance to further enhance safety. Walkways though these space will have clear legible view lines and are clearly defined reducing blind spots.
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	YES	
	Communal open space is well lit	YES	
	Communal open space/facilities that are provided for children & young people are safe and contained	YES	
3D-4	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		
	Design Guidance	YES	The development provides public open space at ground level and has direct connection to the Light Rail Plaza to the north encouraging natural pedestrian movement through the site (Fig. 3D1.1). *Refer to Landscape Architects Details.
	Public open space is well connected with public streets along at least one edge	YES	
	POS is connected with nearby parks & other landscape elements	YES	
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	YES	
	Solar access is provided year round along with protection from strong winds	YES	
	Opportunities for a range of recreational activities is provided for all ages	YES	
	Positive street address & active street frontages are provided adjacent to POS	YES	
	Boundaries are clearly defined between POS & private areas	YES	
3E	DEEP SOIL ZONES		
3E- 1	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		
	Design Criteria	YES	

1	Deep soil zones are to meet the following minimum requirements: Site Area (sqm) — Minimum Dim (m) — Deep Soil Zone (% of site area) less than 650 — - — 7 650-1500 — 3 greater than 1500 — 6	YES	The objective of the Concept Plan was to retain existing trees which in turn acts as the primary driver for deep soil location. The proposed basement is largely contained below the proposed built from and maintains **4,065 m2 (22.4% of total site area 18,150 m2)** of deep soil area for existing and proposed planting (Fig.3E1.1). **Refer to Telopea Revised DA Design Report pg 22.* **Refer to Architecturals PLA-AR-DA0350.*  Fig.3E1.1 Deep Soil Diagram
	Design Guidance	YES	The Public open space is intended to support large scale planting, providing for a deep soil zone within the site.
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm	YES	
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & 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	YES	
	Achieving the design criteria may not be possible on some sites including where: location & 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 is achieved & alternative forms of planting provided	YES	
3F	VISUAL PRIVACY		
3F-1	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		

Design Criteria			CONSIDERED	Stage 1A is compliant generally compliant with side and rear setbacks to existing context. There are a few non-compliances within the development that we believe achieves the overall ADG objective (Fig. 3F1.1). Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens - which Stage 1A implements. And despite being largely overshadowed by the Core Precinct to its north which hosts towers ranging from 14 – 24 stories, Stage 1A achieves 70% solar amenity (9am-3pm).
1	Separation between windows & balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side & rear boundaries are as follows:		CONSIDERED	
Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)		
up to 12 (4 storeys)	6	3		
up to 25 (5-8 storeys)	9	4.5		
over 25 (9+ storeys)	12	6		

Building Separation on Site
Building A-B
BLD A is on a slope and is largely perceived as a 4 storey building offset from building B by 15m (Fig. 3F1.1).
It largely complies within the ADG requirements, and is only at the extreme frontage on the northern facade which portrays itself as 5 storey building creating a minor non-compliance of 3m on one floor.

Screens are proposed on BLD A western facade as design resolution to improve visual privacy while maintaining solar & view amenity (Fig.3F1.2 & Fig.3F1.3).
**Refer to Architecturals PLA-AR-DA0099-PLA-AR-DA0103 and PLA-AR-DA0204 for privacy screen location.*

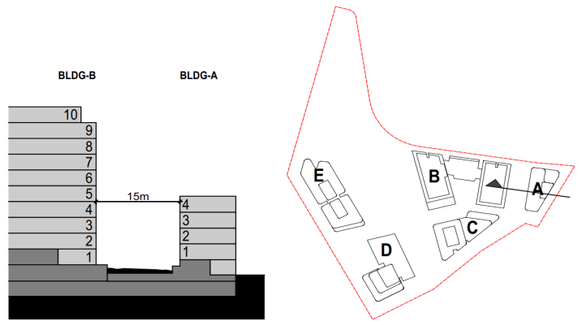


Fig. 3F1.1 Building A-B Section1 & Key Plan

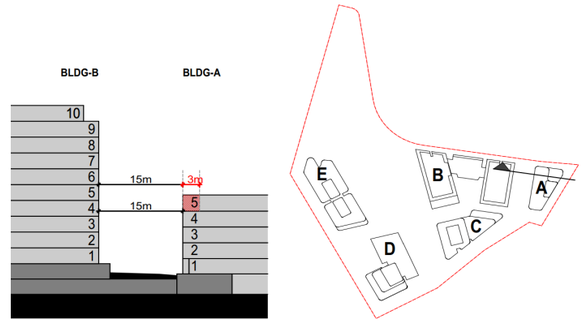


Fig. 3F1.2 Building A-B Section2 & Key Plan

Fig. 3F1.3 BLD A plan. Screens location annotated in blue

Side & Rear Boundary Conditions

The design of bldg. A seeks to maintain a vertical tower expression to suggest a gentle transition between the low density to high density whilst also refrains from multiple setbacks that would suggest a ziggurat form.

Bldg. A seeks to minimise privacy concerns through the careful planning of unhabitable and habitable space. Unhabitable spaces are generally located on the eastern boundary to reduce privacy concerns.

Non-compliance occurs on the habitable space of Level 01-02, resulting a in minor compliance of 7% (29/525sqm of the total level's GFA). Although the non-compliance of L01 applies to only two apartments their primary habitable space (living room), however, achieves amenity in privacy.

Privacy screens have been implemented to alleviate privacy concerns (Fig. 3F1.5).
**Refer to Architecturals PLA-AR-DA0101 - PLA-AR-DA0102,*
**Refer to Architecturals PLA-AR-DA0201*

Building A Side Setback (Fig. 3F1.4)
Compliant as it is setback 6m from the boundary of a 2 storey high building. Provacy screens implemented on

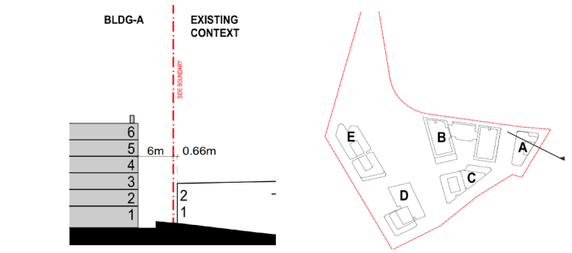


Fig. 3F1.4 Building A boundary condition & Key Plan

Fig. 3F1.5 Building A L01 (storey 5) Plan

Building A Side Setback (Fig. 3F1.5)

Proposed screens location at level 5 & 6 annotated in blue

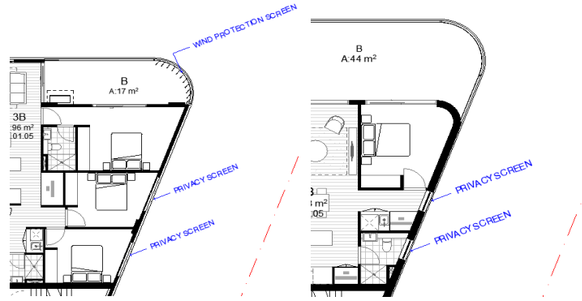


Fig. 3F1.6 Building A boundary condition at Level 5 & 6

Building A Rear Setback (Fig. 3F1.6)

Compliant as setback is over 6m at 4 storeys.

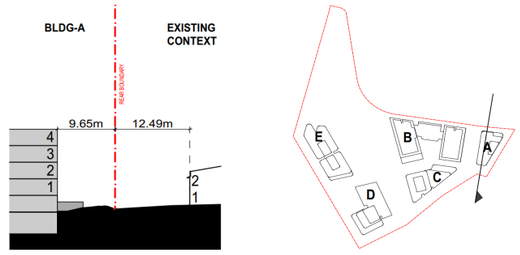


Fig. 3F1.7 Building A boundary condition & Key Plan

	Design Guidance	CONSIDERED	The proposed BLD A seeks to maintain building separation for both privacy and acoustic purpose. In locations where ADG building separation could not be met, living room and private open space are located in such a way that direct lines of sight from other buildings on site are avoided.
	Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	YES	
	For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	N/A	
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg. 63 figure 3F.4)	YES	
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg. 63 figure 3F.5)	N/A	
	Direct lines of sight are avoided for windows & balconies across corners	YES	
	No separation is required between blank walls	YES	
3F-2	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		
	Design Guidance	YES	The communal open space proposed on the ground level, as well as the roof level communal space, common areas and access paths of the overall development have been designed to be screened from apartments through the use of privacy screen.
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on 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 & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & 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 on windows and/or balconies	YES	
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	YES	
	Balconies & private terraces are located in front of living rooms to increase internal privacy	YES	
	Windows are offset from the windows of adjacent buildings	YES	
	Recessed balconies and/or vertical fins are used between adjacent balconies	YES	
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1	Objective: Building entries & pedestrian access connects to and addresses the public domain.		

	Design Guidance	YES	The overall development has been designed to clearly define entry points and to ensure each lobby has direct street address. The private road to along the southern boundary of the site has been introduced to ensure all entries have direct street access (Fig.3G1.1). BLD A's entry and pedestrian access follows the new private road and is situated directly across the public domain (Fig.3G1.2). **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100.* **Refer to Landscape Architects Details.*

Fig. 3G1.1 Overall Stage 1A entries and paths

Fig. 3G1.2 BLD A entry and access

	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	YES	Fig. 3G.1
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	YES	
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	YES	
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	YES	
3G-2	Objective: Access, entries & pathways are accessible & easy to identify.		

	Design Guidance	YES	The overall proposal for Stage 1A, contains a new private road cutting through heart of the site. This ensures all buildings receive clear pedestrian entry points (Fig.3G1.1). BLD A's entry is clearly defined by the architecture of the lobby entrance which increases its visibility from the proposed through road. BLD A also implements ramps and steps to absorb the natural level changes on site - thus creating an accessible and easily distinguishable entry. **Refer to Architecturals PLA-AR-DA0206, WEST ELEVATION* **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100*
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	YES	
	The design of ground floors & underground car parks minimise level changes along pathways & entries	YES	
	Steps & ramps are integrated into the overall building & landscape design	YES	
	For large developments 'way finding' maps are provided to assist visitors & residents	YES	
	For large developments electronic access & audio/video intercom are provided to manage access	YES	
3G-3	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		
	Design Guidance	YES	An internal through-site link has been provided as a connection between light rail plaza and Manson Street.

Fig.3G3.1 Built form and connectivity

	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	YES	
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	YES	
3H	VEHICLE ACCESS		
3H-1	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		

	Design Guidance	YES	Vehicle access points have been carefully considered. The overall Concept Plan consists of two stages, each stage has its own vehicle access point. Due to the natural sloping topography of the site, the entry points have been provided at two ends of the site at its lowest point and towards the south to minimise carpark ramp being exposed onto the street front and open spaces (Fig.3G1.1) Separate entries have also been designed to separate loading dock from residential vehicle access, reducing vehicle conflicts. Pedestrian entries are also located away from the vehicle entries in high visibility areas further reducing vehicular and pedestrian conflict (Fig.3H1.1). BLD B is part of Stage 1 Eastern and shares its entry with BLD A & C (Fig.3H1.1). *Refer to Telopea Revised DA Report pg 24.

Fig.3H1.1 Stage 1 vehicle access point

	Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	YES
	Car park entries are located behind the building line	YES
	Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	YES
	Car park entry & access are located on secondary streets or lanes where available	YES
	Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	YES
	Access point is located to avoid headlight glare to habitable rooms	YES
	Adequate separation distances are provided between vehicle entries & street intersections	YES
	The width & number of vehicle access points are limited to the minimum	YES
	Visual impact of long driveways is minimised through changing alignments & screen planting	YES
	The need for large vehicles to enter or turn around within the site is avoided	YES
	Garbage collection, loading & servicing areas are screened	YES
	Clear sight lines are provided at pedestrian & vehicle crossings	YES
	Traffic calming devices, such as changes in paving material or textures, are used where appropriate	YES
	Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	YES
3J	BICYCLE & CAR PARKING	
3J-1	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.	

	Design Criteria	YES	The proposed development meets the required through basement carparking and on-street carparking . *Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099. *Refer to the accompanying traffic report.
1	For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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.	YES	
	Design Guidance	YES	*Refer to the accompanying traffic report.*
	Where a car share scheme operates locally, car share parking spaces are provided within the development.	YES	
	Where less car parking is provided in a development, council do not provide on street resident parking permits	YES	
3J-2	Objective: Parking & facilities are provided for other modes of transport.		
	Design Guidance	YES	The proposed carpark will provide secure undercover bicycle and motorbike parking spaces for residents and visitors. Carparking meets requirements with on street and basement parking.
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	YES	
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	YES	
	Conveniently located charging stations are provided for electric vehicles, where desirable	YES	
3J-3	Objective: Car park design & access is safe and secure.		
	Design Guidance	YES	The Basement has been designed to maximise efficiency within the floorplate while maintaining site lines where possible. Storage cages and bicycle parking will be accessed from dedicated pedestrian areas. Pedestrian paths through the carpark will be clearly delineated through signposting and line marking, with adequate lighting throughout.
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	YES	
	Direct, clearly visible & well lit access is provided into common circulation areas	YES	
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	YES	
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	YES	
3J-4	Objective: Visual & environmental impacts of underground car parking are minimised.		
	Design Guidance	YES	The extent of excavation required to the basement levels has been minimised as much as possible. This has been achieved through an efficient carpark layout with double loaded corridors throughout. Whilst the site itself slopes significantly, the design of the basement carpark allows for it to be entirely submerged The basement carpark will be mechanically ventilated to allow for fresh air supply.
	Excavation minimised through efficient car park layouts & ramp design	YES	
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	YES	
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	YES	
	Natural ventilation is provided to basement & sub-basement car parking	YES	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	YES	

3J-5	Objective: Visual & environmental impacts of on-grade car parking are minimised.		
	Design Guidance	YES	All residential carparking has been provided in the basement levels. It is only the few visitor carparking that are located on the private road adjacent the proposed public park which will have landscaping to reduce its visibility and buffer it from pedestrians. The loading dock entry has also been carefully considered to be located south of the site away from the public park and primary pedestrian movement (Fig.3G1.1). **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to Landscape Architects Details.*
	Parking is located on the side or rear of the lot away from the primary street frontage	YES	
	Cars are screened from view of streets, buildings, communal and private open space areas	YES	
	Safe and direct access to building entry points is provided	YES	
	Parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space	YES	
	Stormwater run-off is managed appropriately from car parking surfaces	YES	
	Bio-swales, rain gardens or on site detention tanks are provided, where appropriate	YES	
	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	YES	
3J-6	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		
	Design Guidance	YES	Above ground parking will be provided on site.
	Exposed parking should not be located along primary street frontages	YES	
	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	YES	

PART4	**DESIGNING THE BUILDING**	
4A	SOLAR & DAYLIGHT ACCESS	
4A-1	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.	
	Design Criteria	CONSIDERED

1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas		CONSIDERED	BLD A is a small largely 5 storey building situated south east of the future Core Precinct which hosts towers that range between 15-20 stories. As a result of this scale and form, solar compliance for BLD A is not possible to achieve. However, overall Stage 1A development can achieve **70%** solar amenity (9am - 3pm). There are a number of apartments receiving sunlight from 8am-9am and 3pm - 4pm based on the current and potential future development of the adjacent sites. **Refer to 20320 Development Schedule.* **Refer to Architecturals PLA-AR-DA0320, PLA-AR-DA0321, PLA-AR-DA0326, PLA-AR-DA0327.*
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter		N/A	
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter		YES	4% of BLD A apartments proposed receive no solar access. **Refer to Architecturals PLA-AR-DA0326, PLA-AR-DA0327.*
		Design Guidance	YES	BLD A contains on average 5 apartments per floor with a majority being dual aspect or corner apartments which are oriented and positioned in a way to optimise amenity.
		The design maximises north aspect. The number of single aspect south facing apartments is minimised	YES	
		Single aspect, single storey apartments have a northerly or easterly aspect	YES	
		Living areas are located to the north and service areas to the south & west of apartments	YES	
		To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used:Dual aspect apartments, Shallow apartment layouts, Two storey &mezzanine level apartments, Bay windows	YES	
		To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	YES	
		Achieving the design criteria may not be possible 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; significant views are oriented away from the desired aspect for direct sunlight	YES	
		Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.		
4A-2	Objective: Daylight access is maximised where sunlight is limited.			
		Design Guidance	YES	Skylight has been proposed to the apartments with limited solar access to ensure living spaces are well lit throughout the day. **Refer to Architecturals PLA-AR-DA0102 & PLA-AR-DA0103 & PLA-AR-DA0321.*

Fig.4A2.2. Roof plan

	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	YES	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	YES	
	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 site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	YES	
4A-3	Objective: Design incorporates shading & glare control, particularly for warmer months.		
	Design Guidance	YES	The proposed design incorporates overhangs to balconies to allow shading from summer sun. Windows are recessed into the facade to provide overhangs for solar control.
	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 & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	YES	
4B	NATURAL VENTILATION		
4B-1	Objective: All habitable rooms are naturally ventilated.		
	Design Guidance	YES	All habitable rooms are naturally ventilated with careful consideration of window placement to optimise natural ventilation.
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	YES	
	Depths of habitable rooms support natural ventilation	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	YES	
	Light wells are not the primary air source for habitable rooms	YES	
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	YES	
4B-2	Objective: The layout & design of single aspect apartments maximises natural ventilation.		
	Design Guidance	YES	Majority of BLD A consists of corner apartments. The few single aspect apartments have been designed to have limited depth in order to facilitate airflow within the apartment.
	Apartment depths limited to maximise ventilation & airflow	YES	

	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	YES	
4B-3	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		
	Design Criteria	YES	
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	YES	Corner apartments, cross through apartments and apartments with appropriate indentations have been deemed to be cross ventilated. BLD A proposes a total of 23 apartments up to 6 storeys. Of these, 16 are naturally cross ventilated **(70%)** . **Refer to Architecturals PLA-AR-DA0330 & PLA-AR-DA0332 for apartments that have been nominated to achieve cross ventilation.*
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	YES	
	Design Guidance	YES	Single aspect apartments have been limited. Majority of BLD A consists of corner apartments.
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	YES	
4C	CEILING HEIGHTS		
4C-1	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		
	Design Criteria	YES	The minimum ceiling heights have been accommodated with 2.7m for habitable rooms and 2.4m for non-habitable rooms. **Refer to Architecturals PLA-AR-DA0201- PLA-AR-DA0254.*
1	Measured from finished floor level to finished ceiling level, minimum ceiling heights are: Minimum Ceiling Height for apt and mixed-used buildings (m) Habitable rooms 2.7 Non-habitable rooms 2.4 For 2 storey apts 2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area Attic spaces 1.8 at edge of room with 30deg minimum ceiling slope If located in mixed-used area 3.3 for ground and first floor to promote future flexibility of use These minimums do not preclude higher ceilings if desired	YES	
4C-2	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.		
	Design Guidance	YES	The hierarchy of rooms within apartments will be emphasised by providing 2.7m ceiling heights for habitable rooms such as bedrooms and living areas, with 2.4m ceilings to service zones such as bathrooms.

	A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	YES	
4C-3	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.		
	Design Guidance	CONSIDERED	
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses	CONSIDERED	BLD A ground floor in general has a ceiling height of 2.7m. Ground floor apartment (A.B2.01) has a ceiling height of 3.7m. The development of the ground floor is designed for residential use and is not zoned for mixed use or commercial use.
4D	APARTMENT SIZE & LAYOUT		
4D-1	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.		
	Design Criteria	YES	All of the apartment internal areas are greater than the required minimum sizes, including the provision of 5sqm for additional bathrooms.
1	Apartments have the following minimum internal areas:	YES	
	Apartment Type Minimum Internal Area (sqm)	YES	
	Studio 35		
	1 Bedroom 50		
	2 Bedroom 70		
	3 Bedroom 90		
	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each.	YES	
	A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each		
2	Every habitable room has 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 & air is not borrowed from other rooms	YES	
	Design Guidance	YES	
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	YES	
	A window is visible from any point in a habitable room	YES	
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.	YES	
4D-2	Objective: Environmental performance of the apartment is maximised.		
	Design Criteria	YES	
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	YES	
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	YES	
	Design Guidance	YES	All apartments have been designed carefully and oriented sensibly within the Concept Plan to achieve the most amenity.
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths	YES	
	All living areas & bedrooms are located on the external face of building	YES	
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	YES	
4D-3	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		
	Design Criteria	YES	
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	YES	

2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	YES	Bedrooms in BLD A have irregular wall shapes due to BLD A splaying in two axis. In the few instances where dimensions vary due to the angled walls, an average 3m dimension is always achieved and functionally the room exceeds the suggested sqm requirement where it can accommodate a variety of needs. As such, the objectives been met.

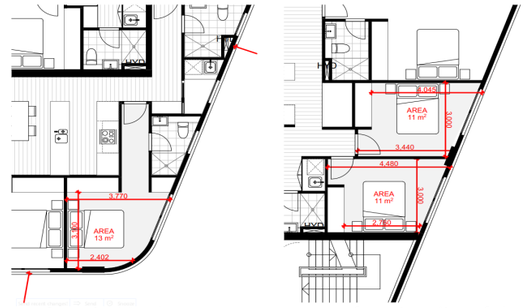


Fig.4D.3 Typical bedroom measurement, functionality of the rooms are maintained.

3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	YES	
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	YES	
	Design Guidance	YES	The habitable rooms within the development has been designed in accordance to the ADG.
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	YES	
	All bedrooms allow a minimum length of 1.5m for robes	YES	
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	YES	
	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & 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 BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	YES	
4E	PRIVATE OPEN SPACE & BALCONIES		
4E -1	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		
	Design Criteria	YES	
1	All apartments are required to have primary balconies as follows:	YES	In cases where balconies have rounded corners, no negative impacts are imposed on the functionality of the space. *Refer to Architecturals PLA-AR-DA0098-PLA-AR-DA0102

Apartment Type	Minimum Area (sqm)	Minimum Depth (m)
Studio	4	-
1 Bedroom	8	2
2 Bedroom	10	2
3+ Bedroom	12	2.4

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

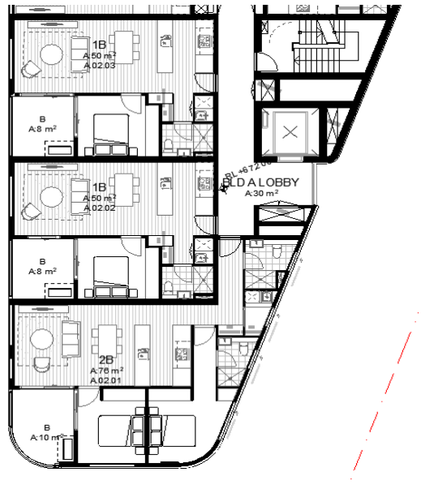


Fig.4E1.1 Typical 1Bed and 2bed balcony

	2 For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m	YES	
	Design Guidance	YES	
	Increased communal open space are provided where the number or size of balconies are reduced	YES	
	Storage areas on balconies is additional to the minimum balcony size	YES	
	Balcony use may be limited in some proposals where: consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated	YES	
4E -2	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		
	Design Guidance	YES	Ground level apartments have extended generous front gardens which have direct access to the private communal spaces. Planters and fencing have been used throughout the ground floor apartment to ensure privacy is maintained. Balconies have been carefully positioned adjacent to living rooms to promote indoor and outdoor living and to maximise solar amenity and ventilation.
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	YES	
	POS & balconies predominantly face north, east or west	YES	
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	YES	
4E -3	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		

	Design Guidance	YES	The architecture of private open spaces and balconies have been carefully considered. They are well balanced and oriented to create articulated apartments which responds to solar amenity, visual amenity, privacy amenity. The design of the ground level extended gardens are an integral part of the overall articulation of the proposal. Their extents define the overall form of the tower elements and their generous sizing, as well as their relationship to internal spaces encourage sustained use. Integration of condensers behind the solid upstands ensures clear visual amenity.
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	YES	
	Full width full height glass balustrades alone are generally not desirable	YES	
	Projecting balconies are integrated into the building design. The design of soffits are considered	YES	
	Operable screens, shutters, hoods & pergolas control sunlight & wind	YES	
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	YES	
	Downpipes & balcony drainage are integrated with the overall facade & building design	YES	
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	YES	
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	YES	
	Ceilings of apartments below terraces are insulated to avoid heat loss	YES	
	Water & gas outlets are provided for primary balconies & private open space	YES	
4E -4	Objective: Private open space & balcony design maximises safety		
	Design Guidance	YES	Private open space on ground level consists of planter walls and fencing which are consistent with the level it sits on. They also provide screening and buffering from the street and through-site links. Balconies of BLD A are designed with solid upstands to minimise slippage and falls. **Refer to Architecturals PLA-AR-DA0201.*
	Changes in ground levels or landscaping are minimised	YES	
	Balcony design & detailing avoids opportunities for climbing & falling	YES	
4F	COMMON CIRCULATION & SPACES		
4F-1	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		
	Design Criteria	YES	
1	The maximum number of apartments off a circulation core on a single level is eight	YES	BLD A has between 1-5 apartments per floor plate.
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	N/A	
	Design Guidance	YES	
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	YES	
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	YES	
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	YES	

	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	N/A	
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	YES	
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	YES	
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	YES	
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	YES	
4F-2	Objective: Common circulation spaces promote safety & provide for social interaction between residents		
	Design Guidance	YES	The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Lobbies will also have installed camera security and swipe card access. BLD A lobby window provide ample daylight to create a comfortable and safe environment which promotes social interaction. Corridors and lobbies will also be clearly illuminated at night (Fig.4.F2.1).
	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	YES	
	Tight corners & spaces are avoided	YES	
	Circulation spaces are well lit at night	YES	
	Legible signage are provided for apartment numbers, common areas & general wayfinding	YES	
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	YES	
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	YES	
4G	STORAGE		
4G-1	Objective: Adequate, well designed storage is provided in each apartment		
	Design Criteria	YES	

Fig.4.F2.1 Typical BLD A Lobby

1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Apartment Type — Storage Size Volume (cubic m) Studio — 4 1 Bedroom — 6 2 Bedroom — 8 3+ Bedroom — 10 At least 50% of the required storage is to be located within the apartment	YES	BLD A is capable of accommodating the recommended amount of storage per apartment. Details will be finalised in the design development stage. 50% of required storage will be provided in the basement. Apartment storage allocation at Design Development stage will be as follows: studio apartments: 4m3 1 bedroom 6m3 2 bedroom 8m3 3 bedroom 10m3
	Design Guidance	YES	BLD A is capable of accommodating the recommended amount of storage per apartment. 50% or greater of the required area will be accessible from with the apartment living areas.
	Storage is accessible from either circulation or living areas	YES	
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	YES	
	Left over space such as under stairs is used for storage	YES	
4G-2	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		
	Design Guidance	YES	Additional storage not located in apartments will be located in carpark levels in secure storage 'cages'. These stores will be clearly allocated to specific apartments and be readily accessible from common aisles or from adjacent allocated car spaces.
	Storage not located in apartments is secure and clearly allocated to specific apartments	YES	
	Storage is provided for larger & less frequently accessed items	YES	
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	YES	
	If communal storage rooms are provided they are accessible from common circulation areas of the building	YES	
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	YES	
4H	ACOUSTIC PRIVACY		
4H-1	Objective: Noise transfer is minimised through the siting of buildings & building layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	YES	
	Window & door openings are orientated away from noise sources	YES	
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	YES	
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	YES	
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	YES	
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	YES	
4H-2	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.

