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1.0 Introduction

1.1 Preliminary

This document is a comprehensive SEPP 65 assessment of the proposed mixed use development at 472 – 486 Pacific Highway, St Leonards.

1.2 Authorship

This report has been prepared by Camille Lattouf, Senior Urban Planner and Matt Kelly, Graduate Urban Planner and Architectural Graduate, and Michael Harrison, Director of Urban Design and Planning has provided Quality Assurance.

1.3 Site context

The site is located at 472 & 486 Pacific Highway, St Leonards on the southern side of the Pacific Highway, with sweeping views towards the CBD and harbour. The area is undergoing transition from an older commercial precinct into a mixed used centre of greater density. The site is in close proximity to St Leonards train station (400 metres to the east).

1.4 The proposal

The proposal is for 535 apartments located in two towers that rise from a podium containing retail and commercial uses.

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 Flat Development (SEPP 65) Design Principles and the guidelines of the NSW Residential Flat Design Code that applied at the time of the Development Application lodgement. However, given since the lodgement of this application, the Apartment Design Guide (ADG) has been implemented; this has also been taken into consideration as current best practice.

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 can be defined as the key natural land and built features of an area. Responding to context involves identifying the desirable elements of a location's current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will thereby contribute to the quality and identity of the area.	Yes	The proposed development is contextually appropriate, with a design that is responsive to the desired future character of St Leonards, which is to support renewal of the centre through development of high density mixed use development.
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 build 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 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", Sergeants Lane, St Leonards) in height. The built form, consisting of two separated residential towers rising above a shared podium, maximises outlook from apartments toward desirable views, including to Sydney CBD and Harbour, and provides a good degree of internal residential amenity for future occupants. Further, despite the non-compliance with the maximum recommended tower floor plats of 840 sqm (as per the site specific DCP controls), the towers appear to be tall and slender, partly a result of their triangular form. This results in overshadowing impacts that are brief, and the opening up of southward views though the site between the towers.
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.	Yes	The proposed density is generally consistent with that envisaged for the site and locality based on the maximum FSR and built form controls. A total of 535 apartments are proposed, with a mix of studio, one, two, and three bedroom apartments. The mix of apartments is considered acceptable in relation to the household structure and population demand for St Leonards.

SEPP 65 Design Principle	Consistency	Comments
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 subject application will be subject to SEPP BASIX. Compliance with BASIX will ensure the achievement of targets for water and energy efficiency and thermal comfort. The proposal provides a good degree of sustainability, achieving good natural ventilation and daylight access to apartments. Overall, the development is considered to achieve an appropriate degree of sustainability.
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 development 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 management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.	Yes	The separation between the two towers, coupled with their triangular form provides a generous public plaza which maintains sight lines along Mitchell street. Effective landscaping in the form of multiple raised garden beds in the plaza and on the podium, mature trees and sculptural features improve on existing environmental features on the site. The Friedlander place transformation, coupled with the public plaza will provide substantial public space that supports useability, social interaction and enhances the existing Pacific Highway streetscape.
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 services areas, and ease of access for all age groups and degrees of mobility.	Yes	The proposed towers have a high level of residential amenity. In general apartment layouts foster strong interaction with the outdoors and frame interesting views. The triangular form of the two towers coupled with interesting façade articulation and materiality provides high visual amenity on site. Operable screens on balconies directly opposite one another enable residents to control the extent of privacy. However, it is imperative that corridors achieve a high amenity by having outlook to the exterior and for daylight. Regarding efficient layouts, where practical kitchens in corridors should be avoided.
Principle 7: Safety Good design optimises safety and security, within the development and 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	The proposal will provide a high level of safety and security. Commercial and residential floors overlook public and communal open spaces. The proposed towers have two frontages to the public plaza and provide excellent causal surveillance of the public domain. All access points to residential areas require security access.

SEPP 65 Design Principle	Consistency	Comments																		
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 y 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.	Yes	The proposal provides a good variety in residential accommodation, with a mix of studio, one, two and three bedroom apartments. The dwelling type is considered appropriate for the current and future household structure of St Leonards. <table border="1"> <thead> <tr> <th>Apartment Type</th><th>Number</th><th>%</th></tr> </thead> <tbody> <tr> <td>Studio</td><td>41</td><td>8%</td></tr> <tr> <td>1 bed</td><td>108</td><td>20%</td></tr> <tr> <td>2 bed</td><td>324</td><td>60%</td></tr> <tr> <td>3 bed + Penthouses</td><td>66</td><td>12%</td></tr> <tr> <td>Total</td><td>539</td><td>100%</td></tr> </tbody> </table>	Apartment Type	Number	%	Studio	41	8%	1 bed	108	20%	2 bed	324	60%	3 bed + Penthouses	66	12%	Total	539	100%
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Principle 9: Aesthetics Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.	Yes	Facades facing the Pacific highway and central plaza are of high aesthetic quality. The landscape design in both the plaza and on the podium level will contribute to overall design variety and interest. The provision of public space when coupled with the transformed Friedlander place will create an attractive and desirable public area. The final product will substantially improve the existing amenity on site. Building lobbies both in form and materiality will foster positive resident and visitor experience.																		

