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23 January 2017

The General Manager
Lane Cove Council
48 Longueville Rd
Lane Cove NSW 1595

Attention: Michael Mason
Executive Manager – Environmental Services

RE: Preliminary Independent SEPP 65 Review
500-520 Pacific Highway, St Leonards: Final Review

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Architectus has been engaged by Lane Cove Council to undertake an Independent SEPP 65 Review of the proposed mixed use development at 500-520 Pacific Hwy, St Leonards (reference: DA 212/2015). This letter confirms that the recommendations made in Architectus' comprehensive SEPP 65 and Apartment Design Guide (ADG) Review dated 23 September 2016, have been satisfactorily addressed by the applicant.

An assessment of the final DA package against the recommendations made in the SEPP 65 report is provided at the table below:

	Recommendation	**Comment**
1.	Levels 2, 3, 4 are non-compliant with the setback control from Friedlander Place of 4 metres. Architectus is of the view that wind amelioration can be achieved as proposed by reducing the building length. Notwithstanding, it is acknowledged the DCP allows for a building of up to 51 metres in length.	The building has been setback from Friedlander Place, and the overall length of the building reduced to be no more than 51 metres. The proposed amended plans are considered acceptable.
2.	Architectus does not support the use of apartment type U2213 and equivalent as an adaptable apartment as it does not achieve Objective 4D-1. [Objective 4Q-2).	U2213 is no longer proposed as an adaptable apartments. New adaptable apartment plans have been prepared and are considered satisfactory.
3.	The minimum width of the second bedroom in the following apartment type, U1008 and equivalent does not meet the minimum width of 3 metres. If practicable, the layout should be reconfigured to comply. [Objective 4D-3]	The width of this apartment has been increased to comply.
4.	The use of reflective surfaces to achieve sunlight access and sightlines to the outside from within apartments is not supported. This comment is applies to apartment type U2213 and equivalent. Architectus recommends that the apartment layouts be reconfigured to	These apartments have been reconfigures so that a window is visible from all points within bedrooms. In units 2508-2510 (and equivalent), bedrooms should not have a full solid wall to

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	Recommendation	Comment
	ensure appropriate layout of bedrooms. [Objective 4A-2]	the lounge room. Glazing should be provided above 900mm so allow for the improved penetration of light into these bedrooms. This should be conditioned to comply.
5.	The doors / walls to studies in the following one bedroom apartments are to be operable and non-fully enclosable. Apartments include U404, U405, U406, U511, U512 and equivalent. [Objective 4D-1]	A condition is recommended that any study or media room that is not provided with a window directly into the space, that the wall is to be operable and not fully enclosable. The operable wall is to be non-solid to allow the penetration of light and air.
6.	Snorkel bedroom in apartment U2213 and equivalent is to be reconfigured to ensure the outside can be viewed from any point in the room. [Objective 4D-1]	Refer to Recommendation 4 comment above.
7.	Where possible, kitchen in hallways are to be avoided. This comment applies to apartment type U408, U511, U512 and equivalent. [Objective 4D-1]	Kitchens have been appropriately relocated so as to not be within corridor spaces.
8.	Further testing of the two storey apartment types below the ninth level is required to confirm that the proposed layout can achieve cross ventilation. [Objective 4B-3]	Following a number of amendments (including to other apartment types), Architectus is satisfied the proposed development achieves the ADG cross ventilation requirements.
9.	Clarification is requested to determine privacy devices between balconies. Of particular concern is the division between the following adjacent apartment types U408/U407 and U411/U412 (and like above). The balcony dividers should not have a detrimental visual impact on the overall building form. [Objective 3F-2]	A plan detailing the balcony divisions has not been provided in the final architectural set. A Condition should be imposed that these be no more than the balustrade height, and then rise in height to be full height dividers where the divider intersects with the building line.
10.	The applicant should consider the reconfiguration of balconies in order to circumvent recommendations provided by Windtech (1) Wind sensor warning system (2) strata by-laws that prohibit light furniture on corner balconies. Wind screening on balconies may take the form of those stipulated with the City for Sydney DCP (4.2.3.13 Wind affected balconies), which provides current best practice guidelines for provision of wind screening to high rise balconies. [Objective 4E-1]	The provision of enclosed balconies has not been accommodated for on this site. Whilst this is not ideal, the wind management measures recommended by Windtech should be imposed as Conditions of Consent.
11.	The treatment of the untrafficable section of balcony in the south-east corner of the site is to be provided. This should include any balustrade type and ground treatment of this section. Treatment should take into consideration the useability of balconies and the ongoing maintenance and cleaning of these areas [SEPP 65 Principle 9]	A condition should be imposed that non-trafficable balcony areas are locked and only accessible with approval of the managing strata body for the purposes of building maintenance and cleaning. An appropriate access gate should be provided to these spaces.

Recommendation	Comment
12. Waste management plan needs to be updated to reflect the reconfiguration of the loading dock and to ensure the location of the loading dock meets requirements of Council's collection vehicle.	It is understood this has been reviewed by Council's specialist waste officer. Conditions of Consent should be imposed to ensure the appropriate management of waste, as well as operation of the loading areas.
13. Safety of the following pedestrian route is noted. There appears to be opportunity for concealment between the Spiral stair and building at Nicholson Lane level.	A Condition of Consent should be imposed requiring that the spiral stair case remains transparent to allow for sightlines all around, as per the detailing at Drawing A407 Issue B.
14. It is recommended that walls between communal open spaces (including the gym, pool, children's play and open space) and common areas be of full floor to ceiling glass to allow for surveillance and openness of these spaces. [Objective 3D-3]	It is understood these walls have been made full height glass. This should be conditioned to comply.
15. It is recommended a special driveway treatment be applied where pedestrians will be crossing the driveway to ensure cars slow down and note the potential pedestrian movement [Objective 3H-3].	It is understood that this comment has been considered by Council's traffic engineer and the applicant's traffic consultant, and it has been resolved that no further treatment would be required to manage pedestrian and vehicular conflict.
16. The soil depth for mature tree plantings along Pacific Highway are to be at least 1200mm deep to ensure viable planting space for these species [Objective 4P-1].	This should be conditioned to comply.
17. Architectus recommends that Council seek advice from the Roads and Maritime Services (RMS) to determine the impacts of the proposed mature trees (platanus acerifolia) on the Pacific Highway. [Objective 40-2]	No further comment.
18. Clarification is requested regarding the management plan for vegetation along the narrow western and southern edge of the building at ground level. [Objective 40-1]	A landscape management plan should be required as a Condition of Consent prior to the issue of an Occupation Certificate.
19. Consideration should be given to a diversity of adaptable apartment types, which should include one-bedroom apartments [SEPP 65 Principle 8].	A one bedroom apartment typology has been reconfigured to provided adaptable housing (Unit 1008).
20. The location of accessible parking on Basement Levels 2 to 7 appears to result in a convoluted path of travel to lifts. These spaces should be located as close as possible to lifts. [Objective 3J-3]	Accessible parking spaces have been relocated to have more direct lift access.

Recommendation	Comment
21. Photomontages depicting the proposed development from Nicholson Lane are requested.	Additional photomontages have been provided to Architectus. Architectus is satisfied that the quality and activation of these spaces will be satisfactory.
22. Details on loading dock and the moving of goods from the dock to retail tenancies should be provided to safe movement of goods and persons through the building.	A Loading Dock Management Plan should be required as a Condition of Consent prior to the issue of an Occupation Certificate.
23. Clarification is requested on the methods of access control between commercial and residential components of the car park [Objective 4S-2]	An appropriate, access controlled gate is to be provided to separate commercial and residential parking spaces. This can be conditioned to comply.

In conclusion, whilst the proposed development is considered supportable from a SEPP 65 and ADG perspective, subject to a number of Conditions of Consent. Should you wish to discuss any of the above matters further, please feel free to contact Camille Lattouf on (02) 8252 8400.

Yours sincerely,

Camille Lattouf
Associate, Urban Design and Planning
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500-520 Pacific Highway, St Leonards

Independent SEPP 65 Assessment
Proposed Mixed Use Development

For: **Lane Cove Council**
Date: **September 2016**

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This report is considered a draft unless signed by a Quality Assurance Manager or director

(signature) ***23 September 2016 (date)***

Camille Lattouf, Associate Urban Planner

Revision history

Issue Reference	Issue Date	Issue Status
B	23/09/2016	Issue to Council

File reference	K:\150541.00\500 Pacific Highway\Docs\C_Client\C05_Reports\Comprehensive

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1.0 Introduction

1.1 Preliminary

Lane Cove Council has engaged Architectus to undertake an Independent SEPP 65 Assessment of a proposed mixed use development at 496 – 498, 500 and 504-520 Pacific Highway, St Leonards. The comprehensive review is based on a DA package submitted to Council, dated 22 December 2015, as amended by the revised packaged submitted in August 2016 in response to concerns raised by Council and in Architectus' preliminary review dated 24 May 2016.

1.2 Authorship

This report has been prepared by Camille Lattouf, Associate Urban Planner, and Matt Kelly, Graduate Urban Planner. The design has also been reviewed by Deena Ridenour, Senior Associate Urban Design, and Michael Harrison, Director, Urban Design and Planning.

1.3 Site context

The subject site is located at 496 – 498, 500 and 504-520 Pacific Highway, St Leonards, bounded by the Pacific Highway to the north, Friedlander Place to the south east, 69 Christie Street to the south and 536 Pacific Highway to the west.