	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	YES	
	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	YES	
4J	NOISE & POLLUTION		
4J-1	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & 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 & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	YES	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation	YES	
4J-2	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Design solutions to mitigate noise include: Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	YES	
4K	APARTMENT MIX		
4K-1	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		
	Design Guidance	YES	A variety of apartment types are proposed ranging from Studio, 1B, 1B+Study, 2B, 2B+Study, 3B and 3B+Study apartments.
	A variety of apartment types is provided	YES	
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	YES	
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	YES	
4K-2	Objective: The apartment mix is distributed to suitable locations within the building		
	Design Guidance	YES	The apartment mix is distributed throughout the development. There are larger apartments on both lower and upper levels and each level accommodates a diversity of apartment types.
	Different apartment types are located to achieve successful facade composition & to optimise solar access	YES	
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	YES	
4L	GROUND FLOOR APARTMENTS		
4L-1	Objective: Street frontage activity is maximised where ground floor apartments are located		

	Design Guidance	YES	Ground floor apartment with extended front garden helps to activate the open communal spaces. Separate entries facilitate different opportunities for interaction.
	Direct street access are provided to ground floor apartments	YES	
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	YES	
	Retail or home office spaces are located along street frontages	YES	
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	N/A	
4L-2	Objective: Design of ground floor apartments delivers amenity & safety for residents		
	Design Guidance	YES	1800mm fencing has been proposed throughout on the ground level apartments to ensure privacy is maintained. Planter boxes with screen planting and glass screens act as buffers which provides visual amenity and wind protection to residents.
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	YES	
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	YES	
4M	FACADES		
4M-1	Objective: Building facades provide visual interest along the street while respecting the character of the local area		
	Design Guidance	YES	The buildings are composed to be clearly legible and to clearly establish a base, middle and top. Warm shades of brick are used to differentiate the base from the tower expressions (middle and top). This creates a break in building form which compliments the diverse tower expressions yet can still be perceived as a family of buildings through its shared base materiality and form. This pallete adds contrast and warmth to the overall composition. BLD A's small mass responds to the warm brick pallete of the podium/base. When viewed as part of the overall development, architectural variety in facade expression and form is clearly portrayed. **Refer to Telopea Revised DA Report pg 25,* **Refer to Architecturals PLA-AR-DA0201*

Fig.4M1.1 Warm brick podium expression in brown dash

Fig.4M1.2 Diverse tower expression in coloured dashes

Fig.4M1.3 BLD A materiality and balcony creates visual intrigue

	Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	YES
	Building services are integrated within the overall façade	YES
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	YES
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	YES
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	YES
4M-2	Objective: Building functions are expressed by the façade	

	Design Guidance	YES	The overall development's built form is clearly defined into 3 distinct elements; ground level, main form and top expression. Ground level entry has also been clearly defined through articulation of the portal expression. BLD A is mostly perceived as small 4-6 storey building to which ties itself to the warm podium expression. Apartment floors are expressed externally through changes in materiality between warm brick upstands and dark equitone panels. Building entry is clearly defined through its articulation of an inviting portal expression.
	Building entries are clearly defined	YES	
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	YES	
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	YES	
4N	ROOF DESIGN		
4N-1	Objective: Roof treatments are integrated into the building design & positively respond to the street		
	Design Guidance	YES	The overall proposal carefully considers the expression of the fifth facade. To compliment the variety in height, diversity in the roof plane is proposed through the use of activated landscaped roof terraces (communal and private),skylights, materiality, solar cells and planting. This creates visual variation across the development and animates the roof plane (Fig.4A2.2). BLD A animates this fifth facade with skylights and diverse materiality of roofing which responds to the use of its spaces (Fig.4A2.2). **Refer to Architecturals PLA-AR-DA0115 .*
	Roof design relates to the street. Design solutions include: Special roof features & 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 pitched form complementary to adjacent buildings	YES	
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials compliment the building, Service elements are integrated	YES	
4N-2	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		
	Design Guidance	YES	See response to Objective 4N-1 **Refer to Landscape Architects Details.*
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	YES	
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	YES	
4N-3	Objective: Roof design incorporates sustainability features		
	Design Guidance	YES	BLD A incorporates skylights to improve solar access to its residential units on the top floor (Fig.4A2.2). Solar cells support the energy needs of the building. Light coloured roof assists In heat reflection. **Refer to Architecturals PLA-AR-DA0102 & PLA-AR-DA0115.* **Refer to NatHERs Assessment*
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	YES	

	Skylights & ventilation systems are integrated into the roof design	YES	
4O	LANDSCAPE DESIGN		
4O-1	Objective: Landscape design is viable & sustainable		
	Design Guidance	YES	The overall development contains a mix of well considered public, communal and private spaces. Generous deep soil planting, diverse selection of planting along with retention of existing trees aid in its overall sustainability. **Refer to Landscape Architects Details.*
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	YES	
	Ongoing maintenance plans are prepared	YES	
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	YES	
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	YES	
4O-2	Objective: Landscape design contributes to streetscape & amenity		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	YES	
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	YES	
	Plants selected are endemic to region & reflect local ecology	YES	
4P	PLANTING ON STRUCTURES		
4P-1	Objective: Appropriate soil profiles are provided		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Structures are reinforced for additional saturated soil weight	YES	
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	YES	
	Minimum soil standards for plant sizes should be provided in accordance with:	YES	

Site Area (sqm)	Recommended Tree Planting
Up to 850	1 medium tree per 50sqm of deep soil zone
850 - 1500	1 large tree or 2 medium trees per 90sqm of deep soil zone
Greater than 1500	1 large tree or 2 medium trees per 80sqm of deep soil zone

4P-2	Objective: Plant growth is optimised with appropriate selection & maintenance		
	Design Guidance	YES	Appropriate selection of planting is used to ensure planters are well maintained. **Refer to Landscape Architects Details.*

	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	YES	
	A landscape maintenance plan is prepared	YES	
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	YES	
4P-3	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		
	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*
	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	YES	
4Q	UNIVERSAL DESIGN		
4Q-1	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		
	Design Guidance	YES	
	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	YES	Capable of complying.
4Q-2	Objective: A variety of apartments with adaptable designs are provided		
	Design Guidance	YES	Stage 1A comprises a total of 451 apartments in Stage 1A. Based on the agreed 5% of dwellings required to be accessible under the State Significant Development Application (SSDA), a minimum of 22 adaptable dwellings are required. Overall proposed development houses 23 adaptable dwellings. **Refer to DA Access Report* **Refer to Architecturals PLA-AR-DA0501-PLA-AR-DA0513*
	Adaptable housing should be provided in accordance with the relevant council policy	YES	
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	YES	
4Q-3	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		
	Design Guidance	CONSIDERED	
	Flexible design solutions 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 & bathroom	YES	
4R	ADAPTIVE REUSE		
4R-1	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		
4R-2	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		
4S	MIXED USE		
4S-1	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		
	Design Guidance	CONSIDERED	Stage 1A is purely a residential zoned site. Although not zoned for mixed use, the proposed private through road ensures good access and connectivity to the mixed use core to the north.

	Mixed use development are concentrated around public transport & centres	N/A	
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	N/A	
4S-2	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		
	Design Guidance	YES	The overall development of Stage 1A contains only residential apartments, as such residential circulation are clear and separated. Each lobby will provide swipe access as well as security cameras. Building entries are also situated away from vehicle access points.
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	YES	
	Landscaped communal open space are provided at podium or roof	YES	
4T	AWNING & SIGNAGE		
4T-1	Objective: Awnings are well located and complement & integrate with the building design.		
	Design Guidance	N/A	
	Awnings are located along streets with high pedestrian activity & active frontages	N/A	
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	N/A	
	Awnings are located over building entries for address & public domain amenity Capable of complying.	N/A	
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	N/A	
	Gutters & down pipes are integrated and concealed	N/A	
	Lighting under awnings is provided for pedestrian safety	N/A	
4T-2	Objective: Signage responds to context & desired streetscape character.		
	Design Guidance	N/A	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	N/A	
	Legible & discrete way finding is provided for larger developments	N/A	
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	N/A	
4U	ENERGY EFFICIENCY		
4U-1	Objective: Development incorporates passive environmental design.		
	Design Guidance	YES	
	Adequate natural light is provided to habitable rooms	YES	
	Well located, screened outdoor areas are provided for clothes drying	YES	
4U-2	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		
	Design Guidance	YES	Overall proposed building orientations and massing have been carefully considered with passive solar design strategies to maximise solar amenity. Cross ventilation in the overall development has also been achieved thus reducing the need for cooling. Balcony overhangs and screens mitigate harsh direct summer sun. High thermal mass of brick retains heat during winter.
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	YES	

	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	YES	
4U-3	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		
	Design Guidance	YES	
	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 & as many non-habitable rooms, common areas & circulation spaces as possible	YES	
4V	WATER MANAGEMENT & CONSERVATION		
4V-1	Objective: Potable water use is minimised.		
	Design Guidance	YES	
	Water efficient fittings, appliances & wastewater reuse are incorporated	YES	The development aims to minimise potable water consumption through efficient fixtures and fittings as well as reduction in landscape irrigation. Planting on the rooftop areas and podium levels will be drought resistant and will be coordinated with the landscape architect's specifications of planting. Fire protection testing water is recycled into the system to avoid wastage. *Refer to Basix Report
	Apartments are individually metered	YES	
	Rainwater is collected, stored & reused on site	YES	
	Drought tolerant, low water use plants are used within landscaped areas	YES	
4V-2	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		
	Design Guidance	YES	**Refer to Civil Engineers Drawings.*
	Water sensitive urban design systems are designed by a suitably qualified professional	YES	
	A number of the following design solutions are used:, Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	YES	
4V-3	Objective: Flood management systems are integrated into site.		
	Design Guidance	YES	**Refer to Civil Engineers Drawings.*
	Detention tanks are located under paved areas, driveways or in basements	YES	
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	YES	
4W	WASTE MANAGEMENT		
4W-1	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		
	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. Refer to waste management report for more details.
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	YES	
	Waste & recycling storage areas are well ventilated	YES	
	Circulation design allows bins to be easily manoeuvred between storage & collection points	YES	
	Temporary storage are provided for large bulk items such as mattresses	YES	
	Waste management plan is prepared	YES	
4W-2	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		
	Design Guidance	YES	Each floor will have a dual waste chute system for both general waste and recycling, which is directed to a waste room in the basement.
	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	YES	
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	YES	

	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	YES	
	Alternative waste disposal methods such as composting is provided	YES	
4X	BUILDING MAINTENANCE		
4X-1	Objective: Building design detail provides protection from weathering.		
	Design Guidance	YES	The building in its articulation and detailing is intended to be robust and low maintenance. A limited material palette is proposed - material choices have been carefully considered in relation to durability in environments close to water bodies.
	A number of the following design solutions are used:,Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	YES	
4X-2	Objective: Systems & access enable ease of maintenance.		
	Design Guidance	YES	
	Window design enables cleaning from the inside of the building	YES	
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	YES	
	Design does not require external scaffolding for maintenance access	YES	
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	YES	
	Centralised maintenance, services & storage are provided for communal open space areas within the building	YES	
4X-3	Objective: Material selection reduces ongoing maintenance costs.		
	Design Guidance	YES	The building façade is intended to be robust and hard-wearing. Materials such as bricks and metal panelling systems are proposed. Internally, common areas will be resilient in order to accommodate high traffic patterns, particularly around the lift lobby. Common areas will also have lighting that is triggered by motion detectors.
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	YES	

TELOPEA MASTERPLAN - STAGE 1A RESIDENTIAL - BLD B
REVISED DA DEVELOPMENT SCHEDULE

plus architecture

Job No 20320
Date 19/01/2024

ADG Ref.	Item Description	Compliance	Notes
PART3	**SITING THE DEVELOPMENT**		
3A	SITE ANALYSIS		
3A-1	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		
	Design Guidance	YES	The Development has been designed to respond to the site analysis undertaken in relation to orientation, views, internal apartment amenity and both the current surrounding context as well as the projected future context for the area, particularly in relation to the vision for the Telopea Concept Plan.
	Each element in the Site Analysis Checklist is addressed.	YES	
3B	ORIENTATION		
3B-1	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		
	Design Guidance	YES	The alignment and orientation of the buildings have been assessed to ensure both the Stage 1A apartments as well as the context will maintain sufficient solar access. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301, PLA-AR-DA0320 - PLA-AR-DA0329.*
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	YES	
	Where the street frontage is to the east or west, rear buildings are orientated to the north	N/A	
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	YES	
3B-2	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		
	Design Guidance	YES	The overall proposal has been designed to minimise both overshadowing of communal areas within the site and potential overshadowing to neighbouring sites. The site orientation allows the northern public communal landscape zones to receive generous solar access during the day. The proposal also has a limited impact on the adjacent development to the south. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301 .*
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	YES	

	Solar access to living rooms, balconies & private open spaces of neighbours are considered	YES	
	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%	YES	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	YES	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	YES	The roof top expression is setback to further reduce the bulk and scale
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development	YES	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C	PUBLIC DOMAIN INTERFACE		
3C-1	Objective: Transition between private & public domain is achieved without compromising safety & security.		
	Design Guidance	YES	The lobby on ground floor will present as a clearly defined and legible entry point to the development and mediating the transition between public street and private development.
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	YES	
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	YES	
	Upper level balconies & windows overlook the public domain	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	YES	
	Length of solid walls is limited along street frontages	YES	
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	YES	
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	YES	
3C-2	Objective: Amenity of the public domain is retained & enhanced.		
	Design Guidance	YES	The architecture and building composition defines a network of landscaped areas which celebrate the clusters of existing trees. The neighbourhood park, public link and communal open spaces are well defined by the built form and allow for a variety of uses and program. **Refer to Landscape Architects Details* .
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	YES	
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	YES	
	The visual prominence of underground car park vents is minimised & located at a low level where possible	YES	

	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	YES	
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	YES	
	Durable, graffiti resistant & easily cleanable materials are used	YES	
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	YES	
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	YES	
3D	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		
	Design Criteria	PARTIAL	BLD B is a 5-15 storey building situated south of the future Core Precinct which hosts towers ranging between 15-20 stories. As a result of this scale and form, 50% solar amenity on communal open space is not possible to achieve even though roof top communal is proposed on level 5 facing north. BLD B achieves 18% communal open space in relation to its approximate site area with 37% of direct sunlight on its principal communal open space (for 2 hours betwen 9am-3pm mid winter) (Fig. 3D1.1 & Fig. 3D1.2). Great residential amenity will still be provided as it sits directly opposite the generous public domain (1,954sqm). This public domain will provide a variety of active spaces, gardens and shelters to support the community all while achieving 100% solar amenity (2hours beween 9am-3pm 21/06) and passive surveillance from the buildings around it. BLD B is also within walking distance (~140m) to the future Telopea light rail plaza. **Refer to Landscape Architects details.*

1 Communal open space has a minimum area equal to 25% of the site	YES	
2 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)	PARTIAL	

Fig. 3D1.1 Solar Access within Open Space

Fig. 3D1.2 Solar Access within Open Space

Design Guidance	YES
Communal open space is consolidated into a well designed, easily identified & usable area	YES
Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions	YES
Communal open space are co-located with deep soil areas	YES
Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	YES
Where communal open space cannot be provided at ground level, it is provided on a podium or roof	YES

Retention of trees is the main driver for communal open space on ground - as such deep soil areas and communal open space are largely co-located. This along with podium communal spaces creates pocket spaces across the overall development ensures easy access for all users. The variety of open spaces creates easily identifiable spaces for relief.

**Refer to Landscape Architects Details.*

	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 need to: 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 & facilities and/or provide contributions to public open space	N/A	
3D-2	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		
	Design Guidance	YES	The overall development's communal open space proposed is intended to be an activated, inviting space that can be used for a variety of functions. The proposed roof level communal space will allow for diversity in use and it is proposed to provide shading structures and seating arrangements with generous soft landscaping to encourage sustained use. Each building receives well defined communal spaces while also maintaining a clear pedestrian link through to the heart of the public open space as well as the future Telopea Light rail plaza. **Refer to Landscape Architects Details.*
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	YES	
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	YES	
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	YES	
3D-3	Objective: Communal open space is designed to maximise safety.		
	Design Guidance	YES	The overall developments' communal open space will be naturally supervised through passive surveillance by adjacent apartments. These open spaces will also be well illuminated in conjunction with CCTV camera surveillance to further enhance safety. Walkways though these space will have clear legible view lines and are clearly defined reducing blind spots.
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	YES	
	Communal open space is well lit	YES	
	Communal open space/facilities that are provided for children & young people are safe and contained	YES	
3D-4	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		
	Design Guidance	YES	The development provides public open space at ground level and has direct connection to the Light Rail Plaza to the north encouraging natural pedestrian movement through the site (Fig. 3D1.1). *Refer to Landscape Architects Details.
	Public open space is well connected with public streets along at least one edge	YES	
	POS is connected with nearby parks & other landscape elements	YES	

	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	YES	
	Solar access is provided year round along with protection from strong winds	YES	
	Opportunities for a range of recreational activities is provided for all ages	YES	
	Positive street address & active street frontages are provided adjacent to POS	YES	
	Boundaries are clearly defined between POS & private areas	YES	
3E	DEEP SOIL ZONES		
3E- 1	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		
	Design Criteria	YES	
1	Deep soil zones are to meet the following minimum requirements:	YES	The objective of overall Concept Plan was to retain existing trees which in turn acts as the primary driver for deep soil location. The proposed basement is largely contained below the proposed built from and maintains **4,065 m2 (22.4%)** of deep soil area for existing and proposed planting. **Refer to Telopea Revised DA Design Report pg 22.* **Refer to Architecturals PLA-AR-DA0350.*

Site Area (sqm)	Minimum Dim (m)	Deep Soil Zone (% of site area)
less than 650	-	7
650-1500	3	
greater than 1500	6	

Fig.3E1.1 Deep Soil Diagram

	Design Guidance	YES	The Public open space is intended to support large scale planting, providing for a deep soil zone within the site.
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm	YES	
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & 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	YES	
	Achieving the design criteria may not be possible on some sites including where: location & 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 is achieved & alternative forms of planting provided	YES	
3F	VISUAL PRIVACY		

3F-1	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		
	Design Criteria	CONSIDERED	Stage 1A is compliant generally compliant with side and rear setbacks to existing context. There are a few non-compliances within the development that we believe achieves the overall ADG objective (Fig. 3F1.1). Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens - which Stage 1A implements. And despite being largely overshadowed by the Core Precinct to its north which hosts towers ranging from 14 – 24 stories, Stage 1A achieves 70% solar amenity (9am-3pm).
1	Separation between windows & balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side & rear boundaries are as follows: Building Height (m) — Habitable Rooms & Balconies. (m) — Non-Habitable Rooms (m) up to 12 (4 storeys) — 6 — 3 up to 25 (5-8 storeys) — 9 — 4.5 over 25 (9+ storeys) — 12 — 6	CONSIDERED	Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens, which have been provided on BLD B. On analysis, both solar and ventilation amenity are achieved in BLD C. **Building Separation on Site**

Building B-C
Building separation is consistent with the ADG design criteria for building separation between Levels 1 to 8.

BLD B storeys 10+ face no visual privacy issues as adjacent BLD C does not exceed over the 9th storey (Fig. 3F1.1).

Non-compliance occurs only on storey 9 of BLD C to be addressed with privacy screen on BLD B facade(Fig. 3F1.1 & Fig. 3F1.3).

Visual amenity of the primary habitable spaces are still maintained as primary glass line faces away from one another. Intent of the design was to maintain a strong tower expression and to avoid a ziggurat appearance with multiple setbacks. The setbacks are on average is compliant with the required setback concerns.

Privacy screens have been provided on the southern facade of building B - to mitigate privacy issues to C, whilst ensuring building C achieves great solar amenity (Fig. 3F1.6 & Fig. 3F1.7).

**Refer to Architecturals PLA-AR-DA0100-PLA - AR-DA0108 and PLA-AR-DA0203 for privacy screen location.*
**Refer to 20320 Development Schedule - Overall .*

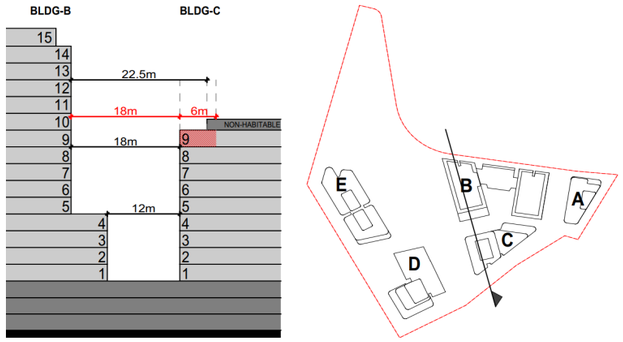


Fig. 3F1.1 Building B-C separation & Key Plan

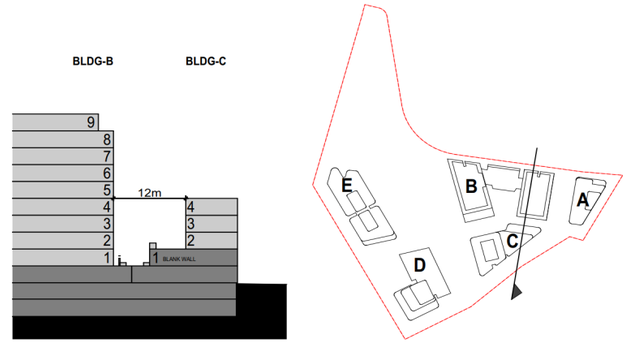


Fig. 3F1.2 Building B-C separation & Key Plan

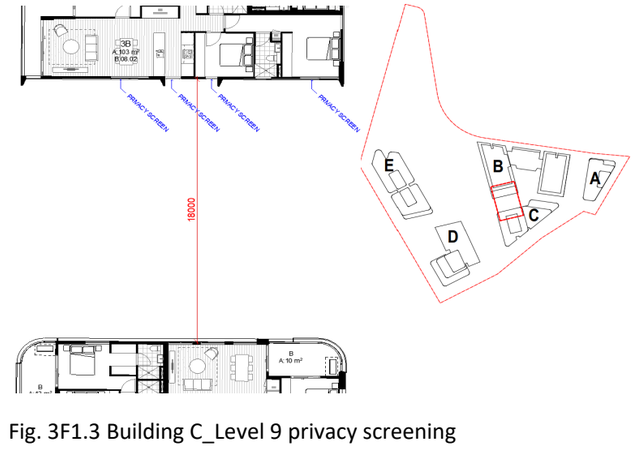


Fig. 3F1.3 Building C_Level 9 privacy screening

Building B-B
Storeys 1-4 are compliant as they're separated 15.4m apart (Fig.3F1.4).
Minor non-compliances occur only in one corner between storeys 5-8 that is mitigated with privacy screens and facade elements (Fig.3F1.5).

Storey 9 is compliant with a 18m separation as it stretches across habitable to non-habitable service space.
BLDG B tower 1 storeys 10-15 face no visual privacy issues as adjacent tower does not exceed the 9th storey (Fig. 3F1.6).

Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings. Solar and ventilation amenity are both achieved and views have been maximised.

**Refer to Architecturals PLA-AR-DA0100-PLA-AR-DA0108 and PLA-AR-DA0205 for privacy screen location.*

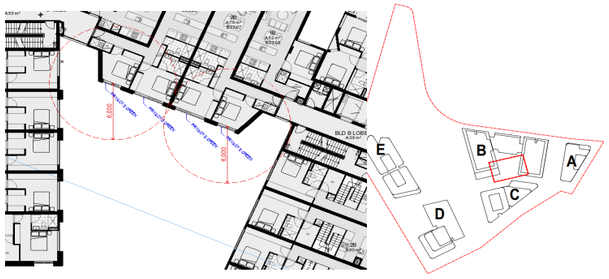


Fig. 3F1.4 Building B Plan. Privacy screens annotated in blue & Key Plan

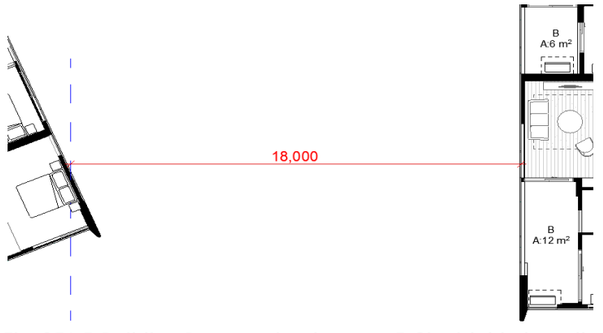


Fig. 3F1.5 Building B separation (storeys 5-8) with blade wall projection to address visual privacy.

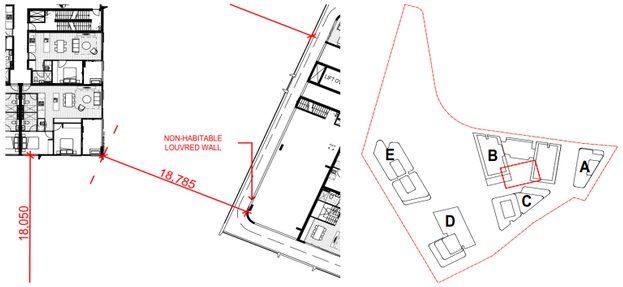


Fig. 3F1.6 Building B separation (storeys 9) & Key Plan

Building B-E

Compliant as theyre 47m apart (Fig. 3F1.7).

**Refer to Architecturals PLA-AR-DA0100 - PLA-AR-DA0108*

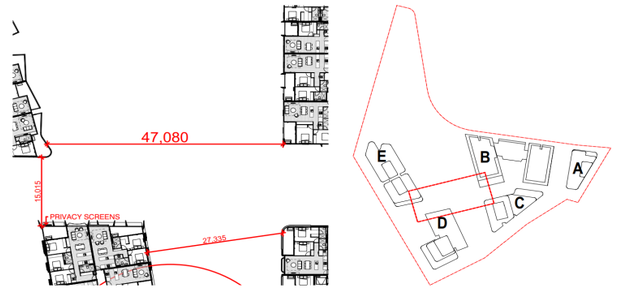


Fig. 3F1.7 Building B-E separation (storeys 1-9) & Key Plan

Side & Rear Boundary Conditions N/A

The proposed development seeks to maintain building separation for privacy, acoustic and solar purposes.

In locations where ADG building separation could not be met, privacy screens have also been used throughout to further ensure visual privacy.

	Design Guidance	YES	
	Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	YES	
	For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	N/A	
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)	YES	
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)	N/A	
	Direct lines of sight are avoided for windows & balconies across corners	YES	
	No separation is required between blank walls	YES	
3F-2	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		
	Design Guidance	YES	The communal open space proposed on the ground level, as well as the roof level communal space, common areas and access paths of the overall development have been designed to be screened from apartments through the use of privacy screen.
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on 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 & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & 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 on windows and/or balconies	YES	

	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	YES	
	Balconies & private terraces are located in front of living rooms to increase internal privacy	YES	
	Windows are offset from the windows of adjacent buildings	YES	
	Recessed balconies and/or vertical fins are used between adjacent balconies	YES	
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1	Objective: Building entries & pedestrian access connects to and addresses the public domain.		
	Design Guidance	YES	The overall development has been designed to clearly define entry points and to ensure each lobby has direct street address. The private road to along the southern boundary of the site has been introduced to ensure all entries have direct street access (Fig.3G1.1). BLD B's entry and pedestrian access follows the new private road and is situated directly across the public domain (Fig.3G1.2). **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100.* **Refer to Landscape Architects Details.*

Fig. 3G1.1 Overall Stage 1A entries and paths

Fig. 3G1.2 BLD B entry and access

	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	YES	Fig. 3G.1.1

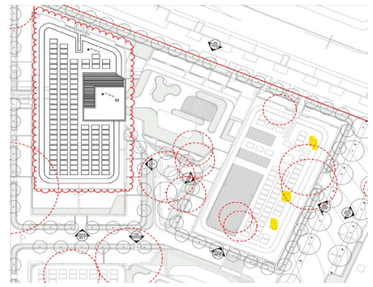
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	YES	
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	YES	
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	YES	
3G-2	Objective: Access, entries & pathways are accessible & easy to identify.		
	Design Guidance	YES	The overall proposal for Stage 1A, contains a new private road cutting through heart of the site. This ensures all buildings receive clear pedestrian entry points (Fig.3G1.1). BLD B's entry is clearly defined by the architecture of the lobby entrance which increases its visibility from the proposed through road. BLD B also implements ramps and steps to absorb the natural level changes on site - thus creating an accessible and easily distinguishable entry. **Refer to Architecturals PLA-AR-DA0206, WEST ELEVATION* **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100*
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	YES	
	The design of ground floors & underground car parks minimise level changes along pathways & entries	YES	
	Steps & ramps are integrated into the overall building & landscape design	YES	
	For large developments 'way finding' maps are provided to assist visitors & residents	YES	
	For large developments electronic access & audio/video intercom are provided to manage access	YES	
3G-3	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		
	Design Guidance	YES	An internal through-site link has been provided as a connection between light rail plaza and Manson Street.  Fig.3G3.1 Built form and connectivity
	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	YES	
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	YES	
3H	VEHICLE ACCESS		
3H-1	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		

	Design Guidance	YES	Vehicle access points have been carefully considered. The overall Concept Plan consists of two stages, each stage has its own vehicle access point. Due to the natural sloping topography of the site, the entry points have been provided at two ends of the site at its lowest point and towards the south to minimise carpark ramp being exposed onto the street front and open spaces (Fig.3G1.1) Separate entries have also been designed to separate loading dock from residential vehicle access, reducing vehicle conflicts. Pedestrian entries are also located away from the vehicle entries in high visibility areas further reducing vehicular and pedestrian conflict (Fig.3H1.1). BLD B is part of Stage 1 Eastern and shares its entry with BLD A & C
	Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	YES	
	Car park entries are located behind the building line	YES	
	Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	YES	
	Car park entry & access are located on secondary streets or lanes where available	YES	
	Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	YES	
	Access point is located to avoid headlight glare to habitable rooms	YES	
	Adequate separation distances are provided between vehicle entries & street intersections	YES	
	The width & number of vehicle access points are limited to the minimum	YES	
	Visual impact of long driveways is minimised through changing alignments & screen planting	YES	
	The need for large vehicles to enter or turn around within the site is avoided	YES	
	Garbage collection, loading & servicing areas are screened	YES	
	Clear sight lines are provided at pedestrian & vehicle crossings	YES	
	Traffic calming devices, such as changes in paving material or textures, are used where appropriate	YES	
	Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	YES	
3J	BICYCLE & CAR PARKING		
3J-1	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		
	Design Criteria	YES	The proposed development meets the required through basement carparking and on-street carparking. **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to the accompanying traffic report.*
1	For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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.	YES	
	Design Guidance	YES	**Refer to the accompanying traffic report.*

	Where a car share scheme operates locally, car share parking spaces are provided within the development.	YES	
	Where less car parking is provided in a development, council do not provide on street resident parking permits	YES	
3J-2	Objective: Parking & facilities are provided for other modes of transport.		
	Design Guidance	YES	
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	YES	The proposed carpark will provide secure undercover bicycle and motorbike parking spaces for residents and visitors. Carparking meets requirements with on street and basement parking.
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	YES	
	Conveniently located charging stations are provided for electric vehicles, where desirable	YES	
3J-3	Objective: Car park design & access is safe and secure.		
	Design Guidance	YES	The Basement has been designed to maximise efficiency within the floorplate while maintaining site lines where possible. Storage cages and bicycle parking will be accessed from dedicated pedestrian areas. Pedestrian paths through the carpark will be clearly delineated through signposting and line marking, with adequate lighting throughout.
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	YES	
	Direct, clearly visible & well lit access is provided into common circulation areas	YES	
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	YES	
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	YES	
3J-4	Objective: Visual & environmental impacts of underground car parking are minimised.		
	Design Guidance	YES	The extent of excavation required to the basement levels has been minimised as much as possible. This has been achieved through an efficient carpark layout with double loaded corridors throughout. Whilst the site itself slopes significantly, the design of the basement carpark allows for it to be entirely submerged The basement carpark will be mechanically ventilated to allow for fresh air supply.
	Excavation minimised through efficient car park layouts & ramp design	YES	
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	YES	
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	YES	
	Natural ventilation is provided to basement & sub-basement car parking	YES	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	YES	
3J-5	Objective: Visual & environmental impacts of on-grade car parking are minimised.		

