SYDNEY WESTERN CITY PLANNING PANEL

COUNCIL ASSESSMENT REPORT

Panel Reference	2017SSW023
DA Number	DA-82/2017
Local Government Area	Liverpool City Council
Proposed Development	Development Application No. DA-82/2017 proposes the: - Construction of a 14 storey residential flat building comprising of 82 apartments at 26 Shepherd Street; - Extension to 'Building C1 South' by an additional 14 storeys and extension to 'Building C1 North' by an additional 12 storeys comprising of an additional 150 units at 28 Shepherd Street; - Consolidation of 26 and 28 Shepherd Street. The proposal is identified as Nominated Integrated Development, requiring approval from the NSW Department of Primary Industries - Water pursuant to the Water Management Act 2000.
Street Address	26-28 Shepherd Street, Liverpool Lot 22 and Lot 23 in DP 859055
Applicant	Coronation (26 Shepherd St) Pty Ltd
Owner	Coronation (28 shepherd St) Pty Ltd and Shepherd Property Nominee Pty Ltd
Date of DA Lodgement	17 February 2017
Number of Submissions	Nil
Regional Development Criteria (Schedule 4A of the Act)	The development has a CIV of $61,848,676
List of All Relevant s79C(1)(a) Matters	• *List all of the relevant environmental planning instruments: s79C(1)(a)(i)* • State Environmental Planning Policy No.65 – Design Quality of Residential Apartment Development. • State Environmental Planning Policy No.55 – Remediation of Land. • State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 • State Environmental Planning Policy (Infrastructure) 2007. • Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment. • Liverpool Local Environmental Plan 2008. • *List any proposed instrument that is or has been the subject of public consultation under the Act and that has been notified to the consent authority: s79C(1)(a)(ii)* • None applicable • *List any relevant development control plan: s79C(1)(a)(iii)* • Liverpool Development Control Plan 2008. - Part 1 – General Controls for all Development.

	- Part 4 – Development in the Liverpool City Centre.
	
	• *List any relevant 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: s79C(1)(a)(iv)*
	
	  • A VPA applies to the Shepherd Street precinct
	
	• *List any coastal zone management plan: s79C(1)(a)(v)*
	
	  • The subject site is not within any coastal zone management plan.
	
	• List any relevant regulations: s79C(1)(a)(iv) eg. Regs 92, 93, 94, 94A, 288
	
	  • Consideration of the provisions of the Building Code of Australia.

List all documents submitted with this report for the panel's consideration	1. Architectural Plans and Landscape Plans 2. Stormwater Drainage Plan and Report 3. Recommended Conditions of Consent 4. Statement of Environmental Effects 5. LDCP 2008 Compliance Table 6. Clause 4.6 Variation 7. SEPP 65 Verification Statement, ADG Design Principles and ADG Compliance Table 8. Acoustic Reports 9. Remediation Action Plan 10. Archaeological Survey Report 11. Heritage Impact Statement 12. Wind Assessment Report 13. Traffic Impact Assessment 14. Flora And Fauna And Riparian Report 15. Riparian Assessment Report 16. Waste Management Plan 17. Social Impact Assessment 18. Access Report 19. Geotechnical Report 20. Acid Sulphate Soils Letter 21. Basix Compliance Report 22. Voluntary Planning Agreement 23. SWCPP Briefing Minutes 24. Design Excellence Panel Comments 25. Urban Design Report 26. Addendum to the Remediation Action Plan 27. Addendum to the Geotechnical Report
Recommendation	Approval, subject to conditions
Report Prepared by	Rodger Roppolo – Senior Development Planner
Report date	22 February 2018

Summary of s79C matters Have all recommendations in relation to relevant s79C matters been summarised in the Executive Summary of the assessment report?	**Yes**
Legislative clauses requiring consent authority satisfaction Have relevant clauses in all applicable environmental planning instruments where the consent authority must be satisfied about a particular matter been listed, and relevant recommendations summarized, in the Executive Summary of the assessment report? *e.g. Clause 7 of SEPP 55 - Remediation of Land, Clause 4.6(4) of the relevant LEP*	**Yes**
Clause 4.6 Exceptions to development standards If a written request for a contravention to a development standard (clause 4.6 of the LEP) has been received, has it been attached to the assessment report?	**Yes**
Special Infrastructure Contributions Does the DA require Special Infrastructure Contributions conditions (S94EF)? *Note: Certain DAs in the Western Sydney Growth Areas Special Contributions Area may require specific Special Infrastructure Contributions (SIC) conditions*	**No**
Conditions Have draft conditions been provided to the applicant for comment? *Note: in order to reduce delays in determinations, the Panel prefer that draft conditions, notwithstanding Council's recommendation, be provided to the applicant to enable any comments to be considered as part of the assessment report*	**Yes**

1. EXECUTIVE SUMMARY

1.1 Reasons for the report

The Sydney Western City Planning Panel is the determining authority as the Capital Investment Value (CIV) of the development is over $20 million, pursuant to Schedule 4A of the Environmental Planning and Assessment Act 1979. The development has a CIV of $61,848,676.

1.2 The proposal

The application proposes the following:

- Construction of a 14 storey residential flat building comprising of 82 apartments at 26 Shepherd Street;
- Extension to 'Building C1 South' (approved under Development Consent No. DA-612/2015) by an additional 14 storeys and extension to 'Building C1 North' (approved under Development Consent No. DA-612/2015) by an additional 12 storeys comprising of an additional 150 units at 28 Shepherd Street; and
- Consolidation of 26 and 28 Shepherd Street.

The proposal is identified as Nominated Integrated Development, requiring approval from the NSW Department of Primary Industries - Water pursuant to the Water Management Act 2000.

1.3 The site

The subject site is identified as Lot 22 and Lot 23 in DP 859055, being 26-28 Shepherd Street, Liverpool.

1.4 The issues

The main issues identified are as follows:

- Variation to the LLEP 2008 development standard of Clause 7.4 Building Separation in Liverpool City Centre. The development proposes a variation ranging from 5.8% to 30%.
- Potential impact on the adjoining heritage item; and
- Variation to the building separation distances of the Apartment Design Guidelines. Variations are proposed to the building separation distances as specified within the Apartment Design Guidelines. These variations occur between 20 and 26 Shepherd Street, and between 26 and 28 Shepherd Street.

1.5 Exhibition of the proposal

The application was advertised for a period of 30 days from 17 February 2017 to 03 May 2017 in accordance with the Liverpool Development Control Plan 2008. No submissions were received.

1.6 Conclusion

The application has been assessed pursuant to the provisions of the Environmental Planning and Assessment Act 1979. Based on the assessment of the application, it is recommended that the application be approved subject to the recommended conditions of consent.

2. SITE DESCRIPTION AND LOCALITY

2.1 The site

The subject site is identified as Lot 22 and Lot 23 in DP 859055, being 26-28 Shepherd Street, Liverpool. The site is irregular in shape and has an area of 8,706m^2 and has a street frontage of approximately 105m to Shepherd Street.

Works associated with Development Application No. DA-612/2015 which approved the construction of two residential flat buildings comprising of 140 units has commenced at 28 Shepherd Street.

The deposited plan for the site does not identify any restrictions or easements.

An aerial photograph of the site is provided below.

Figure 1 – Aerial photograph of the site

2.2 The locality

The subject site is located approximately 1.2km from 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.

An aerial photograph of the locality is provided below.

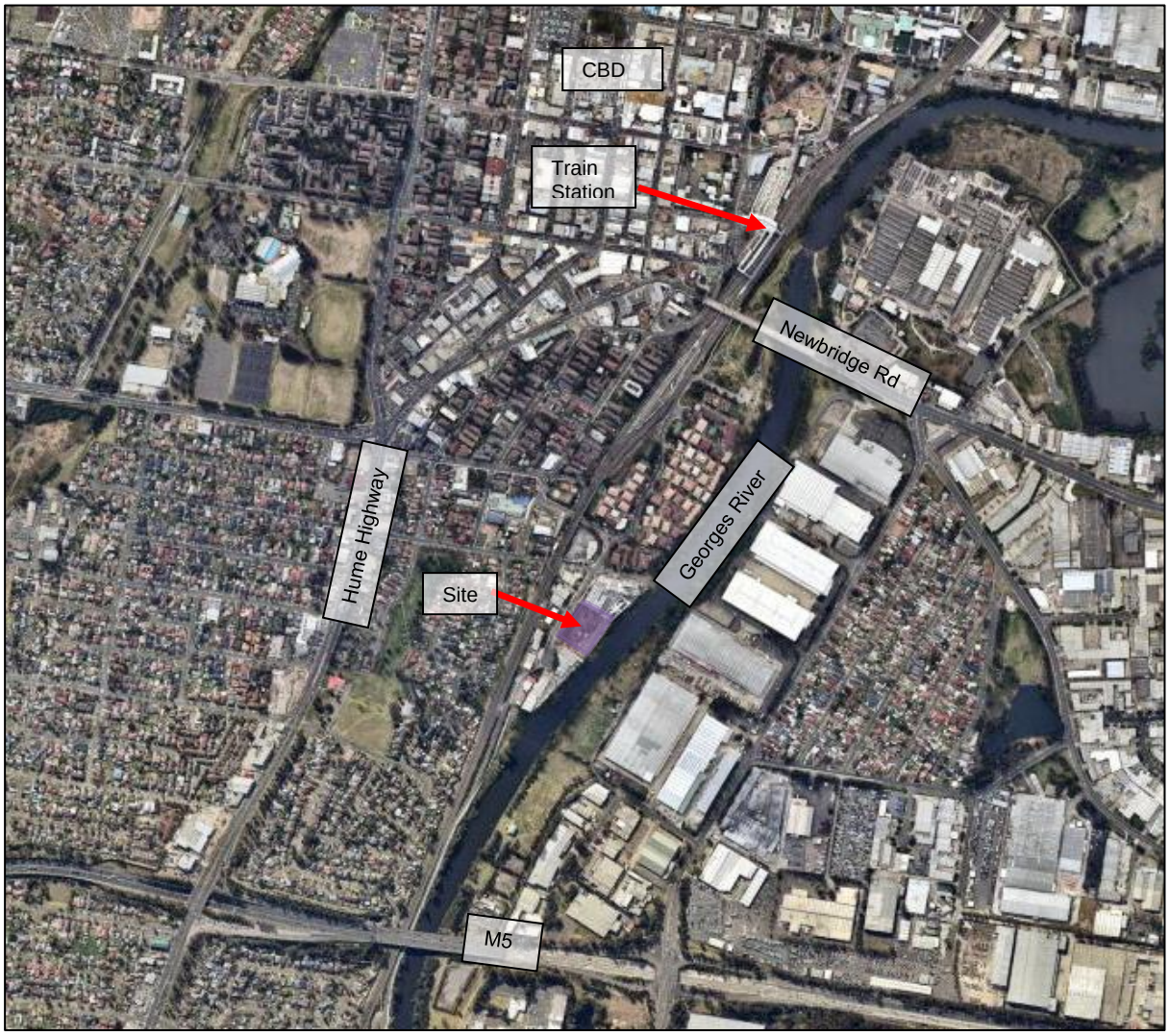

Figure 2 – Aerial Photograph of the Locality

2.3 Site affectations

The subject site has number of constraints, which are listed below:

Rail Noise

The site is located within close proximity to the southwest train line. The potential noise and vibration impact from the railway line have been considered within the overall design of the development which will incorporate noise mitigation measures such as upgraded glazing in order to achieve an acceptable level of internal amenity for future occupants. Further discussion on the acoustic impact from the southwest train line is discussed further in this report.

