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Interiors

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9/11/2018

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Dear Amen

Re: 26 Elizabeth Street, Liverpool – Development Application

I, Ben Pomroy confirm that I have guided the Rothelowman design team for the project located at 26 Elizabeth Street, Liverpool.

This team is familiar with, and has worked to achieve, the Design Quality Principles set out in Part 2 of *State Environmental Planning Policy No 65- Design for Quality of Residential Flat Development* in regards to the Development Application.

I verify that the proposed development achieves the Design Quality Principles.

Yours sincerely,

Ben Pomroy
Principal

Nominated Architect (NSW): Ben Pomroy
Registration Number: 7918

Encl. Drawings TP00.00 – TP07.01 Rev -
CC. Clare Brown - Urbis

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SEPP 65 Design Quality Principles Statement

26 Elizabeth Street

Liverpool

Project no. 218004 Status Draft Rev P1 Date 14/09/2018

Principle 1: Context & Neighbourhood Character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions.

Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood.

Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

Comment:

The subject site comprises of two allotments addressing Elizabeth Street in Liverpool city centre. Currently the site holds a car dealership and associated parking.

The site is located on the northern edge of the new mixed-use zone, recently implemented in the amendment to the LEP. It is the middle of three similarly sized sites that are zoned for development, which will share a service laneway connecting Bigge St on the east to George Street on the west. The site is located on the fringe of the vibrant commercial centre of Liverpool, marked by the pedestrian mall to the south, and Westfield and the new Western Sydney University campus to the north.

The proposed development responds to the future context and aims to create a link between the existing public amenity to the east and west of the site. The scheme recognises that the locality is undergoing a transition towards higher densities and heights, as enabled by the planning controls which have been developed to encourage development and promote itself as the third CBD of Sydney.

The new building will contribute to the identity of the area with incorporation of ground level retail and street front activation, provision of substantial commercial tenancies, a 113 key hotel, and a rooftop restaurant. The articulated built form is designed as a landmark building in the new Liverpool CBD which sets a benchmark for future development.

Principle 2: Built Form & Scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.

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

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Comment:

The built form of the proposed development is appropriate in the future context of Elizabeth Street and achieves the objectives of the relevant built form controls. The addition of a pedestrian and vehicular laneway along the eastern boundary creates opportunity for increased frontage and activation to the ground plane, and offers a break in the built form that will front Elizabeth Street with future development.

The different forms within the podium articulate the different uses, and the terraced form minimises the visual impact of the taller forms at street level. The scheme responds to desired future character of slender, tall towers at the northern edge of the CBD. The tower element is an elegant response to the floor space and setback controls, with the orientation maximising view potentials and solar access. The tower and podium components will sit within the future high density developments in the immediate neighbourhood.

The building facades have been articulated and setback to provide an appropriate level of visual bulk when viewed from surrounding areas, and will create visual interest and a new sculptural element at the macro city scale.

Principle 3: Density

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

Comment:

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

The site is located 600m from Liverpool rail station is located adjacent to several major bus services. The site's strategic location within the CBD is well suited to support high density living.

The development comprises of a ground floor retail tenancy, hotel, commercial office, residential apartments and a roof top restaurant. The residential apartments are located on the tenth level to the thirty fourth level and have a total area of 16,906 m^2.

The site's allowable total FSR is 10:1, with a minimum of 1.5:1 for non-residential FSR and the remainder for residential FSR. The proposal exceeds the proportion of commercial FSR through provision of a hotel, commercial tenancies and restaurant, a total of 11,200 m^2

The residential floor space within the proposal will comprise 16,906m^2 including 194 apartments. To provide for additional amenity for the private use of residents, a full floor communal space is created at level 9 with 706m^2 of communal area. This space provides for the required area of space and is designed to allow significant solar access, while being protected from the wind affects.

Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes.

Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Comment:

The design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction.

An energy efficient building response is developed through passive design and sun control elements on the façade design. The building design is characterised by deep horizontal façade elements and vertical window forms to the east and west, which provide shading and control the heat load on the building. Natural light and air flow have been optimised to achieve high personal comfort and low energy consumption.