The site is located in close proximity to St Leonards train station, with sweeping south facing views towards the CBD and harbour. The area is undergoing transition from an older commercial precinct into a mixed use centre of greater density.

The subject site has an area of 3752sqm (including Friedlander Place) with a 96 metres frontage to the Pacific Highway (including Friedlander Place), 37 metre frontage to Friedlander Place, and 53 metre frontage to Nicholson Lane.

1.4 The application

The proposal is for 455 apartments located in a single tower that rises from a podium containing retail and commercial uses. The proposal comprises 114 studio apartments (25.1%), 30 one bedroom apartments (6.6%), 225 two bedroom apartments (49.5%), 80 three bedroom apartments (17.6%), 5 four bedroom apartments (1.1%) and 1 five bedroom apartment. Total car parking, including residential, residential disabled and non-residential parking equates to 519 car spaces across seven levels of basement. A total of 246 bicycle parking and 36 motorbike parking spaces are proposed.

Three retail tenancies are provided at levels ground and level 1, with commercial floor space provided at level 2 (1444 sqm) and level 3 (1381sqm). Private communal open space is provided at various levels in the building, including at ground floor level, level 1, level 42 and 43.

2.0 SEPP 65 Assessment

This Section provides an assessment of the proposed development against State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development (SEPP 65) Design Principles and the guidelines of the NSW Apartment Design Guide.

Table 1 SEPP 65 Design Principles assessment

SEPP 65 Design Principle	Consistency	Comments
Principle 1: Context 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	Yes	The proposed development is contextually appropriate, with a design that is responsive to the desired future local character of St Leonards, which is to support renewal of the centre through development of high density mixed use nature. Whilst the depth of the proposed building exceeds the ADG recommended depth of 18 metres, the bulk and scale of the proposed building complies with the future density and scale of the area as envisaged by the DCP and is thus supported.
Principle 2: Built Form and Scale Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.	Yes	The proposed scale of the development is generally responsive to the desired future scale of development envisaged by Council's planning controls, including under the Lane Cove LEP 2009 and the site specific controls under the Lane Cove DCP 2010. The proposed development is consistent with the scale of existing and planned development in the St Leonards Centre, which currently comprises buildings of up to between 60 metres ("The Abode", 599 Pacific Highway, St Leonards) and 120 metres ("The Forum", 1 Sergeants Lane, St Leonards). The recently approved development at 472-486 Pacific Highway will have a height of up to 120 metres, The proposal achieves the required 24 metre separation with 472-486 Pacific Highway for levels 9 and above by making the balconies of levels 9 – 37 inaccessible. Whilst this is supported to achieve building separation, this design modification compromises the minimum area and depth of balconies (discussed further under ADG).
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.	No	The proposed density is consistent with that envisaged for the site and locality based on the maximum FSR and built form controls. The density of development on the site is controlled by the Floor Space Ratio maximum of 17.0:1. The proposal, including residential and non-residential floor space equates to an FSR of 13.178:1. A total of 455 apartments are proposed, with a mix of studio, one, two, three, four and five bedroom apartments.

SEPP 65 Design Principle	Consistency	Comments
		The mix of apartments is considered acceptable in relation to the household structure and population demand for St Leonards. The proposal provides the following dwelling mix: • 114 x studio apartments (31.7%) • 30 x one bedroom apartments (6.6%) • 225 x two bedroom apartments (49%) • 80 x three bedroom apartments (17.6%) • 5 x four bedroom apartments (1.1%) • 1 x five bedroom apartments (0.2%)
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.	Yes	The proposal meets the minimum requirements for thermal comfort and energy efficiency under the BASIX SEPP and exceeds the water benchmark by one point. A Waste Management Plan is submitted for the reuse, recycling and reduction of waste where possible is supported. Of note is the inclusion of communal composting and worm farming space.
Principle 5: Landscape Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.	See comment	Given the dense urban context, the provision of landscape is acceptable, especially given the revitalisation of Friedlander Place. The proposal includes the following landscaped elements : Ground Level: • Public domain works in Friedlander Place; • Addition of nine (9) mature trees along Pacific Highway interface (It is noted that typically such trees should have a soil depth of 1200 mm – whilst the plans suggest 1,000 mm is proposed). • Landscaped edge along buildings southern edge, northern corner Level 2 • Evergreen shrub planting around majority of building edge 'capable of 2.0m height for wind amelioration' Level 3 • Evergreen shrub planting along northern and eastern edge + 2 small sections along SW edge 'capable of 2.0m height for wind amelioration' Level 4 • Evergreen shrub planting around western, northern and eastern edge – none along SW edge Level 5 • Small section evergreen planting on NE corner
Principle 6: Amenity Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, and ease of access for all age groups and degrees of mobility.	See comment	There are issues relating to the layout and internal dimensions of apartments. Apartment type U2213 between levels 22 and 35 employs internal mirror cladding to comply with Objective 4D-1; "A window should be visible from any point in a habitable room". This is not an acceptable solution. Apartment layout concerns are detailed in the ADG table below. Building indentations are supported as they comply with width to depth ratio of 2:1 or 3:1. This has been implemented for NW and SW aspects. The achievement of solar access is considered satisfactory for this proposal, despite achieving 2 hours of solar access to only 64% of apartments, between 8am and 4pm in mid-

SEPP 65 Design Principle	Consistency	Comments
		winter, given that: • In such dense urban environments, where FSRs exceed 6:1, full compliance with the ADG solar access requirements is difficult to achieve, and unreasonable. In this instance, the proximity to St Leonards and other key centres, and the desirable southern outlook is considered an appropriate alternative to strict compliance with the solar access requirements • Majority of apartments no achieving a minimum 2 hours of solar access generally face south or south west, which have highly desirable and visually interesting view, providing an alternative to direct solar access compliance for these apartments. • The façade treatment to the living areas of south and south-west facing apartments is floor to ceiling glazing which provides maximum daylight exposure • Views to the south and south-west of the site are unlikely to be significantly impeded in the long term due to the fall of topography away from the site's ridgeline position • Solar access achievement between 8am and 4pm is considered reasonable measure for development in a dense environment
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.	Yes	Safety and security is considered acceptable. The proposal provides a good degree of street and public domain surveillance, and also provides address to the Highway, Friedlander Place and the laneway – all of which are supported. It is noted that the proposed spiral staircase should not be fully enclosed and maintain a good degree of transparency so that movement of pedestrians through the stairway is visible.
Principle 8: Housing Diversity and Social Interaction Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.	See Comment	The proposed apartment mix is diverse, allowing approximately 39.3% studio and 1 bedroom, 49% two bedrooms, 17.6% three bedrooms, five four bedroom and 1 five bedroom apartments. • 114 x studio apartments (31.7%) • 30 x one bedroom apartments (6.6%) • 225 x two bedroom apartments (49%) • 80 x three bedroom apartments (17.6%) • 5 x four bedroom apartments (1.1%) • 1 x five bedroom apartments (0.2%) The above is considered to respond to a wide demographic range that is consistent with population growth in the local area. It is noted that adaptable dwellings only appear to be provided in two and three bedroom dwelling types. Consideration should be given to expansion to one bedroom types for diversity. Residential uses beginning at level 4 help mitigate acoustic impacts from Pacific Highway.
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.	See comment	The aesthetics are generally supported, except for the following issues: • The curvilinear balconies result in balcony floor space and minimum depth requirements not being met and does result in some compromising of amenity through balcony useability – as demonstrated by the south-east apartment type (Unit 506)

SEPP 65 Design Principle	Consistency	Comments
The visual appearance of well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape		• To achieve 24m building separation with 472-486 Pacific Highway, large balcony portions for apartments on the SE corner, from level 9 – 37 are made non-trafficable. Multiple concerns are raised. (1) Minimum balcony area is not complied with. (2) How are these non-trafficable balcony portions maintained?

Table 2 Apartment Design Guide (ADG)