Heritage

26 Shepherd Street is located adjacent to 20 Shepherd Street which is listed as a local heritage item under Part 1 of Schedule 5 of the Liverpool Local Environment Plan (LLEP) 2008. The site relates to the 1914 building known as the "McGrath Services Centre Building" which was formerly the Challenge Woollen Mills and the Australian Paper Company's Mill (item no. 104). The site is situated directly opposite "Light Horse Park" in Atkinson Street and extends along the Georges River towards Newbridge Road (item no. 70). The subject site is also in close proximity to a Railway Viaduct along Shepherd Street, Mill Road and Main Southern Railway Line (item no. 105). A historic photograph of the site is shown below:

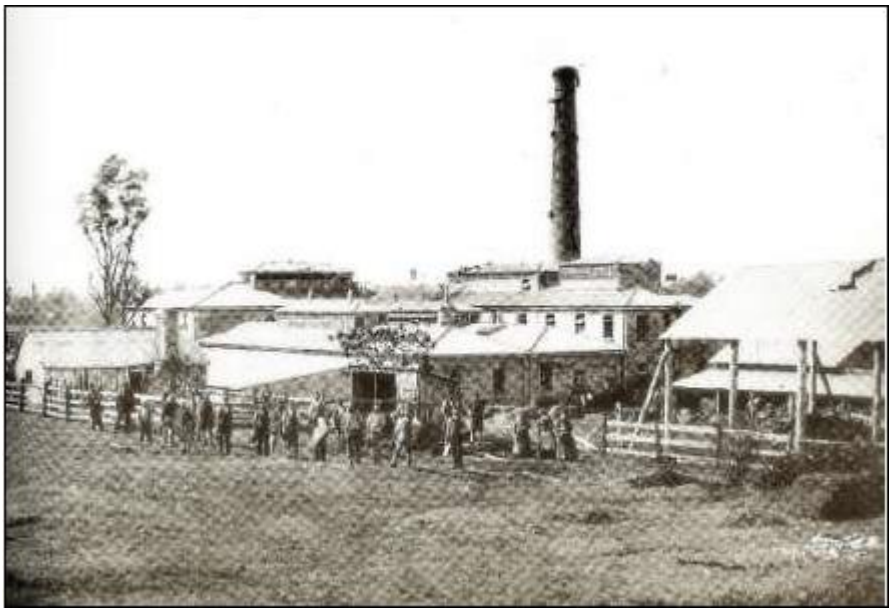

Figure 3 – Historic Photo of the site

Figure 4 – Aerial Photograph of the Site in Relation to the Heritage Items

The potential impact of the proposed development on the significance of the heritage item is discussed further within this report.

3. BACKGROUND

3.1 Planning Proposal

The Shepherd Street precinct (which includes the sites of 20-34 Shepherd Street, as shown in the figure below), was subject to a planning proposal being Amendment No. 65 to the LLEP 2008.

Figure 5 – Aerial Photograph of Shepherd Street Precinct

Amendment No. 65 was gazetted by the NSW Department of Planning and Environment on the 3 November 2017. Amendment No. 65 resulted in an increase to the floor space ratio (FSR) and an increase to the height of building (HOB) within the Shepherd Street precinct.

Extracts comparing the superseded development standards of FSR and height to the current provisions approved as part of the planning proposal is provided below.

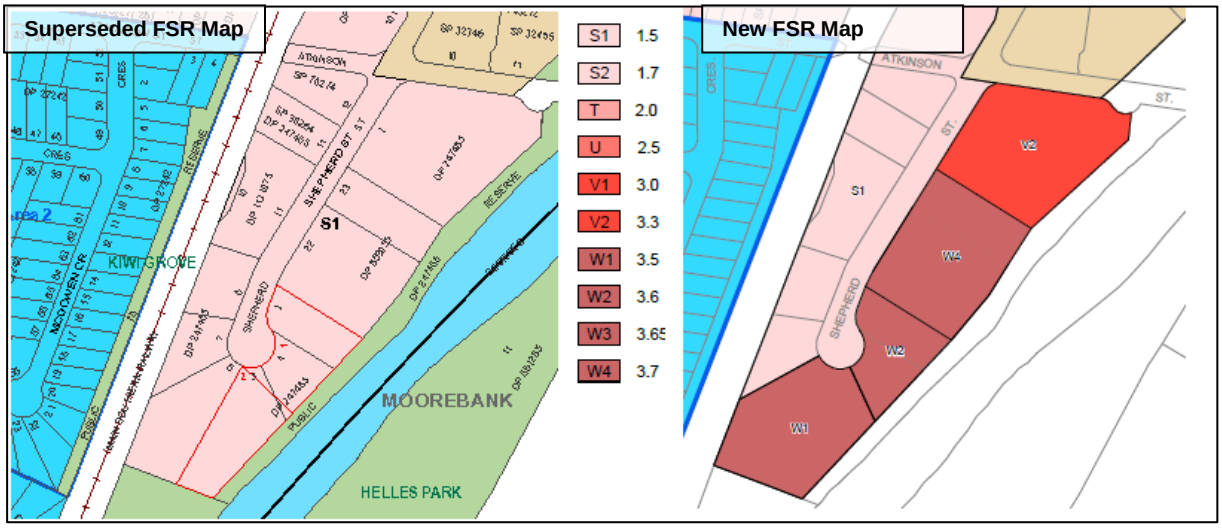

Figure 6 – Extract of the superseded FSR map and the current FSR map. As shown above, the FSR applicable to the subject site was increased from 1.5:1 to 3.7:1

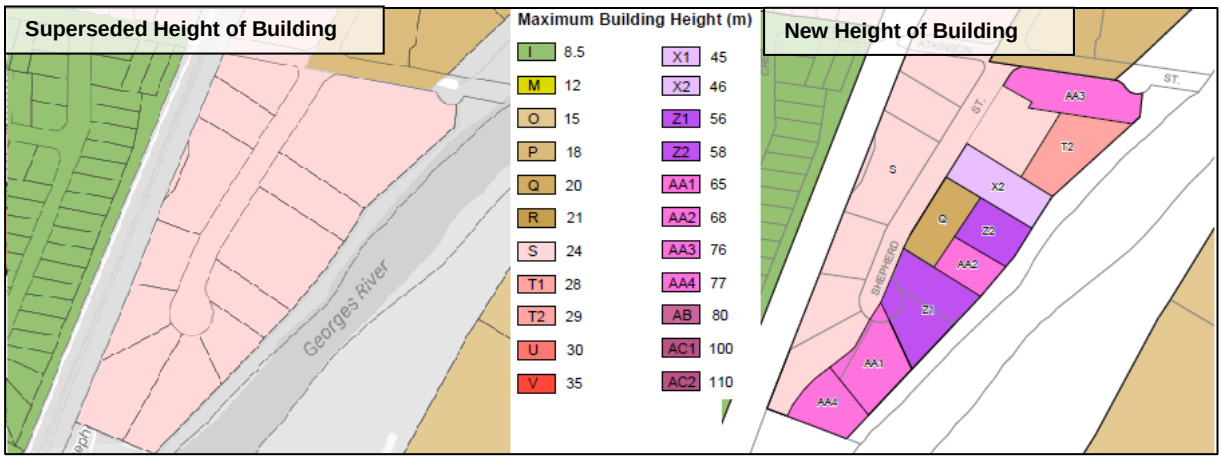

Figure 7 – Extract of the superseded zoning height of building map and the current height of building map. As shown above, the height limit applicable to the proposed development was amended from 24m to 46m for 26 Shepherd Street and from 24m to 58-68m for the rear portion of 28 Shepherd Street.

Urban Design Report

The DA was lodged concurrently with Amendment No. 65. As part of the planning proposal an Urban Design Report (refer to attachment 25) was prepared by SJB Architects which provided a massing model plan which could be achieved through the proposed amendments. The figure below shows the overall masterplan for the Shepherd Street precinct as presented with the planning proposal.

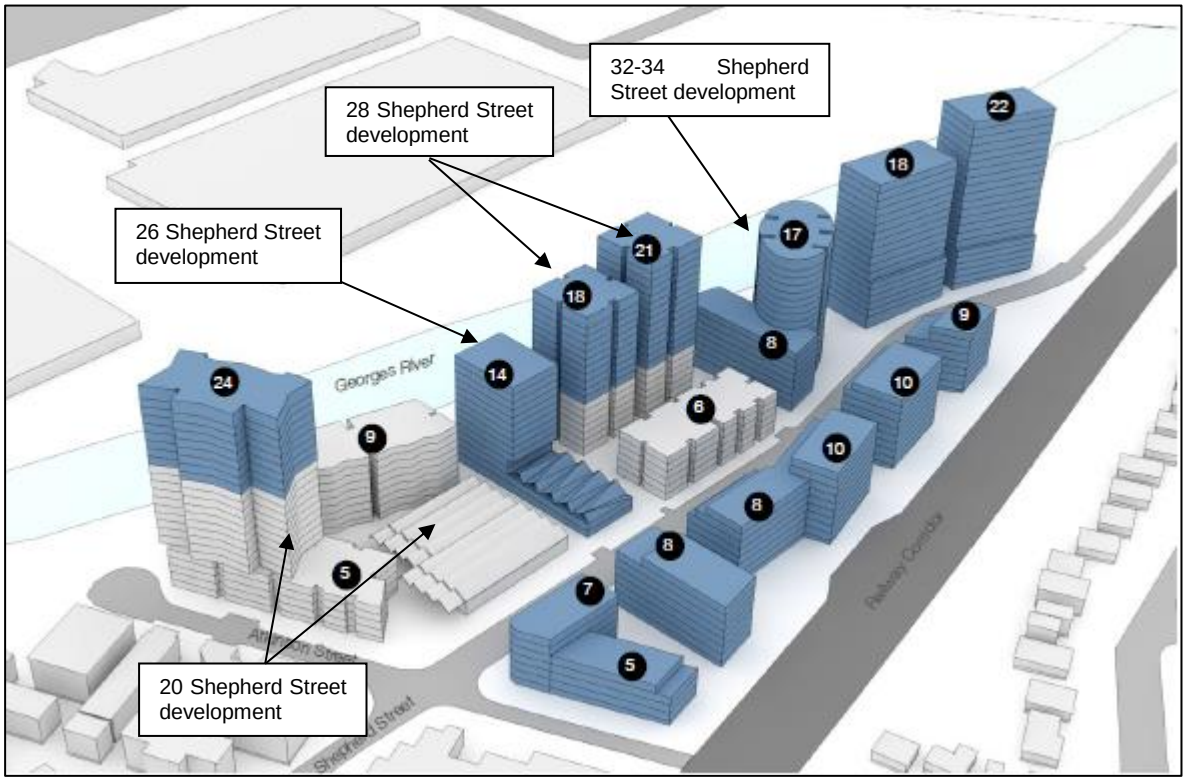

Figure 8 – Massing model plan provided within the Planning Proposal.

The DA is consistent with the building form derived from the Urban Design Report for the subject site.

Voluntary Planning Agreement

As part of the planning proposal a Voluntary Planning Agreement (VPA) was entered into by the developer with Council. The VPA applies to the Shepherd Street precinct as identified in Figure 5. The VPA specifies certain contributions in the form of monetary contributions and works contribution to be undertaken during the redevelopment of the precinct. Some of these contributions include:

- Provision of bike share pods;
- Monetary contributions for local and regional traffic infrastructure;
- Bank stabilisation works;
- Works associated with the provision of a boardwalk and viewing platform along the river;
- Pedestrian and cycle pathway upgrade works; and
- Works associated with the rehabilitation of the riparian zone.

A copy of the VPA is attached to this report (refer to attachment 22)

3.2 Related Applications

The table below outlines the various applications associated with the Shepherd Street Precinct, as shown in figure 5 and 9 above.

20 Shepherd Street	**DA-1010/2014**
	Development Application No. DA-1010/2014 and subsequent modification applications was approved by the Joint Regional Planning Panel on 8 October 2015. The approved development includes the following:
	
	- Construction of two residential flat buildings comprising of 238 units:
	  o 'Building A' located on the corner of Atkinson Street and Shepherd Street, at 15 storeys in height; and
	  o 'Building B' fronting the Georges River, at 9 storeys in height.

	- Construction of a three levels of basement parking; and - Associated landscaping and civil works. **DA-693/2016** Development Application No. DA-693/2016 was approved under delegated authority on the 11 November 2017. The approved development includes the following: - Extension to 'Building A' by an additional 9 storeys, comprising of an additional 72 units; and - Provision of additional parking spaces within the existing basement levels Works associated with this development have commenced with Building B completed and Building A nearing completion.
28 Shepherd Street	**DA-612/2015** Development Application No. DA-612/2015 was approved by the Sydney South West Planning Panel on 17 January 2017. The approved development includes the following: - Construction of two residential flat buildings comprising of 140 units: o 'Building C1' fronting the Georges River, at 7 storeys in height; and o 'Building C2' fronting Shepherd Street, at 6 storeys in height. - Construction of three levels of basement parking with 161 parking spaces; and - Associated landscaping and civil works. Works associated with this development have commenced.
32-34 Shepherd Street	Development Application No. DA-471/2017 is currently under consideration by Council. The application proposes the following: - Construction of a 17 storey residential flat building comprising of 198 units and 3 levels of basement car parking.

3.3 Design Excellence Panel Briefing

The application was referred to the Design Excellence Panel (DEP) on the 13 April 2017 and on the 19 October 2017.