Table 2 Residential Flat Design Code assessment

Residential Flat Design Code	Consistency	Comment
Local context: Primary development controls		
Building height - To ensure future development responds to the desired scale and character of the street and local area. - To allow reasonable daylight access to all developments and the public domain.	Yes	The proposed development exceeds the maximum RL height of 180.46 metres permissible under the Lane Cove LEP 2009 by 240mm in Tower 1, an exceedance that is considered negligible. The tower heights align with the future vision of St Leonards and their unique triangular form and building separation ensures high amenity for building residents and users of the public domain.
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.	Yes	The maximum building depth is approximately 55 metres, generating a long north-south elevation. Whilst this is a significant exceedance of the RFDC rule of thumb, it is considered acceptable due to the triangular form of each tower (building depth ranging from 5 to 55 metres in depth).
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; and 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; and 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; and 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.	Yes	The separation distance (balcony glass line to balcony glass line) of plaza facing apartments on levels 9-13 do not achieve the recommended 24 metres separation distance defined by RFDC design controls. However, it is considered that operable louvered screens specified in the revised architectural drawings enable residents to achieve a good degree of privacy. On levels 9-13, the distance between the glass line of internal facing apartments is 22 metres.

Residential Flat Design Code	Consistency	Comment
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.	Yes	Setbacks to both the Pacific Highway and Nicholson Street comply with the DCP (Part D, 2015).
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.	Yes	Whilst building setbacks don't comply with controls, the divergences ensure the overall building creates spaces of high amenity for residents and users of the site and adjacent areas. <i>Setback to Pacific Highway:</i> The Pacific Highway setback is supported. The proposed development aligns with the site frontage alignment to the Pacific Highway and provides a good degree of activation. <i>Setback to Nicholson Street:</i> Nil setback to Nicholson street is considered acceptable due to the high aesthetic amenity of the façade and replacement of existing trees with mature natives. <i>Setback to 460 Pacific Highway:</i> Zero setback to the height of the proposed podium. This is considered acceptable as this interface is between windowless rooms/walls. Whilst there is a 685mm incursion into the 7m setback zone, the setback is considered acceptable as the adjacent site at 470 Pacific Highway is currently used as commercial office space and is zoned B3 commercial core. Subject to site rezoning, it is considered that residential development on this site can achieve required building separation. <i>Setback – Tower 2 to Friedlander Place:</i> The 20m setback control is considered unreasonable considering the high amenity and visual connection between the plaza on the subject site and the future transformed Friedlander place. The northern corner of Tower 2 is set back from the Pacific Highway, enabling increased physical connection between the two public realms.
Part 2: Site Design		
Site analysis - Development proposals need to illustrate design decisions, which are based on careful analysis of the site conditions and their relationship to the surrounding context. By describing the physical elements of the locality and the conditions impacting on the site, opportunities and constraints for future residential flat development can be understood and addressed in the design. - A written statement explaining how the design of the proposed development has responded to the site analysis must accompany the development application.	Yes	The division of the site into two triangular towers allows for view corridors from neighbouring sites, maximises the amount of natural light penetration into the central public plaza, in addition to minimising overshadowing impacts, particularly to the south. The central public plaza, when coupled with the completed Friedlander place transformation will create a much needed quality public realm in St Leonards. The site planning, responsiveness to context and the tower's configuration are excellently addressed.

Residential Flat Design Code	Consistency	Comment
Site configuration: deep soil zones - Optimise the provision of consolidated deep soil zones within a site. - Optimise the extent of deep soil zones beyond the site boundaries by locating them contiguous with the deep soil zones of adjacent properties. - Promote landscape health by supporting for a rich variety of vegetation type and size. - Increase the permeability of paved areas by limiting the area of paving and/or using pervious paving materials. - A minimum of 25% of the open space area of a site should be a deep soil zone; more is desirable. Exceptions may be made in urban areas where sites are built out and there is no capacity for water infiltration. In these instances, stormwater treatment measures must be integrated with the design of the residential flat building.	Yes	In such a dense urban environment, achieving deep soil requirements is unviable, and unnecessary. The proposal, whilst not having any deep soil zones, has substantial on structure plantings are an excellent publically accessible plaza faced with active frontages which compensate for the lack of deep soil. The interface of the site with both the Pacific Highway and Nicholson street is softened by the addition of multiple mature native trees. The public plaza and the communal open space on the podium level has a range of vegetation types of varying heights.
Site configuration: fences and walls - Respond to the identified architectural character for the street and/or the area; contribute to the amenity, beauty and useability of private and communal open spaces and retain and enhance the amenity of the public domain. - Clearly delineate the private and public domain without compromising safety and security. - Select durable materials, which are easily cleaned and graffiti resistant.	Yes	These criteria are generally not applicable to the site, given the high density location. Note that, the combination of 2.0m high wind screens and lush native and exotic planting clearly delineates between the commercial uses of Level 2 and the public plaza at ground level with the communal resident courtyard on level 2.
Site configuration: landscape design - Improve the amenity of open space with landscape design which provides appropriate shade from trees or structures, accessible routes through the space, screening, allows for locating artworks. Contribute to streetscape character and the amenity of the public domain. - Improve the energy efficiency and solar efficiency of dwellings and the microclimate of private open spaces. - Design landscape that contributes to the site's particular and positive characteristics. - Contribute to water and stormwater efficiency by integrating landscape design with water and stormwater management. - Provide sufficient depth of soil above paving slabs to enable growth of mature trees. - Minimise maintenance by using robust landscape elements.	Yes	The form of the plaza at ground level offers an inviting space for visitors and residents whilst creating a positive interface with the Pacific Highway and Friedlander Place. The separation of the two towers ensures good solar access into the plaza and residents court yard on level 2. Landscape design in the public plaza and level 2 courtyard is characterised by native forms, substantial planting and sculptural features, providing opportunity for shade and shelter. Landscape plans indicate that on structure planting boxes are of sufficient depth to support the growth of mature trees.