Apartment Design Guide (ADG)	Consistency	Comment
Part 2: Developing the controls		
2A Building controls		
2B Building envelopes Building envelopes set the appropriate scale of future development in terms of bulk and height relative to the streetscape, public and private open spaces, and block and lot sizes in a particular location. Envelopes are appropriate when determining and controlling the desired urban form in town centres, brownfield sites, precinct plan sites and special sites such as those with heritage, significant views or extreme topography Building envelopes help to: • Define the three dimensional form of buildings and wider neighbourhoods • Inform decisions about appropriate density for a site and its context • Define open spaces and landscape areas • Test the other primary controls to ensure they are coordinated and achieve the desired outcome • Demonstrate the future mass, scale and location of new development	See comment	Ground level setback largely complies with DCP requirement of 4 metre setback colonnade from Pacific Highway and Friedlander Place. Retail G3 does not comply with the 4m setback to Friedlander Place; however this is supportable as the façade is highly transparent. According to the DCP, the non-residential podium (excluding ground level) must comply with 0 metre minimum setback from site boundary. There is a significance divergence from this control for levels 1, 2, 3, and residential level 4 – with substantial protrusion proposed into Friedlander Place. Whilst the form is implemented as a wind mitigation measure, Architectus maintains that the building length (east – west) could be reduced to accommodate for the same wind mitigation with no protrusion into Friedlander Place. Further, residential balconies adjacent to the Pacific Highway do not comply with the 4 metre setback. Substantial protrusion for level 4 and minor protrusion for levels 5 to 43. The residential setback against the western boundary is supported, as it complies with the 7 metre requirement. All building setbacks against the rear lane are compliant.
2C Building height Building height helps shape the desired future character of a place relative to its setting and topography. It defines the proportion and scale of streets and public spaces and has a relationship to the physical and visual amenity of both the public and private realms.	Yes	Maximum permissible height is RL227.4 metres. All habitable floor space complies, with this RL.
2D Floor space ratio Ensure that the development aligns with the optimum capacity of the site and the desired density of the local area. Provide opportunities for building articulation and creativity within a building envelop by carefully setting the allowable floor space.	Yes	The FSR of the proposal is supportable as it encapsulates the area of three lots, including 500 and 504 Pacific Highway and Friedlander Place. The proposed FSR of 13.178 is compliant with the permissible FSR of 15.03:1 across the two sites.
2E Building depth Control over building depth is important as the depth of a building will have a significant impact on residential amenity for the building occupants. In general, narrow cross section buildings have the potential for dual aspect apartments with natural ventilation and optimal daylight access to internal spaces. In general, apartment building depth of 10-18 metres is appropriate. Developments that propose wider than 18 metres must demonstrate how satisfactory day lighting and ventilation are to be achieved.	No	Architectus considers a building length and depth of 45 metres x 18 metres as the idea maximum floor plate for a tower, however it is acknowledged that in this instance, the DCP stipulates a larger maximum building length. The excessive building depth does give rise to issues such as snorkel bedrooms (discussed later in this report). Provided these issues can be adequately addressed, the building depth can be supported in this instance.

Apartment Design Guide (ADG)	Consistency	Comment
2F Building separation For buildings over three storeys it is recommended that building separation increase in proportion to building height to ensure appropriate urban form, adequate amenity and privacy for building occupants. Suggested dimensions within a development, internal courtyards and between adjoining site are: • Up to four storeys/12 metres – 12m between habitable rooms/balconies – 9m between habitable/balconies and non-habitable rooms – 6m between non-habitable rooms • Five to eight storeys/25 metres: – 18 metres between habitable rooms/balconies; – 12 metres between habitable rooms/balconies and non-habitable rooms; – 9 metres between non-habitable rooms. • Nine storeys and above/ over 25 storeys: – 24 metres between habitable rooms/balconies; – 18 metres between habitable rooms/balconies and non-habitable rooms; – 12 metres between non-habitable rooms. • Allow zero building separation in appropriate contexts, such as in urban areas between street wall building types (party walls). • Where a building step back creates a terrace, the building separation distance for the floor below applies. • Protect the privacy of neighbours who share a building entry and whose apartments face each other by designing internal courtyards with greater building separation. • Developments that propose less than the recommended distances must demonstrate that daylight access, urban form and visual and acoustic privacy has been satisfactorily achieved.	See comment	Residential level 4 is compliant with 12 metre building separation for habitable rooms. Residential levels 5 to 8 are compliant with 18 metre separation between habitable rooms. The residential tower achieves 12 metre separation from the centreline of Friedlander Place. A separation distance of 24 metres from 472 – 486 Pacific Highway is achieved by the proposal (for storey 9 and above) by making substantial portions of apartment balconies on the SE corner of the building inaccessible. This is not considered an acceptable design solution as it results in a non-compliance with Objective 4E-1 (appropriately sized private open space). There is also a concern about how this non trafficable balcony space will be controlled and maintained. Balcony finishing, cleaning and maintenance details are requested.
2G Street setbacks • Street setbacks should relate to the desired streetscape character, the common setback of buildings in the street, the accommodation of street tree planting and the height of buildings and daylight access controls. • Relate setbacks to area's street hierarchy. • Identify the quality, type and use of gardens and landscape areas facing the street.	See comment	The ground level setback is compliant with DCP control of a 4 metre setback. Non-residential podium is compliant with a 0 metre minimum setback (levels 1 to 3). The residential tower is required to be setback 4 metres from the site boundary, including the interface with the Pacific Highway. Substantial non-compliance to 4 metre setback for residential level 4 where a section of the balcony is a 0 metre setback from boundary. Residential levels 5 to 43 minor divergence to 4 metre setback with some minor protrusion into 4 metre setback zone.
2H Side and rear setbacks Side setbacks should minimise the impact of light, air, sun and privacy, views and outlook for neighbouring properties, including future buildings and retain a rhythm or pattern that positively defines the streetscape so that space is not just what is left over from the building form. Rear setbacks should maintain deep soil zone to maximise natural site drainage and protect the water table; maximise the opportunity to retain and reinforce mature vegetation; optimise the use of land at the rear and surveillance of the street at the front and maximise building separation to provide visual and acoustic privacy.	See comment	The proposal seeks significant departures from the Friedlander Place setback controls, with levels 1, 2, 3 and 4 protruding into Friedlander Place. Level 1 has the largest protrusion, appearing up to 5 metres. The proposal results in overhang into Friedlander Place and is justified on the grounds of wind mitigation. It would be preferable for there to be no overhang into the public domain to ensure maximum daylight and sunlight penetration, particularly given the already constrained nature of this public space. Setbacks along the western and southern boundaries comply.

Apartment Design Guide (ADG)	Consistency	Comment
Part 3: Siting the Development		
3A 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 **Design Guidance** Each element in the Site Analysis Checklist should be addressed.	Yes	The amended design package is considered to have been informed by its context, particularly in relation to consideration of views, solar access and building separation.
3B Orientation		
Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development **Design guidance** • Buildings along the street frontage define the street, by facing it and incorporating direct access from the street • Where the street frontage is to the east or west, rear buildings should be orientated to the north • Where the street frontage is to the north or south, overshadowing to the south should be minimised and • buildings behind the street frontage should be orientated to the east and west	Yes	The orientation of the building is generally supported. It provides a balance between solar access and outlook. The interface of the building with the Pacific Highway to the north is well defined, activated and to human scale. Design of the façade clearly signifies building entry. It would be assumed that the mix of uses (2x retail, residential lobby and commercial lobby) along the building interface with Pacific Highway at ground level will generate acceptable activation. Majority of non-residential floor space faces north, supporting high amenity. Retail abutting Friedlander place and building articulation responds to the public use of Friedlander Place. It is recommended that walls are transparent to support activation and passive surveillance. The proposed interface with Nicholson Lane is acceptable as it will support activation of the lane and good passive surveillance. Detailed rendered perspectives are requested to clarify the proposed interface with Nicholson lane (1) looking north from the perspective of someone walking from Nicholson street to Nicholson Lane – detailing the southern elevation/interface to Nicholson Lane (2) looking east along Nicholson Lane towards the proposed
Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid-winter **Design guidance** • Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access. • Solar access to living rooms, balconies and private open spaces of neighbours should be considered • Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by 20%. • If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy • Overshadowing should be minimised to the south or downhill by increased upper level setbacks • It is optimal to orient buildings 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts • A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring properties	See comment	Based on winter solstice shadow diagrams, overshadowing of low rise residential to the south west is slender and fast moving between 9am – 10:30am. There is no impact on these areas after this time. After 10:30am overshadowing of commercial buildings to the south and south east occurs. By 1:30pm commercial buildings to the south of Nicholson street are not overshadowed. Afternoon shadow impacts from the proposal are negligible increases to that created by 472-482 Pacific Highway.

Apartment Design Guide (ADG)	Consistency	Comment
3C Public Domain Interface		
Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security **Design guidance** • Terraces, balconies and courtyard apartments should have direct street entry, where appropriate • Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings • Upper level balconies and windows should overlook the public domain • Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m • Length of solid walls should be limited along street frontages • Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets • In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions: architectural detailing changes in materials plant species colours • Opportunities for people to be concealed should be minimised	See comment	The proposal achieves a good level of safety and security in the transition between private and public domain. Entry to the building along the Pacific Highway edge – potential areas of concealment against structural blades – overcome by transparency of façade Park entry – funnel like space towards lobby access combined with direct line of site between lobby and Friedlander Place support safety of residents moving between public and private space. The type of retail uses and the façade treatment will be critical to ensuring safe public space adjacent to the proposed. The design of the spiral stair should maintain visual connection to ensure pedestrians moving through the space can be seen. As aforementioned at Objective 3B-1, a detailed rendered perspective is requested to clarify the delineation of entries point at the proposals interface with Nicholson Lane (a rendered perspective looking north from the perspective of someone walking from Nicholson Street to Nicholson Lane – detailing the southern elevation/interface to Nicholson Lane)
Objective 3C-2 Amenity of the public domain is retained and enhanced. **Design guidance** • Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking • Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided • The visual prominence of underground car park vents should be minimised and located at a low level where possible • Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view • Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels • Durable, graffiti resistant and easily cleanable materials should be used Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: street access, pedestrian paths and building entries which are clearly defined	See comment	Upgraded Friedlander Place in addition to plaza on 472-482 Pacific Highway will improve current amenity of the public domain. Planting along the edges of the levels 2, 3, 4 and 5 has the potential to soften the edges/built form of the proposed against the street. As aforementioned at Objective 3B-1, and Objective 3C-1 rendered perspective are requested to determine impacts of the proposed building adjacent to Nicholson Lane. Clarification is requested to determine of the ground level, level 2 and level 3 plant rooms are accessed. Maintenance and accessibility of boundary gardens should be clarified.

