



Statement of Environmental Effects






Construction of an Eleven-
Storey Residential Flat
Building Containing 52
Affordable Housing Units

4-6 Bigge Street, Warwick Farm

Submitted to Liverpool City Council
On Behalf of Land and Housing Corporation

SEPTEMBER 2019

REPORT REVISION HISTORY

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APPENDICES

Appendix	Document	Prepared by
1	DCP Compliance Table	City Plan
2	Site Survey	DS Survey
3	Architectural Plans	Turner Architects
4	SEPP 65 Statement	Turner Architects
5	Landscape Plans	Sydney Design Collective
6	Stormwater Report	ADG
7	Civil Plans	ADG
8	Construction Waste Management Plan	Hutchinson Builders
9	Operational Waste Management Plan	Elephants Foot
10	BASIX Report and Certificate	WGE
11	BCA Report and Compatibility Statement	City Plan Services
12	Access Report	MGAC
13	Traffic and Parking Report	Varga Traffic Planning
14	Geotechnical Report	SMEC Testing
15	Preliminary Site Investigation Report	STS
16	Acoustic Report	Acoustic Logic
17	QS Report	M&T Cost Planning
18	Clause 4.6 Variation Report - Height	City Plan
19	Arborist Report	Redgum Horticultural

1. EXECUTIVE SUMMARY

This Statement of Environmental Effects (SEE) has been prepared for Land and Housing Corporation (LAHC) by City Plan Strategy and Development Pty Ltd (City Plan) to accompany a development application (DA) to Liverpool City Council. The site is located at **4-6 Bigge Street, Warwick Farm** ("the site").

A detailed description of the proposal is provided in Section 3 of this report. However, in summary, the proposal includes:

- Removal of all vegetation on the site;
- One (1) basement/parking level comprising 24 car spaces, bicycle spaces, motorcycle spaces and storage cages;
- Eleven (11) residential-storeys providing fifty-two (52) dwellings comprising 29 x 1-bedroom (56%) and 23 x 2-bedroom (44%) units; and
- Associated landscaping and civil works.

This SEE has been prepared pursuant to Section 4.12 of the Environmental Planning and Assessment Act, 1979 and Clause 50 of the Environmental Planning and Assessment Regulation, 2000. The purpose of this SEE is to:

- Describe the proposed development and its context;
- Assess the proposal against the applicable planning controls and guidelines; and
- Assess the potential environmental impacts and mitigation measures

The development application is made pursuant to Division 1 of State Environmental Planning Policy (Affordable Rental Housing) 2009 (Affordable Rental Housing SEPP). The dwellings will comprise affordable housing in accordance with the definition of the Affordable Rental Housing SEPP as the development is on land owned by LAHC. The proposed building will be managed by an external community housing provider and the tenure of the development is proposed to be a mix of social and affordable housing (50:50 split).

The proposed development seeks to vary one development standard pursuant to the Liverpool Local Environmental Plan 2008 (LLEP) in relation to Clause 4.3 as a result of the breach of height standard relating to the roof parapet and rooftop structures which exceed the 35 metre maximum building height by a maximum of 1.5 metres. The breaches relate to non-habitable floorspace and the encroachment is not a means of achieving additional yield or floor space on the site.

This is a Crown DA as the application is made by LAHC. Division 4.6 of the Environmental Planning & Assessment Act 1979 states that a consent authority must not refuse a Crown DA except with the approval of the Minister, or impose a condition of consent except with the approval of the applicant or the Minister.

The proposed residential flat building development is representative of the desired future character of Liverpool City Centre. The proposal will regenerate a vacant site in the northern end of Bigge Street and provide additional housing supply in an appropriate and suitable location. The proposed design of the building seeks to provide an appropriate built form commensurate with the existing and future character of the locality, with the scale and mass carefully articulated.

The proposed development will represent a valuable contribution to the broader aims and objectives of the Greater Sydney Region Plan and the Western City District Plan and will provide 52 dwellings within the

Liverpool City Centre locality. The statutory and strategic planning considerations impacting the proposed works are discussed in detail at Sections 4 and 5 of this SEE.

With respect to the assessment of the proposal, where impacts are identified, measures are proposed to mitigate any harm to the environmental amenity of surrounding sites and future development throughout the locality. A comprehensive assessment of environmental impacts has been undertaken in Section 6 of this SEE. Our assessment concludes that the proposed development is consistent with the desired future form and character of the site and locality. The proposed works will provide significant amenity improvements for future residents and occupiers of the site and will have reasonable and manageable impacts on the external environment. The SEE concludes that the proposal is of an appropriate scale and mass, will have no unacceptable amenity impacts, is in the public interest and is worthy of approval.

2. SITE ANALYSIS

2.1. Regional Context

The site is located within the Liverpool local government area (LGA), approximately 32km west of Sydney's central business district (CBD). A plan showing the location of the site in the context of greater Sydney and its CBD can be viewed at **Figure 1**.



Figure 1: Regional Context map with site identified by green marker (Source: Nearmap)

2.2. Local Context

The site is located in the suburb of Warwick Farm within the Liverpool LGA at 4-6 Bigge Street. Warwick Farm is predominantly a low to medium density residential area with a high-density residential area to the north of Sydney Southwest Private Hospital, in the vicinity of the site. Large pockets of IN1 General Industrial areas also feature within the suburb. To the northeast of the site is a large RE2 Private Recreation area, currently occupied by the Warwick Farm Racecourse. The site is within 40m of the nearest bus stop located on Bigge Street and approximately 55m to the intersection of Bigge Street and the Hume Highway. A plan showing the local context of the site can be viewed at **Figure 2**.



Figure 2: Location map with the site identified by green marker (Source: Nearmap)

2.3. Site Address and Legal Description

The site is located at 4-6 Bigge Street, Warwick farm in the Liverpool LGA. This is legally described as Lot 22 and 23 DP35110. The site comprises two (2) allotments, as shown in **Figure 3** and **4**.



Figure 3: Site plan, subject site outlined in red (Source: Six Maps)



Figure 4: Aerial photo of the subject site, outlined in purple (Source: Nearmap)

The subject site is rectangular in shape. As detailed in the Survey Plan prepared by the DS Survey (**Appendix 2**) the approximate area of the site is 1,757m². The site is relatively flat with a crossfall of 0.2-0.3m from south to north and less than 1 metre from the rear to the front of the site.

The dimensions of the site are as follows:

Table 1: Site dimensions

Boundary	Frontage	Dimension (m)
North	2 Bigge Street	51.71m
East	9 & 11 Goulburn Street	34.03m
South	8 - 10 Bigge Street	51.47m
West	Bigge Street	34.14m

2.4. Site Context

The site is located approximately 1km north of the Liverpool City Centre and is located within a residential precinct containing a number of high-rise apartment buildings.

The site is bound to the north and south by two six-storey residential flat buildings. Adjoining the site to the north-east is a six-storey residential flat building and to the south-east is a two-storey dwelling house. The

site is bound to the west by Bigge Street, with a fifteen-storey residential flat building located opposite the subject site.

The site does not contain any heritage items and is not situated within a heritage conservation area.

The site is within close proximity to public transport, infrastructure and local facilities and services. The site benefits from excellent transport links to Warwick Farm and Liverpool Railway Stations and has good access to the local and regional road network via the Hume Highway to the north of the site.

Two bus stops are located along Bigge Street, opposite 8 Bigge and 33 Lachlan St, both of which are within 70m south of the site. On street parking is available along specific sections of Bigge Street.

Warwick Farm Railway Station is approximately 750m north east of the site along the Hume Highway whilst Liverpool Station is located 1.1km due south of the site. These railways link the site to Parramatta and the Sydney CBD.

2.5. Site Photographs



Figure 5: View of site looking southeast from Bigge St (Source: Google Images)



Figure 6: View of site looking east from Bigge Street (Source: Google Maps)

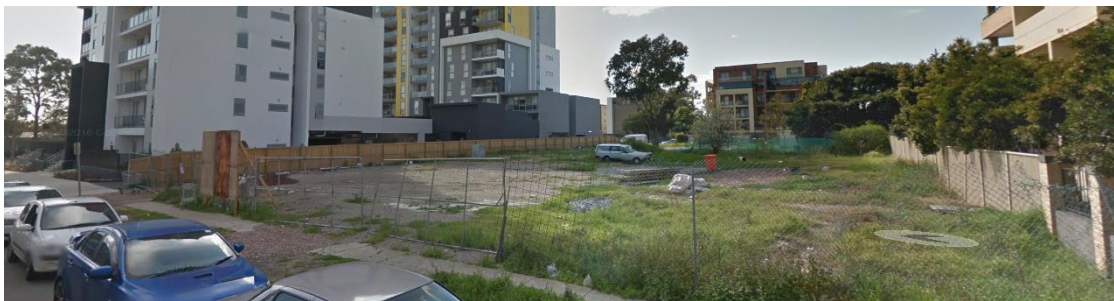


Figure 7: View of site looking northeast from Bigge Street (Source: Google Maps)

2.6. Surrounding Development

In summary, the surrounding context is described as follows:

- As outlined within the Liverpool DCP 2008, Bigge Street is located within the Liverpool City Centre. The character of the Liverpool City Centre is divided into special areas including Residential, Commercial and Retail Core, Education and Medical Precinct, Riverfront, Ring Road and Laneways and East bank Industrial land. The site is within a residential area.
- Development along Bigge Street to the south of the site consists of a variety of uses including high density residential, mixed use developments, Sydney Southwest Private Hospital, All Saints Catholic College, Bigge Park, Liverpool Station and various commercial uses.
- Development immediately surrounding the site fronting Bigge Street, Goulburn Street and Browne Parade on the south side of the Hume Highway predominantly consists of residential flat buildings ranging up to 16 storeys in height.
- Additionally, Liverpool Hospital is located approximately 850m south of the site along Elizabeth Street
- Approximately 55m north of the site is the Hume Highway that comprises shop top housing, residential and commercial uses.
- On the northern side of the Hume Highway is predominantly medium to high density residential development with pockets of RE1 Public Recreation and IN1 General Industrial areas.

2.7. Photos of Surrounding Uses



Figure 8: View of residential development opposite site, looking northwest from Bigge Street (Source: Google Maps)



Figure 9: View of Sydney Southwest Hospital, looking northeast from Bigge Street (Source: Google Maps)



Figure 10: View of surrounding residential development and All Saints Catholic College, looking south from Bigge Street (Source: Google Maps)



Figure 11: View of surrounding commercial and residential development, looking southwest from the Hume Highway (Source: Google Maps)



Figure 12: View of surrounding residential development, looking south towards the site from the intersection of Bigge Street and Hume Highway (Source: Google Maps)



Figure 13: View of surrounding residential development, looking west from the Browne Parade and Hume Highway intersection (Source: Google Maps)

2.8. Relevant Planning History

A development application was lodged in August 2011 on behalf of LAHC at the subject site for the construction of a residential flat building comprising 37 residential units, basement car parking and associated landscaping. The development application was withdrawn in September 2012.

A development application was lodged in May 2015 on behalf of LAHC at the subject site for the construction of a ten-storey residential flat building comprising 47 residential units and basement car parking. The application also sought the consolidated of the two lots into one Torrens title lot. The development application was withdrawn in May 2016.

3. DESCRIPTION OF DEVELOPMENT

3.1. General Description

This SEE relates to a DA proposing removal of all vegetation on the site, earthworks and construction of a residential flat building comprising eleven (11) storeys and fifty-two (52) affordable housing dwellings, one (1) basement/parking level comprising twenty-four (24) car park spaces, as well as ground floor level communal open space at 4-6 Bigge Street, Liverpool.

A detailed description of the proposal is provided below.

