dwp suters

architecture + interior design

SEPP 65 Design Quality Principles

LAHC Housing
'Liverpool'
188-190 Moore Street, Liverpool, Sydney, NSW

Date 24.09.2015
Project No 202946
Issue C

Contacts

For further information or clarification of information contained within this document please contact the following:

Angus Rose – Senior Associate
Registered Architect – NSW ARB 8341
Email: a.rose@dwpsuters.com

dwp Australia Pty Ltd Registered Business Name dwp|suters
Suite 2, 19 Harris Street
Pyrmont NSW 2009
T 02 8569 5000 - F 02 8569 5001
Nominated Architect - Robert Macindoe NSW ARB 4699
www.dwpsuters.com

Control

Form:
File: 202946_A_e02_SEPP 65 Design Quality Principles_C

Issue	Description	Date	Check	Authorised
A	DA Submission Review	20.11.14	JR	JR
B	Draft DA Submission	04.02.15	JR	JR
C	Issued for DA	24.09.15	JR	AR

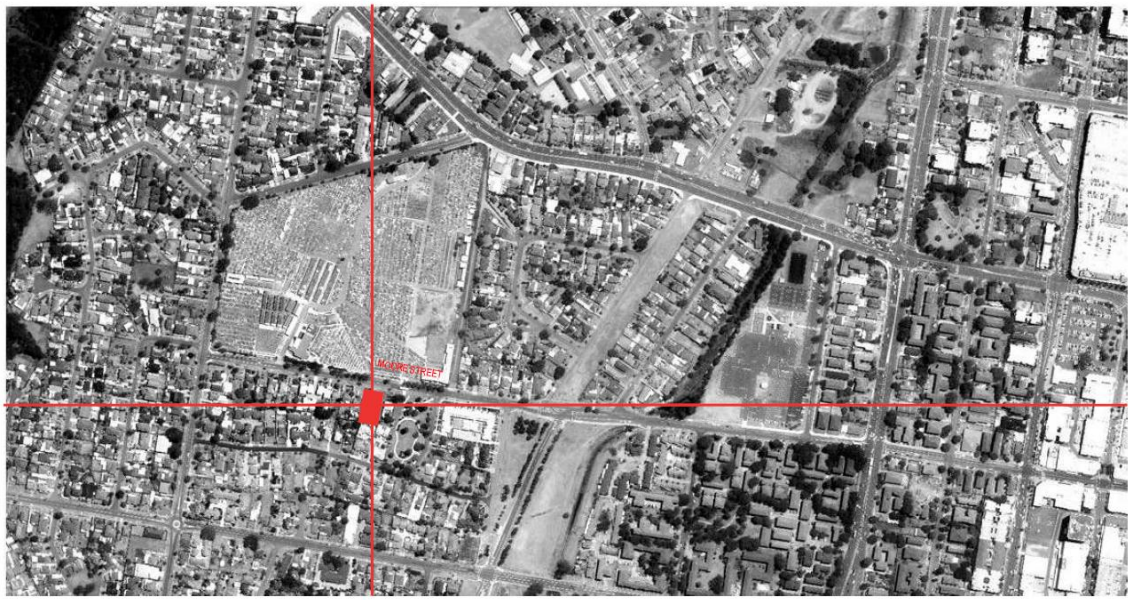
Contents

1 Introduction 1
2 SEPP 65 Compliance Analysis 1
3 SEPP 65 Design Quality Principles 13
4 Appendix A – Daylight Access Calculations 19
5 Appendix B – Communal Open Space 19
6 Appendix C – Balcony Compliance Calculations 20
7 Appendix D – Storage Calculations 21

1 Introduction

This report should be read in conjunction with the Architectural and Landscape Drawings submitted with the Development Application and Appendices included with this document. It responds to the SEPP 65 Design Quality Principles contained within the Apartment Design Guide (ADG).

Site Location – 188 – 190 Moore Street, Liverpool, Sydney, NSW



2 SEPP 65 Compliance Analysis

ITEM	GUIDELINE / CRITERIA	COMMENT
PART 1 – IDENTIFYING THE CONTEXT		
1A - Apartment Building Types	Apartment development occurs in a variety of arrangements, configurations and types. Apartments can occupy different sized lots from large redevelopment areas to small infill sites, can consist of a mix of building types or uses and be situated in suburban, transitional or inner city locations.	The development suggests a narrow infill apartment type that provides a crucifix form apartment arrangement with larger outdoor areas to ground floor apartments.
1B - Local Character and Context	Good design responds and contributes to its context. Context is everything that has a bearing on an area and comprises its key natural and built features. Context also includes social, economic and environmental factors.	The proposal responds to the surrounding context and the future character as outlined by local controls. The proposal has a double setback to Moore st providing landscape in front of the built form to break down the scale to the street. The proposal provides an affordable housing solution which compliments surrounding built scale with amenities and places of employment nearby, while also addressing future desired character for Liverpool. Site analysis plan and local context analysis provided in drawing set.