The living areas of the apartments have been orientated to maximise sunlight, daylight and natural ventilation. The majority of units achieve a minimum of two hours sunlight to living rooms in the middle of winter, and half of the units benefit from a broad, dual aspect frontage. Overall the project has 78.4% (152) residential apartments with 2 hours' solar access between 9.00am and 3.00 pm. While cross ventilation is not a requirement in buildings of this height, 50% (97) Residential apartments are naturally cross ventilated, by corner air flow. All the units have been designed to maximise natural ventilation, through the provision of dual aspect units addressing balconies and kitchens within 8 metres of windows. The development will not be reliant upon automatic climate control to provide appropriate amenity for residents.

The carbon footprint is further reduced by high efficiency air conditioning; energy efficient appliances; fittings and services such as water reduction showerheads; dual flush toilets; gas cook tops; microwave ovens; and energy efficient hot water systems.

The development will incorporate rooftop solar panels to add to the renewable power for the building.

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

Principle 5: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.

Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

Comment:

The site's location within the highly built up CBD area means most opportunities for landscape will be on structure. At ground level, the provision of the through site link and generous setbacks to Elizabeth Street create quality, shaded hardscape spaces for use by public and residents. Feature landscaping on the ground plane helps soften the pedestrian experience and will contribute to the enjoyment of these areas.

The proposed development provides a significant formal communal landscaped area on level 9. This external space is designed in conjunction with the adjoining communal open space area. A total area of 257 m^2 of deep soil planter boxes promoting healthy growth of large tress are provided on level 9, and additional large planting areas of 214 m^2 are provide on level 5 and 3 to assist with shading and providing shelter to the exposed areas within the commercial development.

Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident wellbeing.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

Comment:

The architectural design provides enhanced amenity through the physical, spatial and environmental qualities of the development. The development comprises 194 residential apartments with a mix of 20 x 1 beds (10%), 151 x 2 beds (78%), 20 x 3 beds (10%) and 3 x 4 beds (2%). This includes 20 apartments that are capable of being adapted to accessible units (10%) and a further 20 apartments that meet silver Liveable Housing Australia standard (10%). The hotel provides a total of 113 rooms with a mix of sizes and amenity, and includes 6 accessible rooms.

A total of 338 car spaces are provided throughout four levels of lower basements and 2 levels of secure podium, parking comprising 203 residential apartments' car spaces, 61 hotel car spaces, 45 commercial car spaces, 3 car share spaces and 20 visitor car spaces including parking for the accessible and adaptable apartments. In addition to this there are car wash and service bays throughout the car park. The apartments have substantial storage internally and additional residential storage is provided in the car park.

The apartments have been designed to achieve solar access, visual and acoustic privacy, storage, indoor and outdoor open space, diverse layouts, service areas, outlook and ease of access and mobility for all ages.

Principle 7: Safety

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

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose.

Comment:

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

The pedestrian entry point is highly visible from the public domain and benefits from adjacency to the hotel lobby, which will allow safe access and egress from and to the building. The mixed use nature of the ground plane encourages passive surveillance over the building entries and surrounding area. The development has been designed to avoid hidden corners or concealment points.

Controlled vehicular access to the building is provided by secure car park access from the rear laneway, with direct and separate access from the car park to the lift lobbies for residents, commercial users and hotel guests. The audio intercom system at the main entry lobby and car park entry allows visitors to communicate with residents and hotel reception to gain access into the carpark and appropriate floors within the building.

Principle 8: Housing Diversity and Social Interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.

Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

Comment:

All residential units, communal areas and basement parking areas are accessible by lift and close regard has been made in the design to ensure that an appropriate number of units could be adapted to suit the needs of people with disabilities or the elderly. The residential housing stock offers a variety of 1, 2, 3 and 4 bed apartments, distributed evenly throughout the building. The design of the floor plates allows for future adaption to alternative mixes, both pre and post construction.

The generous recreation space on level 9 provides unparalleled amenity to residents and offers a diverse range of internal and external spaces. The spaces are varied in size and use allow active and passive recreation for private or communal activities.

Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of a well-designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

Comment:

An appropriate composition of building elements, material textures and colours have been utilised to provide a positive contribution to the existing neighbourhood. The form of the building provides articulation in response to the planning controls, and allows each use to be expressed within the massing and façade.

The development has been designed to promote visual interest and avoid blank unarticulated walls. The facades are composed to be viewed in the round, and provide a cohesive expression of the architectural language.