3.2. Site Analysis Plan

The following is an extract of the proposed site analysis plan:

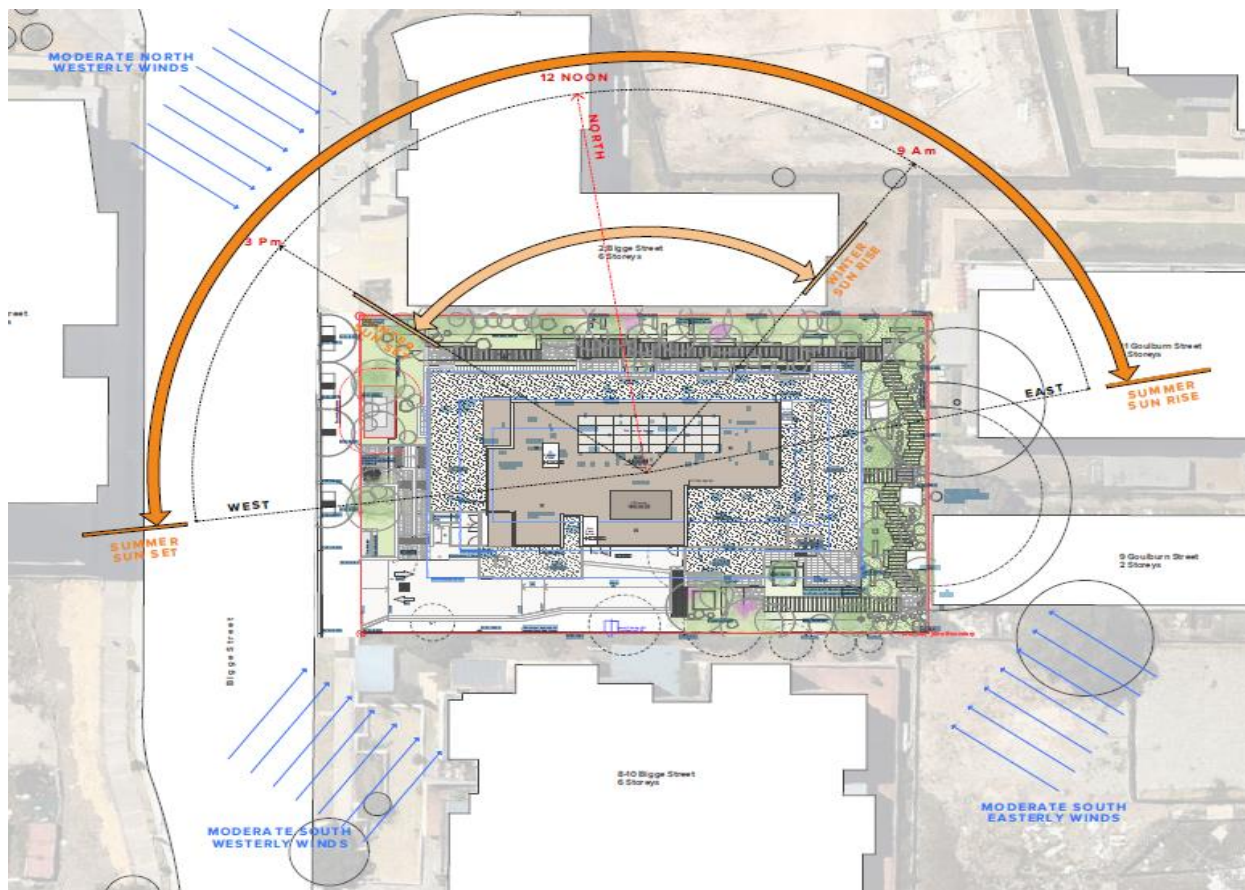


Figure 14: Site Analysis Plan (Turner Architects)

3.3. Development Statistics

The key statistics and elements of the project are shown in the table below:

Table 2: Development Statistics.

Element	Proposal
Site Area	1,757.8m ²
Gross Floor Area	3,908m ²
Maximum Height	RL55.750
FSR	2.22:1
Total Apartments	52
Total Adaptable Apartments	6
Total Parking	24
Basement storage	35 residential cages

3.4. Detailed Proposal Description

3.4.1. Construction

The following table provides a level by level summary of the proposed building:

Table 3: Summary of Proposal, Level by Level

Level	Use	Details
Basement B1	Car Park	<p>A total of 24 car parking spaces, comprising of:</p> <ul style="list-style-type: none"> 18 standard 6 adaptable <p>Also proposed are:</p> <ul style="list-style-type: none"> 2 motorcycle spaces 35 residential storage cages 17 bicycle storage cages Access to 2 lifts Vehicular ramp to ground floor level Services rooms
Ground	Residential	<ul style="list-style-type: none"> Substation 3 visitor bicycle spaces Vehicular ingress and egress Landscaping Garbage room <p>A total of 6 dwellings, comprising of:</p> <ul style="list-style-type: none"> Four (4) 1-Bed; and Two (2) 2-Beds.
Level 1	Residential	<p>A total of 8 dwellings, comprising of:</p> <ul style="list-style-type: none"> Six (6) 1-Bed; and Two (2) 2-Beds.
Level 2	Residential	<p>A total of 8 dwellings, comprising of:</p> <ul style="list-style-type: none"> Six (6) 1-Bed; and Two (2) 2-Beds.
Level 3	Residential	<p>A total of 7 dwellings, comprising of:</p> <ul style="list-style-type: none"> Five (5) 1-Bed; and Two (2) 2-Beds.
Level 4	Residential	<p>A total of 4 dwellings, comprising of:</p> <ul style="list-style-type: none"> One (1) 1-Bed; and Three (3) 2-Beds.
Level 5	Residential	<p>A total of 4 dwellings, comprising of:</p>

Level	Use	Details
		<ul style="list-style-type: none"> One (1) 1-Bed; and Three (3) 2-Beds.
Level 6	Residential	A total of 3 dwellings, comprising of: <ul style="list-style-type: none"> One (1) 1-Bed; and Two (2) 2-Beds.
Level 7	Residential	A total of 3 dwellings, comprising of: <ul style="list-style-type: none"> One (1) 1-Bed; and Two (2) 2-Beds.
Level 8	Residential	A total of 3 dwellings, comprising of: <ul style="list-style-type: none"> One (1) 1-Bed; and Two (2) 2-Beds.
Level 9	Residential	A total of 3 dwellings, comprising of: <ul style="list-style-type: none"> One (1) 1-Bed; and Two (2) 2-Beds.
Level 10	Residential	A total of 3 dwellings, comprising of: <ul style="list-style-type: none"> One (1) 1-Bed; and Two (2) 2-Beds.
Total		24 car parking spaces 17 resident bicycle spaces 3 visitor bicycle spaces 2 motorcycle spaces 52 residential units

Refer to the architectural plans prepared by Turner Architects at **Appendix 3** for further detail.

3.5. Tree Removal

The site is vacant and devoid of existing structures. The application seeks the removal of existing trees and vegetation on the site, as well as a street tree. An extract of the demolition plan is provided below which shows the extent of tree removal. It is noted that the large tree indicated on the Demolition Plan is identified as being located on the neighbouring property and is to be retained.

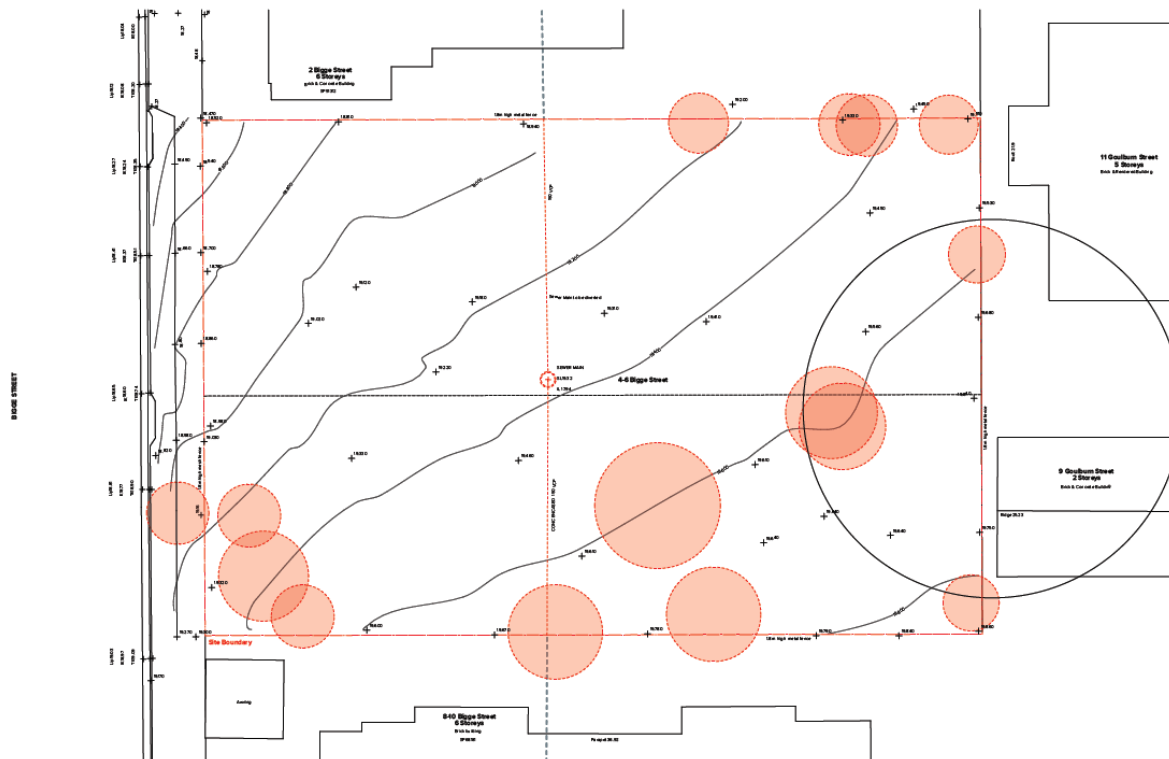


Figure 15: Demolition Plan (Source: Turner Architects)

3.6. Landscaping and Communal Open Space

Site landscaping will be undertaken in accordance with the landscape plan prepared by Sydney Design Collective and extracted overleaf.

The merits and impacts of the proposed landscape design will be considered separately in Section 6 of this SEE. However, it is noted that the proposed design includes:

- Communal garden and courtyard for residents use;
- Extensive perimeter landscaping comprising a variety of low and medium height shrubs, tree planting and landscape structures; and
- A comprehensive planting schedule and design.

For further detail, refer to the Landscape Plan provided at **Appendix 5**.



3.7.1. Parking

Seventeen (17) bicycle storage spaces are provided at basement level, with a further three (3) visitor bicycle spaces provided at ground floor level.

Detailed basement plans are included in the architectural package prepared by Turner Architects at Drawing No. DA-110-007A. This plan and the proposed parking provisions have also been assessed in the Traffic and Parking Report prepared by Varga Traffic Planning at **Appendix 13**. For further detail, reference should be made to this accompanying documentation.

3.7.2. Vehicular Access

Vehicular access to the car parking facilities is provided via a new entry/exit driveway located at the southern end of the Bigge Street site frontage.

3.8. Civil Works

The existing drainage network is proposed to be extended from the downstream stormwater pit at the intersection of Bigge Street and Hume Highway. A kerb inlet pit and associated pipe is to be constructed in Bigge Street 50m upstream from the existing pit, in front of the development. Stormwater from the development site is to discharge directly to this pit.

Internally, the building roof stormwater will be captured by the hydraulic drainage network and directed to a rainwater tank for reuse, to be designed by the hydraulic engineer. Overflow from the rainwater tank will be directed to an On Site Detention (OSD) Tank sized to accommodate detention in all storm events where an orifice plate will attenuate the flow to pre-development levels.

Grated surface inlet pits will be located external to the building to capture runoff from landscaped and hardstand areas. These will be connected and routed to the OSD tank for discharge to Council's drainage network.

3.9. Capital Investment Value

The capital investment value (CIV) of the project is estimated at \$21,915,566. Refer to the QS Report prepared by M&T Cost Planning and provided at **Appendix 17**.

3.10. Development Plans and Supporting Documentation

This SEE has been prepared with regard to the following plans and technical reports which accompany the application:

- Architectural plans by Turner Architects
- Verification Statement, SEPP 65 Design Statement by Turner Architects
- Apartment Design Guide Compliance Schedule by Turner
- Survey Plan by DS Survey
- Shadow Diagrams by Turner Architects
- Landscape Design Statement and Landscape Plan by Turner Architects / Sydney Design Collective
- Stormwater Concept Plan and Report by ADG
- Erosion and Sediment Control Plan by ADG
- Waste Management Construction Plan by Elephants Foot
- Operational Waste Management Plan by Elephants Foot
- BASIX Certificate prepared by WGE
- BCA Capability Statement by City Plan Services
- Access Report by MGAC
- Traffic and Parking Assessment Report by Varga
- Geotechnical Report by SMEC Testing
- Preliminary Site Investigation Report by STS
- Acoustic Report by Acoustic Logic
- QS Report by M&T Cost Planning
- Arborist Report by Redgum Horticultural

City Plan have relied on the information in these reports, prepared by professionals in their field, for the preparation of this SEE.

3.11. Relevant Planning History

Pre-lodgement advice was sought from Liverpool City Council prior to lodgement of this development application. A meeting was held on 27 March 2019 between council officers and the applicant and consultant team to discuss the proposed development at the site. Council officers were generally supportive of the proposal and written pre-lodgement advice was received from Council on 4 April 2019. The advice detailed the key development standards, objectives and performance controls of the environmental planning framework relevant to the site and proposal. **Table 4** provides a summary of Council's written response and a summary of how these items have been addressed.