The comments from the final DEP meeting are provided below with a response to how the comments have been addressed:

DEP Comments	Response
The Panel's previous minutes raised concerns in respect to the appropriateness of a 6m slot between the two 14-storey high buildings of 28 Shepherd Street, as the height of the buildings has been increased from 7-storey to 14-storey. The Applicant presented two potential options in reply. - *Option one was for the filling of the 6m gap between the buildings to create one large building and thus, complies with ADG building separation requirements.* - *The second option involved the insertion of two glazed bridges linking the 2 buildings.* *The Applicant explained that the intention of the latter option is to provide a necessary link between the buildings to allow the space to be used as communal room for residents but importantly, maintain a view corridor between the two buildings without accentuating the mass and scale of the building.* *The Panel does not support the filling in of the gap between the buildings which would have resulted into one large*	Window placement between the buildings have been considered with the provision of high sill windows and obscure glazing.

building. The proposed treatment with panoramic glazed bridges connecting the buildings is considered to be an acceptable design solution. The Panel does not believe it is essential to provide the recommended spatial separation distances of the ADG in this case. However, it requests that the window placement within the slot be calibrated and finely articulated to ensure judicious placement of windows and hoods allow for privacy and minimise overlooking.	
The quality of pedestrian and through site link access from Shepherd St to the river is an important element and should be accentuated. The applicant clarified that there are 4 public pedestrians and 1 private pedestrian link proposed through the site. The Panel is satisfied with the quality of the pedestrian link between the street and the river.	Noted.
The Panel commended the architectural resolution and detailing of the strong architectural elements incorporated into the base of the building, which works well in resolving the upper levels of the building.	Noted.
Proposed treatment of the east façade of the building at 26 Shepherd Street facing the river should be refined as the Panel does not believe that its treatment suitably complements other parts of the building. The Panel requests that consideration be given to perhaps introduce protection of the east facing windows from the elements. The required architectural elements could include small vertical fins or even projecting the slab slightly out from the building. The Applicant is to detail the façade solar access for the affected windows to inform a detailed response to window design and solar shading.	As shown below the treatment of the eastern façade has been amended with the provision of lourved screens which complements the screens provided on the northern elevation.
The Panel notes that the scheme provides deep soil zones along the river frontage of the site and asked the applicant whether any deep soil zones are provided within the communal open spaces of the development. The Applicant advised that 1m deep planter boxes are provided within the communal open space that would allow for the planting of trees. The Panel requests that the raised planter boxes be contiguous to provide for maximum benefit for plantings and should include soil depths of up to 1.2m in height.	Amened landscape plans have been provided which include soil depths of up to 1.2m in height for the raised planter boxes on the ground floor.
Some discussions were held on whether the reverse podium of the building will create any wind tunnel effect from the river. The Panel requests that this be considered by the Applicant and a desktop wind study to test the wind downward draft on the building be submitted at CC stage to ensure this can be mitigated with the planting of trees or suitable architectural treatments.	A Wind Assessment Report (refer to attachment 12) was submitted, which concluded that wind conditions within most of the test locations have been shown to be either on or within the criterion for walking comfort for all wind directions, with many wind directions achieving the criteria for stationary activities. However, there were some test locations where wind conditions were shown to be above the criterion for walking comfort. However, the report recommended additional tree planting to ensure compliance with the wind conditions criterion. It is recommended that conditions of consent are imposed to ensure compliance with the Wind Assessment Report
The proposed mixed materials incorporated into the buildings are well considered by the Applicant and supported by the Panel.	Noted.

The Panel appreciates the diversity of communal open spaces and the socialising opportunities incorporated into the proposal such as through site link, both internally and externally.	Noted.
The panel recommends a minimum 3050 to 3100mm floor-to-floor height so as to comfortably achieve the minimum 2700mm floor-to-ceiling height as required by the ADG.	Floor to floor heights have been amended to 3.1m.

Figure 9 – original scheme eastern elevation of 26 Shepherd Street

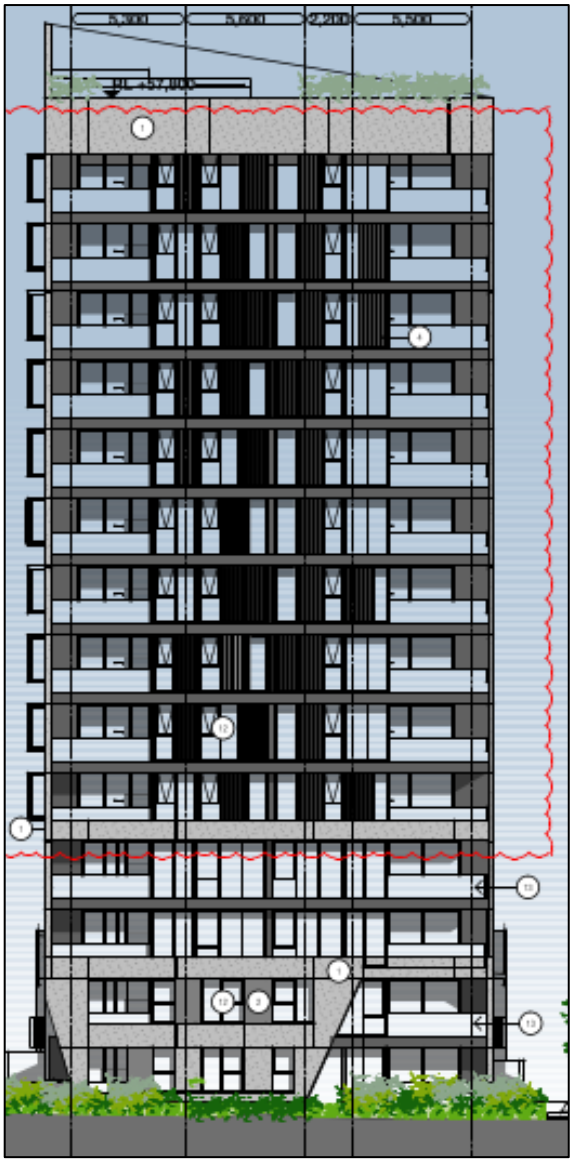

Figure 10 – proposed scheme eastern elevation of 26 Shepherd Street

The DEP concluded that the proposed development was acceptable subject to the incorporation of the comments listed in the above table. The applicant has addressed the comments provided by the DEP, as such the application was not required to be reviewed by the DEP again.

3.4 SWCPP Briefing

A briefing meeting was held on the 13 November 2017 (refer to attachment 23 for the minutes). The main outcomes of the briefing meeting with the SWCPP are summarised below:

Building Separation

The development proposes variations to the building separation guidelines of the ADG. The variations are considered to be acceptable for the reasons discussed within Section 6.1(a) of this report.

Impact on Heritage Item

The potential impact of the development on the significance of the adjoining heritage item has been considered. The development has been designed to respect and complement the heritage item in terms of height, bulk and scale. Further discussion on this aspect is provided within Section 6.1(f)(iv) of this report.

Apartment Mix

Concerns were raised regarding the proposed unit mix, in particular the lack of 3 bedroom units. The application has since been amended to address this issue, as detailed in the table below:

	Original Scheme	**Amended Scheme**
Total Units	372	373
Studios	2 (1%)	9 (2%)
1 bedroom units	131 (35%)	144 (39%)
2 bedroom units	230 (62%)	184 (49%)
3 bedroom units	9 (2%)	36 (10%)

Flood Protection and Evacuation Plans

The potential impact of flooding has been reviewed by Council's Floodplain Engineers, who have supported the application subject to conditions. The site is located within the catchment of the Georges River and is not affected by the 1 in 100 year flood. However, the Shepherd Street precinct may have evacuation difficulties during the 1 in 100 year flood, given that the only access to the precinct is via Shepherd Street, where the depth of flooding during the 1 in 100 year flood below the railway line is 1.3m. As such, Council's Flooding Engineers have recommended that a comprehensive and well-structured flood emergency plan is developed and submitted to Council, prior to issue of a construction certificate.

Consistency with the Planning Proposal

The proposed development is consistent with the planning proposal in terms of building height and maximum FSR, as well as the massing model as shown in Figure 8. It is noted that the proposal incorporates roof features which exceeds the maximum building height, however as discussed below roof features are exempt from the building height.

Roof Features

The proposed buildings incorporate architectural roof features that contribute to the architectural style of the buildings and provide for rooftop gardens and communal open space ares. The roof features include:

- The roof feature at 28 Shepherd Street which includes a portal frame structure which frames the rooftop top communal open space and gardens.
- The proposed roof feature on 26 Shepherd Street which includes the continuation of the sawtooth feature that has been provided in reference to the heritage item of 20 Shepherd Street.

The roof features are demonstrated in the figure below:

Figure 11 – Perspective drawing showing the architectural roof features

Clause 5.6 of the LLEP 2008 allows for architectural roof features to exceed the maximum building height. Additionally, the DEP did not raise any concerns with the architectural roof features.

Delivery of Riverside Open Space

The delivery of the riverside open space will be facilitated through the works and monetary contributions under the executed VPA associated with the Shepherd Street precinct. This includes:

- Bank stabilisation works to enable the accommodation of the boardwalk along the riparian zone of the river;
- Provision of a 3.5m wide boardwalk along the river and a viewing platform; and
- Rehabilitation of the riparian zone along the river.

3.5 Unauthorised Woks

Works proposed under DA-82/2017 commenced without approval. The following unauthorised works associated with 26 Shepherd Street have been undertaken:

- Excavation and basement structural works associated with basement level 01 and basement level 02;

- Structural works and vertical core and service works associated with the ground floor, level and level 2.

An Emergency Order was issued by Council to cease all unauthorised works.

A Building Certificate (BC-6/2018) has since been lodged to rectify the unauthorised works. Council's Building and Compliance department has requested that conditions of consent be imposed to ensure a building certificate is issued prior to issue of a CC for DA-82/2017.

The DA has since been amended to remove components/work of the development which are now subject of the Building Certificate. These works are marked in red on the architectural plans and no longer form part of the DA.

4. DETAILS OF THE PROPOSAL

Development consent is sought for:

- Redevelopment of 26 Shepherd Street:
    - The built form includes a 2 storey building addressing the Shepherd Street frontage, with a 14 storey building at the rear addressing the Georges River.
    - Excavation and construction of 2 basement levels which will connect with the approved basement levels of the development at 28 Shepherd Street.
    - Associated civil and landscaping works.
    - Total of 83 units with an apartment mix of:
        - 48 x 1 bedroom units;
        - 13 x 2 bedroom units; and
        - 22 x 3 bedroom units.

- Additions to the approved residential flat building at 28 Shepherd Street:
    - Extension to 'Building C1 South' by an additional 14 storeys, bringing the total number of storeys to 24.
    - Extension to 'Building C1 North' by an additional 12 storeys, bringing the total number of storeys to 19.
    - The additions result in an additional 150 units, bringing the total number of units for the development to 290, with a unit mix as follows:
        - 9 x studio units;
        - 96 x 1 bedroom units;
        - 171 x 2 bedroom units; and
        - 14 x 3 bedroom units.

- Lot consolidation of 26 Shepherd Street and 28 Shepherd Street.

- It is noted that Building C2 as approved under Development Consent No. DA-612/2015 is not being altered by the proposed development.

A summary of the development as proposed above and including the approved development of 28 Shepherd Street being DA-612/2015 is provided in the table below:

	No. Units	1 bed	2 bed	3 bed	Studio
Total Units	**373**	144	184	36	9
		39%	49%	10%	2%

	Residents	Visitors	Service bay/car wash bay
Car parking spaces	382	37	4
Total	**423**		

Perspective drawings of the proposed development is provided below.

Figure 12 - Perspective Drawing of the Development at 26 Shepherd Street

Figure 13 – Perspective drawing of the development at 26 and 28 Shepherd Street viewed from the river.

5. STATUTORY CONSIDERATIONS

5.1 Relevant matters for consideration

The following Environmental Planning Instruments, Development Control Plans and Codes or Policies are relevant to this application:

Environmental Planning Instruments (EPI's)

- State Environmental Planning Policy No.65 – Design Quality of Residential Apartment Development;
- State Environmental Planning Policy No.55 – Remediation of Land;

- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;
- State Environmental Planning Policy (Infrastructure) 2007;
- Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment; and
- Liverpool Local Environmental Plan 2008.

Draft Environmental Planning Instruments

- Nil

Development Control Plans

- Liverpool Development Control Plan 2008
    - Part 1 – Controls applying to all development
    - Part 4 – Development in Liverpool City Centre

Contributions Plans

- Liverpool Contributions Plan 2007 applies to all development within the Liverpool City Centre.