Apartment Design Guide (ADG)	Consistency	Comment
paths, low fences and planting that clearly delineate between communal/private open space and the adjoining public open space minimal use of blank walls, fences and ground level parking • On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking		
3D 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 **Design Criteria** 1. Communal open space has a minimum area equal to 25% of the site. 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 9am and 3pm on 21 June (midwinter) **Design guidance** • Communal open space should be consolidated into a well-designed, easily identified and usable area • Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions • Communal open space should be co-located with deep soil areas • Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies • Where communal open space cannot be provided at ground level, it should be provided on a podium or roof • Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: provide communal spaces elsewhere such as a landscaped roof top terrace or a common roof provide larger balconies or increased private open space for apartments demonstrate good proximity to public open space and facilities and/or provide contributions to public open space	See comment	A detailed schedule of areas is requested to determine the total area of communal open space. Communal open space does not include corridors and lobbies, as has been proposed by the applicant. The information provided does not make clear the quantum of communal open space (indoor and outdoor). The addition of communal open space at levels 42 and 43 and the double height residential space within the podium is supported.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3D-2 Communal open space is designed to allow for a range of Activities, respond to site conditions and be attractive and inviting **Design guidance** • Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements: seating for individuals or groups barbecue areas play equipment or play areas swimming pools, gyms, tennis courts or common rooms • The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts • Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	Yes	The proposal is considered to provide a good degree of diversity in terms of open space, catering to passive and active recreational space for all ages.
Objective 3D-3 Communal open space is designed to maximise safety **Design guidance** • Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include: bay windows corner windows balconies • Communal open space should be well lit • Where communal open space/facilities are provided for children and young people they are safe and contained	See comment	Equitable access is provided to all communal areas of the proposal. Friedlander Place should receive a good level of passive surveillance from the residential tower, although balcony protrusions at level 1 to 4 will comprise line of sight for some apartments. Potential for gym and pool facilities to provide passive surveillance of Nicholson Lane if façade is transparent. It is recommended that internal walls between the gym, pool, communal open space and other communal circulation areas should be floor to ceiling glass walls to allow for surveillance of these spaces.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood **Design guidance** • The public open space should be well connected with public streets along at least one edge • The public open space should be connected with nearby parks and other landscape elements • Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid • Solar access should be provided year round along with protection from strong winds • Opportunities for a range of recreational activities should be provided for people of all ages • A positive address and active frontages should be provided adjacent to public open space • Boundaries should be clearly defined between public open space and private areas **3E Deep soil zones**	Yes	The proposal includes upgrades to Friedlander Place. It is anticipated that such works will be undertaken in consultation with Council.

Apartment Design Guide (ADG)	Consistency	Comment
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 **Design criteria** Site area / Minimum Dimensions / Deep soil zone (% of site area): Less than 650m^2 – - 650m^2 – 1,500m^2 – 3m Greater than 1,500m^2 – 6m Greater than 1,500m^2 with significant existing tree cover – 6m – 7% **Design guidance** • On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: 10% of the site as deep soil on sites with an area of 650m^2 - 1,500m^2 15% of the site as deep soil on sites greater than 1,500m^2 • Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. • Design solutions may include: basement and sub- basement car park design that is consolidated beneath building footprints use of increased front and side setbacks adequate clearance around trees to ensure long term health co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil • Achieving the design criteria may not be possible on some sites including where: the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres) there is 100% site coverage or non-residential uses at ground floor level • Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure:	See comment	In such a dense urban environment, achieving deep soil requirements is unviable, and unnecessary. The proposal, whilst not having any deep soil zones, provides some on structure planting in addition to substantial landscaping redevelopment of Friedlander Place. Friedlander Place will provide a range of vegetation types, comprised predominantly of native vegetation.
3F Visual Privacy		

<table>
<tr><th>Apartment Design Guide (ADG)</th><th>Consistency</th><th>Comment</th></tr>
<tr><td>

Objective 3F-1

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

Design criteria

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

<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) 6m 3m</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>

- Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room

2. Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties

Design Guidance

Generally one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance

For residential buildings next to commercial buildings, separation distances should be measured as follows:

- for retail, office spaces and commercial balconies use the habitable room distances
- for service and plant areas use the non-habitable room distances

New development should be located and orientated to maximise Visual privacy between buildings on site and for neighbouring buildings. Design solutions include:

- site layout and building orientation to minimise privacy impacts (see also section 3B Orientation)
- On sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4).

Apartments buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for transition in scale.

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

No separation is required between blank walls

</td><td>Yes</td><td>

Residential level 4 complies is compliant with 12 metre building separation for habitable rooms.

Residential levels 5 to 8 are compliant with 18 metre separation between habitable rooms.

The residential tower achieves 12 metre separation from the centreline of Friedlander Place. A separation distance of 24 metres from 472 – 486 Pacific Highway is achieved by the proposal (for storey 9 and above) by making substantial portions of apartment balconies on the SE corner of the building inaccessible. The proposed solution compromises the useability of balconies. Detail is required on the treatment and proposed maintenance and cleaning of the untrafficable areas.

Building setbacks along the western and southern boundaries comply with the Lane Cove DCP and are thus supported.

</td></tr>
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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

Design guidance

Communal open space, common areas and access paths

- Should be separated from private open space and windows to apartments, particularly habitable room windows. Design

</td><td>See comment</td><td>

Clarification is requested to determine privacy devices between balconies.

Of particular concern are apartment type U408, U407 and U412, U411 (and like above) where there may be potential for overlooking from balconies to bedrooms.

The balustrade design is supported as it achieves high aesthetic outcomes and resident privacy.

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</table>

Apartment Design Guide (ADG)	Consistency	Comment
solutions may include: – setbacks – solid or partially solid balustrades to balconies at lower levels – fencing and/or trees and vegetation to separate spaces • screening devices – bay windows or pop out windows to provide privacy in one direction and outlook in another – raising apartments/private open space above the public domain or communal open space – planter boxes incorporated into walls and balustrades to increase visual separation – pergolas or shading devices to limit overlooking of lower apartments or private open space – on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies • Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas • Balconies and private terraces should be located in front of living rooms to increase internal privacy • Windows should be offset from the windows of adjacent buildings • Recessed balconies and/or vertical fins should be used between adjacent balconies		
3G Pedestrian access and entries		
Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain **Design guidance** • Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge • Entry locations relate to the street and subdivision pattern and the existing pedestrian network • Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries • Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries.	Refer to comment	There are multiple entries to the building that address the public domain. The mix of residential and non-residential access points to the building ensures good activation of the public domain adjacent to the building. The proposed building entries support a range of existing pedestrian networks; activate the street / lane / public domain edge in addition to supporting equitable access to the proposal. Clarification is requested to determine the delineation between residential and non-residential entries at the Pacific Highway (ground level) and Nicholson lane.
Objective 3G-2 Access, entries and pathways are accessible and easy to identify **Design guidance** • Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces • The design of ground floors and underground car parks minimise level changes along pathways and entries • Steps and ramps should be integrated into the overall building and landscape design • For large developments 'way finding' maps should be provided to assist visitors and residents • For large developments electronic access and audio/video intercom should be provided to manage access	See comment	Building access is generally supported as hallways and lift lobbies are clearly visible from the public domain. This is not achieved however for the residential lift lobby from Nicholson Lane. Clarification is requested – (1) how are goods transported between loading dock on Basement level 1 and retail uses? (2) How are goods safely moved between residential garbage rooms and loading dock?

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations Design guidance • Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport • Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate	N/A	N/A
3H 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 **Design Guidance** • Car park access should be integrated with the building's overall facade. Design solutions may include: – the materials and colour palette to minimise visibility from the street – security doors or gates at entries that minimise voids in the facade – where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed • Car park entries should be located behind the building line • Vehicle entries should be located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout • Car park entry and access should be located on secondary streets or lanes where available • Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided Access point locations should avoid headlight glare to habitable rooms • Adequate separation distances should be provided between vehicle entries and street intersections • The width and number of vehicle access points should be limited to the minimum • Visual impact of long driveways should be minimised through changing alignments and screen planting • The need for large vehicles to enter or turn around within the site should be avoided • Garbage collection, loading and servicing areas are screened • Clear sight lines should be provided at pedestrian and vehicle crossings • Traffic calming devices such as changes in paving material or textures should be used where appropriate • Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: – changes in surface materials – level changes – the use of landscaping for separation	See comments	One vehicle access from Nicholson Street below Friedlander Place, providing access to both the commercial and residential car parking and loading dock is supported. A more formalised pedestrian crossing / traffic calming measure are recommended for the vehicle entry point. Clarification is requested – how is access controlled between commercial parking (Lower ground to basement 1) and residential parking (Basement 2 – 7). It is suggested a waiting zone be integrated into the interface between the storage room and vehicle corridor to provide safe movement of bins from garbage room to garbage holding room.
3J Bicycle and car parking		

Apartment Design Guide (ADG)	Consistency	Comment
Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas **Design criteria** 1. For development in the following locations: – on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or – on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street **Design guidance** • Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site • Where less car parking is provided in a development, council should not provide on street resident parking permits	See comment	The reconfiguration of the scheme (significant increase in 2 bedroom apartments) has resulted in a similar number of car spaces as proposal 1, despite reduction in apartment numbers. Car parking provision is supported. A total of 519 car parking spaces are proposed, consisting of 456 residential and 63 no-residential. The reduced visitor requirement from 1 space per 5 units to 1 space per 10 units is supported due to the sites proximity to public transport.
Objective 3J-2 Parking facilities are provided for other modes of transport **Design guidance** • Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters • Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas • Conveniently located charging stations are provided for electric vehicles, where desirable	Yes	The number of bicycle and motorcycle parking spaces is supported. Both parking modes are provided equally across basement levels in close proximity to equivalent car space and storage boxes.
Objective 3J-3 Car park design and access is safe and secure **Design guidance** • Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas and car wash bays can be accessed without crossing car parking spaces • Direct, clearly visible and well lit access should be provided into common circulation areas • A clearly defined and visible lobby or waiting area should be provided to lifts and stairs • For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards		As per above comments, provisions for safe pedestrian movement across vehicle entry adjacent to Nicholson Street and within basement car park (e.g. proposed marked path of travel) is recommended. Provisions for safe bicycle entry into and between basement car parking are recommended. Disabled resident car spaces to the east of the ramp result in a convoluted path of travel to lifts (Basement 2 – 7)
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised **Design guidance** • Excavation should be minimised through efficient car park layouts and ramp design • Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles • Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car	Yes	The proposed underground parking design and entry location is supported.

