STUDIO RHIZOME

Architecture | Design | Urbanism

New Delhi | Sydney

STATEMENT OF ENVIRONMENTAL EFFECTS

Proposed Residential Flat Buildings for Affordable Housing
61-65 Lucas Avenue, 36 Mckay Avenue & 31 Harvey Avenue
Moorebank NSW 2170

Project 16/007 | March 2018 | Rev C

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1 Executive Summary

The proposed development is for demolition of existing low density residential development on the site, site amalgamation and the erection of two residential flat buildings, each of five storeys with a total of 76 apartments and 2 levels of basement car parking for a total of 103cars. 37% of the proposed development is affordable housing as defined under the SEPP (Affordable Rental Housing) 2009. As such a 0.37:1 FSR bonus is proposed. Staged construction is proposed with the basement, site works and Tower 2 forming Stage 1 and Tower 1 forming Stage 2.

The 3,655.78 m^2 site is relatively unique in its context and relationship to the street network. It is a key site under the LEP and has frontages to Lucas Avenue, McKay Avenue and Harvey Avenue. It is located in an R4 High Density Residential zone. It is 250 m from the Moorebank Shopping Village and within a five-minute walk (400 m) of multiple bus stops. The zoning indicates that the area will undergo a transition from a low density setting to a high-density setting with the high-density residential zone creating a transition between the B2-Local Centre Zone and the extensive R3 Medium Density Zone. The transition to higher density has already begun in the area with several residential flat buildings either consented, under construction or already constructed. This includes two existing residential flat buildings within one block of the subject site that are six storeys in height. It is also noted that there are other residential flat buildings in the area under assessment by Council. The proposed built form addresses its multiple frontages with architectural expression emphasising the corner at Lucas Avenue and McKay Avenue while providing increased setbacks to the west where the site interfaces with residential neighbours. The proposed affordable housing component represents a positive social impact by contributing to housing stock in the area which addresses local needs.

To accommodate the additional floor space sought while maintaining an articulated façade with appropriate apartment depths, additional height is sought rather than creating a larger floorplate at lower levels of the building. This together with a proposed rooftop gardens to maximise amenity and the irregular topography of this particular site results in a height non-compliance for minor building elements including rooftop common open space balustrades, planters and lift and stair overruns. These elements do not give rise to adverse impacts on neighbouring sites and are not readily visible from the public domain.

A pre-development application meeting was held with Liverpool Council and the design has been amended to incorporate Council's suggestions, namely breaking the building from one highly articulated perimeter block building into two towers. No. 31 Harvey Avenue has also been incorporated into the site to create a more regular development block and address potential site isolation. The design has very been amended as per the Design Excellence Panel comments in regard to unit layouts, the detail of the corner and framing façade elements and building entries.

Internally, the units have been designed in accordance with the Apartment Design Guide and deliver a mix of apartments at affordable housing sizes. At the street level, the design presents a street façade at appropriate scale with an arrangement of uses and access points that address the street and minimise the appearance of essential servicing components, placing them behind the primary building frontage or in screened areas. Apartment Design Guide setbacks are proposed to protect the privacy of neighbouring sites. A single driveway is proposed with access from the south-western corner of the site which avoids additional traffic on less trafficked streets such as Harvey Avenue. The driveway position is also in this location due to stormwater management requirements which utilise the north western corner of the site and are significant in area, opting for natural above ground detention. Further, the proposed substation is situated at the north western portion of the site to fit in with the position of existing power lines and to avoid more prominent locations.

2 The Proposal

2.1 Overview

The proposed development is for:

- Demolition of existing residential development
- Amalgamation of five allotments to a single allotment of 3655.78 m^2 (by survey)
- Erection of two five storey residential flat buildings with a total of 76 apartments
- Two level basement car park comprising car parking spaces for residents and visitors, bicycle parking, service and plant rooms and a waste room.

2.2 Staging of Construction

The proposal seeks staging of construction as follows:

- Stage 1 – Basement Construction and Erection of Building 2 (Northern Building)
- Stage 2 – Erection of Building 1 (Southern)

2.3 Key Development Statistics

The proposal is summarised as:

Feature	Number
Total Site Area	2,877.0 m²
Number of Buildings	2
Height (in storeys)	5 storeys
Height (in metres)	19.3m (RL 42.80)
Total GFA	4,387.20 m²
FSR	1.57:1
Total Number of Apartments	76
Building 1 (South)	37
Building 2 (North)	39
Number of off street car parking spaces	103
Bicycle Parking	25
Area of Common Open Space	930m²

2.4 Unit Mix

The unit mix features a mix of studios, one, two and three bedroom units geared towards affordable housing. The proposed mix of apartments is:

- 15 x studios
- 8 x 1 bedroom
- 50 x 2 bedroom
- 3 x 3 bedroom

2.5 Parking and Access

The proposed development's vehicular access is from McKay Avenue via a two-way basement ramp. The ramp is located in the position of an existing driveway. It is at a low part of the site, away from the corner. It is also positioned near the B2 Local Centre Zone and away from the lower density R3 Medium Density Zone to the north. While a slightly lower level occurs at the north-west corner of the site, this area is taken up for necessary stormwater detention.

103 car parking spaces are proposed over 2 basement levels. The allocation of parking spaces is:

- 22.5 resident spaces (2 accessible spaces included) for affordable housing component
- 68.5 resident space (4 accessible spaces included) for other housing component
- 12 visitor's spaces (no accessible spaces included).

25 bicycle spaces are provided in the basement for use by residents.

2.6 Waste Collection

Corridors on each residential level have an individual waste room for residents to dispose of their waste. The building manager will be responsible for transporting waste to the communal waste room in the basement. Waste collection is proposed kerbside. The building manager will also be responsible for transporting bins to the kerb on collection day and returning them after collection.

2.7 Schedule of Finishes

A schedule of finishes is provided as part of the architectural drawing package. The schedule includes the use of attractive materials including a combination of solid and glass balustrades to protect privacy and reduce visual clutter in the street. Finishes are varied across facades to achieve visual interest. Paint and render is limited.

2.8 Landscaping and Open Space

A landscape concept has been prepared by Michael Sui Landscape Architects. The design includes landscaped communal open space at ground level and at roof level coupled with a variety of features such as seating, BBQ facilities and feature planting. A total 1067 m^2 of deep soil planting is included on ground level split between the common open space areas and street setbacks. Landscape in planters is also proposed above the basement car park between the buildings to extend the common open space and soften built form. A rooftop garden is also proposed with green roof elements. This will add further significant amenity to the development and also mitigate potential urban heat island impacts.

An indicated public domain treatment is indicated on the plans including footpaths. Existing street trees are protected.

3 The Application

3.1 Table of Drawings

Studio Rhizome has prepared the following architectural drawings for the proposal:

List of Drawings and Documents				
S.No.	Description	Rev.	Scale	Page
DA-01	Title	B	NTS	A3
DA-02	Photomontage Sheet-01	B	NTS	A3
DA-02	Photomontage Sheet-02	B	NTS	A3
DA-03	Photomontage Sheet-03	B	NTS	A3
DA-03	Photomontage Sheet-04	B	NTS	A3
DA-04	Site Photos	A	NTS	A3
DA-05	Project Summary	B	NTS	A3
DA-06	Site Analysis Sheet-01	A	NTS	A3
DA-06	Site Analysis Sheet-02	A	NTS	A3
DA-07	Site Analysis MS-01	A	NTS	A3
DA-08	Site Analysis MS-02	A	NTS	A3
DA-09	Site Analysis MS-03	A	NTS	A3
DA-10	Site Plan-01	B	1:200	A2
DA-11	Site Plan-02 (BASIX)	A	1:200	A2
DA-12	Demolition Plan	B	1:200	A3
DA-13	Left Blank	NA	NA	NA
DA-14	Amalgamation Plan	B	1:400	A3
DA-15	Sediment Control Plan	B	1:400	A3
DA-16	Proposed Plan GF	B	1:200	A2
DA-17	Proposed Plan L01-03	B	1:200	A2
DA-18	Proposed Plan L04	B	1:200	A2
DA-19	Proposed Plan Roof	B	1:200	A2
DA-20	Proposed Car Park-01	B	1:200	A2
DA-21	Proposed Car Park-02	B	1:200	A2
DA-22	Communal Open Space	A	1:400	A3
DA-23	GFA Plan Sheet-01	B	1:400	A3
DA-23	GFA Plan Sheet-02	B	1:400	A3
DA-24	Proposed Elev-01	B	1:200	A3
DA-25	Proposed Elev-02	B	1:200	A3
DA-26	Proposed Elev-03	B	1:200	A3
DA-27	Proposed Elev-04	B	1:200	A3
DA-28	Section-A	A	1:200	A3
DA-29	Section-B	A	1:200	A3
DA-30	Landscape Sections For DRZs	A	1:100	A3
DA-31	Facade Sections	A	1:20	A3
DA-32	Left Blank	NA	NA	NA
DA-33	Materials and Finishes	B	NTS	A3
DA-34	Shadow Analysis-01	A	1:800	A2
DA-35	Shadow Analysis-02	A	1:800	A2
DA-36	Proposed Deep Root Zones (DRZs)	A	1:200	A2
DA-37	Solar & CV-01	B	NTS	A3
DA-38	Solar & CV-02	B	NTS	A3
DA-39	Solar & CV-03	B	NTS	A3
DA-40	Solar & CV-04	B	NTS	A3

3.2 Supplementary Reports and Plans

The following items form part of the Development Application (in alphabetical order):

REPORT	CONSULTANT
Accessibility	Accessibility Solutions
Acoustics	Renzo Tonin Associates
Arborist	Advanced Treescape Consulting
BASIX	Damian O'Toole Town Planning
BCA	AED Group
Building Services (Coordination Only)	Floth Engineers
Contamination (Phase 1 Assessment)	Alliance Geotechnical
Geotechnical	Alliance Geotechnical
Landscape Plan	Michael Siu Landscape Architects
SEPP 65 Design Verification Statement	Studio Rhizome
Statement of Environmental Effects	Studio Rhizome
- Clause 4.6 Variation Request	Studio Rhizome
Stormwater Management	ACE Civil and Hydraulic Engineers
Quantity Surveyor	Archi QS
Social Impact Comment	Studio Rhizome
Surveyor	RGM Property Surveys
Traffic Impact Statement	SafeWay Traffic Management Solutions
Waste Management Plan	Studio Rhizome

3.3 Relevant Statutory Instruments

The proposal has been assessed having regard to the relevant matters for consideration under Section 4.15 of the *Environmental Planning & Assessment Act 1979* and the relevant State and Local Government planning controls summarised below.

3.3.1 State Planning Controls

The relevant SEPPs are as follows:

- SEPP (Affordable Rental Housing) 2009
- SEPP BASIX (Building Sustainability Index: **BASIX**) 2004
- SEPP 65 – Design Quality of Residential Flat Buildings
- SEPP 55 – Remediation of Land
- SEPP (Infrastructure) 2007

3.3.2 Local Government Planning Controls

The relevant Local Government Environmental Planning Instruments that applies to the site are:

- Liverpool Local Environmental Plan 2008

3.3.3 Local Government Planning Guidelines and Policies

- Liverpool Development Control Plan 2008

4 Background

4.1 Site Assembly

It is noted that after Pre-DA consultation with Liverpool Council, No. 31 Harvey Avenue was incorporated into the subject site to achieve a more regularly shaped development parcel and to avoid any potential site isolation.

4.2 Pre DA Consultation

In preparing this development application, the applicant has met and consulted with Council officers including a Pre-DA meeting on 26 April 2017. Written meeting minutes were received.

A summary of the key recommendations of the Council are provided below.

