



26 & 28 Shepherd Street, Liverpool

Statement of Environmental Effects for a proposed residential flat building development

On behalf of Coronation Pty Ltd

March 2017



Project Director

Adam Coburn

Signature:



March 13, 2017

Contributors

Joseph Bell

Addison Boykin

Michael Hanisch

* This document is for discussion purposes only unless signed and dated by the persons identified. This document has been reviewed by the Project Directors.

Contact

Mecone

Suite 1204.B, Level 12, 179 Elizabeth Street
Sydney, New South Wales 2000

info@mecone.com.au
mecone.com.au

© Mecone

All Rights Reserved. No part of this document may be reproduced, transmitted, stored in a retrieval system, or translated into any language in any form by any means without the written permission of Mecone.

All Rights Reserved. All methods, processes, commercial proposals and other contents described in this document are the confidential intellectual property of Mecone and may not be used or disclosed to any party without the written permission of Mecone.

Table of Contents

Executive Summary	1
1 Introduction.....	4
1.1 Proponent and Project Team	5
1.2 Background	5
1.2.1 Consent 2015YW129 (DA-612/2015) – 28 Shepherd Street.....	5
1.2.2 Planning Proposal.....	6
1.2.3 Pre-DA Meeting	7
2 The Site	10
2.1 Site Description	10
2.2 Context.....	11
3 The Proposal.....	15
3.1 Development Summary.....	15
3.2 Summary of changes from consent 2015YW129 (DA-612/2015)	16
3.3 The Gild.....	16
3.4 The Bindery	17
3.5 Access and Parking Provisions	19
3.6 Landscaping	19
4 Planning Assessment	21
4.1 Fisheries Management Act 1994	21
4.2 Water Act 2000	21
4.3 Environmental Planning and Assessment Act 1979	22
4.3.1 Integrated Development	22
4.3.2 Concurrent Development Application and Planning Proposal.....	22
4.4 Environmental Planning Instruments	22
4.4.1 A Plan for a Growing Sydney	22
4.4.2 South West Subregion.....	24
4.4.3 Draft South West District Plan	25
4.4.4 Greater Metropolitan REP No. 2 – Georges River Catchment.....	25
4.4.5 SEPP (BASIX) 2004	26
4.4.6 SEPP No. 55 – Remediation of Land	26
4.4.7 SEPP No. 65 – Design Quality of Residential Apartment Buildings	27

4.4.8	Liverpool Local Environmental Plan 2008	30
4.5	Key LEP Issues	39
4.5.1	Building Separation	39
4.5.2	Building Height and FSR	39
4.5.3	Architectural Roof Feature(s)	40
4.6	Liverpool Development Control Plan 2008	41
4.6.1	Building Setbacks	41
4.6.2	Unit Mix	41
5	Environmental Assessment	42
5.1	Traffic and Access	42
5.2	Acoustic Impacts	43
5.3	Flora and Fauna Assessment	44
5.4	Heritage Assessments	44
5.5	Riparian Assessment	45
5.6	Wind Effects	46
5.7	BCA	47
5.8	Stormwater Management Provisions	47
5.9	Waste Management Provisions	48
6	Section 79C Assessment	49
7	Conclusion	51

Schedule of Figures and Tables

Figure 1 Existing development proposal for 28 Shepherd Street	6
Figure 2 Preferred massing concept for Shepherd Street Precinct	7
Figure 3 Site	10
Figure 4 Local context	11
Figure 5 Photomontage of approved development – 20 Shepherd Street	12
Figure 6 Area applicable to planning proposal	13
Figure 7 Local Liverpool Context	14
Figure 8 Image of site looking south along Shepherd Street.....	14
Figure 9 Image of site looking North.....	14
Figure 10 Site Plan.....	16
Figure 11 Gild southern elevation.....	17
Figure 12 Georges River elevation of The Bindery	18
Figure 13 Landscaping Proposal.....	20
Figure 14 South West Subregion.....	24
Figure 15 Zoning Map	31
Figure 16 Car Parking Assessment	43
Figure 17 Wind Modelling Test Locations	47
 Table 1. Project Team	 5
Table 2. Key Items raised at Pre-DA Meeting.....	7
Table 3. Site Description	10
Table 4. Summary of Proposed Development.....	15
Table 5. Consistency with A Plan for Growing Sydney	23
Table 6. Compliance with Liverpool Local Environmental Plan 2008	32
Table 7. Building Separation	39
Table 8. Section 79C Assessment Summary	49

Appendices

Appendix 1	Architectural Plans
Appendix 2	Landscape Plans
Appendix 3	Design Verification Statement/SEPP 65 Report
Appendix 4	ADG Compliance Assessment
Appendix 5	Liverpool DCP Compliance Assessment
Appendix 6	Cost Estimate Report
Appendix 7	BASIX Report
Appendix 8	Pre-DA Minutes
Appendix 9	Flora and Fauna Report
Appendix 10	Geotechnical Report
Appendix 11	Riparian Letter
Appendix 12	Wind Modelling
Appendix 13	Aboriginal Cultural Heritage Assessment
Appendix 14	Heritage Impact Assessment
Appendix 15	Acid Sulphate Soils Letter
Appendix 16	Social Impact Assessment (26 Shepherd Street)
Appendix 17	Social Impact Assessment Addendum (28 Shepherd Street)
Appendix 18	Site Survey
Appendix 19	Preliminary Environmental Site Investigation
Appendix 20	Detailed Environmental Site Investigation
Appendix 21	Civil Design and Report (Stormwater)
Appendix 22	Waste Management Plan
Appendix 23	Traffic Report
Appendix 24	BCA Compliance Assessment
Appendix 25	Clause 4.6 Variation Request
Appendix 26	Acoustic Report (26 Shepherd Street)
Appendix 27	Acoustic Report (28 Shepherd Street)
Appendix 28	Accessibility Report
Appendix 29	Consolidation Plan

Executive Summary

This Statement of Environmental Effects (SEE) report supports a development application to Liverpool City Council for a proposed residential flat building development located at 26-28 Shepherd Street, Liverpool (the site). The preparation of the SEE and lodgement of the development application have been undertaken on behalf of Coronation (28 Shepherd Street) Pty Ltd.

The application builds on the Shepherd Street Planning Proposal and Development Application DA-612/2015, which was approved by the Sydney South West Planning Panel on 17 January 2017 (consent 2015YW129). The application is contingent on the publication of the Shepherd Street Planning Proposal, which will increase the height and FSR standards at the site, and in this regard is made to Council in accordance with the provisions of Division 4B (Sections 72I – 72K) of the *Environmental Planning and Assessment Act 1979* (EPAA).

The proposal provides for additional storeys at 28 Shepherd Street (known as the “Bindery”) beyond that approved by consent 2015YW129 and an additional building on land at 26 Shepherd Street (described as the “Gild”). The proposal will create separate buildings in an integrated environment, with shared amenities and basement. The proposal will therefore include the amalgamation of 26 and 28 Shepherd Street into one allotment.

This statement describes the proposed development of the site and surrounding area in the context of relevant planning controls and policies applicable to the form of the development proposed. In addition, the statement provides an assessment of those relevant heads of consideration pursuant to section 79C of the *Environmental Planning and Assessment Act 1979* (EPAA).

The SEE is also supported by the following reports and plans;

- Appendix 1: Architectural Plans
- Appendix 2: Landscape Plans
- Appendix 3: Design Verification Statement;
- Appendix 4: ADG Compliance Assessment
- Appendix 5: Liverpool DCP 2008 Compliance Assessment
- Appendix 6: Cost Estimate Report
- Appendix 7: BASIX Report
- Appendix 8: Pre DA Minutes
- Appendix 9: Flora and Fauna Report
- Appendix 10: Geotechnical Report
- Appendix 11: Riparian Zone Delineation and Rehabilitation Statement
- Appendix 12: Wind Modeling
- Appendix 13: Aboriginal Cultural Heritage Assessment
- Appendix 14: Heritage Impact Assessment
- Appendix 15: Acid Sulphate Soils Consideration
- Appendix 16: Social Impact Statement (26 Shepherd Street)
- Appendix 17: Social Impact Statement (28 Shepherd Street)
- Appendix 18: Site Survey

- Appendix 19: Preliminary Environmental Site Investigation
- Appendix 20: Detailed Environmental Site Investigation
- Appendix 21: Civil Design and Report (Stormwater)
- Appendix 22: Waste Management Report
- Appendix 23: Traffic Impact Report
- Appendix 24: BCA Compliance Assessment Report
- Appendix 25: Clause 4.6 Request
- Appendix 26: Acoustic Report (26 Shepherd Street)
- Appendix 27: Acoustic Report (28 Shepherd Street)
- Appendix 28: Accessibility Report
- Appendix 29: Consolidation Plan

This application seeks approval of a multi-unit residential development including associated landscaping and civil works. The estimated cost of development for the proposal is approximately \$61,848.676 including GST.

The summary of the proposal is provided in Table 1 below.

Table 1. Summary of Proposed Development	
Item	Total
Zoning	R4 – High Density Residential
Number of dwellings	232 - additional to those approved under consent 2015YW129 (DA-612/2015) 372 - including those proposed under consent 2015YW129 (DA-612/2015)
Site Area	8,706.1m ² comprising of; <ul style="list-style-type: none"> - 2,808.1m² (26 Shepherd St) - 5,898m² (28 Shepherd St)
FSR	3.6:1
Height	Bindery (southern tower)– 65.86m to the roof and 75.16 to the architectural roof feature. Bindery (northern tower) – 56.56m to the roof and 62.76 to the architectural roof feature. Gild – 45.6m to the roof and 50.726m to the architectural roof feature.
Parking	423 spaces over two basement levels
Gross Floor Area	31,432m ²
Solar Access	67% of the additional apartments achieve 2 hours between 9.00am and 3.00pm at June 21
Cross-Ventilation	70% of all apartments are naturally cross-ventilated at The Gild and 64% of all apartments are naturally cross ventilated at The Bindery

Table 1. Summary of Proposed Development	
Item	Total
Unit Mix	2 x studio apartments (1%) 131 x 1-br units (35%) 230 x 2-br units (62%) 9 x 3-br units (2%)
Landscaping and Open Space	In excess of 48%; - 26 Shepherd Street >30%, - 28 shepherd Street 66%
Deep Soil	Overall 17.2% - 26 Shepherd Street 11% - 28 Shepherd Street 23.4%

A planning assessment has been undertaken in Part 4.0 with an Environmental Assessment has been undertaken in Part 5.0 of this report, supported by additional consultant studies as per the requirements of Council. The planning and environmental assessments found the proposal is generally consistent with the state and local planning controls and that associated impacts of the proposal are considered to be minimal and manageable. Hence, the proposal:

- Will provide a high-quality residential flat development that respects its historic setting and complies with key planning standards including in the Liverpool LEP 2008, such as land use, design excellence, site coverage, communal open space and public domain improvements;
- Reflects the proposed controls for the site provided in the Shepherd Street Precinct Planning proposal in terms of FSR and Height;
- Is consistent and complimentary to the approved application over 28 Shepherd Street (consent 2015YW129) and the approval over the adjoining 20 Shepherd Street (DA-1010/2014);
- Will contribute 372 new dwellings towards Liverpool Council's housing targets and will assist with housing affordability by providing a range of housing types, sizes and mix;
- Will provide substantial landscaping and public access to the Georges River foreshore while managing impacts surrounding the Foreshore Building Line and Riparian Corridor;
- Will provide dwellings with significant amenity in terms of unit size, storage, private open space, layout, outlook, solar access, communal facilities and parking;
- Will minimise any adverse impacts on surrounding development with respect to privacy, traffic, noise or overshadowing;
- Will conserve and enhance surrounding heritage matters including aboriginal cultural heritage;
- Is BASIX compliant and seeks to provide a high level of sustainability through management of stormwater runoff and provision of WSUD; and
- Is a suitable development for the site and is considered to be in the public interest.

Therefore, it is considered that the proposal is within the public interest, based on the above outcomes and a high quality outcome for the site and the Liverpool area.

1 Introduction

This Statement of Environmental Effects (SEE) has been prepared by Mecone Pty Ltd (Mecone) on behalf of Coronation (28 Shepherd Street) Pty Ltd to support a development application (DA) to Liverpool City Council (Council) at 26 & 28 Shepherd Street, Liverpool (the site).