Apartment Design Guide (ADG)	Consistency	Comment
park levels or using split levels on sloping sites • Natural ventilation should be provided to basement and sub- basement car parking areas • Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design		
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised **Design guidance** • On-grade car parking should be avoided Where on-grade car parking is unavoidable, the following design solutions are used: – parking is located on the side or rear of the lot away from the primary street frontage – cars are screened from view of streets, buildings, communal and private open space areas – safe and direct access to building entry points is provided – parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space – stormwater run-off is managed appropriately from car parking surfaces – bio-swales, rain gardens or on site detention tanks are provided, where appropriate – light coloured paving materials or permeable paving systems are used and shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving.	N/A	N/A
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised **Design guidance** • Exposed parking should not be located along primary street frontages • Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: – car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) – car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage – Positive street address and active frontages should be provided at ground level	N/A	N/A
Part 4: Designing the building		
Amenity		
4A Solar and daylight access **Objective 4A-1** To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space **Design criteria** 1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours	Yes	The achievement of solar access is considered satisfactory for this proposal, despite achieving 2 hours of solar access to only 64% of apartments, between 8am and 4pm in mid-winter, given that in such dense urban environments, where FSRs exceed 6:1, full compliance with the ADG solar access requirements is difficult to achieve, and unreasonable. In this instance, the proximity

Apartment Design Guide (ADG)	Consistency	Comment
direct sunlight between 9 am and 3 pm at midwinter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government area 2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at midwinter 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at midwinter **Design Guidance** • The design maximises north aspect and the number of single aspect south facing apartments is minimised. Single aspect, single storey apartments should have a northerly or easterly aspect Living areas are best located to the north and service areas to the south and west of apartments • To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used: – dual aspect apartments – shallow apartment layouts – two storey and mezzanine level apartments – bay windows • To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m2 of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes • Achieving the design criteria may not be possible on some sites. This includes: – where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source – on south facing sloping sites – where significant views are oriented away from the desired aspect for direct sunlight • Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective		to St Leonards and other key centres, and the desirable southern outlook is considered an appropriate alternative to strict compliance with the solar access requirements.
Objective 4A-2 Daylight access is maximised where sunlight is limited **Design guidance** • Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms • Where courtyards are used : – use is restricted to kitchens, bathrooms and service areas – building services are concealed with appropriate detailing and materials to visible walls – courtyards are fully open to the sky – access is provided to the light well from a communal area for cleaning and maintenance – acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved • Opportunities for reflected light into apartments are optimised through: – reflective exterior surfaces on buildings opposite south facing windows – positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light	N/A	Direct, external windows are provided as the primary source of daylight.

Apartment Design Guide (ADG)	Consistency	Comment
– integrating light shelves into the design – light coloured internal finishes		
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months Design guidance • A number of the following design features are used: – balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas – shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting – horizontal shading to north facing windows – vertical shading to east and particularly west facing windows – operable shading to allow adjustment and choice • high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided)	Yes	Balcony depth will provide adequate shading for north, north east and western portions of the building.
4B Natural ventilation **Objective 4B-1** All habitable rooms are naturally ventilated **Design guidance** • The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms • Depths of habitable rooms support natural ventilation • The area of unobstructed window openings should be equal to at least 5% of the floor area served • Light wells are not the primary air source for habitable rooms • Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: – adjustable windows with large effective openable areas – a variety of window types that provide safety and flexibility such as awnings and louvres – windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors	Yes	All habitable rooms, except penthouse theatre rooms, are naturally ventilated.
Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation **Design guidance** • Apartment depths are limited to maximise ventilation and airflow • Natural ventilation to single aspect apartments is achieved with the following design solutions: – primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) – stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries – courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells	Yes	Building indentations are supported as the width to depth ratio now complies with 2:1 or 3:1. Generally, single aspect apartments are considered to be provided an appropriate degree of natural ventilation.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4B-3 • The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents • Design criteria • 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 • Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line • Design guidance • The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths • In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) • Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow • Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	See comment	Architectus disagrees with the statement in the SEE that "65% of units up to level 9 achieve natural ventilation". It is arguable as to whether single aspect, dual storey apartments proposed will achieve natural ventilation. The Applicant should provide testing to confirm this. The number of apartments between levels 4 and 9 is 68. Of the 68 apartments, 24 are corner apartments, 6 apartments are wider then deep. These apartment types will achieve cross ventilation, or at a minimum a high level of natural ventilation. Combined they equate to 30 apartments or 44% of all apartments up to and including level 9. Should testing conclude that these apartment types will not achieve appropriate cross ventilation, Architectus recommends the reconfiguration of these apartments to achieve ventilation requirements.
4C Ceiling heights		
Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access **Design criteria** 1. Measured from finished floor level to finished ceiling level, minimum ceiling heights for apartments and mixed use buildings are: – Habitable rooms: 2.7m – Non-habitable: 2.4m – For 2 storey apartments: 2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area – Attic spaces: 1.8m at edge of room with a 30 degree minimum ceiling slope – If located in mixed used areas: 3.3m for ground and first floor to promote future flexibility of use These minimums do not preclude higher ceilings if desired **Design guidance** Ceiling height can accommodate use of ceiling fans for cooling and heat distribution	Yes	Floor to floor heights are at least 3 metres for residential levels of the building. This is sufficient in providing adequate floor to ceiling heights at or above this rule of thumb. Council should condition that all habitable rooms have a floor to ceiling height of 2.7 metres to ensure this is achieved.
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms Design guidance • A number of the following design solutions can be used:	Yes	As above.

Apartment Design Guide (ADG)	Consistency	Comment
• the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces • well-proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings • Ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist.		
Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building **Design guidance** • Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses	Yes	Lower Ground, Ground, level 1, 2 & 3 have minimum floor to floor heights of 3.3m to 3.95 metres that provide ample provision for flexibility.
4D Apartment size and layout **Objective 4D-1** The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity **Design criteria** 1. Apartments are required to have the following minimum internal areas: • Studio 35m2 • 1 bedroom 50m2 • 2 bedroom 70m2 • 3 bedroom 90m2 2. The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m2 each 3. A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m2 each 4. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms **Design Guidance** • Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space) • A window should be visible from any point in a habitable room • Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits	See comment	The doors / walls to studies in the following one bedroom apartments are to be operable and non-fully enclosable. Apartments include U404, U405, U406, U511, U512 and equivalent. Snorkel bedroom in apartment U2213 and equivalent is to be reconfigured to ensure the window can be viewed from any point in the room without reliance on mirrors. Where possible, kitchens in hallways are to be avoided. This comment applies to apartment type U408, U511, U512 and equivalent. Alternative apartment layouts are to be investigated.
Objective 4D-2 Environmental performance of the apartment is maximised **Design criteria** 1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height 2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.	Yes	The proposed apartments and additional testing provided are considered appropriate.

Apartment Design Guide (ADG)	Consistency	Comment
Design Guidance • Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths • All living areas and bedrooms should be located on the external face of the building • Where possible: – bathrooms and laundries should have an external operable window – main living spaces should be oriented toward the primary outlook and aspect and away from noise sources		
Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs **Design criteria** 1. Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space) 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space) 3. Living rooms or combined living/dining rooms have a minimum width of: – 3.6m for studio and 1 bedroom apartments – 4m for 2 and 3 bedroom apartments 4. width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts **Design Guidance** • Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas • All bedrooms allow a minimum length of 1.5m for robes • The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high • Apartment layouts allow flexibility over time, design solutions may include: – dimensions that facilitate a variety of furniture arrangements and removal – spaces for a range of activities and privacy levels between different spaces within the apartment – dual master apartments – dual key apartments Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments – room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) – efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms	See Comment	Generally apartment types are designed well; living rooms have sufficient width and are adjacent to balconies. The minimum width of the second bedroom in the following apartment type, U1008 and equivalent does not meet the minimum internal width of 3 metres. Given these are secondary bedrooms, and the flexibility in their use for non-bedroom purposes, these are considered acceptable in this instance.