ITEM	GUIDELINE / CRITERIA	COMMENT
1C - Precincts and Individual Sites	Residential apartment developments are generally developed on individual sites or within precincts.	The site identified as Moore st is an individual site, zoned R4 high density residential for which the size, shape and orientation have been considered and used to inform the capacity and character of the proposal.
PART 2 – DEVELOPING THE CONTROLS		
2A - Primary Controls	Primary development controls are the key planning tool used to manage the scale of development so that it relates to the context and desired future character of an area and manages impacts on surrounding development.	Development controls as appropriate to the site have been used to test the planning to ensure the proposal as described herein relates to the context and future desired character of the area while ensuring the performance of the desired built form outcome is achievable.
2B - Building Envelopes	A building envelope is a three dimensional volume that defines the outermost part of a site that the building can occupy. 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.	The proposed development considers the relevant LEP & DCP controls as well as the future character of the area based on the current zoning. The envelope has been reviewed to establish the most appropriate building envelope and building form in keeping with the surroundings with an emphasis on the future context. The scale of the development is reduced by breaking down the built form with the use of solid and void and subtitle variations in materiality. Pedestrian entries into the site occur along the eastern boundary with a covered way clearly defining the entry to the site maintaining human scale and A residential character to the street frontage.
2C - Building Height	Height controls should be informed by decisions about daylight and solar access, roof design and use, wind protection, residential amenity and in response to landform and heritage.	The proposed development considers the relevant LEP & DCP controls. The Liverpool LEP 2008 outlines a maximum building height of 15m for the R4 zoning. The proposed building adheres to the overall height limit opting to maximise the yield within a 4 storey design rather than pursue a 5 storey option. This was to better address the current and future residential character of the area. The proposed building height (including all over runs) is 13.95m. The Liverpool LEP 2008 also calls for an increased side boundary setback after 10m in height from 3m to 8m. This has been observed for the majority of the built form with a marginal infraction relating to the cross section of the building form (2.7m) that occurs to the centre of the site. While the over height limit is adhered to there is a marginal infraction due to the side set back increasing to 8m above 10m from ground. This only occurs at the portion of the building set back at the

ITEM	GUIDELINE / CRITERIA	COMMENT
		centre of the site forming the crucifix arrangement at level 3. FSR
2D - Floor Space Ratio	Ensure that 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 envelope by carefully setting the allowable floor space.	The 2008 LEP outlines a maximum FSR of 1:1. An additional 0.5 increase to the FRS is allowable as per the affordable housing SEPP. Maximum FSR = 1.5:1 Proposed = 1.47:1 Setbacks and FSR are appropriate for the site and local context - with the ARHSEPP providing a bonus FSR of 0.5.
2E - Building Depth	Ensure that the bulk of the development relates to the scale of the desired future context. Ensure building depths support apartment layouts that meet the objectives, design criteria and design guidance within the Apartment Design Guide.	Maximum apartment depth is 11.5m. 100% of all units comply with allowable building depth.
2F - Building Separation	Ensure that new development is scaled to support the desired future character with appropriate massing and spaces between buildings. Assist in providing residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook. Provide suitable areas for communal open spaces, deep soil zones and landscaping.	The building has been limited in height to 4 storeys and adheres to intent of the DCP setbacks. The crucifix form of the building orientates all balconies to be outward looking with screening provided to increase privacy for both the residence of the proposed development and the neighbouring sites.
2G - Street Setbacks	Establish the desired spatial proportions of the street and define the street edge Provide space that can contribute to the landscape character of the street where desired Create a threshold by providing a clear transition between the public and private realms Assist in achieving visual privacy to apartments from the street Create good quality entries to lobbies, foyers or individual dwellings Promote passive surveillance and outlook to the street.	The proposed building has a double setback to Moore Street to emphasise the main entry and help articulate the built form while providing landscaping to the front of the site. The crucifix form of the building increases setbacks to the majority of side boundaries, minimising overshadowing of neighbouring buildings. The car park entry and exit from Moore Street has been set back to provide space for queuing and so as to not provide emphasis.
2H - Side and Rear Setbacks	Provide access to light, air and outlook for neighbouring properties and future buildings Provide for adequate privacy between neighbouring apartments Retain or create a rhythm or pattern of spaces between buildings that define and add character to the streetscape Achieve setbacks that maximise deep soil areas, retain existing landscaping and support mature vegetation	Side setbacks have been designed to provide access to light, air and outlook for neighbouring properties and future buildings and to allow zones for deep soil planting. The crucifix form of the building increases setbacks to the majority of side boundaries, minimising overshadowing of neighbouring buildings and provide

ITEM	GUIDELINE / CRITERIA	COMMENT
	consolidated across sites Manage a transition between sites or areas with different development controls such as height and land use.	increased planting zones.
PART 3 – SITING THE DEVELOPMENT		
3A - Site Analysis	Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context.	Site analysis plan is included with the Architectural Drawings submitted with the development application.
3B - Orientation	Building types and layouts respond to the streetscape and site while optimising solar access within the development. Overshadowing of neighbouring properties is minimised during mid winter.	The Proposed building is sited to clearly address the street while maximising solar access to apartments and the communal open space. The communal open space is located to the rear of the site receiving morning and afternoon sun. The Building is aligned along Moore Street running east west - facing due north which optimises solar access. Sun shading devices are provided to west facing apartments and to east facing apartments for privacy. The increased setback to the side boundaries ensures good amenity to future neighbouring developments.
3C - Public Domain Interface	Transition between private and public domain is achieved without compromising safety and security. Amenity of the public domain is retained and enhanced.	Privacy and safety is provided within the development without obstructing causal surveillance. Private outdoor spaces on the ground floor terraces include open sections of screening to allow causal surveillance, but maintain privacy. Window sill heights to driveways minimise sight lines into apartments while still providing amenity. Casual surveillance of the street is also offered by the placement of circulation corridors and balconies overlooking Moore Street. Landscaping and raised planting delineate private and public spaces. Secure entry points to the residents of the site have been clearly demarcated. Niches and areas for concealment have been minimised in the building articulation and fenestration at the ground plane. The entry into the site has been designed to provide a welcoming, generously proportioned level walkway. Separate entries are provided for pedestrians and vehicles; feature concrete and contrasting colours contribute to making the pedestrian entry from Moore Street clearly identifiable. Mailboxes have been incorporated into the