Pre DA Minute Item	Response
All aspects of the development are to be in accordance with SEPP 65 and the Apartment Design Guide (ADG). In accordance SEPP 65, the building is to be designed by a registered architect. Council notes the preliminary plans provided have not been designed by a registered Architect.	The proposal is in accordance with SEPP 65, a Design Verification Statement forms part of the application. The design of the proposal has been undertaken under the direction of a registered Architect.
In accordance with SEPP 65, the proposal is required to be presented to the Design Review Panel (DRP). It is noted that the applicant expressed their position in wanting to lodge the Development Application prior to meeting with the DRP. In this instance, Council highly recommends the applicant meet with the DRP prior to the lodgement of a Development Application. Given the irregular shape of the amalgamated site allotment and the issues identified with the conceptual design presented at the meeting, it is considered likely that the DRP will have concerns that may result in design changes. This has the potential to delay the development application process. By meeting with the DRP prior to DA lodgement, the applicant is likely to avoid the potential for additional fees (e.g. renotification) and to facilitate timely assessment and DA processing times.	The applicant has elected not to meet with the DRP a second time prior to lodgement and acknowledges that there may be issues raised at the DRP meeting after lodgement which may require consideration of design amendments. The as-lodged design has considered the DRP's initial comments and amendments have been made. The proposal has been amended and the design refined since the Pre-DA meeting with Council staff as well.
In its current form the building frontage to Lucas Avenue appears too bulky and would not be supported by Council. Given the length of the development site, staggering setbacks and varying building materials etc. is unlikely to provide sufficient articulation to break up the building. In this instance Councils recommendation is to break up the development into two buildings, or two individual towers	The continuous building form presented at Pre-DA has been broken up into 2 separate towers with a minimum 12 m break between buildings. The design also breaks up the ground floor to maximise the effect of space between buildings when viewed within the streetscape.

over a single ground floor base.	
The curved building design at the corner of Lucas Avenue and McKay Avenue results in an undesirable internal layout and should be reconsidered	The built form has been amended to achieve a more regularised internal unit layout.
It is noted that in the meeting, the applicant raised the possibility of providing a ground floor commercial component to the development. Whilst shop top housing is a permissible form of development in the R4 zone, it is up to the applicant to determine whether or not the provision of commercial floor space will be viable in the area. The applicant should note there are no concessions or bonuses available for the provision of commercial floor space. Strict compliance with all development standards and controls is required.	Commercial floor space is not proposed. However, it is noted that the spatial character of the building, particularly as it relates to the important corner of Lucas Avenue and McKay Avenue is appropriate for future conversion, in accordance with the ADG which seeks "future proofing" in locations where future non-residential development may be desirable. This is particularly apt since the site is a "key site" under the LEP where entertainment and food and drink premises are contemplated for key sites in the R4 zone. Furhter the site is immediately adjacent to the B2 zone. Thus, the ground floor is proposed with an increased floor to ceiling height to allow for future flexibility of use given the site's mixed use context.
From the information provided it appears the balconies are likely to cause significant concerns in regard to privacy and overlooking between units within the proposed development and to adjoining properties. Balconies are to be sited to minimise sightlines and potential for overlooking to adjacent private open spaces. The applicant should consider providing additional balconies on the elevations addressing a street frontage to reduce privacy impacts, facilitate passive surveillance to the street and add an articulation feature.	Balconies are setback to Apartment Design Guide setback criteria distances. This is considered sufficient to protect the privacy of neighbouring sites. Additional setbacks are provided at the lower levels of the building than what is required by the ADG and the DCP. The breaking up of the previously L-shaped building into two separate towers has eliminated some of the potential cross-privacy issues which arose at the corners of the L-shaped typology. It is noted that due to the orientation of the subdivision, units facing Lucas Avenue do not achieve optimal solar access with solar access being far superior from the north west facing façade. This represents a major constraint on the site due to its long and most prominent frontage not being capable of achieving 2 hours solar access in mid-winter. Therefore, proposed balconies are generally oriented towards the western or northern boundary.

	However, casual surveillance is still maintained to the street with some balconies and living rooms facing each street. By breaking up the building into 2 separate towers and creating a space between the building the visual impacts on neighbouring sites are reduced and the perceived overlooking to the neighbouring sites has been reduced, mitigating the issue.
Where the applicant is proposing to provide affordable housing within the meaning of affordable housing provided by the Environmental Planning and Assessment Act 1979, the development is to comply with the requirements of the State Environmental Planning Policy (Affordable Rental Housing) 2009.	A compliance table against the SEPP is provided. The proposal is generally consistent with the SEPP. Given SEPP 65 also applies and is equal in weight, consideration of the solar access requirements in SEPP 65/ADG have been made in this instance seeking to rely on 2 hours sunlight.
Council notes the applicant's advice that the adjoining property owner (31 Harvey Avenue) is unwilling to sell his property to enable it to be consolidated into the development site. Details of attempts to acquire this property should be included in the Development Application	No. 31 has been incorporated into the subject site.
In accordance with the Liverpool Local Environmental Plan 2008, the maximum allowable building height for development on the subject land is 18m. Council is unlikely to support any variation to this	The proposed development exceeds 18 m by a small degree to the irregular site topography, the proposed 3.6 m floor-to-floor at ground level for future flexibility of use given the site's proximity to the local centre zone and the LEP clauses which do contemplate possible commercial uses on the site, 3.1 m floor-to-floor heights to achieve a high amenity, the desire to set building levels by lobby entries to maintain a high quality entry response and accessibility and the provision of a high amenity rooftop garden. The site topography dips at the western edge and to meet floor levels at lobby entries that avoid extensive ramping, the floor levels are above existing ground line in some locations. The floor to ceiling heights of 3.1 seek maximum residential amenity. These factors lead to some minor areas of non-compliance. The non-compliance allows for a significant increase in residential amenity by provision of

	a rooftop garden and setting of ground levels at the footpath level in a convenient location. It is considered reasonable in the circumstances of the case.
The subject land is not identified to be affected by flooding or bushfire on the relevant LLEP 2008 maps	Noted
The subject land is identified as a Key Site in accordance with the Liverpool Local Environmental Plan 2008. As such, Schedule 1(7) may be applied where the applicant proposes multi dwelling housing (i.e. townhouses, villas etc.) The applicant should note the abovementioned clause does not provide a Floor Space Ratio bonus	Multi Dwelling Housing is not proposed. A floor space bonus is proposed under the SEPP (Affordable Rental Housing) 2009, not the LEP.
Extension of Council's drainage system may be required.	A stormwater management plan forms part of the application.
Stormwater drainage for the site must be in accordance with Council's Development Control Plan.	A stormwater management plan is provided
A stormwater concept plan shall be submitted with the application. The stormwater concept plan shall be accompanied by a supporting report and calculations.	A concept Stormwater Management Plan is provided
On-site detention is required to be provided for the site.	OSD is proposed
The on-site detention system must be within common property and accessible from the street without going through dwellings or private courtyards.	OSD is accessible from the street and within the common property. Above ground OSD is proposed and given the large area of the site and the site topography it is situated at the north western corner of the site. This necessity limits potential locations for other infrastructure such as the driveway.
A water quality treatment device shall be provided in accordance with Council's Development Control Plan. A MUSIC model shall be submitted with the development application.	A water quality treatment device is proposed. A MUSIC model is provided
A basement pump out system is required for this development	Basement pump out system is proposed
A Traffic Impact Statement, prepared by a suitably qualified person, addressing traffic generation; impacts on the surrounding road network and parking provision is to be submitted. The statement is also to address the cumulative impact of the development with the existing school located to the south of Lucas Avenue.	A traffic statement prepared by a qualified engineer is provided.
The application shall be supported by turning paths in accordance with AS2890 clearly demonstrating satisfactory manoeuvring on-site and forward entry and exit to and from the public road.	Turning Paths are provided.
Clear delineation of driveway access and internal circulation.	A clear delineation of driveway access and internal circulation is provided.

Footpath to be provided along all street frontages.	A footpath can be provided along all street frontages as part of public domain upgrades as a condition of consent.
On-street parking restrictions to be provided.	The existing street parking arrangement is such that parking is not permitted on the north side of McKay Avenue. There should not be an impact on existing on-street parking.
Street lighting to Council's specifications.	Street lighting can be provided as a condition of consent.
The application must demonstrate that access, car parking and manoeuvring details comply with AS2890 Parts 1, 2 & 6 and Council's Development Control Plan.	Cars can manoeuvre within the site. Parking aisles and car parking spaces are to AUS standard dimensions.
The proposed development shall be designed to be serviced by a Heavy Rigid Vehicle	Waste pickup is proposed Kerbside.
The development will require the following external road works: o 1.5m wide footpath o Possible extension of Council's drainage system	Footpath indicated on plans for consideration of council. A drainage connection is provided
No retaining walls or filling is permitted for this development which will impede, divert or concentrate stormwater runoff passing through the site.	The stormwater management plan indicates a suitable outcome.
Earthworks and retaining walls must comply with Council's Development Control Plan.	In accordance with DCP
The application is to be supported by a geotechnical report prepared by a suitably qualified person to address salinity and acid sulphate soils.	The site is not identified as an Acid Sulphate Soils area. It is not in close proximity to an acid sulphate soils area. It is not flood prone. The site is not identified on State Government Issues Salinity Potential Maps. It is unlikely that the site will be subject to salinity or sulphate soil issues.
Proposed fill material must comply with Council's Development Control Plan	Noted.
The current S94 plan is the Liverpool Contributions Plan 2014	Noted. A QS report forms part of the application to provide cost of development.

4.3 Design Excellence Panel Consultation

A Design Excellence Panel meeting was held on 7 November 2017. Meeting Minutes were received. A separate response to the DEP comments forms part of this application since it pertains to architectural matters relating to SEPP 65.

5 Site Analysis

5.1 Site Location

The subject site is known at 61-65 Lucas Avenue and 36 McKay Avenue Moorebank, NS 2170. It is located in the Liverpool LGA. Liverpool is strategically positioning itself as an Airport City associated with the new Western Sydney Airport, setting out an exciting vision to bolster and grow the LGA. Infrastructure investment in the subregion is significant. The subject site is well located in relation to transport and the regional road network.

The location of the site is indicated in the figure below.

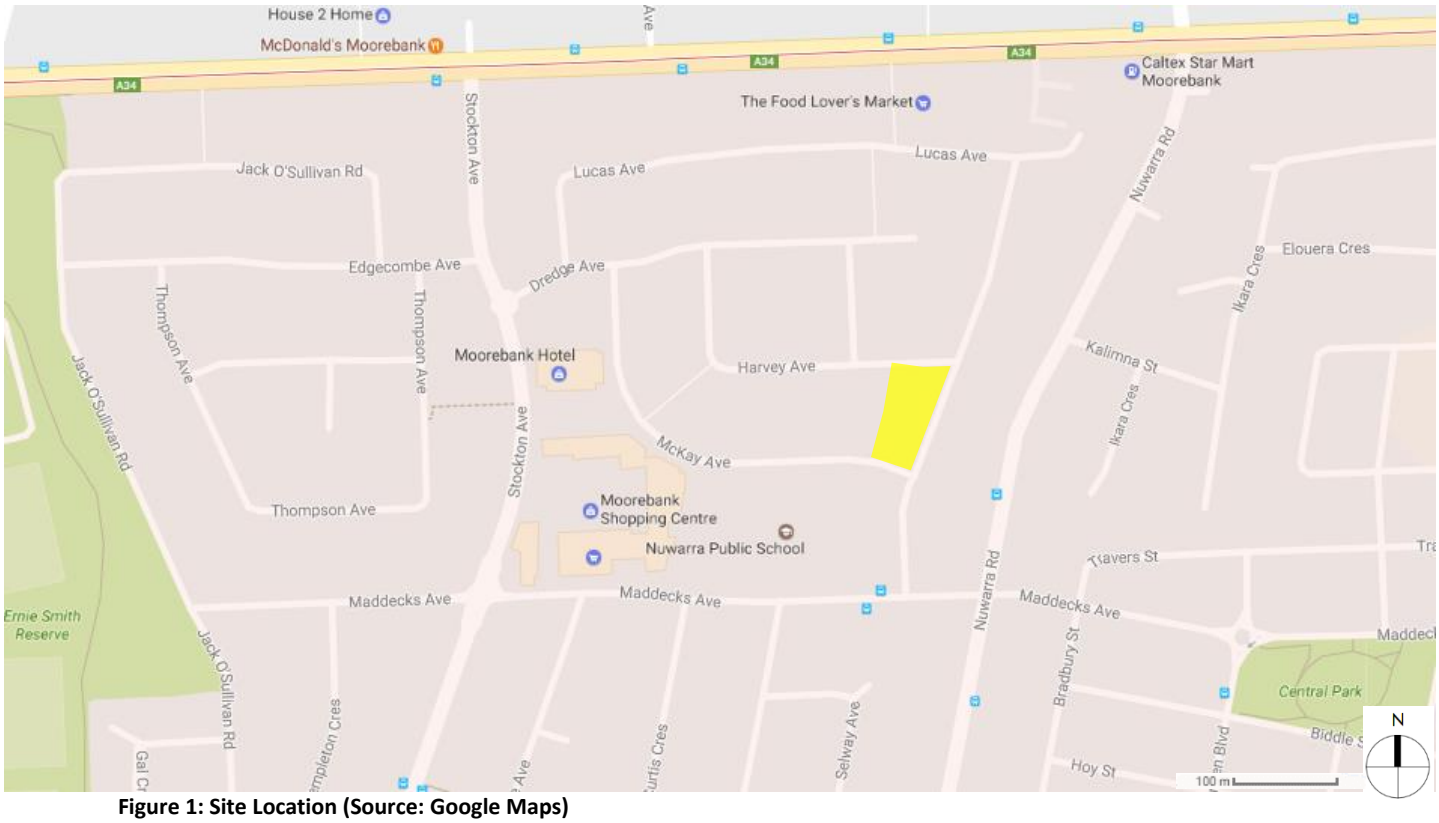

Figure 1: Site Location (Source: Google Maps)

5.2 The Surrounding Area

The site is located within the R4 High Density Residential Zone directly north of the B2 Local Centre Zone. The site is surrounded by R4-High Density Residential zone to the east and west. An extension of the extensive R3-Medium Density Zone surrounding the R4-High Density Zone extends to the northern side of Harvey Avenue near the subject site. There is good access to the local, sub regional and regional road network.