6. ASSESSMENT

The development application has been assessed in accordance with the relevant matters of consideration prescribed by Section 79C of the Environmental Planning and Assessment Act 1979 as follows:

6.1 Section 79C(1)(a)(1) – Any Environmental Planning Instrument

(a) State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development and the Apartment Design Guidelines

The proposal has been evaluated against the provisions of SEPP 65 which aims to improve the design quality of residential flat development. SEPP 65 does not contain numerical standards, but requires Council to consider the development against 9 key design quality principles; and against the guidelines of the associated Apartment Design Guidelines (ADG). The ADG provides additional detail and guidance for applying the design quality principles outlined in SEPP 65.

Design Quality Principle	Comment
Principle 1 – Context and Neighbourhood Character	
Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.	*The buildings have been configured to front both the Georges River and Shepherd Street. The building on 26 Shepherd Street faces the heritage paper mill building at 20 Shepherd Street. Pedestrian access to the proposed buildings and to the river will occur via two new public footpaths defined at the boundary of 20 and 26 Shepherd Street (approx. 6m wide) and the boundary of 26 and 28 Shepherd Street (approx. 3.5m), additional to the proposed pedestrian connection at the southern boundary of 28 Shepherd Street (approx. 6m) which was included as part of DA-612/2015.* *Alignment of the Buildings on 26 and 28 Shepherd Street creates a more uniform streetscape which creates a more visual coherent and the perception of consistency. While each building have its own identity, the alignment and*

Design Quality Principle	Comment
	consistency provides the sense of one whole unified development. *Vehicular access, waste loading services and below-grade parking entry to the residential courtyard are accessed from the shared driveway on 28 Shepherd Street. The off-street parking entry is designed into the southern ground floor façade of Building C2 and the loading entry is designed into the southern ground floor façade of Building C1.* *The lot of 28 Shepherd Street is approx. 70.6m in width by 85.0m in length on the north and 76.8m on the south and the site of 26 Shepherd Street has approximate dimensions of 85m x 31m with an approx. 500mm fall from Shepherd Street to the river. The site is located in the Liverpool City Centre and is within 10 minutes walking distance of the CBD and Liverpool Train station.* *The scheme 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 the Apartment Design Guide. 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.*
Design Principle 2 – Built form and scale	
Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.	***28 Shepherd St - Building C1*** *The existing DA being DA-612/2015 consists of a 6 storey building facing Shepherd Street (known as building C2) and a 7 storey building facing the Georges River (known as building C1). The proposal extends the existing scheme by adding additional 14 levels to Building C1 South and additional 12 levels to Building C1 North.* *The proposed additional levels extend and accentuate the building form of the existing scheme of the 'bifurcated tower', crowned with roof top garden with architectural portal frames. The overall massing is broken into two towers that are 21 levels and 18 levels. These are joined by sky bridges at different levels and bind them into one building. The design further breaks the scale of the massing by articulating the façade to form sub towers within each building. Characterised by lower a ground setback, the distinct form of slender towers aims to create impressive river frontage as a 'recognisable' landmark of the area.* ***26 Shepherd St*** *The proposal on 26 Shepherd Street celebrates the geometry and materiality of the existing Paper Mill heritage building by reinterpreting the sawtooth roof as a series of two-storey pitched*

Design Quality Principle	Comment
	roof 'terraces' (single level apartments which read as double height townhouses). Deep landscape setbacks and ground level terraces front these dwellings, creating a green buffer along the two new pedestrian walk ways connecting the public to the riverfront from Shepherd Street. *This two-level typology then transitions into a 14 storey 'tower' at the south of the site on Georges River, which is in line with the future scale approved at 20 Shepherd Street (9 storeys). The façade of the tower is articulated by a heavy precast concrete skin, which opens up to the north and east maximising the apartment's access to northern light and the river view. A series of screens provide added privacy between the approved 20 Shepherd Street apartment building and the proposed 26 Shepherd Street, as a slightly reduced setback of 11.3m is proposed (rather than 12m).*
Design Principle 3 – Density	
Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.	*The project provides an apartment density that is appropriate and consistent with residential apartment developments common within the Liverpool CBD.* *The development provides a total of 373 apartments with a mix of one, two and three bed-rooms. The proposed density will positively contribute to meeting the housing targets of the Liverpool City Council.* *This apartment mix is in accordance with the LDCP 2008. The mix is composed of:* - *41% studios and 1 bedroom units,* - *49% 2 bedroom units; and* - *10% 3 bedroom units.*
Design Principle 4 – Sustainability	
Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation	*The development adopts good passive environmental design solutions and appropriate use of materials to provide a simple yet effective response to the environmental requirements. A balance of solidity for good thermal performance and glazing for natural daylight is inherent to all facades whilst deep balcony reveals and operable screening provide passive shading and privacy where appropriate.* *Operable windows are provided to all living and bedrooms, which are located along the facades. More than 60% of the total apartments achieve natural cross ventilation with operable windows. The lift lobbies and residential corridors for both buildings have operable windows to enhance the cross ventilation of these common area spaces. The living area and a majority of bedrooms have full height sliding glass doors to a private outdoor area.* *On 21 June, the winter solstice, 67% of total apartment living spaces achieve solar access of a minimum of 2 hours or more from 9am to 3pm, with additional 17% receiving direct sunlight less*

Design Quality Principle	Comment
	than 2 hours. Although the 70% prescribed target is not fully met, it is a result of providing apartments with maximum orientations to the river.
Design Principle 5 – Landscape	
Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks. Good landscape design optimises useability, privacy and opportunities for social interaction, equitable access, and respect for neighbours' amenity and provides for practical establishment and long term management.	*Substantial landscaping has been included on the ground plane of the development providing zones for large vegetation and smaller scale planting areas as well as creating public through links.* *The proposed landscape design on the ground level of 26 Shepherd Street aims to provide residents and the public, the 'laneway' experience through the site which defines the public access corridors to the river front. The laneways are faced with units emulating 'terrace' typology which is buffered with raised planter boxes and seating along the building frontage.* *A generous setback is provided on the riverside adhering to the 50% vegetated riparian zone (VRZ) line established by the DPI - Water. New street trees will be planted along Shepherd Street in accordance with council's landscape strategy.* *Additional to the ground plane, both 26 and 28 Shepherd Street development include landscaping of the roof top forming gardens and breakout spaces for residents.*
Design Principle 6 – Amenity	
Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident wellbeing. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.	*The proposal includes efficient and spacious apartment layouts, access to river and parkland views, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook, ease of access for all age groups and degrees of mobility where required.* *Each apartment has been designed with modern open plan living areas comprising of the kitchen, dining and living areas. Each living space has direct access to full height and full width clear glass sliding doors and windows to adjoining private outdoor spaces.* *Apartments located at the corners of the buildings have secondary balcony spaces off the second bedroom. Balconies have minimum dimensions of at least 2m in depth, and generally meet the ADG minimum size. All ground floor apartments have outdoor terraces with a minimum width of 3m and are 15m² or more.* *Each 1 bedroom unit has access to at least 1 shared full sized bathroom, with all of the 2 and 3 bedroom units having access to 2 bathrooms. Double width laundry cupboards or rooms with basin are provided. Each laundry can accommodate a dryer, washing machine, sink and good storage for a clothes bin, ironing board and cleaning products.*

Design Quality Principle	Comment
	Full kitchens are provided with appropriate storage and sufficient bench areas for cooktops, basins and for preparation, cooking and display. All kitchens are located within the maximum distance of 8m to operable windows and/or sliding doors. All apartments have primary bedrooms sized to accommodate either a double or a king size bed. All bedrooms have ample storage with double full height robes and access to an operable window. *10% of the total apartments are adaptable units.* *Common area corridors and lift lobbies have been designed with access to natural daylight and cross ventilation.* *Residential amenities include oversized and fully glazed double storey lobbies which add to the visual permeability of the ground plane. Both buildings also have communal roof gardens. The roof landscape design consists of raised planters to allow for lush greenery and sunken seating areas for visual privacy as well as reduced wind exposure. The rooftop of 26 Shepherd Street also features a recreational swimming pool.* *The higher elevation of the rooftop of Building C1 is framed by architectural roof elements to provide wind protection and areas of shade during summer months. These architectural frames also add visual prominence to the building's forms. 70% of the protected roof gardens of Building C1 achieve a minimum of 2 hours of solar access on 21 June.*
Design Principle 7 – Safety	
Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety. A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose.	*The proposal provides for good passive surveillance with all apartments looking out to a communal / public laneway (pedestrian). Lighting along boundaries, in lobbies and communal areas will be used to promote surveillance at all hours. On 26 Shepherd Street, there are two lobbies, one for the two storey 'terraces' and one for the 14 level 'tower' which has an entrance on the laneway facing 20 Shepherd Street.* *On 28 Shepherd Street, the main pedestrian entrance to Building C1 is via the courtyard. Both buildings will operate on a secure card controlled access glazed door.* *The main vehicular access to both buildings for the residential car park is located off the driveway on the south of the site on 28 Shepherd Street and via a secure card access control to operate a roller shutter. Sight lines from the apartments provide visibility for safe and secure access to the lobbies, courtyard and car park entry. Additional security will be provided by a fence located at the entry of the courtyard and will operate via secure card access control.*

Design Quality Principle	Comment
	The building will be equipped with CCTV surveillance, and residents will only have key card lift access to their floor & amenity level.
Design Principle 8 – Housing Diversity and Social Interaction	
Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.	*The proposal addresses principle 8 by providing:* - *Range of apartment design and size which will accommodate a range of prices for sale. This ensures a diverse range of people from differing social groups.* - *Development will add an optimum density to the existing residential population in-line with the Planning Proposal.* - *It is anticipated that there will be no negative impacts on existing social groups or other housing in the area* - *Beneficial economic impact to the Town Centre and nearby businesses* - *A safe and well serviced landscaped communal space on the podium roof level and facilities for residential use* - *Large well accessed common areas for a range of uses.* - *A provision of 10% accessible apartments* - *A broad range of apartment size, position and dual-orientation to address affordability* - *The proposal includes good access to the common area and good visual links to surrounds.* - *The proposal becomes an example of good residential building form.*
Design Principle 9 – Aesthetics	
Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of a well-designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.	*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 location near the former 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.* *28 Shepherd Street, The Bindery - Buildings C1 & C2* *Building C1 located on the river side is taller in scale with its roof frame articulations to provide a prominent presence to the river's edge. The design strategy to reduce the building's bulk is to bifurcate the overall volume and connect them with double storey sky bridges. Each volume contains a floor plate of 6 apartments and has its own dedicated core and lift lobby. Its bulk is further reduced by a series of vertical and horizontal slots. Each building volume has its own series of colours of aluminium metal panels in varying size formats to enhance the material's tonal range as well as provide each volume with a unique colour identity and character. The north volume has a tonal range consisting of golds and*

Design Quality Principle	Comment
	the south volume has a tonal range consisting of bronzes. Finally, the riverside building is highlighted by single, double and triple storey roof planes that act as architectural frames to the roof gardens as well as provide weather protection. *26 Shepherd Street, The Gild* *The aesthetics of the proposal are derived from the considered analysis of the contextual environment and celebrate the beauty of the Paper Mill heritage building adjacent and the Georges River. The proposal composes form, materials and colours from these contextual elements of the site and proposes new architectural forms that look to the future growth of the area as a high-mid density residential precinct.* *The proposal cites the heritage building as a source of inspiration for its brick and weathered steel materiality and angled "saw tooth" roof geometry. These elements are appropriated into the building façades materials and textures; the profiles of the balcony and glass wall panels in plan; and in the details of the landscape design. Glazing is also generously used in the double height ground level and typical floor lift lobbies to provide transparency through the buildings and take advantage of the vistas to the river, the proposed public plaza and communal open areas.* *The podium relates to the human scale at street level while also providing a transitional scale between the existing context and the proposed tower form. The tower's location at the riverside will provide a recognisable urban form, marking the future character of the area as a high-density residential precinct. The building aligning with the river mediates these heights, providing residents with maximum views to the river on one side, and views to the heritage building surrounded by landscaped communal areas on the other side.* *In conclusion, the proposed buildings have been designed with the aim of creating an excellent contextual fit with the river, the heritage building and streetscape. The principles of the Apartment Design Guide have been closely adhered to and the proposed design achieves design excellence to serve as a benchmark development for the city of Liverpool.*

Further to the above design quality principles, Clause 30(2) of SEPP 65 also requires residential apartment development to be designed in accordance with the ADG. The following table provides an assessment of the proposal against the relevant provisions of the ADG.