The three key design elements, white masonry ribbed structure, charcoal window elements, and light framed structure, are composed within the façade to respond to internal program and orientation. The singular nature of the tower element is amplified through the fine elements that address each elevation, creating an iconic form as required by a tall tower. The podium responds to the fine scale surrounds through additional articulation.

The development will set an aesthetic benchmark for the desired future character of the CBD. The design responds well to the present and future character of the surrounding area through the use of rich but simple material selections, proportions and singular, legible building forms.

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Apartment Design Guide Objectives – Part 3 & 4

26 Elizabeth Street
Liverpool

Project no.	Status	Rev	Date
218004	Draft	P1	14/09/2018

Nominated Architect	Ben Pomroy
Registration Number	7918

Revision	**Date**	**Notes –** *Revisions are noted in bold italics*
P1	14/09/18	For Review

	Objective	**Design Criteria**	**Objective Achieved**	**Comment**
Part 3 Siting the Development				
Site Analysis	*Objective 3A-1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context*		Yes	An extensive site analysis, site concept and contextual review has been undertaken based on existing and future conditions. Further details are available in the Architectural Design Report
Orientation	*Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development*		Yes	The proposed building is aligned to the street grid which also orients the primary building form on a north-south axis. This north-south axis, maximises equitable solar access to the apartments. Because most buildings are double-loaded, most apartments receive two hours solar access via either the east or west. The podium form addresses the streetscape by scaling to the appropriate height that minimises impact at the pedestrian scale.
	Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid-winter		Yes	The subject site adjoins two properties to the east and west with similar development controls. Due to the ideal northern orientation of all three sites, it is likely the neighbouring sites will result in buildings with a primary north-south axis, which creates significant building separation and affords direct solar access to the east and west facades of all three buildings. The buildings to the south of the site are civic, commercial and retail buildings that are predominantly oriented to Bigge Street to the east and George Street to the west. The orientation, and current and future use of these buildings minimises the overshadowing impact of the proposed development. Shadow studies demonstrate that the narrow northern frontage of the building means overshadowing to any one building is

	Objective	Design Criteria	Objective Achieved	Comment
				limited to 3 hours in mid-winter. Please see shadows studies in the drawing set.
Public Domain Interface	*Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security*		Yes	Access from the public street to the building entries are straight, clear and legible, providing safe access to the proposed development. The commercial lobby and café fronting Elizabeth St create an opportunity for increased activation and interaction with the public domain, and the proposed pedestrian and vehicle laneway to the east of the site increases active frontage to the site. This laneway benefits from passive surveillance from the three lobbies along tis length and allows potential future cross block connections to the south.
	Objective 3C-2 Amenity of the public domain is retained and enhanced		Yes	The public domain of Elizabeth Street is enhanced with active commercial frontages that incorporate landscape planting and an expanded footpath zone. The building entries are legible and all services, loading and car parking are serviced through a new rear laneway. Minimal servicing infrastructure is located on the primary street frontage.
Communal and Public Open Space	*Objective 3D-1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping*	*Communal open space has a minimum area equal to 25% of the site (see figure 3D.3)* *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	The communal open space meets the required minimum as identified in the architectural drawings. The communal open space will include high quality landscaping and place making features such as plantings, bench seating and outdoor dining, promoting high amenity and useability of the space. 50% of the principal useable parts of the communal open space achieve a minimum of 2 hours direct sunlight between 9:00 am and 3:00pm, as demonstrated in the solar access diagrams.
	Objective 3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting		Yes	Communal open spaces provide a selection of sub-spaces with varying uses, and significant indoor amenity is provided to allow for simultaneous use by multiple groups. The Architectural Design Report and landscape architect's drawings articulate the open space and landscaping strategy.
	Objective 3D-3 Communal open space is designed to maximise safety		Yes	The communal open space is located on top of the podium, and will be accessible only to residents. The external spaces are all overlooked from the internal amenity to promote passive surveillance.
	Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood		Yes	A public vehicular and pedestrian laneway is provided to the south of the site, with future developments of the neighbouring sites this will become a cross block link connecting George Street to Bigge Street. An additional north-south laneway is provided along the eastern boundary, creating an opportunity for future