To the south:

- The permissible height of buildings is 21 m although existing built form is 1-2 storeys.

- To the south east of the subject site, the B2 zone extends and existing development comprises commercial development including shops and a restaurant. Buildings are setback with large areas of surface car parking in the street setbacks. Buildings are 2 storeys although the LEP permits additional height. These sites are not well maintained and susceptible to change.

- The Southwest Community Baptist Church is directly south of the subject site. The church grounds' boundary to McKay Avenue is characterised by a high palisade fence with tree planting, much of it native behind. Buildings are setback from the street 7-15 m.

- The Nuwarra Public School is adjacent and west of Baptist Church. Surface car parking areas are situated between the setback school buildings and McKay Avenue. To the west of the school buildings between the school and the Moorebank Shopping Village are the school playing fields. The school grounds are surrounded by a high palisade fence.

- The southern side of McKay Avenue includes a lane of car parking while the northern side of McKay Avenue does not allow for car parking.

- A pedestrian crossing on McKay Avenue is situated 60 m to the west of the subject site.

- To the south west of the subject site (and west of the school) is the Moorebank Shopping Village. The Shopping Village does not form an active frontage to McKay Avenue. Vehicular access to the development is provided from McKay Avenue. Buildings are 1-2 storeys although much higher buildings are permissible.

- In the current condition the lands to the south of the subject site provide for the day-to-day needs of future residents with a range of non-residential uses including retail, food and drink, medical related uses, etc. This land use nexus makes bolsters site suitable for higher density residential and for affordable housing options.

- The lands to the south of the site are susceptible to increased densities given the zoning and the low scale of built form in the current condition. The increased densities permitted in residential areas surrounding indicate that as sites redevelop impetus for increased commercial uses in the area are likely to arise. Increasing density on the subject site will support the existing B2 zone and provide additional demand to support an increased range of non-residential uses in the area.

To the West

- To the west of the subject site is the R4 High Density Residential Zone with the same Height and FSR controls as the subject site.

- Most sites have not yet been redeveloped for higher density development with the area characterised predominantly by single detached dwellings. It is noted that recently a development application for a residential flat building was lodged for sites at 24 McKay Avenue, signally that transformation of the area is underway. Directly west of the subject site at McKay Avenue a five-storey residential flat building is currently under assessment by Council. It is also understood a residential flat building development is proposed directly to the west of the site fronting Harvey Avenue but access to the pre-lodgement documents has not been granted by Council.

- The site is a 10-minute walk to Ernie Smith Reserve.

- The northern side of McKay Avenue has sporadic low street trees and no footpath. The streetscape is generally characterised by lawns and domestic scale landscape with a few native trees on private land. The northern side of the streetscape has a notably different landscape character to the southern side where there are native trees within building setbacks largely associated with the church and school.

- It is expected that the area will transition from the low scale residential setting to a high density residential setting in accordance with the LEP over time. The proposed development is compatible with the desired character of the area.

To the North

- To the north of the subject site is a pocket of R3 zoning which extends southward to the northern edge of Harvey Avenue, interrupting the R4 Zone. The permissible building height is 9.5 m. The R3 zone is extensive and surrounds the R4 Zone in all directions.

- To the north west of the subject site (west of Astor Avenue) sites are zone R4 and permissible building heights are 12 m.

- The character of the area is largely consistent with the areas west of the subject site. Dwellings are 1-2 storeys.

- The streetscape along Harvey Avenue lacks footpath and there are few street trees. Landscape is characterised by lawns and other domestic landscape. There are few large mature trees.

- Along Lucas Avenue to the north are large eucalypt trees which contribute positively to the streetscape.

- Based on the zoning of the area, the future desired character is different to the existing with future built form higher.

To the East

- To the east of the subject site, sites are zoned R4 High Density Residential with the same height and FSR controls as the subject site.

- The area is generally yet to redevelop with the exception of 96-98 Nuwarra Road, which comprises two six storey buildings and 80-82 Lucas Avenue which is directly across from the subject site where a six-storey residential flat building is currently under construction. This building is indicative of the future character of the area and one storey greater than the built form contemplated on the subject site.

- There are also medium density housing developments east of the subject site.

- Otherwise, building form in the area is generally low scale and similar to other residential areas already described.

- Lucas Avenue benefits from a more regular street tree planting. The western side of Lucas Avenue includes a footpath with street verge providing a precedent for how the public domain could be formed on the subject site. The proposed footpath location and planting verge echoes the general arrangement of the existing footpath on the eastern side of Lucas Avenue, seeking to create a cohesive public domain.

- The site is less than a five minute walk to the pocket park at Tavers Street and a five minute walk to Central Park on Maddecks Avenue.

The area at this northern end of the Local Centre zone is in transition with the strategic objective to grow the area so that higher residential densities are mutually supported by a commercially-focused local centre. Redevelopment of sites to the potential contemplated by the local controls is rare with only one of a similar type currently existing.

The site benefits from a pleasant outlook from all angles. It is a short walk to public transport and the shopping centre which are superior locational attributes. The site is also well suited to affordable housing as the access to public transport and the ability to meet the day to day needs of residents within walking distance aids in reducing the cost of living overall. The site also has access to public open space, schools and other community infrastructure such as the local library. Refer to the images starting at Figure 2 which support the below analysis.

SITE ANALYSIS FIGURES

Figure 2: Site Context (Source: SIX maps)

Figure 3: View of B2 zone development on Lucas Avenue north of library

Figure 4: Library and corner of Maddecks Avenue and Lucas Avenue

Figure 5: Existing McKay Avenue Streetscape viewed from intersection of Lucas Avenue looking west

Figure 6: View of Baptist Church grounds from McKay Avenue

Figure 7: View of Public School from McKay Avenue

Figure 8: View of school parking and playing fields from McKay Avenue

Figure 9: View of rear of shopping village from McKay Avenue

Figure 10: View of dwelling neighbouring subject site on northern side of McKay Avenue

Figure 11: View of Harvey Avenue streetscape adjacent to subject site

Figure 12: View of northern side of Harvey Avenue near subject site

Figure 13: View along Harvey Avenue from west of subject site looking towards site and construction at 80-82 Lucas

Figure 14: View from Lucas Avenue south of subject site looking towards north

Figure 15: Existing streetscape at Lucas Avenue

Figure 16: Existing development on the eastern side of Lucas Avenue with higher density development at Nuwarra Avenue visible behind

Figure 17: Existing six storey development at 96-98 Nuwarra Avenue

5.1 The Site

The site comprises five separate allotments and is described as Lot 20-24 in DP 236405 in the City of Liverpool Local Government Area. The site has an area of 3,655.78 m² (Source: Measurement from survey plan, RGM Property Surveyors).

Figure 18: Existing Site Aerial View (Source: Six Maps)

5.2 Site dimensions

The site has an irregular L-shape shape. Site dimensions are:

Southern Boundary: 25.945 m (Primary Frontage)
South Eastern corner: 14.205 m (Intersection Lucas Avenue and McKay Avenue)
Eastern Boundary: 78.20 m (Secondary Frontage)
North Eastern corner: 11.775 m (Intersection Lucas Avenue and Harvey Avenue)

Northern Boundary (street): 43.15 m (Tertiary Frontage)
Western Boundary (to 31 Harvey Avenue): 78.34 m (Side boundary)

5.3 Topography

The site has irregular topography with the site rising in the centre and falling most dramatically towards the north western corner of the site. The lowest point is at the north western corner of the site where the RL is 22.95. The site rises towards the centre of its frontage to Lucas Avenue where the maximum level is approximately RL 25.5. This occurs within the front garden of No. 63 Lucas Avenue. The existing ground level is highest near the south eastern half of the site near Lucas Avenue.

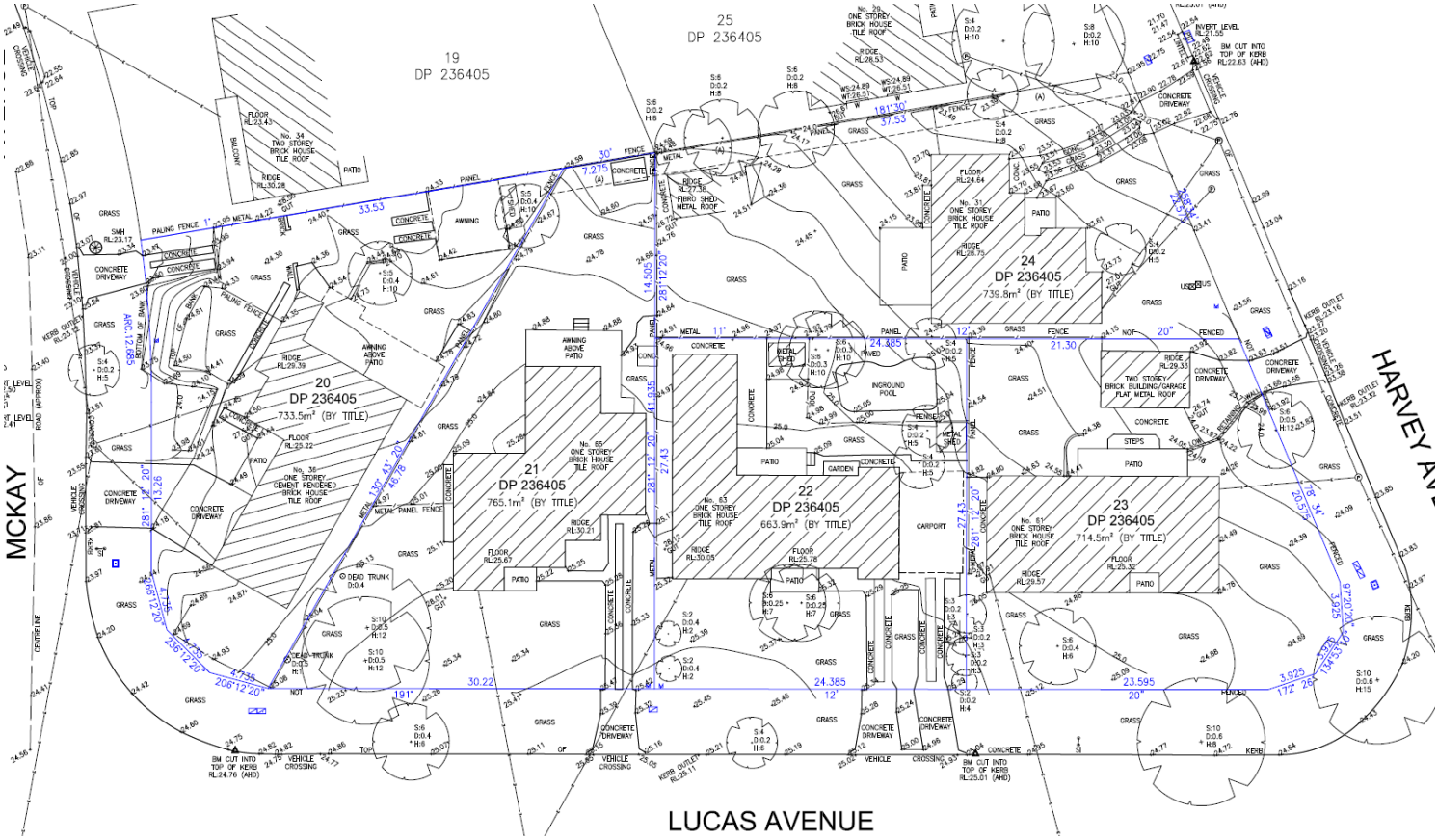

Figure 19: Excerpt Site Survey by RGM

5.4 Existing Site Development

The existing development on the site is a single detached dwelling on each separate allotment with ancillary structures.