The SEE includes an assessment of the proposed works in terms of the matters for consideration as listed under Section 79C of the Environmental Planning and Assessment Act 1979 (EPAA) and should be read in conjunction with information annexed to this report as outlined in the Table of Contents.

Specifically, the SEE includes the following information:

- Description of the site in its local and regional context;
- Identifies the proposed works;
- Identifies and addresses all relevant Council's controls and policies;
- Identifies and addresses all potential environmental impacts of the proposal; and
- Provides potential measures for minimising or managing the potential environmental impacts.

The proposed development will generally comprise:

- An extension to Building C1 and C2 at 28 Shepherd Street, which was approved by the Sydney South West Planning Panel (consent 2015YW129), from 7 storeys to a maximum of 21 storeys, resulting in a total 290 residential apartments;
- Demolition of existing structures at 26 Shepherd Street and construction of a new 14 storey residential flat building, comprising 82 residential apartments;
- Excavation under the building at 26 Shepherd Street, to couple with the existing 2 basement levels approved under the 28 Shepherd Street; providing a total of 423 parking spaces;
- Associated civil works and landscaping at 26 Shepherd Street; and
- Consolidation of the sites.

Mecone has previously held discussions with Council relating to the proposed development, and is engaged in ongoing coordination and management of a number of development applications across the 'Shepherd Street Precinct', as well as the precinct-wide Planning Proposal that is currently being considered by Council and the Department of Planning and Environment.

Napier & Blakely has calculated the cost of development for the proposal to be \$61,848,676 (incl. GST). A cost estimate of the proposed development accompanies the application at **Appendix 6**.

1.1 Proponent and Project Team

This SEE has been prepared on behalf of the proponent, Coronation (28 Shepherd Street) Pty Ltd, accompanied by the following project team.

Table 1. Project Team	
Item	Description
Urban Planning	Mecone
Architectural Design	Woods Bagot
Landscape Report	Durie Design
Traffic Report	In Roads Group
Contamination Assessment	El Australia
Geotechnical Report	El Australia
Heritage Impact Statement	City Plan Services
Aboriginal Cultural Heritage Assessment	Artefact
Riparian Report	Northrop
BCA	Certified Building Specialist
Flora and Fauna Survey	ACS Environmental
Wind Effects Report	MEL Consultants
Waste Management	MRA Consulting Group

1.2 Background

1.2.1 Consent 2015YW129 (DA-612/2015) – 28 Shepherd Street

A development application for 28 Shepherd Street was approved by the Sydney South West Planning Panel on 17 January 2017 under consent 2015YW129 (DA-612/2015). This approved development generally includes:

- Construction of two residential flat buildings comprising 140 dwellings:
 - Building C1 fronting the Georges River, at 7 storeys in height
 - Building C2 fronting Shepherd Street, at 6 storeys in height
- Construction of a three level basement with 161 car parking spaces; and
- Associated landscaping and civil works

A photomontage of the current scheme for 28 Shepherd Street under DA-612/2015 is shown below in Figure 1.



Figure 1 Existing development proposal for 28 Shepherd Street

Source: Woods Bagot

1.2.2 Planning Proposal

Mecone has submitted a Planning Proposal to Council for the Shepherd Street precinct on behalf of the proponent, which seeks uplift to the existing height and floor space ratio (FSR) provisions applicable under the Liverpool Local Environmental Plan (LLEP) 2008. This was supported by urban design advice prepared by SJB Architects. The proposed massing concept is shown below in Figure 2.

With respect to the subject site, the relevant amendments to the LLEP 2008 under the Planning Proposal are:

- An increase to the height of buildings standard to 45m at 26 Shepherd Street, and 58m and 68m at 28 Shepherd Street; and
- An increase to the FSR standard to 3.7:1 upon both sites.

The Planning Proposal was reported to Council on 29 June 2016 and received a Gateway determination on 9 September 2016. The proposal has recently been exhibited by Council and as such has become a matter for consideration under Section 79(C) of the EPAA.

This subject DA responds to the statutory changes proposed under the Planning Proposal.

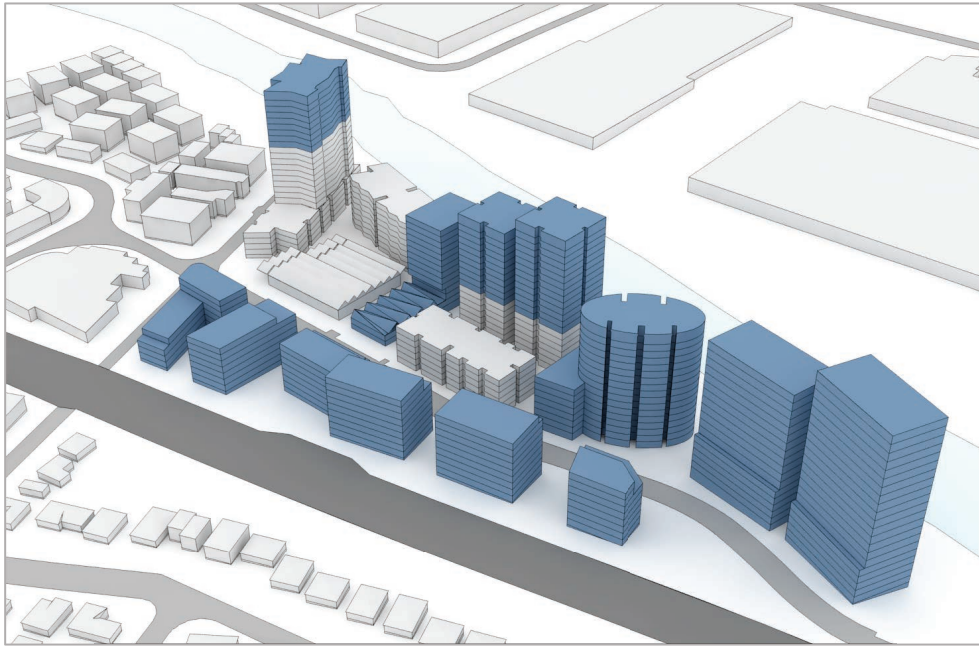


Figure 2 Preferred massing concept for Shepherd Street Precinct

Source: SJB Architects

1.2.3 Pre-DA Meeting

A Pre-DA was held on 27 October 2016 to discuss the proposed scheme. A list of the items raised and the response to these items is presented in the below table.

Table 2. Key Items raised at Pre-DA Meeting	
Item	DA Response
<p><u>Architectural Roof Feature</u></p> <ul style="list-style-type: none"> Integration of lift overruns into an architectural roof feature requires demonstration of how the proposal satisfies Clause 5.6 of LLEP 2008. 	<p>The Proposal Plans have reconsidered the rooftop design and integrated lift overruns. The proposal has been addressed against Clause 5.6 of the Liverpool LEP 2008 in the subsequent sections of this SEE.</p>

Table 2. Key Items raised at Pre-DA Meeting

<p><u>Design</u></p> <ul style="list-style-type: none"> • Solar access and cross-ventilation should be maximised in order to improve amenity • The building separation requirements of ADG are not achieved. If not resolved, it must be clearly demonstrated how the development achieves the objectives and aims of the guideline. • Consolidation of site is required if basement car park serves both properties. 	<p>The proposal demonstrates compliance with natural cross-ventilation requirements. The building over 26 Shepherd Street achieves compliance with 70% of apartments. The building at 28 Shepherd achieves 64% compliance.</p> <p>Solar access has been compromised and the majority of the apartments are afforded a viewshed over the Georges River.</p> <p>The proposal is able to achieve compliance with the objectives of the ADG with relation to separation distances and privacy.</p> <p>As it is proposed to consolidate the basements of the proposed buildings, it is recognised the allotments will require amalgamation. An amalgamation plan has been included as a part of this application.</p>
<p><u>Flood Planning</u></p> <ul style="list-style-type: none"> • The site is affected by the Probably Maximum Flood (PMF) event. Habitable floor levels shall be no lower than the 1% AEP flood plus half a metre freeboard. <p><u>Water Management</u></p> <ul style="list-style-type: none"> • On-site water quality treatment facilities shall be incorporated in the proposal to ensure that stormwater runoffs leaving the site comply with Council's water quality standards. 	<p>These items have been appropriately addressed within the Stormwater Report and Design undertaken by Wood & Grieve (Appendix 21). Refer to this report for expanded discussion.</p>

Table 2. Key Items raised at Pre-DA Meeting

<p><u>Natural Environment</u></p> <ul style="list-style-type: none"> The portion of land adjacent to the Georges River is mapped as ESL. Clause 7.6 of LLEP2008 and Section 4 Part 1 of the DCP may apply. 	<p>Provided in Appendix 9 and 11 is a Flora and Fauna Survey and Riparian Zone Assessment undertaken by ACS Environmental Pty Ltd and Northrop respectively. These reports assesses the impact of the development over the land at 26 Shepherd Street as Development Application DA-612/2015 investigates the impact of development of the site at 28 Shepherd Street.</p> <p>It is identified that the proposed development will encroach approximately 10m into the outer portion of the theoretical riparian area, but not beyond the Liverpool Council delineated "foreshore building line". The existing riparian area and rivers edge has been degradation from development over time. The proposal includes the provision to undertake rehabilitation works. The quality of the riparian areas and environmentally significant land will be improved as a result of the proposal.</p>
---	--

2 The Site

2.1 Site Description

The site is located at 26 and 28 Shepherd Street, Liverpool, between Shepherd Street and the Georges River. Refer to Figure 3 and Table 3 below.



Figure 3 Site
Source: SIX Maps

Table 3. Site Description	
Item	26 and 28 Shepherd Street
Legal Description	Lot 22 and 23 DP859055
Total Area	8,706.1m ² comprising of; <ul style="list-style-type: none"> - 2,808.1m² (26 Shepherd St) - 5,898m² (28 Shepherd St)
Frontage	Approx. 105m to Shepherd Street
Previous Uses	Industrial
Immediate Surrounding Uses	<ul style="list-style-type: none"> • Site to the north is subject to high density residential development at 20 Shepherd Street (DA-1010/2014). • Liverpool Smash Repairs adjoins site to the south. • Georges River is to the east, with the Mfive Industry

Table 3. Site Description	
	<p>Park located on the opposite side of the river.</p> <ul style="list-style-type: none"> • Train line and low density residential located to the west of the site.
Transport	<ul style="list-style-type: none"> • Approximately 1km to Liverpool Train Station. • Approximately 2km to Casula Train Station.

2.2 Context

The site is located along the western bank of the Georges River, approximately 1.2km south of the Liverpool Railway Station. Currently located within an existing industrial area, the site is contained within an area that has been rezoned for high density residential development and is subsequently undergoing urban transformation. Low-density residential development is located to the west of the site past the rail line to Casula Station. The Georges River is located directly to the east of the site, with further industrial development located on the opposite side of the river.