	Design Guidance	YES	All residential carparking has been provided in the basement levels. It is only the few visitor carparking that are located on the private road adjacent the proposed public park which will have landscaping to reduce its visibility and buffer it from pedestrians. The loading dock entry has also been carefully considered to be located south of the site away from the public park and primary pedestrian movement (Fig.3G1.1). **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to Landscape Architects Details.*
	Parking is located on the side or rear of the lot away from the primary street frontage	YES	
	Cars are screened from view of streets, buildings, communal and private open space areas	YES	
	Safe and direct access to building entry points is provided	YES	
	Parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space	YES	
	Stormwater run-off is managed appropriately from car parking surfaces	YES	
	Bio-swales, rain gardens or on site detention tanks are provided, where appropriate	YES	
	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	YES	
3J-6	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		
	Design Guidance	YES	See 3J-5
	Exposed parking should not be located along primary street frontages	YES	
	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	YES	
PART4	**DESIGNING THE BUILDING**		
4A	SOLAR & DAYLIGHT ACCESS		
4A-1	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		
	Design Criteria	YES	

1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	YES	BLD B is a 5-15 storey building situated south of the future Core Precinct which hosts towers that range between 15-20 stories. As a result of this scale and form, solar compliance between 9am - 3pm for BLD B is not possible to achieve. However, through careful planning BLD B can achieve **67%** solar amenity for two hours between 9am-3pm. And when read with the overall Stage 1A development **70%** solar amenity is achieved (9am - 3pm). There are a number of apartments receiving sunlight from 8am-9am and 3pm - 4pm based on the current and potential future development of the adjacent sites. **Refer to 20320 Development Schedule - Overall* **Refer to Architecturals PLA-AR-DA0320 - PLA-AR-DA0322, PLA-AR-DA0327 - PLA-AR-DA0329.*
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter	N/A	
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	YES	7.3% of BLD B apartments proposed receive no solar access. **Refer to Architecturals PLA-AR-DA0326, PLA-AR-DA0328.* **Refer to 20320 Development Schedules - Overall*
	Design Guidance	YES	BLD B contains between 4-24 apartments per floor with a majority being dual aspect,corner, cross through or cross over apartments which are oriented and positioned in a way to optimise amenity.
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	YES	
	Single aspect, single storey apartments have a northerly or easterly aspect	YES	
	Living areas are located to the north and service areas to the south & west of apartments	YES	
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used:Dual aspect apartments, Shallow apartment layouts, Two storey &mezzanine level apartments, Bay windows	YES	
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	YES	
	Achieving the design criteria may not be possible 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; significant views are oriented away from the desired aspect for direct sunlight	YES	
	Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.		
4A-2	Objective: Daylight access is maximised where sunlight is limited.		
	Design Guidance	YES	Skylight has been proposed to the apartments with limited solar access to ensure living spaces are well lit throughout the day. **Refer to Architecturals PLA-AR-DA0108 & PLA-AR-DA0109 & PLA-AR-DA0322.*

			 Fig.4A2.2. Roof plan, skylight highlighted in yellow
	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	YES	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	YES	
	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 site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	YES	
4A-3	Objective: Design incorporates shading & glare control, particularly for warmer months.		
	Design Guidance	YES	The proposed design incorporates overhangs to balconies to allow shading from summer sun. Windows are recessed into the facade to provide overhangs for solar control.
	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 & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	YES	
4B	NATURAL VENTILATION		
4B-1	Objective: All habitable rooms are naturally ventilated.		
	Design Guidance	YES	All habitable rooms are naturally ventilated with careful consideration of window placement to optimise natural ventilation.
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	YES	
	Depths of habitable rooms support natural ventilation	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	YES	
	Light wells are not the primary air source for habitable rooms	YES	
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	YES	
4B-2	Objective: The layout & design of single aspect apartments maximises natural ventilation.		
	Design Guidance	YES	Single aspect apartments have been designed to have limited depth in order to facilitate airflow within the apartment.

	Apartment depths limited to maximise ventilation & airflow	YES	
	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	YES	
4B-3	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		
	Design Criteria	YES	
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	YES	Corner apartments, cross through apartments and apartments with appropriate indentations have been deemed to be cross ventilated. BLD B proposes a total of 179 apartments up to 15 storeys. Of which, 83 are naturally cross ventilated **(61.5%)**. **Refer to Architecturals PLA-AR-DA0330 & PLA-AR-DA0332 for apartments that have been nominated to achieve cross ventilation.*
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	YES	
	Design Guidance	YES	Single aspect apartments have been limited. Majority of apartments in podium consists of corner, cross over or through apartments and towers consist of mostly corner apartments (Fig.4A3.1). **Refer to Architecturals PLA-AR-DA0098 & PLA-AR-DA0115*
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	YES	
4C	CEILING HEIGHTS		
4C-1	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		
	Design Criteria	YES	The minimum ceiling heights have been accommodated with 2.7m for habitable rooms and 2.4m for non-habitable rooms. **Refer to Architecturals PLA-AR-DA0201- PLA-AR-DA0254.*

	1 Measured from finished floor level to finished ceiling level, minimum ceiling heights are:		YES	
	Minimum Ceiling Height for apt and mixed-used buildings (m)			
	Habitable rooms	2.7		
	Non-habitable rooms	2.4		
	For 2 storey apts	2.7 for main living area floor		
		2.4 for second floor, where its area does not exceed 50% of the apt area		
	Attic spaces	1.8 at edge of room with 30deg minimum ceiling slope		
	If located in mixed-used area	3.3 for ground and first floor to promote future flexibility of use		
	These minimums do not preclude higher ceilings if desired			
4C-2	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.			
	Design Guidance		YES	The hierarchy of rooms within apartments will be emphasised by providing 2.7m ceiling heights for habitable rooms such as bedrooms and living areas, with 2.4m ceilings to service zones such as bathrooms.
	A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist		YES	
4C-3	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.			
	Design Guidance		CONSIDERED	
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses		CONSIDERED	BLD B ground floor for apartments has a ceiling height of 2.7m. The development of the ground floor is designed for residential use and is not zoned for mixed use or commercial use.
4D	APARTMENT SIZE & LAYOUT			
4D-1	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.			
	Design Criteria		YES	All of the apartment internal areas are greater than the required minimum sizes, including the provision of 5sqm for additional bathrooms.
	1 Apartments have the following minimum internal areas:		YES	
	Apartment Type	Minimum Internal Area (sqm)	YES	
	Studio	35		
	1 Bedroom	50		
	2 Bedroom	70		
	3 Bedroom	90		
	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each.		YES	
	A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each			
	2 Every habitable room has 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 & air is not borrowed from other rooms		YES	
	Design Guidance		YES	
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)		YES	

	A window is visible from any point in a habitable room	YES	
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.	YES	
4D-2	Objective: Environmental performance of the apartment is maximised.		
	Design Criteria	YES	
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	YES	
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	YES	Minor non-compliance occurs in the eastern tower's north corner apartments where measurement is off by 350mm from the external window. However, high amenity in daylight and ventilation is provided by the generous opening on its secondary frontage towards the balcony (Fig.4D2.1). Minor non-compliance in B.04.08 where dimensions are off 400mm. High amenity in daylight is still achieved with its expansive glazing facing north-east, refinement will be made in Design Development.

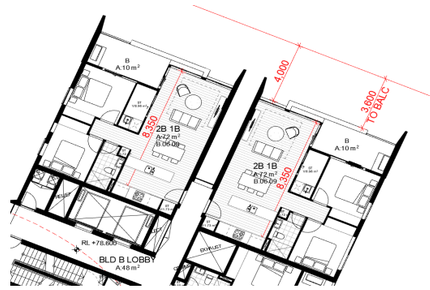
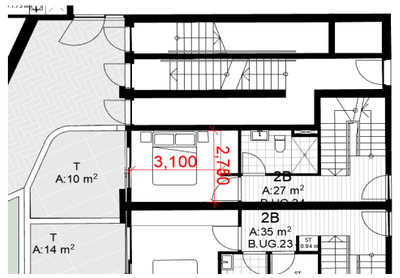


Fig.4D2.1 Typical BLD B eastern tower's north corner apartments

Fig.4D2.2 B.04.08

	Design Guidance	YES	All apartments have been designed carefully and oriented sensibly within the Concept Plan to achieve the most amenity.
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths	YES	
	All living areas & bedrooms are located on the external face of building	YES	
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	YES	

4D-3	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		
	Design Criteria	YES	
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	YES	
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	YES	Non-compliance occurs in only two cross-over apartments B.UG.24, B.UG.01. Dimensions are short 250mm which will be amended in Design development by re-evaluating the relationship with the egress circulation or amending slightly party walls to unit below. These two apartments also contain a study (above) and a private terrace which can accomodate their needs (Fig.4D3.1).



(Fig.4D3.1). Unit B.UG.24, B.UG.01

3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	YES	
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	YES	
	Design Guidance	YES	The habitable rooms within the development has been designed in accordance to the ADG.
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	YES	
	All bedrooms allow a minimum length of 1.5m for robes	YES	
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	YES	
	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & 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 BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	YES	
4E	PRIVATE OPEN SPACE & BALCONIES		
4E -1	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		
	Design Criteria	CONSIDERED	

1	All apartments are required to have primary balconies as follows: Apartment Type — Minimum Area (sqm) — Minimum Depth (m) Studio — 4 — - 1 Bedroom — 8 — 2 2 Bedroom — 10 — 2 3+ Bedroom — 12 — 2.4 The minimum balcony depth to be counted as contributing to the balcony area is 1m	CONSIDERED	Most apartment balconies comply with ADG requirements. In cases where balcony geometry is triangular due to the angled façade, an average 3m dimension is always achieved with generous area for a small table and chairs (Fig.4E1.1). Non-compliances occur in various 1 Bedroom units where balcony areas amount to 6.5sqm. This will require further development of the internal planning or balcony extents with regards to the facade articulation (Fig.4E1.2).

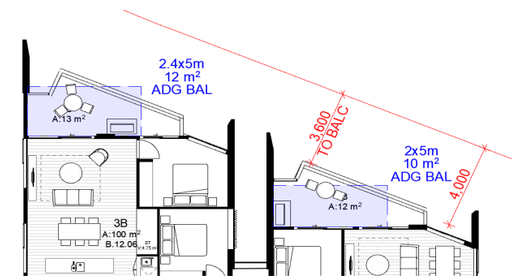


Fig.4E1.1 Typical triangular balcony where dimensions may not adhere exactly to ADG, objectives are still met.

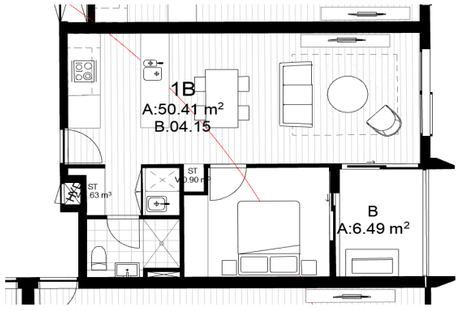


Fig.4E1.2 Various 1 Bedroom apartment balcony in BLD B

2	For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m	YES	
	Design Guidance	YES	
	Increased communal open space are provided where the number or size of balconies are reduced	YES	
	Storage areas on balconies is additional to the minimum balcony size	YES	
	Balcony use may be limited in some proposals where:consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated	YES	
4E -2	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		

	Design Guidance	YES	Ground level apartments have extended generous front gardens which have direct access to the private communal spaces. Planters and fencing have been used throughout the ground floor apartment to ensure privacy is maintained. Balconies have been carefully positioned adjacent to living rooms to promote indoor and outdoor living and to maximise solar amenity and ventilation.
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	YES	
	POS & balconies predominantly face north, east or west	YES	
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	YES	
4E -3	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		
	Design Guidance	YES	The architecture of private open spaces and balconies have been carefully considered. They are well balanced and oriented to create articulated apartments which responds to solar amenity, visual amenity, privacy amenity. The design of the ground level extended gardens are an integral part of the overall articulation of the proposal. Their extents define the overall form of the tower elements and their generous sizing, as well as their relationship to internal spaces encourage sustained use. Integration of condensers behind solid upstands ensures clear visual amenity as well as solar amenity in the winter. The materiality also corresponds to the overall facade expression. Metal balustrades are used in building breaks to portray a recesses in the building to break down building scale through visual relief. **Refer to Architecturals PLA-AR-DA0202 - PLA-AR-DA0205*
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	YES	
	Full width full height glass balustrades alone are generally not desirable	YES	
	Projecting balconies are integrated into the building design. The design of soffits are considered	YES	
	Operable screens, shutters, hoods & pergolas control sunlight & wind	YES	
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	YES	
	Downpipes & balcony drainage are integrated with the overall facade & building design	YES	
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	YES	

	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	YES	
	Ceilings of apartments below terraces are insulated to avoid heat loss	YES	
	Water & gas outlets are provided for primary balconies & private open space	YES	
4E -4	Objective: Private open space & balcony design maximises safety		
	Design Guidance	YES	Private open space on ground level consists of planter walls and fencing which are consistent with the level it sits on. They also provide screening and buffering from the street and through-site links. All balconies to be designed and constructed in accordance with the BCA. Balconies on BLD B are designed with solid upstands to minimise slippage and falls. This solid construction also increases residents' psychological perception of safety. **Refer to Architecturals PLA-AR-DA0202 - PLA-AR-DA0205*
	Changes in ground levels or landscaping are minimised	YES	
	Balcony design & detailing avoids opportunities for climbing & falling	YES	
4F	COMMON CIRCULATION & SPACES		
4F-1	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		
	Design Criteria	YES	
1	The maximum number of apartments off a circulation core on a single level is eight	PARTIAL	BLD B has between 4-24 apartments per floor plate facilitated by **two cores** (Fig. 3G1.1). It is compliant on most the of the floors - LG, L01, L03, L05 - L14 where each core services no more 8 apartments. Variation occurs on only two floors - L02 and UG, where the cores service between 11-13, design objectives will still be met. Refer to 4F-1 Design Guidance.
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	YES	The building is slightly non-compliant with the ADG requirement by 18 apartments. The building is comfortably serviced with the proposed amount of lifts and is supported by the vertical transportantion engineers based on assesment of the building and proposed lift speed and selection.
	Design Guidance	YES	The core is adjacent to several openings in the building floorplate, which allows for the provision of natural daylight creating an inviting circulation space.
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	YES	
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	YES	
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	YES	
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	YES	

	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	YES	
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	YES	
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	YES	
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	YES	
4F-2	Objective: Common circulation spaces promote safety & provide for social interaction between residents		
	Design Guidance	YES	The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Lobbies will also have installed camera security and swipe card access. BLD B lobby windows provide ample daylight to create a comfortable and safe environment which promotes social interaction. Corridors and lobbies will also be clearly illuminated at night (Fig.4.F2.1).
	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	YES	
	Tight corners & spaces are avoided	YES	
	Circulation spaces are well lit at night	YES	
	Legible signage are provided for apartment numbers, common areas & general wayfinding	YES	
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	YES	
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	YES	
4G	STORAGE		
4G-1	Objective: Adequate, well designed storage is provided in each apartment		
	Design Criteria	YES	

Fig.4.F2.1 Typical BLD B podium lobby (left), tower lobby (right)

1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Apartment Type — Storage Size Volume (cubic m) Studio — 4 1 Bedroom — 6 2 Bedroom — 8 3+ Bedroom — 10 At least 50% of the required storage is to be located within the apartment	YES	BLD B is capable of accommodating the recommended amount of storage per apartment. Details will be finalised in the design development stage. 50% of required storage will be provided in the basement. Apartment storage allocation at Design Development stage will be as follows: studio apartments: 4m3 1 bedroom 6m3 2 bedroom 8m3 3 bedroom 10m3
	Design Guidance	YES	BLD B is capable of accommodating the recommended amount of storage per apartment. 50% or greater of the required area will be accessible from with the apartment living areas.
	Storage is accessible from either circulation or living areas	YES	
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	YES	
	Left over space such as under stairs is used for storage	YES	
4G-2	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		
	Design Guidance	YES	Additional storage not located in apartments will be located in carpark levels in secure storage 'cages'. These stores will be clearly allocated to specific apartments and be readily accessible from common aisles or from adjacent allocated car spaces.
	Storage not located in apartments is secure and clearly allocated to specific apartments	YES	
	Storage is provided for larger & less frequently accessed items	YES	
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	YES	
	If communal storage rooms are provided they are accessible from common circulation areas of the building	YES	
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	YES	
4H	ACOUSTIC PRIVACY		
4H-1	Objective: Noise transfer is minimised through the siting of buildings & building layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	YES	
	Window & door openings are orientated away from noise sources	YES	
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	YES	
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	YES	
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	YES	
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	YES	
4H-2	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		

	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	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	YES	
	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	YES	
4J	NOISE & POLLUTION		
4J-1	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & 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 & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	YES	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation	YES	
4J-2	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Design solutions to mitigate noise include: Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	YES	
4K	APARTMENT MIX		
4K-1	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		
	Design Guidance	YES	A variety of apartment types are proposed ranging from Studio, 1B, 1B+Study, 2B, 2B+Study, 3B and 3B+Study apartments.
	A variety of apartment types is provided	YES	
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	YES	
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	YES	
4K-2	Objective: The apartment mix is distributed to suitable locations within the building		

	Design Guidance	YES	The apartment mix is distributed throughout the development. There are larger apartments on both lower and upper levels and each level accommodates a diversity of apartment types.
	Different apartment types are located to achieve successful facade composition & to optimise solar access	YES	
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	YES	
4L	GROUND FLOOR APARTMENTS		
4L-1	Objective: Street frontage activity is maximised where ground floor apartments are located		
	Design Guidance	YES	Ground floor apartment with extended front garden helps to activate the open communal spaces. Separate entries facilitate different opportunities for interaction.
	Direct street access are provided to ground floor apartments	YES	
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	YES	
	Retail or home office spaces are located along street frontages	YES	
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	N/A	
4L-2	Objective: Design of ground floor apartments delivers amenity & safety for residents		
	Design Guidance	YES	1800mm fencing has been proposed throughout on the ground level apartments to ensure privacy is maintained. Planter boxes with screen planting and glass screens act as buffers which provides visual amenity and wind protection to residents.
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	YES	
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	YES	
4M	FACADES		
4M-1	Objective: Building facades provide visual interest along the street while respecting the character of the local area		

Design Guidance

YES

The buildings are composed to be clearly legible and to clearly establish a base, middle and top. Warm shades of brick are used to differentiate the base from the tower expressions (middle and top). This creates a break in building form which compliments the diverse tower expressions yet can still be perceived as a family of buildings through its shared base materiality and form. This pallete adds contrast and warmth to the overall composition. Facade indentations and screening to provides relief and to break down scale.

BLD B's tower expression of light equitone compliments and contrasts the brick base of the overall Stage 1A development; clearly defining the buildings base and tower. When viewed in conjunction with the overall development, it clearly stands on its own as a distinct building but also as part of a family.

**Refer to Telopea Revised DA Report pg 25.*
**Refer to Architecturals PLA-AR-DA0202 - PLA-AR-DA0205.*

Fig.4M1.1 Warm brick podium expression in brown dash

Fig.4M1.2 Diverse tower expression in coloured dashes

Fig.4M1.3 BLD B podium, tower and top are clearly defined.

	Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	YES	
	Building services are integrated within the overall façade	YES	
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	YES	
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	YES	
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	YES	
4M-2	Objective: Building functions are expressed by the façade		
	Design Guidance	YES	The overall development's built form is clearly defined into 3 distinct elements; ground level, main form and top expression. Ground level entry has also been clearly defined through articulation of the portal expression. Apartment floors are expressed externally through horizontal slab edges which contrast the vertical equitone.
	Building entries are clearly defined	YES	
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	YES	
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	YES	
4N	ROOF DESIGN		
4N-1	Objective: Roof treatments are integrated into the building design & positively respond to the street		

	Design Guidance	YES	The overall proposal carefully considers the expression of the fifth facade. To compliment the variety in height, diversity in the roof plane is proposed through the use of activated landscaped roof terraces (communal and private),skylights, materiality, solar cells and planting. This creates visual variation across the development and animates the roof plane (Fig.4A2.2). BLD B animates this fifth facade with skylights, eaves, dark solar cells and ventilation grills on the towers and landscaped communal open spaces on podium. Roofing materiality responds to the use of its spaces but also presents the roof plane as a family of buildings (Fig.4A2.2). **Refer to Architecturals PLA-AR-DA0115* .
	Roof design relates to the street. Design solutions include: Special roof features & 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 pitched form complementary to adjacent buildings	YES	
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials compliment the building, Service elements are integrated	YES	
4N-2	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		
	Design Guidance	YES	Podium level landscaping provides great residential amenity. **Refer to Landscape Architects Details.*
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	YES	
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	YES	
4N-3	Objective: Roof design incorporates sustainability features		
	Design Guidance	YES	BLD B incorporates skylights to improve solar access to its residential units on the top floor (Fig.4A2.2). Solar cells support the energy needs of the building. Light coloured roof assists In heat reflection. Landscaping and pergola on communal roof forms part of the overall sustainability agenda assisting with amenity, reduction of heat load and reflection. **Refer to Architecturals PLA-AR-DA0109 & PLA-AR-DA0115.* **Refer to NatHERs Assessment*
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	YES	
	Skylights & ventilation systems are integrated into the roof design	YES	
4O	LANDSCAPE DESIGN		
4O-1	Objective: Landscape design is viable & sustainable		

	Design Guidance	YES	The overall development contains a mix of well considered public, communal and private spaces. Generous deep soil planting, diverse selection of planting along with retention of existing trees aid in its overall sustainability. **Refer to Landscape Architects Details.*
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	YES	
	Ongoing maintenance plans are prepared	YES	
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	YES	
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	YES	
4O-2	Objective: Landscape design contributes to streetscape & amenity		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	YES	
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	YES	
	Plants selected are endemic to region & reflect local ecology	YES	
4P	PLANTING ON STRUCTURES		
4P-1	Objective: Appropriate soil profiles are provided		
	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*
	Structures are reinforced for additional saturated soil weight	YES	
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	YES	
	Minimum soil standards for plant sizes should be provided in accordance with: Site Area (sqm) — Recommended Tree Planting Up to 850 — 1 medium tree per 50sqm of deep soil zone 850 - 1500 — 1 large tree or 2 medium trees per 90sqm of deep soil zone Greater than 1500 — 1 large tree or 2 medium trees per 80sqm of deep soil zone	YES	
4P-2	Objective: Plant growth is optimised with appropriate selection & maintenance		
	Design Guidance	YES	Appropriate selection of planting is used to ensure planters are well maintained. **Refer to Landscape Architects Details.*
	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	YES	
	A landscape maintenance plan is prepared	YES	
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	YES	
4P-3	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		

	Design Guidance	YES	Landscape elements has been used throughout to create an inviting and pleasant environment. **Refer to Landscape Architects Details.*
	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	YES	
4Q	UNIVERSAL DESIGN		
4Q-1	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		
	Design Guidance	CONSIDERED	
	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	YES	Capable of complying
4Q-2	Objective: A variety of apartments with adaptable designs are provided		
	Design Guidance	YES	Stage 1A comprises a total of 451 apartments in Stage 1A. Based on the agreed 5% of dwellings required to be accessible under the State Significant Development Application (SSDA), a minimum of 22 adaptable dwellings are required. Overall proposed development houses 23 adaptable dwellings. **Refer to DA Access Report pg.16* **Refer to Architecturals PLA-AR-DA0501-PLA-AR-DA0513*
	Adaptable housing should be provided in accordance with the relevant council policy	YES	
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	YES	
4Q-3	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		
	Design Guidance	YES	
	Flexible design solutions 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 & bathroom	YES	
4R	ADAPTIVE REUSE		
4R-1	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		
4R-2	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		
4S	MIXED USE		
4S-1	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		
	Design Guidance	N/A	Stage 1A is purely a residential zoned site. Although not zoned for mixed use, the proposed private through road ensures good access and connectivity to the mixed use core to the north.
	Mixed use development are concentrated around public transport & centres	N/A	
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	N/A	

4S-2	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		
	Design Guidance	YES	The overall development of Stage 1A contains only residential apartments, as such residential circulation are clear and separated. Each lobby will provide swipe access as well as security cameras. Building entries are situated away from vehicle access points (Fig.3G1.1).
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	YES	
	Landscaped communal open space are provided at podium or roof	YES	
4T	AWNING & SIGNAGE		
4T-1	Objective: Awnings are well located and complement & integrate with the building design.		
	Design Guidance	N/A	
	Awnings are located along streets with high pedestrian activity & active frontages	N/A	
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	N/A	
	Awnings are located over building entries for address & public domain amenity Capable of complying.	N/A	
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	N/A	
	Gutters & down pipes are integrated and concealed	N/A	
	Lighting under awnings is provided for pedestrian safety	N/A	
4T-2	Objective: Signage responds to context & desired streetscape character.		
	Design Guidance	N/A	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	N/A	
	Legible & discrete way finding is provided for larger developments	N/A	
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	N/A	
4U	ENERGY EFFICIENCY		
4U-1	Objective: Development incorporates passive environmental design.		
	Design Guidance	YES	
	Adequate natural light is provided to habitable rooms	YES	
	Well located, screened outdoor areas are provided for clothes drying	YES	
4U-2	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		
	Design Guidance	YES	Overall proposed building orientations and massing have been carefully considered with passive solar design strategies to maximise solar amenity. Cross ventilation in the overall development has also been achieved thus reducing the need for cooling. BLD B utilises balcony overhangs, architectural fins, screens, recessed windows and eaves to reduce heat transfer in summer.
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	YES	

	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	YES	
4U-3	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		
	Design Guidance	YES	
	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 & as many non-habitable rooms, common areas & circulation spaces as possible	YES	
4V	WATER MANAGEMENT & CONSERVATION		
4V-1	Objective: Potable water use is minimised.		
	Design Guidance	YES	The development aims to minimise potable water consumption through efficient fixtures and fittings as well as reduction in landscape irrigation. Planting on the rooftop areas and podium levels will be drought resistant and will be coordinated with the landscape architect's specifications of planting. Fire protection testing water is recycled into the system to avoid wastage. **Refer to Basix Report*
	Water efficient fittings, appliances & wastewater reuse are incorporated	YES	
	Apartments are individually metered	YES	
	Rainwater is collected, stored & reused on site	YES	
	Drought tolerant, low water use plants are used within landscaped areas	YES	
4V-2	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		
	Design Guidance	YES	**Refer to Civil Engineers Drawings.*
	Water sensitive urban design systems are designed by a suitably qualified professional	YES	
	A number of the following design solutions are used:, Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	YES	
4V-3	Objective: Flood management systems are integrated into site.		
	Design Guidance	YES	**Refer to Civil Engineers Drawings.*
	Detention tanks are located under paved areas, driveways or in basements	YES	
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	YES	
4W	WASTE MANAGEMENT		
4W-1	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		
	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. Refer to waste management report for more details.
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	YES	
	Waste & recycling storage areas are well ventilated	YES	
	Circulation design allows bins to be easily manoeuvred between storage & collection points	YES	
	Temporary storage are provided for large bulk items such as mattresses	YES	
	Waste management plan is prepared	YES	
4W-2	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		
	Design Guidance	YES	Each floor will have a dual waste chute system for both general waste and recycling, which is directed to a waste room in the basement.