No. 36 McKay Avenue

- 1 storey cement rendered brick dwelling
- Detached car port
- Swimming pool
- Landscape

Figure 20: No. 36 Viewed from McKay Avenue **Viewed from Lucas Avenue**

No. 65 Lucas Avenue

- 1 storey brick dwelling
- Attached garage
- Landscape

Figure 21: No. 61 viewed from Lucas Avenue

No 63 Lucas Avenue

- 1 storey brick dwelling
- Attached car port
- Inground Swimming Pool
- Landscape

Figure 22: No. 63 viewed from Lucas Avenue

No. 61 Lucas Avenue

- 1 storey brick house
- Detached garage
- Landscape

Figure 23: No. 61 viewed from Lucas Avenue

Viewed from Harvey Avenue

No 31 Harvey Avenue

- 1 storey brick house
- Attached garage
- Landscape

Figure 24: 31 Harvey Avenue viewed from Harvey Avenue

5.4.1 Ground Conditions and Soil

A geotechnical report forms part of the application which has considered site conditions and the suitability of the site for development. The geology of the area is identified as Ashfield Shale and a highly reactive clay site. As such foundation are to be founded on bedrock. Given soil condition, excavation can be undertaken by standard equipment.

Acid sulphate soils are not considered likely and the geotechnical engineer does not deem further investigation necessary in this circumstance.

The groundwater table is unlikely to be encountered during excavation and construction although seepage is possible at the interface between residual soil and shale bedrock. Groundwater may also fluctuate with seasonal weather patterns. Thus, management of seepage and runoff is recommended during construction. The preliminary geotechnical assessment recommends on-site geotechnical investigation during the construction stage but deems the site generally suitable for the proposed development.

5.5 Access and Public Transport

The site is within walking distance of bus routes at Maddecks Avenue and Nuwarra Road. The site is within 400 m walking distance to the bus stop at Newbridge Road. This single bus stop has frequent bus service that meets the SEPP (Affordable Rental Housing) 2009 accessibility requirements.

5.6 Road Network

The site has three frontages with Lucas Avenue providing convent access to the sub regional road network.

6 Environmental Assessment

6.1 Objectives of the Act

This Statement of Environmental Effects supports a development application that is in accordance with the objectives of the *Environmental Planning and Assessment Act 1979* (as amended). In particular the proposed development in developing an amalgamated site in accordance with the high density residential zoning of the LEP while achieving a good residential amenity, a quality streetscape and represents orderly and economic development.

6.2 Matters for Consideration

The following sections of this report address the Matters of Consideration as outlined in Section 4.15 (see below) of the *Environmental Planning and Assessment Act 1979* (as amended).

6.3 Environmental Planning Instruments [EPIs]

6.3.1 State & Regional Planning Controls

6.3.1.1 SEPP Infrastructure 2007 (ISEPP)

Clause 104 of the ISEPP relates to "traffic generating development" that is development listed in Schedule 3. The proposal qualifies as traffic generating development (having greater than 75 dwellings or more than 50 car spaces where it adjoins a road that connects to a classified road.

A traffic and parking assessment forms part of the application.

6.3.1.2 SEPP (Affordable Rental Housing) 2009

The proposal seeks consideration under Division 1 of the SEPP, providing 37% of the development for affordable rental housing for 10 years and as such seeking a floor space ratio bonus of 0.37:1.

As per Clause 15, SEPP 65 is to be considered instead of the *Seniors Living Policy.*

The proposal is generally consistent with the standards set out in the SEPP for Infill Affordable Rental Housing in regard to minimum dwelling sizes and car parking. Clause 14, the standards that cannot be used to refuse consent have been considered in the application. It is noted that the proposed development, being a residential flat building seeks consideration under SEPP 65 with regard to solar access by achieving 2 hours direct solar access. Given the SEPP (Affordable Rental Housing) 2009 solar access standard fall under the Clause regarding "Standards which cannot be used to refuse consent" rather than a non-discretionary standard, we seek Council's consideration that two hours solar access achieve an acceptable standard of amenity in this case. The site's particular orientation in relation to true north means that opportunities to capture northern sun are limited and units facing Lucas Avenue and McKay Avenue are not able to achieve 2 hours solar access. Every effort has been made to maximise solar access while aligning built form to the street and achieving casual surveillance of the public domain. The proposed development is compatible with the

existing character of the area and consistent with the desired future character of the area, thus satisfying the character test under Clause 16A.

6.3.1.3 SEPP BASIX (Building Sustainability Index: BASIX) 2004

A BASIX certificate forms part of this application and demonstrates the proposed development satisfies the provisions of the SEPP BASIX (Building Sustainability Index: BASIX) 2004.

6.3.1.4 SEPP 65 – Design Quality of Residential Flat Buildings

Clause 6A was introduced with the Apartment Design Guide (ADG) in June 2015 and prescribes that certain provisions set out in Parts 3 and 4 of the ADG make any provision of any other development control plan under the category have no effect. The select provisions are: visual privacy, solar and daylight access, common circulation and spaces, apartment size and layout, ceiling heights, private open space and balconies, natural ventilation and storage. An assessment against these provisions is included in this application. The proposal generally complies with any minor non-compliances are considered acceptable in the circumstance.

Clause 28(1) requires the consent authority to obtain the advice of the relevant Design Review Panel prior to consent, if any such Panel exists. It is assumed the application will be referred back to the Design Excellence Panel during assessment. Pre-DA consultation has already occurred and a response to the meeting minutes forms part of the application.

Clause 28(2) requires that the consent authority, in determining a development application, is to take into consideration":

- *The advice of any design review panel*
- *The design quality of the development when evaluated against the design quality principles and*
- *The Apartment Design Guide.*

Assessment against the Design Quality Principles of the SEPP and the Apartment Design Guide is set out in the Design Verification Statement forming part of this application. The development complies with the 9 Design Quality Principles set out in SEPP 65 and the Architect has made every effort to comply with the objectives, criteria and guidance set out in the Apartment Design Guide.

In summary, design quality is an objective at the forefront of this design and Studio Rhizome delivers what is considered a development consistent with the Apartment Design Guide. Where variations are proposed to suggested Acceptable Solutions or Criteria, the objective of each provision has been addressed accordingly in the assessment table.

6.3.1.5 SEPP 55 – Remediation of Land

The site is historically residentially zoned and is not in close proximity to polluting uses. It is unlikely the site is contaminated and is considered that SEPP 55 is satisfied. A phase 1 contamination assessment by Allied Geotechnical forms part of the application which finds the potential for domestic contamination on the site for materials such as lead paint or asbestos and that the site is generally suitable for the proposed use. Further investigation is recommended at the demolition phase.

6.3.2 Local Government Planning Controls

The relevant Local Government Environmental Planning Instruments that applies to the site are:

- Liverpool Local Environmental Plan 2008

The Local Environmental Plan 2008 (LLEP 2008) applies to the site. Pursuant to LLEP 2008 the site is zoned R4-High Density Residential (Refer to the Figure below).

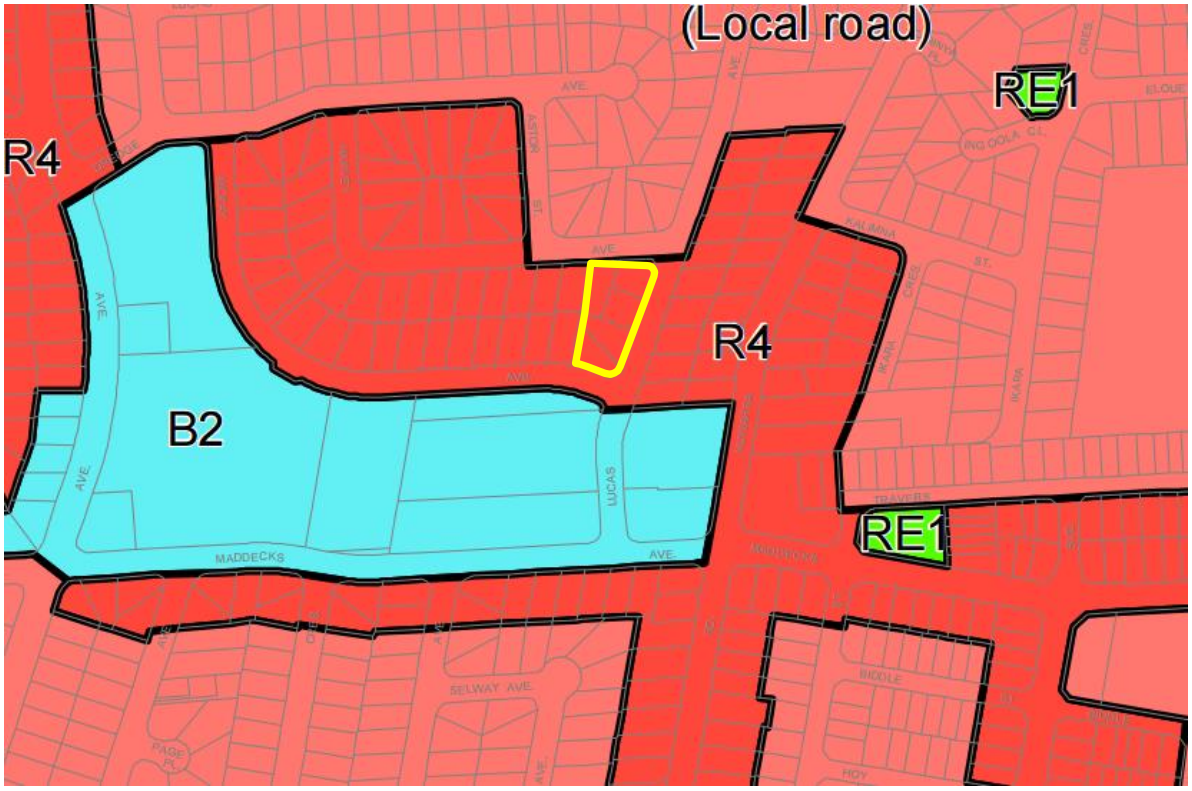

Figure 25: Zoning Map with Site Identified

6.3.2.1 Zone Objectives

The Objectives of the Zone are:

- *To provide for the housing needs of the community within a high density residential environment.*
- *To provide a variety of housing types within a high density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide for a high concentration of housing with good access to transport, services and facilities.*
- *To minimise the fragmentation of land that would prevent the achievement of high density residential development.*

The proposed development is consistent with each of the objectives. The proposal is for high density apartment living with an affordable housing component. The site is within walking distance of public transport and a local centre where day-to-day needs can be met. The subject site is located on a corner and achieves

the amalgamation of four existing allotments, meeting the minimum lot size, minimum frontage and minimum lot width requirements set out in the LEP.

6.3.2.2 Proposed Land Use

The proposal is defined as two Residential Flat Buildings. As per the LEP the definition of Residential Flat Building is as follows:

> ***residential flat building*** means a building containing 3 or more dwellings, but does not include an attached dwelling or multi dwelling housing.

Residential Flat Buildings are permissible with consent in the zone.

6.3.2.3 Other LEP Provisions

All relevant provisions are addressed in the compliance table at the appendix of this report.

In summary, the proposal complies with all provisions with exception to the Height of Buildings provision. In particular, the LEP permits a height of 18 m. This is intended as six storeys which is the height of buildings of the other existing RFBs in the area. The LEP does not make provision for floor to ceiling heights set out in the ADG nor the provision of lift overruns and roof services. The additional height sought goes directly to achieving high amenity for the future residents and responding to the particular constraints of the site.

The key constraint is the irregular sloping topography of the site with the site rising towards the middle and falling at the west. To set lobby entries close to the footpath level, the ground floor rises above the existing ground level towards the western portions of the site. The provision of greater floor-to-ceiling heights at Ground Level to allow for future flexibility of use give the transitional location of the site and its mixed use context and the provision of a minimum of 3.1 m floor-to-floor heights at upper levels as recommended by the ADG means that over a small portion of the proposed built form, the proposed balustrades for high amenity rooftop gardens protrude above the 18 m height control. The proposed buildings are only five storeys and have a scale compatible with the desired character of the area. The areas of height non-compliance give rise to no visual or overshadowing impact when compared to a building which complied with the 18 m height limit. No habitable space is located above the height limit. Every effort has been made to minimise the height non-compliance including the provision of stair lift to the rooftop garden so that overruns need not protrude significantly above the height limit. If the site was flatter or had a more regular change in topography, the height limit would not arise and as such the minor non-compliance results in a better outcome than a development which complied with the height standard. The minor intrusions for roof garden balustrades and green roof planters are acceptable as they provide a better environmental and amenity performance than a unused roof with no green elements.