Table 4: Pre-lodgement issues raised by Council following meeting on 27 March 2019

Item	Comment
State Environmental Planning Policy (Affordable Rental Housing)2009	
The development is to be compliant with the SEPP ARH 2009. In its current form, the plan does not nominate total number of units for affordable housing. Accordingly, it is advised that should a development application be lodged, clear information shall be provided on the allocated amount of affordable housing.	The proposal will provide 52 dwellings which are proposed to comprise social housing and affordable housing (50:50). The development will be under ownership of LAHC but managed by an external community housing provider. Section 4.5.4 the development is compliant with the SEPP ARH 2009.
Should a development application be lodged for 100% affordable housing, Social Impact Assessment/statement and Tenancy Management Plan shall be required to be submitted with the application.	Section 6.7 of this report provides social impact commentary and information regarding tenancy management. LAHC has not appointed a Community Housing Provider yet and as such a Tenancy Management Plan or Operational Plan of Management cannot be prepared. Should Council require this documentation, a condition of consent could be imposed requiring submission of this documentation either prior to CC or OC.
Clause 16A of the SEPP requires Council to assess the character of the local area, and in this instance the character and form of the building is compatible with the local area. As such, assessment of the building will be made in accordance with the Apartment Design Guide (ADG).	SEPP 65 is applicable to this application.
State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development	
The development is to be compliant with SEPP 65 and the accompanying Apartment Design Guide.	A SEPP 65 Statement has been prepared by Turner Architect and is provided at Appendix 4 .

<p>Floor Space Ratio (FSR)</p> <p>Pursuant to Clause 4.4 of LLEP 2008, the maximum FSR for the subject site is 2:1. In addition, C13 of the SEPP ARH provides for additional FSR bonus for bonus sites located in 'accessible' areas. Accordingly, it is advised that should a development application be lodged for the proposed development designs comply with the maximum FSR requirements.</p>	<p>The maximum allowable FSR for the site is 2.5:1. The proposed development has an FSR of 2.21:1.</p>
<p>Height of Buildings</p> <p>Pursuant to Clause 4.3 of the LLEP 2008, the maximum building height for the subject site is 35m. Any future designs shall comply with the maximum height requirements of the LLEP 2008.</p> <p>The plans provided for the proposed development indicate that the building height will be between 37m to 37.5m. Development protrudes the height limit by 2m to 2.5m due to the lift over run. Accordingly, it is advised that should a development application be lodged in its current form, Clause 4.6 variation statement is required to justify exceeding the allowable building height.</p>	<p>The proposed residential flat building has a maximum height of RL55.750 which exceeds the maximum height of building control by 1.5 metres.</p> <p>The height variation relates to the roof parapet and rooftop structures including the lift over-run and mechanical plant and does not include any habitable floorspace. A Clause 4.6 accompanies this application at Appendix 18 to justify the exceedance to the allowable building height.</p>
<p>Overshadowing</p> <p>In its current form, the plan indicates that living rooms and private open spaces for a minimum of 70 per cent of the dwellings of the development does not receive a minimum of 3 hours direct sunlight between 9am and 3pm in mid-winter. Accordingly, it is advised that should a development application be lodged for the proposed development in its current form, it should comply with the requirement.</p> <p>The submitted plans indicate that, the southern adjoining residential flat building will be impacted by overshadowing. Consideration must be given to minimise overshadowing and ensure that adjoining property do not exacerbate existing conditions.</p>	<p>As detailed in the solar access plans provided at Appendix 3, the proposal complies with the ADG. 71% of apartments (37 units) receive a minimum of 2 hours direct sunlight (to living rooms and private open spaces) between 9am and 3pm at midwinter.</p> <p>An assessment of the overshadowing impacts caused by the proposal is provided in Section 6.3.5.</p>
<p>Communal Open Space</p> <p>In section 3D of SEPP 65, it requires that a minimum of 25% of the site is designated as communal open space. Having regard to the submitted plans, an open landscape area is located on Ground level which does not equate to 25% of the site. Accordingly, notation and area delineation should clearly outline the space allocated for communal open space.</p>	<p>As detailed in the SEPP 65 Design Statement at Appendix 4, the proposed development complies with the ADG and provides 29% of the site area as communal open space. The open space is accessible from the lobby at ground floor level, providing direct and equitable access for all residents.</p>

<p>In addition, acceptable and direct, equitable access should be provided to communal open space for all residents of the proposed development.</p>	
<p>Design Excellence Panel (DEP)</p> <p>The development will be referred to Council's Design Excellence Panel as part of the assessment process. It is recommended that the design be presented for a review and feedback so that any required amendments can be resolved prior to lodgement.</p> <p>All SEPP 65 apartment buildings must be designed by a qualified architect and their registration number is to be shown on all drawings.</p> <p>It is recommended that the issues identified above are included in the plans being presented to the DEP for comment</p>	<p>The SEPP 65 apartment building has been designed by a qualified architect and their registration number are shown on all drawings.</p> <p>The issues raised in the pre-DA have been addressed in the amended plans subject of this development application.</p>
<p>Liverpool Development Control Plan 2008 (Part 1 & Part 4) & Draft Liverpool Development Control Plan 2008 Part 4</p>	
<p>Adaptable Housing</p> <p>(4) For residential flat buildings and multi-unit housing, 10% of all dwellings must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995).</p>	<p>Six (6) apartments are provided as adaptable representing 12% of the total number of apartments.</p>
<p>State Environmental Planning Policy No. 55- Remediation of Land</p>	
<p>Additional advice is required from a suitably qualified and experienced contaminated land consultant to determine the suitability of the land for the proposed development. In this regard, the Applicant shall engage the services of a suitably qualified and experienced contaminated land consultant to prepare a Stage 1- Preliminary Site Investigation for the Land.</p> <p>Where contaminating activities are suspected or known to have occurred, or if site history is incomplete, it may be necessary to prepare a Stage 2- Detailed Site Investigation.</p>	<p>Contamination is discussed in Section 4.4.1 of this SEE.</p>
<p>Traffic</p> <p>A Traffic Impact Statement addressing traffic generation, impacts on the surrounding road network and parking provision is to be submitted.</p> <p>Driveway access and parking designs are to comply with the DCP and AS2890 parts 1, 2 and 6.</p>	<p>A Traffic and Parking Report has been prepared by Varga Traffic Planning and is provided at Appendix 13.</p> <p>The report confirms that the geometric design layout of the proposed car parking facilities have been designed to comply with the relevant requirements specified in the Standards Australia publication <i>Parking</i></p>

<p>Extend the concrete median on Bigge Street fronting the site by 12m to deter right turn movements out of the development in to Bigge Street.</p> <p>'No Parking' signs to be implemented on either side of the driveway access to deter parking along Bigge Street frontage for about 12 metres on either side.</p> <p>Address pedestrian desire lines and conflicts with vehicles. Pedestrian path to be a minimum of 2.5m wide.</p> <p>Street lighting to Council's specifications.</p>	<p><i>Facilities Part 1 - Off-Street Car Parking AS2890.1 - 2004</i> in respect of parking bay dimensions, ramp gradients and aisle widths.</p>
<p>Heritage</p> <p>The statement of environmental effects should acknowledge the presence of the heritage item and provide a brief statement relating to the relationship to the item and impacts.</p> <p>The proposal is located on the Hoddle Grid and should be designed to reinforce the road alignment with a clear entry point and address to the street.</p> <p>Excavation within the road corridor for services or other purposes should be undertaken with care and any potential archaeological finds reported to the Office of Environment and Heritage and Liverpool City Council.</p>	<p>Refer to Section 4.4.8 of this SEE.</p>
<p>Waste Management</p> <p>The Application shall specify how refuse and waste will be managed during demolition, construction and operation. Suitable waste storage facilities are to be provided as part of the proposal.</p>	<p>An Operation and Construction and Demolition Waste Management Plans have been prepared by Elephants Foot and Hutchinson Builders respectively and accompany the application at Appendices 8 and 9 respectively.</p>
<p>Engineering Stormwater</p> <p>Stormwater drainage for the site must be in accordance with Council's Development Control Plan.</p> <p>A stormwater concept plan shall be submitted with the application. The stormwater concept plan shall be accompanied by a supporting report and calculations.</p> <p>On-site detention is required to be provided for the site. The on-site detention system must be within common property and accessible from the street without going through dwellings or private courtyards.</p> <p>Earthworks</p> <p>No retaining walls or filling is permitted for this development which will impede, divert or concentrate stormwater runoff passing through the site.</p>	<p>A Stormwater Report and concept plans have been prepared by ADG and are provided at Appendices 6 & 7.</p> <p>An OSD tank is located in the north-west section of the basement, with a concrete lid and is accessible from Bigge Street.</p> <p>All earthworks will comply with Council's DCP.</p>

Earthworks and retaining walls must comply with Council's Development Control Plan.

Proposed fill material must comply with Council's Development Control Plan.

4. STATUTORY PLANNING CONSIDERATIONS

4.1. Overview

The proposed development has been assessed against the following State and local planning controls:

- Environmental Planning and Assessment Act, 1979;
- Environmental Planning and Assessment Regulation 2000;
- State Environmental Planning Policy No. 55 - Remediation of Land;
- State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development and Apartment Design Guide (ADG);
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (Affordable Rental Housing) 2009;
- Greater Metropolitan Regional Environmental Plan (GMREP) No 2 - Georges River Catchment; and
- Liverpool Local Environmental Plan 2008 (Liverpool LEP);

A detailed assessment against the above State and local statutory planning controls is included in this section of the report.

4.2. Environmental Planning and Assessment Act 1979

4.2.1. Section 1.3 – Objects

The Environmental Planning and Assessment Act, 1979 (the Act) is the principle planning and development legislation in New South Wales. In accordance with Section 1.3, the objectives of the Act are:

1.3 Objects of Act

The objects of this Act are as follows:

- (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*
- (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*
- (c) to promote the orderly and economic use and development of land,*
- (d) to promote the delivery and maintenance of affordable housing,*
- (e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- (f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),*
- (g) to promote good design and amenity of the built environment,*

- (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,
- (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,
- (j) to provide increased opportunity for community participation in environmental planning and assessment.

For the reasons set out below the proposed development is considered to satisfy the objects of the EP&A Act:

- The social and economic welfare of the community is promoted through the creation of increased affordable housing choice in an area located close to public transport and the Liverpool CBD.
- The proposal will result in the orderly and economic use and development of land as the site is of an appropriate size, location and land use zoning to enable the development;
- The site is located in an established residential area. The State's natural resources will not be adversely affected by the proposed development.
- The proposed development has been assessed as having an acceptable environmental, economic and social impact as detailed in Section 5 of this SEE and the accompanying consultant reports and plans. Subsequently, the proposed development will not impact on the enjoyment of future generations.
- The subject site does not pose any risk to human health, or none that cannot be remediated.
- The orderly and economic development of land is promoted in that the site is of a size that can accommodate the proposed development without any significant adverse impacts on the locality, or any major non-compliance with the relevant statutory and non-statutory planning controls.
- The proposal will not have a detrimental impact on the environment or on any flora/fauna species. Any potential off-site impacts, such as stormwater or air quality (i.e. dust), can be appropriately managed and mitigated.
- Good design and amenity of the built environment is promoted through the use of high-quality materials, finishes and colours and horizontal and vertical building elements. The development is also supplemented by deep soil planting and landscaping.
- The design will integrate effectively with recent development in the locality. The principles of the Apartment Design Guide (ADG) have been considered in the design of the development.

4.2.2. Section 4.15 of EP&A Act 1979

Section 4.15(1) of the Act as amended specifies the matters which a consent authority must consider when determining a development application. The relevant matters for consideration under Section 4.15 of the Act are addressed in the Table below.

Table 5: Section 4.15 of EP&A Act 1979.

Section	Comment
Section 4.15(1)(a)(i) Any environmental planning instrument	Consideration of relevant instruments is discussed in Section 4
Section 4.15(1)(a)(ii)	Not relevant to this application.

Section	Comment
Any draft environmental planning instrument	
Section 4.15(1)(a)(iii) Any development control plan	Consideration of relevant the development control plan is discussed in Section 5.
Section 4.15(1)(a) (iiia) Any planning agreement	N/A
Section 4.15(1)(a)(iv) Matters prescribed by the regulations	Refer to Section 4.3.
Section 4.15(1)(a)(v) Any coastal zone management plan	Not relevant to this application
Section 4.15(1)(b) - (e)	Refer to Section 6 of this SEE for consideration of (b), (c) and (e). Matter (d) relates to submissions and is a matter for the consent authority.

4.2.3. Section 4.46 – Integrated Development

This section of the Act defines integrated development as matters which require consent from Council and one or more approvals under related legislation. In these circumstances, prior to granting consent Council must obtain from each relevant approval body their General Terms of Approval (GTA) in relation to the development.