<table>
<tr><th></th><th>Objective</th><th>Design Criteria</th><th>Objective Achieved</th><th>Comment</th></tr>
<tr><td></td><td></td><td></td><td></td><td>connection to laneways to the south. This is also designed to enable future connection of the site to the east, whereby the boundary landscape feature could be removed to create a larger shared space across both sites, offering increased frontage and amenity to the public and adjoining uses.
An increased setback to Elizabeth St provides a larger pedestrian zone and potential for enhanced street planting and footpath dining.</td></tr>
<tr><td>Deep Soil Zones</td><td>Objective 3E-1 Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality</td><td>Deep soil zones are to meet the following minimum requirements:<table><tr><th>Site Area</th><th>Min Dimensions</th><th>Deep Soil Zone (% of Site Area)</th></tr><tr><td>Less than 650 m^2</td><td>-</td><td rowspan="4">7%</td></tr><tr><td>650m^2-1500m^2</td><td>3m</td></tr><tr><td>Greater than 1500m^2</td><td>6m</td></tr><tr><td>Greater than 1500m^2 with significant tree cover</td><td>6m</td></tr></table></td><td>Yes</td><td>The deep soil area equals 15% of the site area, which exceeds the required minimum. Due to the mixed used nature and density of the site, and the extent of lobby spaces and servicing required on the ground floor, the deep planting is provided on top of podium in accordance with the Liverpool DCP Clause 2.3.
The deep soil zones vary in depth from 500mm to 1000mm and will host appropriately scaled tree and plant species that respond to the climate and wind conditions on the podium. Additional planting is provided on the ground plane to soften the pedestrian experience and create a buffer to the wind. The extent of deep soil is presented in the architectural drawings</td></tr>
<tr><td>Visual Privacy</td><td>Objective 3F-1 Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy
Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room</td><td>Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:<table><tr><th>Building Height</th><th>Habitable rooms and balconies</th><th>Non-habitable rooms</th></tr><tr><td>Up to 12m (4 storeys)</td><td>6m</td><td>3m</td></tr><tr><td>Up to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr><tr><td>Over 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr></table></td><td>Yes</td><td>Residential apartment uses are located on level 9 and above. Minimum setbacks of 12m to the residential component have been provided to the side and rear boundaries.</td></tr>
</table>

	Objective	Design Criteria	Objective Achieved	Comment
	Objective 3F-2 Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space		Yes	The comprehensive solar and view analysis has allowed for building to be oriented to take advantage of keys views and solar access. The simple, rectangular form and recessed balconies means there is no overlooking issues between units on a single level.
Pedestrian Access and Entries	*Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain*		Yes	The apartment lobby addresses the publicly accessible laneway on the eastern edge of the site. Care has been taken to create legible and permeable access for pedestrians throughout the development.
	Objective 3G-2 Access, entries and pathways are accessible and easy to identify		Yes	The architecture of the podium expresses the entry points to each use through double height entry volumes and signage. The entries along the laneway are visible from Elizabeth St and safe pedestrian access is provided within the column line.
	Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations		Yes	The fundamental design principle for the site has been to create a north-south link to increase the active frontage and provide potential for future connections through the centre of the block, linking Elizabeth Street into the laneways within the block. Great care has been taken to ensure excellent pedestrian permeability and legibility through the site.
Vehicle Access	*Objective 3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes*		Yes	Car park and loading access points are consolidated on the rear laneway to minimise interruption to street frontage. The vehicle access points are clear and legible and are located away from all pedestrian entries.
Bicycle and Car Parking	*Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas*	*For development in the following locations:* *on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or* *on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre* *the minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less* *The car parking needs for a development must be provided off street.*	Yes	Car parking has been provided in accordance with the Liverpool DCP and is located within 4 levels of basement and 2 partial levels of podium. Car share parks are provided to compensate for a minor shortfall in residential car parks in line with the DCP, which is detailed in the Traffic Engineering Report. The residential car parking is located on basement levels 4, 3 and 2, with direct lift access. Residential car parks are provided at the following rates 1 car / 1 bed 1 car / 2 bed 1.5 cars / 3+ bed 0.1 visitor cars / unit
	Objective 3J-2 Parking and facilities are provided for other modes of transport		Yes	Secure bicycle parking is provided in the basements and podium to meet Councils' requirements. Each level provides