<table>
<tr><th>Apartment Design Guide (ADG)</th><th>Consistency</th><th>Comment</th></tr>
<tr><td>

4E Private open space and balconies

Objective 4E-1

Apartments provide appropriately sized private open space and balconies to enhance residential amenity

Design Criteria

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

<table>
<tr><th>Dwelling type</th><th>Minimum area</th><th>Minimum depth</th></tr>
<tr><td>Studio apartments</td><td>4m^2</td><td>-</td></tr>
<tr><td>1 bedroom apartments</td><td>8m^2</td><td>2m</td></tr>
<tr><td>2 bedroom apartments</td><td>10m^2</td><td>2m</td></tr>
<tr><td>3+ bedroom apartments</td><td>12m^2</td><td>2.4m</td></tr>
</table>

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

2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of15m2 and a minimum depth of 3m

Design guidance

- Increased communal open space should be provided where the number or size of balconies are reduced
- Storage areas on balconies is additional to the minimum balcony size Balcony use may be limited in some proposals by:
  - consistently high wind speeds at 10 storeys and above
  - close proximity to road, rail or other noise sources
  - exposure to significant levels of aircraft noise
  - heritage and adaptive reuse of existing buildings

In these situations, juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated

</td><td>See comment</td><td>Whilst the curvilinear balcony form generates a holistic building form, the result produces balconies that are impractical. Whilst most balconies comply with minimum ADG requirements, apartment type U408 (level 4) and equivalent above do not. The usefulness of these balcony types are further compromised between level 9 and 37 when a substantial portion is made non trafficable to meet building separation requirements (as aforementioned). Opportunity to enlarge the useable space of balcony for these dwellings should be considered.</td></tr>
<tr><td>

Objective 4E-2

Primary private open space and balconies are appropriately located to enhance liveability for residents

Design guidance

- Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space
- Private open spaces and balconies predominantly face north, east or west
- Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms

</td><td>Yes</td><td>Generally primary balcony area is positioned adjacent to living areas and is thus supported. Whilst a large percentage of balconies are south facing, the high quality outlook mitigates the limitations of this orientation.</td></tr>
<tr><td>

Objective 4E-3

Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building

</td><td>Yes</td><td>As aforementioned at Objective 4E-1, whilst the balcony design contributes to the high aesthetic quality of the building, practicality of some balconies is compromised (e.g. frequent non-compliance with minimum balcony depth of 2 metres).</td></tr>
</table>

Apartment Design Guide (ADG)	Consistency	Comment
Design guidance • Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred • Full width full height glass balustrades alone are generally not desirable • Projecting balconies should be integrated into the building design and the design of soffits considered • Operable screens, shutters, hoods and pergolas are used to control sunlight and wind • Balustrades are set back from the building or balcony edge where overlooking or safety is an issue • Downpipes and balcony drainage are integrated with the overall facade and building design • Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design • Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design • Ceilings of apartments below terraces should be insulated to avoid heat loss • Water and gas outlets should be provided for primary balconies and private open space		
Objective 4E-4 Private open space and balcony design maximises safety **Design Guidance** • Changes in ground levels or landscaping are minimised • Design and detailing of balconies avoids opportunities for climbing and falls	See comment at Objective 4E-1	N/A
4F Common circulation and spaces		
Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments **Design criteria** 1. The maximum number of apartments off a circulation core on a single level is eight 2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40 **Design guidance** • Greater than minimum requirements for corridor widths and/ or ceiling heights allow comfortable movement and access particularly in entry lobbies, outside lifts and at apartment entry doors • Daylight and natural ventilation should be provided to all common circulation spaces that are above ground • Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors • Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: a series of foyer areas with windows and spaces for seating • wider areas at apartment entry doors and varied ceiling	See comment	Windows to the outside for each internal corridor in the residential tower is supported. Apartment numbers range from 8 on level 43, to 14 on level 10. This is considered acceptable given the number and allocation of certain lifts to different levels.

Apartment Design Guide (ADG)	Consistency	Comment
heights • Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments • Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including: – sunlight and natural cross ventilation in apartments access to ample daylight and natural ventilation in common circulation spaces – common areas for seating and gathering – generous corridors with greater than minimum ceiling heights – other innovative design solutions that provide high levels of amenity • Where design criteria1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level • Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled		
Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents **Design guidance** • Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines • Tight corners and spaces are avoided • Circulation spaces should be well lit at night • Legible signage should be provided for apartment numbers, common areas and general wayfinding • Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided • In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space • Where external galleries are provided, they are more open than closed above the balustrade along their length	Yes	Seating opportunities in all internal residential corridors (excluding level 36, 37, 38, 39, and 42) in close proximity to window openings provide opportunities for spontaneous resident interaction. These incidental spaces are supported. Internal corridor length and width is supported. Corridors are largely without bends and openings to the outside support high internal amenity.
4G Storage **Objective 4G-1** Adequate, well designed storage is provided in each apartment **Design criteria** 1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: – Studio apartments -4m^3 – 1 bedroom apartments-6m^3 – 2 bedroom apartments-8m^3 – 3+ bedroom apartments-10m^3 At least 50% of the required storage is to be located within the apartment	Yes	Storage volume is compliant with ADG requirements. Recommended where practical that storage allocation is located as close as possible to the affiliated car space.

Apartment Design Guide (ADG)	Consistency	Comment
Design guidance • Storage is accessible from either circulation or living areas • Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street • Left over space such as under stairs is used for storage		
Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments **Design guidance** • Storage not located in apartments is secure and clearly allocated to specific apartments • Storage is provided for larger and less frequently accessed items • Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible • If communal storage rooms are provided they should be accessible from common circulation areas of the building • Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain	See comment	Where practicable, it is recommended that basement storage is located adjacent to, or in close proximity to the affiliated car space(s).
4H Acoustic privacy **4H-1** Noise transfer is minimised through the siting of buildings and building layout **Design guidance** • Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses (see also section 2F Building separation and section 3F Visual privacy) • Window and door openings are generally orientated away from noise sources • Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas • Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources • The number of party walls (walls shared with other apartments) are limited and are appropriately insulated • Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedroom	Yes	Architectus supports the recommendations provided by Acoustic Logic (SEE, Dec 2015), including the specification of thicker glass on the northern and eastern (Pacific Highway) façade of the proposed building to comply with design noise levels

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments Design guidance • Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: – rooms with similar noise requirements are grouped together – doors separate different use zones – wardrobes in bedrooms are co-located to act as sound buffers • Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions: – double or acoustic glazing – acoustic seals – use of materials with low noise penetration properties continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements	Yes	The recommendations of the acoustic report are supported.
4J 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 **Design guidance** • To minimise impacts the following design solutions may be used: – physical separation between buildings and the noise or pollution source – residential uses are located perpendicular to the noise source and where possible buffered by other uses – non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces – non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources – buildings should respond to both solar access and noise. Where solar access is away from the noise source, nonhabitable rooms can provide a buffer – where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable – landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry • Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: – solar and daylight access – private open space and balconies – natural cross ventilation	See comment	Glazing is to comply with recommendations contained within the Acoustic Logic report. For apartments along the Pacific Highway (Northern and Eastern elevations) will require up to 12.38mm glass for bedrooms, and 10.38mm thickness for living rooms. Other facades will require reduced thickness.
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission **Design guidance**	See comment above (Objective 4J-1)	

Apartment Design Guide (ADG)	Consistency	Comment
• Design solutions to mitigate noise include: – limiting the number and size of openings facing noise sources – providing seals to prevent noise transfer through gaps – using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens) using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits		
Configuration		
4K 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 **Design guidance** • A variety of apartment types is provided The apartment mix is appropriate, taking into consideration: – the distance to public transport, employment and education centres – the current market demands and projected future demographic trends – the demand for social and affordable housing – different cultural and socioeconomic groups Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households.	Yes	A mix of studio, one, two, three, four and five bedroom apartments are proposed. The mix of apartments is considered acceptable in relation to the household structure and population demand for St Leonards. A total of 91 adaptable apartments.
Objective 4K-2 The apartment mix is distributed to suitable locations within the building **Design guidance** • Different apartment types are located to achieve successful facade composition and to optimise solar access • Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available	Yes	Different apartment types are distributed evenly throughout the proposed building.
4L Ground floor apartments **Objective 4L-1** Street frontage activity is maximised where ground floor apartments are located **Design guidance** • Direct street access should be provided to ground floor apartments Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: – both street, foyer and other common internal circulation entrances to ground floor apartments – private open space is next to the street – doors and windows face the street • Retail or home office spaces should be located along street frontages • Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for	N/A	N/A

Apartment Design Guide (ADG)	Consistency	Comment
conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion		
Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents **Design guidance** • Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: – elevation of private gardens and terraces above the street level by 1-1.5m – landscaping and private courtyards – window sill heights that minimise sight lines into apartments – integrating balustrades, safety bars or screens with the exterior design • Solar access should be maximised through: – high ceilings and tall windows – trees and shrubs that allow solar access in winter and shade in summer	NA	
4M Facades **Objective 4M-1** Building facades provide visual interest along the street while respecting the character of the local area **Design Guidance** • Design solutions for front building facades may include: – a composition of varied building elements – a defined base, middle and top of buildings – revealing and concealing certain elements – changes in texture, material, detail and colour to modify the prominence of elements • Building services should be integrated within the overall façade • Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: – well composed horizontal and vertical elements – variation in floor heights to enhance the human scale – elements that are proportional and arranged in patterns – public artwork or treatments to exterior blank walls – grouping of floors or elements such as balconies and windows on taller buildings • Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights • Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	Yes	Curvilinear balconies create visual interest for the full height of the building . Proposed vegetation along building edges, levels 1 – 5 creates an interesting interface with the Pacific Highway
Objective 4M-2 Building functions are expressed by the façade **Design Guidance** • Building entries should be clearly defined • Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height • The apartment layout should be expressed externally through facade features such as party walls and floor slabs	Yes	With reference to the north elevation at street level, the façade recedes upwards above the residential and non-residential entries off Pacific Highway functioning as an effective indicator of building uses.