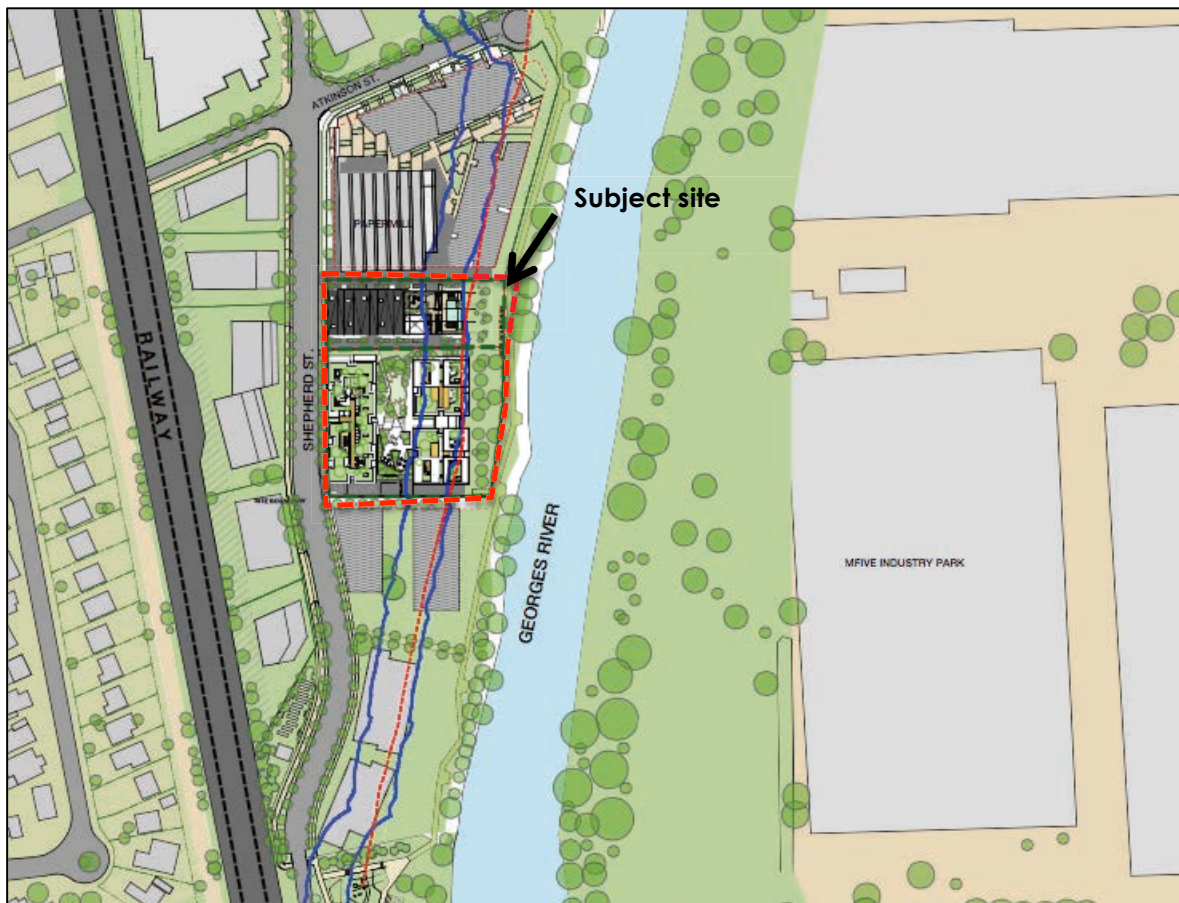


Figure 4 Local context

Source: Woods Bagot Architects

Located adjacent to the site to the north at 20 Shepherd Street Liverpool is approval DA-1010/2014. The Sydney West Joint Regional Planning Panel (JRPP) originally granted approval on 27 October 2015 for:

- *Demolition of a portion of existing heritage building 'former Challenge Woollen Mills';*
- *Removal of existing car park and 14 trees;*
- *Remediation of site;*
- *Erection of two residential flat buildings;*
- *Two levels of basement parking; and*
- *Landscaping and associated site works.*

The approval has subsequently undergone amendments to modify the proposal in accordance with Section 96 of the Environmental Planning and Assessment Act 1979.



Figure 5 Photomontage of approved development – 20 Shepherd Street
Source: Woods Bagot

An existing Planning Proposal is currently under assessment over land located at 20-33 Shepherd St, Liverpool (see Figure 5). This includes the subject site and land to the north and south. The Shepherd Street Precinct Planning Proposal includes the rezoning of some allotments, increase in floor space ratio and height controls. The objectives and intended outcomes of the Planning Proposal include (but are not limited to);

- To undertake public domain improvements including local street upgrades and connections, a new pedestrian and cycling connection along the front of the site to Lighthorse Park and towards the Casula Powerhouse, upgrades to Mill Park and bush regeneration within the riparian zone;
- To provide a high quality mixed use development, which will activate the ground level of the site, improve the quality of the public domain, and revitalise the surrounding Riparian Corridor and Georges River precinct in line with Council's vision of Liverpool becoming a River City;
- To unlock the Georges River Riverfront Precinct by enabling safe vehicular, cycling and pedestrian access to and along the Riverfront and associated public lands including Lighthorse Park. The development will also enhance the Riparian Corridor within the site through best practice bush regeneration works;
- To facilitate redevelopment of the site that takes advantage of the site's strong characteristics, including outlook to the water, and to minimise any impact on surrounding developments; and,
- To create a strong built form edge to the riverfront that activates the waterfront and provides safety and surveillance.

The Planning Proposal includes the subject site and will facilitate an integrated precinct that will provide significant amenity through connectivity to the Georges River and the Liverpool CBD. The Planning Proposal identifies additional height and floor space ratio for the site.



Figure 6 Area applicable to planning proposal
Source: Mecone



Figure 7 Local Liverpool Context

Source: Coronation



Figure 8 Image of site looking south along Shepherd Street.

Source: Google Streetview



Figure 9 Image of site looking North

Source: Google Streetview

3 The Proposal

3.1 Development Summary

The proposal is over the site described as 26-28 Shepherd Street, Liverpool. This includes providing development in addition approved development 28 Shepherd Street under consent 2015YW129 (DA-612/2015). The buildings proposed at 28 Shepherd Street are described as the "Bindery". The proposal also included development of an entirely new building and tower on the site at 26 Shepherd Street, Liverpool, described as the "Gild". The proposal includes the amalgamation of the two allotments (refer to **Appendix 29** for the proposed consolidation plan).

A summary of the overall development is provided in Table 4.

Table 4. Summary of Proposed Development	
Item	Description
Zoning	R4 High Density Residential
Total Parking	423
Gross Floor Area	31,432m ²
Site Area	8,681m ²
FSR	3.6:1
Maximum Height	Bindery (southern tower)– 65.86m to the roof and 75.16 to the architectural roof feature. Bindery (northern tower) – 56.56m to the roof and 62.76 to the architectural roof feature. Gild – 45.6m to the roof and 50.726m to the architectural roof feature.
Dwellings	232 - additional to those proposed under DA-612/2015 372 - including those proposed under DA-612/2015
Solar Access	Of additional 232 dwellings; 2 hours and above – 156 apartments (67%) 0 hours – 41 apartments (18%)
Natural Ventilation	238 apartments of the total 372 apartments (64%)

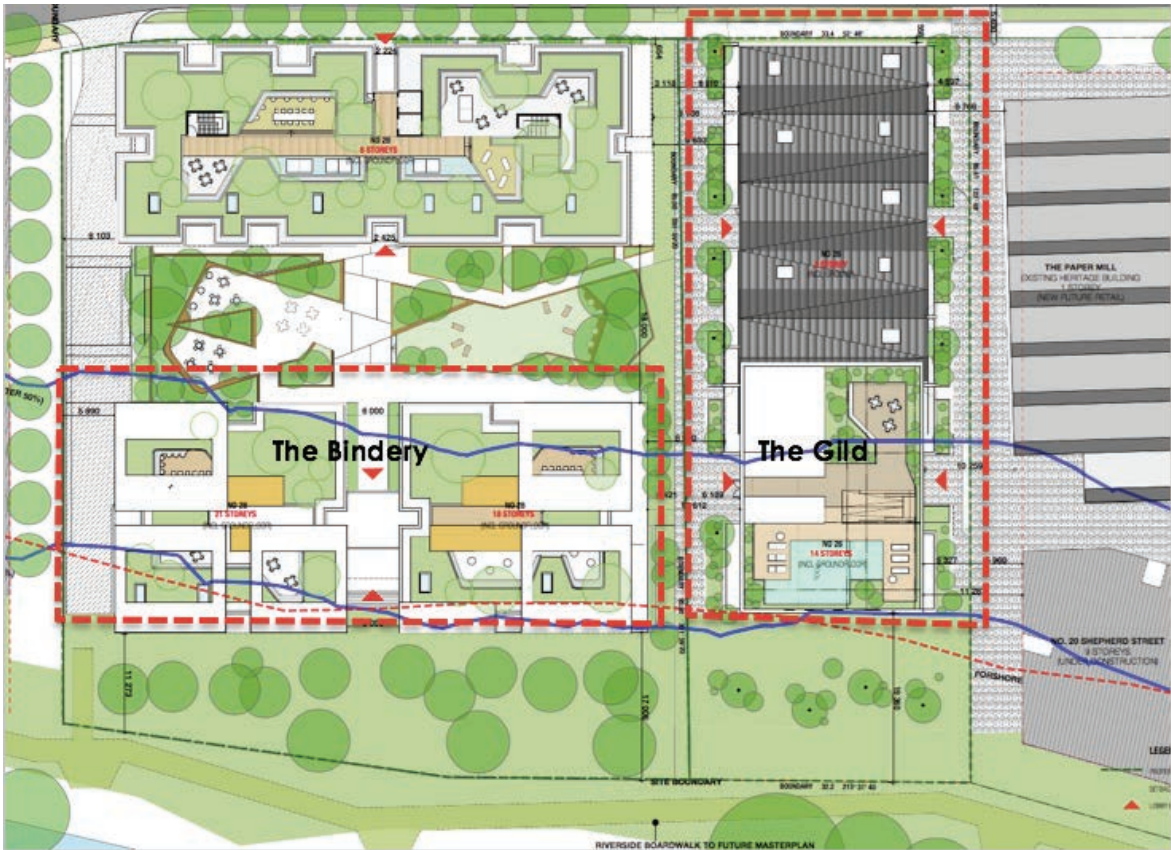


Figure 10 Site Plan

Source: Woods Bagot

3.2 Summary of changes from consent 2015YW129 (DA-612/2015)

The proposed development involves the following changes to the approved development at 28 Shepherd Street (the Bindery):

- Change from three basement levels at 28 Shepherd Street to two amalgamated basement levels across 26-28 Shepherd Street, with an associated amalgamation of the lots;
- Addition of 14 residential levels to Building C1, plus rooftop communal open space. This entails the relocation of the approved rooftop communal open space from above Level 7 of Building C1 to the new top floor.
- No changes to the approved landscaping on the lower levels.

The proposal for each building themselves are discussed in the following sections.

3.3 The Gild

The Gild is the portion of the development located at 26 Shepherd St, Liverpool. The proposal will include the complete redevelopment of the site for residential uses in a residential flat building arrangement. Access to the foreshore and integration with development located north and south of the site has been facilitated. Residential density has been focused on the area of the greatest amenity, adjoining the Georges River. The built form includes 2 storey building addressing the Shepherd Road frontage, with a 14 storey tower at the rear of the site addressing the Georges River. The Gild development particulars include:

- Demolition of existing structures at 26 Shepherd Street and construction of a new 14 storey residential flat building, comprising 82 residential apartments in a mix of:
 - 28 x 1 bedroom dwellings;
 - 52 x 2 bedroom dwellings; and
 - 2 x 3 bedroom dwellings.
- Excavation and construction of 2 basement levels to correspond and link with the basement approved under consent 2015YW129 (DA-612/2015).
- Associated civil works and landscaping.

The Gild is shown in the elevation provided in Figure 11.



Figure 11 Gild southern elevation

Source: Woods Bagot

3.4 The Bindery

The Bindery is the portion of the development located at 28 Shepherd St, Liverpool. The site has an existing approval under consent 2015YW129 (DA-612/2015), which includes:

- Building C1 fronting the Georges River, at 7 storeys in height;
- Building C2 fronting Shepherd Street, at 6 storeys in height;
- 140 total dwellings;
- 3-level basement with 161 car parking spaces; and
- Civil works and landscaping.

The proposed development (the subject of this SEE) expands on consent 2015YW129 and applies specifically to Building C1, increasing the overall maximum building height by 14 storeys.

Overall the proposed development at the Bindery includes:

- Building C1 up to 21 storeys in height;
- Building C2 at 6 storeys in height (no change from approval);
- 290 total dwellings:
 - 2 x studio dwellings;
 - 103 x 1 bedroom dwellings;
 - 178 x 2 bedroom dwellings;
 - 7 x 3 bedroom dwellings;
- 2-level basement across 26 and 28 Shepherd Street with 423 total car parking spaces; and
- No change to civil works and landscaping.



Figure 12 Georges River elevation of The Bindery
 Source: Woods Bagot

3.5 Access and Parking Provisions

As previously identified, the proposal will include a combined basement and parking arrangement over two basement levels, which will service both the Gild and the Bindery. The resultant parking includes a total of 423 parking spaces including 41 DDA spaces.

3.6 Landscaping

The proposed landscaping only applies to the portion of the application described as the Gild. The Bindery landscaping has been approved under consent 2015YW129.

The proposed landscaping is categorised into four zones.