	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	YES	
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	YES	
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	YES	
	Alternative waste disposal methods such as composting is provided	YES	
4X	BUILDING MAINTENANCE		
4X-1	Objective: Building design detail provides protection from weathering.		
	Design Guidance	YES	The building in its articulation and detailing is intended to be robust and low maintenance. A limited material palette is proposed - material choices have been carefully considered in relation to durability in environments close to water bodies.
	A number of the following design solutions are used:,Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	YES	
4X-2	Objective: Systems & access enable ease of maintenance.		
	Design Guidance	YES	
	Window design enables cleaning from the inside of the building	YES	
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	YES	
	Design does not require external scaffolding for maintenance access	YES	
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	YES	
	Centralised maintenance, services & storage are provided for communal open space areas within the building	YES	
4X-3	Objective: Material selection reduces ongoing maintenance costs.		
	Design Guidance	YES	The building façade is intended to be robust and hard-wearing. Materials such as bricks and metal panelling systems are proposed. Internally, common areas will be resilient in order to accommodate high traffic patterns, particularly around the lift lobby. Common areas will also have lighting that is triggered by motion detectors.
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	YES	

TELOPEA MASTERPLAN - STAGE 1A RESIDENTIAL - BLD C
REVISED DA DEVELOPMENT SCHEDULE

plus architecture

Job No 20320
Date 19/01/2024

ADG Ref.	Item Description	Compliance	Notes
PART3	**SITING THE DEVELOPMENT**		
3A	SITE ANALYSIS		
3A-1	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		
	Design Guidance	YES	The Development has been designed to respond to the site analysis undertaken in relation to orientation, views, internal apartment amenity and both the current surrounding context as well as the projected future context for the area, particularly in relation to the vision for the Telopea Concept Plan.
	Each element in the Site Analysis Checklist is addressed.	YES	
3B	ORIENTATION		
3B-1	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		
	Design Guidance	YES	The alignment and orientation of the buildings have been assessed to ensure both the Stage 1A apartments as well as the context will maintain sufficient solar access. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301, PLA-AR-DA0320 - PLA-AR-DA0329.*
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	YES	
	Where the street frontage is to the east or west, rear buildings are orientated to the north	N/A	
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	YES	
3B-2	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		
	Design Guidance	YES	The overall proposal has been designed to minimise both overshadowing of communal areas within the site and potential overshadowing to neighbouring sites. The site orientation allows the northern public communal landscape zones to receive generous solar access during the day. The proposal also has a limited impact on the adjacent development to the south. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301 .*
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	YES	

	Solar access to living rooms, balconies & private open spaces of neighbours are considered	YES	
	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%	YES	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	YES	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	YES	The roof top expression is setback to further reduce the bulk and scale
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development	YES	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C	PUBLIC DOMAIN INTERFACE		
3C-1	Objective: Transition between private & public domain is achieved without compromising safety & security.		
	Design Guidance	YES	The lobby on ground floor will present as a clearly defined and legible entry point to the development and mediating the transition between public street and private development.
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	YES	
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	YES	
	Upper level balconies & windows overlook the public domain	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	YES	
	Length of solid walls is limited along street frontages	YES	
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	YES	
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	YES	
3C-2	Objective: Amenity of the public domain is retained & enhanced.		
	Design Guidance	YES	The architecture and building composition defines a network of landscaped areas which celebrate the clusters of existing trees. The neighbourhood park, public link and communal open spaces are well defined by the built form and allow for a variety of uses and program. **Refer to Landscape Architects Details* .
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	YES	
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	YES	
	The visual prominence of underground car park vents is minimised & located at a low level where possible	YES	

	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	YES	
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	YES	
	Durable, graffiti resistant & easily cleanable materials are used	YES	
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	YES	
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	YES	
3D	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		
	Design Criteria	PARTIAL	BLD C achieves 19% communal open space in relation to its approximate site area with 64% of direct sunlight on its principal communal open space (for 2 hours between 9am-3pm) (Fig. 3D1.1 & Fig. 3D1.2). Great residential amenity will still be provided as it sits directly opposite the generous public domain (1,954sqm). This public domain will provide a variety of active spaces, gardens and shelters to support the community all while achieving 100% solar amenity (2hours between 9am-3pm 21/06) and passive surveillance from the buildings around it. BLD C is also within walking distance (~140m) to the future Telopea light rail plaza. **Refer to Landscape Architects details.*
	1 Communal open space has a minimum area equal to 25% of the site	PARTIAL	

Fig. 3D1.1 BLD C Communal Open Space

	2 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)	YES	 Fig. 3D1.2 Solar Access within Open Space
	Design Guidance	YES	Retention of trees is the main driver for communal open space on ground - as such deep soil areas and communal open space are largely co-located. This along with podium communal spaces creates pocket spaces across the overall development ensures easy access for all users. The variety of open spaces creates easily identifiable spaces for relief. **Refer to Landscape Architects Details.*
	Communal open space is consolidated into a well designed, easily identified & usable area	YES	
	Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions	YES	
	Communal open space are co-located with deep soil areas	YES	
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	YES	
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof	YES	
	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 need to: 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 & facilities and/or provide contributions to public open space	N/A	
3D-2	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		

	Design Guidance	YES	The overall development's communal open space proposed is intended to be an activated, inviting space that can be used for a variety of functions. The proposed roof level communal space will allow for diversity in use and it is proposed to provide shading structures and seating arrangements with generous soft landscaping to encourage sustained use. Each building receives well defined communal spaces while also maintaining a clear pedestrian link through to the heart of the public open space as well as the future Telopea Light rail plaza. **Refer to Landscape Architects Details.*
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	YES	
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	YES	
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	YES	
3D-3	Objective: Communal open space is designed to maximise safety.		
	Design Guidance	YES	The overall developments' communal open space will be naturally supervised through passive surveillance by adjacent apartments. These open spaces will also be well illuminated in conjunction with CCTV camera surveillance to further enhance safety. Walkways though these space will have clear legible view lines and are clearly defined reducing blind spots.
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	YES	
	Communal open space is well lit	YES	
	Communal open space/facilities that are provided for children & young people are safe and contained	YES	
3D-4	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		
	Design Guidance	YES	The development provides public open space at ground level and has direct connection to the Light Rail Plaza to the north encouraging natural pedestrian movement through the site (Fig. 3D1.1). **Refer to Landscape Architects Details.*
	Public open space is well connected with public streets along at least one edge	YES	
	POS is connected with nearby parks & other landscape elements	YES	
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	YES	
	Solar access is provided year round along with protection from strong winds	YES	
	Opportunities for a range of recreational activities is provided for all ages	YES	
	Positive street address & active street frontages are provided adjacent to POS	YES	
	Boundaries are clearly defined between POS & private areas	YES	
3E	DEEP SOIL ZONES		

3E- 1	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		
	Design Criteria	YES	
1	Deep soil zones are to meet the following minimum requirements: Site Area (sqm) — Minimum Dim (m) — Deep Soil Zone (% of site area) less than 650 — - — 7 650-1500 — 3 greater than 1500 — 6	YES	The objective of the Concept Plan was to retain existing trees which in turn acts as the primary driver for deep soil location. The proposed basement is largely contained below the proposed built from and maintains **4,065 m2 (22.4% of total site area 18,150 m2)** of deep soil area for existing and proposed planting (Fig.3E1.1). **Refer to Telopea Revised DA Design Report pg 22.* **Refer to Architecturals PLA-AR-DA0350.*  Fig.3E1.1 Deep Soil Diagram
	Design Guidance	YES	The Public open space is intended to support large scale planting, providing for a deep soil zone within the site.
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm	YES	
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & 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	YES	
	Achieving the design criteria may not be possible on some sites including where: location & 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 is achieved & alternative forms of planting provided	YES	
3F	VISUAL PRIVACY		
3F-1	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		
	Design Criteria	CONSIDERED	

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

Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)
up to 12 (4 storeys)	6	3
up to 25 (5-8 storeys)	9	4.5
over 25 (9+ storeys)	12	6

CONSIDERED

Stage 1A is compliant generally compliant with side and rear setbacks to existing context. There are a few non-compliances within the development that we believe achieves the overall ADG objective (Fig. 3F1.1).

Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens - which Stage 1A implements. And despite being largely overshadowed by the Core Precinct to its north which hosts towers ranging from 14 – 24 stories, Stage 1A achieves 70% solar amenity (9am-3pm).

Building Separation on Site
Building B-C
Building separation is consistent with the ADG design criteria for building separation between Levels 1 to 8.

Level 9 of Building C results in a non-compliance with the suggested 24m building separation distance design criteria for habitable-to-habitable rooms. This equates to 91sqm of floor space or approximately 25% of that level's GFA (91/362sqm) or 2% of the whole building's GFA (91/3969sqm).

Visual amenity of the primary habitable spaces are still maintained as primary glass line faces away from one another. Intent of the design was to maintain a strong tower expression and to avoid a ziggurat appearance with multiple setbacks. The setbacks are on average is compliant with the required setback concerns.

Privacy screens have been provided on the southern facade of building B - to mitigate privacy issues to C, whilst ensuring building C achieves great solar amenity (Fig. 3F1.6 & Fig. 3F1.7).

*Refer to Architecturals PLA-AR-DA0107,
*Refer to Architecturals PLA-AR-DA0203
**Refer to Architecturals PLA-AR-DA0100-PLA - AR-DA0108 and PLA-AR-DA0203 for privacy screen location.*
**Refer to 20320 Development Schedule - Overall & Staging.*

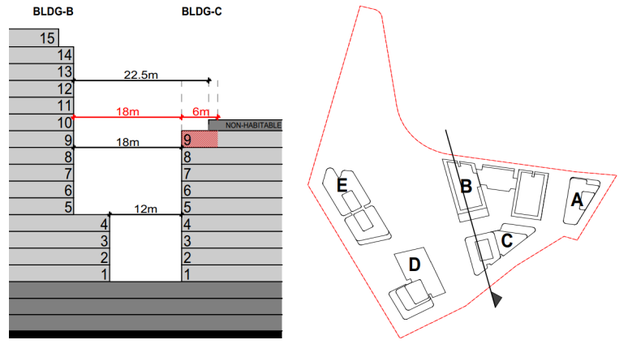


Fig. 3F1.1 Building B-C separation & Key Plan

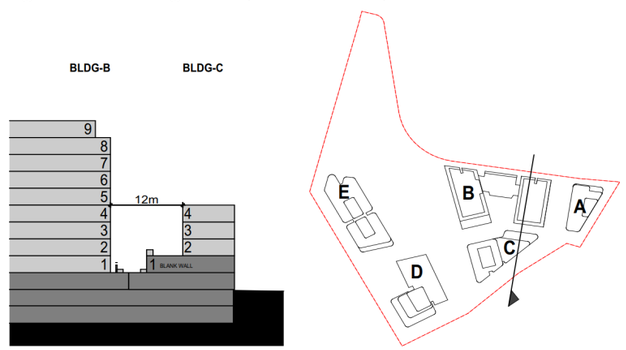


Fig. 3F1.2 Building B-C separation & Key Plan

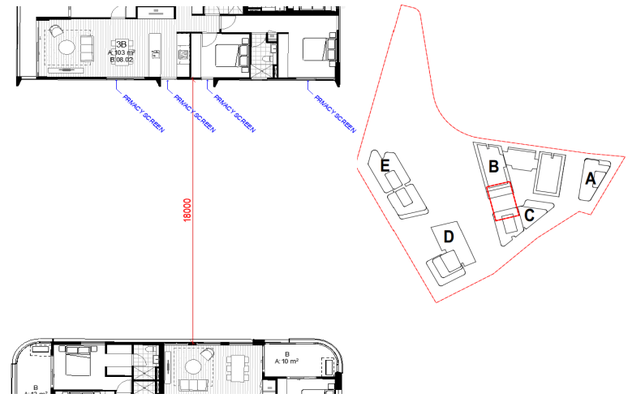


Fig. 3F1.3 Building C non-compliance (storey 9)

Building D-C
BLD D carefully considers the adjacent Building C position by splaying away from it. This ensures a higher visual amenity and maximises views and solar amenity. Building C's rounded corner also minimises extent of non-compliance.

Non-complaince equivalent of 5 m2 per floor (less than 1% of the GBA per floor or 0.3% of the whole building) occurs only in the southern balcony on one storey, storey 9, with a separation of 22.65m at its most extreme. It however, is separated on average of 25m between the towers. Privacy screening elements have been implemented on Building C's southern corner to provide better visual privacy (Fig. 3F1.8).

On analysis, both solar and ventilation amenity of the overall development is achieved and views have been maximised.

**Refer to Architecturals PLA-AR-DA0100 - PLA-AR-DA0108 and PLA-AR-DA0206 for privacy screen location.*

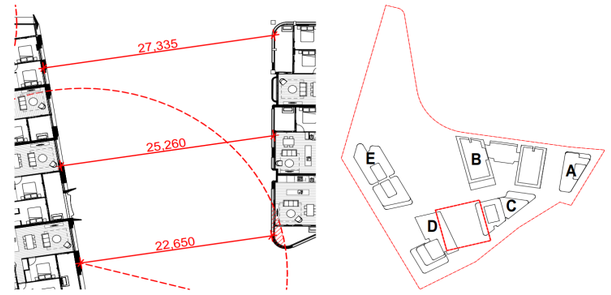


Fig. 3F1.4 Building D-C separation (storeys 1-9) & Key Plan

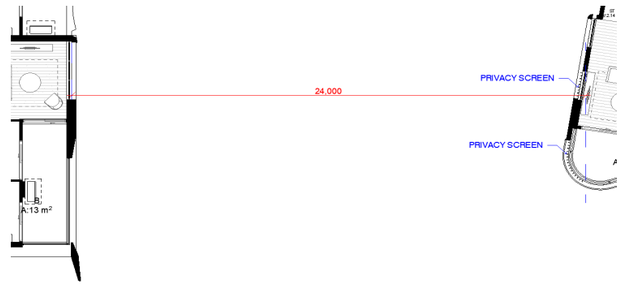


Fig. 3F1.5 Building D-C separation (storeys 9)

Side & Rear Boundary Conditions
Building C Rear Setback
Compliant as setback is over 9m between 5-8 storeys (Fig.3F1.4).

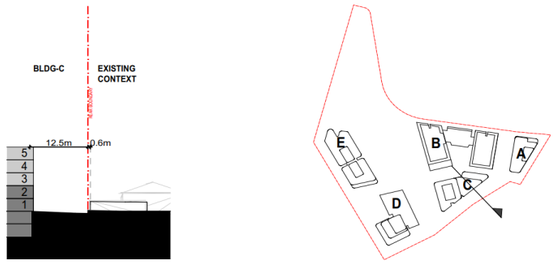


Fig. 3F1.4 Building C boundary condition & Key Plan

Building C Rear Setback 2

The design of Bldg. C seeks to maintain a vertical tower expression throughout this facade. This resulted in Lower Ground to L06 (stories 1-8) exceeding setback requirements of 6m (stories 1-4) and 9m (stories 5-8), as such we believe this minor-infringement of ~0.5m is acceptable on the top two stories as the overall design outcome as future developments does not exceed over 6 storeys. (Fig.3F1.5).

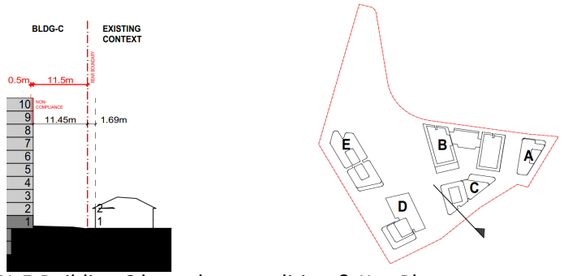


Fig. 3F1.5 Building C boundary condition & Key Plan

The proposed development seeks to maintain building separation for privacy, acoustic and solar purposes.

In locations where ADG building separation could not be met, privacy screens have also been used throughout to further ensure visual privacy.

Design Guidance	YES	
Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	YES	
For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	N/A	
New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)	YES	
Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)	N/A	
Direct lines of sight are avoided for windows & balconies across corners	YES	
No separation is required between blank walls	YES	

3F-2	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		
	Design Guidance	YES	The communal open space proposed on the ground level, as well as the roof level communal space, common areas and access paths of the overall development have been designed to be screened from apartments through the use of privacy screen.
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on 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 & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & 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 on windows and/or balconies	YES	
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	YES	
	Balconies & private terraces are located in front of living rooms to increase internal privacy	YES	
	Windows are offset from the windows of adjacent buildings	YES	
	Recessed balconies and/or vertical fins are used between adjacent balconies	YES	
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1	Objective: Building entries & pedestrian access connects to and addresses the public domain.		
	Design Guidance	YES	The overall development has been designed to clearly define entry points and to ensure each lobby has direct street address. The private road to along the southern boundary of the site has been introduced to ensure all entries have direct street access (Fig.3G1.1). BLD C's entry and pedestrian access follows the new private road and is situated directly across the public domain. **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100.* **Refer to Landscape Architects Details.*

Fig. 3G1.1 Overall Stage 1A entries and paths

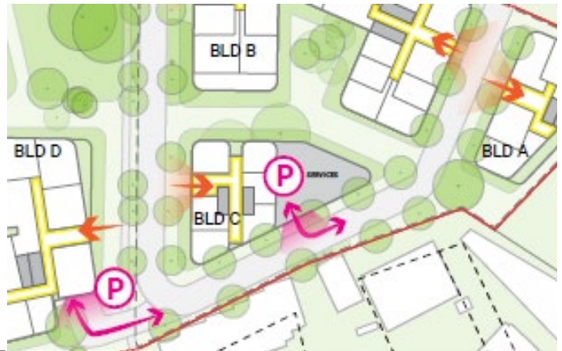


Fig. 3G1.2 BLD C entry and access

	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	YES	Fig. 3G.1
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	YES	
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	YES	
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	YES	
3G-2	Objective: Access, entries & pathways are accessible & easy to identify.		

	Design Guidance	YES	The overall proposal for Stage 1A, contains a new private road cutting through heart of the site. This ensures all buildings receive clear pedestrian entry points (Fig.3G1.1). BLD C's entry is clearly defined by the architecture of the lobby entrance which increases its visibility from the proposed through road. BLD C also implements ramps and steps to absorb the natural level changes on site - thus creating an accessible and easily distinguishable entry. **Refer to Architecturals PLA-AR-DA0206, WEST ELEVATION* **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100*
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	YES	
	The design of ground floors & underground car parks minimise level changes along pathways & entries	YES	
	Steps & ramps are integrated into the overall building & landscape design	YES	
	For large developments 'way finding' maps are provided to assist visitors & residents	YES	
	For large developments electronic access & audio/video intercom are provided to manage access	YES	
3G-3	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		
	Design Guidance	YES	An internal through-site link has been provided as a connection between light rail plaza and Manson Street.

Fig.3G3.1 Built form and connectivity

	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	YES	
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	YES	
3H	VEHICLE ACCESS		
3H-1	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		

Design Guidance	YES	Vehicle access points have been carefully considered. The overall Concept Plan consists of two stages, each stage has its own vehicle access point. Due to the natural sloping topography of the site, the entry points have been provided at two ends of the site at its lowest point and towards the south to minimise carpark ramp being exposed onto the street front and open spaces (Fig.3G1.1) Separate entries have also been designed to separate loading dock from residential vehicle access, reducing vehicle conflicts. Pedestrian entries are also located away from the vehicle entries in high visibility areas further reducing vehicular and pedestrian conflict (Fig.3H1.1). BLD C is part of Stage 1 eastern and shares its entry with BLD A & B (Fig.3H1.1). **Refer to Telopea Revised DA Report pg 24.*

Fig.3H1.1 Stage 1 vehicle access point

Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	YES
Car park entries are located behind the building line	YES
Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	YES
Car park entry & access are located on secondary streets or lanes where available	YES
Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	YES
Access point is located to avoid headlight glare to habitable rooms	YES
Adequate separation distances are provided between vehicle entries & street intersections	YES
The width & number of vehicle access points are limited to the minimum	YES
Visual impact of long driveways is minimised through changing alignments & screen planting	YES
The need for large vehicles to enter or turn around within the site is avoided	YES
Garbage collection, loading & servicing areas are screened	YES
Clear sight lines are provided at pedestrian & vehicle crossings	YES
Traffic calming devices, such as changes in paving material or textures, are used where appropriate	YES
Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	YES

3J	BICYCLE & CAR PARKING		
3J-1	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		
	Design Criteria	YES	The proposed development meets the required through basement carparking and on-street carparking . **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to the accompanying traffic report.*
1	For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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.	YES	
	Design Guidance	YES	**Refer to the accompanying traffic report.*
	Where a car share scheme operates locally, car share parking spaces are provided within the development.	YES	
	Where less car parking is provided in a development, council do not provide on street resident parking permits	YES	
3J-2	Objective: Parking & facilities are provided for other modes of transport.		
	Design Guidance	YES	The proposed carpark will provide secure undercover bicycle and motorbike parking spaces for residents and visitors. Carparking meets requirements with on street and basement parking.
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	YES	
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	YES	
	Conveniently located charging stations are provided for electric vehicles, where desirable	YES	
3J-3	Objective: Car park design & access is safe and secure.		
	Design Guidance	YES	The Basement has been designed to maximise efficiency within the floorplate while maintaining site lines where possible. Storage cages and bicycle parking will be accessed from dedicated pedestrian areas. Pedestrian paths through the carpark will be clearly delineated through signposting and line marking, with adequate lighting throughout.
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	YES	
	Direct, clearly visible & well lit access is provided into common circulation areas	YES	
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	YES	
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	YES	
3J-4	Objective: Visual & environmental impacts of underground car parking are minimised.		
	Design Guidance	YES	The extent of excavation required to the basement levels has been minimised as much as possible. This has been achieved through an efficient carpark layout with double loaded corridors throughout. Whilst the site itself slopes significantly, the design of the basement carpark allows for it to be entirely submerged The basement carpark will be mechanically ventilated to allow for fresh air supply.

	Excavation minimised through efficient car park layouts & ramp design	YES	
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	YES	
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	YES	
	Natural ventilation is provided to basement & sub-basement car parking	YES	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	YES	
3J-5	Objective: Visual & environmental impacts of on-grade car parking are minimised.		
	Design Guidance	YES	All residential carparking has been provided in the basement levels. It is only the few visitor carparking that are located on the private road adjacent the proposed public park which will have landscaping to reduce its visibility and buffer it from pedestrians. The loading dock entry has also been carefully considered to be located south of the site away from the public park and primary pedestrian movement (Fig.3G1.1). **Refer to Architectural PLA-AR-0097 - PLA-AR-0099.* **Refer to Landscape Architects Details.*
	Parking is located on the side or rear of the lot away from the primary street frontage	YES	
	Cars are screened from view of streets, buildings, communal and private open space areas	YES	
	Safe and direct access to building entry points is provided	YES	
	Parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space	YES	
	Stormwater run-off is managed appropriately from car parking surfaces	YES	
	Bio-swales, rain gardens or on site detention tanks are provided, where appropriate	YES	
	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	YES	
3J-6	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		
	Design Guidance	YES	See 3J-5
	Exposed parking should not be located along primary street frontages	YES	
	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	YES	
PART4	**DESIGNING THE BUILDING**		
4A	SOLAR & DAYLIGHT ACCESS		
4A-1	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		
	Design Criteria	CONSIDERED	

1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	CONSIDERED	BLD C is a 4-9 storey building situated south of the future Core Precinct which hosts towers that range between 15-20 stories. As a result of this scale and form, solar compliance between 9am - 3pm for BLD C is not possible to achieve. However, through careful planning BLD C achieves **58%** solar amenity for two hours between 9am-3pm. When read with the overall Stage 1A development **70%** solar amenity is achieved (9am - 3pm). There are a number of apartments receiving sunlight from 8am-9am and 3pm - 4pm based on the current and potential future development of the adjacent sites. **Refer to 20320 Development Schedule - Overall.* **Refer to Architecturals PLA-AR-DA0320, PLA-AR-DA0322, PLA-AR-DA0326, PLA-AR-DA0328.*
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter	N/A	
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	CONSIDERED	15% of BLD C apartments are proposed with south facing aspects which receive no solar access. **Refer to Architecturals PLA-AR-DA0326, PLA-AR-DA0328.*
	Design Guidance	YES	BLD C contains between 5-8 apartments per floor with a majority being dual aspect or corner apartments which are oriented and positioned in a way to optimise amenity.
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	YES	
	Single aspect, single storey apartments have a northerly or easterly aspect	YES	
	Living areas are located to the north and service areas to the south & west of apartments	YES	
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used:Dual aspect apartments, Shallow apartment layouts, Two storey &mezzanine level apartments, Bay windows	YES	
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	YES	
	Achieving the design criteria may not be possible 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; significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.	YES	
4A-2	Objective: Daylight access is maximised where sunlight is limited.		
	Design Guidance	YES	Skylight has been proposed to the apartments with limited solar access to ensure living spaces are well lit throughout the day. **Refer to Architecturals PLA-AR-DA0108 & PLA-AR-DA0109 & PLA-AR-DA0322.*

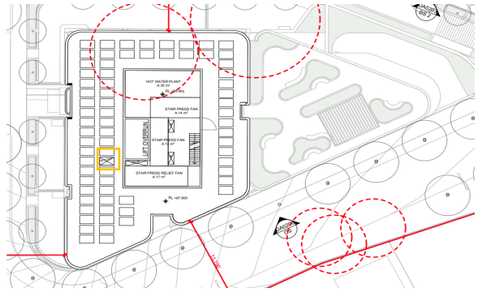


Fig.4A2.2. Roof plan, skylight highlighted in yellow

	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	YES	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	YES	
	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 site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	YES	
4A-3	Objective: Design incorporates shading & glare control, particularly for warmer months.		
	Design Guidance	YES	The proposed design incorporates overhangs to balconies to allow shading from summer sun. Windows are recessed into the facade to provide overhangs for solar control. BLD C's semi permeable upstands obscures direct views - enhancing visual privacy and amenity. They also provide shading from high summer sun while permitting low winter sun to penetrate into the living areas.
	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 & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	YES	
4B	NATURAL VENTILATION		
4B-1	Objective: All habitable rooms are naturally ventilated.		
	Design Guidance	YES	All habitable rooms are naturally ventilated with careful consideration of window placement to optimise natural ventilation.
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	YES	
	Depths of habitable rooms support natural ventilation	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	YES	
	Light wells are not the primary air source for habitable rooms	YES	

	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	YES	
4B-2	Objective: The layout & design of single aspect apartments maximises natural ventilation.		
	Design Guidance	YES	Majority of BLD C consists of corner apartments. Single aspect apartments have been designed to have limited depth in order to facilitate airflow within the apartment.
	Apartment depths limited to maximise ventilation & airflow	YES	
	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	YES	Capable of complying
4B-3	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		
	Design Criteria	YES	
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	YES	Corner apartments, cross through apartments and apartments with appropriate indentations have been deemed to be cross ventilated. BLD C proposes a total of 55 apartments up to 9 storeys. Of these, 31 are naturally cross ventilated **(58%)**. However, when read as part of the overall Stage 1A development cross ventilation is achieved at **62%.** **Refer to Architecturals PLA-AR-DA0330 & PLA-AR-DA0332 for apartments that have been nominated to achieve cross ventilation.*
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	YES	
	Design Guidance	YES	Single aspect apartments have been limited. Majority of BLD C consists of corner apartments (Fig.4A3.1).
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	YES	
4C	CEILING HEIGHTS		
4C-1	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		
	Design Criteria	YES	The minimum ceiling heights have been accommodated with 2.7m for habitable rooms and 2.4m for non-habitable rooms. **Refer to Architecturals PLA-AR-DA0201- PLA-AR-DA0254.*

	1 Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	YES		
	Minimum Ceiling Height for apt and mixed-used buildings (m)			
	Habitable rooms 2.7			
	Non-habitable rooms 2.4			
	For 2 storey apts 2.7 for main living area floor			
	2.4 for second floor, where its area does not exceed 50% of the apt area			
	Attic spaces 1.8 at edge of room with 30deg minimum ceiling slope			
	If located in mixed-used area 3.3 for ground and first floor to promote future flexibility of use			
	These minimums do not preclude higher ceilings if desired			
4C-2	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.			
	Design Guidance	YES		The hierarchy of rooms within apartments will be emphasised by providing 2.7m ceiling heights for habitable rooms such as bedrooms and living areas, with 2.4m ceilings to service zones such as bathrooms.
	A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	YES		
4C-3	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.			
	Design Guidance	CONSIDERED		
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses	CONSIDERED		Ground floor for apartments has a ceiling height of 2.7m. The development of the ground floor is designed for residential use and is not zoned for mixed use or commercial use.
4D	APARTMENT SIZE & LAYOUT			
4D-1	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.			
	Design Criteria	YES		All of the apartment internal areas are greater than the required minimum sizes, including the provision of 5sqm for additional bathrooms.
	1 Apartments have the following minimum internal areas:	YES		
	Apartment Type Minimum Internal Area (sqm)	YES		
	Studio 35			
	1 Bedroom 50			
	2 Bedroom 70			
	3 Bedroom 90			
	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each.	YES		
	A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each			
	2 Every habitable room has 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 & air is not borrowed from other rooms	YES		
	Design Guidance	YES		
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	YES		

	A window is visible from any point in a habitable room	YES	
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.	YES	
4D-2	Objective: Environmental performance of the apartment is maximised.		
	Design Criteria	YES	
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	YES	
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	YES	
	Design Guidance	YES	All apartments have been designed carefully and oriented sensibly within the Concept Plan to achieve the most amenity.
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths	YES	
	All living areas & bedrooms are located on the external face of building	YES	
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	YES	
4D-3	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		
	Design Criteria	YES	
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	YES	
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	YES	Majority of the bedrooms comply with the ADG. Some bedrooms have irregular wall shapes due to angled facades. In the few instances where dimensions vary an average 3m dimension is always achieved and functionally the room exceeds the suggested sqm requirement and can accommodate a variety of needs. As such, objectives have been met.

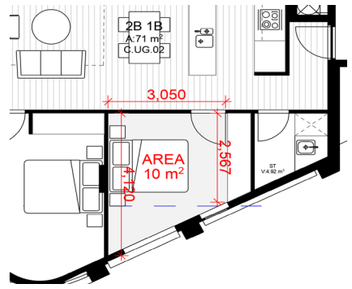


Fig.4D.3 Irregular bedroom measurements. Layout and area is accommodating of a variety of activities and needs.