A Clause 4.6 exceptions to Development Standards justification forms part of this application as a separate report to this Statement of Environmental Effects.

6.4 Local Government Planning Guidelines and Policies

- Liverpool Development Control Plan 2008

The Liverpool Development Control Plan 2008 is a comprehensive DCP that considers all types of development. The DCP includes provisions specific to Residential Flat Buildings in R4 zones (Part 3.7). With the 2015 amendment to SEPP65 and the introduction to the Apartment Design Guide (ADG) some of the residential controls have no effect. A compliance table against the DCP is provided as an appendix to this SEE. Compliance with DCP Part 1 is also provided in the Appendix.

6.5 Site Layout and Access

It is evident that the site is one of the first significant redevelopment sites in the precinct to accommodate a tower at the height contemplated by Council's controls with the exception of No 96-98 Nuwarra Avenue which comprises 2 x 6 storey residential towers and 80-82 Lucas Avenue which comprises 1 x 6 storey residential tower.

The layout of the site is to establish two towers on the site, a northern tower and a southern tower with a 12m break between buildings up to four storeys and the fifth storey separated by 18 m. The southern tower is situated on the primary corner of the site and utilises façade elements to mark the corner.

Lobby Entries directly address the street and individual ground floor units are provided with individual street entries to provide additional activation within the residential context where site levels allow.

Because the site has three street frontages is does not have a rear boundary condition. Side setbacks to the western boundary comply with ADG criteria and provide visual separation to the adjoining dwellings. The proposed side setback is at least 6 m for the first four storeys and 9 m for the fifth storey. This represents a minor non-compliance to the DCP for 1 storey as the forth storey rises 9-12 m above the ground level. However, an additional setback of 1 m is provided above the fourth storey (in accordance with the ADG). Given compliance with the ADG and the increase in setbacks over a portion of the building at lower levels in particular, the proposed development is considered acceptable and meets the underlying purpose of the setback control which is to provide "reasonable space for landscaping open space and solar access" and protect privacy.

Deep soil is concentrated within the western setback and co-joined with proposed common open space to provide a quality landscape area and soften the interface with existing residential development to the west.

A single two-way vehicular access ramp to the site is proposed at the south-western corner of the site. The access point is in a similar position to the existing driveway at No. 36 McKay Avenue.

Services Engineers Floth has directed the incorporation of services into the development. A substation is required and proposed to be situated at the north western corner of the site as direct access from the street is required. This is away from the most prominent corner at Lucas Avenue and McKay Avenue.

Efforts have been made to retain existing mature trees which contribute to the streetscape while new tree planting and streetscape improvements are proposed.

6.6 Transport

An Assessment of Traffic and Parking Implications has been undertaken by SafeWay Traffic Management Solutions . The assessment includes an assessment of the impact of traffic generation on the existing traffic network and a review of the proposed access, internal circulation, servicing and car parking numbers.

6.6.1 Parking

It is noted that the SEPP (Affordable Rental Housing) 2009 permits reduce car parking in relation to Council's DCP parking rates. The proposed development takes a logical approach to car parking given the area is one undergoing a transition from low density and car dependent to one denser with greater numbers of dwellings with suitable access to public transport. The car parking utilises DCP car parking rates for those units in the development which are not allocated as affordable housing. The parking rates set out in the SEPP (Affordable Rental Housing) 2009 have been used for the units which are allocated as affordable housing. This allows for reasonable provision of parking which meets the needs of residents. Sufficient off-street Visitor Parking is also provided.

Bicycle parking and motorbike parking is also provided on site consistent with the recommendations of the Apartment Design Guide. This supports alternative means of transport with an aim to reduce reliance on cars.

6.7 Noise

An assessment of noise impacts upon the development and arising from the development has been made in the Acoustic Assessment by experts Renzo Tonin Associates. Their assessment forms part of the application. An assessment is made of the impact of external noise sources (primarily traffic noise) upon the internal amenity of future occupants and also the impact of noise sources from the development itself (primarily plant and construction noise) upon the surrounding area.

The study of external noise intrusion into the subject development has found that appropriate controls can be incorporated into the building design to achieve a satisfactory accommodation environment consistent with the intended quality of the building and relevant standards

Recommendations are set out in the report to ensure internal noise criteria are achieved.

The assessment finds no anticipated impacts beyond usual management criteria for the construction phase recommending only standard conditions of consent. The report makes the following observations and recommendations in relation to noise and vibration as part of the construction of the project:

> *The nature of the construction processes proposed for the development does not present difficulties in ensuring that the associated noise limits at surrounding properties are achieved. The major construction activities proposed on this site are excavation works, concrete pours and general building works.*
>
> *Construction and building work will be adequately managed so as to minimise disruption to the local community and the environment.*
>
> *Noise generated by construction activities will comply with the Department of Environment Climate Change & Water's Interim Construction Noise Guide (ICNG).*

Recommended standard conditions are provided in an appendix to the Acoustic Report.

6.8 Design Quality, Built Form and Visual Impact

The design successfully responds to the context of the site in terms of the relationship of built form with the street context and pedestrian movements and at a broader level in terms of the appearance and impact of the two towers. The proposed design style seeks to reinforce the public domain and create visual interest expressing a sculptural form that goes beyond the typical residential form. Façades are broken up to create varying façade modules which avoid monotony.

The development has been designed to be attractive and well-articulated; therefore, effectively minimising the impact upon existing views from surrounding properties. The building will be very visible from close range views. The proposal achieves greater setbacks than required to the side boundary at lower levels and ensures that setbacks to the street allow for tree planting. The length of individual facades is not excessive and steps in the façade at each frontage mitigate the impact of bulk and scale.

Residential entries are clearly demarcated with direct street address. Façade elements assist in defining these entry points.

The proposal conceals services as much as possible into the building to avoid visual clutter in the street. The exception to this is the substation which must be located near the street. Its proposed location is away from the prominent corners of the site to reduce visual impact.

Concentration of deep soil planting zones in the side (western) setback is proposed which is conjoined with proposed ground level common open space. Where the basement extends below ground between the two proposed buildings, sufficient soil depth is proposed above the slab to continue landscape towards the Lucas Avenue frontage.

As required by SEPP 65, a Design Verification Statement that assesses the proposal against the Design Principles contained in the State Policy focussed on “Design Quality”. The Statement also includes assessment against the amenity performance criteria. In summary, the Statement demonstrates a satisfactory level of compliance with the objectives and amenity performance criteria and guidance.

6.9 Impact on the Church and School

It is noted the proposed development is consistent with the site zoning and the area generally is anticipated for increased height and density. The proposed development shall not have an unacceptable adverse impact on the church and school grounds on the southern side of McKay Avenue. The proposed development is setback from the street boundary and shadow impacts only a small portion of the setback areas of the sites in mid-winter. The proposed development achieves a high-quality façade design which will have a positive impact on the streetscape. Casual surveillance of the public domain will be increased having a positive impact on the nearby institutional uses in this regard.

6.10 Amenity Considerations

6.10.1 Privacy

Potential privacy impacts have been addressed through generally complying with the separation requirements of the Apartment Design Guide both to site boundaries and within the site itself. Where potential privacy impacts arise, suitable screening devices are proposed.

6.10.2 Common Circulation

The development has been broken into two buildings which maintains a maximum of 8 residential units per corridor. The common circulation spaces achieve a high level of amenity with access to natural light and ventilation. The lobby entries directly address the street and are well appointed. Individual units which front the street are provided with individual entries where practical. The exceptions to this are at the northern portion of the site where the setback area is used for above ground OSD.

6.10.3 Daylighting and Natural Ventilation

The proposed unit orientations have been selected to maximise daylighting. However, due to the site orientation, dwellings fronting McKay and Lucas Avenues are incapable of achieving 2 hours direct sunlight in mid-winter. To address this constraint, units are placed on each floor plate to maximise the north and north western aspect. The number of units with a single aspect facing south is minimised as much as practical (4 out of 76 or 5%. Even with the constraint 70% of units achieve 2 hours direct sunlight between 9 a.m. and 3 p.m. at midwinter.

The proposal achieves 60% of units with natural cross-ventilation.

6.10.4 Unit Sizes and Layouts

Internal unit layouts address ADG criteria and unit are provided with suitable storage space. Additional ancillary storage is provided in the basement. Rooms size and room depths are in accordance with the ADG.

6.10.5 Common Open Space

The communal open space area is located at the ground level within the only setback area away from the triple street frontage. The area is naturally surveilled and has a combination of landscaped areas and entertaining areas. 25% of the site is common open space.

6.10.6 Overshadowing

Impact upon neighbours from overshadowing has been largely mitigated by the tower setbacks and orientation of the site with the road to the south and south east. Shadow impacts do arise but not from any particular building envelop non-compliance. The level of shadow impact is reasonable within the context of the future character of the area. That being said, north facing windows and private open spaces of adjoining dwellings shall maintain at least 2 hours direct sunlight in mid-winter, consistent with the ADG.

6.10.7 Noise

The Acoustic Assessment by experts Renzo Tonin addresses both impact of the proposal upon adjoining properties and impact of surrounding noise sources upon the internal amenity of future occupants. As outlined in the section above, implementation of the mitigation measures outlined in the Assessment will ensure compliance with the relevant guidelines and satisfactory levels of amenity for future residents and neighbours.

6.10.8 Reflectivity

The proposed materials and finishes are such that large areas of reflective surfaces are not proposed. Reflectivity levels are low will not adversely impact on the area.

6.11 Waste Management

6.11.1 Demolition and Construction

A demolition and construction waste management plan forms part of the development. Materials are recommended to be recycled and reused when possible. Construction materials should be ordered to minimise waste.

It is recommended that due to the types and age of dwellings on the site that the sites be inspected for asbestos prior to demolition and that if asbestos is detected, demolition and disposal of waste be undertaken by a qualified contractor to the Australian Standard.

6.11.2 Ongoing Waste Management

The proposed development is purely residential. It is proposed to collect waste from the kerb at McKay Avenue. The proposed waste room is located in the basement and waste bins will be transported to the kerb on collection day and returned to the waste room after collection. An area is designated adjacent to the boundary of the site for the temporary placement of bins on collection day.

Each residential corridor is provided with a waste cabinet/room for disposal of waste with space for a recycle bin and general waste bin. A building manager shall be responsible for moving waste from each level to the waste room in the basement. The manager will also be responsible for transport of bins to the kerb and back.

Waste Generation for the site has been calculated using DECC “Better Practice Guide for Waste Management in Multi-unit Dwellings”.

80 L/unit/week

40 L/unit/week

Sufficient space is allocated in waste storage areas to handle the expected volume of waste generated by the proposed apartments.

Given the extensive road frontage of the subject site, kerbside collection is considered reasonable in this case.

6.12 Flora and Fauna

The subject site is not part of a biodiversity corridor and is not identified as having high ecological value. The site is generally occupied by built form in its current condition with domestic scale landscaping. There are several mature trees on the site. As such an arborist assessment has been undertaken and provision made to protect trees were possible. Please refer to the report prepared by Advanced Treescape Consulting. The landscape proposes new tree planting to ensure a high quality landscape outcome is achieved consistent with the high density residential zoning of the site.

6.13 Accessibility

Adaptable units are proposed in accordance with the DCP as are accessible car parking spaces.

As outlined in the attached report by expert Accessibility Solutions, subject to minor design changes or alternate solution to the BCA, where non-compliances exist these can be "readily resolved" to ensure compliance with the BCA and Australian Standards such that the provisions of the Disability Discrimination Act will be met.

It is recommended that a condition be applied to ensure compliance with the BCA and relevant Australian Standards to be demonstrated at CC.

6.14 Energy Efficiency and Water

The design includes features to ensure compliance with the requirements of BASIX. An assessment against the provisions of BASIX have been made by Damian O'Toole Town Planning. Furthermore, the development has been designed to maximise daylighting and natural ventilation to reduce demand for artificial heating and cooling. In addition, the site has access to public transport reducing privacy motor vehicle use.

The proposed water provision and stormwater system features a number of features to ensure the principles of Water Sensitive Urban Design. A MUSIC model has been provided.

6.15 Building Code of Australia

An assessment of the proposal has been made against the provisions of the Building Code of Australia to confirm that the building can comply without the need for significant amendment. A report is provided.

6.16 Social Impact Assessment

The proposed development includes a 37% component of Affordable Rental Housing as defined by the SEPP (Affordable Rental Housing) 2009. That means that that floor space shall be allocated to affordable housing for at least 10 years.