Rooftop Terrace

The rooftop terrace is afforded informal eating areas, common pool and privacy planting. The landscaping has been designed to integrate with the architectural roof feature to ensure screening of the lift over run and maximize the amenity enjoyed by the residents.

Riparian Communal Areas

The riparian communal area will include permeable paving features at the ground level. The permeable paving feature is to fade into the full native low garden, which will passively blend into the site boundary and future waterfront public area.

Laneway and Communal Open Space

The Laneway and Communal Area will include informal plantings of natives along the building façade with formal hardwood timber benches to be used as a passenger waiting area.

Private Courtyard

Private courtyards are proposed on the northern, southern and eastern elevations. These areas are for the private enjoyment of the individual. On the ground floors they will open out onto the laneways to recreate a terrace style arrangement. Plantings along the laneway are chosen to maintain privacy but ensure that the passive surveillance is not compromised.



Figure 13 Landscaping Proposal
Source: Durie Design

4 Planning Assessment

Mecone has undertaken an assessment of the proposal against the relevant planning and environmental legislation, policies and guidelines; these are discussed further below.

4.1 Fisheries Management Act 1994

The Fisheries Management Act 1994 is administered by Fisheries NSW to conserve fish stocks and key fish habitats as well as conserving threatened species and promote ecologically sustainable development. Parts 7 and 7A of the Act apply to aquatic habitat protection and threatened species conservation. The proposal has addressed relevant provisions of the Act, associated Policy and Guidelines for Fish Habitat Conservation and Management through the following:

- Facilitation of a 40m Vegetated Riparian Zone (VRZ), which is commensurate with foreshore buffer guidelines for merit-based development along the bank of the Georges River that occurs above the tidal downstream weir.
- No grading of the river bank is proposed.
- Bioswales are located outside the riparian zone, with all grade and roof flows treated prior to discharge into the Georges River.

Further description of works undertaken to maintain and improve the Georges River habitat is detailed in Flora and Fauna Report in **Appendix 9** and the Riparian Zone Delineation and Rehabilitation Statement in **Appendix 11**.

4.2 Water Act 2000

The proposal includes works that would be considered a Controlled Activity in accordance with the Water Act 2000, on account it includes "the erection of a building or carrying out of work" on waterfront land (land within 40m of the Georges River bank). The Riparian Zone Delineation and Rehabilitation Statement prepared by Northrop have been provided in **Appendix 11**.

Northrop's assessment has calculated the relevant highest bank at RL 9m with an inner 50% Vegetation Management Zone (VMZ) offset 20m from the highest bank. The outer 50% VRZ is located 40m offset from the highest bank. An offset strategy has been adopted to offset the incursions of the development into the outer 50% VMZ. This will include riparian works and subsequent maintenance subject of a Vegetation Management Plan for the precinct. The measurable outcomes of the Vegetation management Plan will include;

- Banks stable with no visible signs of erosion;
- 90% survival of all plants after 5 years;
- 0% cover of Noxious weeds after 5 years; and,
- Less than 5% cover of Environmental Weeds after 5 years.

The proposed works have been identified to ensure the development is compatible with the Water Act 2000. Further detail is provided in **Appendix 11**.

4.3 Environmental Planning and Assessment Act 1979

4.3.1 Integrated Development

The development is integrated development pursuant to Section 91 of the EPAA, as concurrence is required under the Water Management Act 2000 for potential dewatering measures. We understand the application will be referred to the Office of Water for the terms of approval in accordance with the requirements of the EPAA.

4.3.2 Concurrent Development Application and Planning Proposal

Division 4B of the EPAA contains relates to the making of development applications that may only be carried out if an environmental planning instrument (EPI) is amended.

These provisions are applicable to the subject DA, as the DA is to be considered concurrently with proposed Amendment 65 to Liverpool Local Environmental Plan 2008 (LLEP 2008). This amendment will proposes to increase the height and FSR controls in the Shepherd Street Precinct, including at Nos. 26 and 28 Shepherd Street.

Section 72I

This Section outlines the application of Division 4B. As this DA relies on height and FSR amendments to the LLEP 2008, Division 4B of the EPAA applies.

Section 72J

Section 72J confirms that nothing prevents a DA being made to or considered by Council if that development may only be carried out if an EPI is amended. This DA therefore relies on Section 72J of the EPAA.

Section 72K

This Section promotes the joint exhibition of related planning proposals and development applications where practicable. As Amendment 65, relating to the controls in the Shepherd Street Precinct, has already been publicly exhibited it is not possible to jointly exhibit the planning proposal and the DA.

4.4 Environmental Planning Instruments

The applicable Regional Environmental Plans (REPs), State Environmental Planning Policies (SEPPs), and Local Environmental Plans (LEPs) are discussed below.

4.4.1 A Plan for a Growing Sydney

A Plan for Growing Sydney is Sydney's metropolitan strategy outlining the government's strategy for accommodating Sydney's future population growth for the next 20 years. A number of the goals and actions are relevant to this proposal.

All four key directions identified in the Strategy are relevant to the proposal. Table 2 provides a summary of the consistency of the proposal with these objectives and policies.

Table 5. Consistency with A Plan for Growing Sydney

Objective	Policy	Consistency
Goal 1: A competitive economy with world-class services and transport		
1.7.1 Invest in Strategic Centres across Sydney to grow jobs and housing and create vibrant hubs of activity.	Unlocking developable land by consolidating fragmented sites for redevelopment and improving planning policies and regulations will encourage flexibility, higher density and a more diverse range of activities.	The proposed development includes the redevelopment of underutilised industrial land to create high-density housing adjacent the Liverpool Strategic Centre.
1.7.4 Continue to grow Penrith, Liverpool and Campbelltown-Macarthur as Regional City Centres supporting their surrounding communities.	Recognise Penrith, Liverpool and Campbelltown-Macarthur as important strategic centres and regional city centres for additional housing, and additional employment and services benefitting local areas and the North West and South West Growth Centres.	The proposal is consistent with the goal of increasing housing and employment in the Liverpool Strategic Centre.
Goal 2: A city of housing choice, with homes that meet our needs and lifestyles		
2.1.1 Accelerate housing supply and local housing choices.	Work to achieve the Government's target of an additional 664,000 new dwellings by 2031. The most suitable areas for significant urban renewal are those best connected to employment and include in and around centres that are close to jobs and serviced by public transport.	The proposed development is consistent with increasing housing in an area connected to employment, Liverpool Centre and serviced by public transport.
Goal 3: A great place to live with communities that are strong, healthy and well-connected		
3.1.1 Support urban renewal by directing local infrastructure to centres where there is growth.	Delivering the infrastructure that is needed means responding to growth. In areas that are growing, it will be most efficient to focus investment in local infrastructure in centres – the most accessible place for the local community.	The proposed development will deliver high quality local infrastructure including linking to proposed pedestrian and cycling links in and around the Liverpool City Centre and the Georges River Precinct.
Goal 4: A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources		
4.1.1 Protect and deliver a network of high conservation value land by	Applying mitigation measures can prevent or reduce the impacts of development on areas of high conservation value,	The proposal will protect and enhance the surrounding conservation land including the Georges River by providing an appropriate setback and revitalising

Table 5. Consistency with A Plan for Growing Sydney

Objective	Policy	Consistency
investing in Green corridors and protecting native vegetation and Biodiversity.	native vegetation and diversity from development.	vegetation around the water's edge, which is currently infested with introduced and weed species.

As the site is located within an existing urban area, the proposal accelerates the delivery of infill housing in an area that has existing access to urban services. The Planning Proposal is consistent with A Plan for a Growing Sydney.

4.4.2 South West Subregion

A Plan for Growing Sydney identifies the South West subregion as the fastest growing subregion in Sydney. The plan identifies the subregion as being vital for new housing and jobs for future residents. Liverpool is a Regional City Centre with an Enterprise Corridor extending to Liverpool from the Bankstown CBD.

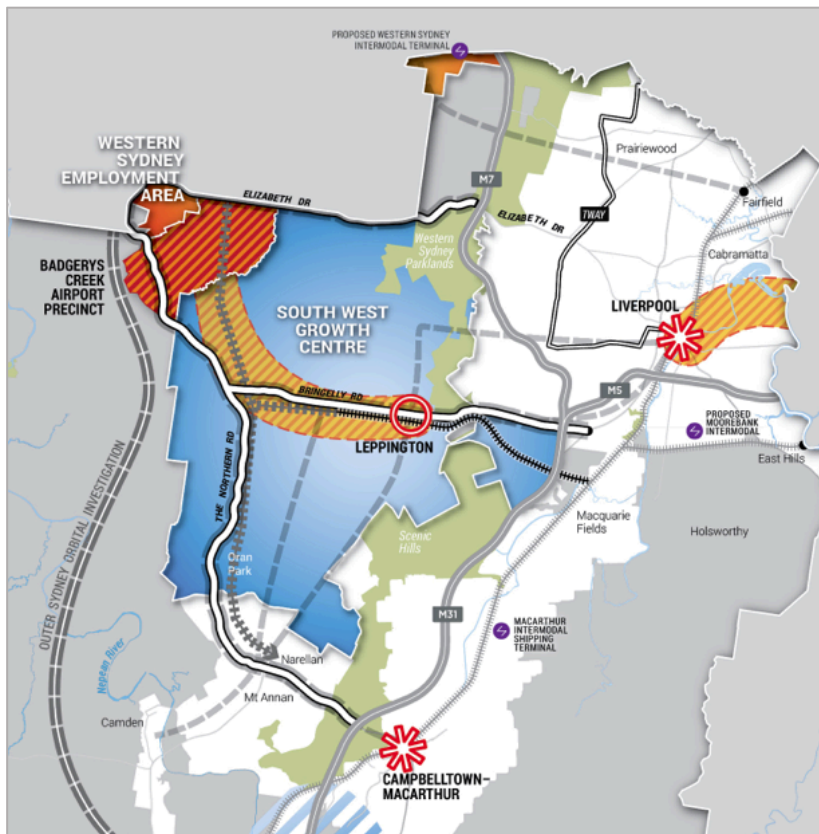


Figure 14 South West Subregion

Source: Department of Planning and Environment

Key priorities for the South West Region that this planning proposal supports include:

- Identify suitable locations for housing, employment and urban renewal – particularly around established and new centres along key public transport corridors;
- Provide environmental, recreation and tourism opportunities around the Georges River;

- Work with councils to protect and maintain the social, economic and environmental values of the Georges River and its aquatic habitats;
- Work with Council to provide capacity for additional mixed-use development in Liverpool including offices, retail services and housing;
- Work with Council to improve walking and cycling connections between Liverpool and the Georges River.

The proposed development is consistent with the relevant regional and sub-regional strategies. In particular, it supports the specific strategies of the South West region by providing additional housing, employment, pedestrian and cycling and recreation opportunities in a key site in close proximity to Liverpool City Centre and the Georges River.

4.4.3 Draft South West District Plan

The draft South West District Plan was released for public exhibition along with Towards our Greater Sydney 2016 (draft amendment to update A Plan for Growing Sydney) on 6 December 2016. The draft South West District Plan places significant emphasis on Liverpool's status as a Strategic Centre, which benefits from existing and proposed employment, education, health and retail services and accessibility to Liverpool Train Station. Liverpool has further advantage being situated in the vicinity of future large-scale industry and transport projects including the Western Sydney Airport and the Moorebank Intermodal Facility.

Like the balance of the greater Sydney area, Liverpool is experiencing considerable population growth and is projected to continue growing. Despite significant growth in housing approvals over the last decade, it is projected that there is still a significant under supply. The draft South West District Plan places a five-year housing target for Liverpool of 8,250 dwellings. This is a significant target.

A target outlined in Towards our Greater Sydney 2016 (draft amendment to update A Plan for a Growing Sydney) is to provide jobs within a 30 minute commute of where people live. The South West sub region is outlined as having a significant reliance on personal vehicular transport, with only 10% of people in the region catching public transport and only 6% of jobs being reached within the target 30 minute commute. It is noted that such projects as the South West Rail link are identified within the sub region, however this project is still in the scoping phase. It is therefore imperative to ensure that in the short term, to meet the five year housing target and provide reasonable commuting timeframes, initial focus is to be provided surrounding existing transport nodes.

The proposal is in accordance with the outcomes of the draft South West District Plan by increasing the housing supply and diversity within a walkable catchment of the Liverpool CBD and Train Station. The proposal includes the urban renewal of underutilised industrial land, by ensuring remediation works are undertaken on the riverfront that will afford the future residents and community significant amenity.