Provisions	Comment
2E Building depth	
Use a range of appropriate maximum apartment depths of 12-18m from glass line to glass line when precinct planning and testing development controls.	**Non-compliant** <u>26 Shepherd Street</u>

Provisions	Comment
This will ensure that apartments receive adequate daylight and natural ventilation and optimise natural cross ventilation	A building depth of 21m is provided, which does not comply. <u>28 Shepherd Street</u> A building depth of 26m is provided, which does not comply. The variation is considered to be acceptable given that the apartments will receive adequate natural ventilation, cross ventilation and solar access in accordance with the requirements of the ADG. Additionally, no concerns in relation to the building depths were raised by the DEP.
2F Building separation	
Minimum separation distances for buildings are: Up to four storeys (approximately 12m): • 12m between habitable rooms/balconies • 9m between habitable and non-habitable rooms • 6m between non-habitable rooms	**Partially Non-Compliant** <u>Separation Distances Between 26 and Building C1 North of 28 Shepherd St:</u> A separation distance of 9m is required. The following separation distances are provided: Ground Floor – 8.2m, which represents a non-compliance of 0.8m Level 1 to 3 – A minimum separation distance of 9m is provided, which complies. <u>Separation Distances Between 26 and 20 Shepherd St:</u> A separation distance of 9m is required between the Paper Mill building of 20 Shepherd Street and 26 Shepherd Street for the ground floor. A separation distance of 12m is required between 20 Shepherd Street and 26 Shepherd Street, from Ground Floor to Level 3. The following separation distances are provided: Ground floor – A separation distance ranging from 7.5m to 8.8m is provided between 26 Shepherd Street and the Paper Mill Building, representing a non-compliance ranging from 0.2m to 1.5m. A separation distance of 10.1m is provided between 26 Shepherd Street and 20 Shepherd Street, representing a non-compliance of 1.9m. Levels 1 to 3 – A separation distance of 11.2m is provided, which represents a non-compliance of 0.8m. <u>Separation Distances Between Building C1 South of 28 Shepherd Street 32-34 Shepherd Street:</u> A separation distance of 9m is required. The following separation distances are provided: Ground Floor to Level 3 – A building separation distance of 12.9m is provided, which complies.

Provisions	Comment
	The variations to the building separation distances are discussed in detail at the end of this table.
Five to eight storeys (approximately12m to 25m): • 18m between habitable rooms/balconies • 12m between habitable and non-habitable rooms • 9m between non-habitable rooms	**Partially Non-Compliant** <u>Separation Distances Between 26 and Building C1 North of 28 Shepherd St:</u> A separation distance of 12m is required to Level 4, while a separation distance of 9m is required for Levels 5 to 7. The following separation distances are provided: Levels 4 to 7 – A minimum separation distance of 12.5m is provided, which complies. <u>Separation Distances Between 26 and 20 Shepherd St:</u> A separation distance of 18m is required. The following separation distances are provided: Levels 4 to 7 – A separation distance of 11.3m is provided, which represents a non-compliance of 6.7m. <u>Separation Distances Between 28 Shepherd Street 32-34 Shepherd Street:</u> A separation distance of 12m is required. The following separation distances are provided: Levels 4 to 7 – A building separation distance of 16m is provided, which complies. The variations to the building separation distances are discussed in detail at the end of this table.
Nine storeys and above (over 25m): • 24m between habitable rooms/balconies • 18m between habitable and non-habitable rooms • 12m between non-habitable rooms	**Partially Non-Compliant** <u>Separation Distances Between 26 and 28 Shepherd St:</u> A separation distance of 18m is required. The following separation distances are provided: Levels 8 and above – A separation distance of 12.5m is provided, which represents a non-compliance of 5.5m. <u>Separation Distances Between 26 and 20 Shepherd St:</u> A separation distance of 24m is required. The following separation distances are provided: Levels 8– A separation distance of 11.3m is provided, which represents a non-compliance of 12.7m. <u>Separation Distances Between 28 Shepherd Street 32-34 Shepherd Street:</u>

Provisions	Comment
	A separation distance of 18m is required. The following separation distances are provided: Levels 8– A building separation distance of 19m is provided, which complies. The variations to the building separation distances are discussed in detail at the end of this table.
3A Site analysis	
Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context	**Complies** A detailed site analysis plan has been provided.
3B Orientation	
Building types and layouts respond to the streetscape and site while optimising solar access within the development.	**Complies** The building type is appropriate for the streetscape.
3D Communal and public open space	
Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter) Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting Communal open space is designed to maximise safety Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	**Complies** <u>26 Shepherd Street</u> The area of the site is 2794m^2, which equates to a minimum requirement of 698m^2. A total of 818m^2 (29%) of communal open space is provided as follows: Ground floor: 408m^2 Rooftop: 410m^2 <u>28 Shepherd Street</u> The area of the site is 5887m^2, which equates to a minimum requirement of 1471m^2. A total of 3865m^2 (65%) of communal open space is provided as follows: Ground floor: 1431m^2 Rooftop communal open space: 2434m^2 The communal open space on the ground floor will be overshadowed during various hours of the day. However, the communal open space on the rooftop will receive unrestricted solar access. The communal open space allows for a range of activities with BBQ facilities, shade structures, planted areas and swimming pools <u>Total Communal Open Space</u> Based on the above figures, once the two sites are consolidated, the communal open space will equate to 53% of the total site area. Note: The riparian deep soil planting zone has been excluded from the communal open space calculations.
3E Deep soil zones	
Deep soil zones are to meet the following minimum requirements:	**Complies** <u>26 Shepherd Street</u>

Provisions	Comment
<table><tr><th>Site Area</th><th>Minimum Dimensions</th><th>Deep Soil Zone (% of site area)</th></tr><tr><td>Less than 650m^2</td><td>-</td><td rowspan="4">7%</td></tr><tr><td>650m^2 to 1500m^2</td><td>3m</td></tr><tr><td>Greater than 1500m^2</td><td>6m</td></tr><tr><td>Greater than 1500m^2 with significant tree cover</td><td>6m</td></tr></table>	The area of the site is 2794m^2, which equates to a minimum requirement of 195m^2. A total of 620m^2 (22%) of deep soil zones is provided <u>28 Shepherd Street</u> The area of the site is 5887m^2, which equates to a minimum requirement of 412m^2. A total of 1379m^2 (23%) of deep soil zones is provided. <u>Total Deep Soil Zones</u> Based on the above figures, once the two sites are consolidated, the deep soil zones will equate to 23% of the total site area.
3F Visual Privacy	
Minimum required setback distances from buildings to the side and rear boundaries are as follows: <table><tr><th>Building Height</th><th>Habitable Rooms and Balconies</th><th>Non Habitable Rooms</th></tr><tr><td>Up to 12m (4 storeys)</td><td>6m</td><td>3m</td></tr></table>	<u>26 Shepherd Street</u> **Non-compliant** Side setback to the northern boundary: A setback of 6m is required. The development provides a setback ranging from 4m to 5.3m, which does not comply. The variation to the setback control is considered to be acceptable as visual privacy will be maintained through the provision of landscaping on the ground floor and the provision of louvered screens for the floors above. **Not Applicable** Side setback to the southern boundary: A setback is not applicable as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance. **Complies** Rear setback: A rear setback of 6m is required. The development provides a rear setback of 19.9m is provided. <u>28 Shepherd Street</u> **Not Applicable** Side setback to the northern boundary: A setback is not applicable as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance. **Complies** Side setback to the southern boundary: A setback of 3m is required. The development provides a setback 6.1m, which achieves compliance. **Complies** Rear setback: A rear setback of 6m is required. The development provides a rear setback

<table>
<tr><th>Provisions</th><th>Comment</th></tr>
<tr><td></td><td>ranging from 11.2m to 17m, which achieves compliance.</td></tr>
<tr><td>Minimum required setback distances from buildings to the side and rear boundaries are as follows:

<table><tr><td>Building Height</td><td>Habitable Rooms and Balconies</td><td>Non Habitable Rooms</td></tr><tr><td>12m to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr></table></td><td><u>26 Shepherd Street</u>

Non-compliant
Side setback to the northern boundary:
A setback of 9m is required. The development provides a setback of 5.3m, which does not comply.

The variation to the setback control is considered to be acceptable as visual privacy will be maintained through the provision of provision of louvered screens.

Not Applicable
Side setback to the southern boundary:
A setback is not applicable as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance.

Complies
Rear setback: A rear setback of 9m is required. The development provides a rear setback of 19.9m is provided.

<u>28 Shepherd Street</u>

Not Applicable
Side setback to the northern boundary:
A setback is not applicable as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance.

Complies
Side setback to the southern boundary:
A setback of 4.5m is required. The development provides a setback 6.1m, which achieves compliance.

Complies
Rear setback: A rear setback of 9m is required. The development provides a rear setback ranging from 11.2m to 17m, which achieves compliance.</td></tr>
<tr><td>Minimum required setback distances from buildings to the side and rear boundaries are as follows:

<table><tr><td>Building Height</td><td>Habitable Rooms and Balconies</td><td>Non Habitable Rooms</td></tr><tr><td>Over 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr></table></td><td><u>26 Shepherd Street</u>

Non-compliant
Side setback to the northern boundary:
A setback of 12m is required. The development provides a setback of 5.3m, which does not comply.

The variation to the setback control is considered to be acceptable as visual privacy will be maintained through the provision of louvered screens. Additionally, the adjoining building at 20 Shepherd Street is only 9 storeys in height, so the non-compliant setback is only in relation to 1 storey in terms of visual impact.</td></tr>
</table>

Provisions	Comment
	Not Applicable Side setback to the southern boundary: A setback is not applicable as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance. **Complies** Rear setback: A rear setback of 12m is required. The development provides a rear setback of 19.9m is provided. <u>28 Shepherd Street</u> **Not Applicable** Side setback to the northern boundary: A setback is not applicable as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance. **Complies** Side setback to the southern boundary: A setback of 6m is required. The development provides a setback 6.1m, which achieves compliance. **Partially Non-compliant** Rear setback: A rear setback of 12m is required. The development provides a rear setback ranging from 11.2m to 17m, which does not comply. The variation is considered acceptable, given that there will be no visual privacy impact to the rear, as the site backs onto the Georges River.
3G Pedestrian Access and Entries	
Building entries and pedestrian access connects to and addresses the public domain Access, entries and pathways are accessible and easy to identify Large sites provide pedestrian links for access to streets and connection to destinations	**Complies** Pedestrian access and entries complies with the objectives of the ADG. Pedestrian links for the general public are provided through the site linking Shepherd Street to the Georges River.
3H Vehicle Access	
Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes	**Complies** The vehicle access point will be from the southern end of 28 Shepherd Street. The basement car park will link both sites together, thereby eliminating the need for a second access point to the development at 26 Shepherd Street.
3J Bicycle and Car Parking	
For development in the following locations: - on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or - on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre	**Complies** Bicycle and car parking is provided in accordance with the requirements of the LDCP 2008.

<table>
<tr><th>Provisions</th><th>Comment</th></tr>
<tr><td>The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less. The car parking needs for a development must be provided off street</td><td rowspan="6"></td></tr>
<tr><td>Parking and facilities are provided for other modes of transport</td></tr>
<tr><td>Car park design and access is safe and secure</td></tr>
<tr><td>Visual and environmental impacts of underground car parking are minimised</td></tr>
<tr><td>Visual and environmental impacts of on-grade car parking are minimised</td></tr>
<tr><td>Visual and environmental impacts of above ground enclosed car parking are minimised</td></tr>
<tr><td colspan="2">4A Solar and Daylight Access</td></tr>
<tr><td>Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas</td><td rowspan="2">Non-compliant

The proposed development proposes the following:
- The number of units receiving a minimum of 2 hours of solar access is 67%, which represents a non-compliance of 3% or 7 units.
- The number of units receiving no direct solar access is 17%, which represents a non-compliance of 2% or 5 units.

The variation is considered to be acceptable given that the development has been designed to maximise amenity by orientating units to the Georges River.

The development also provides rooftop communal space areas, which will receive more than 2 hours sunlight to over 70% of these spaces at mid-winter, providing additional solar access.

On this basis, the proposed development is considered satisfactory in relation to solar access.</td></tr>
<tr><td>A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid-winter</td></tr>
<tr><td colspan="2">4B Natural Ventilation</td></tr>
<tr><td>All habitable rooms are naturally ventilated</td><td rowspan="3">Complies

<u>26 Shepherd Street</u>
71% of the 83 apartments are cross ventilated.