The proposed development achieves a positive social impact overall due to the following:

- The proposal provides a high-quality design.
- The proposal provides access to private and common open space
- Proposed unit sizes meet minimum standards
- The proposed development is designed in accordance with CPTED principles.
- The proposal provides a mix of dwelling types to ensure housing diversity is achieved on the site.
- The proposal also provides adaptable units.
- The site is well located in regard to public transport access
- Residents are able to meet their day-to-day needs given the proximity of the site to the local centre, the existing shopping village and surrounding land uses.
- The site is not isolated in terms of access to employment.

6.17 Crime Risk

The elements of Crime Prevention Through Environmental Design (CPTED) have been considered in the Social Impact Comment which forms part of this application as a separate report. The proposed development has been designed in accordance with CPTED principles. The proposal is not considered to give rise to a crime risk.

7 Site Suitability

The site is suitable for the proposed development as demonstrated by the technical reports provided as part of the application.

The following provides a summary of the suitability of the site for the proposed development:

- The proposal complies with the intent and objectives of the LEP.
- The site is not flood or acid sulphate soil impacted.
- Flora and Fauna impacts and Bushfire do not affect the site.
- The redevelopment of the site does not give rise to an isolated site.
- The development contributes to the much-needed housing stock within the region.
- The proposed development has the potential to stimulate further development in the vicinity.
- The subject site is located within close proximity to public transport.
- The site is within walking distance of public open space areas.
- The site is adjacent to the local centre and in proximity to employment areas.
- The site has access to all necessary infrastructure.
- The proximity of the site to public transport, infrastructure and services will promote use of public transport and alternative means of accessing services than using a private car (e.g. walking and bicycling).

8 The Public Interest

This report is submitted in support of the development application for development of residential flat building. The proposal represents suitable utilisation of the site with its close proximity to services. Being one of the first high density residential developments in the area, the proposal represents a high quality architectural solution and very suitable for the site, capturing Council's future desired character for the area as set out in the LEP.

As such the development application is in the public interest as it will provide for:

- Achievement of State Policies promoting infill development on urban land, particularly on sites with good access to public transport infrastructure;
- An opportunity to provide higher densities in close proximity to public transport infrastructure and facilities;
- An opportunity to provide high quality facade design in the local area in close proximity to public transport infrastructure and facilities.
- The proposal contributes to affordable rental housing.
- Contribution to the diversity and choice of housing in the area with a range of dwelling sizes.
- The development includes landscaping and tree plantings to enhance the streetscape.
- The proposal provides large areas of communal open space.
- The proposed development complies with standards and guidelines for future traffic generation and impacts on the road network.
- The proposed development maintains sufficient solar access to neighbouring buildings and does not unreasonably overshadow public open spaces and reserves.

Given these locational, design and development attributes, it is recommended that Council support the proposal by granting consent to the development application.

APPENDIX 1 – COMPLIANCE TABLES

SEPP Affordable Rental Housing 2009 Compliance Table

Table 1: SEPP Compliance Table		
Control	Assessment/Comment	Compliance (✓/x)
10 Development to which Division applies		
(1) This Division applies to development for the purposes of dual occupancies, multi dwelling housing or residential flat buildings if: (a) the development concerned is permitted with consent under another environmental planning instrument, and (b) the development is on land that does not contain a heritage item that is identified in an environmental planning instrument, or an interim heritage order or on the State Heritage Register under the *Heritage Act 1977*.	Residential Flat Building Development Proposed and permissible with consent under LLEP 2008 The site is not heritage listed and is not subject to an interim heritage order.	✓ ✓
(2) Despite subclause (1), this Division does not apply to development on land in the Sydney region unless all or part of the development is within an accessible area.	The site is within 400 metres walking distance of a bus stop used by a regular bus service (within the meaning of the *Passenger Transport Act 1990*) that has at least one bus per hour servicing the bus stop between 06.00 and 21.00 each day from Monday to Friday (both days inclusive) and between 08.00 and 18.00 on each Saturday and Sunday. This is satisfied by the Bus Stop at Newbridge Road which is 400 m walking distance from the subject site via Ascot Street, the Dredge Pathway and Regan Park. It is also noted the site is within 400 m walking distance of bus stops on Maddecks Avenue and Nuwarra Road which have bus services which meet the frequency criteria when considered in combination.	✓

13 Floor space ratios This clause applies to development to which this Division applies if the percentage of the gross floor area of the development that is to be used for the purposes of affordable housing is at least 20 per cent.	37% of the gross floor area of the development shall be used for affordable housing.	✓
(2) The maximum floor space ratio for the development to which this clause applies is the existing maximum floor space ratio for any form of residential accommodation permitted on the land on which the development is to occur, plus: (a) if the existing maximum floor space ratio is 2.5:1 or less: (i) 0.5:1—if the percentage of the gross floor area of the development that is used for affordable housing is 50 per cent or higher, or (ii) Y:1—if the percentage of the gross floor area of the development that is used for affordable housing is less than 50 per cent,	A 0.37:1 bonus is proposed in accordance with this clause resulting in a total FSR of 1.57:1 by utilising 37% of the proposal for affordable housing.	✓
14 Standards that cannot be used to refuse consent		
(b) **site area** if the site area on which it is proposed to carry out the development is at least 450 square metres,	The site area is 3,655.78 m^2	✓
(c) landscaped area if: (ii) in any other case—at least 30 per cent of the site area is to be landscaped,	At least 30% of the site is landscaped	✓
(d) deep soil zones if, in relation to that part of the site area (being the site, not only of that particular development, but also of any other associated development to which this Policy applies) that is not built on, paved or otherwise sealed: (i) there is soil of a sufficient depth to support the growth of trees and shrubs on an area of not less than 15 per cent of the site area (the *deep soil zone*), and (ii) each area forming part of the deep soil zone has a minimum dimension of 3 metres, and (iii) if practicable, at least two-thirds of the deep soil zone is located at the rear of the site area,	At Least 15% of site is deep soil with a minimum dimension of 3 m.	✓
(e) solar access if living rooms and private	It is noted that SEPP 65 allows for solar	✓

open spaces for a minimum of 70 per cent of the dwellings of the development receive a minimum of 3 hours direct sunlight between 9am and 3pm in mid-winter.	access in Metropolitan Sydney to achieve 2 hours direct solar access in midwinter between 9am and 3pm The proposed development achieves 55% with 3 hours solar access and at least 74% with 2 hours solar access. The site orientation makes it very difficult to achieve 3 hours solar access for 70% of units because the site has its narrowest frontage facing north. The longest frontage faces and the existing subdivision pattern is oriented such that if the building aligns with the street, which is desirable, no east facing apartment can achieve 2 hours sunlight in midwinter. The proposed design therefore orients most units north and west. Layouts seek to position balconies in front of living rooms to maximise the usability of the balcony. The balcony also acts as a passive solar element allowing solar penetration in winter but blocking higher angle summer sun.	
(a) parking if: (ii) in any other case—at least 0.5 parking spaces are provided for each dwelling containing 1 bedroom, at least 1 parking space is provided for each dwelling containing 2 bedrooms and at least 1.5 parking spaces are provided for each dwelling containing 3 or more bedrooms,	Under the clause 91 spaces required 91 spaces proposed.	
(b) **dwelling size** if each dwelling has a gross floor area of at least: (i) 35 square metres in the case of a bedsitter or studio, or (ii) 50 square metres in the case of a dwelling having 1 bedroom, or (iii) 70 square metres in the case of a dwelling having 2 bedrooms, or (iv) 95 square metres in the case of a dwelling having 3 or more bedrooms.	Each dwelling meets the minimum sizes	✓
(3) A consent authority may consent to development to which this Division applies whether or not the development complies with the standards set out in subclause (1) or	Consent is sought even though the proposed does not comply with solar access requirements. Although 3 hours of direct solar access is not achieved, the proposal	✓

(2).	demonstrates good amenity with regard to solar access that is consistent with the Apartment Design Guide criteria.	

LEP 2008 Compliance Table

Table 2: LEP Compliance Table			
Clause	Control	Assessment/Comment	Compliance (✓/x)
Zoning	R4 – High Density Residential	Residential Flat Buildings are permissible within the zone.	✓
Zone Objectives	To provide for the housing needs of the community.	The proposed development increases housing supply in an area with access to public transport and commercial uses. The proposal provides a mix of apartment types and also provides a portion of affordable housing. The permitted density is achieved. The proposed development provides an optimal outcome in terms of meeting the objective.	✓
	To provide a variety of housing types within a high density residential environment.	The proposed development represents high density residential development meeting the FSR limit. The proposed development provides Studio, 1, 2 and 3 bedroom units representing a diversity of apartment types.	✓
	To enable other land uses that provide facilities or services to meet the day to day needs of residents.	The proposed development does not inhibit other sites from providing permissible non-residential uses. The site being at the interface of the B2 zone is well placed for meeting the day to day needs of residents.	✓
	To provide for a high concentration of housing with good access to transport, services and facilities.	The site being at the interface of the B2 zone is well placed with good access to transport, services and facilities.	✓
	To minimise the fragmentation of land that would prevent the achievement of high density	The proposed development achieves amalgamation of 5 allotments and meets minimum lot frontage and lot size. The	✓

	residential development.	proposed development is on a corner and thus does not isolate other sites with both adjoining sites capable of being amalgamated with neighbours to the west or behind. The proposed development achieves sufficient setbacks consistent with ADG criteria so as not to sterilize adjoining development.	
4.1 Minimum subdivision lot size	1000 m^2	3,655.78 m^2 site area	✓
4.3 Height	18 m	The proposed development has a height of no more than 18 m to the roof and a maximum height of 19.30 m which occurs at the features associated with the proposed roof garden. Clause 4.6 provided	x
4.4 FSR	1.2:1	The proposed development seeks a 0.37:1 bonus under the SEPP (Affordable Rental Housing) 2009 and as such complies with the standard	✓
4.6 Exceptions to development standards	Allows for flexibility in application of development controls	A Clause 4.6 for height is proposed to allow for a 5 storey building with rooftop garden. This achieves significantly better amenity achieving increased ground level floor-to-ceiling height to allow for future flexibility of use, 3.1 m floor to floor heights elsewhere and establishing ground level so that lobby entries are at footpath level and are fully accessible. The non-compliance is very minor and does not give rise to adverse impacts. The additional density serves a public benefit by providing affordable housing and a high level of amenity with regard to open space. The non-compliance arises on this particular site due to irregular topography and the desire to maximise access to common open space via a roof garden. The proposed represents a better development than one that complied with the height standard. The non-compliance arises from the particulars of the site. Refer	✓

		to Clause 4.6 Variation Request which is a separate report to this SEE.	
5.6 Architectural roof features	(2) Development that includes an architectural roof feature that exceeds, or causes a building to exceed, the height limits set by clause 4.3 may be carried out, but only with development consent.	The elements which exceed the height limit could be considered architectural roof features as they are integrated into the overall design of the building and crucial to the roof garden proposed. They do not give rise to overshadowing or other adverse impacts and are not capable of being converted to habitable space.	✓
5.9 Preservation of trees or vegetation	(3) A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by: (a) development consent, or (b) a permit granted by the Council.	An arborist report forms part of the application and supports the proposed removal of trees to facilitate the development. Where trees are retained sufficient protection measures can be implemented during construction. The proposed development also includes new tree planting to add to the local tree canopy.	✓
5.10 Heritage conservation	N/A	the site is not heritage listed. It is not in a heritage conservation area. It is not in proximity to a heritage item or a heritage conservation area. N/A	N/A
7.14 Acid Sulfate Soils	N/A	The site is not identified as ASS prone in the LEP. The Geotechnical Report forming part of this application also states ASS are unlikely. Any excavation will be minor (to put in new foundation) and is minor and does not meet the 5 m threshold. A preliminary Geotechnical report addresses potential acid sulphate soils.	N/A
7.8 Flood planning	N/A	The site is not identified as flood prone.	N/A
7.14 Minimum building street	(2) Development consent must not be granted to development	The proposed development achieves a 78.20 m frontage to Lucas Avenue	✓

frontage	for the purposes of any of the following buildings, unless the site on which the buildings is to be erected has at least one street frontage to a public street (excluding service lanes) of at least 24 metres: (b) any building of more than 2 storeys on land in Zone R4 High Density Residential, B1 Neighbourhood Centre or B2 Local Centre, or (c) any residential flat building.		
7.13 Minimum lot width in Zones R1, R2, R3 and R4	(3) The width of any lot, resulting from a subdivision of land to which this clause applies, that is capable of accommodating residential development but is not the subject of a development application for that purpose, must not be less than 10 metres except as provided by subclause (4).	The minimum lot width proposed is 25.95 m	✓