Apartment Design Guide (ADG)	Consistency	Comment
4N Roof design **Objective 4N-1** Roof treatments are integrated into the building design and positively respond to the street **Design Guidance** • Roof design relates to the street. Design solutions may include: – special roof features and strong corners – use of skillion or very low pitch hipped roofs – breaking down the massing of the roof by using smaller elements to avoid bulk – using materials or a pitched form complementary to adjacent buildings • Roof treatments should be integrated with the building design. Design solutions may include: – roof design proportionate to the overall building size, scale and form – roof materials compliment the building – service elements are integrated	Yes	The roof of the tower commences at storey 43, resulting in a minimal relationship to the street. However, the roof design is unobtrusive and compliments the overall building form.
Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised **Design guidance** • Habitable roof space should be provided with good levels of amenity. Design solutions may include: – penthouse apartments – dormer or clerestory windows – openable skylights • Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	Yes	The proposal uses the roof efficiently, accommodating a diverse range of functions, including portions of four (4) different residential apartments, communal open space, mechanical and hydraulic functions and photovoltaic panels.
Objective 4N-3 Roof design incorporates sustainability features **Design guidance** • Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: – the roof lifts to the north – eaves and overhangs shade walls and windows from summer sun • Skylights and ventilation systems should be integrated into the roof design	Yes	Approximately 20% of the roof is covered by photovoltaic panels.
4O Landscape Design **Objective 4O-1** Landscape design is viable and sustainable **Design guidance** • Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: – diverse and appropriate planting – bio-filtration gardens – appropriately planted shading trees – areas for residents to plant vegetables and herbs – composting – green roofs or walls • Ongoing maintenance plans should be prepared	Refer to comment	Architectus supports the landscape design of Friedlander Place. The use of artificial turf is both a durable substitute to grass and requires no maintenance. The reuse of 10 transplanted palms is also supported. Minor issues include: • Practicality of maintaining vegetation along western and southern edge of building – ground level • Minimum soil depth required for advanced/large trees = 1200m. Landscape plans specify only 1000mm Opportunity: • Potential to capture water falling on Friedlander Place & roof of proposed building

Apartment Design Guide (ADG)	Consistency	Comment
Microclimate is enhanced by: – appropriately scaled trees near the eastern and western elevations for shade – a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter – shade structures such as pergolas for balconies and courtyards • Tree and shrub selection considers size at maturity and the potential for roots to compete. • Based on site area the following tree plantings are recommended – Up to 850m2: 1 medium tree per 50m2 of deep soil zone – Between 850 - 1,500m2: 1 large tree or 2 medium trees per 90m2 of deep soil zone – Greater than 1,500m2: 1 large tree or 2 medium trees per 80m2 of deep soil zone		
Objective 4O-2 Landscape design contributes to the streetscape and amenity **Design guidance** • Landscape design responds to the existing site conditions including: – changes of levels – views – significant landscape features including trees and rock outcrops • Significant landscape features should be protected by: – tree protection zones – appropriate signage and fencing during construction • Plants selected should be endemic to the region and reflect the local ecology	Yes	The proposed landscape design and choice of vegetation will have a positive impact upon the locality. It is recommended that Council seek advice from the Roads and Maritime Services to determine impacts of the proposed matures trees (platanus acerifolia) along the Pacific Highway.
4P Planting on structures **Objective 4P-1** Appropriate soil profiles are provided Design guidance • Structures are reinforced for additional saturated soil weight • Soil volume is appropriate for plant growth, considerations include: – modifying depths and widths according to the planting mix and irrigation frequency – free draining and long soil life span – tree anchorage • Minimum soil standards for plant sizes in accordance with the requirements listed below should be provided: – Large trees (12-18m high, up to 16m crown spread at maturity) require a minimum soil volume of 150m^3, soil depth of 1200mm and a soil area of 10mx10m or equivalent – Medium trees (8-12m high, up to 8m crown spread at maturity) require a minimum soil volume of 35 m^3, soil depth of 1000mm and a minimum soil area of 6mx6m or equivalent – Small trees (6-8m high, up to 4m crown spread at maturity)require a minimum soil area of 9m3, soil depth of 800mm and a minimum soil area of 3.5x3.5m or equivalent. – Shrubs require a minimum soil depth of 500-600mm – Ground cover requires a minimum soil depth of 300-400mm – Turf requires a minimum soil depth of 200mm	See comment	Generally the landscape design provided by Arcadia is compliant with the ADG. It is recommended that minimum soil depths for mature trees achieve a depth of 1200mm.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance Design guidance • Plants are suited to site conditions, considerations include: – drought and wind tolerance – seasonal changes in solar access – modified substrate depths for a diverse range of plants – plant longevity • A landscape maintenance plan is prepared Irrigation and drainage systems respond to: – changing site conditions – soil profile and the planting regime – whether rainwater, stormwater or recycled grey water is used	Yes	The use of native vegetation, especially in Friedlander Place is supported.
Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces **Design guidance** • Building design incorporates opportunities for planting on structures. Design solutions may include: – green walls with specialised lighting for indoor green walls – wall design that incorporates planting – green roofs, particularly where roofs are visible from the public domain – planter boxes Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time	Yes	The planting on structure is supported. Planting along building edges up to and including level 5 soften the interface of the proposal with Pacific Highway and Friedlander Place.
4Q Universal design **Objective 4Q-1** Universal design features are included in apartment design to promote flexible housing for all community members **Design guidance** • Developments achieve a benchmark of 20% of the total apartments incorporating the Liveable Housing Guideline's silver level universal design features.	Yes	Provision of adaptable apartments is supported (91 adaptable apartments, equates to 20% of total proposed apartments).
Objective 4Q-2 A variety of apartments with adaptable designs are provided Design guidance • Adaptable housing should be provided in accordance with the relevant council policy • Design solutions for adaptable apartments include: – convenient access to communal and public areas – high level of solar access – minimal structural change and residential amenity loss when adapted – larger car parking spaces for accessibility – parking titled separately from apartments or shared car parking arrangements	See comment	Architectus does not support the use of Apartment type U2213 and equivalent as an adaptable apartment as it does not achieve objective 4D-1. Apartment types that are to be adaptable, prior to adaption should comply with all ADG objectives.
Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs **Design guidance** • Apartment design incorporates flexible design solutions which may include:	Yes	The design of apartments to support flexible lifestyles is supported.

Apartment Design Guide (ADG)	Consistency	Comment
– rooms with multiple functions – dual master bedroom apartments with separate bathrooms – larger apartments with various living space options – open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom		
4R Adaptive reuse		
Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	N/A	N/A
Design guidance • Design solutions may include: – new elements to align with the existing building – additions that complement the existing character, siting, scale, proportion, pattern, form and detailing – use of contemporary and complementary materials, finishes, textures and colours • Additions to heritage items should be clearly identifiable from the original building • New additions allow for the interpretation and future evolution of the building		
Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse	N/A	
Design guidance • Design features should be incorporated sensitively into adapted buildings to make up for any physical limitations, to ensure residential amenity is achieved. Design solutions may include: – generously sized voids in deeper buildings – alternative apartment types when orientation is poor – using additions to expand the existing building envelope • Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas: – where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar and daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation) – alternatives to providing deep soil where less than the minimum requirement is currently available on the site – building and visual separation – subject to demonstrating alternative design approaches to achieving privacy common circulation – car parking – alternative approaches to private open space and balconies		
4S Mixed Use		
Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	Yes	The mix of uses is considered acceptable given the sites proximity to St Leonards railway station (<300m walk) and adjacent position to the Pacific Highway.

Apartment Design Guide (ADG)	Consistency	Comment
Design guidance • Mixed use development should be concentrated around public transport and centres • Mixed use developments positively contribute to the public domain. Design solutions may include: • development addresses the street – active frontages are provided – diverse activities and uses – avoiding blank walls at the ground level – live/work apartments on the ground floor level, rather than commercial		The location of retail uses is supported as it will support activation along the Pacific Highway, Friedlander Place and Nicholson Lane. The absence of blank walls (except minor section along Pacific Highway interface) is commended.
Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents **Design Guidance** • Residential circulation areas should be clearly defined. Design solutions may include: – residential entries are separated from commercial entries and directly accessible from the street – commercial service areas are separated from residential components – residential car parking and communal facilities are separated or secured – security at entries and safe pedestrian routes are provided – concealment opportunities are avoided • Landscaped communal open space should be provided at podium or roof levels	Yes	Future signage and way finding and design elements should clearly delineate the various land use entries. Clarification is requested to determine how movement between commercial and residential parking levels is controlled.
4T Awnings and signage **Objective 4T-1** Awnings are well located and complement and integrate with the building design **Design guidance** • Awnings should be located along streets with high pedestrian activity and active frontages • A number of the following design solutions are used: – continuous awnings are maintained and provided in areas with an existing pattern – height, depth, material and form complements the existing street character – protection from the sun and rain is provided – awnings are wrapped around the secondary frontages of corner sites – awnings are retractable in areas without an established pattern • Awnings should be located over building entries for building address and public domain amenity • Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure • Gutters and down pipes should be integrated and concealed • Lighting under awnings should be provided for pedestrian safety	Yes	The building entries along Pacific Highway and off Friedlander place are recessed substantially – providing reasonable protection to these entry points during adverse weather. The design of awnings is well integrated into the overall form of the building. It is noted, as aforementioned at Objective 2B that the overhangs at Friedlander Place do not comply with DCP requirements.