	Objective	Design Criteria	Objective Achieved	Comment
				opportunities for motorcycle parking. The urban design encourages easy pedestrian movement throughout the site.
	Objective 3J-3 Car park design and access is safe and secure		Yes	The car parks are secured with electronic, automated doors triggered by residents, with intercom points required for visitor access. The aisles are clear and unobstructed with clear lines of site to fire stairs and to lift entrances.
	Objective 3J-4 Visual and environmental impacts of underground car parking are minimised		Yes	The car park layout is efficient with double loaded aisles and stacked ramping. No part of the basement protrudes above the ground plane.
	Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised		N/A	
	Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised		Yes	The majority of car parking is located within basements. Above ground car parking is limited to 21% of the total provision. Commercial tenancies wrap the podium car park to the north and east to provide active uses to the façade and screen the car park. The commercial façade treatment continues around the southern façade to conceal car parking on the façade. To the west is a zero setback to match future development.
Solar and Daylight Access	*Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space*	*Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas*	Yes	78.4% of the residential apartments achieve two hours of solar access between 9am and 3pm in midwinter. Please refer to a breakdown of solar access per unit in the architectural drawings.
		In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid-winter	N/A	
		A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter	Yes	All apartments in the building receive direct sunlight between 9am and 3pm in mid-winter as demonstrated in the solar point of view studies.
	Objective 4A-2 Daylight access is maximised where sunlight is limited		N/A	
	Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months		Yes	The articulated facades are designed for summer shading. The east and west facades have a vertical orientation to provide protection from the low, summer sun. The northern façade has horizontal projections to shade from the sun through the middle of the day in summer, but allow for sunlight projection in winter.
	Objective 4B-1 All habitable rooms are naturally ventilated		Yes	Openable windows are proposed for all habitable rooms.

	Objective	Design Criteria		Objective Achieved	Comment
Natural Ventilation	*Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation*			Yes	Openable windows are proposed for all habitable rooms and living spaces wrap around balconies to provide openable windows to two sides.
	Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	*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*		N/A	The residential apartments start on level 10 of the building and have open balconies, and are deemed to be naturally ventilated.
		Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line			
Ceiling Height	*Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access*	*Measured from finished floor level to finished ceiling level, minimum ceiling heights for apartment and mixed use buildings are:*		Yes	The floor-to-floor heights of the building allow 2700 ceilings to all living areas and bedrooms.
		Habitable Rooms	*2.7m*		
		Non-Habitable	*2.4m*		
		For 2 Storey Apartments	*2.7m for main living area floor* *2.4m for second floor, where its area does not exceed 50% of the apartment area*		
		Attic Spaces	*1.8m at edge of room with a 30 degree minimum ceiling slope*		
		If located in mixed use areas	*3.3m for ground and first floor to promote future flexibility of use*		
	Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms			Yes	Bulkheads are to be minimised as much as possible with flat ceilings in living areas and bedrooms.
	Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building			Yes	Commercial tenancies at the base of the building have larger floor to floor heights to allow varied uses to be accommodated. Refer to the building sections for details.
Apartment Size and Layout	*Objective 4D-1 The layout of rooms within an apartment is functional,*	*Apartments are required to have the following minimum internal areas:*		Yes	All apartments exceed the minimum. Please refer to the apartment sizes shown on the architectural drawings.

	Objective	Design Criteria		Objective Achieved	Comment
	well organised and provides a high standard of amenity	*Apartment Types*	*Minimum Internal Area*		
		Studio	*35m²*		
		1 Bedroom	*50m²*		
		2 Bedroom	*70m²*		
		3 Bedroom	*90m²*		
		The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each. *A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each*			
		Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms			
	Objective 4D-2 Environmental performance of the apartment is maximised	*Habitable room depths are limited to a maximum of 2.5 x the ceiling height*		Yes	Living rooms, dining rooms, and bedrooms are a maximum of 6.7m from the façade. Rear walls of any kitchen are no more than 8m from the façade line.
		In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window		Yes	
	Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs	*Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space)*		Yes	
		Bedrooms have a minimum dimension of 3m (excluding wardrobe space)		Yes	
		Living rooms or combined living/dining rooms have a minimum width of: *3.6m for studio and 1 bedroom apartments* *4m for 2 and 3 bedroom apartments*		Yes	