DCP Compliance Table

Table 3: DCP Compliance Table			
Clause	Control	Assessment/Comment	Compliance (✓/x)
Part 1 – General Controls			
2.	Tree Preservation	An arborist report forms part of the application and supports the proposed removal of trees to facilitate the development. Where trees are retained sufficient protection measures can be implemented during construction. The proposed development also includes new tree planting to add to the local tree canopy.	✓
3.	Landscaping and Incorporation of Existing Trees	An arborist report forms part of the application and supports the proposed removal of trees to facilitate the development. Where trees are retained sufficient protection measures can be implemented during construction. The proposed development includes new tree planting which is incorporated into the existing environment. Other supportive landscape integrates with proposed and existing tree planting. Refer to Landscape Plan by Michael Sui	✓
	3.1 Retention of existing on site trees 1. Existing trees and native vegetation are to be retained, protected and incorporated into the development proposal. This is particularly important for vegetation which forms part of a	The proposed development seeks to retain existing trees where possible. An arborist report forms part of the application. The subject site's existing landscape does not form part of the ridgeline tree canopy and is not in a foreshore or riparian area. The residential area does not have a substantial concentration of native trees	✓

	ridgeline tree canopy and in foreshore and riparian areas (with the exception of weed species).	and a tree canopy is not apparent. The nearby tree canopy existing in the church and school setbacks to the south does not extend throughout the residential zone.	
	2. Prior to the commencement of the design of a development existing trees should be identified. The design of a development should consider options to retain existing trees.	An arborist report forms part of the application and options for retention of trees have been considered.	
	3. Existing indigenous trees within any building setback should be retained where possible, as an integral component of the site's landscaping, and to protect local habitats.	The proposed development seeks to retain indigenous trees where practical while still achieving orderly and economic development.	✓
	It is important that all plans accompanying the development application including engineering and hydraulics plans are consistent with the landscape plan. This is particularly important where trees are to be retained. For example storm water lines and excavation should not be within the drip line of trees to be retained	The hydraulics plan does not locate major infrastructure near existing trees.	✓
3.2	Retention of existing street trees	Street trees are identified on the survey plan. It is noted that there are few street trees near the boundary of the subject site and those that do exist are low scale. The only major exceptions to this are two street trees at the corner of Harvey Avenue and McKay Avenue which shall not be impacted upon by the proposed development. The proposed driveway position remains west of the small existing street tree on McKay Avenue.	✓

		The proposed development suggests the planting of additional street trees.	
3.3	Protection of existing trees during construction	Refer to Arborist Report. Protection measures can be incorporated as per the recommendations.	✓
3.4	Landscape Specifications	Landscape plan in accordance with requirements. Refer to Landscape Plan The Lucas Avenue frontage is most suitable for tree planting because overhead powerlines are not present.	✓
6.	Water Cycle Management		
6.1	Gravity Drainage to Council's drainage system	The proposed stormwater management plan includes basement drainage pump in accordance with this clause. A concept stormwater management plan forms part of the application. Connection is sought to Council's system. Inter allotment drainage is not proposed Proposed OSD has been integrated into the landscape plan	✓
6.3	Gross Pollutant Traps	Device proposed in accordance with Council's Pre DA advice.	✓
6.4	Stormwater Runoff Quality	Refer to the Stormwater Management plan provided with Application	✓
6.5	Environmental Flows	Refer to the Stormwater Management plan provided with Application	✓
8.	Erosion and Sediment Control	An Erosion and Sediment Control Plan forms part of the application	✓

11.	Salinity Risk	The site is identified on state government maps as part of a general area noted as moderate salinity risk. It is just north of areas which have been investigated and confirmed as low salinity risk. The Geotechnical Assessment forming part of the application indicates that disturbance of the groundwater table is unlikely. Given the site is not in a high risk area, is not near a water course and is not flood prone, it is suggested that a salinity assessment would be appropriate at the construction phase along with other geotechnical investigations and could be governed by a condition of consent.	
12.	Acid Sulfate Soils Risk	Site is not identified for ASS in the LEP map. This is confirmed by the Geotechnical Study forming part of the application.	✓
13.	Weeds	Noxious weeds are not identified on the site.	✓
14.	Demolition of Existing Developments	A waste management plan forms part of the application. The demolition work will be to Australian Standards and in accordance with the DCP clause to be addressed by condition of consent. Given the age of the dwellings on the site, it is recommended that an hazardous waste survey be undertaken prior to demolition and if materials such as asbestos or lead paint identified, that it be disposed of in accordance with the Australian Standard. This is set out in the Phase 1 contamination study which forms part of the application.	✓
15.	On Site Sewage Disposal	It is proposed to connect to municipal system	N/A

18.	Notification of Applications	It is assumed the proposed development will be notified for the standard time period. Notification plans are provided	✓
20.	Car Parking and Access		
20.1	Overall Design Considerations The layout of a car parking area shall consider the entire facility, including car parking modules, landscaping, circulation aisles and roadways, access driveways and, if necessary, frontage road access as an integrated coordinated design. The management of traffic within a car parking facility should take into account: 1. The need for traffic to move to and from the frontage road with minimum disruption to passing traffic and maximum pedestrian safety. 2. Provision of adequate capacity in circulation roadways and aisles to handle peak hour movements without congestion. 3. Avoid as far as practicable conflicts between intersecting streams of circulating traffic. 4. Minimum length travel paths between entry/exit points and car parking spaces.	The proposed parking access is from the south west corner of the site. The driveway permits left in left out manoeuvres. The lowest part of the site is at Harvey Avenue, but this area is required for the large extent of OSD nominated for the site. Sight lines are maintained to protect pedestrians. The driveway is located away from pedestrian street crossings. Aisle width is to the Australian standard (5.8 m) and a wider aisle is provided around the ramp entries and exits. Proposed development provides 2 way circulation. Space is provided at the end of blind aisles for turning. Swept paths are provided. Car parking spaces are located convenient to lift access.	✓

	5. Safe treatment of points of conflict with pedestrians and other road users.	The proposal reduces the number of kerb crossings from 4 to 1 on the site. Change in pavement between footpath and driveway signal crossing and sightlines are clear.	
20.2	Car Parking Provision and Service Facilities by Land Use Tables 12 and 13 outline the number of car parking spaces and any other facilities required for the accommodation of vehicles on site for each land use type. In proposals where calculations of car parking requirements result in fractions of spaces being required, the fraction will be rounded up to the nearest whole space. Where developments comprise separately defined facilities, for example a hotel with a restaurant; the relevant requirements of each facility must be satisfied.	The proposal being affordable housing seeks to use the SEPP AH rates for the units allocated to Affordable Housing and the DCP rates for the units not nominated for affordable housing. Table 13 has the following requirements: 1 space per small dwelling (< 65sqm) or 1 bedroom 1.5 spaces per medium dwelling (65 - 110sqm) or 2 bedrooms 2 spaces per large dwelling (> 110sqm) or 3 or more bedrooms 1 visitor car space for every 4 dwellings or part thereof. 1 x 12 (1 bedroom/studio units) = 12 1.5 x 33 (2 bedroom units) = 49.5 2 x 3 (3 bedroom units) = 6 Or 68.5 spaces Plus 4/48 Visitors = 12 spaces required 80.5 spaces total required The proposed development is also subject to the SEPP (Affordable Rental Housing) 2009 which reduces the minimum number of car parking spaces required as follows: 0.5 x 11 (studio/1 bedroom units) = 5.5	✓

		1.0 x 17 (2 bedroom units) = 17 1.5 x 0 (3 bedroom units) = 0 Or 22.5 spaces Plus 0/60 Visitors = 0 spaces required Total 22.5 spaces required The proposed development is for 103 parking spaces and is provides sufficient parking for the site.	
	Service access for removalists and garbage servicing	Waste pickup is proposed from kerbside with site having ample frontage to line up bins on collection day. The basement is suitable for small trucks for removalists. The basement can accommodate workman vehicles, moving vans and the like. The basement is suitable to accommodate such vehicles.	
20.3	Car Parking Design	Residential car parking spaces are 2.4 x 5.4 meeting Australian Standard. Disabled spaces are to Australian Standard Blind aisles include extensions Car parking is no located outdoors	✓
20.4	Internal Driveways Widths	Ramp grades to Australian standard. Refer to the traffic impact statement by Safeway Traffic Management. Width proposed to meet Australian Standard Curved ramp 7.2 m in width	✓
	Design	Car parking is proposed in basement	✓

		Car parking entry is limited to 1 entry/exit Staff parking not required Roller shutter door to provide security with intercom system Wayfinding signs can be provided at CC, lift positions are easily identifiable Pedestrian circulation within basement is safe Basement designed to be low speed environment.	
	Loading Facilities	Waste pickup and major loading functions are proposed to occur at the street level, not in the basement. The basement can accommodate workman vehicles, moving vans and the like. The basement is suitable to accommodate such vehicles.	✓

20.5	Driveway Crossings	Driveway located 1 m from side boundary. Driveway is not located in proximity to any gutters drains or the like. Driveway is located 18 m from where the kerb begins to curve at the intersection of Lucas Avenue and McKay Avenue. Driveway is located close to but outside of existing canopy of street tree as indicated on the site survey. The driveway is not located on a classified street. All vehicles can enter and exit the site in a forward direction. With Left in Left Out manoeuvring, sightlines are maintained. Driveway ramp grades to satisfy Australian standard and deemed acceptable by expert traffic consultant in the report by Safeway Traffic Management. Crossing width is to meet Australian Standard and allow one way in and one way out access to minimise vehicle conflicts and satisfy council's requirement that all vehicles enter and exit the site in a forward direction.	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ to meet Australian Standard for 2 way traffic
20.6	Pavement requirements	Standard driveway material proposed	✓
20.7	Transport Impact	Transport Management Plan by Safeway Traffic Management forms part of the application Construction Transport Plan is not provided as it is considered that given the size of the site and the long street frontages, transport impacts during construction shall not be greater than	✓ ✓

		could be reasonable expected. It is recommended that a Construction Transport Plan be developed and submitted as part of the CC via a condition of consent.	
21.	Subdivision of Land and Buildings	Site amalgamation is proposed. The amalgamated lot shall comply with the applicable minimum lot size, lot width and lot frontage.	✓
22.	Water Conservation	A BASIX certificate forms part of the application	✓
23.	Energy Conservation	A BASIX certificate forms part of the application. The proposal also uses principles of passive solar design achieving a high proportion of dwellings which received direct sunlight in midwinter. This reduces demand for artificial lighting and air conditioning.	✓
24.	Landfill	Fill is generally not proposed with site excavated for basement parking. As stated previously since site is not identified in State Government Salinity Maps as having a high risk of salinity, it is proposed that salinity testing form part of the CC stage detailed geotechnical investigations for construction.	✓ Seek considerati on at cc stage
25.	Waste Disposal and Re-use Facilities	A WMP forms part of the application with a commitment to reuse and recycle materials where possible and thus limit waste to landfill. Waste Management Plan sets out ongoing waste management suitable for the particular site including twice weekly collection at kerbside. This is consistent with initial consultation with Council via telephone, avoiding liability for Council	

		waste vehicle entering the site and considering the site has a very extensive frontage and can accommodate temporary bin storage on kerb.	
	Waste Management Facilities	A communal waste room is proposed in the basement. A waste cabinet with recycle bin and general waste bin provided on every residential level. Building manager shall be responsible for transporting and replacing bins from residential floors to common waste room. Building manager shall be responsible for carting bins to kerb for pick up on collection day. It is noted that the DCP states that Council waste vehicles will not enter a site to collect waste. The proposed kerbside pickup satisfies this provision.	✓
	Other Waste Considerations	A bulky waste storage area is provided in the basement Chute system not proposed Signage can be provided at CC stage.	✓
26.	Outdoor Advertising and Signage	The only signage proposed is to identify the location of the building. This will be located at building entry affixed to the building.	✓
27.	Social Impact Assessment	The proposed development shall have a positive social impact on the local area. Refer to report.	✓
Part 3.7 – Residential Flat Buildings			
Objectives	a) To provide controls for residential development to ensure that it achieves a high standard of urban design, that is compatible with the amenity and character of	The proposed development achieves a high standard of urban design, responding to the future desired character of the area, establishing an appropriate relationship to the public domain and enhancing the	✓

	the area. b) To provide for a variety of housing choice within residential areas with Liverpool.	public domain. Façade articulation reduces the impact of bulk and scale. The proposed development provides high density residential apartments representing an alternative to large single family home living which dominates the existing area. The mix of units caters to changing demographics and a mix of studio, one, two and three bedroom units are proposed.	 ✓
2	Frontage and Site Area	The minimum lot width of the site is approximately 35 m Amalgamation of 5 lots proposed. Minimum site area requirement of 1,000 m2 is more than tripled with the proposed site area of 3,655.78 m2.	✓ ✓
3.	Site Planning	The topography does slope by some degree but this does not impact on the streetscape quality of the proposal. Safe pedestrian access is provided with lobby entries directly addressing the street and not requiring stair access. Driveway crossing limited to a single crossing and is separated from pedestrian entries. Cycle access is provided with cycle parking in the basement. The proposed development provides ADG compliant side setbacks to provide visual separation and visual privacy. The proposed development is consistent with the desired future character of the area. Facades are well articulated and built form in broken into two separate forms. Landscape softens built form at the side boundary adjoining other sites. New landscape planting is provided in street setbacks to achieve a quality relationship between built form and landscape.	✓ ✓ ✓ ✓