Residential Flat Design Code	Consistency	Comment
Site configuration: open space - Provide communal open space that is appropriate and relevant to the context and the building's setting. - Where communal open space is provided, facilitate its use for the desired range of activities. - Provide private open space for each apartment capable of enhancing residential amenity. - Locate open space to increase the potential for residential amenity. - Provide environmental benefits including habitat for native fauna, native vegetation and mature trees, a pleasant microclimate, rainwater percolation and outdoor drying area. - The area of communal open space required should generally be at least between 25 and 30% of the site area. Larger sites and brownfield sites may have potential for more than 30%. - Where developments are unable to achieve the recommended communal open space, such as those in dense urban areas, they must demonstrate that residential amenity is provided in the form of increased private open space and/or in a contribution to public open space. - The minimum recommended area of private open space for each apartment at ground level or similar space on a structure, such as on a podium or car park, is 25m², the minimum preferred dimension in one direction is 4.0m.	See comment	The dedication of the podium courtyard to communal open space (revised architectural plans, January 2015), in addition to the 'sky garden' (Level 14, Tower 1), enables the development to achieve approximately 20% of total site area as communal open space. While this is below the 25-30% RFDC control, the combined open space area of the plaza and Friedlander place (ground level) provides for a range of uses, and together exceeds the requirements. Furthermore, the desirable southern outlook towards Sydney Harbour and the high aesthetic quality of internal facing facades helps to offset reduced communal open space provision. Landscape plans indicate both communal and public open space areas to provide high amenity through diversity of plantings, opportunities to relax and socialise. Opportunities for active recreation are provided by the lap pool ('Sky garden' Level 14, Tower 1) and artificial turf space (podium courtyard). Whilst an additional access to the podium level courtyard has been provided in the form of a spiral stair case (Tower 1), it remains a desirable objective that direct access from Tower 2 to the podium courtyard is achieved.
Site configuration: orientation - Plan the site to optimise solar access by positioning and orienting buildings to maximise north facing walls, providing adequate building separation within the development and to adjacent buildings. - Select building types or layouts which respond to the streetscape while optimising solar access. - Optimise solar access to living spaces and associated private open spaces by orienting them to the north. - Detail building elements to modify environmental conditions, as required, to maximise sun access in winter and sun shading in summer.	Yes	The orientation of the building and its form, achieve a balance between solar access and outlook for apartments, while preserving existing sight lines along Mitchell Street and minimising overshadowing impacts.
Site configuration: planting on structures - Design for optimum conditions for plant growth by providing soil depth, soil volume and soil area appropriate to the size of the plants to be established etc. - Design planters to support the appropriate soil depth and plant selection. Increase minimum soil depths in accordance with the mix of plants in a planter. - In terms of soil provision there is no minimum standard that can be applied to all situations as the requirements vary with the size of plants and trees at maturity. The recommended minimum soil depth standards range from 100 – 300mm for turf to 1.3 metre large trees.	Yes	There is substantial planting on structures. Detailed cross sections in revised landscape plans (January 2016) indicate that soil depths are sufficient to support a diversity of planting sizes (up to 1200mm soil depth for mature trees).