ITEM	GUIDELINE / CRITERIA	COMMENT
		Moore Street residential entry at convenient location for residents. Low level mass planting at the corner of the site to Moore Street and the central landscaped areas will aid in softening the architectural built form at the ground level - provide human scale.
3D - Communal and Public Open Space	An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping. — Communal open space has a minimum area equal to 25% of the site. — Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter). Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting. Communal open space is designed to maximise safety. Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood.	Communal and Private open spaces have been designed with consideration of the Code and surrounding context. Communal open space has been calculated as the total site area minus the ground floor built area and circulation. Communal Open Space provided is 34 percent of the total site area. A Communal Open landscaped area is provided to the rear of the site The landscaped area is populated with deep soil planting as well as raised planting. The Communal open space within the site provides additional outdoor amenity to residents. See appendix B
3E - Deep Soil Zones	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. 1. Deep soil zones are to meet the following minimum requirements as set out in Design Criteria 3E-1	18% of open space is deep soil planting. Refer to Landscape Architects drawings for details.
3F - Visual Privacy	Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy. 1. Minimum required separation distances are to be provided as set out in Design Criteria 3F-1 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.	Visual privacy has been considered via the use of setbacks and screening between adjoining apartments and properties. Typically room layouts have been designed to separate outdoor spaces from one another. Screening devices have been used to provide privacy and separation to apartments from communal access paths and corridors. Balconies and private terraces are located in front of living rooms to increase internal privacy and function. Solid brick and open metal balustrades have been proposed to help create compositional diversity. Fences and walls to Moore Street have been designed to create private open space to ground floor apartments while allowing passive surveillance of the Street

ITEM	GUIDELINE / CRITERIA	COMMENT
		and engage with the surrounding area. Planting to the ground level is used to provide screening to round level terraces. Fences to the side and rear boundary are lightweight metal providing privacy.
3G - Pedestrian Access and Entries	Building entries and pedestrian access connects to and addresses the public domain. Access, entries and pathways are accessible and easy to identify. Large sites provide pedestrian links for access to streets and connection to destinations.	Level pedestrian access is provided from Moore Street and designed to comply with AS1428.1. The Lift lobby is clearly visible from the communal open courtyard located at the entry with public circulation around the site via paths flanked by landscaping. All apartments are visitable with 8 units suited for adaption. The entry into the site has been designed to provide a welcoming, generously proportioned level walkway. Separate entries are provided for pedestrians and vehicles; feature concrete and contrasting colours contribute to making the pedestrian entry from Moore Street clearly identifiable. Mailboxes have been incorporated into the Moore Street residential entry at convenient location for residents.
3H - Vehicle Access	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	The proposed driveways have been located to the east and west of the northern address to Moore Street. Adequate separation distances are provided between the vehicular entry and street intersections. The car park entry & exit to Moore Street has been set back from the boundary to provide space for vehicle queuing. The colour and material treatment to the entry is also recessive in nature to minimise visibility from the street placing emphasis on the pedestrian entry.
3J - Bicycle and Car Parking	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas. 1. Minimum car parking requirements are to be provided based on requirements set out in Design Criteria 3J-1 Parking and facilities are provided for other modes of transport. Car park design and access is safe and secure. Visual and environmental impacts of	The car park entry and exit to Moore Street has been set back from the boundary to provide space for vehicle queuing. The colour and material treatment to the entry is also recessive in nature to minimise visibility from the street placing emphasis on the pedestrian entry. Secure undercover bicycle parking is provided within the basement car park which is easily accessible from Moore street.

ITEM	GUIDELINE / CRITERIA	COMMENT
	underground car parking are minimised. Visual and environmental impacts of on-grade car parking are minimised. Visual and environmental impacts of above ground enclosed car parking are minimised.	
PART 4 – DESIGNING THE BUILDING		
Amenity		
4A – Solar and Daylight Access	To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space. 1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas. 2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter. 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter. Daylight access is maximised where sunlight is limited. Design incorporates shading and glare control, particularly for warmer months.	The proposed development has been oriented where possible to optimise northern aspect within the constraints of the site boundaries. 74% of apartments and associated private open space achieve a full 2 hours of direct sunlight between 9am and 3pm in mid winter. The site allotment and shape limits the potential for an increase in north facing units. See appendix A
4B – Natural Ventilation	All habitable rooms are naturally ventilated. The layout and design of single aspect apartments maximises natural ventilation. The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents 1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed. 2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass	100% of apartments achieve cross ventilation. All kitchens have access to natural ventilation due to the open plan arrangement. A combination of sliding windows and large sliding doors enable the occupants to 'tune' the building to their individual needs and capture prevailing breezes.