Apartment Design Guide (ADG)	Consistency	Comment
Objective 4T-2 Signage responds to the context and desired streetscape character **Design guidance** • Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development • Legible and discrete way finding should be provided for larger developments • Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	Yes	Signage location is supported as it is well integrated and in proportion to the building.
Performance		
4U Energy efficiency **Objective 4U-1** Development incorporates passive environmental design **Design guidance** • Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) • Well located, screened outdoor areas should be provided for clothes drying	Yes	The proposed development achieves the minimum target for energy efficiency required under BASIX with a score of 20 (Pass score equates to 20). The large number of south facing apartments somewhat compromises the objective, however on balance when considered against orientation of the site and desired outlook, it is considered acceptable.
Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer **Design guidance** • A number of the following design solutions are used: – the use of smart glass or other technologies on north and west elevations – thermal mass in the floors and walls of north facing rooms is maximised – polished concrete floors, tiles or timber rather than carpet – insulated roofs, walls and floors and seals on window and door openings – overhangs and shading devices such as awnings, blinds and screens – Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)	See comment	Materials of high thermal mass help to ensure good passive solar design outcomes. Further, balcony depth generally acts as a good shading device ranging in depth from 1 – 2 metres. The large number of south facing apartments somewhat compromises the objective, however on balance when considered against orientation of the site and desired outlook, it is considered acceptable.
Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation **Design guidance** • A number of the following design solutions are used: – rooms with similar usage are grouped together – natural cross ventilation for apartments is optimised – natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible	Yes	The proposal is considered to provide an adequate degree of natural ventilation.
4V Water management and conservation **Objective 4V-1** Potable water use is minimised **Design guidance** • Water efficient fittings, appliances and wastewater reuse	Yes	The proposed development achieves the minimum target for water efficiency required under BASIX with a score of 41 (Target 40).

Apartment Design Guide (ADG)	Consistency	Comment
should be incorporated • Apartments should be individually metered • Rainwater should be collected, stored and reused on site • Drought tolerant, low water use plants should be used within landscaped areas		
Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters **Design Guidance** • Water sensitive urban design systems are designed by a suitably qualified professional • A number of the following design solutions are used: – runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation – porous and open paving materials is maximised – on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits	See comment	Stormwater Concept Plans have been submitted as part of the proposal. Stormwater detention is proposed to appropriately mitigate stormwater. The use of rainwater tanks should be clarified, and if not used, should be investigated considering the potential for reuse to irrigate the extensive landscaped areas.
Objective 4V-3 Flood management systems are integrated into site design **Design Guidance** • Detention tanks should be located under paved areas, driveways or in basement car parks • On large sites parks or open spaces are designed to provide temporary on site detention basins.	Yes	Flood management is supported as it complies with Council DCP and is integrated into the design.
4W Waste management **Objective 4W-1** Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents **Design guidance** • Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park • Waste and recycling storage areas should be well ventilated • Circulation design allows bins to be easily manoeuvred between storage and collection points • Temporary storage should be provided for large bulk items such as mattresses • A waste management plan should be prepared	See comment	Waste management plan needs to be updated to reflect the reconfiguration of the loading dock.
Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling **Design guidance** • All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste and recycling • Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core • For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses • Alternative waste disposal methods such as composting should be provided	See comment	Whilst Architectus prefers two garbage chutes for a tower of this size and density, it is acknowledged that the Applicant's waste consultant has advised the acceptable operation of the single chute system.

Apartment Design Guide (ADG)	Consistency	Comment
4X Building maintenance		
Objective 4X-1 Building design detail provides protection from weathering Design guidance • A number of the following design solutions are used: – roof overhangs to protect walls – hoods over windows and doors to protect openings – detailing horizontal edges with drip lines to avoid staining of surfaces – methods to eliminate or reduce planter box leaching – appropriate design and material selection for hostile locations	See comment	The proposal generally appears acceptable with respect to maintenance. A clear maintenance strategy/plan should be prepared to determine the areas of responsibility for each area of the building.
Objective 4X-2 Systems and access enable ease of maintenance **Design Guidance** • Window design enables cleaning from the inside of the building • Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade • Design solutions do not require external scaffolding for maintenance access • Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems • Centralised maintenance, services and storage should be provided for communal open space areas within the building	Yes	The proposal is considered to be of a manageable design in relation to cleaning and maintenance.
Objective 4X-3 Material selection reduces ongoing maintenance costs Design guidance • A number of the following design solutions are used: – sensors to control artificial lighting in common circulation and spaces – natural materials that weather well and improve with time such as face brickwork – easily cleaned surfaces that are graffiti resistant – robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	Yes	The proposal comprises substantial glazing for the residential tower, with a mix of rendered and cladded surfaces for the podium.

3.0 Conclusion and Recommendations

In its current form, the proposed development is supportable from a SEPP 65 perspective, under the condition the following matters below, where practicable are addressed:

Building setbacks

1. Levels 2, 3, 4 are non-compliant with the setback control from Friedlander Place of 4 metres. Architectus is of the view that wind amelioration can be achieved as proposed by reducing the building length. Notwithstanding, it is acknowledged the DCP allows for a building of up to 51 metres in length.

Apartment layout

2. Architectus does not support the use of apartment type U2213 and equivalent as an adaptable apartment as it does not achieve Objective 4D-1. [Objective 4Q-2).
3. The minimum width of the second bedroom in the following apartment type, U1008 and equivalent does not meet the minimum width of 3 metres. If practicable, the layout should be reconfigured to comply. [Objective 4D-3]
4. The use of reflective surfaces to achieve sunlight access and sightlines to the outside from within apartments is not supported. This comment is applies to apartment type U2213 and equivalent. Architectus recommends that the apartment layouts be reconfigured to ensure appropriate layout of bedrooms. [Objective 4A-2]
5. The doors / walls to studies in the following one bedroom apartments are to be operable and non-fully enclosable. Apartments include U404, U405, U406, U511, U512 and equivalent. [Objective 4D-1]
6. Snorkel bedroom in apartment U2213 and equivalent is to be reconfigured to ensure the outside can be viewed from any point in the room. [Objective 4D-1]
7. Where possible, kitchen in hallways are to be avoided. This comment applies to apartment type U408, U511, U512 and equivalent. [Objective 4D-1]
8. Further testing of the two storey apartment types below the ninth level is required to confirm that the proposed layout can achieve cross ventilation. [Objective 4B-3]

Balcony

9. Clarification is requested to determine privacy devices between balconies. Of particular concern is the division between the following adjacent apartment types U408/U407 and U411/U412 (and like above). The balcony dividers

should not have a detrimental visual impact on the overall building form. [Objective 3F-2]

10. The applicant should consider the reconfiguration of balconies in order to circumvent recommendations provided by Windtech (1) Wind sensor warning system (2) strata by-laws that prohibit light furniture on corner balconies. Wind screening on balconies may take the form of those stipulated with the City for Sydney DCP (4.2.3.13 Wind affected balconies), which provides current best practice guidelines for provision of wind screening to high rise balconies. [Objective 4E-1]
11. The treatment of the untrafficable section of balcony in the south-east corner of the site is to be provided. This should include any balustrade type and ground treatment of this section. Treatment should take into consideration the useability of balconies and the ongoing maintenance and cleaning of these areas [SEPP 65 Principle 9]

Waste Management

12. Waste management plan needs to be updated to reflect the reconfiguration of the loading dock and to ensure the location of the loading dock meets requirements of Council's collection vehicle.

Safety

13. Safety of the following pedestrian route is noted. There appears to be opportunity for concealment between the Spiral stair and building at Nicholson Lane level.
14. It is recommended that walls between communal open spaces (including the gym, pool, children's play and open space) and common areas be of full floor to ceiling glass to allow for surveillance and openness of these spaces. [Objective 3D-3]
15. It is recommended a special driveway treatment be applied where pedestrians will be crossing the driveway to ensure cars slow down and note the potential pedestrian movement [Objective 3H-3].

Landscape

16. The soil depth for mature tree plantings along Pacific Highway are to be at least 1200mm deep to ensure viable planting space for these species [Objective 4P-1].
17. Architectus recommends that Council seek advice from the Roads and Maritime Services (RMS) to determine the impacts of the proposed mature trees (platanus acerifolia) on the Pacific Highway. [Objective 40-2]
18. Clarification is requested regarding the management plan for vegetation along the narrow western and southern edge of the building at ground level. [Objective 40-1]

Accessibility

19. Consideration should be given to a diversity of adaptable apartment types, which should include one-bedroom apartments [SEPP 65 Principle 8].
20. The location of accessible parking on Basement Levels 2 to 7 appears to result in a convoluted path of travel to lifts. These spaces should be located as close as possible to lifts. [Objective 3J-3]

Additional information

21. Photomontages depicting the proposed development from Nicholson Lane are requested.
22. Details on loading dock and the moving of goods from the dock to retail tenancies should be provided to safe movement of goods and persons through the building.

Clarification is requested on the methods of access control between commercial and residential components of the car park [Objective 4S-2]