The proposal is not considered to represent integrated development.

4.2.4. Division 4.6 Crown Development

Division 4.6 outlines the matters a consent authority must consider when determining a Crown DA.

This division states that a consent authority must not refuse a Crown DA except with the approval of the Minister, or impose a condition of consent except with the approval of the applicant or the Minister.

This is a Crown DA as it is made by LAHC.

4.3. Environmental Planning and Assessment Regulation 2000

4.3.1. Clause 50 – How must a development application be made

Clause 50 (1A) of the Environmental Planning and Assessment Regulation 2000 (the Regulation) requires that a DA for a residential apartment building must be accompanied by a design verification statement from a qualified designer, which confirms:

- (a) *that he or she designed, or directed the design, of the development, and*
- (b) *provide an explanation that verifies how the development:*
 - (i) *addresses how the design quality principles are achieved, and*

- (ii) *demonstrates, in terms of the Apartment Design Guide, how the objectives in parts 3 and 4 of the guide have been achieved.*

This Verification Statement as well as the ADG compliance table has been prepared by Turner Architects and accompanies this SEE at **Appendix 4**.

In addition, Clause 50 calls up Schedule 1 of the Regulation, which provides that any DA for residential apartment development to which SEPP 65 applies, must also be accompanied by certain information.

4.3.2. Clause 98 – Compliance with the BCA

Pursuant to the prescribed conditions under Clause 98 of the Regulation, any building work *"must be carried out in accordance with the requirements of the Building Code of Australia"*. The BCA Report prepared by Building Code Assistance (**Appendix 11**) concludes that the proposal is capable of complying with the requirements of the Building Code of Australia and relevant adopted standards without undue modification to the design or appearance of the building.

4.4. State Environmental Planning Policies

4.4.1. State Environmental Planning Policy No 55 – Remediation of Land

Clause 2 - Object of this Policy

In summary, SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

Clause 7 - Contamination and remediation to be considered in determining development application

SEPP 55 states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires Councils to be notified of all remediation proposals. The Managing Land Contamination: Planning Guidelines were prepared to assist councils and developers to determine when land has been at risk.

Clause 7 of the SEPP 55 requires that a consent authority must not grant consent to a development if it has considered whether a site is contaminated, and if it is, that it is satisfied that the land is suitable (or will be after undergoing remediation) for the proposed use.

A Preliminary Site Investigation has been prepared by STS (**Appendix 15**). Based on historical aerial photographs, the report identifies that the site appears to have been occupied by two residential lots since at least 1943. Soil sampling was undertaken on the site from four (4) boreholes across the site and two (2) test pits in stockpiled materials. In total, twelve (12) soil samples were recovered from the site: six (6) site fill, four (4) native soil and two (2) stockpiled materials and were subject to laboratory testing.

The testing identified that polycyclic aromatic hydrocarbons (PAHs) contamination was identified at five (5) locations and although the detected levels of carcinogenic species in three soil samples were below the assessment criteria protective of human health for high density residential, STS consider that more investigation is required to appropriately characterise the PAHs contamination due to the proposal for deep soil area.

Additional investigation will provide an opportunity to refine the Conceptual Site Model for the site and allow appropriate assessment of the risks to human health and ecological receptors in the portions of the site where vegetation will be established. STS consider that the site may be made suitable for the proposed development subject to the findings of a further site investigation within the portions of the site which are proposed to be covered with vegetation.

In this case, Council can be satisfied that the site will be suitable for the proposal and the obligations of SEPP 55 are addressed.

4.4.2. State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development and Apartment Design Guide (ADG)

This Policy aims to improve the design quality of residential flat development to:

- Ensure such buildings contribute to sustainable development
- Provide sustainable housing in social and environmental terms
- Achieve better built form and aesthetics of buildings, streetscapes and the public spaces they define
- Better satisfy the increasing demand, changing social and demographic profile of the community
- Maximise amenity, safety and security for the benefit of occupants and the wider community
- Minimise the consumption of energy from non-renewable resources

To support these aims the SEPP introduces nine design quality principles. These principles do not generate design solutions but provide a guide to achieving good design and the means of evaluating the merit of proposed solutions.

An assessment of the proposed development, against these design principles and the ADG) criteria is contained in the SEPP 65 Design Verification Statement prepared by Turner Architects and provided at **Appendix 4**.

In summary, the proposed development provides a positive contribution to its locality in terms of its design quality, the internal and external amenity it provides and its contribution to an increase in housing choice and stock in the area. Furthermore, the proposed development is consistent with the aims and provisions of the ADG as indicated in the Design Verification Statement.

Whilst the proposal achieves a high degree of compliance with the ADG's controls and guidelines, it is acknowledged that minor non-compliances occur in relation to building separation. The ADG requires that above nine storeys, a 12m setback is provided for habitable rooms (24 metres building separation). While the minimum setback distance of 12 metres is provided from the proposal to the rear boundary, a setback distance of 9 metres is achieved from the proposal to the northern side boundary and portion of the southern side boundary. It is noted that the proposal complies with the minimum building separation requirements in the Liverpool LEP.

It is noted, however, that the non-compliance does not impact on the amenity of the adjoining properties occupants and the reduced separation is unlikely to affect the amenity of future occupants. The adjoining dwellings to the north and south are developed strata buildings six-storeys in height and the non-compliant separation at storeys nine, ten and eleven will not impact visual and acoustic privacy, outlook, natural ventilation and daylight access. Further, we note that the balconies at on all levels include translucent glass and screening to assist in additional privacy measures.

As discussed in the accompanying Statement, these are considered to be minor non-compliance's and the proposal is generally compliant with the controls and guidelines of the ADG.

4.4.3. State Environmental Planning Policy (Building Sustainability Index: BASIX) – 2004

The aim of this Policy is to establish a scheme to encourage sustainable residential development (the BASIX scheme). The BASIX SEPP, together Schedule 1 of the EP&A Regulations 2000, require the submission of a BASIX certificate for any BASIX affected building/s, which is defined in the EP&A Regulations 2000 as any building that contains one of more dwellings, but does not include a hotel or motel.

The proposal is regarded as a BASIX affected building given it includes 52 dwellings. A BASIX certificate is provided at **Appendix 10**.

4.4.4. State Environmental Planning Policy (Infrastructure) 2007

Clause 102 - Impact of road noise or vibration on non-road development

Clause 102 applies to residential development that is on land in or adjacent to the road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data published on the website of the RTA) and that the consent authority considers is likely to be adversely affected by road noise or vibration.

Although Bigge Street carries less than 40,000 vehicles, the site is located near to the Hume Highway which carries more than 40,000 vehicles. Accordingly, the potential noise impacts have been assessed. A series of recommendations are detailed in the accompanying acoustic report at **Appendix 16** to ensure that glazing, external wall construction, ventilation and roof/ceiling systems are provided to achieve the appropriate internal noise criteria.

4.5.4. State Environmental Planning Policy (Affordable and Rental Housing) – 2009

SEPP (Affordable Rental Housing) 2009 (ARHSEPP) seeks to provide a consistent planning regime for the provision of affordable rental housing. The SEPP aims to facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanded zoning permissibility, floor space ratio bonuses and non-discretionary development standards.

The proposed residential flat building satisfies the matters identified under ARHSEPP as follows:

Affordable Rental Housing Clauses	Comment	Complies
PART 1 - PRELIMINARY		
<i>7 Land to which policy applies</i>		
This Policy applies to the State.		
<i>8 Relationship with other environmental planning instruments</i>		
If there is an inconsistency between this Policy and any other environmental planning instrument, whether made before or after the commencement of this Policy, this Policy prevails to the extent of the inconsistency.		
PART 2 - NEW AFFORDABLE RENTAL HOUSING		

Affordable Rental Housing Clauses	Comment	Complies
Division 1 In-fill affordable housing		
10 Development to which Division applies		
<p>(1) This Division applies to development for the purposes of dual occupancies, multi dwelling housing or residential flat buildings if:</p> <p>(a) the development concerned is permitted with consent under another environmental planning instrument, and</p> <p>(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.</p> <p>(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.</p> <p>(3) Despite subclause (1), this Division does not apply to development on land that is not in the Sydney region unless all or part of the development is within 400 metres walking distance of land within Zone B2 Local Centre or Zone B4 Mixed Use, or within a land use zone that is equivalent to any of those zones.</p>	<p>(1) The proposal is for a residential flat building.</p> <p>(a) A residential flat building is permitted with consent under the LLEP 2008.</p> <p>(b) The site does not contain a heritage item, or an interim heritage order or on the State Heritage Register under the Heritage Act 1977.</p> <p>(2) The site is an accessible area and is within walking distance of Zone B4 Mixed Use land.</p> <p>(3) Not applicable</p>	Yes
13 Floor Space Ratios		
<p>(1) 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.</p> <p>(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:</p> <p>(a) if the existing maximum floor space ratio is 2.5:1 or less:</p> <p>(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</p>	<p>(1) The proposal is for a development that will have a gross floor area used 100% for the purposes of affordable housing.</p> <p>(2)(a) The proposed development has a maximum allowable FSR of 2.5:1 inclusive of the bonus.</p> <p>The proposal has a compliant FSR of 2.22:1.</p> <p>(3) Noted</p>	Yes

Affordable Rental Housing Clauses	Comment	Complies
<p>(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, where:</p> <p>AH is the percentage of the gross floor area of the development that is used for affordable housing.</p> <p>$Y = AH \div 100$</p> <p>or</p> <p>(b) if the existing maximum floor space ratio is greater than 2.5:1:</p> <p>(i) 20 per cent of the existing maximum floor space ratio—if the percentage of the gross floor area of the development that is used for affordable housing is 50 per cent or higher, or</p> <p>(ii) Z per cent of the existing maximum floor space ratio—if the percentage of the gross floor area of the development that is used for affordable housing is less than 50 per cent, where:</p> <p>AH is the percentage of the gross floor area of the development that is used for affordable housing.</p> <p>$Z = AH \div 2.5$</p> <p>(3) In this clause, gross floor area does not include any car parking (including any area used for car parking).</p>		
16 Continued application of SEPP 65		
Nothing in this Policy affects the application of State Environmental Planning Policy No 65—Design Quality of Residential Flat Development to any development to which this Division applies.	An assessment of the proposal against SEPP 65 is provided with this DA at Appendix 4 .	Yes
16A Character of local area		
A consent authority must not consent to development to which this Division applies unless it has taken into consideration whether the design of the development is compatible with the character of the local area.	As discussed in Section 6 of this SEE, the proposal is compatible with the character of the local area. The proposal is for a residential flat building, in keeping with the many existing residential flat building developments in the immediate vicinity and adjoining the site. The site is bound to the north and south by two	Yes

Affordable Rental Housing Clauses	Comment	Complies
	six-storey residential flat buildings and adjoining the site to the north-east is a six storey residential flat building and to the west is a fifteen storey residential flat building.	
17 Must be used for affordable housing for 10 years		
<p>(1) A consent authority must not consent to development to which this Division applies unless conditions are imposed by the consent authority to the effect that:</p> <p>(a) for 10 years from the date of the issue of the occupation certificate:</p> <p>(i) the dwellings proposed to be used for the purposes of affordable housing will be used for the purposes of affordable housing, and</p> <p>(ii) all accommodation that is used for affordable housing will be managed by a registered community housing provider, and</p> <p>(b) a restriction will be registered, before the date of the issue of the occupation certificate, against the title of the property on which development is to be carried out, in accordance with section 88E of the Conveyancing Act 1919, that will ensure that the requirements of paragraph (a) are met.</p> <p>(2) Subclause (1) does not apply to development on land owned by the Land and Housing Corporation or to a development application made by, or on behalf of, a public authority.</p>	The dwellings are proposed to be used for the purposes of affordable housing only.	Yes

4.4.5. Greater Metropolitan Regional Environmental Plan (GMREP) No 2 - Georges River Catchment

The Greater Metropolitan Regional Environmental Plan No. 2 - Georges River Catchment (GMREP No. 2) applies to certain land within the Greater Metropolitan Region of Sydney and applies to the subject site.

Clause 5 of GMREP No. 2 outlines the aims and objectives of the plan, which are to protect water quality and river flows of the Georges River Catchment. The principles of the GMREP are to be applied when a consent authority determines a DA.

As noted in the Stormwater Report, the existing drainage network is proposed to be extended from the downstream stormwater pit at the intersection of Bigge Street and Hume Highway. A kerb inlet pit and associated pipe is to be constructed in Bigge Street 50 metres upstream from the existing pit, in front of the development. Stormwater from the development is to discharge directly to this pit. Internally, the building roof stormwater will be captured by the hydraulic drainage network and directed to a rainwater

tank for reuse. Overflow from the rainwater tank will be directed to an OSD. Tank sized to accommodate detention in all storm events where an orifice plate will attenuate the flow to pre-development levels.