ITEM	GUIDELINE / CRITERIA	COMMENT
	line	
4C – Ceiling Heights	Ceiling height achieves sufficient natural ventilation and daylight access. 1. Ceilings are to comply with minimum ceiling heights setout under 4C-1. Ceiling height increases the sense of space in apartments and provides for well proportioned rooms. Ceiling heights contribute to the flexibility of building use over the life of the building.	A minimum floor to ceiling height of 2.7m is provided to all living areas and habitable rooms.
4D – Apartment Size and Layout	The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity. 1. Apartments are required to have the minimum internal areas as setout under 4D-1. 2. 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. Environmental performance of the apartment is maximised. 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. Apartment layouts are designed to accommodate a variety of household activities and needs. 1. Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space). 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space). 3. Living rooms or combined living/dining rooms have a minimum width of: — 3.6m for studio and 1 bedroom apartments. — 4m for 2 and 3 bedroom apartments. 4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts.	The apartment layout has been designed to: — Provide an appropriate mix for the local market — Provide appropriate kitchen and storage facilities — Enable furniture removal and placement — Provide adequate ventilation and solar access — Provide kitchens within 8m of a window All apartments comply with minimum internal areas specified under section 4D-1. All habitable rooms have windows for which the total minimum glass area is more than 10% of the floor area of the room. All apartments comply with the habitable room depths specified under section 4D-2. Bedrooms to all apartments are compliant with minimum sizes setout under section 4D-3 and have a minimum width of 3 meters. Widths of all Living Rooms are compliant with 4D-3
4E – Private Open Space and Balconies	Apartments provide appropriately sized private open space and balconies to enhance residential amenity.	Balconies are provided to each apartment above Ground Level, accessed from the living areas. Terraces are provided to all

ITEM	GUIDELINE / CRITERIA	COMMENT
	1. All apartments are required to have primary balconies with minimum area and depth as setout under 4E-1. 2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m2 and a minimum depth of 3m. Primary private open space and balconies are appropriately located to enhance liveability for residents. Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building. Private open space and balcony design maximises safety.	ground floor apartments. Balconies are complemented by the communal open space provided at ground level and by the greater public realm amenity including a park 1 door down from the site. 100% of units comply with the minimum area to balconies. All 1 and 2 bed apartment balconies meet the minimum required depth. Screens and solid walls are used to control sunlight and wind, where required. See appendix C
4F – Common Circulation and Spaces	Common circulation spaces achieve good amenity and properly service the number of apartments. 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. Common circulation spaces promote safety and provide for social interaction between residents.	Daylight and natural ventilation is provided to all common circulation spaces. Generous circulation promotes opportunities for casual social interaction among residents. Locating common circulation spaces on the eastern and southern boundaries promote passive surveillance of the street. The compact nature of the internal circulation eliminates long corridors.
4G - Storage	Adequate, well designed storage is provided in each apartment. 1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is to be provided as setout under 4G-1. At least 50% of the required storage is to be located within the apartment. Additional storage is conveniently located, accessible and nominated for individual apartments.	Storage has been provided to each unit in accordance with the code. Over 50% of storage is provided within each apartment, with additional storage provided within the designated residential parking area. The calculations to determine storage include spaces above robes and within designated storage to living spaces. See appendix D
4H – Acoustic Privacy	Noise transfer is minimised through the siting of buildings and building layout. Noise impacts are mitigated within apartments through layout and acoustic treatments.	The proposed development will comply with the requirements of the National Construction Code (NCC). Allowance has been made to party wall thicknesses to achieve the minimum RW+Ctr rating in accordance with the NCC.
4J – Noise and Pollution	In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings. Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.	Noise from external sources will be addressed in accordance with recommendations from a qualified acoustic engineer if required.

ITEM	GUIDELINE / CRITERIA	COMMENT
Configuration		
4K – Apartment Mix	A range of apartment types and sizes is provided to cater for different household types now and into the future. The apartment mix is distributed to suitable locations within the building.	The development provides a mix of 1 & 2 bedroom apartments with differing configurations to provide equitable housing access. The mix aims to support the needs of community at different stages of life including single person households, older people and small families.
4L – Ground Floor Apartments	Street frontage activity is maximised where ground floor apartments are located. Design of ground floor apartments delivers amenity and safety for residents.	Landscaped private open spaces are provided to all ground floor apartments. 2 of the apartments to the ground floor can be converted to be accessible. Direct street access is provided where possible.
4M - Facades	Building facades provide visual interest along the street while respecting the character of the local area. Building functions are expressed by the façade.	The building facade has been designed to respond to the surrounding context, streetscape, orientation and internal planning functions of the proposed development. Sun shade devices / screening to balconies and circulation spaces provide visual interest and a sense of 'movement' when viewed from the street. A expressive awning element marks the main entry to the site. Provision for building services have been allocated within the building form so as they are not visible from the public domain. Service areas are easily accessible from within the building and integrated external service cupboard locations.
4N – Roof Design	Roof treatments are integrated into the building design and positively respond to the street. Opportunities to use roof space for residential accommodation and open space are maximised. Roof design incorporates sustainability features.	The roof forms have been designed to maximise simple spans. Parapets to high sides of roof only.
4O – Landscape Design	Landscape design is viable and sustainable. Landscape design contributes to the streetscape and amenity.	A landscape concept design is included with the Architectural Documents. Screen planting provides enhanced privacy between Ground units and the communal landscaped space to the rear. Raised planters are provided where sufficient soil depth is not achieved. Continuation of the existing footpath