4.4.4 Greater Metropolitan REP No. 2 – Georges River Catchment

This State Regional Environmental Plan (SREP) must be addressed whenever a consent authority determines a development application that has the potential to adversely affect the water quality, river flows, flood regime or ecosystems within the Georges River Catchment.

The development has been sensitively designed to ensure it meets the requirements of the principles in the SREP. Sediment and erosion plan has been prepared to ensure nutrient run off into the Georges River is minimised. The development has been set back from the river bank per LEP and DPI Water requirements in order to prevent bank disturbance, provide appropriate vegetated buffer areas in accordance with the Riparian corridor and avoid land degradation. The stormwater management plan addresses impacts of stormwater runoff, and the site will be appropriately connected to local sewerage infrastructure. The change of use from industrial to residential will prevent any industrial discharges into the river or its tributaries.

4.4.5 SEPP (BASIX) 2004

The application is accompanied by a BASIX Report and Certificate, which are attached at **Appendix 7**. The certificate confirms that the proposed development will meet the NSW government's requirements for sustainability if built in accordance with the commitments set out in the certificate.

The certificate has determined that the proposed development shall achieve BASIX Certification with the following scores:

The Gild

- Water: 40% (Required target: 40%);
- Thermal Comfort: Pass (Required target: Pass); and
- Energy: 20% (Required target: 20%).

The Bindery

- Water: 40% (Required target: 40%);
- Thermal Comfort: Pass (Required target: Pass); and
- Energy: 22% (Required target: 20%).

4.4.6 SEPP No. 55 – Remediation of Land

The aim of SEPP 55 is 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.

A Preliminary Environmental Site Investigation has been undertaken for 26 Shepherd Street by EI Australia (refer **Appendix 19**). This concluded that there is the potential for contamination upon the site and that a Detailed Environmental Site Investigation (DESI) is required to quantitatively assess soil and groundwater conditions.

A subsequent Detailed Environmental Site Investigation was undertaken on the site at 26 Shepherd Street by EI Australia (refer **Appendix 20**), where site contamination was confirmed. In accordance with Clause 7(1), the Council is unable to consent to the proposal unless the level of contamination is considered suitable for the proposed use or appropriate remediation is undertaken. The following recommendations are proposed to ensure the site is suitable for the proposal:

- Prior to site demolition, carry out a Hazardous Materials Survey on existing site structures to identify potentially hazardous building products that may be released to the environment during demolition;

- Preparation and implementation of a Remedial Action Plan (RAP), which should:
 - Design supplementary investigations to close the data gaps identified during this investigation;
 - Outline the remediation requirements for contamination identified during this DSI and other contamination that may be identified during data gap closure investigations;
 - Provide the requirements and procedure for waste classification assessment, in order to enable classification of site soils to be excavated and disposed off-site during the basement excavation, in accordance with the Waste Classification Guidelines (EPA, 2014);
 - Provide a SAQP for the validation of remediation activities performed on-site; and
 - Outline the implementation of an unexpected finds protocol following any site demolition and during site excavation to ensure any potential contamination sources (e.g. underground tanks, pipes or pits, soil staining, or buried asbestos) are identified and managed in accordance with the NSW EPA legislation and guidelines.
- Undertake supplementary investigations and subsequent remediation and validation works for the site, as outlined in the RAP;
- Post site demolition a site walkover is to be conducted by a qualified and experienced environmental scientist/engineer to assess any visual signs of contamination and buried building waste (potentially containing asbestos) that may have been buried beneath site buildings and pavements; and
- Preparation of a validation report by a suitably qualified environmental consultant, certifying site suitability of soils and groundwater for the proposed land use.

It is noted that contamination documentation for 28 Shepherd Street has previously been provided to Council and approved under consent 2015YW129 (DA-612/2015). This included a Remediation Action Plan (RAP) for the property. It is understood that any requirements of Council regarding contamination at 28 Shepherd Street would be applicable to this DA.

4.4.7 SEPP No. 65 – Design Quality of Residential Apartment Buildings

The development is required to consider the provisions of SEPP 65 and the associated Apartment Design Guide (ADG).

In line with the Environmental Planning and Assessment Regulation 2000, a Design Verification Statement and SEPP 65 Assessment have been prepared by the architects and accompany this DA at **Appendix 3**.

SEPP 65 states that a consent authority is to give consideration to the following matters in determining a DA for a residential flat building:

- 9 design quality principles; and
- the ADG.

A response to the 9 design quality principles is provided below, whilst Mecone's assessment of the proposal against the key ADG design criteria is provided at **Appendix 4**. The ADG assessment demonstrates that the proposal is largely consistent with the key 'design criteria', including the provision of solar access to 67% of all apartments (largely

compliant with the requirement of 70%) and natural ventilation to 70% of apartments at the Gild and 64% of apartments at The Bindery (above the 60% minimum requirement).

Principle 1: Context and neighbourhood character

The subject site is located in the Shepherd Street neighbourhood in the Liverpool City Centre Locality. The locality comprises of a number of industrial and commercial uses, with low-density residential development to the west on the opposite side of the train tracks. The area is in a period of transition to a desired character of primarily high density residential development, which is reflected in its R4 zoning and the recent approval of high-density residential development at 20 Shepherd Street (DA1010/2014). The proposal further builds on consent 2015YW129 (DA-612/2015) and the greater Planning Proposal for the Shepherd Street Precinct to create an integrated residential locality, accessible to the Liverpool CBD and Train Station, whilst benefiting from the amenity afforded by remediation of the Georges River.

The development addresses the need for public domain upgrades by proposing to contribute to community infrastructure on site and adjacent to the Georges River frontage through the provision of a public-access through-site connection from the Shepherd Street boundary, across the site to the Georges River foreshore.

The proposed development supports the vision by the Liverpool Council to improve the quality of architecture and design in the area and specifically sets out to meet the stated objectives contained within the Liverpool Council Planning Controls and SEPP 65. The design aims to build upon those objectives in order to make a key contribution in this significant sector of Liverpool by providing a new high quality residential development integrated within the existing urban fabric. The proposal includes a development that is complementary to surrounding proposals/approvals in providing a strong street frontage to Shepherd Street and a generous setback from the Georges River.

Principle 2: Built form and scale

The proposal provides a built form that responds to the evolving context of the surrounding locality, in line with the Planning Proposal currently being assessed for the Shepherd Street Precinct. The proposal will include the construction of a new building on the site at 26 Shepherd Street (the Gild) and expands on the existing scheme currently under assessment over 28 Shepherd Street in accordance with consent 2015YW129 (DA-612/2015) (the Bindery).

The buildings are design to respond to context of the site in relation with the Georges River. The buildings are provided to allow integration with the open space to be enhanced along the Georges River and adjoining proposal at 20 Shepherd Street. All of the proposed buildings are provided with roof top gardens and architectural roof features that results in some additional height (in excess of that afforded under the Planning Proposal), which does not create unacceptable amenity impacts on surrounding development.

In accordance with the Planning Proposal for the Shepherd Street Precinct, the proposal will provide the logical stepping of building heights from 21 storeys to the northernmost tower to 14 storeys at the portion of the Gild that addresses the Georges River.

The portion of the Gild that addresses Shepherd Street has continued the strategy that provides a lower scale building addressing Shepherd Street to mediate the scale between the lower height of industrial warehouse buildings and the taller buildings addressing the Georges River.

The building facades have been designed to provide articulation and variety to break up the building in order to reduce the scale.

Principle 3: Density

The development complies with the maximum FSR control of 3.7:1 that is afforded for the site under the Shepherd Street Precinct Planning Proposal. As the proposal will include the amalgamation of 26 and 28 Shepherd Street, the Floor Space Ratio is calculated across the total of the two allotments. The site area across both allotments is 8,681m². The proposal will result in a total Gross Floor Area of 31,432m², which equates to 3.62:1.

Principle 4: Sustainability

The application has been accompanied by BASIX Certificates.

The project adopts passive environmental design solutions and appropriate use of materials to provide a simple yet effective response to the environmental requirements. A balance of solidity in concrete and brick materials for good thermal performance and glazing for natural daylight is inherent to all facades whilst deep balcony reveals and side walls provide passive shading and privacy where appropriate.

Operable windows are provided to all living and bedrooms. 64% of the total apartments achieve natural cross ventilation with operable windows at either end of the space.

Principle 5: Landscape

Substantial landscaping is provided on the ground plane, which will integrate with that approved under consent 2015YW129 (DA-612/2015) and the adjoining site to the north. This includes the provision of public through links between buildings, to the Georges River frontage. A generous setback has been provided to the Georges River, which it is utilised to provide significant open space and amenity. Deep soil zones are included adjacent to the Georges River and occupy 11.5% of the site area.

Principle 6: Amenity

Apart from achieving the required mix and compliance with much of the SEPP 65 guidelines, the fundamental design goals of this proposal have been:

- To maximise access to river and city views;
- Prioritise the living rooms for amenity; and
- Ensure fresh air and daylight to common areas .

Create memorable experiences in the entry sequence to the development and building lobbies

The proposal includes efficient and spacious apartment layouts, access to sunlight, natural ventilation, visual and acoustic privacy, storage, recreation spaces, outdoor roof gardens, efficient layouts and service areas and outlook and ease of access for all age groups and degrees of mobility where required.

The development has been designed so that it generally complies with the minimum building separation requirements. Visual privacy has been addressed through building separation, apartment layout, offsetting of openings and screening devices. Each apartment contains private open space and an outlook to either the Georges River or local views. The acoustic privacy within the apartments can achieve an acceptable level. The proposal provides storage facilities within the car parking area and within each apartment.

Principle 7: Safety

The proposed residential balconies will provide improved casual surveillance of the public domain. The main pedestrian entrance to the Gild are off laneways that run along the side boundaries. The two storey portion of the Gild provides apartments that address the laneway to afford surveillance. Lighting and paving has also assisted in the provision of safety along these paths without compromising privacy of the apartments that address the laneway. Both building entries will operate using secure key card controlled glazed door access. Vehicular access to the residential car park will be shared with that already approved under consent 2015YW129 for the Bindery. This driveway is on the south of the site and accessed via a secure card access control to operate the roller shutter. Sight lines from the apartments provide visibility for safe and secure access to the lobbies, courtyard and car park entry.

Security will be maintained via a secure lobby entrances with a monitored security room, CCTV surveillance and key card access to lift cores. Lighting along boundaries, in lobbies and communal areas to maximise sight will be provided. The vehicular access is concentrated to a single cross over to reduce potential conflicts between vehicles and pedestrians.

Principle 8: Housing diversity and social interaction

The proposal caters for a cross section of the suburban demographic in terms of density and affordability with the provision of 35% x 1 Bedroom apartments, 62% x 2-Bed apartments, 2% x 3 Bedroom apartments and 1% studio apartments.

The development also provides a mix of private open space in the form of large terraces and balconies and a communal rooftop terraces with substantial planting catering for both formal and informal recreational activities. The inclusion of accessibility features such as level footpaths and disability access at ground level caters for the varying degrees of accessibility in the general population. BCA and Access reports are attached with the development application and the design reflects these reports.

Principle 9: Aesthetics

The development has been designed utilising a range of high-quality traditional and contemporary materials, with articulation and variety to create visual interest and complement the surrounding environment. The architectural articulation, scale, mass, built form and materiality of the development are a direct response to the archaeology of the existing site, specifically the site's association with the paper mill factory founded in 1865. The design appraises a narrative that embeds the patina and history of the contextual materials and highlights an emergent urban grain in a new residential precinct.

4.4.8 Liverpool Local Environmental Plan 2008

The Liverpool Local Environmental Plan 2008 (LLEP2008) is the primary local planning instrument applying to the site. The site is zoned R4 High Density Residential as shown in the below Figure 15. The proposed land use is classified as a 'residential flat building', which is permissible with consent in the R4 Zone. This is defined as "*a building containing 3 or more dwellings, but does not include an attached dwelling or multi dwelling housing*". It is noted that the development does not encroach into the RE1 Zone, in which a residential flat building is prohibited.



Figure 15 Zoning Map

Source: Liverpool Local Environmental Plan 2008

The table below provides a summary of the key development standards that apply to the site under the LLEP2008.