3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	YES	
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	YES	
	Design Guidance	YES	The habitable rooms within the development has been designed in accordance to the ADG.
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	YES	
	All bedrooms allow a minimum length of 1.5m for robes	YES	

	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	YES	
	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & 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 BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	YES	
4E	PRIVATE OPEN SPACE & BALCONIES		
4E-1	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		
	Design Criteria	YES	
1	All apartments are required to have primary balconies as follows:	YES	All balconies achieve the minimum area requirements. Depths of balconies generally comply. In cases where minimum depths do not comply (Fig.4E1.1), the balcony still retains the required minimum areas while remaining functional. Generous communal open spaces have been proposed to alleviate the slight non-compliance of balconies (FIG.3D1.2). Balconies with rounded corners pose no negative impacts on the functionality of the space. *Refer to Architecturals PLA-AR-DA0100-PLA-AR-DA0108

Apartment Type	Minimum Area (sqm)	Minimum Depth (m)
Studio	4	-
1 Bedroom	8	2
2 Bedroom	10	2
3+ Bedroom	12	2.4

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

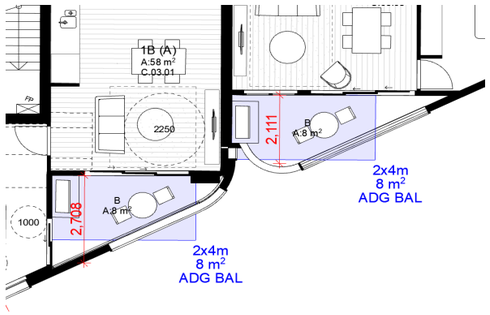


Fig.4E1.1 Irregular ear shaped balcony configuration

2	For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m	YES	
	Design Guidance	YES	
	Increased communal open space are provided where the number or size of balconies are reduced	YES	
	Storage areas on balconies is additional to the minimum balcony size	YES	

	Balcony use may be limited in some proposals where:consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated	YES	
4E -2	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		
	Design Guidance	YES	Ground level apartments have extended generous front gardens which have direct access to the private communal spaces. Planters and fencing have been used throughout the ground floor apartment to ensure privacy is maintained. Balconies have been carefully positioned adjacent to living rooms to promote indoor and outdoor living and to maximise solar amenity and ventilation.
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	YES	
	POS & balconies predominantly face north, east or west	YES	
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	YES	
4E -3	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		
	Design Guidance	YES	The architecture of private open spaces and balconies have been carefully considered. They are well balanced and oriented to create articulated apartments which responds to solar amenity, visual amenity, privacy amenity. The design of the ground level extended gardens are an integral part of the overall articulation of the proposal. Their extents define the overall form of the tower elements and their generous sizing, as well as their relationship to internal spaces encourage sustained use. Integration of condensers behind semi solid upstands ensures clear visual amenity as well as solar amenity in the winter. Permeable warm brick balconies compliments and contrasts the podium expression. **Refer to Architecturals PLA-AR-DA0206*
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	YES	
	Full width full height glass balustrades alone are generally not desirable	YES	
	Projecting balconies are integrated into the building design. The design of soffits are considered	YES	
	Operable screens, shutters, hoods & pergolas control sunlight & wind	YES	

	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	YES	
	Downpipes & balcony drainage are integrated with the overall facade & building design	YES	
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	YES	
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	YES	
	Ceilings of apartments below terraces are insulated to avoid heat loss	YES	
	Water & gas outlets are provided for primary balconies & private open space	YES	
4E -4	Objective: Private open space & balcony design maximises safety		
	Design Guidance	YES	Private open space on ground level consists of planter walls and fencing which are consistent with the level it sits on. They also provide screening and buffering from the street and through-site links. All balconies to be designed and constructed in accordance with the BCA. Balconies on BLD C are designed with a robust semi permeable solid upstands to minimise slippage and falls. This solid construction also increases residents' psychological perception of safety. **Refer to Architecturals PLA-AR-DA0206.*
	Changes in ground levels or landscaping are minimised	YES	
	Balcony design & detailing avoids opportunities for climbing & falling	YES	
4F	COMMON CIRCULATION & SPACES		
4F-1	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		
	Design Criteria	YES	
1	The maximum number of apartments off a circulation core on a single level is eight	YES	BLD C has between 5-8 apartments per floor plate.
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	N/A	
	Design Guidance	YES	The core is adjacent to openings in the building floorplate, which allows for the provision of natural daylight creating an inviting circulation space. **Refer to Architecturals PLA-AR-DA0099 - PLA-AR-DA0108*
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	YES	
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	YES	
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	YES	
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	YES	
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	YES	
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	YES	

	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	YES	
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	YES	
4F-2	Objective: Common circulation spaces promote safety & provide for social interaction between residents		
	Design Guidance	YES	The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Lobbies will also have installed camera security and swipe card access. The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Lobbies will also have installed camera security and swipe card access. BLD C lobby windows provide ample daylight to create a comfortable and safe environment which promotes social interaction. Corridors and lobbies will also be clearly illuminated at night (Fig.4.F2.1).

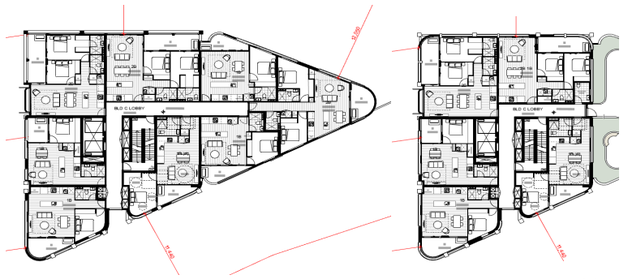


Fig.4.F2.1 Typical BLD C podium lobby with one opening (left), tower lobby with two openings (right)

	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	YES	
	Tight corners & spaces are avoided	YES	
	Circulation spaces are well lit at night	YES	
	Legible signage are provided for apartment numbers, common areas & general wayfinding	YES	
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	YES	
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	YES	
4G	STORAGE		
4G-1	Objective: Adequate, well designed storage is provided in each apartment		
	Design Criteria	YES	

1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Apartment Type — Storage Size Volume (cubic m) Studio — 4 1 Bedroom — 6 2 Bedroom — 8 3+ Bedroom — 10 At least 50% of the required storage is to be located within the apartment	YES	BLD C is capable of accommodating the recommended amount of storage per apartment. Details will be finalised in the design development stage. 50% of required storage will be provided in the basement. Apartment storage allocation at Design Development stage will be as follows: studio apartments: 4m3 1 bedroom 6m3 2 bedroom 8m3 3 bedroom 10m3
	Design Guidance	YES	BLD C is capable of accommodating the recommended amount of storage per apartment. 50% or greater of the required area will be accessible from with the apartment living areas.
	Storage is accessible from either circulation or living areas	YES	
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	YES	
	Left over space such as under stairs is used for storage	YES	
4G-2	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		
	Design Guidance	YES	Additional storage not located in apartments will be located in carpark levels in secure storage 'cages'. These stores will be clearly allocated to specific apartments and be readily accessible from common aisles or from adjacent allocated car spaces.
	Storage not located in apartments is secure and clearly allocated to specific apartments	YES	
	Storage is provided for larger & less frequently accessed items	YES	
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	YES	
	If communal storage rooms are provided they are accessible from common circulation areas of the building	YES	
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	YES	
4H	ACOUSTIC PRIVACY		
4H-1	Objective: Noise transfer is minimised through the siting of buildings & building layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	YES	
	Window & door openings are orientated away from noise sources	YES	
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	YES	
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	YES	
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	YES	
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	YES	
4H-2	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		

	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	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	YES	
	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	YES	
4J	NOISE & POLLUTION		
4J-1	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & 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 & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	YES	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation	YES	
4J-2	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Design solutions to mitigate noise include: Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	YES	
4K	APARTMENT MIX		
4K-1	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		
	Design Guidance	YES	A variety of apartment types are proposed ranging from Studio, 1B, 1B+Study, 2B, 2B+Study, 3B and 3B+Study apartments.
	A variety of apartment types is provided	YES	
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	YES	
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	YES	
4K-2	Objective: The apartment mix is distributed to suitable locations within the building		

	Design Guidance	YES	The apartment mix is distributed throughout the development. There are larger apartments on both lower and upper levels and each level accommodates a diversity of apartment types.
	Different apartment types are located to achieve successful facade composition & to optimise solar access	YES	
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	YES	
4L	GROUND FLOOR APARTMENTS		
4L-1	Objective: Street frontage activity is maximised where ground floor apartments are located		
	Design Guidance	YES	Ground floor apartment with extended front garden helps to activate the open communal spaces. Separate entries facilitate different opportunities for interaction.
	Direct street access are provided to ground floor apartments	YES	
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	YES	
	Retail or home office spaces are located along street frontages	YES	
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	N/A	
4L-2	Objective: Design of ground floor apartments delivers amenity & safety for residents		
	Design Guidance	YES	1800mm fencing has been proposed throughout on the ground level apartments to ensure privacy is maintained. Planter boxes with screen planting and glass screens act as buffers which provides visual amenity and wind protection to residents.
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	YES	
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	YES	
4M	FACADES		
4M-1	Objective: Building facades provide visual interest along the street while respecting the character of the local area		

Design Guidance		YES	The buildings are composed to be clearly legible and to clearly establish a base, middle and top. Warm shades of brick are used to differentiate the base from the tower expressions (middle and top). This creates a break in building form which compliments the diverse tower expressions yet can still be perceived as a family of buildings through its shared base materiality and form. This pallete adds contrast and warmth to the overall composition. Facade indentation, screening and planter boxes interjected throughout the building to provide relief and to break down scale. BLD C's tower expression of light warm brick compliments and contrasts the brick base of the overall Stage 1A development; clearly defining the buildings base and tower. When viewed in conjunction with the overall development, it clearly stands on its own as a distinct building but also as part of a family. **Refer to Telopea Revised DA Report pg 25.* **Refer to Architecturals PLA-AR-DA0206.*

Fig.4M1.1 Warm brick podium expression in brown dash

Fig.4M1.2 Diverse tower expression in coloured dashes

Fig.4M1.3 BLD C podium and tower are clearly articulated

	Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	YES	
	Building services are integrated within the overall façade	YES	
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	YES	
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	YES	
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	YES	
4M-2	Objective: Building functions are expressed by the façade		
	Design Guidance	YES	The overall development's built form is clearly defined into 3 distinct elements; ground level, main form and top expression. Ground level entry has also been clearly defined through articulation of the portal expression. Apartment floors are expressed externally through changes in materiality between warm brick and dark equitone walls. Building entry is clearly defined through its articulation of an inviting portal expression.
	Building entries are clearly defined	YES	
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	YES	
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	YES	
4N	ROOF DESIGN		
4N-1	Objective: Roof treatments are integrated into the building design & positively respond to the street		

	Design Guidance	YES	The overall proposal carefully considers the expression of the fifth facade. To compliment the variety in height, diversity in the roof plane is proposed through the use of activated landscaped roof terraces (communal and private),skylights, materiality, solar cells and planting. This creates visual variation across the development and animates the roof plane (Fig.4A2.2). BLD C animates this fifth facade with skylights and dark solar cells on the towers and landscaped communal open spaces on podium. Roofing materiality responds to the use of its spaces but also presents the roof plane as a family of buildings (Fig.4A2.2). **Refer to Architecturals PLA-AR-DA0115.*
	Roof design relates to the street. Design solutions include: Special roof features & 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 pitched form complementary to adjacent buildings	YES	
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials compliment the building, Service elements are integrated	YES	
4N-2	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		
	Design Guidance	YES	See response to Objective 4N-1 **Refer to Landscape Architects Details.*
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	YES	
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	YES	
4N-3	Objective: Roof design incorporates sustainability features		
	Design Guidance	YES	BLD C incorporates skylights to improve solar access to its residential units on the top floor (Fig.4A2.2). Solar cells support the energy needs of the building. Light coloured roof assists In heat reflection. Landscaping and pergola on communal roof forms part of the overall sustainability agenda assisting with amenity, reduction of heat load and reflection. **Refer to Architecturals PLA-AR-DA0109 & PLA-AR-DA0115.* **Refer to NatHERs Assessment*
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	YES	
	Skylights & ventilation systems are integrated into the roof design	YES	
4O	LANDSCAPE DESIGN		
4O-1	Objective: Landscape design is viable & sustainable		
	Design Guidance	YES	The overall development contains a mix of well considered public, communal and private spaces. Generous deep soil planting, diverse selection of planting along with retention of existing trees aid in its overall sustainability. **Refer to Landscape Architects Details.*

	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	YES	
	Ongoing maintenance plans are prepared	YES	
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	YES	
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	YES	
4O-2	Objective: Landscape design contributes to streetscape & amenity		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	YES	
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	YES	
	Plants selected are endemic to region & reflect local ecology	YES	
4P	PLANTING ON STRUCTURES		
4P-1	Objective: Appropriate soil profiles are provided		
	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*
	Structures are reinforced for additional saturated soil weight	YES	
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	YES	
	Minimum soil standards for plant sizes should be provided in accordance with: Site Area (sqm) Recommended Tree Planting Up to 850 1 medium tree per 50sqm of deep soil zone 850 - 1500 1 large tree or 2 medium trees per 90sqm of deep soil zone Greater than 1500 1 large tree or 2 medium trees per 80sqm of deep soil zone	YES	
4P-2	Objective: Plant growth is optimised with appropriate selection & maintenance		
	Design Guidance	YES	Appropriate selection of planting is used to ensure planters are well maintained. **Refer to Landscape Architects Details.*
	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	YES	
	A landscape maintenance plan is prepared	YES	
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	YES	
4P-3	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		
	Design Guidance	YES	Landscape elements has been used throughout to create an inviting and pleasant environment. **Refer to Landscape Architects Details.*
	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	YES	
4Q	UNIVERSAL DESIGN		

4Q-1	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		
	Design Guidance	CONSIDERED	
	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	YES	Capable of complying
4Q-2	Objective: A variety of apartments with adaptable designs are provided		
	Design Guidance	YES	Stage 1A comprises a total of 451 apartments. Based on the agreed 5% of dwellings required to be accessible under the State Significant Development Application (SSDA), a minimum of 23 adaptable dwellings are required. Stage 1A proposes 23 adaptable dwellings. **Refer to DA Access Report pg.16* **Refer to Architecturals PLA-AR-DA0501-PLA-AR-DA0513*
	Adaptable housing should be provided in accordance with the relevant council policy	YES	
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	YES	
4Q-3	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		
	Design Guidance	YES	
	Flexible design solutions 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 & bathroom	YES	
4R	ADAPTIVE REUSE		
4R-1	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		
4R-2	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		
4S	MIXED USE		
4S-1	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		
	Design Guidance	N/A	Stage 1A is purely a residential zoned site. Although not zoned for mixed use, the proposed private through road ensures good access and connectivity to the mixed use core to the north.
	Mixed use development are concentrated around public transport & centres	N/A	
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	N/A	
4S-2	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		
	Design Guidance	YES	The overall development of Stage 1A contains only residential apartments, as such residential circulation are clear and separated. Each lobby will provide swipe access as well as security cameras. Building entries are situated away from vehicle access points (Fig.3G1.1).
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	YES	

	Landscaped communal open space are provided at podium or roof	YES	
4T	AWNING & SIGNAGE		
4T-1	Objective: Awnings are well located and complement & integrate with the building design.		
	Design Guidance	N/A	
	Awnings are located along streets with high pedestrian activity & active frontages	N/A	
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	N/A	
	Awnings are located over building entries for address & public domain amenity Capable of complying.	N/A	
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	N/A	
	Gutters & down pipes are integrated and concealed	N/A	
	Lighting under awnings is provided for pedestrian safety	N/A	
4T-2	Objective: Signage responds to context & desired streetscape character.		
	Design Guidance	N/A	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	N/A	
	Legible & discrete way finding is provided for larger developments	N/A	
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	N/A	
4U	ENERGY EFFICIENCY		
4U-1	Objective: Development incorporates passive environmental design.		
	Design Guidance	YES	
	Adequate natural light is provided to habitable rooms	YES	
	Well located, screened outdoor areas are provided for clothes drying	YES	
4U-2	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		
	Design Guidance	YES	Overall proposed building orientations and massing have been carefully considered with passive solar design strategies to maximise solar amenity. Cross ventilation in the overall development has also been achieved thus reducing the need for cooling. Balcony overhangs and screens mitigate harsh direct summer sun. While permeable screens and balconies permits winter sun. High thermal mass of brick retains heat during winter.
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	YES	
	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	YES	
4U-3	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		
	Design Guidance	YES	
	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 & as many non-habitable rooms, common areas & circulation spaces as possible	YES	
4V	WATER MANAGEMENT & CONSERVATION		
4V-1	Objective: Potable water use is minimised.		

	Design Guidance	YES	The development aims to minimise potable water consumption through efficient fixtures and fittings as well as reduction in landscape irrigation. Planting on the rooftop areas and podium levels will be drought resistant and will be coordinated with the landscape architect's specifications of planting. Fire protection testing water is recycled into the system to avoid wastage. *Refer to Basix Report
	Water efficient fittings, appliances & wastewater reuse are incorporated	YES	
	Apartments are individually metered	YES	
	Rainwater is collected, stored & reused on site	YES	
	Drought tolerant, low water use plants are used within landscaped areas	YES	
4V-2	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		
	Design Guidance	YES	*Refer to Civil Engineers Drawings.*
	Water sensitive urban design systems are designed by a suitably qualified professional	YES	
	A number of the following design solutions are used:, Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	YES	
4V-3	Objective: Flood management systems are integrated into site.		
	Design Guidance	YES	*Refer to Civil Engineers Drawings.*
	Detention tanks are located under paved areas, driveways or in basements	YES	
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	YES	
4W	WASTE MANAGEMENT		
4W-1	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		
	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. Refer to waste management report for more details.
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	YES	
	Waste & recycling storage areas are well ventilated	YES	
	Circulation design allows bins to be easily manoeuvred between storage & collection points	YES	
	Temporary storage are provided for large bulk items such as mattresses	YES	
	Waste management plan is prepared	YES	
4W-2	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		
	Design Guidance	YES	Each floor will have a dual waste chute system for both general waste and recycling, which is directed to a waste room in the basement.
	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	YES	
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	YES	
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	YES	
	Alternative waste disposal methods such as composting is provided	YES	
4X	BUILDING MAINTENANCE		
4X-1	Objective: Building design detail provides protection from weathering.		

	Design Guidance	YES	The building in its articulation and detailing is intended to be robust and low maintenance. A limited material palette is proposed - material choices have been carefully considered in relation to durability in environments close to water bodies.
	A number of the following design solutions are used:,Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	YES	
4X-2	Objective: Systems & access enable ease of maintenance.		
	Design Guidance	YES	
	Window design enables cleaning from the inside of the building	YES	
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	YES	
	Design does not require external scaffolding for maintenance access	YES	
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	YES	
	Centralised maintenance, services & storage are provided for communal open space areas within the building	YES	
4X-3	Objective: Material selection reduces ongoing maintenance costs.		
	Design Guidance	YES	The building façade is intended to be robust and hard-wearing. Materials such as bricks and metal panelling systems are proposed. Internally, common areas will be resilient in order to accommodate high traffic patterns, particularly around the lift lobby. Common areas will also have lighting that is triggered by motion detectors.
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	YES	

TELOPEA MASTERPLAN - STAGE 1A RESIDENTIAL - BLD D
REVISED DA DEVELOPMENT SCHEDULE

Job No 20320
Date 19/01/2024

ADG Ref.	Item Description	Compliance	Notes
PART3	**SITING THE DEVELOPMENT**		
3A	SITE ANALYSIS		
3A-1	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		
	Design Guidance	YES	The Development has been designed to respond to the site analysis undertaken in relation to orientation, views, internal apartment amenity and both the current surrounding context as well as the projected future context for the area, particularly in relation to the vision for the Telopea Concept Plan.
	Each element in the Site Analysis Checklist is addressed.	YES	
3B	ORIENTATION		
3B-1	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		
	Design Guidance	YES	The alignment and orientation of the buildings have been assessed to ensure both the Stage 1A apartments as well as the context will maintain sufficient solar access. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301, PLA-AR-DA0320 - PLA-AR-DA0329.*
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	YES	
	Where the street frontage is to the east or west, rear buildings are orientated to the north	N/A	
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	YES	
3B-2	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		
	Design Guidance	YES	The overall proposal has been designed to minimise both overshadowing of communal areas within the site and potential overshadowing to neighbouring sites. The site orientation allows the northern public communal landscape zones to receive generous solar access during the day. The proposal also has a limited impact on the adjacent development to the south. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301 .*
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	YES	

	Solar access to living rooms, balconies & private open spaces of neighbours are considered	YES	
	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%	YES	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	YES	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	YES	The roof top expression is setback to further reduce the bulk and scale
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development	YES	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C	PUBLIC DOMAIN INTERFACE		
3C-1	Objective: Transition between private & public domain is achieved without compromising safety & security.		
	Design Guidance	YES	The lobby on ground floor will present as a clearly defined and legible entry point to the development and mediating the transition between public street and private development.
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	YES	
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	YES	
	Upper level balconies & windows overlook the public domain	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	YES	
	Length of solid walls is limited along street frontages	YES	
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	YES	
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	YES	
3C-2	Objective: Amenity of the public domain is retained & enhanced.		
	Design Guidance	YES	The architecture and building composition defines a network of landscaped areas which celebrate the clusters of existing trees. The neighbourhood park, public link and communal open spaces are well defined by the built form and allow for a variety of uses and program. **Refer to Landscape Architects Details* .
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	YES	
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	YES	
	The visual prominence of underground car park vents is minimised & located at a low level where possible	YES	

	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	YES	
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	YES	
	Durable, graffiti resistant & easily cleanable materials are used	YES	
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	YES	
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	YES	
3D	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		
	Design Criteria	YES	Despite being situated south-west of the future Core Precinct (A development of between 15-20 stories), BLD D with careful consideration of site and context achieves 32% communal open space in relation to its approximate site area with 69% of direct sunlight on its principal communal open space (for 2 hours betwen 9am-3pm) (Fig. 3D1.1 & Fig. 3D1.2). Residential amenity will also be enhanced by its proximity generous public domain (1,954sqm). This public domain will provide a variety of active spaces, gardens and shelters to support the community all while achieving 100% solar amenity (2hours beween 9am-3pm 21/06) and passive surveillance from the buildings around it. BLD D is also within walking distance (~140m) to the future Telopea light rail plaza. **Refer to Landscape Architects details.*
	1 Communal open space has a minimum area equal to 25% of the site	YES	 Fig. 3D1.1 BLD D Communal Open Space

	2 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)	YES	 Fig. 3D1.2 Solar Access within Open Space
	Design Guidance	YES	Retention of trees is the main driver for communal open space on ground - as such deep soil areas and communal open space are largely co-located. This along with podium communal spaces creates pocket spaces across the overall development ensures easy access for all users. The variety of open spaces creates easily identifiable spaces for relief. **Refer to Landscape Architects Details.*
	Communal open space is consolidated into a well designed, easily identified & usable area	YES	
	Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions	YES	
	Communal open space are co-located with deep soil areas	YES	
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	YES	
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof	YES	
	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 need to: 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 & facilities and/or provide contributions to public open space	N/A	
3D-2	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		

	Design Guidance	YES	The overall development's communal open space proposed is intended to be an activated, inviting space that can be used for a variety of functions. The proposed roof level communal space will allow for diversity in use and it is proposed to provide shading structures and seating arrangements with generous soft landscaping to encourage sustained use. Each building receives well defined communal spaces while also maintaining a clear pedestrian link through to the heart of the public open space as well as the future Telopea Light rail plaza. **Refer to Landscape Architects Details.*
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	YES	
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	YES	
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	YES	
3D-3	Objective: Communal open space is designed to maximise safety.		
	Design Guidance	YES	The overall developments' communal open space will be naturally supervised through passive surveillance by adjacent apartments. These open spaces will also be well illuminated in conjunction with CCTV camera surveillance to further enhance safety. Walkways though these space will have clear legible view lines and are clearly defined reducing blind spots.
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	YES	
	Communal open space is well lit	YES	
	Communal open space/facilities that are provided for children & young people are safe and contained	YES	
3D-4	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		
	Design Guidance	YES	The development provides public open space at ground level and has direct connection to the Light Rail Plaza to the north encouraging natural pedestrian movement through the site (Fig. 3D1.1). *Refer to Landscape Architects Details.
	Public open space is well connected with public streets along at least one edge	YES	
	POS is connected with nearby parks & other landscape elements	YES	
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	YES	
	Solar access is provided year round along with protection from strong winds	YES	
	Opportunities for a range of recreational activities is provided for all ages	YES	
	Positive street address & active street frontages are provided adjacent to POS	YES	
	Boundaries are clearly defined between POS & private areas	YES	
3E	DEEP SOIL ZONES		

3E- 1	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		
	Design Criteria	YES	
1	Deep soil zones are to meet the following minimum requirements: Site Area (sqm) — Minimum Dim (m) — Deep Soil Zone (% of site area) less than 650 — - — 7 650-1500 — 3 greater than 1500 — 6	YES	The objective of the Concept Plan was to retain existing trees which in turn acts as the primary driver for deep soil location. The proposed basement is largely contained below the proposed built from and maintains **4,065 m2 (22.4% of total site area 18,150 m2)** of deep soil area for existing and proposed planting (Fig.3E1.1). **Refer to Telopea Revised DA Design Report pg 22.* **Refer to Architecturals PLA-AR-DA0350.*  Fig.3E1.1 Deep Soil Diagram
	Design Guidance	YES	The Public open space is intended to support large scale planting, providing for a deep soil zone within the site.
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm	YES	
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & 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	YES	
	Achieving the design criteria may not be possible on some sites including where: location & 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 is achieved & alternative forms of planting provided	YES	
3F	VISUAL PRIVACY		
3F-1	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		
	Design Criteria	CONSIDERED	

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

Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)
up to 12 (4 storeys)	6	3
up to 25 (5-8 storeys)	9	4.5
over 25 (9+ storeys)	12	6

CONSIDERED

Stage 1A is compliant generally compliant with side and rear setbacks to existing context. There are a few non-compliances within the development that we believe achieves the overall ADG objective (Fig. 3F1.1).

Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens - which Stage 1A implements. And despite being largely overshadowed by the Core Precinct to its north which hosts towers ranging from 14 – 24 stories, Stage 1A achieves 70% solar amenity (9am-3pm).

**Refer to Architecturals PLA-AR-DA0098-PLA-AR-DA0115 and PLA-AR-DA0201 - PLA-AR-DA0208 & PLA-AR-DA0271 - PLA-AR-DA0275 for privacy screen location.*
**Refer to Telopea Revised DA Report pg.81*

Building Separation on Site
Building D-E
Buildings D and E are designed offset from each other to maximise visual amenity and views.

Storeys 1-2 comply as the conditions are of a blank wall to habitable room (Fig. 3F1.1).
Storeys 3-4's separation are compliant at 11.76 - 15.01m.

Minor non-compliance on storeys 5-8 where there's a 15m separation, however due to the oblique orientation of the buildings, visibility between apartments is greatly reduced.

Privacy screens have been implemented both BLDG D & E to increase visual privacy (Fig. 3F1.2). This non-compliance of 24sqm GBA between storey 5-8 equates to approximately 2% of each floors GBA or 1% of total building GBA.

**Refer to Architecturals PLA-AR-DA0100-PLA - AR-DA0108 and PLA-AR-DA0207 - PLA-AR-DA0208 for privacy screen location.*

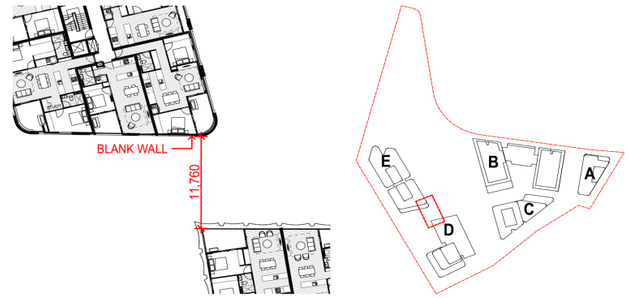


Fig. 3F1.1 Building D-E separation (storeys 1-2) & Key Plan (NTS)

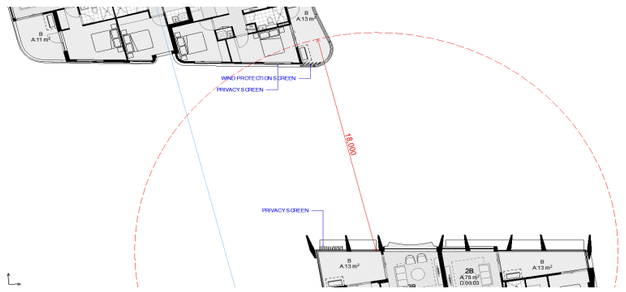


Fig. 3F1.2 Building D-E separation (storeys 3-9) Privacy screens annotated in blue

Building D-C

BLD D carefully considers the adjacent Building C position by splaying away from it. This ensures a higher visual amenity and maximises views and solar amenity. Building C's rounded corner also minimises extent of non-compliance.

Non-complaince equivalent of 5 m2 per floor (less than 1% of the GBA per floor or 0.3% of the whole building) occurs only in the southern balcony on one storey, storey 9, with a separation of 22.65m at its most extreme. It however, is separated on average of 25m between the towers. Privacy screening elements have been implemented on Building C's southern corner to provide better visual privacy (Fig. 3F1.5).

**Refer to Architecturals PLA-AR-DA0100 - PLA-AR-DA0108 and PLA-AR-DA0206 for privacy screen location.*

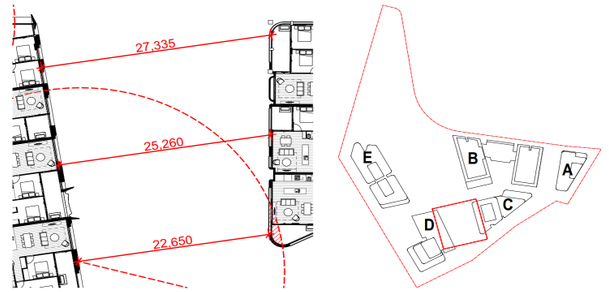


Fig. 3F1.4 Building D-C separation (storeys 1-9) & Key Plan

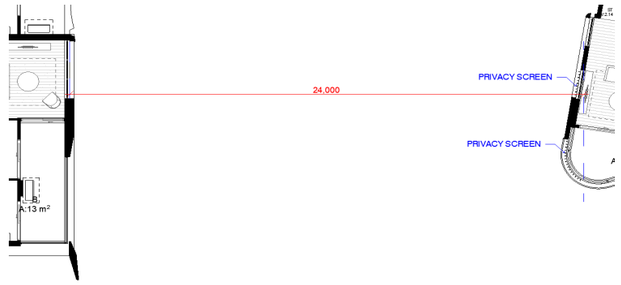


Fig. 3F1.5 Building D-C separation (storeys 9)

Side & Rear Boundary Conditions

Building D Rear Setback

Compliant as storeys 1-8 are setback over 9m and storeys 9-10 are setback over 12m (Fig.3F1.5).

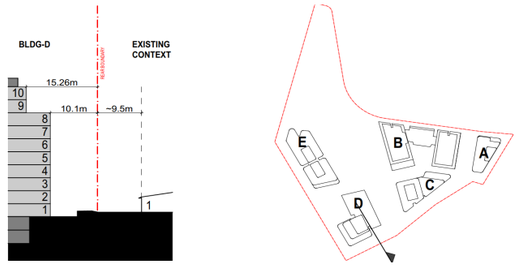


Fig. 3F1.5 Building D boundary condition & Key Plan

Building D Side Setback

Compliant as storeys 1-8 are setback over 9m and storeys 9-10 are setback over 12m (Fig.3F1.6).