Grated surface inlet pits will be located external to the building to capture runoff from landscaped and hardstand areas. These will be connected and routed to the OSD tank for discharge to Council's drainage network. The proposed drainage will limit stormwater discharge from the site to pre-development levels in all storm events.

It is also noted that there is no existing flooding risk on the site and the proposed development is not anticipated to increase this risk in the site vicinity and downstream. The proposal will be appropriately managed in response to proposed stormwater generation and the proposal is unlikely to impact on the Georges River Catchment.

4.4.6. Liverpool Local Environmental Plan 2008

The Liverpool Local Environmental Plan (LLEP) 2008 is the primary environmental planning instrument (EPI) applicable to the site.

4.4.7. Zoning and Permissibility

Under the LLEP 2008, the site is zoned R4 High Density Residential.

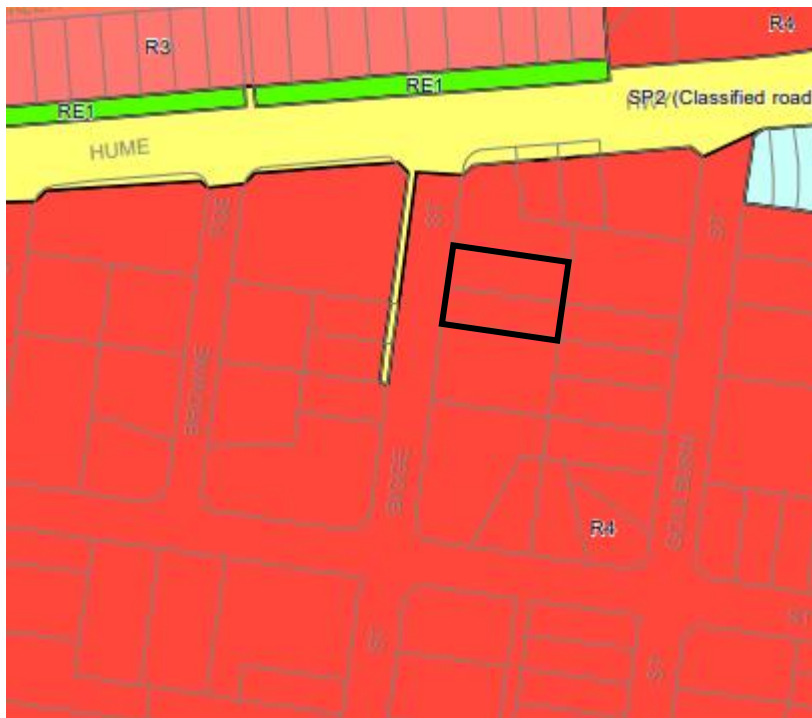


Figure 17: Zoning map, site outlined in black (Source: Liverpool LEP 2008)

The proposal is for a residential flat building. Under the LLEP 2008, residential flat buildings are permissible with consent in the R4 zone, see below:

2. Permitted without consent

Home-based child care; Home occupations

3. Permitted with consent

Attached dwellings; Bed and breakfast accommodation; Boarding houses; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dwelling houses; Educational establishments; Environmental facilities; Environmental protection works; Exhibition homes; Exhibition villages; Flood mitigation works; Home businesses; Home industries; Hostels; Hotel or motel accommodation; Kiosks; Multi dwelling housing; Neighbourhood shops; Places of public worship; Public administration buildings; Recreation areas; Residential care facilities; Residential flat buildings; Respite day care centres; Roads; Secondary dwellings; Serviced apartments; Shop top housing

4. Prohibited

Any development not specified in item 2 or 3

The zone objectives of the R4 zone are extracted below:

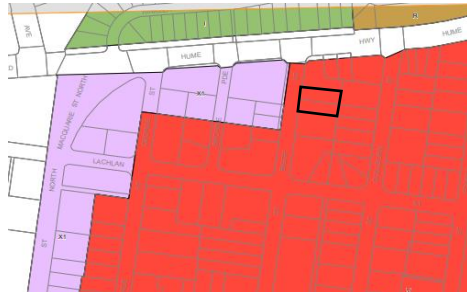
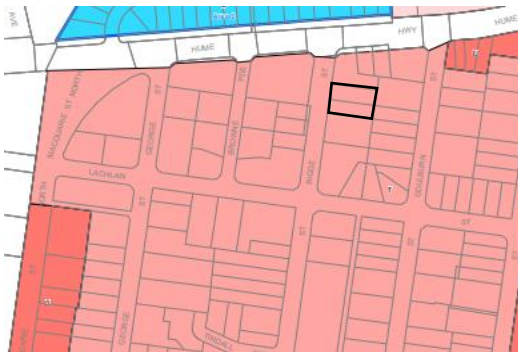
1. Objectives of zone


- *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.*

As indicated by the objectives for the R4 high Density Residential zone, a variety of housing types within a high density residential environment are encouraged. As such, the proposed use of the site to accommodate affordable housing, facilitates this objective.

4.4.8. Remaining LLEP 2008 Provisions

Relevant Clause	Comment	Complies
Part 4 Principal Development Standards		
Clause 4.3 Height of Buildings	The maximum building height is shown as 35m on the Building Heights Map as seen below:	No, but justifiable. Refer to Clause 4.6

Relevant Clause	Comment	Complies
	 <p>Height of buildings map - sheet HOB-011 Maximum Building Height (m)</p> <p>The proposed development has a maximum height of RL55.750. A small extent of the rooftop structures including the lift overrun and mechanical plant extends beyond the height limit by approximately 1.5 metres across the site. It is noted that this variation relates to non-habitable floorspace. A Clause 4.6 variation has been provided to justify the breach.</p>	Variation Request.
Clause 4.4 Floor Space Ratio	 <p>Floor space ratio map - sheet FSR-011 Maximum Floor Space Ratio (n:1)</p> <p>The proposal relies on the provisions of the Affordable Rental Housing SEPP and is eligible for a bonus 0.5:1 floor space ratio given the proposal will provide more than 50% affordable housing. The proposal has a compliant FSR of 2.2:1.</p>	No, but compliant with FSR pursuant to the ARHSEPP.
Part 5 Miscellaneous Provisions		

Relevant Clause	Comment	Complies
Clause 5.10 Heritage Conservation	<p>The subject site is not located within a heritage conservation area and is not a listed heritage item.</p> <p>Bigge Street is however identified as 'Item - General' and is the road located immediately in front of the site. Bigge Street forms part of the historic town centre of Liverpool, within the boundaries provided by the Hume Highway by-pass on the west, the Georges River to the east, Mill Road to the south and Manning Street/Hume Highway to the north. The street layout represents an early town centre street layout (Hoddle Grid 1827) and demonstrates the foundation and development of Liverpool, a Macquarie Town. The listing description for the heritage item notes that the item is intact but has been highly modified.</p>  <p>The proposed building will help to define the street edge and will reinforce the Hoddle Grid street pattern. The building addresses the street and provides clear entry points from Bigge Street with a single pedestrian entrance and single vehicular access point provided.</p> <p>The proposal will not adversely affect the heritage significance of Bigge Street.</p>	Yes
Division 1 Liverpool city centre provisions		
Clause 7.1 Objectives for development in Liverpool city centre	<p>The proposed development will assist in preserving the existing street layout and will help reinforce the street character through the redevelopment of a current vacant block of land within the Liverpool city centre. The proposed residential flat building is of a high quality design and is consistent with the surrounding building typologies. The</p>	Yes

Relevant Clause	Comment	Complies
	<p>proposed development will assist to enhance the streetscape along Bigge Street.</p> <p>The design of the building, internal layouts and orientation have been purposefully designed to provide good natural daylighting and solar access into the primary living spaces, external living areas and courtyard. The massing enables a greater proportion of apartments to have a northern aspect. Eastern and western aspects are prioritised over south aspect apartments.</p>	
Clause 7.4 Building separation in Liverpool city centre	The proposed development is compliant with this Clause and provides separation in excess of 9 metres for parts of the building between 12 metres and 25 metres (above ground level (finished)) and 12 metres for parts of the building between 25 metres and 35 metres (above ground level (finished)). Sufficient separation is provided between the proposed development and the adjoining buildings to enable sufficient privacy and solar access for occupants.	Yes
Clause 7.5 Design excellence in Liverpool city centre	<p>The proposed development will exhibit a high standard of architectural design, materials and detailing appropriate to its location within Bigge Street. The overall design concept provides an approach that considers both the detail of the building at the scale of an individual person interacting with their immediate environment and provides consideration to the overall building form within the immediate context and how the material and treatment of the façade give character and definition in the context of Liverpool. A mix of high quality, durable materials, colours and textures have been chosen to respond to and enhance the existing and future local context of this part of the Liverpool City Centre.</p> <p>The proposed development will facilitate the redevelopment of a currently vacant site and will greatly assist in enhancing and improving the site from the public domain. The public domain interface between the site and Bigge Street has been carefully considered and the proposed development ensures a seamless junction is provided from the public domain.</p>	Yes
Division 2 Other provisions		
Clause 7.7 Acid Sulfate Soils	<p>The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils.</p> <p>The site is not subject to acid sulfate soils.</p>	N/A

Relevant Clause	Comment	Complies
Clause 7.8 Flood Planning	<p>The overriding objective of this clause is to minimise the flood risk to life and property associated with the use of land.</p> <p>The application is accompanied by a stormwater report and plans (Appendices 6 & 7) prepared by ADG to ensure the proposal, as well as adjoining sites, will be appropriately managed in response to proposed stormwater generation or any other existing stormwater/drainage features.</p>	Yes
Clause 7.31 Earthworks	<p>This clause seeks to ensure earthworks would not have a detrimental impact on any environmental functions or existing built environments. It also prescribes that consent is required for most earthworks.</p> <p>The proposal relies on typical construction methods which are not expected to significantly affect existing environmental functions or surround structures. The objective would be satisfied in this case. The application also seeks consent for earthworks described in this SEE and as demonstrated in the architectural plans.</p>	Yes

5. OTHER PLANNING CONSIDERATIONS

Other relevant planning framework considered in the preparation of this report comprises:

- A Metropolis of Three Cities - the Greater Sydney Region Plan;
- Western City District Plan; and
- Liverpool Development Control Plan (LDCP) 2008.

5.1. Greater Sydney Region Plan

A Metropolis of Three Cities - the Greater Sydney Region Plan (GSRP) was released in March 2018 and is the first Region Plan by the Greater Sydney Commission. Now adopted, this Plan replaces *A Plan for Growing Sydney*. Its primary objective is to deliver a metropolitan area focused around three cities, within five (5) separate but interacting districts. The objectives of the GSRP are expected to form the basis of local environmental planning instruments and development outcomes.

The Plan envisages a global metropolis of three cities – the Western Parkland City, the Central River City and the Eastern Harbour City (see figure over page). It is anticipated that people of Greater Sydney will live within 30 minutes of their jobs, education and health facilities, services and great places.

The GSRP recognises that providing ongoing housing supply and a range of housing types in the right locations will create more liveable neighbourhoods and support Greater Sydney's growing population. The NSW Government has identified that 725,000 additional homes will be needed by 2036 to meet demand based on current population projections. By 2056, it is anticipated that significant further housing supply will be required to meet Greater Sydney's continued strong population growth.

Relevant sections of the *Greater Sydney Region Plan* are outlined in the table below.

Table 6: Consistency with the Greater Sydney Region Plan

Direction	Comment
Chapter 4 – Liveability A city for the people Housing for the city A city of great places	Greater Sydney is forecast to grow from 4.7 million people to 8 million people by 2056. Housing targets include 750,000 additional homes over the next 20 years and 817,000 new jobs to meet the needs of a changing economy.
Chapter 5 – Productivity A well-connected city Jobs and skills for the city	Integration of land use and transport will mean more people have access to jobs, education, health and other services by public transport within 30 minutes of their homes.
Chapter 6 – Sustainability A city in its landscape An efficient city A resilient city	The Plan looks to manage the effects of urban development on the natural environment, as well as to reduce costs, carbon emissions and environmental impacts and contribute to a target towards net-zero emissions by 2050.

5.2. Western City District Plan

The Western City District Plan provides a series of priorities and actions to guide development and accommodate the expected growth across the district. The District Plans have been prepared to give effect to the Greater Sydney Region Plan.

To inform the preparation of housing strategies by councils, district plans provide housing supply targets for a 0–5-year timeframe by local government area. These five-year targets reflect the existing development pipeline and provide a focus for infrastructure delivery. Councils are to work with the Greater Sydney Commission and State agencies to establish agreed 6–10-year housing targets for their local government area. In addition, councils are to identify specific attributes that make local areas suitable for housing supply beyond 10 years. These attributes include proximity to transport interchanges and strategic and local centres (especially those with a supermarket) that can support walkable neighbourhoods with access to jobs, schools and open space and opportunities to optimise existing infrastructure.