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Land Use Zones (2.1) – Zone R4 – High Density Residential	<p>1 Objectives of zone</p> <ul style="list-style-type: none"> 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. 	<p>Complies. The proposed development complies with R4 zone objectives in that it:</p> <ul style="list-style-type: none"> Provides for the housing needs of the community; Provides a variety of apartment types and sizes; and Provides for a high concentration of housing with good access to transport, services and facilities.
Land Use Zones (2.1) – Zone R4 – High Density Residential	<p>2 Permitted without consent</p> <p>Home-based child care; Home occupations</p> <p>3 Permitted with consent</p> <p>Attached dwellings; Bed and breakfast accommodation; Boarding houses; Building identification signs; Business identification signs; Child care centres; 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</p> <p>4 Prohibited</p> <p>Any development not specified in item 2 or 3</p>	<p>Complies. The proposed use is defined as a residential flat building. Residential flat buildings are permitted with consent in the R4 zone.</p> <p>Residential flat buildings are defined within the LLEP2008 as;</p> <p><i>a building containing 3 or more dwellings, but does not include an attached dwelling or multi dwelling housing.</i></p>
Minimum Subdivision lot size (4.1)	The minimum lot size for the subject site is 1,000sqm.	NA. No subdivision is proposed.

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Height of Buildings (4.3)	<p>The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.</p> <p>Note: Building height is measured from existing ground level and includes lift overruns.</p>	<p>Complies with planning proposal. The current maximum building height for the site is 24m. The proposal does not comply with this provision; however, the proposal will comply with the Planning Proposal that has been lodged to Council to increase the HOB control to:</p> <ul style="list-style-type: none"> • <u>46m</u> at 26 Shepherd Street; • <u>20m</u> at the street frontage of 28 Shepherd Street; • <u>58m</u> at the northeast corner of 28 Shepherd Street; and • <u>68m</u> at the southeast corner of 28 Shepherd Street. <p>Refer to Section 4.5.2 for detailed discussion.</p>
Floor Space Ratio (4.4)	<p>The maximum floor space ratio for a building on any land is not to exceed the floor space ratio shown for the land on the Floor Space Ratio Map.</p>	<p>Complies with planning proposal. The proposal does comply with the current LEP provision of 1.5:1. A Planning Proposal has been lodged to Council which increases the FSR control to 3.7:1. The development proposes an FSR of 3.6:1, which is consistent with this standard.</p> <p>Refer to Section 4.5.2 for detailed discussion.</p>
Exceptions to Development Standards (4.6)	<p>(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.</p>	<p>Noted. A clause 4.6 variation is required to vary Clause 7.4 of LLEP 2008.</p>

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Architectural Roof Features (5.6)	<p>(2) Development that includes an architectural roof feature that exceeds, or causes a building to exceed, the height limits set by clause 4.3 may be carried out, but only with development consent.</p> <p>(3) Development consent must not be granted to any such development unless the consent authority is satisfied that:</p> <ul style="list-style-type: none"> (a) the architectural roof feature: <ul style="list-style-type: none"> (i) comprises a decorative element on the uppermost portion of a building, and (ii) is not an advertising structure, and (iii) does not include floor space area and is not reasonably capable of modification to include floor space area, and (iv) will cause minimal overshadowing, and (b) any building identification signage or equipment for servicing the building (such as plant, lift motor rooms, fire stairs and the like) contained in or supported by the roof feature is fully integrated into the design of the roof feature 	<p>Complies. The proposed buildings incorporate architectural roof features that provide contribute to the architectural style to the buildings and provide for rooftop gardens and open space. Refer to Section 4.5.3 of this SEE for further discussion.</p>
Preservation of trees or vegetation (5.9)	<p>(3) A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by:</p> <ul style="list-style-type: none"> (a) development consent, or (b) a permit granted by the Council. 	<p>Able to comply. No tree will be removed without the consent of Council.</p>

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Heritage Conservation (5.10.5)	<p>Heritage assessment The consent authority may, before granting consent to any development:</p> <ul style="list-style-type: none"> a) on land on which a heritage item is located, or b) on land that is within a heritage conservation area, or c) on land that is within the vicinity of land referred to in paragraph (a) or (b), <p>require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned</p>	<p>Complies. The site adjoins a heritage item to the north at 20 Shepherd Street— McGrath Services Centre Building (formerly Challenge Woollen Mills, and Australian Paper Company's Mill) (Item 104).</p> <p>The Heritage Impact Assessment provided in Appendix 4 builds on previous Heritage Impact Assessments prepared for the DA-1010/2014 over adjoining 20 Shepherd St and consent 2015YW129 (DA-612/2015) over 28 Shepherd St.</p> <p>The outcomes of the Heritage Impact Assessment for the proposed development can be summarised as follows;</p> <ul style="list-style-type: none"> - The visual impact of the proposal has been minimised by reducing the scale of the buildings addressing Shepherd St. - The sawtooth roof applied to the Gild building references the roof form of the former Challenge Woollen Mills building thereby creating a continuity in the building forms and enhancing the opportunity for public engagement and interpretation. - The location of the towers towards the Georges River frontage has avoided the proposals from dominating the streetscape and detracting from the significance of the heritage items. - Although the site is historically associated with the heritage item at 20 Shepherd Street, the site itself is not significant and does not have any structures or fabric of importance. <p>The assessment of the heritage impact of the proposal has determined that the development will have limited, but no adverse impact on the heritage significance of the Challenge Woollen Mills building on the adjoining site at 20 Shepherd Street or any other items of heritage significance in the vicinity.</p> <p>In addition to the Heritage Impact Assessment an Archaeological Survey Report has been provided in Appendix 13. The survey includes the subject site and was undertaken in accordance with the requirements set out in the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010</i>. The findings of the survey determined that there was no Aboriginal sites or areas possessing archaeological potential. It was identified that development is able to proceed without need for further investigation.</p>

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Objectives for development in Liverpool City Centre (7.1)	<ul style="list-style-type: none"> a) to preserve the existing street layout and reinforce the street character through consistent building alignments, b) to allow sunlight to reach buildings and areas of high pedestrian activity, c) to reduce the potential for pedestrian and traffic conflicts on the Hume Highway, d) to improve the quality of public spaces in the city centre, e) to reinforce Liverpool railway station and interchange as a major passenger transport facility, including by the visual enhancement of the surrounding environment and the development of a public plaza at the station entry, f) to enhance the natural river foreshore and places of heritage significance, g) to provide direct, convenient and safe pedestrian links between the city centre (west of the rail line) and the Georges River foreshore 	Complies. The proposal complies with the objectives for Liverpool City Centre in that it enhances the river foreshore, provides for high quality public spaces, provides for additional residences in close proximity to Liverpool railway station, and provides for development that allows sunlight to reach buildings and areas of high pedestrian activity.
Building Separation in Liverpool City Centre (7.4)	<ul style="list-style-type: none"> 1. Development consent must not be granted to development for the purposes of a building on land in Liverpool city centre unless the separation distance from neighbouring buildings and between separate towers, or other separate raised parts, of the same building is at least: <ul style="list-style-type: none"> a) 9 metres for parts of buildings between 12 metres and 25 metres above ground level (finished) on land in Zone R4 High Density Residential, and b) 12 metres for parts of buildings between 25 metres and 35 metres above ground level (finished) on land in Zone R4 High Density Residential, and c) 18 metres for parts of buildings above 35 metres on land in Zone R4 High Density Residential 	Does not comply. A Clause 4.6 variation requests a minor variation to this standard. This is discussed in further detail following this table.

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Design Excellence in Liverpool City Centre (7.5)	Development consent must not be granted to development involving the construction of a new building or external alterations to an existing building in the Liverpool city centre unless the consent authority considers that the development exhibits design excellence.	Complies. The proposal is considered to exhibit design excellence. The proposed towers utilize high quality materials, respond to their context and achieve excellent amenity for residents. Refer to the architect's Design Verification Statement and SEPP 65 report for further detail.
Environmentally significant land (7.6)	<p>(2) Before determining an application to carry out development on environmentally significant land, the consent authority must consider such of the following as are relevant:</p> <p>(a) the condition and significance of the vegetation on the land and whether it should be substantially retained in that location,</p> <p>(b) the importance of the vegetation in that particular location to native fauna,</p> <p>(c) the sensitivity of the land and the effect of clearing vegetation,</p> <p>(d) the relative stability of the bed and banks of any waterbody that may be affected by the development, whether on the site, upstream or downstream,</p> <p>(e) the effect of the development on water quality, stream flow and the functions of aquatic ecosystems (such as habitat and connectivity),</p> <p>(f) the effect of the development on public access to, and use of, any waterbody and its foreshores.</p>	<p>Complies. A Flora and Fauna Assessment has been prepared by ACS Environmental Pty Ltd in Appendix 9. The report is relevant the site at 26 Shepherd Street, with a flora and fauna assessment relevant to development of 28 Shepherd Street provided in consent 2015YW129 (DA-612/2015).</p> <p>The assessment has made the following observation;</p> <ul style="list-style-type: none"> - No indigenous species of flora were observed across the site. - Several birds were recorded on the site or adjacent site. All of the species are common to urban landscapes and none are listed as threatened. - No mammalian species were recorded. <p>As such, the proposed development is not considered to have any negative impacts on the environmentally sensitive land.</p>
Acid Sulfate Soils (7.7)	<p>(2) Development consent is required for the carrying out of works described in the Table to this subclause on land shown on the Acid Sulfate Soils Maps being of the class specified for those works.</p> <p>Class 5: Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.</p>	<p>Complies. As part of the work undertaken for the Shepherd Street Precinct planning proposal, El Australia prepared advice surrounding contamination and acid sulphate soils. This is attached at Appendix 15. This followed individual assessments undertaken at 20 Shepherd Street and 28 Shepherd Street (provided in previous DAs). Neither assessments were indicative of acid sulphate soils at the sites. As such, El Australia have determined that the likelihood of acid sulphate soils being present on 26 Shepherd Street to be low.</p>

Table 6. Compliance with Liverpool Local Environmental Plan 2008

Clause	Provision	Assessment
Flood planning (7.8)	<p>(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:</p> <p>(a) is compatible with the flood hazard of the land, and</p> <p>(b) will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and</p> <p>(c) incorporates appropriate measures to manage risk to life from flood, and</p> <p>(d) will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and</p> <p>(e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding, and</p> <p>(f) is consistent with any relevant floodplain risk management plan adopted by the Council in accordance with the Floodplain Development Manual.</p>	<p>Complies. The development has been deemed suitable from a flood impact perspective. Refer to the Flood Risk Report prepared by Wood & Grieve at Appendix 21 for details.</p>
Foreshore building line (7.9)	<p>(1) The objective of this clause is to ensure that development in the foreshore area will not impact on natural foreshore processes or affect the significance and amenity of the area.</p>	<p>Complies. No part of the proposed residential flat building is located within the foreshore building line.</p> <p>A Riparian Report has been prepared by Northrop (refer to Appendix 11), which demonstrates that the development has an acceptable impact on the Georges River.</p>

4.5 Key LEP Issues

4.5.1 Building Separation

A minor variation is proposed to Clause 7.4 of the LLEP 2008 relating to building separation. The extent of the variation is outlined in the below Table 7. The non-compliance applies only to:

- Between the tower currently under construction at 20 Shepherd and the proposed tower at 26 Shepherd Street. 12m is required between towers at a height of between 25m and 25m, whereas 11.325m has been proposed; and
- Between the proposed tower at 26 Shepherd Street and the proposed extension to Building C1 at 28 Shepherd Street. 18m is required between towers above 35m in height, whereas 12.6m has been proposed.

Table 7. Building Separation			
Height Condition/Site	Between 12m and 25m (9m separation required)	Between 25m and 35m (12m separation required)	Above 35m (18m separation required)
Between 20 and 26 Shepherd Street	Complies. Greater than 9 is provided between levels 3 and 8.	Minor non-compliance. 11.325m has been provided between levels 8 and 11, or a variation of 675mm.	Not applicable.
Between 26 and 28 Shepherd Street	Complies. Between 10.7m – 12.6m is provided between levels 3 and 8.	Complies. 12.6m is provided between levels 8 and 11.	Minor non compliance. 12.6m has been provided between the buildings above level 11.
Between 28 Shepherd Street and future development to south	Not applicable. No buildings have currently been built on the adjoining site to the south, however this site will be able to comply. The land to the south is in the control of the same proponent as the subject DA sites, forming part of the overall Shepherd Street precinct.		