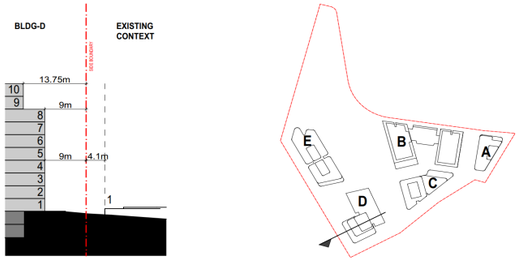


Fig. 3F1.6 Building D boundary condition & Key Plan

	Design Guidance	YES	The proposed development seeks to maintain building separation for both privacy and acoustic purpose. In locations where ADG building separation could not be met, Privacy screens have also been used throughout to further protect the residents and to ensure privacy is maintained.
	Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	YES	
	For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	N/A	
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)	YES	
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)	N/A	
	Direct lines of sight are avoided for windows & balconies across corners	YES	
	No separation is required between blank walls	YES	
3F-2	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		
	Design Guidance	YES	The communal open space proposed on the ground level, as well as the roof level communal space, common areas and access paths of the overall development have been designed to be screened from apartments through the use of privacy screen.
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on 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 & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & 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 on windows and/or balconies	YES	
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	YES	
	Balconies & private terraces are located in front of living rooms to increase internal privacy	YES	
	Windows are offset from the windows of adjacent buildings	YES	
	Recessed balconies and/or vertical fins are used between adjacent balconies	YES	
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1	Objective: Building entries & pedestrian access connects to and addresses the public domain.		

	Design Guidance	YES	The overall development has been designed to clearly define entry points and to ensure each lobby has direct street address. The private road to along the southern boundary of the site has been introduced to ensure all entries have direct street access (Fig.3G1.1). BLD D's entry and pedestrian access follows the new private road and is situated directly across the public domain. **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100.* **Refer to Landscape Architects Details.*

Fig. 3G1.1 Overall Stage 1A entries and paths

Fig. 3G1.2 BLD D entry and access

	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	YES	Fig. 3G.1
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	YES	
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	YES	
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	YES	
3G-2	Objective: Access, entries & pathways are accessible & easy to identify.		

	Design Guidance	YES	The overall proposal for Stage 1A, contains a new private road cutting through heart of the site. This ensures all buildings recieve clear pedestrian entry points (Fig.3G1.1). BLD D's entry is clearly defined by the architecture of the lobby entrance which increases its visibility from the proposed through road. **Refer to Architecturals PLA-AR-DA0207, WEST ELEVATION*
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	YES	
	The design of ground floors & underground car parks minimise level changes along pathways & entries	YES	
	Steps & ramps are integrated into the overall building & landscape design	YES	
	For large developments 'way finding' maps are provided to assist visitors & residents	YES	
	For large developments electronic access & audio/video intercom are provided to manage access	YES	
3G-3	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		
	Design Guidance	YES	An internal through-site link has been provided as a connection between light rail plaza and Manson Street.  Fig.3G3.1 Built form and connectivity
	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	YES	
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	YES	
3H	VEHICLE ACCESS		
3H-1	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		

Design Guidance	YES	Vehicle access points have been carefully considered. The overall Concept Plan consists of two stages, each stage has its own vehicle access point. Due to the natural sloping topography of the site, the entry points have been provided at two ends of the site at its lowest point and towards the south to minimise carpark ramp being exposed onto the street front and open spaces (Fig.3G1.1) Separate entries have also been designed to separate loading dock from residential vehicle access, reducing vehicle conflicts. Pedestrian entries are also located away from the vehicle entries in high visibility areas further reducing vehicular and pedestrian conflict (Fig.3H1.1).. BLD D is part of Stage 2 western and shares its entry with BLD E (Fig.3H1.1). **Refer to Telopea Revised DA Report pg 24.*

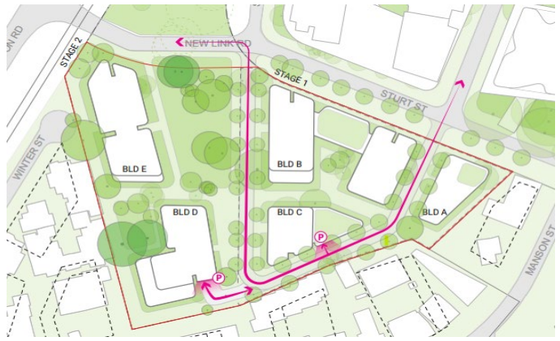


Fig.3H1.1 Stage 2 vehicle access point

Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	YES
Car park entries are located behind the building line	YES
Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	YES
Car park entry & access are located on secondary streets or lanes where available	YES
Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	YES
Access point is located to avoid headlight glare to habitable rooms	YES
Adequate separation distances are provided between vehicle entries & street intersections	YES
The width & number of vehicle access points are limited to the minimum	YES
Visual impact of long driveways is minimised through changing alignments & screen planting	YES
The need for large vehicles to enter or turn around within the site is avoided	YES
Garbage collection, loading & servicing areas are screened	YES
Clear sight lines are provided at pedestrian & vehicle crossings	YES
Traffic calming devices, such as changes in paving material or textures, are used where appropriate	YES
Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	YES

3J	BICYCLE & CAR PARKING		
3J-1	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		
	Design Criteria	YES	The proposed development meets the required through basement carparking and on-street carparking . **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to the accompanying traffic report.*
1	For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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.	YES	
	Design Guidance	YES	**Refer to the accompanying traffic report.*
	Where a car share scheme operates locally, car share parking spaces are provided within the development.	YES	
	Where less car parking is provided in a development, council do not provide on street resident parking permits	YES	
3J-2	Objective: Parking & facilities are provided for other modes of transport.		
	Design Guidance	YES	The proposed carpark will provide secure undercover bicycle and motorbike parking spaces for residents and visitors. Carparking meets requirements with on street and basement parking.
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	YES	
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	YES	
	Conveniently located charging stations are provided for electric vehicles, where desirable	YES	
3J-3	Objective: Car park design & access is safe and secure.		
	Design Guidance	YES	The Basement has been designed to maximise efficiency within the floorplate while maintaining site lines where possible. Storage cages and bicycle parking will be accessed from dedicated pedestrian areas. Pedestrian paths through the carpark will be clearly delineated through signposting and line marking, with adequate lighting throughout.
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	YES	
	Direct, clearly visible & well lit access is provided into common circulation areas	YES	
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	YES	
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	YES	
3J-4	Objective: Visual & environmental impacts of underground car parking are minimised.		
	Design Guidance	YES	The extent of excavation required to the basement levels has been minimised as much as possible. This has been achieved through an efficient carpark layout with double loaded corridors throughout. Whilst the site itself slopes significantly, the design of the basement carpark allows for it to be entirely submerged The basement carpark will be mechanically ventilated to allow for fresh air supply.

	Excavation minimised through efficient car park layouts & ramp design	YES	
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	YES	
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	YES	
	Natural ventilation is provided to basement & sub-basement car parking	YES	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	YES	
3J-5	Objective: Visual & environmental impacts of on-grade car parking are minimised.		
	Design Guidance	YES	All residential carparking has been provided in the basement levels. It is only the few visitor carparking that are located on the private road adjacent the proposed public park which will have landscaping to reduce its visibility and buffer it from pedestrians. The loading dock entry has also been carefully considered to be located south of the site away from the public park and primary pedestrian movement (Fig.3G1.1). **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to Landscape Architects Details.*
	Parking is located on the side or rear of the lot away from the primary street frontage	YES	
	Cars are screened from view of streets, buildings, communal and private open space areas	YES	
	Safe and direct access to building entry points is provided	YES	
	Parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space	YES	
	Stormwater run-off is managed appropriately from car parking surfaces	YES	
	Bio-swales, rain gardens or on site detention tanks are provided, where appropriate	YES	
	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	YES	
3J-6	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		
	Design Guidance	YES	See 3J-5
	Exposed parking should not be located along primary street frontages	YES	
	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	YES	
PART4	**DESIGNING THE BUILDING**		
4A	SOLAR & DAYLIGHT ACCESS		
4A-1	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		
	Design Criteria	CONSIDERED	

	1 Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	CONSIDERED	BLD D reads as a 8-9 storey building situated south west of the future Core Precinct which hosts towers that range between 15-20 stories. As a result of this scale and form, solar compliance for BLD D is hard to achieve. However, through careful planning BLD D can achieve **73%** solar amenity for two hours between 9am-3pm. **Refer to 20320 Development Schedule - Overall & Staging.* **Refer to Architecturals PLA-AR-DA0320, PLA-AR-DA0322, PLA-AR-DA0326, PLA-AR-DA0328.*
	2 In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter	N/A	
	3 A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	YES	9% of BLD D apartments proposed with south facing aspect receiving no solar access. **Refer to Architecturals PLA-AR-DA0326, PLA-AR-DA0328.*
	Design Guidance	YES	BLD D contains between 6-11 apartments per floor. Apartments are oriented and positioned in a way to achieve great amenity. Corner or dual aspect apartments are proposed in the south and west façade to maximise amenities for apartments while single aspect apartments facing south & west are limited and have shallow apartment layouts.
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	YES	
	Single aspect, single storey apartments have a northerly or easterly aspect	YES	
	Living areas are located to the north and service areas to the south & west of apartments	YES	
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used:Dual aspect apartments, Shallow apartment layouts, Two storey &mezzanine level apartments, Bay windows	YES	
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	YES	
	Achieving the design criteria may not be possible 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; significant views are oriented away from the desired aspect for direct sunlight	YES	
	Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.		
4A-2	Objective: Daylight access is maximised where sunlight is limited.		
	Design Guidance	YES	Skylight has been proposed to the apartments with limited solar access to ensure living spaces are well lit throughout the day. **Refer to Architecturals PLA-AR-DA0108 & PLA-AR-DA0109 & PLA-AR-DA0322.*

			 Fig.4A2.2. Roof plan, skylight highlighted in yellow
	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	YES	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	YES	
	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 site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	YES	
4A-3	Objective: Design incorporates shading & glare control, particularly for warmer months.		
	Design Guidance	YES	The proposed design incorporates overhangs to balconies to allow shading from summer sun. Windows are recessed into the facade to provide overhangs for solar control.
	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 & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	YES	
4B	NATURAL VENTILATION		
4B-1	Objective: All habitable rooms are naturally ventilated.		
	Design Guidance	YES	All habitable rooms are naturally ventilated with careful consideration of window placement to optimise natural ventilation.
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	YES	
	Depths of habitable rooms support natural ventilation	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	YES	
	Light wells are not the primary air source for habitable rooms	YES	
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	YES	
4B-2	Objective: The layout & design of single aspect apartments maximises natural ventilation.		

	Design Guidance	YES	Single aspect apartments have been designed to have limited depth in order to facilitate airflow within the apartment. Building breaks are employed in single aspect apartments to encourage cross ventilation in apartments. ventilation (Fig.4A3.1).
	Apartment depths limited to maximise ventilation & airflow	YES	
	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	CONSIDERED	Capable of complying
4B-3	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		
	Design Criteria	YES	
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	YES	Corner apartments, cross through apartments and apartments with appropriate indentations have been deemed to be cross ventilated. BLD D proposes a total of 99 apartments up to 9 storeys. Of these, 60 are naturally cross ventilated **(63%)**. **Refer to Architecturals PLA-AR-DA0330 & PLA-AR-DA0332 for apartments that have been nominated to achieve cross ventilation.*
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	YES	
	Design Guidance	YES	Single aspect apartments have been limited. Building breaks are employed to encourage cross ventilation in apartments. (Fig.4A3.1).
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	YES	
4C	CEILING HEIGHTS		
4C-1	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		
	Design Criteria	YES	The minimum ceiling heights have been accommodated with 2.7m for habitable rooms and 2.4m for non-habitable rooms. **Refer to Architecturals PLA-AR-DA0201- PLA-AR-DA0254.*

1	Measured from finished floor level to finished ceiling level, minimum ceiling heights are: Minimum Ceiling Height for apt and mixed-used buildings (m) Habitable rooms 2.7 Non-habitable rooms 2.4 For 2 storey apts 2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area Attic spaces 1.8 at edge of room with 30deg minimum ceiling slope If located in mixed-used area 3.3 for ground and first floor to promote future flexibility of use These minimums do not preclude higher ceilings if desired	YES	
4C-2	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.		
	Design Guidance	YES	The hierarchy of rooms within apartments will be emphasised by providing 2.7m ceiling heights for habitable rooms such as bedrooms and living areas, with 2.4m ceilings to service zones such as bathrooms.
	A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	YES	
4C-3	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.		
	Design Guidance	CONSIDERED	
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses	CONSIDERED	Ground floor for apartments has a ceiling height of 2.7m. The development of the ground floor is designed for residential use and is not zoned for mixed use or commercial use.
4D	APARTMENT SIZE & LAYOUT		
4D-1	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.		
	Design Criteria	YES	Almost all of the apartment internal areas are greater than the required minimum sizes, including the provision of 5sqm for additional bathrooms.
1	Apartments have the following minimum internal areas:	YES	
	Apartment Type Minimum Internal Area (sqm) Studio 35 1 Bedroom 50 2 Bedroom 70 3 Bedroom 90	YES	BLD D largely complies with minimum areas, few apartments are short 0.5sqm. I still achieves great solar and cross ventilation amenity. Internal floor area can be easily refined in Design Development. (Fig.4D1.1).

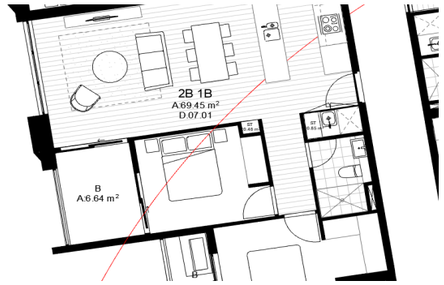


Fig.4D1.1 Typical 2B +1B Unit (D.UG.01 - D.08.01)

	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each. A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each	YES
2	Every habitable room has 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 & air is not borrowed from other rooms	YES
	Design Guidance	YES
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	YES
	A window is visible from any point in a habitable room	YES
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.	YES
4D-2	Objective: Environmental performance of the apartment is maximised.	
	Design Criteria	YES
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	YES
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	YES

Almost all open plan layouts have depths of 8m that comply with the ADG.

Minor non-compliance occurs on typical corner apartments (D.UG.03 to D.08.03). They, however, can meet the objectives as they're oriented north with expansive glazing to maximise solar amenity, daylighting, cross ventilation and visual amenity towards the public domain. The living space is also serviced by a secondary window towards the balcony which further enhances daylighting.

Fig.4D2.1 BLD D non-compliant corner apartment (Units D.UG.03 to D.08.03)

	Design Guidance	YES	All apartments have been designed carefully and oriented sensibly within the Concept Plan to achieve the most amenity.
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths	YES	
	All living areas & bedrooms are located on the external face of building	YES	
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	YES	
4D-3	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		
	Design Criteria	YES	
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	YES	
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	YES	Some apartments have rounded bedrooms due to rounded facades. In these instances where dimensions vary due to the curved walls, an average 3m dimension is generally achieved (Fig.4D3.1). Room sizes also exceed the suggested sqm requirement and can meet the objectives where it can accomodate variety of uses as impacts of rounded corner is neglible.

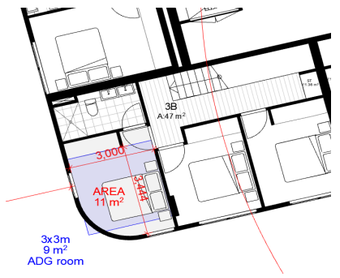


Fig.4D3.1 Corner bedrooms on level 08. Layout and area is accomodating of a variety of activities and needs.

3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	YES	
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	YES	
	Design Guidance	YES	The habitable rooms within the development has been designed in accordance to the ADG.
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	YES	
	All bedrooms allow a minimum length of 1.5m for robes	YES	
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	YES	

	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & 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 BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	YES	
4E	PRIVATE OPEN SPACE & BALCONIES		
4E -1	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		
	Design Criteria	YES	
1	All apartments are required to have primary balconies as follows: Apartment Type / Minimum Area (sqm) / Minimum Depth (m) Studio 4 - 1 Bedroom 8 2 2 Bedroom 10 2 3+ Bedroom 12 2.4 The minimum balcony depth to be counted as contributing to the balcony area is 1m	YES	All balconies achieve the minimum area. Some balconies have irregular geometry due to angled facades. In the few instances where dimensions vary an the minimum depth of 2m and is supplimented by a generous balcony area (Fig.4E1.1). The 9 balconies on units D.UG.01 - D.08.01 do not technically achieve the appropriate depth, however, the principal balcony space can functionally service (Fig.4E1.2). Generous communal open spaces have been proposed to alleviate the slight non-compliance of these balconies (FIG.3D1.2). Balconies with rounded corners pose no negative impacts on the functionality of the space. **Refer to Architecturals PLA-AR-DA0100-PLA-AR-DA0108*

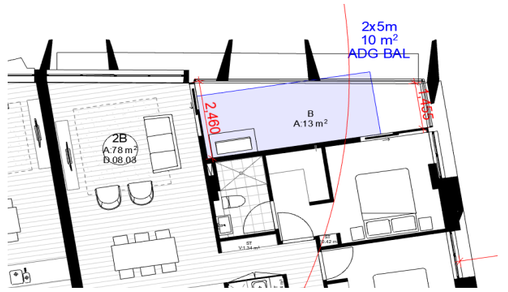


Fig.4E1.2 D.UG.03 - D.08.03 balcony

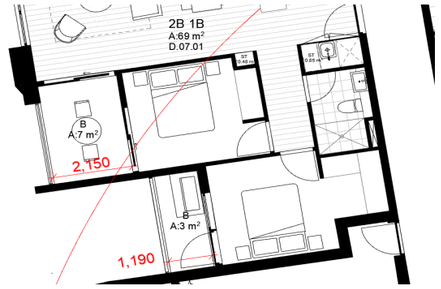


Fig.4E1.2 D.UG.01 - D.08.01 balcony non-compliance

	2 For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m	YES	
	Design Guidance	YES	
	Increased communal open space are provided where the number or size of balconies are reduced	YES	
	Storage areas on balconies is additional to the minimum balcony size	YES	
	Balcony use may be limited in some proposals where:consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated	YES	
4E -2	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		
	Design Guidance	YES	Ground level apartments have extended generous front gardens which have direct access to the private communal spaces. Planters and fencing have been used throughout the ground floor apartment to ensure privacy is maintained. Balconies have been carefully positioned adjacent to living rooms to promote indoor and outdoor living and to maximise solar amenity and ventilation.
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	YES	
	POS & balconies predominantly face north, east or west	YES	
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	YES	
4E -3	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		

	Design Guidance	YES	The architecture of private open spaces and balconies have been carefully considered. They are well balanced and oriented to create articulated apartments which responds to solar amenity, visual amenity, privacy amenity. The design of the ground level extended gardens are an integral part of the overall articulation of the proposal. Their extents define the overall form of the tower elements and their generous sizing, as well as their relationship to internal spaces encourage sustained use. Integration of condensers behind balustrades balconies, solid balconies and facade walls obscures its visibility. Eaves projecting from balconies on the northern facade offers shade but also presents itself as an extention of the metal balustrades. **Refer to Architecturals PLA-AR-DA0207*
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	YES	
	Full width full height glass balustrades alone are generally not desirable	YES	
	Projecting balconies are integrated into the building design. The design of soffits are considered	YES	
	Operable screens, shutters, hoods & pergolas control sunlight & wind	YES	
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	YES	
	Downpipes & balcony drainage are integrated with the overall facade & building design	YES	
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	YES	
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	YES	
	Ceilings of apartments below terraces are insulated to avoid heat loss	YES	
	Water & gas outlets are provided for primary balconies & private open space	YES	
4E -4	Objective: Private open space & balcony design maximises safety		
	Design Guidance	YES	Private open space on ground level consists of planter walls and fencing which are consistent with the level it sits on. They also provide screening and buffering from the street and through-site links. All balconies to be designed and constructed in accordance with the BCA. Balconies on BLD D are designed with a mix of metal balustrades and solid balustrades which are rececssed into the facade. **Refer to Architecturals PLA-AR-DA0206.*
	Changes in ground levels or landscaping are minimised	YES	
	Balcony design & detailing avoids opportunities for climbing & falling	YES	

4F	COMMON CIRCULATION & SPACES		
4F-1	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		
	Design Criteria	YES	
1	The maximum number of apartments off a circulation core on a single level is eight	CONSIDERED	BLD D has between 6-11 apartments per floor plate.
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	N/A	
	Design Guidance	YES	The proposal does not strictly comply with the design criteria as it has between 6 and 11 apartments per level and a single core. However, the core is adjacent to an opening in the building floorplate, which allows for the provision of natural daylight creating an inviting circulation space (Fig.4.F2.1). Amenities in solar and cross ventilation has been achieved in the apartments.
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	YES	
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	YES	
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	YES	
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	YES	
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	YES	
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	YES	
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	YES	
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	YES	
4F-2	Objective: Common circulation spaces promote safety & provide for social interaction between residents		
	Design Guidance	YES	The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Lobbies will also have installed camera security and swipe card access. BLD D lobby windows provide ample daylight to create a comfortable and safe environment which promotes social interaction. Corridors and lobbies will also be clearly illuminated at night (Fig.4.F2.1).

Fig.4.F2.1 Typical BLD D lobby

	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	YES	
	Tight corners & spaces are avoided	YES	
	Circulation spaces are well lit at night	YES	
	Legible signage are provided for apartment numbers, common areas & general wayfinding	YES	
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	YES	
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	YES	
4G	STORAGE		
4G-1	Objective: Adequate, well designed storage is provided in each apartment		
	Design Criteria	YES	
1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:	YES	BLD D is capable of accommodating the recommended amount of storage per apartment. Details will be finalised in the design development stage. 50% of required storage will be provided in the basement.
	Apartment Type — Storage Size Volume (cubic m) Studio — 4 1 Bedroom — 6 2 Bedroom — 8 3+ Bedroom — 10		Apartment storage allocation at Design Development stage will be as follows: studio apartments: 4m3 1 bedroom 6m3 2 bedroom 8m3 3 bedroom 10m3
	At least 50% of the required storage is to be located within the apartment		
	Design Guidance	YES	BLD D is capable of accommodating the recommended amount of storage per apartment. 50% or greater of the required area will be accessible from with the apartment living areas.
	Storage is accessible from either circulation or living areas	YES	
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	YES	
	Left over space such as under stairs is used for storage	YES	
4G-2	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		
	Design Guidance	YES	Additional storage not located in apartments will be located in carpark levels in secure storage ‘cages’. These stores will be clearly allocated to specific apartments and be readily accessible from common aisles or from adjacent allocated car spaces.

	Storage not located in apartments is secure and clearly allocated to specific apartments	YES	
	Storage is provided for larger & less frequently accessed items	YES	
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	YES	
	If communal storage rooms are provided they are accessible from common circulation areas of the building	YES	
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	YES	
4H	ACOUSTIC PRIVACY		
4H-1	Objective: Noise transfer is minimised through the siting of buildings & building layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	YES	
	Window & door openings are orientated away from noise sources	YES	
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	YES	
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	YES	
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	YES	
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	YES	
4H-2	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	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	YES	
	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	YES	
4J	NOISE & POLLUTION		
4J-1	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & 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 & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	YES	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation	YES	

4J-2	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Design solutions to mitigate noise include: Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	YES	
4K	APARTMENT MIX		
4K-1	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		
	Design Guidance	YES	A variety of apartment types are proposed ranging from Studio, 1B, 1B+Study, 2B, 2B+Study, 3B and 3B+Study apartments.
	A variety of apartment types is provided	YES	
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	YES	
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	YES	
4K-2	Objective: The apartment mix is distributed to suitable locations within the building		
	Design Guidance	YES	The apartment mix is distributed throughout the development. There are larger apartments on both lower and upper levels and each level accommodates a diversity of apartment types.
	Different apartment types are located to achieve successful facade composition & to optimise solar access	YES	
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	YES	
4L	GROUND FLOOR APARTMENTS		
4L-1	Objective: Street frontage activity is maximised where ground floor apartments are located		
	Design Guidance	YES	Ground floor apartment with extended front garden helps to activate the open communal spaces. Separate entries facilitate different opportunities for interaction.
	Direct street access are provided to ground floor apartments	YES	
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	YES	
	Retail or home office spaces are located along street frontages	YES	
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	N/A	
4L-2	Objective: Design of ground floor apartments delivers amenity & safety for residents		
	Design Guidance	YES	1800mm fencing has been proposed throughout on the ground level apartments to ensure privacy is maintained. Planter boxes with screen planting and glass screens act as buffers which provides visual amenity and wind protection to residents.

	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	YES	
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	YES	
4M	FACADES		
4M-1	Objective: Building facades provide visual interest along the street while respecting the character of the local area		
	Design Guidance	YES	The buildings are composed to be clearly legible and to clearly establish a base, middle and top. Warm shades of brick are used to differentiate the base from the tower expressions (middle and top). This creates a break in building form which compliments the diverse tower expressions yet can still be perceived as a family of buildings through its shared base materiality and form. This pallete adds contrast and warmth within the overall composition. Facade indentation, screening and splayed architectural expressions provide relief, breaks down scale while also animating the frontages. BLD D's tower expression of light brick, aluminium and equitone compliments and contrasts the brick base of the overall Stage 1A development; clearly defining the buildings base and tower. When viewed in conjunction with the overall development, it clearly stands on its own as a distinct building but also as part of a family. **Refer to Telopea Revised DA Report pg 25.* **Refer to Architecturals PLA-AR-DA0207.*  Fig.4M1.1 Warm brick podium expression in brown dash

Fig.4M1.2 Diverse tower expression in coloured dashes

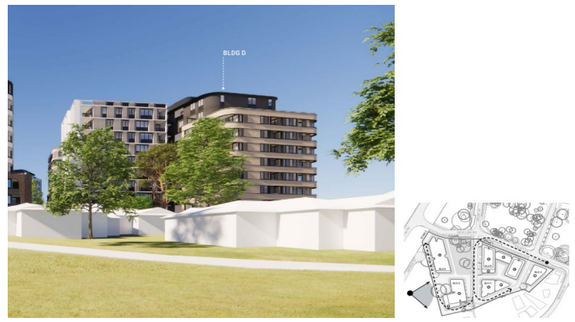


Fig.4M1.3 BLD D materiality and architectural expression creates visual intrigue

	Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	YES	
	Building services are integrated within the overall façade	YES	
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	YES	
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	YES	
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	YES	
4M-2	Objective: Building functions are expressed by the façade		
	Design Guidance	YES	The overall development's built form is clearly defined into 3 distinct elements; ground level, main form and top expression. Ground level entry has also been clearly defined through articulation of the portal expression.
	Building entries are clearly defined	YES	
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	YES	
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	YES	
4N	ROOF DESIGN		
4N-1	Objective: Roof treatments are integrated into the building design & positively respond to the street		

	Design Guidance	YES	The overall proposal carefully considers the expression of the fifth facade. To compliment the variety in height, diversity in the roof plane is proposed through the use of activated landscaped roof terraces (communal and private),skylights, materiality, solar cells and planting. This creates visual variation across the development and animates the roof plane (Fig.4A2.2). BLD D animates this fifth facade with skylights, eaves and dark solar cells on the towers. Diverse materiality of roofing also responds to the use of its spaces (Fig.4A2.2). **Refer to Architecturals PLA-AR-DA0109 & PLA-AR-DA0115 .*
	Roof design relates to the street. Design solutions include: Special roof features & 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 pitched form complementary to adjacent buildings	YES	
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials compliment the building, Service elements are integrated	YES	
4N-2	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		
	Design Guidance	YES	See response to Objective 4N-1 **Refer to Landscape Architects Details.*
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	YES	
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	YES	
4N-3	Objective: Roof design incorporates sustainability features		
	Design Guidance	YES	BLD D incorporates skylights to improve solar access to its residential units on the top floor (Fig.4A2.2). Solar cells support the energy needs of the building. Light coloured roof assists In heat reflection. **Refer to Architecturals PLA-AR-DA0109 & PLA-AR-DA0115.* **Refer to NatHERs Assessment*
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	YES	
	Skylights & ventilation systems are integrated into the roof design	YES	
4O	LANDSCAPE DESIGN		
4O-1	Objective: Landscape design is viable & sustainable		
	Design Guidance	YES	The overall development contains a mix of well considered public, communal and private spaces. Generous deep soil planting, diverse selection of planting along with retention of existing trees aid in its overall sustainability. **Refer to Landscape Architects Details.*
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	YES	

	Ongoing maintenance plans are prepared	YES	
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	YES	
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	YES	
4O-2	Objective: Landscape design contributes to streetscape & amenity		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	YES	
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	YES	
	Plants selected are endemic to region & reflect local ecology	YES	
4P	PLANTING ON STRUCTURES		
4P-1	Objective: Appropriate soil profiles are provided		
	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*
	Structures are reinforced for additional saturated soil weight	YES	
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	YES	
	Minimum soil standards for plant sizes should be provided in accordance with:	YES	
	Site Area (sqm) Recommended Tree Planting		
	Up to 850 1 medium tree per 50sqm of deep soil zone		
	850 - 1500 1 large tree or 2 medium trees per 90sqm of deep soil zone		
	Greater than 1500 1 large tree or 2 medium trees per 80sqm of deep soil zone		
4P-2	Objective: Plant growth is optimised with appropriate selection & maintenance		
	Design Guidance	YES	Appropriate selection of planting is used to ensure planters are well maintained. **Refer to Landscape Architects Details.*
	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	YES	
	A landscape maintenance plan is prepared	YES	
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	YES	
4P-3	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		
	Design Guidance	YES	Landscape elements has been used throughout to create an inviting and pleasant environment. **Refer to Landscape Architects Details.*
	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	YES	
4Q	UNIVERSAL DESIGN		
4Q-1	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		
	Design Guidance	CONSIDERED	

	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	YES	Capable of complying
4Q-2	Objective: A variety of apartments with adaptable designs are provided		
	Design Guidance	YES	Stage 1A comprises a total of 451 apartments. Based on the agreed 5% of dwellings required to be accessible under the State Significant Development Application (SSDA), a minimum of 23 adaptable dwellings are required. Stage 1A proposes 23 adaptable dwellings. **Refer to DA Access Report pg.16* **Refer to Architecturals PLA-AR-DA0501-PLA-AR-DA0513*
	Adaptable housing should be provided in accordance with the relevant council policy	YES	
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	YES	
4Q-3	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		
	Design Guidance	CONSIDERED	
	Flexible design solutions 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 & bathroom	YES	
4R	ADAPTIVE REUSE		
4R-1	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		
4R-2	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		
4S	MIXED USE		
4S-1	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		
	Design Guidance	N/A	Stage 1A is purely a residential zoned site. Although not zoned for mixed use, the proposed private through road ensures good access and connectivity to the mixed use core to the north.
	Mixed use development are concentrated around public transport & centres	N/A	
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	N/A	
4S-2	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		
	Design Guidance	YES	The overall development of Stage 1A contains only residential apartments, as such residential circulation are clear and separated. Each lobby will provide swipe access as well as security cameras. Building entries are situated away from vehicle access points (Fig.3G1.1).
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	YES	
	Landscaped communal open space are provided at podium or roof	YES	
4T	AWNING & SIGNAGE		
4T-1	Objective: Awnings are well located and complement & integrate with the building design.		