		Stormwater management plan integrates with site design. OSD provided and does not have an overly obtrusive impact on the streetscape. The proposal is consistent with SEPP 65. Site analysis plan forms part of the application.	✓ ✓ ✓
4.	Setbacks	The site has 3 street frontages, all to local streets. The minimum building front setback is 5.5 m with balcony encroachments as allowed by DCP Terraces extend into the setback zone but with appropriate landscape and fence design to achieve a high quality streetscape. Because the site has three street frontages is does not have a rear boundary condition. Side setbacks to the western boundary comply with ADG criteria and provide visual separation to the adjoining dwellings. The proposed side setback of the southern building varies due to stepping profile of building and up to four storeys ranges from 7.5 m to 9.6 m. Due to floor-to-ceiling heights proposed, Level 3 is above 10 m. The proposed side setback of the northern building is 6 m for the first four storeys and 9 m above. This represents a minor non-compliance to the DCP for 1 of the 5 storeys as the fourth storey rises 9-12 m above the ground level. However, an additional setback of 1 m is provided above the fourth storey (in accordance with the ADG). Given compliance with the ADG and the increase in setbacks over a portion of the building, the proposed	✓ ✓ & X

		development is considered acceptable and meets the underlying purpose of the setback control which is to provide "reasonable space for landscaping open space and solar access" and protect privacy. The basement in some locations extends beyond the building footprint but it remains within the footprint of ground level terraces and thus is consistent with the setback controls.	
5.	Landscaped Area and Private Open Space	A minimum of 25% of the site area is proposed to be landscaped area. A minimum of 50% of the front setback is landscaped area. Consolidated areas of deep soil are located in both the western side boundary setback and in parts of each street setback. The areas have dimensions suitable for robust landscape planting. Excessive paving is not proposed.	✓ ✓ ✓ ✓
	Open Space	Communal open space is provided in the western side setback and at roof level. It meets minimum dimensions set out in the ADG for usable space. It includes soft landscape and hard paving. Facilities are provided. The ground floor area has a north north eastern aspect and will achieve good solar access	
	Private Open Space	SEPP 65 Clause 6A overrides the minimum areas for private open space set out in the DCP. The proposed development meets ADG Criteria Larger private open space terraces are provided for ground level apartments.	ADG Criteria achieved. ✓

		Private open spaces are designed as extensions of living areas. Private open spaces are secure and private.	✓ ✓
	Drying areas	Clothes drying facilities provided.	✓
6	Building Design, Streetscape and Layout		
	Building Height	It is noted that the LEP height is 18 m. The only other building in the area which has redeveloped in accordance with the applicable height controls at 96-98 Nuwarra Avenue and 80-82 Lucal Avenue are six storeys which would exceed the height limit given the floor to ceiling heights necessary to achieve amenity. The proposed development, at 5 storey is consistent with the scale of built form envisaged in the LEP. **The proposal is therefore fully consistent with the Objective of the DCP clause.**	x & ✓
	Building Appearance and Streetscape	Building Design in accordance with SEPP 65 The proposed façade is highly articulated. The roof form is integrated with the overall design of the building. Pedestrian entries are clearly defined and reinforced by façade layout. Blank side walls are not proposed and all side walls are articulated. Basement driveway design is standard and located at the western side of the building. It is recessed into the building although entry is not from the side of the building. The basement driveway design is recessive in character and does not dominate the	✓ ✓ ✓ ✓ ✓

		McKay frontage. The proposed development is not a podium tower form. Any antenna will not be visible and shall be integrated into the building design. The proposed façade design reflects its structure and layout. The façade is articulated in both the horizontal and vertical. The echoing of the curve of the corner relates the built form to its surrounding streetscape. Balcony and articulation element design adds visual interest to the façade. Design elements are integral to the overall design and do not appear as "after thoughts". Façade designed to maximise solar access in winter and shade hot summer sun. The proposed development expressly emphasises the important corners of the building and does so by echoing the curve of the street and kerb. Building services are integrated into the design where possible. The exception is the substation and fire hydrant booster which cannot be concealed due to standard requirements. These elements do not give rise to an unreasonable visual impact. Other services are fully integrated. Substation is setback from the site boundary as much as practical and shall be partially screened by landscape.	✓ n/a ✓ ✓ ✓ ✓ ✓
	Roof Design	The roof design is a flat parapet roof and follows the articulation of the facades below, fully integrated with the contemporary aesthetic of the building proposed.	✓

	Building Entry	A building entry is provided to each building on the site. The entries have direct street address and are easily identifiable within the streetscape. The entries are accessible without the use of stairs. Clear lines of site are achieved from the public domain to each entry. Each entry is accessible. A clear transition between public and private domain is achieved. Concealment opportunities are minimised Controlled access to lobbies is proposed Letter box locations do not create visual clutter. Lobby and corridor widths are sufficient for furniture movement, etc.	✓ ✓ ✓ ✓ ✓ ✓ ✓
	Balconies	It is noted SEPP 65 Clause 6A overrides the DCP in regard to Private Open space size and dimensions. Balconies are proposed which are not excessively deep but do allow for solar access in winter and shading in summer. Balconies are located above ground level. All balconies are adjacent to the primary living area of each dwelling Each balcony dimensions which make it usable; in accordance with ADG. Screening devices are proposed. Minimum depth of 2 m is provided for the minimum area required under the ADG.	ADG Achieved

		Balconies provide casual surveillance of the street or common open space.	
	Daylight Access	It is noted that SEPP 65 Clause 6A overrides the DCP in regard to Solar and Daylight Access. The proposal is oriented to try to maximise the northern aspect but also share solar access for the maximum number of units. This has resulted in the northern and north western aspects being favoured on the site since units facing Lucas Avenue and McKay Avenue cannot not achieve 2 hours solar access. South facing single aspect units are minimised in the proposed development. Daylight access to common open space is achieved by virtue of placing it in the western setback where it will maintain solar access across the northern boundary of the subject site. Shading devices proposed where appropriate.	ADG Achieved
	Internal design	All staircases are internal Common walls between dwellings shall be acoustically treated but are minimised as much as practical. Basement car parking is generally below the building footprint with the exception of the Lucas Avenue setback zone where it terminates under the ground level terraces. Sufficient deep soil and landscape achieved regardless of this encroachment. Natural ventilation to basement car parking is not proposed due to desire to keep basement below ground level.	✓ ✓ ✓ ✓ ADG

		ADG Setbacks are employed at the side boundary condition to achieve acceptable visual privacy to state standards. Internal layout generally seeks to group like rooms and keep more sensitive rooms away from potential noise sources. Active room uses and balconies provide casual surveillance to the common open space as well as the public domain.	Setbacks achieved for visual privacy ✓ ✓
	Ground Floor Dwellings	Individual entries to ground floor dwellings are proposed. Fence design, façade articulation and placement of building entries promote pedestrian activity. Planting is proposed along terrace entries. New footpaths are proposed at each street frontage. Ground floor dwellings have access to private open space in the form of a courtyard.	✓
	Security	Each building entry is oriented towards the street with direct street address. Access is not from rear lanes Each building has a single entry point from the street. The public and private domain are clearly delineated through ground floor building and landscape design. Clear sightlines are maintained to each building entry from the street. Car park is open and sightlines to lifts achieved from each area of the car park. Lighting shall be provided.	✓

		Each street and the common open space is casually surveilled by living rooms and private open spaces. Blind corner and alcoves are avoided around lifts. Illumination shall be provided to common areas to be detailed a CC. The car parking area is secured by a roller door. Buildings are sufficiently separated to disallow access between apartments. Building design to avoid opportunities to access apartments from other apartments in the development by making balconies, windows and roofs of one apartment inaccessible from another.	
	Natural Ventilation	It is noted that Clause 6A of SEPP 65 overrides the DCP in regard to Natural Ventilation. 60% of apartments are naturally cross ventilated via a dual aspect. Individual apartment depths are kept to ADG guidelines. Unit layouts are devised not to impede airflow around the unit.	ADG Achieved
	Building Layout	Apartment layouts are efficient, keeping common wall interfaces to an appropriate level.	✓
	Storage	Clause 6A of SEPP 65 overrides the DCP in regard to storage. The proposed development achieves ADG required storage with at least 50% provided in the	ADG Achieved

		apartment and ancillary storage provided in the basement.	
7.	Landscaping and Fencing		
	Landscaping	The proposed development allows for mature tree planting in setbacks of 8 m in height. Nominated landscape is largely native, low water demand species. The existing street tree located to the east of the proposed driveway shall not block important views to the street because the proposed driveway entry is left in left out. The proposed development seeks to retain trees and proposes new tree planting to compensate for tree loss required to achieve orderly and economic development. Planter boxes above basement slab have sufficient soil depths to support landscape. The proposed landscape plan enhances the public domain. Landscape softens the visual impact of built form. Planting provides areas of shade and areas of solar access. Refer to Landscape Plan by Michael Sui	✓
	Planting on Structures	Sufficient soil depths are provided above the basement slab to support landscape. Refer to Landscape Plan by Michael Sui	✓
	Primary Frontage	The maximum height of fences is proposed at 1.5 m to the primary frontage and are setback at least 1 m from the front	✓

		boundary. The fence is at 30% transparent with the boundary fence proposed adjacent to OSD areas at the northern part of the site. The fence has a solid base and open palisade form above to maintain sigthlines and achieve consistency with CPTED principles. Landscape is provided to enhance fence design.	
	Secondary Frontage	Secondary Frontage Fences and walls are maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped. The proposed terrace fences are setback from the boundary and visually permeable at upper levels to create a more open character.	✓
8.	Car Parking and Access	Visitor parking is not stacked and shall be identified. Visitor car parking is located behind the roller door but an intercom is provided to allow access. Pedestrian entry and driveway are separated. The driveway is located on the western side of the building. The entry is recessed into the façade although it faces McKay Avenue. Driveway can accommodate removalist vans Underground Parking is proposed It is noted that the proposal takes advantage of the DCP's control that basements can extend beyond the slenderer building footprints above to provide a logical and efficient parking grid.	✓

	Pedestrian Access	Each building is accessible and common areas are also accessible Significant public domain improvements are proposed including new footpaths. Building entries directly address the street and clear sightlines maintained. Ground floor dwellings are accessible from the street where they have a street frontage. Vehicular entry is located away from the pedestrian entry.	✓
9.	Amenity and Environmental Impact		
	Solar Access	Clause 6A of SEPP 65 overrides solar access portions of the DCP. The proposed development does not give rise to significant overshadowing of neighbouring sites. They maintain at least 2 hours direct solar access in midwinter.	✓
	Privacy	Clause 6A of SEPP 65 overrides solar access portions of the DCP. Setbacks in accordance with the ADG are provided to the side boundary to protect privacy of neighbouring sites. Balcony forms do not give rise to privacy impacts.	✓
	Acoustic Impact	An acoustic report by Renzo Tonin accompanies the application and provides recommendation to meet acceptable internal and external noise criteria and thus achieve a high level of amenity.	✓
10.	Site Services		

	Letterboxes	The nominated letterbox position makes them easily accessible to the street and for residents entering the building on foot. Letter boxes to be further detailed at CC stage in accordance with LEP.	✓
	Waste management	Waste room located in basement. Temporary space for bins to be placed near kerb of collection day only, no structure proposed. Site frontage is extensive and ample space for bins.	✓
	Frontage works and damage to Council infrastructure	Noted	
	Electricity Sub Station	Substation proposed at the north western corner of the site near the boundary. This is suitable due to the location of existing power lines. Landscape proposed around.	✓