A formal request to vary the development standard under Clause 4.6 of LLEP 2008 has been prepared and is attached at **Appendix 25**.

4.5.2 Building Height and FSR

It is noted that the proposed development is not compliant with respect to two key LLEP 2008 development standards, being the maximum building height control of 24m and the maximum FSR of 1.5:1. However, the proposal is consistent with the Shepherd Street Planning Proposal which has been endorsed by Council and recently publicly exhibited. As a result, this planning proposal is a 'matter for consideration' under Section 79C, as it is a draft planning instrument – although we expect that the DA will not be.

The maximum height of building proposed is:

- 45.62m to the roof (RL 56.20) at 26 Shepherd Street. This complies with the maximum height of building control of 46m. Note that an architectural roof feature is proposed which exceeds the height limit, and is discussed in Section 4.5.3 below.
- 57.66m to the roof (RL 68.70) of the northeastern portion of Building C1 at 28 Shepherd Street. This complies with the maximum height of building control of 58m. Note that an architectural roof feature is proposed which exceeds the height limit, and is discussed in Section 4.5.3 below.
- 65.86m to the roof (RL 76.90) of the southeastern portion of Building C1 at 28 Shepherd Street. This complies with the maximum height of building control of 68m. Note that an architectural roof feature is proposed which exceeds the height limit, and is discussed in Section 4.5.3 below.

The sites have a combined area of 8,681m² and the proposed development has a total GFA of 31,432m². This is reflective of an FSR of **3.62:1**. This is compliant with the FSR for the site of 3.7:1 proposed under the planning proposal.

4.5.3 Architectural Roof Feature(s)

The proposed buildings incorporate architectural roof features that contribute to the architectural style of the buildings and provide for rooftop gardens and open space. As a consequence of the provision of the architectural roof features the development will exceed the building heights provided under the planning proposals. In Council's pre-lodgement meeting minutes (Appendix 8) it was outlined that Clause 5.6 was to be addressed for these features.

It is identified that a variation in height controls for the purposes of an architectural roof feature may be facilitated under Clause 5.6(2). To facilitate this the consent authority must be satisfied that the architectural roof feature:

- (i) *comprises a decorative element on the uppermost portion of the building.*

The proposed buildings include a design element, which is facilitated above the highest points of the associated structures. Matching architectural roof features are provided on the top of the two towers associated with the Bindery. These features include portal frames around the roof top gardens.

The proposed roof feature on the Gild includes the continuation of the sawtooth feature that has been provided in reference to the heritage value associated with the adjoining site.

- (ii) *is not an advertising structure*

The proposed roof feature is not an advertising structure.

- (iii) *does not include floor space area and is not reasonably capable of modification to include floor space area, and,*

The proposed design features do not contribute to floor space ratio.

- (iv) *will cause minimal overshadowing*

No unreasonable overshadowing will be caused by the architectural roof feature.

The proposed architectural roof features positively contribute to the building design, do not include any advertising or unreasonable impact on surrounding development. The features are located above the highest point.

4.6 Liverpool Development Control Plan 2008

The Liverpool Development Control Plan (LDCP) 2008 is the primary DCP applying to the site. A full assessment of the proposal against the provisions of the LDCP 2008 has been undertaken by Mecone at **Appendix 5**. Key issues are discussed in the sections below.

4.6.1 Building Setbacks

The development has habitable frontages from the front and rear setbacks and non-habitable frontages from the side setbacks. In accordance with Part 4 Section 2.1 of the LDCP2008, the required development setbacks are as follows:

- 4.5m front setback.
- 3m side setback and 6m rear setback up to 12m height;
- 4.5m side setback and 9m rear setback between 12m and 25m height; and
- 6m side setback and 6m rear setback above 25m height (roof of C1 only).

The front setback of the Gild (26 Shepherd Street) has been designed to commensurate to that of the adjoining building approved under consent 2015YW129 (DA-612/2015). The reduced front setback and building height has been provided to provide a distinct urban edge, highlight the sawtooth roof feature and allow the building to be sited outside the inner 50% Vegetated Riparian Zone. The proposal has a 19.360m rear setback from habitable rooms, which significantly exceeds the maximum required setback of 9m. This has been required to ensure suitable setback to the Vegetated Riparian Zone. The side setbacks meet and exceed all the minimum setback requirements at ground level and up to Level 8. Above level 8 (above 25m in height) the separation to the northern boundary remains at approximately 5.3m. Despite this, the adjoining building to the north at 20 Shepherd Street is only approved at 9 stories in height. Additional vertical louvers will be provided to ensure privacy is maintained.

4.6.2 Unit Mix

The development proposes 1% (2) studio dwellings, 35% (131) 1-bedroom dwellings, 62% (230) 2-dwellings units and 2% (9) 3-bedroom dwellings.

Section 6.1 of the Liverpool City Centre DCP requires no less than 10% of the proposed units to be studios or 1 bedroom dwellings, and no less than 10% to be 3 bedroom dwellings. The development proposes 2% 3-bedroom units, which is less than the 10% required. However, this is considered acceptable as the development proposes a significant mix of housing types and sizes, including townhouse style dwellings on the ground floors, and different unit typologies, in order to provide appropriate and affordable dwelling types for the market.

Council's development control plan is dated 2008 and, at 8 years old, is not considered to properly reflect the market demands in terms of apartment mix. The proponent has undertaken market led research in the Liverpool area to determine the most appropriate mix, which leans more towards 2 bedroom apartments and does not provide as many 3 bedroom apartments as required by the DCP. Nevertheless the apartment mix is

appropriately varied, allowing for a good mix of housing types. There is also further apartment type variation, with the 1 and 2 bedroom units broken up into types with-and-without studies, thereby extending the mix of dwelling types even further.

5 Environmental Assessment

5.1 Traffic and Access

In Roads Group have provided a Traffic Impact Assessment with respect to the proposed development (refer **Appendix 23**).

Traffic Impact

InRoads Group note that traffic analyses undertaken as part of the Shepherd Street Precinct Planning Proposal demonstrated there is adequate capacity to accommodate the traffic expected to be generated following the precinct's development with 1,500 residential apartments (including 375 apartments proposed on the subject site) at the following nearby intersections:

- The Shepherd Street / Atkinson Street intersection;
- The Shepherd Street / Riverpark Drive roundabout;
- The Speed Street / Shepherd Street intersection; and
- The Speed Street / Mill Road roundabout.

Resultantly, these intersections would be more than capable of accommodating the traffic generated by the subject development.

Further, the Planning Proposal included an agreement from the Applicant to fund a 'variation' to the modelling to be undertaken by Council's consultant to assess the impact of the Planning Proposal for the Shepherd Street precinct upon the broader road network. This modelling will allow Council and the Applicant to finalise the commitments required to ensure traffic impacts of the Planning Proposal are appropriately addressed.

In light of the above, InRoads Group have concluded that:

- Traffic generated by the proposed development on the site would be more than adequately accommodated on the immediately adjacent road network; and
- The cumulative impact of the development proposed on the site at 26 - 28 Shepherd Street, and the additional development in the Shepherd Street precinct anticipated under the Shepherd Street Planning Proposal upon the broader road network, will be appropriately assessed through modelling being undertaken by Council for the Liverpool City Centre.

Accordingly, no external roadworks are required to support the development, over and above that which may be identified as part of the modelling being undertaken for the Liverpool City Centre.

Parking and Access

The carparking assessment undertaken by InRoads Group for the development is shown in the below figure.

Component of Development		Number of Apartments	DCP Parking Rate	Parking Requirement
26 Shepherd Street	Studio	0	0.5 spaces per apartment	0.0
	1-bedroom	28	1.0 spaces per apartment	28.0
	2-bedroom	52	1.0 spaces per apartment	52.0
	3-bedroom	2	1.5 spaces per apartment	3.0
	Residential Visitor	82	1.0 spaces per 10 apartments	8.2
	Sub-Total	82		91.2
28 Shepherd Street	Studio	2	0.5 spaces per apartment	1.0
	1-bedroom	103	1.0 spaces per apartment	103.0
	2-bedroom	178	1.0 spaces per apartment	178.0
	3-bedroom	7	1.5 spaces per apartment	10.5
	Residential Visitor	290	1.0 spaces per 10 apartments	29.0
	Sub-Total	290		321.5
TOTAL		372		412.7

Figure 16 Car Parking Assessment

Source: InRoads Group

As evidenced in the above figure, the total number of car parking spaces required is 412.7 (413). The development provides for 422 and is therefore compliant. The car parking provision for the proposed development includes 38 accessible car parking spaces (to service 38 accessible apartments).

The Liverpool DCP 2008 requires 1 bicycle space per 200m² gross floor area, and 15% of this requirement to be accessible to visitors. The overall GFA of the proposed development is 31,432m², requiring a total of 158 bicycle parking spaces (24 of these to be available for visitor use). The architectural plans include several areas throughout the basement levels which could reasonably provide for bicycle parking, by way of bicycle racks or rails. Alternatively, resident bicycles could be wall mounted at the front of parking spaces above the nose of the vehicle.

A total of 22 motorcycle spaces is provided for, in line with the DCP requirements of 1 space per 20 car spaces.

5.2 Acoustic Impacts

Two acoustic reports have been prepared (one for each existing site) by Wood & Grieve Engineers and accompany the DA at **Appendix 26** and **Appendix 27**. The reports build on existing acoustic impacts undertaken previously over 28 Shepherd Road.

The reports are informed by a noise survey, which included noise measured at 15 duration to characterise the acoustic environment. The dominant noise at the localities in which the surveys were taken included noise associated with traffic movement and the nearby train line. In addition to this a noise logger was placed on both sites to measure the ambient and background noise that is representative of the site and surrounding receivers. This was undertaken from the 25th March to the 2nd April 2015.

The acoustic impacts of the proposal itself were also considered. This included investigation into the noise generated from mechanical plant services.

To ensure that internal noise levels are provided at a suitable level to the Gild (26 Shepherd Street) the external glazing is proposed in line with the outcomes of the Acoustic Report;

- 8.38mm laminated glazing to all bedrooms; and
- 6.38mm laminated glazing to all living rooms.

Acoustic glazing is similarly proposed for the Bindery in line with the table below, prepared by Wood & Grieve.

Building	Façade	Level	Occupancy	Glass System	Required Acoustic Rating of Glazing Assembly, R_w^1
C2	South-East	All	Bedrooms	6.38mm laminated	33
			Living rooms	6mm float	31
	North-West		Bedrooms	8.38mm laminated	34
			Living rooms	6.38mm laminated	33
C1	North-West		Bedrooms	6.38mm laminated	33
			Living rooms	6mm float	31
	South-East		Bedrooms	8.38mm laminated	34
			Living rooms	6.38mm laminated	33
C1, C2	South-West North-East	All	Bedrooms	8.38mm laminated	34
			Living rooms	6.38mm laminated	33

The noise generated from the proposed development in terms of mechanical plant has also been considered, with the following mitigation measures proposed for all buildings;

- Positioning mechanical plant away from nearby receivers;
- Acoustic attenuators fitted to duct work;
- Screening around mechanical plant
- Acoustic insulation with duct work.

The reports outline that providing the above considerations be undertaken the future residents will not be subject to acoustic environments that exceed the relevant criteria.

5.3 Flora and Fauna Assessment

ACS Environmental have undertaken a Flora & Fauna Assessment for 26 Shepherd Street (see **Appendix 9**). It is noted that a Flora & Fauna Assessment was also prepared for 28 Shepherd Street, approved under consent 2015YW129 (DA-612/2015). This has not been resubmitted for the purposes of this application.

Flora and Fauna Survey and Biodiversity Assessment

No threatened flora species were recorded within 1km of the site, with the vegetation on the subject site being exotic herbaceous weeds. The ecological plant community is comprised of exotic species and there is no vegetation cover which has any biodiversity significance. Two threatened fauna species were recorded within 1km of the site; an individual Swift Parrot in 1996 and a Little Lorikeet in 2014. No habitat exists within the subject land that would potentially attract either of these species.