Residential Flat Design Code	Consistency	Comment
Site configuration: stormwater management - Reduce the volume impact of stormwater on infrastructure by retaining it on site. - Optimise deep soil zones. All development must address the potential for deep soil zones. - On dense urban sites where there is no potential for deep soil zones to contribute to stormwater management, seek alternative solutions. - Protect stormwater quality by providing for sediment filters and traps etc. - Reduce the need for expensive sediment trapping techniques by controlling erosion. - Consider using grey water for site irrigation.	Yes	An on-site stormwater detention (OSD) tank has been integrated into the design (located on Level B3), that captures all building runoff up to and including the 100 year ARI. An additional rainwater tank(s) installed to capture rainwater from rooftops and will be reused for selected uses. A range of sediment and erosion mitigation measures are proposed during construction, including hay bales, silt fences, inlet filters, diversion channels, level spreaders, stabilised site access and a truck wash-down area.
Site amenity: safety - Reinforce the development boundary to strengthen the distinction between public and private space. This can be actual or symbolic. - Optimise the visibility, functionality and safety of building entrances. - Improve the opportunities for casual surveillance by orienting living areas with views over public or communal open spaces, where possible. - Minimise opportunities for concealment. - Control access to the development.	Yes	Undisrupted sight lines through the plaza, and passive surveillance provided by commercial and residential floors above ground level support safety of building entrances. SEE (August, 2015) Section 4.16 notes that a public address system and CCTV monitoring systems in strategic locations in the development will be implemented to support safe use of the building.
Site amenity: visual privacy - Locate and orient new development to maximise visual privacy between buildings on site and adjacent buildings. - Design building layouts to minimise direct overlooking of rooms and private open spaces adjacent to apartments. - Use detailed site and building design elements to increase privacy without compromising access to light and air.	Yes	The separation distance (balcony glass line to balcony glass line) of plaza facing apartments on levels 9-13 do not achieve the recommended 24 metres separation distance defined by RFDC design controls. The proposed separation distance is 22 metres. However, it is considered that operable louvered screens specified in the revised architectural drawings enable residents to achieve a good degree of privacy.
Site access: building entry - Improve the presentation of the development to the street (ie. designing the entry as a clearly identifiable element of the building in the street, ground floor apartment entries where it is desirable to activate the street edge or reinforce a rhythm of entries along a street). - Provide as direct a physical and visual connection as possible between the street and the entry. - Achieve clear lines of transition between the public street, the shared private, circulation spaces and the apartment unit. - Ensure equal access for all. Provide safe and secure access. - Generally provide separate entries from the street for pedestrians and cars and different uses. - Design entries and associated circulation space of an adequate size to allow movement of furniture between public and private spaces. - Provide and design mailboxes to be convenient for residents and not to clutter the appearance of the development from the street.	Yes	Entries to commercial and residential lobbies achieve good levels of causal surveillance, and their design, location and accompanying signage help to define function. The commercial entry to Tower 1 is clearly defined on the Pacific Highway, and the residential entry lobbies are clearly accessible from the plaza. Access to residential areas is controlled by secure strike key doors. Disabled access in car park levels is promoted via a defined walkway from disabled spaces to the lift lobby via a secure doorway with DDA compliant access. Lobbies are generous in provision and mailboxes are contained in an internal room that is conveniently located and discrete.

Residential Flat Design Code	Consistency	Comment
Site access: parking - Determine the appropriate car parking space requirements in relation to proximity to public transport, shopping and recreational facilities, density etc. - Limit the number of visitor parking spaces, particularly in small developments. - Give preference to underground parking, whenever possible. - Where above ground enclosed parking cannot be avoided, ensure the design of the development mitigates any negative impact on streetscape and amenity. - Provide bicycle parking, which is easily accessible from ground level and from apartments.	See comment.	The car parking rates proposed, as recommended by Calibre Consulting (Traffic and Parking Assessment, August 2015), despite not complying with the minimum car parking rates under the DCP, are supported given the site's good proximity to public transport and the proposed adherences to sustainability principles of reduced car dependence and ownership. The DCP requires a total of 724 car spaces (comprised of 530 residential) and Calibre consulting recommends 681 (comprised of 487 residential), and the revised provision is 672 spaces. The location and capacity of bicycle parking is excellently addressed. It is recommended glazing be provided to allow for a visual connection between Nicholson Street and the bicycle parking where possible.
Site access: pedestrian access - Utilise the site and its planning to optimise accessibility to the development. - Promote equity by ensuring the main building entrance is accessible for all from the street and from car parking areas. - Design ground floor apartments to be accessible from the street, where applicable, and to their associated private open space. - Maximise the number of accessible, visitable and adaptable apartments in a building. Australian Standards are only a minimum. - Separate and clearly distinguish between pedestrian access ways and vehicle access ways. - Follow the accessibility standard set out in Australian Standard AS 1428 (Parts 1 and 2), as a minimum. - Provide barrier free access to at least 20% dwellings in the development.	Yes	The public plaza and future proposed Friedlander place are at grade, offering equitable access from Pacific Highway footpaths to building entries. Access from the Pacific Highway is dedicated to pedestrian traffic. Multiple lift cores provide access to all levels of the development. There are dedicated lift cores for residential, commercial, goods and retail uses. All vehicular access to the building is located off Nicholson Street, with adequate sight lines to ensure pedestrian safety. Potential for transport conflict in car parks is managed with designated painted pathways for wheel chair access. Lift cores are generally located to provide direct paths of travel for residents and visitors. All proposed apartments have barrier free access.
Site access: vehicle access - Generally limit the width of driveways to six metres. - Locate vehicle entries away from main pedestrian entries and on secondary frontages.	Yes	All vehicular access is located on Nicholson Street, enabling unobstructed pedestrian entry from Friedlander place and the Pacific Highway. Three vehicle entry points is considered excessive. There should be one car park entry/exit and one loading dock entry/exit. It is therefore recommended that the number of driveways be reduced from three to two.