<u>28 Shepherd Street</u>
64% of the 290 apartments are cross ventilated.</td></tr>
<tr><td>The layout and design of single aspect apartments maximises natural ventilation</td></tr>
<tr><td>At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed</td></tr>
<tr><td>Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line</td><td></td></tr>
<tr><td colspan="2">4C Ceiling Heights</td></tr>
<tr><td>Measured from finished floor level to finished ceiling level, minimum ceiling heights are:

<table><tr><td colspan="2">Minimum ceiling height</td></tr><tr><td>Habitable rooms</td><td>2.7m</td></tr></table></td><td>Complies
3.1m floor to floor heights are provided, which will ensure that a minimum 2.7m floor to ceiling height can be accommodated.</td></tr>
</table>

<table>
<tr><th>Provisions</th><th>Comment</th></tr>
<tr><td>
<table>
<tr><td>Non-habitable</td><td>2.4m</td></tr>
<tr><td>For 2 storey apartments</td><td>2.7m for main living area floor
2.4m for second floor, where its area does not exceed 50% of the apartment area</td></tr>
<tr><td>Attic spaces</td><td>1.8m at edge of room with a 30 degree minimum ceiling slope</td></tr>
<tr><td>If located in mixed use areas</td><td>3.3m from ground and first floor to promote future flexibility of use</td></tr>
</table>
Ceiling height increases the sense of space in apartments and provides for well proportioned rooms
Ceiling heights contribute to the flexibility of building use over the life of the building
</td><td></td></tr>
<tr><td colspan="2">4D Apartment Size and Layout</td></tr>
<tr><td>
Apartments are required to have the following minimum internal areas:
<table>
<tr><td>Apartment Type</td><td>Minimum Internal Area</td></tr>
<tr><td>Studio</td><td>35m^2</td></tr>
<tr><td>1 bedroom</td><td>50m^2</td></tr>
<tr><td>2 bedroom</td><td>70m^2</td></tr>
<tr><td>3 bedroom</td><td>90m^2</td></tr>
</table>
The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m^2 each. A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m^2 each
</td><td>Complies
All units achieve compliance with the minimum internal areas specified under the ADG.</td></tr>
<tr><td>Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms</td><td>Complies
Habitable rooms are provided with windows of sufficient glass areas.</td></tr>
<tr><td>Habitable room depths are limited to a maximum of 2.5 x the ceiling height</td><td>Complies
Habitable rooms are generally limited to 2.5m x the ceiling height.</td></tr>
<tr><td>In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window</td><td>Complies
Habitable room depth is generally limited to 8m in open plan layouts.</td></tr>
<tr><td>Master bedrooms have a minimum area of 10m^2 and other bedrooms 9m^2(excluding wardrobe space)</td><td>Complies
Bedrooms are of sufficient size.</td></tr>
<tr><td>Bedrooms have a minimum dimension of 3m (excluding wardrobe space)</td><td>Complies
Bedrooms have a minimum dimension of 3m.</td></tr>
<tr><td>Living rooms or combined living/dining rooms have a minimum width of:
- 3.6m for studio and 1 bedroom apartments
- 4m for 2 and 3 bedroom apartments</td><td>Complies
Sufficient widths are provided to living rooms/dining rooms.</td></tr>
<tr><td colspan="2">4E Private Open Space and Balconies</td></tr>
<tr><td>
All apartments are required to have primary balconies as follows:
<table>
<tr><td>Dwelling Type</td><td>Minimum Area</td><td>Minimum Depth</td></tr>
<tr><td>Studio</td><td>4m^2</td><td>-</td></tr>
<tr><td>1 bedroom</td><td>8m^2</td><td>2m</td></tr>
<tr><td>2 bedroom</td><td>10m^2</td><td>2m</td></tr>
<tr><td>3 bedroom</td><td>12m^2</td><td>2.4</td></tr>
</table>
The minimum balcony depth to be counted as contributing to the balcony area is 1m
</td><td>Non-compliant
All units comply with the required private open space and balcony sizes, with the exception of the following units:

<u>26 Shepherd Street</u>

- Units 105-109, require 8m^2. Only 7m^2 has been provided.
- Unit 103 requires 10m^2. Only 9m^2 is provided
- Unit 102 requires 12m^2. Only 7m^2. However, a secondary balcony of 12m^2 is provided.
- Unit 111 and Unit 112 requires 10m^2. Only 9m^2 is provided. However, a secondary balcony of 4m^2 is provided.</td></tr>
</table>

<table>
<tr><th>Provisions</th><th>Comment</th></tr>
<tr><td></td><td>- Unit 204 and Unit 203 on levels 2 and 3, require 10m^2. Only 9m^2 is provided. However, a secondary balcony of 4m^2 is provided.

<u>28 Shepherd Street</u>
- Unit C05 on level 7, 8, 11, 12, 14, and 15 requires 8m^2. Only 7m^2 has been provided.
- Unit C18 requires 8m^2. Only 7m^2 has been provided.

The variation is considered to be acceptable as discussed below:

Although, the balconies do not numerically comply with the ADG requirement, the design guidance criteria is achieved. The design guidance stipulates that increased communal open space should be provided where the number or size of balconies are reduced.

The development exceeds the minimum communal open space. The communal open space allows for a range of activities with BBQ facilities, sitting areas, shade structures and open space provided. Additionally, although the balconies are slightly under the ADG requirements they still remain usable for their intended purpose.

As such, the minor non-compliance with balcony sizes is acceptable as it will be offset by the increase in communal open space and in some cases the provision of an additional balcony.</td></tr>
<tr><td>For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m^{2}and a minimum depth of 3m</td><td>Complies
More than 15m^2 of private open space is provided to ground floor units.</td></tr>
<tr><td colspan="2">4F Common Circulation and Spaces</td></tr>
<tr><td>The maximum number of apartments off a circulation core on a single level is eight</td><td>Complies
The maximum number of units off a circulation core is 8.</td></tr>
<tr><td>For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40</td><td>Complies

<u>26 Shepherd Street</u>
3 lifts are provided for the 83 apartments.

<u>28 Shepherd Street</u>
6 lifts are provided for the 290 units.</td></tr>
<tr><td colspan="2">4G Storage</td></tr>
<tr><td>In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:

<table><tr><td>Dwelling Type</td><td>Storage Size Volume</td></tr><tr><td>Studio</td><td>4m^3</td></tr><tr><td>1 bedroom</td><td>6m^3</td></tr><tr><td>2 bedroom</td><td>8m^3</td></tr><tr><td>3 bedroom</td><td>10m^3</td></tr></table>
At least 50% of the required storage is to be located within the apartment.</td><td>Complies
Sufficient storage space is provided within each unit</td></tr>
</table>

Provisions	Comment
4H Acoustic Privacy	
Noise transfer is minimised through the siting of buildings and building layout	**Complies** The development is in accordance with the objectives.
Noise impacts are mitigated within apartments through layout and acoustic treatments	
4K Apartment Mix	
A range of apartment types and sizes is provided to cater for different household types now and into the future	**Complies** A range of apartment types are provided and located throughout the building.
The apartment mix is distributed to suitable locations within the building	
4L Ground Floor Apartments	
Street frontage activity is maximised where ground floor apartments are located	**Complies** The development is in accordance with these objectives.
Design of ground floor apartments delivers amenity and safety for residents	
4M Facades	
Building facades provide visual interest along the street while respecting the character of the local area	**Complies** The overall design including building façade has been endorsed by the DEP.
Building functions are expressed by the facade	
4N Roof Design	
Roof treatments are integrated into the building design and positively respond to the street	**Complies** The development is in accordance with these objectives.
Opportunities to use roof space for residential accommodation and open space are maximized.	
Roof design incorporates sustainability features	
4O Landscape Design	
Landscape design is viable and sustainable	**Complies** The development is in accordance with these objectives.
Landscape design contributes to the streetscape and amenity	
4P Planting on Structures	
Appropriate soil profiles are provided	**Complies** The development is in accordance with these objectives.
Plant growth is optimised with appropriate selection and maintenance	
Planting on structures contributes to the quality and amenity of communal and public open spaces	
4Q Universal Design	
Universal design features are included in apartment design to promote flexible housing for all community members	**Complies** The development is in accordance with these objectives.
A variety of apartments with adaptable designs are provided	
Apartment layouts are flexible and accommodate a range of lifestyle needs	
4R Adaptive Reuse	
New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	**Not Applicable** The DA is for the development of a new building and not the adaptive reuse of an existing building.
Adapted buildings provide residential amenity while not precluding future adaptive reuse	
4S Mixed Use	
Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	**Not Applicable**.

Provisions	Comment
Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	
4T Awnings and Signage	
Awnings are well located and complement and integrate with the building design	**Complies** Awnings are provided to entries for wet weather protection.
Signage responds to the context and desired streetscape character	**Complies** Building address signage is integrated into the building design.
4U Energy Efficiency	
Development incorporates passive environmental design	**Complies** The development is in accordance with these objectives.
Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	
Adequate natural ventilation minimises the need for mechanical ventilation	
4V Water Management and Conservation	
Potable water use is minimised	**Complies** Potable water use is minimized and water efficient devices will be provided in accordance with the requirements of the BASIX certificate.
Urban stormwater is treated on site before being discharged to receiving waters	**Complies** This aspect has been reviewed by Council's Land Development Engineers who have raised no issues subject to conditions.
Flood management systems are integrated into site design	**Complies**
4W Waste Management	
Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	**Complies** Waste storage facilities are provided and will be maintained by the caretaker.
Domestic waste is minimised by providing safe and convenient source separation and recycling	
4X Building Maintenance	
Building design detail provides protection from weathering	**Complies** The development is in accordance with these objectives
Systems and access enable ease of maintenance	
Material selection reduces ongoing maintenance costs	

Variation to the building separation guideline

As mentioned in the above table, the development does not meet the building separation guidelines setbacks of the ADG.

The non-compliant building separation distances are as follows:

Separation Distances between 26 and Building C1 North of 28 Shepherd Street

Ground floor: A separation distance of 9m is required. A separation distance of 8.2m is provided, representing a non-compliance of 0.8m.

Levels 8 to 14: A separation distance of 18m is required. A separation distance of 12.5m is provided, representing a non-compliance of 5.5m.

Separation Distances between 20 and 26 Shepherd Street

Ground floor: A separation distance of 12m is required between the building of 20 Shepherd Street and the rear portion of the building at 26 Shepherd Street. A separation distance of 10.1m is provided, representing a non-compliance of 1.9m.

A separation distance of 9m is required between the heritage listed building of 20 Shepherd Street and the front portion of the building at 26 Shepherd Street. A separation distance ranging from 7.5m to 8.8m has been provided, representing a non-compliance ranging from 0.2m to1.5

Levels 1 to 3: A separation distance of 12m is required. A separation distance of 11.2m is provided, representing a non-compliance of 0.8m.

Levels 4 to 7: A separation distance of 18m is required. A separation distance of 11.3m is provided, representing a non-compliance of 6.7m.

Level 8: A separation distance of 24m is required. A separation distance of 11.3m is provided, representing a non-compliance of 12.7m.

The figures below show the areas of non-compliance associated with the building separation distances. The extent of the non-compliances are hatched in red.

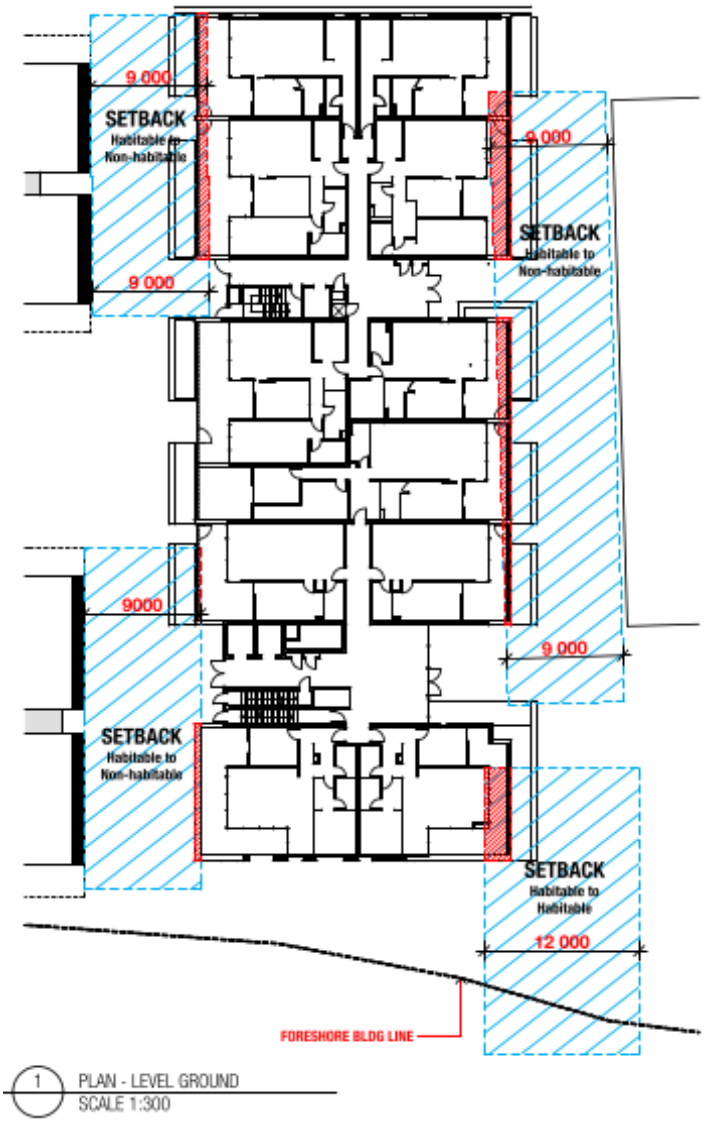

Figure 14 – Plan showing the ground floor plan of 26 Shepherd St and the building separation distances from 20 and 28 Shepherd Street.