	Design Guidance	N/A	
	Awnings are located along streets with high pedestrian activity & active frontages	N/A	
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	N/A	
	Awnings are located over building entries for address & public domain amenity Capable of complying.	N/A	
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	N/A	
	Gutters & down pipes are integrated and concealed	N/A	
	Lighting under awnings is provided for pedestrian safety	N/A	
4T-2	Objective: Signage responds to context & desired streetscape character.		
	Design Guidance	N/A	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	N/A	
	Legible & discrete way finding is provided for larger developments	N/A	
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	N/A	
4U	ENERGY EFFICIENCY		
4U-1	Objective: Development incorporates passive environmental design.		
	Design Guidance	YES	
	Adequate natural light is provided to habitable rooms	YES	
	Well located, screened outdoor areas are provided for clothes drying	YES	
4U-2	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		
	Design Guidance	YES	Overall proposed building orientations and massing have been carefully considered with passive solar design strategies to maximise solar amenity. Cross ventilation in the overall development has also been achieved thus reducing the need for cooling. Balcony overhangs, eaves and screens mitigate harsh direct summer sun. While permeable screens and balconies permits winter sun. High thermal mass of brick retains heat during winter.
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	YES	
	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	YES	
4U-3	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		
	Design Guidance	YES	
	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 & as many non-habitable rooms, common areas & circulation spaces as possible	YES	
4V	WATER MANAGEMENT & CONSERVATION		
4V-1	Objective: Potable water use is minimised.		

	Design Guidance	YES	The development aims to minimise potable water consumption through efficient fixtures and fittings as well as reduction in landscape irrigation. Planting on the rooftop areas and podium levels will be drought resistant and will be coordinated with the landscape architect's specifications of planting. Fire protection testing water is recycled into the system to avoid wastage. *Refer to Basix Report
	Water efficient fittings, appliances & wastewater reuse are incorporated	YES	
	Apartments are individually metered	YES	
	Rainwater is collected, stored & reused on site	YES	
	Drought tolerant, low water use plants are used within landscaped areas	YES	
4V-2	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		
	Design Guidance	YES	*Refer to Civil Engineers Drawings.*
	Water sensitive urban design systems are designed by a suitably qualified professional	YES	
	A number of the following design solutions are used:, Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	YES	
4V-3	Objective: Flood management systems are integrated into site.		
	Design Guidance	YES	*Refer to Civil Engineers Drawings.*
	Detention tanks are located under paved areas, driveways or in basements	YES	
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	YES	
4W	WASTE MANAGEMENT		
4W-1	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		
	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. Refer to waste management report for more details.
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	YES	
	Waste & recycling storage areas are well ventilated	YES	
	Circulation design allows bins to be easily manoeuvred between storage & collection points	YES	
	Temporary storage are provided for large bulk items such as mattresses	YES	
	Waste management plan is prepared	YES	
4W-2	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		
	Design Guidance	YES	Each floor will have a dual waste chute system for both general waste and recycling, which is directed to a waste room in the basement.
	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	YES	
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	YES	
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	YES	
	Alternative waste disposal methods such as composting is provided	YES	
4X	BUILDING MAINTENANCE		
4X-1	Objective: Building design detail provides protection from weathering.		

	Design Guidance	YES	The building in its articulation and detailing is intended to be robust and low maintenance. A limited material palette is proposed - material choices have been carefully considered in relation to durability in environments close to water bodies.
	A number of the following design solutions are used:,Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	YES	
4X-2	Objective: Systems & access enable ease of maintenance.		
	Design Guidance	YES	
	Window design enables cleaning from the inside of the building	YES	
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	YES	
	Design does not require external scaffolding for maintenance access	YES	
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	YES	
	Centralised maintenance, services & storage are provided for communal open space areas within the building	YES	
4X-3	Objective: Material selection reduces ongoing maintenance costs.		
	Design Guidance	YES	The building façade is intended to be robust and hard-wearing. Materials such as bricks and metal panelling systems are proposed. Internally, common areas will be resilient in order to accommodate high traffic patterns, particularly around the lift lobby. Common areas will also have lighting that is triggered by motion detectors.
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	YES	

TELOPEA MASTERPLAN - STAGE 1A RESIDENTIAL - BLD E
REVISED DA DEVELOPMENT SCHEDULE

plus architecture

Job No 20320
Date 19/01/2024

ADG Ref.	Item Description	Compliance	Notes
PART3	**SITING THE DEVELOPMENT**		
3A	SITE ANALYSIS		
3A-1	Objective: Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		
	Design Guidance	YES	The Development has been designed to respond to the site analysis undertaken in relation to orientation, views, internal apartment amenity and both the current surrounding context as well as the projected future context for the area, particularly in relation to the vision for the Telopea Concept Plan.
	Each element in the Site Analysis Checklist is addressed.	YES	
3B	ORIENTATION		
3B-1	Objective: Building types & layouts respond to the streetscape & site while optimising solar access within the development		
	Design Guidance	YES	The alignment and orientation of the buildings have been assessed to ensure both the Stage 1A apartments as well as the context will maintain sufficient solar access. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301, PLA-AR-DA0320 - PLA-AR-DA0329.*
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street	YES	
	Where the street frontage is to the east or west, rear buildings are orientated to the north	N/A	
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	YES	
3B-2	Objective: Overshadowing of neighbouring properties is minimised during mid winter.		
	Design Guidance	YES	The overall proposal has been designed to minimise both overshadowing of communal areas within the site and potential overshadowing to neighbouring sites. The site orientation allows the northern public communal landscape zones to receive generous solar access during the day. The proposal also has a limited impact on the adjacent development to the south. **Refer to Architecturals PLA-AR-DA0300 - PLA-AR-DA0301* .
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access	YES	

	Solar access to living rooms, balconies & private open spaces of neighbours are considered	YES	
	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%	YES	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	YES	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	YES	The roof top expression is setback to further reduce the bulk and scale
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development	YES	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C	PUBLIC DOMAIN INTERFACE		
3C-1	Objective: Transition between private & public domain is achieved without compromising safety & security.		
	Design Guidance	YES	The lobby on ground floor will present as a clearly defined and legible entry point to the development and mediating the transition between public street and private development.
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	YES	
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings	YES	
	Upper level balconies & windows overlook the public domain	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	YES	
	Length of solid walls is limited along street frontages	YES	
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may include seating at building entries, near letter boxes & in private courtyards adjacent to streets	YES	
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: Architectural detailing; Changes in materials; Plant Species; Colours; Opportunities for people to be concealed are minimised	YES	
3C-2	Objective: Amenity of the public domain is retained & enhanced.		
	Design Guidance	YES	The architecture and building composition defines a network of landscaped areas which celebrate the clusters of existing trees. The neighbourhood park, public link and communal open spaces are well defined by the built form and allow for a variety of uses and program. **Refer to Landscape Architects Details* .
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking	YES	
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	YES	
	The visual prominence of underground car park vents is minimised & located at a low level where possible	YES	

	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	YES	
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	YES	
	Durable, graffiti resistant & easily cleanable materials are used	YES	
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: Street access, pedestrian paths & building entries are clearly defined; Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space; Minimal use of blank walls, fences & ground level parking	YES	
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	YES	
3D	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	Objective: An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		
	Design Criteria	YES	Despite being situated south-west of the future Core Precinct (A development of between 15-20 stories), BLD E with careful consideration of site and context achieves 30% communal open space in relation to its approximate site area with 69% of direct sunlight (for 2 hours between 9am-3pm) on its principal communal open space (Fig. 3D1.1 & Fig. 3D1.2). Residential amenity will further be enhanced by its proximity generous public domain (1,954sqm). This public domain will provide a variety of active spaces, gardens and shelters to support the community all while achieving 100% solar amenity (2hours between 9am-3pm 21/06) and passive surveillance from the buildings around it. BLD E is also within walking distance (~140m) to the future Telopea light rail plaza. **Refer to Landscape Architects details.*
	1 Communal open space has a minimum area equal to 25% of the site	YES	 Fig. 3D1.1 BLD E Communal Open Space

	2 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)	YES	 Fig. 3D1.2 Solar Access within Open Space Retention of trees is the main driver for communal open space on ground - as such deep soil areas and communal open space are largely co-located. This along with podium communal spaces creates pocket spaces across the overall development ensures easy access for all users. The variety of open spaces creates easily identifiable spaces for relief. **Refer to Landscape Architects Details.*
	Design Guidance	YES	
	Communal open space is consolidated into a well designed, easily identified & usable area	YES	
	Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions	YES	
	Communal open space are co-located with deep soil areas	YES	
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies	YES	
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof	YES	
	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 need to: 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 & facilities and/or provide contributions to public open space	N/A	
3D-2	Objective: Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		

	Design Guidance	YES	The overall development's communal open space proposed is intended to be an activated, inviting space that can be used for a variety of functions. The proposed roof level communal space will allow for diversity in use and it is proposed to provide shading structures and seating arrangements with generous soft landscaping to encourage sustained use. Each building receives well defined communal spaces while also maintaining a clear pedestrian link through to the heart of the public open space as well as the future Telopea Light rail plaza. **Refer to Landscape Architects Details.*
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: Seating for individuals or groups; Barbeque areas; Play equipment or play areas; Swimming pools, gyms, tennis courts or common rooms	YES	
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	YES	
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	YES	
3D-3	Objective: Communal open space is designed to maximise safety.		
	Design Guidance	YES	The overall developments' communal open space will be naturally supervised through passive surveillance by adjacent apartments. These open spaces will also be well illuminated in conjunction with CCTV camera surveillance to further enhance safety. Walkways though these space will have clear legible view lines and are clearly defined reducing blind spots.
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: Bay windows; Corner windows; Balconies	YES	
	Communal open space is well lit	YES	
	Communal open space/facilities that are provided for children & young people are safe and contained	YES	
3D-4	Objective: Public open space, where provided, responds to the existing pattern & uses of the neighbourhood.		
	Design Guidance	YES	The development provides public open space at ground level and has direct connection to the Light Rail Plaza to the north encouraging natural pedestrian movement through the site (Fig. 3D1.1). *Refer to Landscape Architects Details.
	Public open space is well connected with public streets along at least one edge	YES	
	POS is connected with nearby parks & other landscape elements	YES	
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	YES	
	Solar access is provided year round along with protection from strong winds	YES	
	Opportunities for a range of recreational activities is provided for all ages	YES	
	Positive street address & active street frontages are provided adjacent to POS	YES	
	Boundaries are clearly defined between POS & private areas	YES	
3E	DEEP SOIL ZONES		

3E- 1	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		
	Design Criteria	YES	
1	Deep soil zones are to meet the following minimum requirements: Site Area (sqm) — Minimum Dim (m) — Deep Soil Zone (% of site area) less than 650 — - — 7 650-1500 — 3 greater than 1500 — 6	YES	The objective of the Concept Plan was to retain existing trees which in turn acts as the primary driver for deep soil location. The proposed basement is largely contained below the proposed built from and maintains **4,065 m2 (22.4% of total site area 18,150 m2)** of deep soil area for existing and proposed planting (Fig.3E1.1). **Refer to Telopea Revised DA Design Report pg 22.* **Refer to Architecturals PLA-AR-DA0350.*  Fig.3E1.1 Deep Soil Diagram
	Design Guidance	YES	The Public open space is intended to support large scale planting, providing for a deep soil zone within the site.
	On some sites it may be possible to provide larger deep soil zones, depending on the site area & context: 10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm; 15% of the site as deep soil on sites greater than 1,500sqm	YES	
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: Basement & sub-basement car park design that is consolidated beneath building footprints; Use of increased front & 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	YES	
	Achieving the design criteria may not be possible on some sites including where: location & 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 is achieved & alternative forms of planting provided	YES	
3F	VISUAL PRIVACY		
3F-1	Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		
	Design Criteria	CONSIDERED	

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

Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)
up to 12 (4 storeys)	6	3
up to 25 (5-8 storeys)	9	4.5
over 25 (9+ storeys)	12	6

CONSIDERED

Stage 1A is compliant generally compliant with side and rear setbacks to existing context. There are a few non-compliances within the development that we believe achieves the overall ADG objective (Fig. 3F1.1).

Whilst the ADG 3F-1 requires various setbacks depending on building storeys for visual privacy; the chief intent of the ADG is to achieve solar access to adjacent buildings, as visual privacy can easily be enhanced through privacy screens - which Stage 1A implements. And despite being largely overshadowed by the Core Precinct to its north which hosts towers ranging from 14 – 24 stories, Stage 1A achieves 70% solar amenity (9am-3pm).

**Refer to Architecturals PLA-AR-DA0098-PLA-AR-DA0115 and PLA-AR-DA0201 - PLA-AR-DA0208 & PLA-AR-DA0271 - PLA-AR-DA0275 for privacy screen location.*
**Refer to Telopea Revised DA Report pg.81*

Building Separation on Site
Building D-E
Buildings D and E are designed offset from each other to maximise visual amenity and views (Fig. 3F1.9).

Minor non-compliance on storeys 5-8 where there's a 15m separation, however due to the oblique orientation of the buildings, visibility between apartments is greatly reduced.

Privacy screens have been implemented both BLDG D & E to increase visual privacy (Fig. 3F1.3). This non-compliance of 24sqm GBA between storey 5-8 is only equates to approximately 2% of each floors GBA or 1% of total building GBA.
**Refer to Architecturals PLA-AR-DA0100-PLA - AR-DA0108 and PLA-AR-DA0207 - PLA-AR-DA0208 for privacy screen location.*

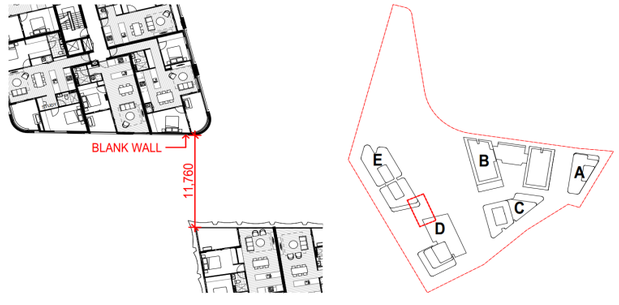


Fig. 3F1.1 Building D-E separation (storeys 1-2) & Key Plan

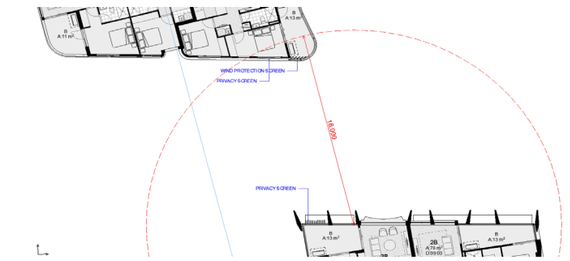


Fig. 3F1.2 Building D-E separation (storeys 3-9) & Key Plan

Building B-E

Compliant as there 47m apart.

*Refer to Architecturals PLA-AR-DA0100 - PLA-AR-DA0108

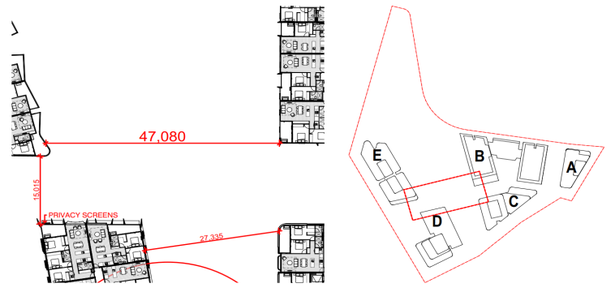


Fig. 3F1.3 Building B-E separation (storeys 1-9) & Key Plan

Side & Rear Boundary Conditions

Building E Side Setback 1 (Fig. 3F1.4)

Compliant as storeys 1-8 are setback over 9m.

Minor 0.5m non-compliance on storey 9, however as neighbour does not exceed over 4 storeys, visual privacy of storeys 9 is unaffected.

Furthermore privacy screens are implemented on the western facade of BLDG-E to mitigate any potential development.

**Refer to Architecturals PLA-AR-DA0100-PLA - AR-DA0108 and PLA-AR-DA0207 for privacy screen location.*

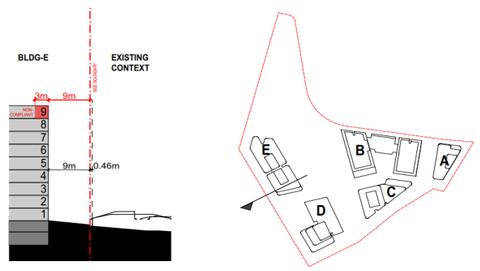
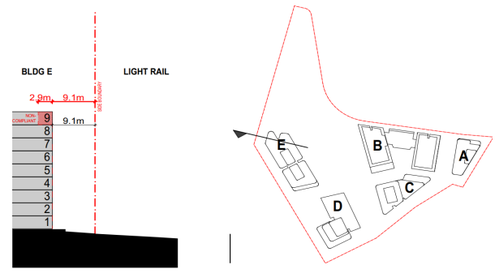


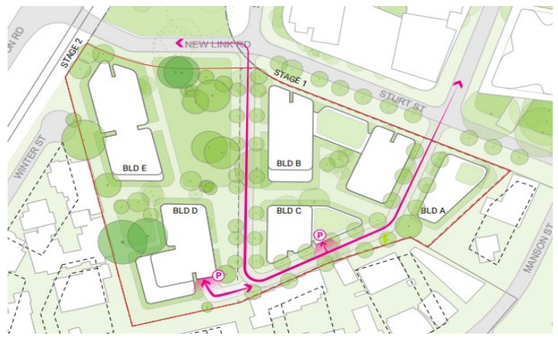
Fig. 3F1.4 Building E boundary condition & Key Plan (NTS)

	Design Guidance	YES	**Building E Side Setback 2 (Fig. 3F1.5)** Compliant at storeys 1-8 as setbacks over 9m. 2.9m non-compliance occurs on storey 9, however as this façade faces the light rail with no potential development, BLD-E visual privacy is unaffected.  Fig. 3F1.5 Building E boundary condition & Key Plan The proposed development seeks to maintain building separation for privacy, acoustic and solar purposes. In locations where ADG building separation could not be met, privacy screens have also been used throughout to further ensure visual privacy.
	Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a 'ziggurat' appearance	YES	
	For residential buildings next to commercial buildings, separation distances are measured as follows: Retail, office spaces & commercial balconies use the habitable room distances; Service & plant areas use the non-habitable room distances	N/A	
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: site layout & building are orientated to minimise privacy impacts (see 3B Orientation); on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)	YES	
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)	N/A	
	Direct lines of sight are avoided for windows & balconies across corners	YES	
	No separation is required between blank walls	YES	
3F-2	Objective: Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		
	Design Guidance	YES	The communal open space proposed on the ground level, as well as the roof level communal space, common areas and access paths of the overall development have been designed to be screened from apartments through the use of privacy screen.

	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: setbacks; solid or partially solid balustrades on 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 & outlook in another; raising apartments or private open space above the public domain or communal open space; planter boxes incorporated into walls & 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 on windows and/or balconies	YES	
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	YES	
	Balconies & private terraces are located in front of living rooms to increase internal privacy	YES	
	Windows are offset from the windows of adjacent buildings	YES	
	Recessed balconies and/or vertical fins are used between adjacent balconies	YES	
3G	PEDESTRIAN ACCESS & ENTRIES		
3G-1	Objective: Building entries & pedestrian access connects to and addresses the public domain.		
	Design Guidance	YES	The overall development has been designed to clearly define entry points and to ensure each lobby has direct street address. The private road to along the southern boundary of the site has been introduced to ensure all entries have direct street access (Fig.3G1.1). BLD E's entry and pedestrian access follows the new private road and is situated directly across the public domain. *Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100.* *Refer to Landscape Architects Details.*

Fig. 3G1.1 Overall Stage 1A entries and paths

			 Fig. 3G1.2 BLD E entry and access
	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	YES	Fig. 3G.1
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	YES	
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	YES	
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	YES	
3G-2	Objective: Access, entries & pathways are accessible & easy to identify.		
	Design Guidance	YES	The overall proposal for Stage 1A, contains a new private road cutting through heart of the site. This ensures all buildings receive clear pedestrian entry points (Fig.3G1.1). BLD E's entry is clearly defined by the architecture of the lobby entrance which increases its visibility from the proposed through road. BLD E also implements ramps and steps to absorb the natural level changes on site - thus creating an accessible and easily distinguishable entry. **Refer to Architecturals PLA-AR-DA0208, EAST & WEST ELEVATION* **Refer to Architecturals PLA-AR-DA0099 & PLA-AR-DA0100*
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	YES	
	The design of ground floors & underground car parks minimise level changes along pathways & entries	YES	
	Steps & ramps are integrated into the overall building & landscape design	YES	
	For large developments ‘way finding’ maps are provided to assist visitors & residents	YES	
	For large developments electronic access & audio/video intercom are provided to manage access	YES	
3G-3	Objective: Large sites provide pedestrian links for access to streets & connection to destinations.		
	Design Guidance	YES	An internal through-site link has been provided as a connection between light rail plaza and Manson Street.

			 Fig.3G3.1 Built form and connectivity
	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	YES	
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	YES	
3H	VEHICLE ACCESS		
3H-1	Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		
	Design Guidance	YES	Vehicle access points have been carefully considered. The overall Concept Plan consists of two stages, each stage has its own vehicle access point. Due to the natural sloping topography of the site, the entry points have been provided at two ends of the site at its lowest point and towards the south to minimise carpark ramp being exposed onto the street front and open spaces (Fig.3G1.1) Separate entries have also been designed to separate loading dock from residential vehicle access, reducing vehicle conflicts. Pedestrian entries are also located away from the vehicle entries in high visibility areas further reducing vehicular and pedestrian conflict (Fig.3H1.1). BLD E is part of Stage 2 western and shares its entry with BLD D (Fig.3H1.1). **Refer to Telopea Revised DA Report pg 24.*  Fig.3H1.1 Stage 2 vehicle access point

	Car park access is integrated with the building's overall facade. Design solutions include: materials & colour palette minimise visibility from street; security doors/gates minimise voids in the facade; where doors are not provided, visible interiors reflect facade design, and building services, pipes & ducts are concealed	YES	
	Car park entries are located behind the building line	YES	
	Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	YES	
	Car park entry & access are located on secondary streets or lanes where available	YES	
	Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	YES	
	Access point is located to avoid headlight glare to habitable rooms	YES	
	Adequate separation distances are provided between vehicle entries & street intersections	YES	
	The width & number of vehicle access points are limited to the minimum	YES	
	Visual impact of long driveways is minimised through changing alignments & screen planting	YES	
	The need for large vehicles to enter or turn around within the site is avoided	YES	
	Garbage collection, loading & servicing areas are screened	YES	
	Clear sight lines are provided at pedestrian & vehicle crossings	YES	
	Traffic calming devices, such as changes in paving material or textures, are used where appropriate	YES	
	Pedestrian & vehicle access are separated & distinguishable. Design solutions include: Changes in surface materials; Level changes; Landscaping for separation	YES	
3J	BICYCLE & CAR PARKING		
3J-1	Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		
	Design Criteria	YES	The proposed development meets the required through basement carparking and on-street carparking . **Refer to Archtitecturals PLA-AR-0097 - PLA-AR-0099.* **Refer to the accompanying traffic report.*
1	For development in the following locations: on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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.	YES	
	Design Guidance	YES	**Refer to the accompanying traffic report.*
	Where a car share scheme operates locally, car share parking spaces are provided within the development.	YES	
	Where less car parking is provided in a development, council do not provide on street resident parking permits	YES	
3J-2	Objective: Parking & facilities are provided for other modes of transport.		
	Design Guidance	YES	The proposed carpark will provide secure undercover bicycle and motorbike parking spaces for residents and visitors. Carparking meets requirements with on street and basement parking.
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	YES	
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	YES	
	Conveniently located charging stations are provided for electric vehicles, where desirable	YES	
3J-3	Objective: Car park design & access is safe and secure.		

	Design Guidance	YES	The Basement has been designed to maximise efficiency within the floorplate while maintaining site lines where possible. Storage cages and bicycle parking will be accessed from dedicated pedestrian areas. Pedestrian paths through the carpark will be clearly delineated through signposting and line marking, with adequate lighting throughout.
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	YES	
	Direct, clearly visible & well lit access is provided into common circulation areas	YES	
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	YES	
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	YES	
3J-4	Objective: Visual & environmental impacts of underground car parking are minimised.		
	Design Guidance	YES	The extent of excavation required to the basement levels has been minimised as much as possible. This has been achieved through an efficient carpark layout with double loaded corridors throughout. Whilst the site itself slopes significantly, the design of the basement carpark allows for it to be entirely submerged The basement carpark will be mechanically ventilated to allow for fresh air supply.
	Excavation minimised through efficient car park layouts & ramp design	YES	
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	YES	
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	YES	
	Natural ventilation is provided to basement & sub-basement car parking	YES	
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	YES	
3J-5	Objective: Visual & environmental impacts of on-grade car parking are minimised.		
	Design Guidance	YES	All residential carparking has been provided in the basement levels. It is only the few visitor carparking that are located on the private road adjacent the proposed public park which will have landscaping to reduce its visibility and buffer it from pedestrians. The loading dock entry has also been carefully considered to be located south of the site away from the public park and primary pedestrian movement (Fig.3G1.1). **Refer to Architectural PLA-AR-0097 - PLA-AR-0099.* **Refer to Landscape Architects Details.*
	Parking is located on the side or rear of the lot away from the primary street frontage	YES	
	Cars are screened from view of streets, buildings, communal and private open space areas	YES	
	Safe and direct access to building entry points is provided	YES	
	Parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space	YES	
	Stormwater run-off is managed appropriately from car parking surfaces	YES	
	Bio-swales, rain gardens or on site detention tanks are provided, where appropriate	YES	

	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	YES	
3J-6	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		
	Design Guidance	YES	See 3J-5
	Exposed parking should not be located along primary street frontages	YES	
	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	YES	
PART4	**DESIGNING THE BUILDING**		
4A	SOLAR & DAYLIGHT ACCESS		
4A-1	Objective: To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		
	Design Criteria	YES	
1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	YES	Despite being situate south-west of the future Core Precinct (A development of between 15-20 stories), BLD E with careful consideration of site and context achieves can achieve **96%** solar amenity for two hours between 8am-4pm and 9am-3pm. **Refer to 20320 Development Schedule - Overall & Staging.* **Refer to Architecturals PLA-AR-DA0320, PLA-AR-DA0322, PLA-AR-DA0326, PLA-AR-DA0328.*
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter	N/A	
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	YES	Only 2% of BLD E apartments proposed with south facing aspect receiving no solar access. **Refer to Architecturals PLA-AR-DA0326, PLA-AR-DA0328.*
	Design Guidance	YES	BLD E contains an average of 11 apartments per floor. The apartments are oriented and positioned in a way to achieve great amenity. Single aspect apartments facing south & west are limited and have shallow apartment layouts.
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	YES	
	Single aspect, single storey apartments have a northerly or easterly aspect	YES	
	Living areas are located to the north and service areas to the south & west of apartments	YES	
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used:Dual aspect apartments, Shallow apartment layouts, Two storey &mezzanine level apartments, Bay windows	YES	
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	YES	

	Achieving the design criteria may not be possible 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; significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.	YES	
4A-2	Objective: Daylight access is maximised where sunlight is limited.		
	Design Guidance	YES	BLD E has been carefully oriented to achieve maximum daylight, achieving 96% solar amenity. Building breaks within the form encourages more surface area for daylight to penetrate. **Refer to Architecturals PLA-AR-DA0108 & PLA-AR-DA0109 & PLA-AR-DA0322.*
	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	YES	
	Where courtyards are used: Use is restricted to kitchens, bathrooms & service areas; Services are concealed with appropriate detailing & materials to visible walls; Courtyards are fully open to the sky; Access is provided to the light well from communal area for cleaning & maintenance; Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	YES	
	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 site) that will reflect light; Integrating light shelves into the design; Light coloured internal finishes	YES	
4A-3	Objective: Design incorporates shading & glare control, particularly for warmer months.		
	Design Guidance	YES	The proposed design incorporates overhangs to balconies to allow shading from summer sun. Windows are recessed into the facade to provide overhangs for solar control. Western screens are incorporated to minimise the effect of glare during warmer months.
	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 & planting; Horizontal shading to north facing windows; Vertical shading to east & particularly west facing windows; Operable shading to allow adjustment & choice; High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	YES	
4B	NATURAL VENTILATION		
4B-1	Objective: All habitable rooms are naturally ventilated.		
	Design Guidance	YES	All habitable rooms are naturally ventilated with careful consideration of window placement to optimise natural ventilation.
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	YES	
	Depths of habitable rooms support natural ventilation	YES	
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	YES	
	Light wells are not the primary air source for habitable rooms	YES	

	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: Adjustable windows with large effective openable areas; Variety of window types that provide safety & flexibility such as awnings & louvres; Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	YES	
4B-2	Objective: The layout & design of single aspect apartments maximises natural ventilation.		
	Design Guidance	YES	Single aspect apartments have been designed to have limited depth in order to facilitate airflow within the apartment. Building breaks are employed in single aspect apartments to encourage cross ventilation in apartments (Fig.4A3.1).
	Apartment depths limited to maximise ventilation & airflow	YES	
	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries; Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	CONSIDERED	Capable of complying
4B-3	Objective: Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		
	Design Criteria	YES	
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	YES	Corner apartments, cross through apartments and apartments with appropriate indentations have been deemed to be cross ventilated. BLD E proposes a total of 94 apartments up to 9 storeys, of which 60 are naturally cross ventilated **(64%)**. **Refer to Architecturals PLA-AR-DA0330 & PLA-AR-DA0332 for apartments that have been nominated to achieve cross ventilation.*
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	YES	
	Design Guidance	YES	Single aspect apartments have been limited. Building breaks are employed to encourage cross ventilation in apartments. (Fig.4A3.1).
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	YES	
	In cross-through apartments, external window & door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	YES	
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	YES	
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	YES	
4C	CEILING HEIGHTS		
4C-1	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.		
	Design Criteria	YES	The minimum ceiling heights have been accommodated with 2.7m for habitable rooms and 2.4m for non-habitable rooms. **Refer to Architecturals PLA-AR-DA0201- PLA-AR-DA0254.*

1	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	YES	
	Minimum Ceiling Height for apt and mixed-used buildings (m)		
	Habitable rooms 2.7		
	Non-habitable rooms 2.4		
	For 2 storey apts 2.7 for main living area floor		
	2.4 for second floor, where its area does not exceed 50% of the apt area		
	Attic spaces 1.8 at edge of room with 30deg minimum ceiling slope		
	If located in mixed-used area 3.3 for ground and first floor to promote future flexibility of use		
	These minimums do not preclude higher ceilings if desired		
4C-2	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.		
	Design Guidance	YES	The hierarchy of rooms within apartments will be emphasised by providing 2.7m ceiling heights for habitable rooms such as bedrooms and living areas, with 2.4m ceilings to service zones such as bathrooms.
	A number of the following design solutions are used: Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces; Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	YES	
4C-3	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.		
	Design Guidance	CONSIDERED	
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses	CONSIDERED	Ground floor for apartments has a ceiling height of 2.7m. The development of the ground floor is designed for residential use and is not zoned for mixed use or commercial use.
4D	APARTMENT SIZE & LAYOUT		
4D-1	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.		
	Design Criteria	YES	All of the apartment internal areas are greater than the required minimum sizes, including the provision of 5sqm for additional bathrooms.
1	Apartments have the following minimum internal areas:	YES	
	Apartment Type Minimum Internal Area (sqm)	YES	
	Studio 35		
	1 Bedroom 50		
	2 Bedroom 70		
	3 Bedroom 90		
	The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each.	YES	
	A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each		
2	Every habitable room has 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 & air is not borrowed from other rooms	YES	
	Design Guidance	YES	
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	YES	

	A window is visible from any point in a habitable room	YES	
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.	YES	
4D-2	Objective: Environmental performance of the apartment is maximised.		
	Design Criteria	YES	
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	YES	
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	YES	Most open plan layouts comply with maximum ADG depth. In cases where external facade is on an angle, dimensions are averaged and maximum depth are not breached. Minor non-compliance in depth occur in corner apartments (E.UG.03 to E.07.03). They however, meet the objectives as they're oriented north with expansive glazing to maximise solar amenity, daylighting, cross ventilation and visual amenity towards the public domain.