	Objective	Design Criteria	Objective Achieved	Comment
		The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	N/A	
Private Open Space and Balconies	*Objective 4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity*	*All apartments are required to have primary balconies as follows:* *Dwelling type* / *Minimum Area* / *Minimum Depth* *Studio* / *4m³* / *-* *1 bedroom* / *8m³* / *2m* *2 bedroom* / *10m³* / *2m* *3+ bedroom* / *12m³* / *2.4m* *The minimum balcony depth to be counted as contributing to the balcony area is 1m*	Yes	Please refer to the balcony sizes shown on the architectural drawings.
		For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m2 and a minimum depth of 3m.	N/A	
	Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents		Yes	All primary balconies and terraces are located adjacent to a living space.
	Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building		Yes	The balconies form an integral part of the building design.
	Objective 4E-4 Private open space and balcony design maximises safety		Yes	All balconies can meet the minimum safety provisions
Common Circulation and Spaces	*Objective 4F-1 Common circulation spaces achieve good amenity and*	*The maximum number of apartments off a circulation core on a single level is eight*	Yes	There is a maximum of 8 units per floor, with 6 units per floor on the upper levels.

	Objective	Design Criteria	Objective Achieved	Comment
	properly service the number of apartments	*For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40*	No	The accompanying vertical transport engineering report supports the use of three high speed lifts to service the 194 apartments.
	Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents		Yes	The ground floor lobbies have been designed to allow a direct, clear and legible access from the street. The lobby area has additional space for residents to meet, along with the communal floor. Each residential lobby is naturally lit and ventilated.
Storage	*Objective 4G-1 Adequate, well designed storage is provided in each apartment*	*In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:*	Yes	All apartment storage meets or exceeds the minimum standard. All units have more than 50% of the storage internal to the unit. Each apartment also has a basement or podium storage cage. Please refer to a per-unit schedule of internal storage sizes in the architectural drawings
		Dwelling Type — *Storage size volume*		
		Studio — *4m³*		
		1 bedroom — *6m³*		
		2 bedroom — *8m³*		
		3+ bedroom — *10m³*		
		At least 50% of the required storage is to be located within the apartment		
	Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments		Yes	Secure basement storage is clearly and accessibly located in the secure residential car park.
Acoustic Privacy	*Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout*		Yes	Care has been taken to avoid major acoustic clashes through apartment layouts. Deeply-inset balconies to all apartments help mitigate environmental noise. The loading docks are fully, enclosed within the building to minimise noise transfer, and are located severaly floors below residential uses.
	Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments		Yes	Care has been taken to co-locate similar room types where possible and to use buffers, such as wardrobes, between different spaces.
Noise and Pollution	*Objective 4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings*		Yes	No significant noise sources have been identified in the acoustic engineering report.
	Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission		N/A	This item will be addressed in Construction Certificate stage.
Apartment Mix	*Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future*		Yes	The building provides a mix of 1 to 4 bedroom apartments to meet market needs and provide a diversity of product.
	Objective 4K-2 - The apartment mix is distributed to suitable locations within the building		Yes	Apartment types are mixed throughout the building's height and offer a range of orientations.

	Objective	Design Criteria	Objective Achieved	Comment
Ground Floor Apartments	*Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located*		N/A	
	Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents		N/A	
Facades	*Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area*		Yes	Care has been taken to ensure a proportionally-balanced-building which fits within the surrounding future context. The scale of the façade components has been carefully considered to address proximity to the pedestrian plane, with finer grain detailing in the lower podium and grander gestures within the tower.
	Objective 4M-2 Building functions are expressed by the facade		Yes	A diverse mix of façade typologies has been developed for this project to give each use within the building a unique presence. The three components are consistent in colour and materiality, and are deployed in different ways across the commercial, hotel and residential facades.
Roof Design	*Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street*		Yes	The podium roof top open spaces each integrate with the façade from below, and the roof top treatment provides a crown to the expressed frame of the tower. Services are contained within the form where possible, and set back from the edge of the building to minimise visual impact.
	Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised		Yes	The main podium space is given over to communal open space for residents.
	Objective 4N-3 Roof design incorporates sustainability features		Yes	Roof areas will be intensively thermally insulated to maximise passive thermal comfort in the upper-most apartments.
Landscape Design	*Objective 4O-1 Landscape design is viable and sustainable*		Yes	The landscape design has a focus on amenity with the inclusion of key place making elements such as seating and dining. Simple design elements, high quality materiality of hardscaping along with an appropriate mix of native and introduced plant species will be a long lasting, easy to maintain landscape which can be adapted to suit a variety of uses over time.
	Objective 4O-2 Landscape design contributes to the streetscape and amenity		Yes	The landscape design maximises the amenity of the communal open space by balancing planted areas with areas for residents to relax or interact. The streetscape landscape design provides key planting elements to create visual interest or provide wind breaks to the pedestrian zone.
Planting on Structures	*Objective 4P-1 Appropriate soil profiles are provided*		Yes	The landscape has been designed with tree planting on-structure alongside lower planting zones and shrubs in appropriately sized bases.