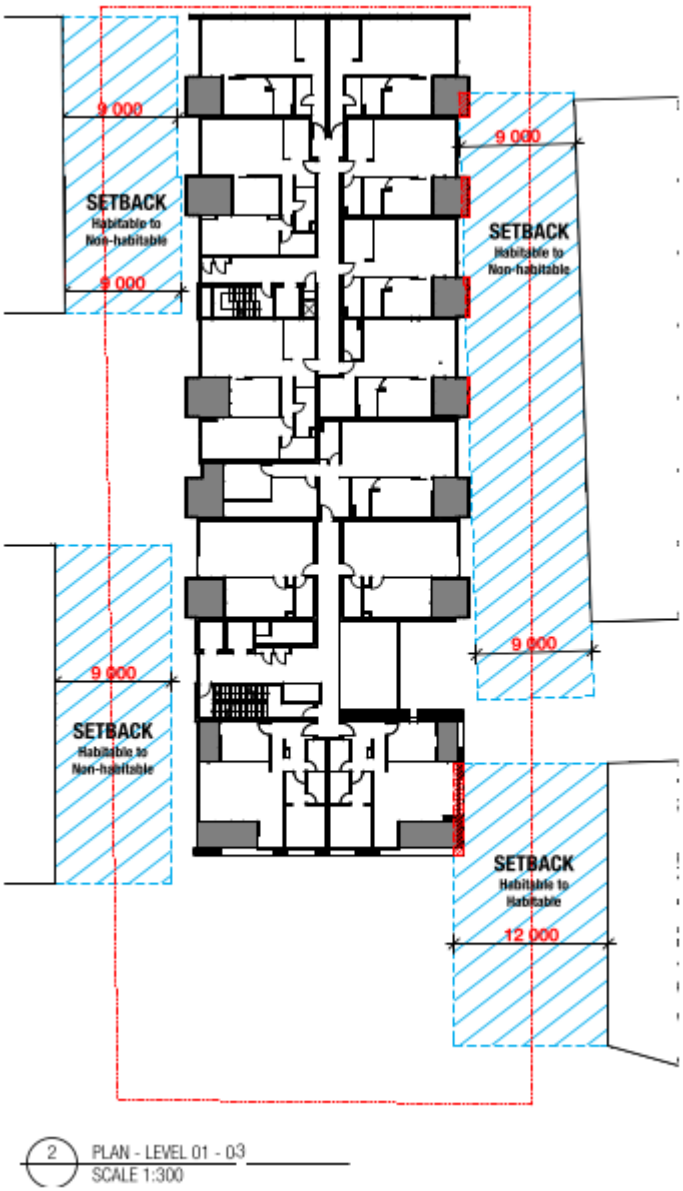

Figure 15 – Plan showing Level 1 – 3 floor plan of 26 Shepherd St and the building separation distances from 20 and 28 Shepherd Street.

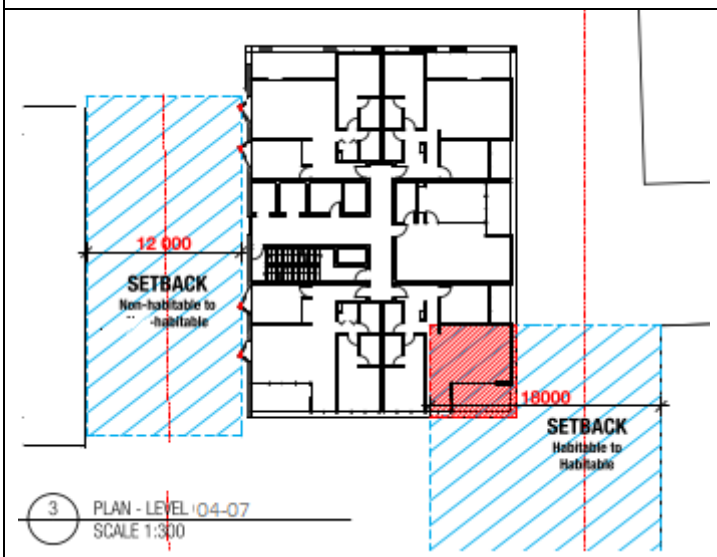

Figure 16 – Plan showing Level 4-7 floor plan of 26 Shepherd St and the building separation distances of 20 and 28 Shepherd Street.

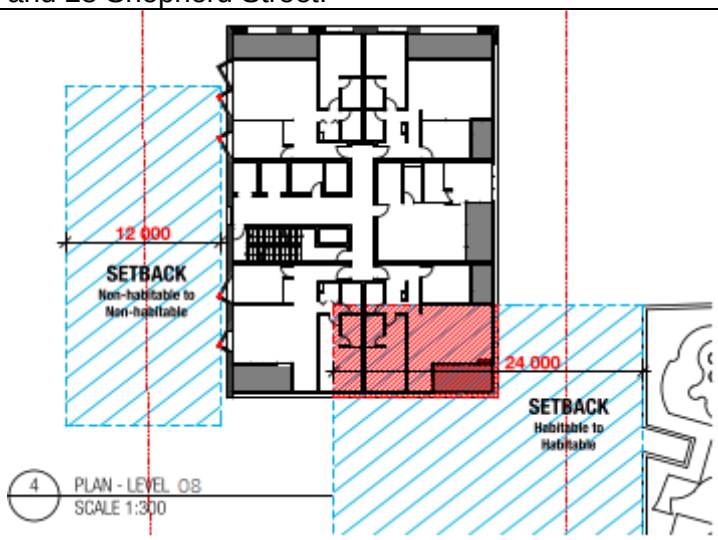

Figure 17 – Plan showing Level 8 floor plan of 26 Shepherd St and the building separation distances from 20 and 28 Shepherd Street.

Although, the development does not strictly meet the numerical requirements of the building separation guidelines, the development still achieves compliance with the aims/objectives, which are as follows:

- *ensure that new development is scaled to support the desired future character with appropriate massing and spaces between buildings*
- *assist in providing residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook*
- *provide suitable areas for communal open spaces, deep soil zones and landscaping*.

These aims/objectives are achieved as follows:

- The proposed development is in accordance with the Urban Design Report prepared with Amendment 65 and provides appropriate massing and spacing between buildings.

- In terms of visual privacy, acoustic privacy and outlook, non-compliant building separation distances have been mitigated by the use of landscaping and through building design, which offsets windows and balconies and employs appropriate screening. As such, the variation is considered acceptable as follows:

    - Ground floor to Level 3: Ground floor to Level 3 of 26 Shepherd Street has some minor encroaches into the building separation requirement of 9m between habitable rooms and non-habitable rooms and the 12m building separation between habitable rooms/balconies of 20 Shepherd Street. The design of the proposal has included significant landscaping in these locations that provides a physical barrier between the buildings, and as such visual privacy is retained. Planter boxes will be provided at least 1m high to allow screening plantings to add privacy to the courtyards. The planter boxes are also adequate depth to allow for medium sized trees that will grow to provide screening to the first floor. Above Level 1, louvered screens have been added to ensure privacy.

    - Levels 4 to 7: The required building separation of 18m between habitable rooms/balconies of 20 Shepherd Street and 26 Shepherd Street is not achieved, with approximately 11.3m provided. Directional louvered screening is proposed to be utilised to facilitate the required privacy between these levels and the corresponding levels on the building to the north.

      At Level 8, the same separation of 11.3m is provided, though the building separation requirement increases to 24m. This occurs only for the one storey (the highest level of 20 Shepherd Street) and is considered acceptable in the circumstances as privacy will be maintained through the provision of louvered screens. Additionally, 20 Shepherd Street is unable to be developed further as the development has reached the maximum allowable height and FSR.

      The required building separation of 18m for Level 8 onwards between 26 Shepherd Street and 28 Shepherd Street is not achieved with approximately 12.5m provided, representing a non-compliance of 5.5m. The variation is considered acceptable as 26 Shepherd Street has been designed with angled bay windows which will direct sight lines to the street or to the river, thereby minimising any potential privacy impacts.

- Despite the non-compliant building separation distances the development still provides suitably sized areas for communal open spaces, deep soil zones and landscaped areas in accordance with the requirements of the ADG and the LDCP 2008.

- The DEP has also reviewed the overall design of the development and raised no specific concerns with the proposed building separation distances.

Given the above, the variation to the separation distances are considered to be acceptable.

(b) State Environmental Planning Policy (Infrastructure) 2007

SEPP (Infrastructure) is applicable to the development and has been considered. The general aim of the SEPP is to facilitate effective delivery of infrastructure across the State. The proposal is satisfactory with respect to provisions of the SEPP, of which the key provisions are as follows:

Impact of Rail Noise or Vibration on Non-Rail Development

As the proposed development contains residential uses that are within close proximity to the south-west railway line, the consent authority must be satisfied, for where the development is for the purpose of residential development, that certain noise criteria is achieved for the development. Specifically Clause 87 of SEPP (Infrastructure) 2007 prescribes:

"(3) If the development is for the purposes of a building for residential use, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels are not exceeded:
(a) in any bedroom in the building—35 dB(A) at any time between 10 pm and 7 am,
(b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway)—40 dB(A) at any time."

The application was accompanied by two Acoustic Reports, one for each site. The Acoustic reports build on the existing acoustic impacts undertaken as part of the development approved under Development Consent No. DA-612/2015 for 28 Shepherd Street.

The reports are informed by a noise survey, which included noise measured at 15 minute durations 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.

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 26 Shepherd Street the external glazing is proposed in line with the outcomes of the Acoustic Report, which are as follows:

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

Acoustic glazing is similarly proposed for 28 Shepherd Street in line with the table below, prepared by Wood & Grieve:

Building	Façade	Level	Occupancy	Glass System	Required Acoustic Rating of Glazing Assembly, Rw[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

Figure 18 – Acoustic mitigation measures for 28 Shepherd Street.

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; and
- Acoustic insulation with duct work.

Conditions are imposed prescribing compliance with the Acoustic Reports and the noise criteria within Clause 87 of the SEPP (Infrastructure) 2007, to ensure that the proposed development incorporates noise attenuation to minimise any adverse impact from rail noise. This will ensure that an appropriate level of residential amenity is achieved in accordance with the requirements of the SEPP (Infrastructure) 2007.

(c) State Environmental Planning Policy No. 55 – Remediation of Land

The objectives of SEPP 55 are:

- *to provide for a state wide planning approach to the remediation of contaminated land.*
- *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.*

Pursuant to the above SEPP, Council must consider:

- whether the land is contaminated.
- if the land is contaminated, whether it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the proposed use.

The proposal involves a change in the use of the land, from an industrial use to a residential use and under the SEPP 55 guidelines is considered a site that could be contaminated.

SEPP 55 assessment for 28 Shepherd Street was undertaken as part of the assessment process associated with Development Consent No. DA-612/2015, which found that the site was suitable for residential development.

The following reports were considered in the assessment of SEPP 55 for 26 Shepherd Street:

- Preliminary Site Investigation Report prepared by Environmental Investigations Australia Pty Ltd, dated 14 October 2016;
- Detailed Site Investigation Report prepared by Environmental Investigations Australia Pty Ltd, dated 22 November 2016; and
- Remediation Action Plan by Environmental Investigations Australia Pty Ltd, dated 24 March 2017.
- Response Letter to Council on the Clarification on Remediation, prepared by Environmental investigation Services, dated 02 February 2018;
- Addendum to the Remediation Action Plan (RAP) prepared by Environmental investigation Services, dated 09 August 2017.