ITEM	GUIDELINE / CRITERIA	COMMENT
		treatments and street planting is proposed of a semi-formal nature. Appropriate planting to North facade to Moore Street will aid is softening the brick work elements.
4P – Planting on Structures	Appropriate soil profiles are provided. Plant growth is optimised with appropriate selection and maintenance. Planting on structures contributes to the quality and amenity of communal and public open spaces	Raised planters positioned at ground level will provide adequate soil depth for landscaping. Refer to landscape Architects drawings submitted with development application.
4Q – Universal Design	Universal design features are included in apartment design to promote flexible housing for all community members. A variety of apartments with adaptable designs are provided. Apartment layouts are flexible and accommodate a range of lifestyle needs.	The selected mix of apartments caters for a range of people identified as the target LAHC clients with the flexibility for adaption of the internal layouts in the future. Entries to all apartments are accessible in accordance with NCC and DDA requirements.
4R – Adaptive Resuse	New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place. Adapted buildings provide residential amenity while not precluding future adaptive reuse.	Not applicable to this project.
4S – Mixed Use	Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement. Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents.	Not applicable to this project.
4T – Awnings and Signage	Awnings are well located and complement and integrate with the building design. Signage responds to the context and desired streetscape character.	The residential entry off Moore Street will have adequate cover by way of an awning to provide weather protection and lighting to enhance safety.
Performance		
4U – Energy Efficiency	Development incorporates passive environmental design. Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer. Adequate natural ventilation minimises the need for mechanical ventilation.	A BASIX assessment has been undertaken in conjunction with the design development of the apartments to ensure a high level of energy efficiency is achieved and has been submitted with the architectural documents.
4V – Water Management and Conservation	Potable water use is minimised. Urban stormwater is treated on site before being discharged to receiving waters. Flood management systems are integrated into site design.	A concept stormwater management plan, appropriate for this site, has been provided with the architectural documentation. Refer BASIX certificates accompanying this proposal.
4W – Waste Management	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents. Domestic waste is minimised by	A Waste Management Plan has been submitted with this submission. The proposed basement car parking will require excavation and offsite disposal of

ITEM	GUIDELINE / CRITERIA	COMMENT
	providing safe and convenient source separation and recycling.	spoil.
4X – Building Maintenance	Building design detail provides protection from weathering. Systems and access enable ease of maintenance. Material selection reduces ongoing maintenance costs.	Maintenance has been addressed as follows: — The majority of windows are accessible from external decks for cleaning. — Materials will be durable and easily cleanable. — Natural materials such as face brick and concrete that weather and improve with time have been selected. — Robust durable materials have been selected for common circulation areas. Landscaping has been designed to utilise a selection of hardy, low maintenance plants and paving materials.

3 SEPP 65 Design Quality Principles

PRINCIPLE 1

Context and Neighbourhood Character:

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

Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

STATEMENT OF COMPLIANCE

The subject site is located in a residential neighbourhood which faces Liverpool Cemetery, and comprises two existing residential properties with a combined area of 1,375m2 together with a street frontage of 30.5m. Properties that adjoin the site currently accommodate single storey dwellings, but are zoned to permit multi-unit residential development of up to five storeys. To date, redevelopment nearby has been limited to attached dwellings together with two storey town houses and residential flats.

The proposed development comprises a four storey building containing a total of 23 apartments above one basement level of parking. The proposal has been designed to respond to the surrounding context and desired future character as outlined in the Liverpool DCP & LEP. The process by which this has been achieved is by bridging the current existing residential character with a future character that maintains the finer grain of a residential scale. Landscape and open space have also been a key consideration with deep soil setbacks provided along all boundaries, with widths that vary from 1.5m up to 7m. A substantial area of communal open space is located near the rear boundary.

In addition to above the proposal responds to principle 1 by providing:

- An appropriate address to the immediate context through the use of a clear defined entry. At street level, ground floor apartments have defined outdoor space, but incorporated screening, planting and transparency to maintain connection and passive surveillance of the street.
- The main pedestrian entry to the development has been offset to one side of the site with a covered way creating a human scale to the site. The ground floor units that address the street also have define private entries.
- The buildings materially is predominantly brick utilised to different effect, providing a robust yet articulated form that is more suggestive of a residential typology.
- The development is intended to complement and positively contribute to its surrounding context.

PRINCIPLE 2

Built Form and Scale:

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

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

STATEMENT OF COMPLIANCE

An appropriate bulk and scale for the development was established after extensive urban design and site analysis reviews. The proposed development considers the relevant LEP & DCP controls. The 2008 LEP outlines a maximum building height of 15m for the proposed development.

The proposal responds to principle 2 by providing:

- Adheres to building height limit of 15m with an overall height of 13.95m including all overruns.
- The subject site is adjoined to the east and west by single storey forms of residential dwellings. To the south, the subject site is adjoined by a two (2) storey residential building, while on the northern side of Moore Street there is a well maintained cemetery constituting a large open space. As the condition of the single storey dwellings to the east and west are in a state of poor repair the future character as set out in

the DCP and LEP has been utilised when consider the scale of the proposed development.