Part 3: Building Design

Residential Flat Design Code	Consistency	Comment
Building configuration: apartment layout - Determine appropriate apartment sizes in relation to geographic location and market demands, the spatial configuration of an apartment, not just its plan, and its affordability. - Ensure apartment layouts are resilient over time. - Design apartment layouts, which respond to the natural and built environments and optimise site opportunities by providing private open space, orienting main living spaces toward the primary outlook, etc. - Avoid locating the kitchen as part of the main circulation space of an apartment, such as a hallway or entry space. - Ensure apartment layouts and dimensions facilitate furniture removal and placement. - Comparative unit sizes: internal area (external area): - Studio 38.5m² (6m²) 1br cross-through 50m² (8m²) 1br loft 62m² (9.4m²) 1br single-aspect 63.4m² (10m²) 2b corner 80m² (11m²) 2br cross-through 89m² (21m²) 2br cross-over 90m² (16m²) 2br corner with study 121m² (33m²) 3br 124m² (24m²) - The back of a kitchen should be no more than 8.0m from a window. - Buildings not meeting the minimum standards listed above, must demonstrate how satisfactory day lighting and natural ventilation can be achieved, particularly in relation to habitable rooms. - Minimum apartment sizes that do not exclude affordable housing are: 1 bedroom apartment 50m² 2 bedroom apartment 70m² 3 bedroom apartment 95m²	See comment	The use of corridors for kitchen space is not supported. Where practical, Architectus recommends the reconfiguration of apartment layouts, to remove the kitchen from the main corridor for the following apartments: Tower 1: Unit type 09A, 10A Tower 2: Unit type, 09B, 10B Apartment sizes meet minimum RFDC standards for apartment sizes and all main living spaces are orientated to the primary outlook.
Building configuration: apartment mix - Provide a variety of apartment types. - Refine the appropriate apartment mix for a location by: - Considering population trends. - Noting the apartment's location in relation to public transport, public facilities, etc. - Locate a mix of apartments on the ground level. - Optimise the number of accessible and adaptable apartments. - Investigate the possibility of flexible apartment configurations.	Yes	A mix of studio, one, two, and three 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 107 adaptable apartments, equating to 20% of dwellings, is provided.

Residential Flat Design Code	Consistency	Comment
Building configuration: balconies • Provide at least 1 primary balcony. • Primary balconies should be located adjacent to the main living areas, sufficiently large and well proportioned to be functional and promote indoor/outdoor living. • Design and detail balconies in response to the local climate and context. • Design balustrades to allow views and casual surveillance of the street while providing for safety and visual privacy. • Coordinate and integrate building services, such as drainage pipes, with overall facade and balcony design. • Consider supplying a tap and gas point on primary balconies. • Provide primary balconies for all apartments with a min. depth of 2.0m.	Yes	All apartments have a primary balcony adjacent to the main living area. As aforementioned, whilst some balcony sizes are below minimum RFDC controls, it is considered acceptable considering the provision of communal open space on the podium, the 'sky garden' (level 14, Tower 1) and practical public realm encompassing the public plaza and Friedlander place.
Building configuration: ceiling heights • Design better quality spaces in apartments by using ceilings to define a spatial hierarchy between areas of an apartment using double height spaces, raked ceilings, changes in ceiling heights and/or the location of bulkheads, maximise heights in habitable rooms by stacking wet areas from floor to floor, promote the use of ceiling fans. • Facilitate better access to natural light by using ceiling heights which promote the use of taller windows, highlight windows and fan lights and light shelves. • Recommended minimum floor to ceiling heights: – 2.7m for all habitable rooms on all floors; and – 2.4m is the preferred minimum for all non-habitable rooms, however, 2.25m is permitted.	Yes	All units have 2.7m floor to ceiling heights.
Building configuration: flexibility • Provide apartment layouts, which accommodate the changing use of rooms. • Utilise structural systems, which support a degree of future change in building use or configuration. • Promote accessibility and adaptability by ensuring the number of accessible and visitable apartments is optimised and adequate pedestrian mobility and access is provided.	Yes	20 per cent of apartments are adaptable.
Building configuration: ground floor apartments • Optimise the number of ground floor apartments with separate entries and consider requiring an appropriate percentage of accessible units. This relates to the desire streetscape and topography of the site. • Provide ground floor apartments with access to private open space, preferable as a terrace or garden.	NA	