	Objective	Design Criteria	Objective Achieved	Comment
	Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance		Yes	The landscape has been designed with a diverse range of native and exotic species appropriate to the various areas and planting opportunities.
	Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces		Yes	Landscape design includes a variety of plantings to soften the communal open space areas.
Universal Design	*Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members*		Yes	At least 20% of apartments are capable of achieving the Liveable Housing Guidelines silver level. Please refer to a per-unit schedule of LHDG compliance in the architectural drawings.
	Objective 4Q-2 A variety of apartments with adaptable designs are provided		Yes	10% of the units are adaptable with accessible car space. Please refer to a per-unit schedule of adaptable compliance in the architectural drawings.
	Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs		Yes	The design offers a diverse range of apartment types, with a series of alternative layouts within some apartment types.
Adaptive Reuse	*Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place*		N/A	
	Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse		N/A	
Mixed Use	*Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement*		Yes	Active frontages are maximised through the introduction of the north-south pedestrian and vehicular laneway. Great care has been taken to ensure that commercial uses activate the ground plane, while offering a strong identity to the residential component.
	Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents		Yes	Each commercial space has a separate entrance. Residential entries are integrated within the overall ground plane design and fit within the commercial and retail ground floor uses. Residential apartments above take on a more domestic character in their architecture.
Awnings and Signage	*Objective 4T-1 Awnings are well located and complement and integrate with the building design*		Yes	An awning is provided over the footpath in accordance with the Liverpool DCP for the majority of the site width. The podium form and ground floor setbacks create significant shaded and sheltered spaces under the line of the building.
	Objective 4T-2 Signage responds to the context and desired streetscape character		Yes	Building identification signage will be located at the building entry on Elizabeth Street and from the rear lane. Each of the lobbies will have dedicated signage demarcating their entries integrated into the shopfront design.
Energy Efficiency	*Objective 4U-1 Development incorporates passive environmental design*		Yes	Passive environmental design features are provided including large tree planting and significant shading in the landscape for reduction of temperature

	Objective	Design Criteria	Objective Achieved	Comment
	Objective 4U-2 Development incorporatens passive solar design to optimise heat storage in winter and reduce heat transfer in summer		Yes	The general orientation of buildings in a north-south axis assists with solar access and shading for the majority of apartments. The articulated building façade and deep balconies to each apartment that provide for shading in summer and solar access in winter.
	Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation		Yes	Refer to BASIX assessment
Water Management and Conservation	*Objective 4V-1 Potable water use is minimised*		Yes	Refer to BASIX assessment
	Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters		Yes	Refer to civil engineer's details
	Objective 4V-3 Flood management systems are integrated into site design		N/A	
Waste Management	*Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents*		Yes	Waste management is handled entirely within the building envelope and screened from external view.
	Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling		Yes	Separate recycling facilities and rooms for each apartment are provided. Refer to Waste Management Report
Building Maintenance	*Objective 4X-1 Building design detail provides protection from weathering*		Yes	Robust finishes have been selected for maintenance and high-durability
	Objective 4X-2 Systems and access enable ease of maintenance		Yes	Stair access is provided to rooftop plant and equipment. Other services areas are located within the podium or basements of each building.
	Objective 4X-3 Material selection reduces ongoing maintenance costs		Yes	Where possible, high- durability, pre-finished, untreated or natural-finish materials are proposed for building facades. Please refer to materials palette within the design report.