- The proposed development has referenced the building height and FSR controls in the LEP 2008 and the building design controls in the Liverpool DCP 2008 – in particular the 5.5m landscaped setback to Moore Street and potential for a 5 storey street frontage height. With the bonus FSR afforded under the ARH SEPP the design was developed to maximise yield while limiting the built form to 4 storeys as to better maintain the residential character of the zoning and bridge the gap between the existing and future scale.
- The proposed development incorporates a 4 storey articulated street frontage in both plan and elevation with sections of the top floor setback from the street frontage to reduce the bulk and scale of the development and provide a diversity in the overall composition of the building.
- The scale of the proposed building when viewed from Moore Street is consistent with the likely future scale of other development on Moore Street. The existing developments to the east and west of the subject site is not reflective of the future or desired scale of development in the high density residential zone. Future consolidation of these lots and development for high density residential is not only desirable but should be actively encouraged.
- The scale of the development is reduced by breaking down the built form into a composition of articulated volumes around a crucifix plan. Pedestrian entry into the site occurs along the eastern boundary in open space under a covered way that clearly expresses the entry to the building.
- Internal amenity an outlook is created by the outward looking configuration of the apartments with screening that ensures the privacy of neighbours. The surrounding landscape creates prospect and visual amenity to the development and helps create a buffer to any future development that may occur.
- The building is a masonry building designed to respond to the residential setting of the area. Particular attention has been applied to ensuring the façade and finishes of the building create a visually interesting ground floor entry and frontages to Moore Street.
- All above ground level residential units are provided with a balcony either facing Moore Street or the rear communal landscaped space. Balconies are designed as either: semi-enclosed balconies providing protection from the sun and weather and additional privacy; or a cantilevered balcony where they sit as lighter elements above the ground level. Windows and doors to balconies and the living spaces are full width to maximise the opening area, and allow for a direct relationship between the outdoor entertaining area and the indoor living spaces. Fixed screens are used to provide privacy and sun control. A combination of masonry and steel framed infill balustrades have been used throughout the development

PRINCIPLE 3

Density:

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

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

STATEMENT OF COMPLIANCE

The residential density has been devised in accordance with the Liverpool LEP 2008 and concessions available under the Affordable Housing SEPP. The density of the proposed development when assessed as a FSR is 1.47:1. According to the Liverpool LEP 2008 calculations for maximum FSR the proposed development has a maximum FSR of 1:1. Under the AHPSEPP a bonus of 0.5 can be added to the FSR allowing for 1.5:1.

The proposal addresses principle 3 by providing:

- Appropriate density to support the ongoing growth and sustainability of the Liverpool area
- An FSR consistent with uses on the site and as defined in the Liverpool LEP and ARHSEPP.
- Apartment sizes are in accordance with the recommendations of SEPP 65.
- The density of the development contributes to the patronage of available public transport, services and supporting infrastructure.

PRINCIPLE 4

Sustainability:

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

STATEMENT OF COMPLIANCE

The proposed development sets out to achieve a high standard of energy efficiency and ecologically sustainable development principles that include the following

- Cross ventilation opportunities to all apartments,
- Good Solar orientation on a somewhat narrow site utilises passive solar design principles for climate control and to reduce the demand for energy for heating and cooling.
- Energy efficient lighting throughout,
- Sun shading via balconies and screening.
- Water efficient fittings and appliances,
- Use of materials high in thermal mass such as concrete and brick work,
- A high level of thermal insulation to external walls, roofs and underside of units above carpark and external areas,
- Use of water efficient plant species to landscaped areas,
- Promotion of waste minimisation and recycling during construction,
- Cross ventilation opportunities to all apartments,
- Development close to frequent local and intercity transport networks.
- Appropriate areas of deep soil landscaping and communal open space have been provided and located predominately to the rear of the development. Landscaping also flanks the side boundaries and occupies the setback Moore Street.

PRINCIPLE 5

Landscape:

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

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.

STATEMENT OF COMPLIANCE

The proposal responds to principle 5 by providing:

- Dense, low planting of appropriate durable species to soften the strong architectural form at ground level creating a human scale.
- Dense buffer planting to boundaries for privacy using durable, low water use plant species,
- The Moore Street setback has been landscaped to soften the frontage and provide a transition from and integration with the public domain.
- Planting to the entry will be low shrubs, which will ensure that visibility to the building entry is not impeded from the public domain, passive surveillance or sight lines for vehicles exiting the basement car park.

PRINCIPLE 6

Amenity:

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

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

STATEMENT OF COMPLIANCE

The proposal responds to principle 6 by providing:

- The landscaped setback along all boundaries will provide a green outlook from all apartments.
- 100% of apartments with natural / cross ventilation.