Residential Flat Design Code	Consistency	Comment
Building configuration: internal circulation • Increase amenity and safety in circulation spaces by providing generous corridor widths and ceiling heights, appropriate levels of lighting, including the use of natural daylight, minimising corridor lengths, providing adequate ventilation. • Support better apartment building layouts by designing buildings with multiple cores which increase the number of entries along a street and the number of vertical circulation points, give more articulation to the facade, limiting the number of units off a circulation core on a single level. • Articulate longer corridors. • Minimise maintenance and maintain durability by using robust materials in common circulation areas. • In general, where units are arranged off a double-loaded corridor, the number of units accessible from a single core/corridor should be limited to 8. Exceptions may be allowed.	See comment	It is important that the applicant ensures corridors achieve a high degree of amenity by providing outlook and daylight to all residential common corridors, particularly given access to more than 8 apartments is provided from the cores. For example, reconfiguration of A/C plant rooms and entry points to corner apartments (northern and southern corners of Tower 1 & 2) are proposed as methods to achieve natural daylight in corridors.
Building configuration: mixed use • Choose a mix that complements and reinforces the character, economics and function of the local area. • Chose a compatible mix of uses, for example, food retail, small-scale commercial and residential is a better mix than car repair and residential. • Consider building depth and form a relation to each use's requirements for servicing and amenity. The compatibility of various uses can be addressed by utilising flexible building layouts, which promotes variable tenancies or uses, optimal floor to ceiling heights, optimal building depths, extra care where larger footprint commercial spaces (cinemas, supermarkets, department stores) are integrated with residential uses. • Design legible circulation, which ensure the safety of users by isolating commercial service requirements such as loading docks, from residential servicing areas and primary outlook, locating clearly demarcated commercial and residential vertical access points, providing security entries to all private areas including car parks and internal courtyards and providing safe pedestrian routes through the site where required. • Ensure the building positively contributes to the public domain and streetscape by fronting onto major streets with active uses and avoiding the use of blank walls at ground level. • Address acoustic requirements for each use by separating residential uses from ground floor leisure or retail use by utilising an intermediate quiet-use barrier, such as offices and design for acoustic privacy from the beginning of the project to ensure that future services do not cause acoustic problems later. • Recognising the ownership/lease patterns and separating requirements for BCA considerations.	See comment	It is considered that an appropriate mix of compatible uses has been achieved. The ground level of both towers is comprised of retail uses, with commercial occupying level 1 of tower 2 and levels 1-4 of tower 1. Residential apartments rise above the commercial uses. Proposed retail is considered appropriate to serve the needs of the resident population and St Leonard's expanding population. Acoustic requirements are addressed by the commercial uses, acting as a 'quiet use barrier' between the retail and residential levels. Legibility of circulation appears to be well addressed. However, as discussed elsewhere in the report (Site access: Vehicle access), the reduction of entry/exits from three to two will alter the internal layout of retail, commercial and residential parking. Active uses, comprising a range of retail uses and a supermarket ensure engagement of pedestrians at ground level. The active uses respond positively to Friedlander place, the public plaza and the Pacific Highway. If structurally permissible, it is recommended that the columns along the Pacific Highway be removed or reduced to allow for greater visual connection between the Highway frontage and the ground floor uses.

Residential Flat Design Code	Consistency	Comment
Building configuration: storage • Locate storage conveniently for apartments. Options include providing at least 50% of the required storage within each apartment, dedicated storage rooms on each floor, providing dedicated and/or leasable secure storage in internal or basement car parks. • Where basement storage is provided ensure that it does not compromise natural ventilation in car parks or create potential conflicts with fire regulations, exclude it from FSR calculations. • Provide accessible storage facilities at the following rates: – Studio apartments 6m³ – 1 bedroom apartments 6m³ – 2 bedroom apartments 8m³ – 3 plus bedroom apartments 10m³.	Yes	Basement storage is to be provided as a secure screened cage for each proposed apartment.
Building amenity: acoustic privacy • Utilise the site and building layout to maximise the potential for acoustic privacy by providing adequate building separation within the development and from neighbouring buildings. • Arrange apartments within a development to minimise noise transition between flats. • Design the internal apartment layout to separate noisier spaces from quieter. • Resolve conflicts between noise, outlook and views by using double glazing, operable screened balconies, and continuous walls to ground level courtyards where they do not conflict with streetscape. • Reduce noise transmission from common corridors or outside the building by providing seals at entry doors.	Yes	Acoustic Logic note that the substitution of the child care centre and outdoor play area for commercial floor space and resident's communal outdoor space has resulted in improved acoustic outcomes. Furthermore it is outlined that there is no issue of noise transmittance between the A/C plant rooms and adjacent apartments.

Residential Flat Design Code	Consistency	Comment
Building amenity: daylight access - Plan the site so that new residential flat development is oriented to optimise northern aspect. - Ensure direct daylight access to communal open space between March and September and provide appropriate shading in summer. - Optimise the number of apartments receiving daylight access to habitable rooms and principal windows. - Design for shading and glare control, particularly in summer using shading devices, colonnades, balconies, pergolas, external louvres and planting, optimising the number of north-facing living spaces, providing external horizontal shading to north-facing windows, providing vertical shading to east or west windows, using high performance glass but minimising external glare, use a glass reflectance below 20%. - Prohibit the use of light wells as the primary source of daylight in habitable rooms. - Living rooms and private open spaces for at least 70% of apartments in a development should receive a minimum of 3 hours direct sunlight between 9.00am and 3.00pm in mid winter. In dense urban areas a minimum of 2 hours may be acceptable. - Limit the number of single-aspect apartments with a southerly aspect (SW-SE) to a maximum of 10% of the total units proposed. Developments which seek to vary from the minimum standards must demonstrate how site constraints and orientation prohibit the achievement of these standards and how energy efficiency is addressed.	See comment	The achievement of solar access is considered satisfactory for this proposal, despite achieving 2 hours of solar access to only 52.7% of apartments (factoring in the potential future Charter Hall development to the north) between 8 am and 4 pm in mid-winter, given that: a) In such dense urban environments, where FSRs exceed 6:1, full compliance with the RFDC and 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 b) The proportion of south facing single aspect dwellings, being 8.3% is less than the 10% recommended by the RFDC, and considerably below the ADG rule of thumb of 15%. c) The majority of apartments not achieving the minimum 2 hours of solar access generally face south east or south west, which have highly desirable views toward Sydney CBD and Harbour. This is considered a more desirable and visually interesting, providing an alternative to direct solar access compliance for these apartments. d) The façade treatment to the living areas of south-east and south-west facing apartments is floor to ceiling glazing which provides maximum daylight exposure. e) Views to the south east and south west of the site are unlikely to be significantly impeded in the longer term due to the fall of topography away from the sites ridgeline position f) Solar access achieved between 8am to 4pm is considered a reasonable measure for development in a dense environment Highly preferable that internal blinds are installed in northern and western facing apartments as part of the build to achieve desired thermal performance and comfort, as well as integrating visual appearance externally.