Liverpool forms part of the Western City District. The 0-5-year housing supply target for the Western City District is 39,850. The proposal is consistent with the GSRP and in particular Planning Priority W5 of the Western City District plan in that it provides additional housing supply, choice and affordability in an area with access to jobs, services and public transport. The subject site is within walking distance of the Liverpool CBD, Warwick Farm railway station, education establishments, and recreation areas including Bigge Park.

Further, the District Plan seeks to increase housing diversity and provide affordable housing within Liverpool and to undertake urban renewal at Warwick Farm and retain a social housing mix. The proposed development will revitalise and regenerate the existing vacant site and will provide 52-dwellings which are proposed to comprise a mix of social and affordable dwellings (50:50 split).

5.3. Liverpool Development Control Plan 2008

Compliance/or consistency with the relevant provisions within the LDCP 2008 is provided in the Planning Compliance Table prepared by City Plan provided at **Appendix 1**.

The following parts of the LDCP 2008 are relevant to this proposal:

- Part 1 – General controls for all development
- Part 4 – Development in Liverpool City Centre
- Draft Part 4 - Liverpool Development Control Plan Amendment 25 - Liverpool City Centre

The Table of Compliance demonstrates that on its merits the proposed development is generally consistent with the objectives of the relevant provisions of the LDCP. Where non-compliances have been identified the proposal takes into consideration the guidance offered by the LDCP and aims to comply with the intent of the controls. This approach is consistent with the statutory requirements of EP&A Act, which requires consent authorities *"to be flexible in applying [the provisions of a DCP] and allow reasonable alternative solutions that achieve the objects of those standards for dealing with that aspect of the development"*.

Non-compliance with the DCP is considered acceptable in this case given that the proposed development complies with the Affordable Rental Housing SEPP. DCP compliance is superseded by ARHSEPP/ or ADG compliance.

6. ENVIRONMENTAL IMPACT ASSESSMENT

6.1. Overview

This section identifies and assesses the impacts of the development with specific reference to the heads of consideration under Section 4.15 of the Act.

6.2. Context and Setting

The context and setting of the development is described in Section 2 of this SEE and in the SEPP 65 Statement prepared by Turner Architects.

In general, the proposal is compatible within the context and built form envisaged for the locality and the strategic direction of the broader Western City District. The proposed works are representative of the urban renewal that is occurring throughout the locality and will contribute positively to the diversity of affordable and social housing stock for future residents of the area. The proposed works also represent a significant betterment of the site in terms of landscaped area and high quality communal open space, transforming a previously unappealing, vacant site into a development that is consistent with the strategic direction and character of the locality.

The compatibility of the proposal with its surroundings can be considered further with regard to the Land Environment Court Planning Principle on “compatibility with context” in *Project Venture Developments v Pittwater Council* [2005] NSWLEC 191. The principle provides that in order to test whether a proposal is compatible with its context, the following two questions can be asked:

- *Are the proposal's physical impacts on surrounding development acceptable? The physical impacts include constraints on the development potential of surrounding sites.*

The proposed works are largely consistent with the planning controls that inform the anticipated built form of the site. While the proposal's roof parapet and rooftop structures marginally exceed the maximum height standard for the site, the proposed works are generally consistent with the development standards contained within the LLEP 2008, the non-refusal standards contained in the Affordable Rental Housing SEPP, the design guidance provided in the ADG and the controls contained in the LDCP 2008. This includes ensuring an appropriate level amenity is provided for the site's future occupants as well as the future occupants of surrounding developments. Potential amenity impacts are addressed in detail throughout Section 6 of this SEE and in the comprehensive specialist reporting that accompanies this application. The proposal's physical impacts on surrounding development have been found to be acceptable and the proposed development will not constrain surrounding development in any tangible or significant manner.

- *Is the proposal's appearance in harmony with the buildings around it and the character of the street?*

The site is located in a locality that has undergone and is continuing to undergo significant transformation to a high density residential area. As such, the proposed buildings have been designed to be consistent with the desired future character of the locality.

The proposed design has focussed on achieving harmony with the anticipated built form and character of the locality, taking cues from the Affordable Rental Housing SEPP, the LLEP 2008, the ADG and the strategic directives of the Western Sydney District Plan.

Accordingly, the following conclusions may be reached with respect to the context and setting of the proposal:

- The locality has experienced significant urban renewal from a low-density residential area to a high-density residential area;
- The proposed works are representative of the urban renewal which has taken place in the locality and provide a significant betterment of the site's existing improvements; and
- The proposed built form has been designed to the existing development on adjoining sites.

Based on the conclusions outlined above, as well as the context and setting of the site described in Section 2 of this SEE and in the SEPP 65 Statement prepared by Turner Architects, the proposed development is compatible with its context.

6.3. Built Environment

6.3.1. Height, Bulk and Scale

Clause 13 of Affordable Rental Housing SEPP provides a maximum FSR of 2.5:1 across the site. The proposal is compliant with the development standard providing a maximum FSR of 2.22:1. The total GFA of the proposal has been scrutinised throughout the design development and for the sake of transparency this application is accompanied by GFA diagrams which illustrate the areas included in accordance with the LLEP 2008 "Dictionary" definition of GFA. For detail refer to the architectural plans that accompany this application (**Appendix 3**).

While the proposal is compliant with the FSR, a small portion of the roof parapet and rooftop elements protrude above the site's 35 metre height limit for the site. In terms of design, the bulk and scale of the proposed building seeks to mitigate any adverse impacts in terms of visual massing, streetscape impact and overshadowing. The following design elements will ensure that there are no adverse impacts on the surrounding locality:

- The built form has been massed and articulated in a manner than minimises the visual impact of the development;
- The building incorporates a number of setbacks at levels four, five and seven to reduce the perceived bulk and scale of the proposed building;
- Large ground floor communal open space and landscaped area is provided to offer a landscaped setting on the site;
- The landscape design is incorporated around the perimeter of the built form providing visual interest and softening the visual impact of the building from the streetscape;
- The proposed building façade, as well as the general built form is highly articulated providing visual interest as well as maximising internal amenity; and
- The proposed building footprints have been minimised to be compliant with the LDCP;

Many of the design elements described above and applied throughout the design in the mitigation of the building's bulk and scale are visible on the elevations prepared by Turner Architects and are extracted in the Figures overleaf.



Figure 18: West Elevation (Source: Turner Architects)



Figure 19: North Elevation (Source: Turner Architects)

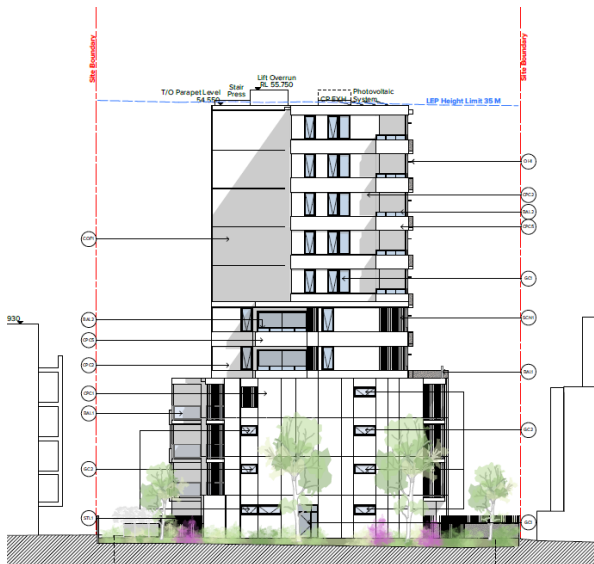


Figure 20: East Elevation (Source: Turner Architects)



Figure 21: South Elevation (Source: Turner Architects)

As demonstrated above, in the SEPP 65 Report and on the architectural plans, the proposed bulk and scale has been designed to comply with the standards and guidance offered within the applicable planning

framework. In doing so, the proposed design has been able to mitigate potential impacts with respect to bulk and scale, ensuring that internal amenity for future residents and that of future development on surrounding site's is prioritised and provided to a high standard. As such, the proposed bulk and scale of the development represents a desirable and meritorious planning outcome for the site.

6.3.2. Design and Aesthetics

Further to the design elements discussed above in relation to bulk, scale and setbacks, the SEPP 65 Report prepared by Turner Architects notes:

The overall design concept has been to provide an approach that considers both the detail of the building at the scale of an individual person interacting with their immediate environment, as well as to consider the overall building form within the immediate context and how the material and treatment of the façade give character and definition in the context of Liverpool.

The design has included consideration to external materials and finishes so that applied finishes are minimised to reduce maintenance. Interior finishes will also be selected for durability and ease of maintenance.

The proposed precast façade provides a durable, low maintenance building with materials designed to weather gracefully. The precast skin is given definition by select areas of precast with a profiled textured finish. A high degree of standardisation is proposed through panel size and the use of standard corrugated form-liners.

Balconies are both solid and translucent glass to allow privacy and screening of balcony furniture but still permitting openness and district views. These are designed to enable clothes lines and encourage potted plants and vegetation by residents.

Rendered concrete walls painted in dark earthy tones are used for the garden walls to the ground floor terraces. These walls are fronted with painted steel fencing to bring a finer detail close to the street. The base is richer in its detailing, reflecting its proximity to pedestrians.

The design measures described above, and throughout the SEPP 65 Report, have been implemented to ensure that the proposed works represent a positive contribution to the locality on a site that is visually prominent. The design measures applied also serve to improve user comfort throughout the site making it a comfortable and appealing place to live.

6.3.3. Solar Access

Suitable solar access will be provided to the proposed building. In accordance with the design guidance of the ADG, 37 of the 52 apartments (approximately 71%) will receive minimum 2 hours direct sunlight on the 21st of June between 9am and 3pm. This exceeds the ADG design criteria of 70% and will provide a high level of residential amenity for the site's future residents. Further, Turner Architects have advised that only seven apartments (approximately 13%) do not receive any sunlight on the 21st June between 9am and 3pm. This is lower than the 15% provided by the design guidance of the ADG. Thus, by providing a high level of solar access the proposed works will facilitate a suitable level of thermal comfort for the site's future occupants.

6.3.4. Cross Ventilation

Suitable cross ventilation will be provided to the proposed building. In accordance with the design guidance of the ADG, 31 of the 49 apartments (approximately 67%) are naturally cross ventilated in the first nine storeys of the building. This exceeds the ADG design criteria of 60% and will provide a high level of residential amenity for the site's future residents.

6.3.5. Overshadowing

The proposed site layout and orientation means that shadows fall predominantly to the south of the site. Shadow diagrams showing anticipated impacts between 9am and 3pm in mid-winter are extracted below and may be found in the architectural package that accompanies this application (**Appendix 3**).