- All apartments receive daylight access with 74% receives the minimum 2 hours between the hours of 9am -3pm
- The vehicular entry and exit points are located to the front of the site and are split reducing the dominance of a wider single driveway and allowing effective car park circulation.
- Raised planters at ground level provide visual amenity and privacy to occupants.
- Apartments with appropriate room dimensions as outlined in SEPP 65 Apartment design guide.
- The location and separation of the proposed building from the adjoining land uses has been taken into consideration to ensure acoustic amenity.
- Care has been taken in the design of the building to ensure that the principles of passive solar design have been incorporated into the development, to ensure that daylight access is provided to all habitable rooms and the communal open space areas to the rear of the development to the greatest extent possible.
- The development provides adequate ambient lighting and minimises the need for artificial lighting during daylight hours. Screens and internal blinds and shades will provide residents with the ability to adjust the quantity of daylight receive and privacy to occupants.
- All apartments have been designed to provide habitable rooms with direct access to fresh air and natural ventilation to non-habitable rooms, where possible. The use of mechanical ventilation, particularly air conditioning will be minimised.
- Appropriate communal open space area is provided to the rear of the development for both active and passive recreation.

PRINCIPLE 7

Safety:

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

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

STATEMENT OF COMPLIANCE

The proposal responds to principle 7 by providing:

- The primary residential entry is accessed from Moore street which is a reasonably active road.
- Suitable lighting and clear line of site to entry lobby from public domain.
- Secure after hours car parking.
- Lighting under awnings and soffits to Moore Street provided for pedestrian safety.
- The proposed development arranged as a Crucifix form with all apartments outward looking increasing safety by encouraging activity and passive surveillance.
- The proposed development ensures that there is the potential for natural surveillance of both communal and public spaces. Common areas are to be appropriately lit for safety after dark.
- Direct and well-lit access between the basement car park and units entrances will be provided.
- The design has also sought to reduce areas of concealment through: avoiding blind or dark alcoves around the lift, at the entrance and within the basement car park, along corridors and walkways.
- The development will seek to control access to the building by: making apartments inaccessible from the balconies, roofs and windows of neighbouring buildings; providing direct access from the basement car park to the lift; providing an A/V intercom system at the entry for visitors to communicate with residents; and providing key card access or the like for residents.

PRINCIPLE 8

Housing Diversity and Social Interaction:

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

Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

STATEMENT OF COMPLIANCE

LAHC Affordable housing is in effect a response to a social need providing quantity affordable housing - Clients of FACS are diverse by nature - ranging in age and cultural background. This by default means that a

diverse group of people from differing social backgrounds will occupy the proposed development and the development must cater for this.

The proposal addresses principle 8 by also providing:

- Beneficial economic impact to the Town Centre and nearby businesses
- A provision for accessible apartments
- A range of apartment size, position and dual-orientation to address affordability
- Additional population to the Town centre enlivens the centre area and enhances community identity
- A centrally located apartment community in close proximity to a rail station and community facilities
- Clear access into and within the complex to optimise use of adjacent public and private amenities
- The proposed development provides a good mix of unit sizes and includes: 8 x two bedroom units and 15 x one bedroom units.
- The intention is to cater for a diverse cross-section of residents with the facilities and services that would allow for different socio-economic groups to reside in the proposed building.
- LAHC will provide 'Liveable' housing within the proposed development. 8 units are to the 'LAHC Liveable Standard' which allows for ease of adaptability as required.
- The subject site is well serviced in terms of access to: Liverpool CBD, social facilities, public transport (Buses and, Rail) and will aid in the provision of residential accommodation in the Liverpool area.

PRINCIPLE 9

Aesthetics:

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

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

STATEMENT OF COMPLIANCE

The proposal provides appropriate: building elements, textures, materials and colours, which respond to the environment and context. The building is the result of an extensive site analysis and design process which responds to the particular attributes of the site to maximise: internal amenity, private open space and to optimise view sharing.

The proposal responds to principle 9 by providing:

- Robust materials including brick in different applications referencing the residential nature of the building and creating visual diversity. Metal window frames and engineered timber screens provide material variation assembled in a cohesive and consistent palette.
- Sun and privacy screens give the building additional layers off texture and movement.
- Covered entry element of the Moore Street provides a human scaled entry to the site.
- The proposed massing achieves a balance between large and small elements, solid and void, built and natural parts, horizontal & vertical.
- The proposed building exhibits high design quality and appearance with the: external treatments, architectural composition and external finishes responding to the aesthetic qualities and desired future character of Liverpool City Centre.
- The facades of the proposed residential flat building when viewed from Moore Street are appropriately articulated and promote visual interest in the building and streetscape.