Residential Flat Design Code	Consistency	Comment
Building amenity: natural ventilation - Plan the site to promote and guide natural breezes. - Utilise the building layout and section to increase the potential for natural ventilation. Design solutions include facilitating cross ventilation etc. - Design the internal apartment layout to promote natural ventilation. - Select doors and operable windows to maximise natural ventilation opportunities established by the apartment layout. - Coordinate design for natural ventilation with passive solar design techniques. - Explore innovative technologies to naturally ventilate internal building areas or rooms – such as bathrooms, laundries and underground car parks. - Building depths, which support natural ventilation typically, range from 10 to 18m. 60% of residential units should be naturally cross ventilated and 25% of kitchens within a development should have access to natural ventilation. - Developments which seek to vary from the minimum standards must demonstrate how natural ventilation can be satisfactorily achieved, particularly in relation to habitable rooms.	Yes	As an Architectus rule of thumb, where apartments are wider than they are deep and/or apartments are well laid out to capture prevailing breezes, natural ventilation requirements are achieved. Further, the proposal consists of a high proportion of corner apartments that achieve good cross ventilation. In addition, as approximately 89% of proposed apartments are located at a height of 10 storeys or greater, according to the ADG (Objective 4B-3) they are deemed to be cross ventilated.
Building form: awnings and signage Awnings – - Encourage pedestrian activity on streets by providing awnings to retail strips, where appropriate, which give continuous cover in areas which have a desired pattern of continuous awnings, complement the height, depth and form of the desired character or existing patterns of awnings and providing all weather protection. - Awnings should contribute to the legibility of the residential flat development and the amenity of the public domain by being located over building entries. - Enhance the safety for pedestrians by providing under awning lighting. - Signage – - Signage should be integrated with the design of the development by responding to scale, proportions and architectural detailing. - Signage should provide clear and legible way-finding for residents and visitors.	See comment	Awnings are appropriately provided. However, columns under awnings are not supported along the Pacific Highway and the plaza because they block the shop fronts.

Residential Flat Design Code	Consistency	Comment
Building form: facades - Consider the relationship between the whole building form and the facade and/or building elements. The number and distribution of elements across a facade determine simplicity or complexity. Columns, beams, floor slabs, balconies, window openings and fenestrations, doors, balustrades, roof forms and parapets are elements, which can be revealed or concealed and organised into simple or complex patterns. - Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use and the desired contextual character. - Design facades to reflect the orientation of the site using elements such as sun shading, light shelves and bay windows as environmental controls, depending on the facade orientation. - Express important corners by giving visual prominence to parts of the facade, for example, a change in building articulation, material or colour, roof expression or increased height. - Coordinate and integrate building services, such as drainage pipes, with overall facade and balcony design. - Coordinate security grills/screens, ventilation louvres and car park entry doors with the overall facade design.	See comment	Architectus considers it preferable to have external shading devices on the north east (Tower 1) and south west facades (Tower 2) however the applicant has provided documentation demonstrating adequate thermal comfort in apartments. For façade design consistency, it is recommended a standard blind colour and style be required for all apartments. In addition, a glass façade to the bicycle storage area (Basement Level B4) and installation of street art is recommended to improve pedestrian amenity along Nicholson Street.
Building form: roof design - Relate roof design to the desired built form. Some design solutions include: - Articulating the roof, using a similar roof pitch or material to adjacent buildings, using special roof features, which relate to the desired character of an area, to express important corners etc. - Design the roof to relate to the size and scale of the building, the building elevations and three-dimensional building form. - Design roofs to respond to the orientation of the site, for example, by using eaves and skillion roofs to respond to sun access. - Minimise the visual intrusiveness of service elements by integrating them into the design of the roof. - Support the use of roofs for quality open space in denser urban areas.	Yes	Roof design complements the size and form of the building.
Building performance: energy efficiency - Incorporate passive solar design techniques to optimise heat storage in winter and heat transfer in summer. Improve the control of mechanical space heating and cooling. - Provide or plan for future installation of photovoltaic panels. Improve the efficiency of hot water systems. Reduce reliance on artificial lighting. Maximise the efficiency of household appliances.	See comment	The proposal provided for: - High efficiency lighting and air conditioning equipment - Variable speed drives (VSD) to control speed of pumps, fans and other mechanical plant "a high performance façade will limit the heat entering and leaving the buildings, reducing required plant sizes and the energy use over the year" (page 26, revised SEE) "a mixed mode approach allowing the buildings to be naturally ventilated when outdoor conditions are suitable allowing significant energy reduction by not requiring the air conditioning system to operate at all times" (page 26, revised SEE) It is considered that the proposal provides a good degree of energy efficiency measures for a development of this size.