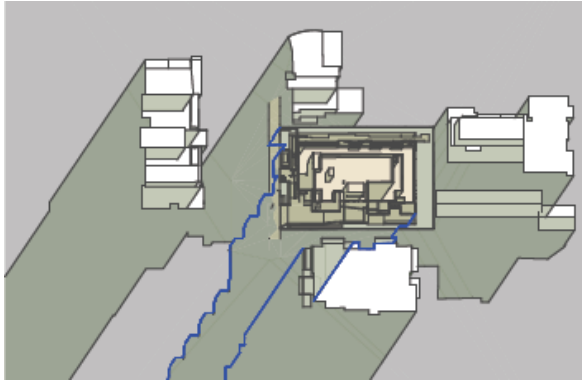


Figure 22: Overshadowing Analysis at 9am 21 June

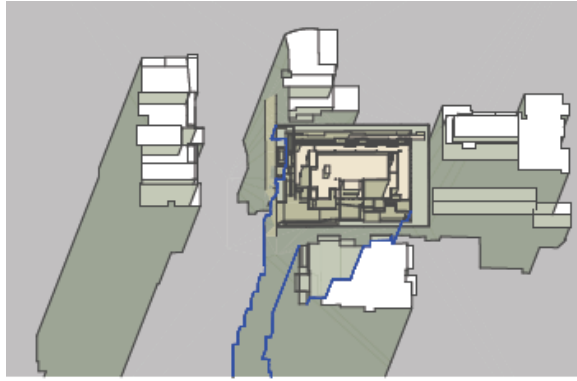


Figure 23: Overshadowing Analysis at 10am 21 June



Figure 24: Overshadowing Analysis at 11am 21 June



Figure 25: Overshadowing Analysis at 12am 21 June

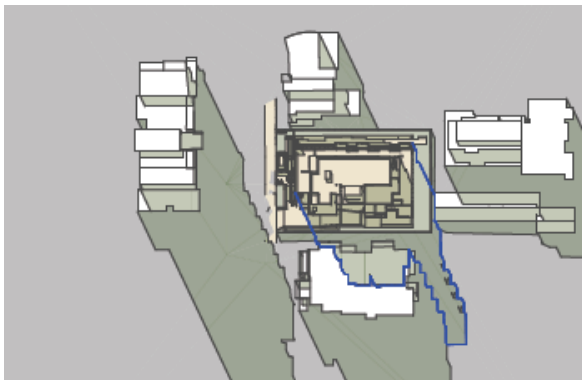


Figure 26: Overshadowing Analysis at 1pm 21 June

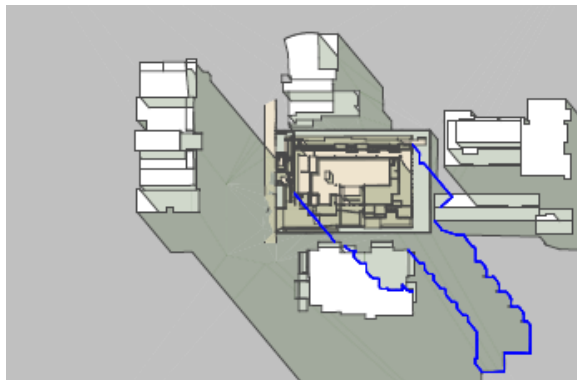


Figure 27: Overshadowing Analysis at 2pm 21 June

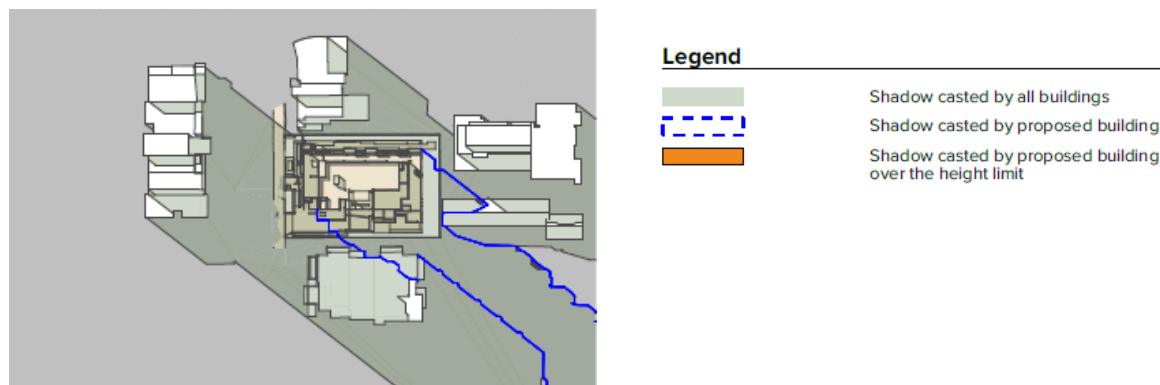


Figure 28: Overshadowing Analysis at 3pm 21 June

The shadow analysis confirms that the proposal results in a very marginal increase in shadows cast beyond a development fully compliant with the 35-metre height limit. The additional overshadowing caused from the areas of height exceedance is limited to a very small extent which falls on the roof of 8-10 Bigge Street.

It is noted that whilst the proposal results in additional overshadowing to the north-facing dwellings at 8-10 Bigge Street, the development is largely compliant with the development standards stipulated in the LLEP and LDCP for the site. These controls anticipate the site will be developed in accordance with its high density residential zoning and overshadowing is inevitable as a result of compliance with the built form controls.

6.3.6. Amenity

The proposed residential flat building has been designed with particular attention to the amenity of future occupants, neighbouring properties and the public domain. The development is responsive to the opportunities and constraints of the site and its surrounds, with regard to topography, vegetation, noise and physical impacts of street traffic, solar access and views.

Amenity is addressed in the SEPP 65 Report by Turner Architects in noting that:

The project complies with the amenity provisions of the ADG: solar access, natural-cross ventilation, room size and apartment areas all meet or exceed SEPP65 minimums. Ceiling heights are designed to facilitate light and ventilation to the habitable areas and to allow for efficient mechanical extraction and services integration. 2.7m ceilings will be provided to living and bedrooms with minimal bulkheads below 2.7m. Kitchens will be a minimum of 2.4m to allow for the reticulation of hydraulic services and mechanical exhaust ducts.

Apartments are designed from the inside out. Rooms with outlooks, direct sunlight, good ventilation and simple elegant interior layouts. Livable and adaptable design standards have been implemented while making the apartments look the same as regular apartments.

6.3.7. Privacy

Privacy is addressed in the SEPP 65 Report by Turner Architects in noting that:

Low-walls and palisade fencing provide appropriate separation and privacy to ground floor apartments. Balustrades are opaque to screen balconies areas from the public domain. Communal open space is well delineated from the public domain and is easily accessible and overlooked from common spaces and apartments. The building entry is well defined and legible with mailrooms located inside the lobby in a secured area.

6.3.8. Materials and Colour

For detail with respect to materials and colours reference should be made to the schedule of materials and finishes by Turner Architects, provided at **Appendix 3**.

The chosen colours, materials and finishes are appropriate and will complement the site's current and future surrounds.

The building has been designed to be complementary to the locality and will improve the visual amenity of the site as viewed from vantage points throughout the locality. The 3D photomontage prepared by Turner Architects provides an accurate perspective of the proposal viewed from surrounding vantage points, demonstrating the positive impact that the proposed materials and finishes will have on the visual aesthetic of the built form.



Figure 29: 3D View (Source: Turner Architects)

6.3.9. Building and Construction

The application is accompanied by:

- A BCA Assessment Report (**Appendix 11**) detailing compliance with the BCA;
- An Access Report (**Appendix 12**) demonstrating the proposal's capability of complying with relevant accessibility standards;
- Stormwater report (**Appendix 6**), as well as civil plans (**Appendix 7**);
- A Geotechnical Report (**Appendix 14**) of the site's existing condition; and
- A demolition and construction waste management plan (**Appendix 8**).

It is recommended that these reports and the recommendations therein are complied with throughout the construction process. Where relevant these matters are addressed further below.

A final Construction Management Plan will be prepared by the appointed contractor, once the terms of any approval granted by Council are known. Accordingly, it is anticipated that Council will include appropriate conditions within any consent notice requiring the preparation and approval of a CMP prior to works commencing.

6.4. Natural Environment

6.4.1. Air Quality

Some dust is anticipated during the construction period. This impact can be managed through measures such as wetting down work areas/stockpiles, stabilising exposed areas, preventing material tracking out onto public roadways, covering loads on all departing trucks and working to weather conditions. The proposal is otherwise not expected to give rise to any long term or adverse impacts on local or regional air quality.

It is also anticipated that the CMP will include a methodology for air quality management which details that contractors will be required to develop and implement site specific Air Quality Management plans.

The proposal is not expected to give rise to any long term or adverse impacts on local or regional air quality.

6.4.2. Tree Removal

An Arborist Report has been prepared by Redgum Horticultural and is provided at **Appendix 19**. The report considers sixteen (16) trees, fourteen (14) trees within the site, one (1) tree on a neighbouring property and one (1) tree on the road reserve. Fifteen (15) trees are required for removal to facilitate the proposed works. All trees proposed for removal have a medium or low retention and significance value.

A Lemon Scented Gum is located outside of the site, located on boundary of the adjoining property at 7 Goulburn Street. The tree is nominated as having a high retention value and high significance. The Arborist Report confirms this tree will be subject to minor encroachment (less than 10%) but includes a series of tree protection works which are recommended to be adhered to, to ensure this tree is retained and protected.

Replacement street tree and on-site planting is proposed to compensate for the removal of the existing trees. As detailed within the landscape plan, the proposal includes a mix of evergreen and deciduous trees on site, with four street trees proposed along Bigge Street. Once established, the proposed replacement tree planting, combined with the sympathetic landscaping treatment will ensure the appearance of the streetscape is enhanced and will provide a high-quality landscape outcome for future occupants.

6.4.3. Landscape

Sydney Design Collective have prepared a Landscape Plan which accompanies this application (**Appendix 5**). The detailed landscape scheme provides a high-quality landscaped outcome for the proposed development.

The proposed landscaped design includes 12% deep soil landscaping and 29% communal open space, which is in excess of the expectations for deep soil and communal open space provided within the ADG.

6.4.4. Water Management

The existing drainage network is proposed to be extended from the downstream stormwater pit at the intersection of Bigge Street and Hume Highway. A kerb inlet pit and associated pipe is to be constructed in Bigge Street 50m upstream from the existing pit, in front of the development. Stormwater from the development site is to discharge directly to this pit.

Internally, the building roof stormwater will be captured by the hydraulic drainage network and directed to a rainwater tank for reuse, to be designed by the hydraulic engineer. Overflow from the rainwater tank will be directed to an OSD tank sized to accommodate detention in all storm events where an orifice plate will attenuate the flow to pre-development levels.

Grated surface inlet pits will be located external to the building to capture runoff from landscaped and hardstand areas. These will be connected and routed to the OSD tank for discharge to Council's drainage network.

For detail with respect to water management, reference should be made to the documentation prepared by ADG which accompanies this application at **Appendices 6 & 7**.

6.4.5. Soil Management

Soil management is addressed with respect to contamination, acid sulfate soils and geotechnical suitability at Section 6.6 of this SEE. These considerations are not considered to raise any adverse impacts that cannot be managed and mitigated throughout construction of the site.

Reference should also be made to the Erosion and Sedimentation Control Plan prepared by ADG which accompanies this application (**Appendix 7**) and details measures to ensure the development provides appropriate soil management and sedimentation control.

6.4.6. Noise and Vibration

An Acoustic Report has been prepared by Acoustic Logic and accompanies this application at **Appendix 16**. The Acoustic Report assesses the proposed works against a range of applicable noise criteria including:

- Liverpool City Council Development Control Plan 2008;
- NSW Department of Planning – Development near Rail Corridors or Busy Roads – Interim Guideline;
- NSW Department of Planning – State Environmental Planning Policy (SEPP) (INFRASTRUCTURE) 2007; and
- Australian Standard AS2107:2016 – Recommended Design Sound Levels and Reverberation Times for Building Interiors.

Existing ambient noise levels on the site were measured using both long term unattended monitoring and short term attended measurements. Unattended long-term monitoring was conducted from the 11th to 18th April 2019 to measure the existing ambient noise levels at the site.

Traffic and background noise measurements were taken at the site of the proposed development. Measurements were performed generally in accordance with the Australian Standard AS1055 – “Description and measurement of environmental noise – General Procedures”.

A series of recommendations are detailed to ensure that glazing, external wall construction, ventilation and roof/ceiling systems are provided to achieve the appropriate internal noise criteria.

Noise emissions anticipated from the development have also been assessed to ensure that the amenity of nearby users is not affected. Potential noise sources include the noise generated by mechanical plant (typically air-conditioning and car park ventilation fans). The report recommends that a detailed review of mechanical plant should be undertaken at construction certificate stage. However, the report notes that all plant can be satisfactorily attenuated to levels complying with noise emission criteria through appropriate

location and (if necessary) standard acoustic treatments such as noise screens, enclosures, in-duct) treatments (silencers/lined ducting or similar).

Provided the recommendations in the Acoustic Report are implemented, it is anticipated that the proposed design will comply with the appropriate criteria and provide a suitable level of acoustic amenity for the future occupants and nearby users.

6.5. Movement and Access

6.5.1. Transport

The site is accessible by public transport being within close proximity to bus and train stations.

There are currently two bus routes which traverse along Bigge Street, in the immediate vicinity of the site frontage, plus a further five bus routes which operate along Campbell Street which are located within 400m walking distance of the site.

These bus services include the high-frequency intra-regional Metrobus M90 which operates between Liverpool and Burwood via Moorebank, UWS Milperra, Bankstown, Greenacre, Chullora and Strathfield. The Metrobus services operate seven days per week with weekday services every 15 minutes (every 10 minutes during the morning and afternoon peak) and weekend services every 20 minutes.

Warwick Farm railway station is located approximately 700m walking distance east of the site and Liverpool railway station is located approximately 1km walking distance south of the site. The Warwick Farm and Liverpool Railway Station both services the T2 Inner West & Leppington Line, the T3 Bankstown Line and also the T5 Cumberland Line. These services typically operate at a frequency of less than 10 minutes and commuter wait times are expected to be minimal throughout the day.

6.5.2. Car Parking

Application of the Affordable Rental Housing SEPP car parking requirements yields an off-street car parking requirement of 23 parking spaces. The proposed development makes provision for a total of 24 off-street parking spaces, including 6 accessible space, thereby satisfying the SEPP requirements.