dwp|suters

Angus Rose
Senior Associate

Registered Architect – NSW ARB 8341
Email: a.rose@dwpsuters.com

4 Appendix A – Daylight Access Calculations

GROUND FLOOR									
UNIT	**9am**	**10am**	**11am**	**12am**	**1pm**	**2pm**	**3pm**	**4pm**	**Complies**
G 01	YES	YES	YES	YES	YES	NO	NO	NO	YES
G 02	NO	NO	YES	YES	YES	YES	YES	YES	YES
G 03	NO	NO	YES	YES	YES	YES	NO	NO	YES
G 04	NO	NO	NO	NO	NO	NO	NO	YES	NO
G 05	YES	YES	NO	NO	NO	NO	NO	NO	NO
LEVEL 1									
UNIT	**9am**	**10am**	**11am**	**12am**	**1pm**	**2pm**	**3pm**	**4pm**	**Complies**
L1 01	YES	YES	YES	YES	YES	NO	NO	NO	YES
L1 02	NO	NO	YES	YES	YES	YES	YES	YES	YES
L1 03	NO	NO	YES	YES	YES	YES	NO	NO	YES
L1 04	NO	NO	NO	NO	NO	NO	NO	YES	NO
L1 05	YES	YES	NO	NO	NO	NO	NO	NO	NO
L1 06	YES	YES	YES	YES	NO	NO	NO	NO	YES
LEVEL 2									
UNIT	**9am**	**10am**	**11am**	**12am**	**1pm**	**2pm**	**3pm**	**4pm**	**Complies**
L2 01	YES	YES	YES	YES	YES	NO	NO	NO	YES
L2 02	NO	NO	YES	YES	YES	YES	YES	YES	YES
L2 03	NO	NO	YES	YES	YES	YES	NO	NO	YES
L2 04	NO	NO	NO	NO	NO	NO	NO	YES	NO
L2 05	YES	YES	NO	NO	NO	NO	NO	NO	NO
L2 06	YES	YES	YES	YES	NO	NO	NO	NO	YES
LEVEL 3 (note: skylights to units 4 & 5)									
UNIT	**9am**	**10am**	**11am**	**12am**	**1pm**	**2pm**	**3pm**	**4pm**	**Complies**
L3 01	YES	YES	YES	YES	YES	NO	NO	NO	YES
L3 02	NO	NO	YES	YES	YES	YES	YES	YES	YES
L3 03	NO	NO	YES	YES	YES	YES	NO	NO	YES
L3 04	YES	YES	YES	YES	YES	YES	YES	YES	YES
L3 05	YES	YES	YES	YES	YES	YES	YES	YES	YES
L3 06	YES	YES	YES	YES	NO	NO	NO	NO	YES

17 UNITS COMPLY having at least 2 hours sunlight between 9am to 3pm.
= 74%

5 Appendix B – Communal Open Space

Communal open space has been calculated as the total site area minus built area, circulation and private open space.

COMMUNAL OPEN SPACE
Site Area =1375 sqm
Central Communal outdoor area
= 482 sqm
= 35%

6 Appendix C – Balcony Compliance Calculations

Ground Floor

Minimum private open space (DCP) 10m² for 1 bedroom apartment 12 m² for 2 bedroom apartments with minimum dimension of 2m in one direction. Target 25 m²

Upper Levels

1 Bedroom Apartments
Min Area = 8m² (RFDC)
Min Depth = 2m (DCP)

2 Bedroom Apartments
Min Area = 10m² (RFDC)
Min Depth = 2m (DCP)

GROUND FLOOR		
UNIT	**Complies with min m²**	**Complies with min depth**
G 01	YES 20 m²	YES (DCP)
G 02	YES 35 m²	YES
G 03	YES 20 m²	YES (DCP)
G 04	YES 40 m²	YES
G 05	YES 15 m²	YES (DCP)
LEVEL 1		
UNIT	**Complies with min m²**	**Complies with min depth**
L1 01	YES	YES
L1 02	YES	YES
L1 03	YES	YES
L1 04	YES	YES
L1 05	YES	YES
L1 06	YES	YES
LEVEL 2		
UNIT	**Complies with min m²**	**Complies with min depth**
L2 01	YES	YES
L2 02	YES	YES
L2 03	YES	YES
L2 04	YES	YES
L2 05	YES	YES
L2 06	YES	YES
LEVEL		
UNIT	**Complies with min m²**	**Complies with min depth**
L3 01	YES	YES
L3 02	YES	YES
L3 03	YES	YES
L3 04	YES	YES
L3 05	YES	YES
L3 06	YES	YES

7 Appendix D – Storage Calculations

1 Bedroom Apartments
Min Area = 6m3 (RFDC)

2 Bedroom Apartments
Min Area = 8m3 (RFDC)

GROUND FLOOR		
UNIT	**Complies with min m3**	**Comment**
G 01	YES	Cupboards / wardrobes / garage cell
G 02	YES	Cupboards / wardrobes / garage cell
G 03	YES	Cupboards / wardrobes / garage cell
G 04	YES	Cupboards / wardrobes / garage cell
G 05	YES	Cupboards / wardrobes / garage cell
LEVEL 1		
UNIT	**Complies with min m3**	**Comment**
L1 01	YES	Cupboards / wardrobes / garage cell
L1 02	YES	Cupboards / wardrobes / garage cell
L1 03	YES	Cupboards / wardrobes / garage cell
L1 04	YES	Cupboards / wardrobes / garage cell
L1 05	YES	Cupboards / wardrobes / garage cell
L1 06	YES	Cupboards / wardrobes / garage cell
LEVEL 2		
UNIT	**Complies with min m3**	**Comment**
L2 01	YES	Cupboards / wardrobes / garage cell
L2 02	YES	Cupboards / wardrobes / garage cell
L2 03	YES	Cupboards / wardrobes / garage cell
L2 04	YES	Cupboards / wardrobes / garage cell
L2 05	YES	Cupboards / wardrobes / garage cell
L2 06	YES	Cupboards / wardrobes / garage cell
LEVEL		
UNIT	**Complies with min m3**	**Comment**
L3 01	YES	Cupboards / wardrobes / garage cell
L3 02	YES	Cupboards / wardrobes / garage cell
L3 03	YES	Cupboards / wardrobes / garage cell
L3 04	YES	Cupboards / wardrobes / garage cell
L3 05	YES	Cupboards / wardrobes / garage cell
L3 06	YES	Cupboards / wardrobes / garage cell