Fig.4D2.1 E.UG.03 to E.07.03

	Design Guidance	YES	All apartments have been designed carefully and oriented sensibly within the Concept Plan to achieve the most amenity.
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths	YES	
	All living areas & bedrooms are located on the external face of building	YES	
	Where possible: bathrooms & laundries have external openable window; main living spaces are oriented toward the primary outlook & aspect and away from noise sources	YES	
4D-3	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		
	Design Criteria	YES	
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	YES	
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	YES	Some bedrooms in BLD E have irregular walls. In these few instances where dimensions vary due to the angled or curved walls, an average 3m dimension is always achieved and is supplement by a very generous floor area can accommodate a variety of needs.

FIG.4D3.1 Example of an irregular bedroom on the south facade where dimensions average to 3m but functional area exceeds the requirement

3	Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio & 1 bedroom apartments – 4m for 2 & 3 bedroom apartments	YES	
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	YES	
	Design Guidance	YES	The habitable rooms within the development has been designed in accordance to the ADG.
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	YES	
	All bedrooms allow a minimum length of 1.5m for robes	YES	
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	YES	
	Apartment layouts allow flexibility over time, design solutions include: Dimensions that facilitate a variety of furniture arrangements & removal; Spaces for a range of activities & 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 BCA & for calculating mix of apartments); Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1); Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	YES	
4E	PRIVATE OPEN SPACE & BALCONIES		
4E-1	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.		
	Design Criteria	YES	
1	All apartments are required to have primary balconies as follows: Apartment Type — Minimum Area (sqm) — Minimum Depth (m) Studio — 4 — - 1 Bedroom — 8 — 2 2 Bedroom — 10 — 2 3+ Bedroom — 12 — 2.4 The minimum balcony depth to be counted as contributing to the balcony area is 1m	YES	Some balconies have irregular geometry due to angled facades. Their dimensions vary but an average minimum dimension of 2 or 2.4m is always achieved, if not exceeded greatly (Fig.4E1.1). These balcony areas also very generous, exceeding the minimum requirements enhancing residential amenity as they service multiple rooms (Fig.4E1.1). Balconies with rounded corners also pose no negative impacts on the functionality of the space due its generous area and proportions. **Refer to Architecturals PLA-AR-DA0100-PLA-AR-DA0107*

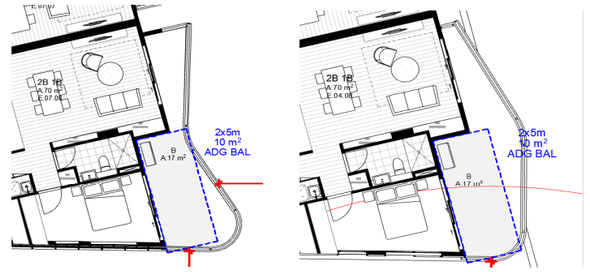


Fig.4E1.1 example of a balcony with irregular form that is generous and achieves high residential amenity.

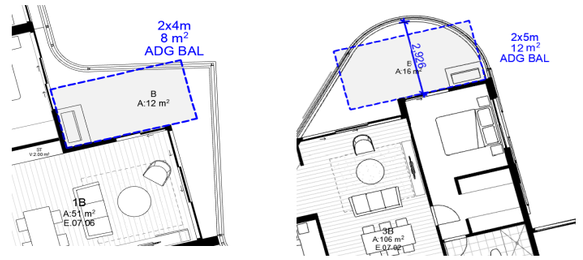


Fig.4E1.2 example of a balcony with irregular form that is generous and achieves high residential amenity.

	2 For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m	YES	
	Design Guidance	YES	
	Increased communal open space are provided where the number or size of balconies are reduced	YES	
	Storage areas on balconies is additional to the minimum balcony size	YES	
	Balcony use may be limited in some proposals where:consistently high wind speeds at 10 storeys & above; close proximity to road, rail or other noise sources; exposure to significant levels of aircraft noise; heritage & adaptive reuse of existing buildings In these situations juliet balconies, operable walls, enclosed wintergardens, and bay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated	YES	
4E -2	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		
	Design Guidance	YES	Ground level apartments have extended generous front gardens which have direct access to the private communal spaces. Planters and fencing have been used throughout the ground floor apartment to ensure privacy is maintained. Balconies have been carefully positioned adjacent to living rooms to promote indoor and outdoor living and to maximise solar amenity and ventilation.
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	YES	
	POS & balconies predominantly face north, east or west	YES	
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	YES	

4E -3	Objective: Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		
	Design Guidance	YES	The architecture of private open spaces and balconies have been carefully considered. They are well balanced and oriented to create articulated apartments which responds to solar amenity, visual amenity, privacy amenity. The design of the ground level extended gardens are an integral part of the overall articulation of the proposal. Their extents define the overall form of the tower elements and their generous sizing, as well as their relationship to internal spaces encourage sustained use. The balcony upstands off-white finish wraps around each floor plate establishing a clear definition in each storey from the dark recessive walls. The alternating upstands on the eastern are the centre piece that defines the architectural expression of the building. Glass balustrade facades on the western face are coupled with privacy screening and dark handrails to create diversity and areas of relief and transparency on the facade, breaking down its of scale. Integration of condensers behind balustrades, solid balconies obscures its visibility.
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	YES	
	Full width full height glass balustrades alone are generally not desirable	YES	
	Projecting balconies are integrated into the building design. The design of soffits are considered	YES	
	Operable screens, shutters, hoods & pergolas control sunlight & wind	YES	
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	YES	
	Downpipes & balcony drainage are integrated with the overall facade & building design	YES	
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	YES	
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	YES	
	Ceilings of apartments below terraces are insulated to avoid heat loss	YES	
	Water & gas outlets are provided for primary balconies & private open space	YES	
4E -4	Objective: Private open space & balcony design maximises safety		

	Design Guidance	YES	Private open space on ground level consists of planter walls and fencing which are consistent with the level it sits on. They also provide screening and buffering from the street and through-site links. All balconies to be designed and constructed in accordance with the BCA. Balconies are designed with solid balustrades recessed into the facade to minimise slippage and falls. **Refer to Architecturals PLA-AR-DA0207.*
	Changes in ground levels or landscaping are minimised	YES	
	Balcony design & detailing avoids opportunities for climbing & falling	YES	
4F	COMMON CIRCULATION & SPACES		
4F-1	Objective: Common circulation spaces achieve good amenity & properly service the number of apartments		
	Design Criteria	YES	
1	The maximum number of apartments off a circulation core on a single level is eight	CONSIDERED	BLD E has between 5-12 apartments per floor plate.
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	N/A	
	Design Guidance	YES	The proposal does not strictly comply with the design criteria as it has between 5 and 12 apartments per level and a single core. However, the core is adjacent to multiple openings in the building floorplate, which allows for the provision of natural daylight creating an inviting circulation space (Fig.4.F2.1). Amenities in solar and cross ventilation has been achieved in the apartments. Refer to 4A-1 & 4B-3
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	YES	
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	YES	
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors	YES	
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: Series of foyer areas with windows & spaces for seating; Wider areas at apartment entry doors & varied ceiling heights	YES	
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	YES	
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: Sunlight & natural cross ventilation in apartments; Access to ample daylight & natural ventilation in common circulation spaces; Common areas for seating & gathering; Generous corridors with greater than minimum ceiling heights; Other innovative design solutions that provide high levels of amenity	YES	
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	YES	
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	YES	
4F-2	Objective: Common circulation spaces promote safety & provide for social interaction between residents		

	Design Guidance	YES	The proposal incorporates a clear and legible entry procession from the entrance to each apartment door. Lobbies will also have installed camera security and swipe card access. BLD E lobby windows north and west provide ample daylight to create a comfortable and safe environment which promotes social interaction. Corridors and lobbies will also be clearly illuminated at night (Fig.4.F2.1).
	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	YES	
	Tight corners & spaces are avoided	YES	
	Circulation spaces are well lit at night	YES	
	Legible signage are provided for apartment numbers, common areas & general wayfinding	YES	
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	YES	
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	YES	
4G	STORAGE		
4G-1	Objective: Adequate, well designed storage is provided in each apartment		
	Design Criteria	YES	
1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Apartment Type — Storage Size Volume (cubic m) Studio — 4 1 Bedroom — 6 2 Bedroom — 8 3+ Bedroom — 10 At least 50% of the required storage is to be located within the apartment	YES	BLD E is capable of accommodating the recommended amount of storage per apartment. Details will be finalised in the design development stage. 50% of required storage will be provided in the basement. Apartment storage allocation at Design Development stage will be as follows: studio apartments: 4m3 1 bedroom 6m3 2 bedroom 8m3 3 bedroom 10m3
	Design Guidance	YES	BLD E is capable of accommodating the recommended amount of storage per apartment. 50% or greater of the required area will be accessible from with the apartment living areas.

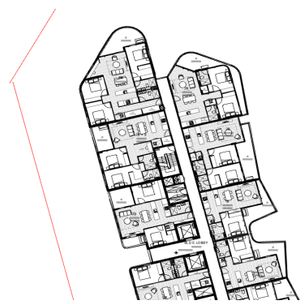


Fig.4.F2.1 Typical BLD E lobby

	Storage is accessible from either circulation or living areas	YES	
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	YES	
	Left over space such as under stairs is used for storage	YES	
4G-2	Objective: Additional storage is conveniently located, accessible & nominated for individual apartments		
	Design Guidance	YES	Additional storage not located in apartments will be located in carpark levels in secure storage 'cages'. These stores will be clearly allocated to specific apartments and be readily accessible from common aisles or from adjacent allocated car spaces.
	Storage not located in apartments is secure and clearly allocated to specific apartments	YES	
	Storage is provided for larger & less frequently accessed items	YES	
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	YES	
	If communal storage rooms are provided they are accessible from common circulation areas of the building	YES	
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	YES	
4H	ACOUSTIC PRIVACY		
4H-1	Objective: Noise transfer is minimised through the siting of buildings & building layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	YES	
	Window & door openings are orientated away from noise sources	YES	
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	YES	
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	YES	
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	YES	
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	YES	
4H-2	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	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	YES	
	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	YES	
4J	NOISE & POLLUTION		
4J-1	Objective: In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.

	To minimise impacts the following design solutions are used: Physical separation between buildings & the noise or pollution source; Residential uses are located perpendicular to the noise source & 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 & communal open spaces; Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources; Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer; Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred; Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	YES	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: Solar & daylight access, Private open space & balconies, Natural cross ventilation	YES	
4J-2	Objective: Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		
	Design Guidance	YES	Will comply in accordance with acoustic report recommendations.
	Design solutions to mitigate noise include: Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	YES	
4K	APARTMENT MIX		
4K-1	Objective: A range of apartment types & sizes is provided to cater for different household types now & into the future		
	Design Guidance	YES	A variety of apartment types are proposed ranging from Studio, 1B, 1B+Study, 2B, 2B+Study, 3B and 3B+Study apartments.
	A variety of apartment types is provided	YES	
	The apartment mix is appropriate, taking into consideration: Distance to public transport, employment & education centres, Current market demands & projected future demographic trends, Demand for social & affordable housing, Different cultural & socioeconomic groups	YES	
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	YES	
4K-2	Objective: The apartment mix is distributed to suitable locations within the building		
	Design Guidance	YES	The apartment mix is distributed throughout the development. There are larger apartments on both lower and upper levels and each level accommodates a diversity of apartment types.
	Different apartment types are located to achieve successful facade composition & to optimise solar access	YES	
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	YES	
4L	GROUND FLOOR APARTMENTS		
4L-1	Objective: Street frontage activity is maximised where ground floor apartments are located		
	Design Guidance	YES	Ground floor apartment with extended front garden helps to activate the open communal spaces. Separate entries facilitate different opportunities for interaction.
	Direct street access are provided to ground floor apartments	YES	
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: Both street, foyer & other common internal circulation entrances to ground floor apartments, Private open space is next to the street, Doors & windows face the street	YES	

	Retail or home office spaces are located along street frontages	YES	
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	N/A	
4L-2	Objective: Design of ground floor apartments delivers amenity & safety for residents		
	Design Guidance	YES	1800mm fencing has been proposed throughout on the ground level apartments to ensure privacy is maintained. Planter boxes with screen planting and glass screens act as buffers which provides visual amenity and wind protection to residents.
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4), Landscaping & private courtyards, Window sill heights minimise sight lines into apartments, Integrating balustrades, safety bars or screens with exterior design	YES	
	Solar access is maximised through: High ceilings & tall windows, Trees & shrubs allow solar access in winter & shade in summer	YES	
4M	FACADES		
4M-1	Objective: Building facades provide visual interest along the street while respecting the character of the local area		
	Design Guidance	YES	The buildings are composed to be clearly legible and to clearly establish a base, middle and top. Warm shades of brick are used to differentiate the base from the tower expressions (middle and top). This creates a break in building form which compliments the diverse tower expressions yet can still be perceived as a family of buildings through its shared base materiality and form. This pallete adds contrast and warmth to the overall composition and relates back to the character of the local area. Facade indentation, screening and alternating balustrades provide relief, breaks down scale and animates the facade. BLD E's tower expression of off-white finish and equitone compliments and contrasts the brick base of the overall Stage 1A development; clearly defining the buildings base and tower. When viewed in conjunction with the overall development, it clearly stands on its own as a distinct building but also as part of a family. **Refer to Telopea Revised DA Report pg 14, 15 & 25.* **Refer to Architecturals PLA-AR-DA0206.*

Fig.4M1.1 Warm brick podium expression in brown dash

Fig.4M1.2 Diverse tower expression in coloured dashes

Fig.4M1.3 BLD E materiality and façade creates visual intrigue

Design solutions for front building facades include: Composition of varied building elements, Defined base, middle & top of buildings, Revealing & concealing certain elements	YES
Building services are integrated within the overall façade	YES
Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: Well composed horizontal & vertical elements, Variation in floor heights to enhance the human scale, Elements that are proportional & arranged in patterns, Public artwork or treatments to exterior blank walls, Grouping of floors or elements such as balconies & windows on taller buildings	YES
Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	YES

	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	YES	
4M-2	Objective: Building functions are expressed by the façade		
	Design Guidance	YES	The overall development's built form is clearly defined into 3 distinct elements; ground level, main form and top expression. Ground level entry has also been clearly defined through articulation of the portal expression.
	Building entries are clearly defined	YES	
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	YES	
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	YES	
4N	ROOF DESIGN		
4N-1	Objective: Roof treatments are integrated into the building design & positively respond to the street		
	Design Guidance	YES	The overall proposal carefully considers the expression of the fifth facade. To compliment the variety in height, diversity in the roof plane is proposed through the use of activated landscaped roof terraces (communal and private),skylights, materiality, solar cells and planting. This creates visual variation across the development and animates the roof plane (Fig.4A2.2). BLD E animates this fifth facade with skylights, eaves and dark solar cells on the towers. Roofing materiality responds to the use of its spaces but also presents the roof plane as a family of buildings (Fig.4A2.2). **Refer to Architecturals PLA-AR-DA0115.*
	Roof design relates to the street. Design solutions include: Special roof features & 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 pitched form complementary to adjacent buildings	YES	
	Roof treatments are integrated with the building design. Design solutions include: Roof design is in proportion to the overall building size, scale & form, Roof materials compliment the building, Service elements are integrated	YES	
4N-2	Objective: Opportunities to use roof space for residential accommodation & open space are maximised		
	Design Guidance	YES	See response to Objective 4N-1 **Refer to Landscape Architects Details.*
	Habitable roof space are provided with good levels of amenity. Design solutions include: Penthouse apartments, Dormer or clerestory windows, Openable skylights	YES	
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	YES	
4N-3	Objective: Roof design incorporates sustainability features		
	Design Guidance	YES	Solar cells support the energy needs of the building. Light coloured roof assists In heat reflection. **Refer to Architecturally PLA-AR-DA0109 & PLA-AR-DA0115.* **Refer to NatHERs Assessment*
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: Roof lifts to the north, Eaves & overhangs shade walls & windows from summer sun	YES	
	Skylights & ventilation systems are integrated into the roof design	YES	
4O	LANDSCAPE DESIGN		

4O-1	Objective: Landscape design is viable & sustainable		
	Design Guidance	YES	The overall development contains a mix of well considered public, communal and private spaces. Generous deep soil planting, diverse selection of planting along with retention of existing trees aid in its overall sustainability. **Refer to Landscape Architects Details.*
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: Diverse & appropriate planting, Bio-filtration gardens, Appropriately planted shading trees, Areas for residents to plant vegetables & herbs, Composting, Green roofs or walls	YES	
	Ongoing maintenance plans are prepared	YES	
	Microclimate is enhanced by: Appropriately scaled trees near the eastern & western elevations for shade, Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter, Shade structures such as pergolas for balconies & courtyards	YES	
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	YES	
4O-2	Objective: Landscape design contributes to streetscape & amenity		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Landscape design responds to the existing site conditions including: Changes of levels, Views, Significant landscape features including trees & rock outcrops	YES	
	Significant landscape features are protected by: Tree protection zones, Appropriate signage & fencing during construction	YES	
	Plants selected are endemic to region & reflect local ecology	YES	
4P	PLANTING ON STRUCTURES		
4P-1	Objective: Appropriate soil profiles are provided		
	Design Guidance	YES	**Refer to Landscape Architects Details.*
	Structures are reinforced for additional saturated soil weight	YES	
	Soil volume is appropriate for plant growth, including: Modifying depths & widths according to planting mix & irrigation frequency, Free draining & long soil life span, Tree anchorage	YES	
	Minimum soil standards for plant sizes should be provided in accordance with: Site Area (sqm) — Recommended Tree Planting Up to 850 — 1 medium tree per 50sqm of deep soil zone 850 - 1500 — 1 large tree or 2 medium trees per 90sqm of deep soil zone Greater than 1500 — 1 large tree or 2 medium trees per 80sqm of deep soil zone	YES	
4P-2	Objective: Plant growth is optimised with appropriate selection & maintenance		
	Design Guidance	YES	Appropriate selection of planting is used to ensure planters are well maintained. **Refer to Landscape Architects Details.*
	Plants are suited to site conditions, considerations include:Drought & wind tolerance, Seasonal changes in solar access, Modified substrate depths for a diverse range of plants, Plant longevity	YES	
	A landscape maintenance plan is prepared	YES	
	Irrigation & drainage systems respond to: Changing site conditions, Soil profile & planting regime, Whether rainwater, stormwater or recycled grey water is used	YES	
4P-3	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces		
	Design Guidance	YES	Landscape details have been selected by the Landscape Architect to suit the site conditions and take advantage of the generous deep soil opportunities within the overall development. **Refer to Landscape Architects Details.*

	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	YES	
4Q	UNIVERSAL DESIGN		
4Q-1	Objective: Universal design features are included in apartment design to promote flexible housing for all community members		
	Design Guidance	YES	
	Developments achieve a benchmark of 15% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	YES	Capable of complying
4Q-2	Objective: A variety of apartments with adaptable designs are provided		
	Design Guidance	YES	Stage 1A comprises a total of 451 apartments. Based on the agreed 5% of dwellings required to be accessible under the State Significant Development Application (SSDA), a minimum of 23 adaptable dwellings are required. Stage 1A proposes 23 adaptable dwellings. **Refer to DA Access Report pg.16* **Refer to Architecturals PLA-AR-DA0501-PLA-AR-DA0513*
	Adaptable housing should be provided in accordance with the relevant council policy	YES	
	Design solutions for adaptable apartments include: Convenient access to communal & public areas, High level of solar access, Minimal structural change & residential amenity loss when adapted, Larger car parking spaces for accessibility, Parking titled separately from apartments or shared car parking arrangements	YES	
4Q-3	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs		
	Design Guidance	CONSIDERED	
	Flexible design solutions 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 & bathroom	YES	
4R	ADAPTIVE REUSE		
4R-1	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		
4R-2	Objective: Adapted buildings provide residential amenity but does not precluding future adaptive reuse		
4S	MIXED USE		
4S-1	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		
	Design Guidance	CONSIDERED	Stage 1A is purely a residential zoned site. Although not zoned for mixed use, the proposed private through road ensures good access and connectivity to the mixed use core to the north.
	Mixed use development are concentrated around public transport & centres	N/A	
	Mixed use developments positively contribute to the public domain. Design solutions include: Development addresses the street, Active frontages provided, Diverse activities & uses, Avoiding blank walls at the ground level, Live/work apartments on the ground floor level, rather than commercial	N/A	
4S-2	Objective: Residential levels of the building are integrated within the development. Safety & amenity is maximised.		

	Design Guidance	YES	The overall development of Stage 1A contains only residential apartments, as such residential circulation are clear and separated. Each lobby will provide swipe access as well as security cameras. Building entries are situated away from vehicle access points (Fig.3G1.1).
	Residential circulation areas are clearly defined. Solutions include:Residential entries separated from commercial entries & directly accessible from the street, Commercial service areas separated from residential components, Residential car parking & communal facilities separated or secured, Security at entries & safe pedestrian routes are provided, Concealment opportunities are avoided	YES	
	Landscaped communal open space are provided at podium or roof	YES	
4T	AWNING & SIGNAGE		
4T-1	Objective: Awnings are well located and complement & integrate with the building design.		
	Design Guidance	N/A	
	Awnings are located along streets with high pedestrian activity & active frontages	N/A	
	A number of the following design solutions are used: Continuous awnings are maintained & provided in areas with an existing pattern, Height, depth, material & form complements existing street character, Protection from sun & rain is provided, Awnings are wrapped around secondary frontages of corner sites, Awnings are retractable in areas without an established pattern	N/A	
	Awnings are located over building entries for address & public domain amenity Capable of complying.	N/A	
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	N/A	
	Gutters & down pipes are integrated and concealed	N/A	
	Lighting under awnings is provided for pedestrian safety	N/A	
4T-2	Objective: Signage responds to context & desired streetscape character.		
	Design Guidance	N/A	
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	N/A	
	Legible & discrete way finding is provided for larger developments	N/A	
	Signage is limited to being on & below awnings, and single facade sign on primary street frontages	N/A	
4U	ENERGY EFFICIENCY		
4U-1	Objective: Development incorporates passive environmental design.		
	Design Guidance	YES	
	Adequate natural light is provided to habitable rooms	YES	
	Well located, screened outdoor areas are provided for clothes drying	YES	
4U-2	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		
	Design Guidance	YES	Overall proposed building orientations and massing have been carefully considered with passive solar design strategies to maximise solar amenity. Cross ventilation in the overall development has also been achieved thus reducing the need for cooling. Balcony overhangs and screens mitigate harsh direct summer sun. While permeable screens and balconies permits winter sun. High thermal mass of brick retains heat during winter.
	A number of the following design solutions are used: Use of smart glass or other on north & west elevations, Thermal mass maximised in floors & walls of north facing rooms, Polished concrete floors, tiles or timber rather than carpet, Insulated roofs, walls & floors. Seals on window & door openings, Overhangs & shading devices such as awnings, blinds & screens	YES	

	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	YES	
4U-3	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		
	Design Guidance	YES	
	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 & as many non-habitable rooms, common areas & circulation spaces as possible	YES	
4V	WATER MANAGEMENT & CONSERVATION		
4V-1	Objective: Potable water use is minimised.		
	Design Guidance	YES	The development aims to minimise potable water consumption through efficient fixtures and fittings as well as reduction in landscape irrigation. Planting on the rooftop areas and podium levels will be drought resistant and will be coordinated with the landscape architect's specifications of planting. Fire protection testing water is recycled into the system to avoid wastage. *Refer to Basix Report
	Water efficient fittings, appliances & wastewater reuse are incorporated	YES	
	Apartments are individually metered	YES	
	Rainwater is collected, stored & reused on site	YES	
	Drought tolerant, low water use plants are used within landscaped areas	YES	
4V-2	Objective: Urban stormwater is treated on site before being discharged to receiving waters.		
	Design Guidance	YES	*Refer to Civil Engineers Drawings.*
	Water sensitive urban design systems are designed by a suitably qualified professional	YES	
	A number of the following design solutions are used:, Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation, Porous & open paving materials is maximised, On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	YES	
4V-3	Objective: Flood management systems are integrated into site.		
	Design Guidance	YES	*Refer to Civil Engineers Drawings.*
	Detention tanks are located under paved areas, driveways or in basements	YES	
	On large sites, parks or open spaces are designed to provide temporary on site detention basins	YES	
4W	WASTE MANAGEMENT		
4W-1	Objective: Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		
	Design Guidance	YES	The waste storage system is proposed on the basement level with common waste holding areas. Refer to waste management report for more details.
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	YES	
	Waste & recycling storage areas are well ventilated	YES	
	Circulation design allows bins to be easily manoeuvred between storage & collection points	YES	
	Temporary storage are provided for large bulk items such as mattresses	YES	
	Waste management plan is prepared	YES	
4W-2	Objective: Domestic waste is minimised by providing safe & convenient source separation & recycling.		
	Design Guidance	YES	Each floor will have a dual waste chute system for both general waste and recycling, which is directed to a waste room in the basement.

	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	YES	
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	YES	
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	YES	
	Alternative waste disposal methods such as composting is provided	YES	
4X	BUILDING MAINTENANCE		
4X-1	Objective: Building design detail provides protection from weathering.		
	Design Guidance	YES	The building in its articulation and detailing is intended to be robust and low maintenance. A limited material palette is proposed - material choices have been carefully considered in relation to durability in environments close to water bodies.
	A number of the following design solutions are used:,Roof overhangs to protect walls, Hoods over windows & doors to protect openings, Detailing horizontal edges with drip lines to avoid staining surfaces, Methods to eliminate or reduce planter box leaching, Appropriate design & material selection for hostile locations	YES	
4X-2	Objective: Systems & access enable ease of maintenance.		
	Design Guidance	YES	
	Window design enables cleaning from the inside of the building	YES	
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	YES	
	Design does not require external scaffolding for maintenance access	YES	
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	YES	
	Centralised maintenance, services & storage are provided for communal open space areas within the building	YES	
4X-3	Objective: Material selection reduces ongoing maintenance costs.		
	Design Guidance	YES	The building façade is intended to be robust and hard-wearing. Materials such as bricks and metal panelling systems are proposed. Internally, common areas will be resilient in order to accommodate high traffic patterns, particularly around the lift lobby. Common areas will also have lighting that is triggered by motion detectors.
	A number of the following design solutions are used: Sensors to control artificial lighting in common circulation & spaces, Natural materials that weather well & improve with time, such as face brickwork, Easily cleaned surfaces that are graffiti resistant, Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	YES	