The geometric design layout of the proposed car parking facilities have been designed to comply with the relevant requirements specified in the Standards Australia publication Parking Facilities Part 1 - Off-Street Car Parking AS2890.1 - 2004 in respect of parking bay dimensions, ramp gradients and aisle widths.

Swept turning path diagrams have been prepared which demonstrate that two large cars can pass each other at the bottom of the entry ramp into the basement car parking area in a staged arrangement without difficulty and whilst maintaining safe clearances. In addition, the top section of the entry ramp is 6.1 metres wide, allowing two cars to easily pass.

6.5.3. Traffic

The Traffic and Parking Report by Varga Traffic Consultants (**Appendix 13**) has assessed the proposal's impacts on the operation of the surrounding road network. Based on the RMS Guidelines and updated traffic generation rates in the recently published RMS Technical Direction (TDT 2013/04a) document, the development proposal yields a traffic generation potential of approximately 10 vehicle trips per hour (vph) during the AM commuter peak period and approximately 8 vph during the PM commuter peak period.

Notwithstanding, the above traffic generation rates are based on regular apartments. The proposed development however is an affordable and social housing development which has lower parking requirements due to the site's proximity to public transport services and tenants who traditionally have a lower car ownership rate.

As such, the traffic generation of the proposed development is expected to be even lower than the figures suggested in the assessment.

In any event, that projected increase in traffic activity as a consequence of the development proposal is minimal, consistent with the R4 zoning objectives of the site and will clearly not have any unacceptable traffic implications in terms of road network capacity.

6.5.4. Waste Management

This application is accompanied by an Operational Waste Management Plan (**Appendix 9**) and a Demolition and Construction Waste Management Plan (**Appendix 8**). Together this documentation details the expected waste generation and management practices to be implemented throughout various stages of the proposed development. Subject to the implementation of the proposed management practices there are not expected to be any adverse impacts generated with respect to waste throughout demolition, construction and continued operation of the proposed development.

6.5.5. Accessibility

Refer to the Access Report prepared by MGAC for the proposed building that accompanies this application (**Appendix 12**). Based on the findings of the access report, we understand that compliance with the relevant access standards and regulations is achieved.

6.6. Site Suitability

6.6.1. Geotechnical

A Geotechnical Report has been prepared by SMEC (**Appendix 14**) and provides details of the subsurface conditions. The investigation analyses the observation and samples derived from the fieldwork carried out in July 2009. Based on this fieldwork, the investigation is able to conclude the following with respect to subsurface conditions and groundwater:

- Topsoil and with fill are present to depths of 0.4 to 0.5 metres.
- Silty clays are present to depths of 2.7 to 3.9 metres. The strength of these materials range between firm to stiff and very stiff.
- Weathered shale was observed in all boreholes to the depth of drilling, 8.0 to 9.2 metres. The shale is of extremely low strength when first encountered and becomes low to medium and medium strength with depth.
- Groundwater depths were measured on various occasions and ranged from 4.7 to 8 metres in depth.

Subject to the recommendations of the Geotechnical Report being implemented throughout construction and detailed design phases the site is considered suitable and able to accommodate the proposed works.

6.6.2. Contamination

Refer to Section 4.4 for the SEPP 55 assessment.

6.6.3. Bushfire

The site is not within a bushfire area.

6.6.4. Flooding

The site is not within a flood prone area.

6.6.5. Services and Utilities

The site contains adequate facilities which will be retained / reused / upgraded where needed to cater for the proposed residential development. All installations will be capable of meeting the requirements under the Australian Standards and the Building Code of Australia.

6.6.6. Hazards (Other)

The subject site is not affected by any known hazards.

6.6.7. Conclusion

The subject site is not affected by any policy that restricts development due to hazards such as land slip, bush fire, tidal inundation, subsidence or any other risk. Any potential risk in relation to the presence of acid sulfate soils can be managed through the implementation of the relevant management plans.

An assessment under SEPP 55 has been carried out and is provided at Section 4.5.1 of this SEE. The SEPP 55 assessment provides sufficient environmental protection measures and does not indicate that there are any unsurmountable impediments to the proposed development.

Further, the suitability of the site for this form of development from an urban design perspective is discussed in detail at Section 6.3 of this SEE and in the SEPP 65 Report prepared by IDG Architects which accompanies this SEE.

6.7. Social and Economic Effects

6.7.1. Social Impact Statement

The following groups may potentially be affected by the proposed new housing at Bigge Street.:

- Surrounding residents
- Incoming tenants
- The wider community

The social impacts and benefits of the proposal are discussed below.

Impact on Housing Supply

LAHC has a long-term aim to improve the match between housing stock and client needs. The proposed development is expected to comprise a mix of social and affordable housing and will be managed by an external community housing provider. Redevelopment of the Bigge Street site offers the potential to add to the stock of modern purpose-built social and affordable housing in an area that is zoned appropriately for this use and is easily accessible to a wide range of services and facilities, transport and leisure activities.

Within Liverpool, at the end of June 2018, 2,436 applicants were listed on the general NSW housing register, with a further 230 people identified for priority housing. Based on current social housing supply within Liverpool, the expected waiting time for a 1 bedroom property is 5-10 years and 2, 3 and 4 bedroom properties are 10 + years. The proposed development will greatly assist in meeting the current demand for social housing.

Key Workers

The affordable dwellings are likely to attract key workers working in the nearby health, research and education precinct, as well as the Liverpool CBD. The proposed development is within excellent proximity to these employment areas, as well as public transport, and will provide appropriate and affordable housing for key workers which will help retain the workforce required to meet Liverpool City Centre's needs.

Social Housing Benefits

The social housing to be developed at the site will be tailored to meet the needs of prospective tenants. The proposed development will offer a good standard of modern, purpose-built accommodation through quality design and landscaping. The proposed development provides a range of apartments with generous private open space and access to a high-quality communal open space. The apartments benefit from good solar access, natural cross-ventilation, visual and acoustic privacy, outlook and ease of access for all age groups and degrees of mobility. This will ensure that all future tenants achieve a good level of amenity which will contribute to a positive living environment and resident well-being.

The housing will assist in reducing the waiting lists and will provide a high quality residential flat building in a location zoned for high density development, near a variety of services that tenants will need on a regular basis. This is expected to include hospital, medical, community health and multicultural support services, many of which are located within 200m to 1km of the site.

Many of the residents to be housed at this location will have pre-existing ties to the Liverpool area, including local networks of family and friends which can offer some support, if required. LAHC aims to locate housing for residents in the area in which they have been living, to ensure these connections and established networks of support can be maintained.

These factors strongly favour the location and style of housing proposed for this site.

Integration

Tenants for the social housing will be dependent on the priority waiting lists at the time.

Notwithstanding the higher levels of social housing in this area, LAHC has been working for the past decade to reduce this concentration through sales of some properties, redevelopment of others and encouraging partnerships with community housing and affordable housing providers.

Between 2011 and 2016, an additional 552 dwellings were built in Warwick Farm and an additional 933 dwellings were built in the Liverpool City Centre. It is expected that additional housing will continue to be built within these localities, with 2,150 residential buildings approved to be built in Liverpool City, with the majority of approvals located in inner-city locations including Warwick Farm. As a result of recent

development approvals in the locality, there are higher numbers of market sector residents living in this area now than in the past.

In summary, the proposed development and its housing and tenure mix will benefit the community of Warwick Farm and Liverpool by providing good quality and purpose-built accommodation which meets the needs of older people and people with disabilities within close proximity to the services they will use on a regular basis in the Liverpool CBD.

Management of Tenancies

Tenancies at this site would be managed by an external community housing provider directly. However, a housing provider has not yet been chosen. All tenancies will be managed in accordance with the relevant tenancy management policy. If Council requires a Tenancy Management Plan or Operational Plan of Management to be submitted, this could be issued once a provider has been confirmed and could be provided as a condition of development consent either prior to Construction Certificate or Occupation Certificate.

6.7.2. Crime and Safety

The proposed development is for a residential flat building with basement car parking. The proposal will revitalise the existing vacant site and will provide appropriate measures to ensure and enhance the safety of residents and the local community. Specifically, the proposed development has been designed to provide a high level of amenity, casual surveillance and ultimately public safety within the surrounding area.

Crime Prevention through Environmental Design (CPTED) is a recognised model which provides that if development is appropriately designed it can reduce the likelihood of crimes being committed. By introducing CPTED measures within the design of the development, it is anticipated that this will assist in minimising the incidence of crime and contribute to perceptions of increased public safety. This DA addresses the four principles of CPTED, being:

- Natural surveillance – ensuring that people feel safe in public areas.
- Access Control – minimizing opportunities for crime and increase the effort required to commit crime
- Territoriality – encourage community ownership of public spaces
- Space Management – effective management to govern & care for space.

Each of these principles is considered in the Table overleaf.

Table 7: Assessment of CPTED Principles

Principle	Response
Surveillance	This principle provides that crime targets can be reduced by effective surveillance, both natural and technical. In this regard, the development has been designed to directly front communal areas with direct surveillance of these areas from the lobbies, balconies, habitable rooms, and living rooms that address these frontages.

	The layout of the development also provides lines of sight between public and private spaces which will be maintained during the night by a suitable lighting scheme.
Access Control	<p>This principle provides that barriers to attract/restrict the movement of people minimises opportunities for crime and increases the effort required to commit crime. The proposed development provides good access control and prevents unintended persons from entering the property.</p> <p>The parking level is accessed from a designated vehicular driveway along the southern extent of the site. A secure door or barrier should be installed to ensure un-wanted persons cannot access the site.</p>
Territorial Reinforcement	This principle provides that well-used places reduce opportunities for crime and increase risk to criminals. The development reinforces the distinction between public and private utilising landscaping, terraces and variation in levels and clearly marked entry points. The landscaping plan that accompanies this application also demonstrates that the communal open space has been designed in a manner that promotes its usability in accordance with the territorial reinforcement principle.
Space Management	This principle provides that space which is appropriately utilised and well cared for reduces the risk of crime and antisocial behaviour. Strategies to implement this principle include, site cleanliness, rapid repair of vandalism and graffiti, the quick replacement of broken light fixtures/globes and the removal or refurbishment of decayed physical elements. The Community Housing Provider will co-ordinate and respond to such matters as necessary for the residential elements of the development.

6.7.3. Economic and Employment

The proposed development is consistent with the *Future Directions for Social Housing in NSW* (<http://www.socialhousing.nsw.gov.au/?a=348442>) prepared by the NSW government which seeks to transform the social housing system to a dynamic and diverse system characterised by:

- a greater involvement of private and non-government partners in financing, owning and managing a significantly expanded stock of social and affordable housing assets;
- expanded support in the private rental market, reducing demand on social housing and the social housing wait list;
- more competition and diversity in the provision of tenancy management services through the expanded capacity and capability of community housing providers; and
- housing assistance being seen as a pathway to independence and an enabler of improved social and economic participation for tenants living in vibrant and socioeconomically diverse communities.

The development will offer additional housing choice and related employment opportunities, including creating jobs during the construction phase. A positive contribution will be made to Sydney's property

market and the diversity of housing choice throughout Sydney, by providing fifty-two (52) additional affordable housing units with a high standard of design.

6.7.4. Public interest

Pursuant to case law of *Ex Gratia P/L v Dungog Council* (NSWLEC 148), the question that needs to be answered is “Whether the public advantages of the proposed development outweigh the public disadvantages of the proposed development”.

There are no unreasonable impacts that will result from the proposed development, therefore, the benefits of providing additional housing supply in a highly accessible and well serviced area outweigh any disadvantage and as such the proposed development will have an overall public benefit.

7. CONCLUSION

This DA seeks approval for the construction of a residential flat building with one level of basement parking at 4-6 Bigge Street, Liverpool.

This SEE has undertaken an environmental assessment of the proposal and has concluded that the proposal provides a built form which is consistent and compatible with the desired future character of the site and the surrounding locality. The development has been designed to be consistent within the applicable planning controls contained in the LLEP and design guidance provided by the ADG and LDCP. Upon its completion, the development will create a vibrant community within close proximity to public transport and the Liverpool City Centre..

In summary, the proposal is considered to:

- be an appropriate response to the context, setting, planning instruments and development guidelines and other considerations outlined in Section 4.15(1) of the Environmental Planning and Assessment Act, 1979;
- provide a built form consistent with and appropriate to the desired future character of the site and locality;
- provide a high density residential environment, accompanied by generous provisions of open space and a high level of residential amenity; and
- have no adverse impacts on the environment, traffic, parking, drainage or other external features, sites or services.

The benefits provided by the proposed development outweigh any potential impacts and is it is therefore considered to be in the public interest. The proposal will deliver a suitable and appropriate development and is worthy of approval.