5.4 Heritage Assessments

Heritage Impact Statement

The Heritage Impact Statement (HIS) accompanying this proposal at **Appendix 14** acts as an addendum to those reports already submitted under the DAs for 20 Shepherd Street, 28 Shepherd Street, and the Shepherd Street Precinct Planning Proposal.

City Plan Services have determined that the proposed works are considered to have no adverse impact on the heritage significance of the former Challenge Woollen Mills building located at 20 Shepherd, or other heritage items located within proximity based on:

- The visual impact and streetscape appearance of the proposed development at 26 Shepherd Street is minimised through the application of a 2 storey section oriented towards Shepherd Street, which avoids dominating the streetscape presence of the heritage item. This section of the proposal also features a sawtooth roof which references the roof form of the heritage item;
- The proposed 14 storey tower on 26 Shepherd Street is located further east towards the river, away from the streetscape, which will limit the impact on the heritage item. The proposed tower is in keeping with the context of surrounding approved developments;
- The proposed development at 26 Shepherd Street will complete the rhythm created by the residential developments at 20 Shepherd Street and 28 Shepherd Street;
- No changes are proposed to significant fabric at 26 Shepherd Street;
- The increase in height at 28 Shepherd Street is acceptable and will not adversely impact nearby heritage items; and
- Bulkiness of the towers is prevented through articulation of the building form.

5.5 Riparian Assessment

Northrop was engaged to provide advice regarding to the Riparian Zone delineation and rehabilitation (see **Appendix 11**). The purpose of this assessment is to delineate the 40m wide Vegetated Riparian Zone (VRZ) pertaining to the Georges River, which is a 4th order watercourse, in particular the inner and outer 50% VRZs which are offset from the highest bank of the river.

In previous advice for 28 Shepherd Street, RL 9.0m was determined as the level at which the VRZ commenced. In consideration of other factors, including highest bank, flood levels, levels on the opposite river bank, condition of the opposite banks. From this information, Northrop have concluded that the VRZ should commence at RL 9.0m to then determine the 20m wide Inner 50% VRZ and the Outer 50% VRZ.

Resultantly, the proposed buildings have been set back behind the Inner 50% VRZ at ground level, which will allow for the creation of a fully protected and structured riparian zone. Landscaping features, walking paths, and stormwater outlets are permitted in the Inner 50% VRZ, whilst the Outer 50% may accommodate the development's built form with offsetting occurring for native landscaping elsewhere.

Average Rule and Offsetting

The subject proposal forms part of the overall Shepherd Street Precinct redevelopment, and as such Northrop has expanded out their assessment of riparian zones so that a precinct-wide strategy can be devised to be used as the basis for ongoing development assessment.

Non-riparian corridor works can be authorized within the Outer 50% VRZ, and this is proposed in the subject DA. An area of 'reclaimed riparian zone' within the Inner 50% VRZ is also created through fully vegetating areas currently built-upon with car parks, hardstands, and buildings. This can be considered as offsetting against development incursions into the Outer 50% VRZ, as advised in meetings with DPI Water on 3 November 2016.

In their spatial assessment of offsets verses incursions across the Shepherd Street Precinct, there is a 901m² surplus of land that is offset.

Summary

All riparian works and subsequent maintenance will be the subject of a future Vegetation Management Plan (VMP) for the precinct, which we would expect to be a condition of approval in any General Terms of Approval issued by DPI Water. The measurable outcomes for works under the VMP are as follows:

- Banks stable with no visible signs of erosion;
- 90% survival of all plants after 5 years;
- 0% cover of Noxious weeds after 5 years; and
- Less than 5% cover of Environmental Weeds after 5 years.

The strategy outlined for the precinct demonstrates that sufficient offsets are available within the precinct itself following the carrying out of improvement works in relation to removal of existing structure within the inner and outer VRZs, then rehabilitation and revegetation work undertaken as part of the redevelopment of the site.

5.6 Wind Effects

The DA is supported by wind modelling testing undertaken by MEL Consultants to provide data on environmental wind conditions at ground level. This report is held at **Appendix 12**.

Wind modelling was undertaken at the following test locations:

- Shepherd Street;
- The laneway adjacent to 20 Shepherd Street;
- The riverfront;
- The laneway adjacent to 32-34 Shepherd Street;
- The laneway between 26 and 28 Shepherd Street; and
- Central Park.

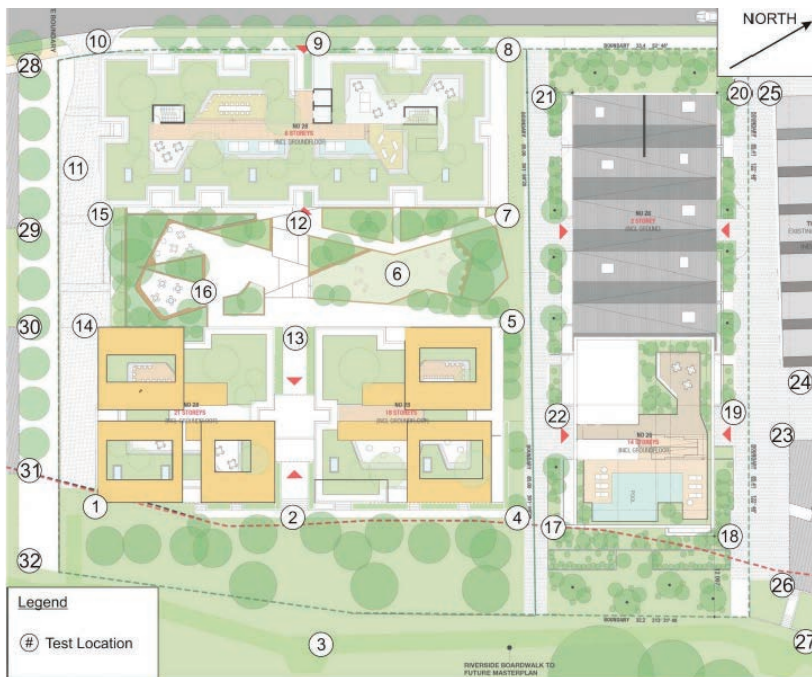


Figure 17 Wind Modelling Test Locations

Source: MEL Consulting

The wind conditions at most test locations have been shown to be either on or within the criterion for walking comfort in all directions, with many wind directions achieving the criteria for stationary activities. Where test locations were above the criterion for walking comfort, the addition of the proposed landscaping improves the conditions to be either on or within the criterion for walking comfort for all wind directions.

5.7 BCA

Certified Building Specialists have carried out an assessment of the proposed development against the prescriptive Deemed to Satisfy Provisions of the Building Code of Australia (refer to **Appendix 24**).

In conclusion, Certified Building Specialists confirm that compliance with the BCA will be achievable subject to the implementation of the requirements detailed in the report.

5.8 Stormwater Management Provisions

Stormwater management provisions were provided for 28 Shepherd Street under consent 2015YW129 (DA-612/2015). As such, Wood & Grieve Engineers have prepared a stormwater management plan for the new development at 26 Shepherd Street (see **Appendix 21**).

The stormwater management plan specifically addresses:

- Flooding;
- Stormwater runoff volumes and detention (Stormwater Quantity); and
- WSUD.

Part of the site is impacted by Flooding during a 100 ARI storm event. A flood impact statement has been obtained from Council which shows that the 1% AEP flood level for

the site is RL9.9. Council controls require a free board of at least 500mm to proposed finished floor levels and to basement entries, which the proposal complies with.

It is proposed that stormwater run-off from the site will be discharged directly to the Georges River adjoining the site to the rear. As such there is no requirement to provide attenuation of discharge.

An assessment of water quality has been carried out using a MUSIC model for the development. The roof of the proposed buildings is to be landscaped hence no allowance for rainwater capture or re-use has been included.

The treatment targets archived following modelling are:

- 100% reduction in Gross Pollutants (90% required)
- 85.8% reduction in Total Suspended Solids (80% required)
- 47.5% reduction in total phosphorous (45% required)
- 54.4% reduction in total nitrogen (45% required)

5.9 Waste Management Provisions

MRA Consulting have prepared a Waste Management Plan for the proposed development (see **Appendix 22**). MRA has reviewed the proposal in terms of:

- The demolition and construction phases as well as associated activities;
- Waste streams associated with the proposed site uses, and implications for waste storage and recycling areas;
- Supporting waste systems that are required as part of the ongoing facility management.

MRA's report should be referred to for specific figures relating to waste generation and storage requirements.

6 Section 79C Assessment

The proposal's compliance against all provisions of Section 79C of the EPAA Act is outlined in the below table.

Table 8. Section 79C Assessment Summary

Clause No.	Clause	Assessment
(1)	<p>Matters for consideration—general</p> <p>In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:</p>	
(a)(i)	<p>The provision of:</p> <p>Any environmental planning instrument, and</p>	The proposal is largely consistent with the key EPI's applicable to the site. Where there are non compliances, these have been justified within this SEE.
(ii)	Any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and	The proposal is consistent with the Shepherd Street Precinct Planning Proposal which has been subject to public exhibition and proposes an increase in height and FSR upon the site.
(iii)	Any development control plan, and	A full assessment has been undertaken against the LDCP 2008 as a part of this report. The proposal is largely consistent with its provisions.
(iiia)	Any planning agreement that has been entered into under Section 93F, or any draft planning agreement that a developer has offered to enter into under Section 93F, and	Not applicable.
(iv)	The regulations (to the extent that they prescribe matters for the purposes of this paragraph), and	Not applicable.
(v)	Any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), that apply to the land to which the development application relates,	Not applicable.
(b)	The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	The likely impacts of the development have been considered with the support of expert prepared consultant reports, which accompany this application. The impacts of the development are considered to be acceptable and manageable.

Table 8. Section 79C Assessment Summary

Clause No.	Clause	Assessment
(c)	The suitability of the site for the development,	<p>The proposed development is considered appropriate for the site in that:</p> <ul style="list-style-type: none"> • The site's zoning permits the development; • The planning controls proposed under the Planning Proposal support the building form for which consent is sought; • The site is in close proximity to a range of public transport options, employment opportunities and amenities; • The development will provide will improve the public domain; and • The development responds appropriately to its context, providing high quality buildings that will make a positive contribution to the Shepherd Street Precinct within the Liverpool City Centre.
(d)	Any submissions made in accordance with this Act or the regulations,	This is a matter to consider following the exhibition of the proposal.
(e)	The public interest.	As demonstrated throughout this report, the proposed development will provide a quality residential development that is consistent with key planning controls and standards and responsive to its context. Further, the development will have no unacceptable adverse impacts on neighbouring properties or on the natural and built environment in the local area. For these reasons the development is considered to be in the public interest.

7 Conclusion

This SEE has been prepared to support a development application for a mixed use development at 26-28 Shepherd Street, Liverpool.

This SEE describes the proposed works in the context of relevant planning controls and policies applicable to the form of the development proposed. In addition, the statement provides an assessment of those relevant heads of consideration pursuant to Section 79C of the *Environmental Planning and Assessment Act 1979* (EPAA).

The development is considered acceptable when assessed against Section 79C of the EPAA in that it:

- Provides a high-quality residential development that contributes to the mix of compatible uses in the area and complies with zone objectives;
- Provides for residential accommodation with a high level of amenity in terms of size, layout, solar access and natural ventilation;
- Locates residential accommodation in close proximity to a range of services, amenities and public transport options;
- Complies with relevant criteria in Liverpool Local Environmental Plan 2011 (notwithstanding height and FSR);
- Aligns with the Council-endorsed Planning Proposal for the site;
- Generally complies with relevant controls in Liverpool Development Control Plan 2008, with any inconsistencies sufficiently justified;
- Is sensitive to the adjoining heritage item;
- Exhibits design excellence;
- Provides for generous and attractive landscaping that integrates with the built form;
- Improves the site's relationship to the public domain;
- Responds to the street alignment and future desired built form;
- Results in acceptable traffic impacts;
- Is acceptable from a flood risk perspective;
- Has no unacceptable environmental impacts on the Georges River;
- Is BASIX-compliant and seeks to provide a high level of sustainability through management of stormwater runoff and provision of WSUD;
- Has positive social and economic impacts; and
- Is a suitable development for the site and is considered to be in the public interest.

Therefore, we request that the proposed development be granted development approval.



Suite 1204B, Level 12, 179 Elizabeth Street
Sydney, New South Wales 2000

info@mecone.com.au

mecone.com.au