Residential Flat Design Code	Consistency	Comment
Building performance: maintenance - Design windows to enable cleaning from inside the building, where possible. - Select manually operated systems, such as blinds, sunshades, pergolas and curtains in preference to mechanical systems. - Incorporate and integrate building maintenance systems into the design of the building form, roof and facade. - Select durable materials, which are easily cleaned and are graffiti resistant. - Select appropriate landscape elements and vegetation and provide appropriate irrigation systems. - For developments with communal open space, provide a garden maintenance and storage area, which is efficient and convenient to use and is connected to water and drainage.	See comment	The maintenance of the proposed development should be subject to an ongoing maintenance or site management plan. The plan should stipulate: - Graffiti should be removed as soon as practicable following an incident - Vandalism and damage of materials and landscaping should be repaired as soon as practicable following an incident - Landscaping should be maintained to a high standard Overall, it is considered the proposed development can be appropriately managed and the various aspects of the development maintained as required.
Building form: waste management - Incorporate existing built elements into new work and recycle and reuse demolished materials, where possible. - Specify building materials that can be reused and recycled at the end of their life. - Integrate waste management processes into all stages, of the project, including the design stage. - Support waste management during the design stage. - Prepare a waste management plan. - Locate storage areas for rubbish bins away from the front of the development where they have a significant negative impact on the streetscape, on the visual presentation of the building entry and on the amenity of residents, building users and pedestrians. - Provide every dwelling with a waste cupboard or temporary storage area of sufficient size to hold a single day's waste and to enable source separation. - Incorporate on-site composting, where possible, in self contained composting units on balconies or as part of the shared site facilities.	Yes	The first four points can be addressed as a development condition. Ample provision of off street facilities for waste storage and servicing access with the buildings' basement areas. Waste areas have been designed to facilitate the cleaning of waste receptacles so as to minimise pest activity. Residents waste is disposed of via a chute system (one located on each level). Further, a waste management plan has been developed. Commercial and retail uses will utilise private contractor services
Building form: water conservation - Use AAA rated appliances to minimise water use. - Collect, store and use rainwater on site. - Incorporate local indigenous native vegetation in landscape design. Consider grey water recycling.	Yes	The proposal provides for: "Rainwater capture and reuse and efficient water fixtures representing potable water conservation" (page 26, revised SEE)

3.0 Conclusion

Overall, the proposed development is considered supportable in light of our assessment against SEPP 65 and the RFDC. The proposal is well suited to the site and reflects Lane Cove Council's vision for St Leonards, as stipulated by the planning controls.

Notwithstanding the above, it is recommended:

1. Where the bicycle parking has an interface with Nicholson Street, the façade should be transparent glazing to provide activation to Nicholson Street and direct connection between the bicycle parking and the street (RFDC, Site Access – Parking). This can be conditioned to comply.
2. It is considered the frontage to the Pacific Highway could be enhanced by opening up the visual connection between the ground floor uses and the Highway. Should it be structurally practicable, the columns along the Highway frontage should be removed to enable the rental frontage to be opened to view (RFDC, Building Configuration – Mixed Use)
3. Internal amenity and façade appearance:
 - A condition of consent should be imposed to ensure that a consistent colour and blind type be required for all residential apartments that choose to install internal blinds. This will ensure a consistent façade design and appearance (RFDC, Building Form – Façades).
 - Kitchen in hallways should be avoided. Where practical, Architectus recommends the reconfiguration of apartment layouts, to remove the kitchen from the main corridor for the following apartments (RFDC, Building Configuration – Apartment Layout):
 - Tower 1:** Unit type 09A, 10A
 - Tower 2:** Unit type 09B, 10B
 - As residential cores will provide access to more than eight apartments, it is preferable that natural daylight and/or ventilation be provided to the corridors to enhance internal circulation area amenity (RFDC, Building Configuration – Internal Circulation).
4. The use of the podium for residential open space is considered a positive outcome for this development. Should the podium level of Tower 2 be used for multiple commercial tenancies, it is desirable that a direct access between the Tower 2 lift lobby and the residential communal open space be provided (RFDC, Site Configuration – Open Space).
5. If practicable, the number of vehicular entry points should be reduced from three to two driveways (RFDC, Site Access – Vehicular Access).

In relation to the principles of SEPP 65, and the Residential Flat Design Code, the proposed development is supportable, subject to consideration of the recommendations above. Should you wish to discuss any of the above matters further, please feel free to contact Camille Lattouf or myself on (02) 8252 8400.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Michael Harrison', followed by a period.

Michael Harrison
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Architectus Group Pty Ltd