The RAP prepared by Environmental Investigations Australia Pty Ltd, dated 24 March 2017 confirmed that the site could be made suitable for the approved development following the implementation of the RAP and site validation. The proposed remediation strategy included removal and offsite disposal of underground tanks and excavation and offsite disposal of contaminated fill soil.

Due to the unauthorised works which took place sometime after the preparation of the RAP dated 24 March 2017, the potential impact of the unauthorised works on the proposed remediation strategy was unknown. Due to this uncertainty, the Applicant was requested to engage a contaminated land consultant to review the RAP to determine the validity of the remediation strategy. As the site required validation sampling, the contaminated land consultant was to confirm whether the proposed remediation strategy was still appropriate despite the unathorised works that had taken place.

The Applicant responded to Council with a letter prepared by Environmental investigation Services (EIS) dated 2 February 2018. EIS confirmed that samples were collected and analysed from across the base of the basement excavation. The results of this analysis had demonstrated that the remediation in the basement/building footprint was successful and that this area of the site had been remediated so that there are no unacceptable risks to human health or the environment. These results will be reported in the final site validation report on completion of all relevant works in accordance with the conditions of consent.

It is noted that contaminated fill material remains in the eastern area of the site, between the eastern wall of the basement/building footprint and the river bank. EIS prepared an addendum RAP dated 9 August 2017 to address these residual impacts. Subject to the implementation of the EIS Addendum to the RAP prepared by EIS and the existing RAPs prepared by EI Australia, EIS are of the opinion that successful validation can be achieved prior to issue of the occupation certificate.

On this basis, Council's Environment and Health section considers the contamination assessment to be satisfactory and have recommended conditions of consent.

The contamination assessment identifies that the site is suitable for residential development.

Clause 7 - Contamination and remediation to be considered in determining development application	**Comment**
(1) A consent authority must not consent to the carrying out of any development on land unless:	
(a) it has considered whether the land is contaminated, and	A contamination assessment has been submitted as part of this application and reviewed by Council's Environmental Health Officer.
(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and	The submitted assessment concludes the site is suitable for residential development.
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	Land is to be remediated if any contaminants are found during excavation works.

Therefore based on the above assessment the subject site is suitable for the proposed development subject to remediation works being undertaken where required and in accordance with the approved RAPs.

(d) State Environmental Planning Policy (BASIX) 2004

The proposal is accompanied by a BASIX Certificate which is consistent with the aims and intent of the Plan. It is recommended that appropriate conditions are imposed to ensure compliance with the BASIX commitments.

(e) Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment (now deemed SEPP).

The Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment generally aims to maintain and improve the water quality and river flows of the Georges River and its tributaries.

When a consent authority determines a development application planning principles are to be applied. Accordingly, a table summarising the matters for consideration in determining development application (Clause 8 and Clause 9), and compliance with such is provided below.

Clause 8 General Principles	Comment
When this Part applies the following must be taken into account:	Planning principles are to be applied when a consent authority determines a development application.
(a) the aims, objectives and planning principles of this plan,	The plan aims generally to maintain and improve the water quality and river flows of the Georges River and its tributaries.
(b) the likely effect of the proposed plan, development or activity on adjacent or downstream local government areas,	The proposal provides soil and erosion control measures and a Stormwater Concept Plan.
(c) the cumulative impact of the proposed development or activity on the Georges River or its tributaries,	The proposal provides a stormwater management system that will connect to the existing system. A Stormwater concept plan also outlines proposed sediment and erosion control measures. The land use change from industrial to residential uses provides the opportunity for site remediation.
d) any relevant plans of management including any River and Water Management Plans approved by the Minister for Environment and the Minister for Land and Water Conservation and best practice guidelines approved by the Department of Urban Affairs and Planning (all of which are available from the respective offices of those Departments),	The site is located within an area covered by the Liverpool District Stormwater Management Plan, as outlined within Liverpool City Council Water Strategy 2004.
(e) the *Georges River Catchment Regional Planning Strategy* (prepared by, and available from the offices of, the Department of Urban Affairs and Planning),	The proposal includes a Stormwater Concept plan. There is no evidence that with imposition of mitigation measures, the proposed development would affect the diversity of the catchment.
(f) whether there are any feasible alternatives to the development or other proposal concerned.	General Terms of Approval have been issued by the NSW DPI Water.
(g) whether there are any feasible alternatives to the development or other proposal concerned.	The site is located in an area nominated for residential development and the proposal provides an opportunity to address past potentially contaminating land use practices.

Clause 9 Specific Principles	Comment
(1) Acid sulfate soils	The land is identified as containing acid sulfate soils on LLEP 2008 Acid Sulfate Soil mapping – Class 5; however, no controls or conditions are required, as the development will not be affected by this classification of Acid Sulfate Soils.
(2) Bank disturbance	There will be minimal disturbance of the bank or foreshore along the Georges River and its tributaries, the DPI Water support the application and have granted their GTAs.
(3) Flooding	The site is not affected by flooding.
(4) Industrial discharges	As outlined within the contamination report, the past industrial use may have contributed to discharges to the Georges River. The proposal includes remediation of the site to make the site suitable for its intended residential use.
(5) Land degradation	An erosion and sediment control plan aims to manage salinity and minimise erosion and sediment loss.
(6) On-site sewage management	Not applicable.
(7) River-related uses	Not applicable.
(8) Sewer overflows	Not applicable.
(9) Urban/stormwater runoff	A Stormwater Concept Plan proposes connection to existing services.
(10) Urban development areas	The site is not identified as being located within the South West Growth Centre within the Metropolitan Strategy.

	The site is not identified as being an Urban Release Area under LLEP 2008.
(11) Vegetated buffer areas	The site is located within a Vegetated Buffer Area as defined within GREP No. 2 (Development on land within the Catchment that adjoins, and is within 100 metres of, a drainage line, creek, wetland or river foreshore area within the Catchment). The site is adjacent to the Georges River the works proposed have been endorsed by the DPI Water.
(12) Water quality and river flows	A drainage plan proposes stormwater connection to existing services.
(13) Wetlands	Not applicable.

It is considered that the proposal satisfies the provisions of the GMREP No.2 subject to site appropriate sedimentation and erosion controls during construction. The development will have minimal impact on the Georges River Catchment.

(f) Liverpool Local Environmental Plan 2008

(i) Zoning and Permissibility

Pursuant to the LLEP 2008, the site is zoned R4 – High Density Residential. An extract of the zoning map is provided below.

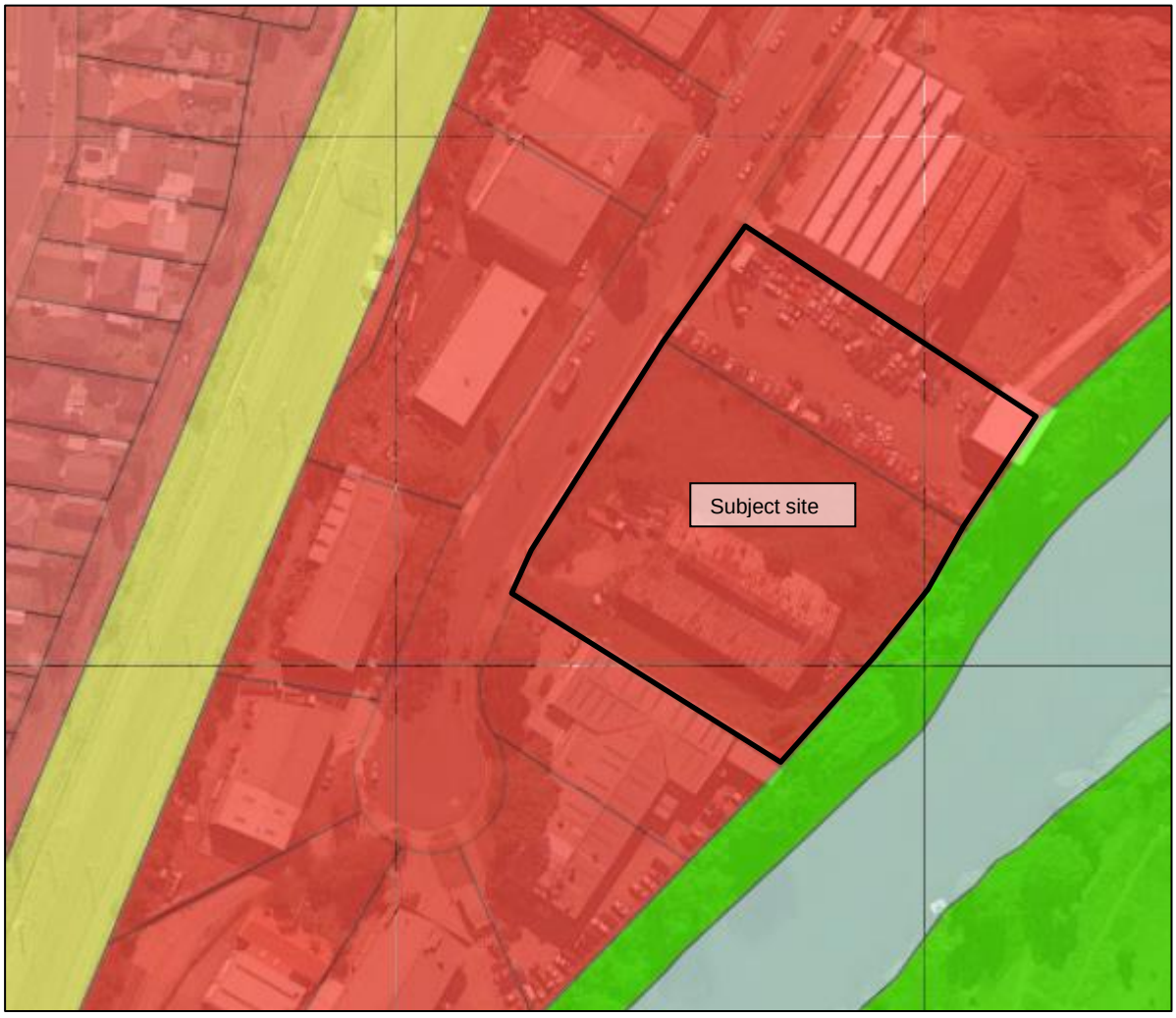

Figure 19 – Extract of the land zoning map.

The proposed use is defined as a residential flat building. Residential flat buildings are defined within the LLEP2008 as:

a building containing 3 or more dwellings, but does not include an attached dwelling or multi dwelling housing.

Residential flat buildings are permitted with consent in the R4 zone.

(ii) Objectives of the zone

The objectives of the R4 zone are as follows:

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

The proposed development of a high density residential development is in accordance with the above objectives.

(iii) Principal Development Standards

The LLEP 2008 contains a number of principal development standards which are relevant to the proposal. Assessment of the application against the relative standards is provided below.

Clause	Provision	Comment
Clause 4.3 Height of Buildings	26 Shepherd Street is subject to a maximum height of 46m 28 Shepherd Street is subject to a maximum height of: - 20m for the front portion; - 58m for the north eastern corner; - 68m for the south eastern corner.	**Complies** The following building heights are provided: 26 Shepherd Street: - 45.6m, which achieves compliance with the maximum height limit of 46m 28 Shepherd Street: - Building C1 North – 56.9m, which achieves compliance with the maximum height limit of 58m - Building C1 South – 66.1m which achieves compliance with the maximum height limit of 68m
Clause 4.4 Floor Space Ratio	Maximum FSR of 3.7:1	**Complies** An FSR of 3.63:1 is proposed.
Clause 4.6 Exceptions to Development Standards	Provisions relating to varying development standards.	**Complies** Clause 4.6 has been utilised in order to vary Clause 7.4 Building Separation in Liverpool City Centre. Further details are provided below.
Clause 5.6 Architectural Roof Features	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.	**Complies** The proposed development incorporates architectural roof features that contribute to the architectural style of the buildings and provide for rooftop open space.

	Development consent must not be granted to any such development unless the consent authority is satisfied that: (a) the architectural roof feature: (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	
Clause 7.4 Building Separation in Liverpool City Centre	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: - 9 metres for parts of buildings between 12 metres and 25 metres above ground level (finished) - 12 metres for parts of buildings between 25 metres and 35 metres above ground (finished) - 18 metres for parts of buildings 35 metres or more above ground level (finished)	**Non-compliant** See below for further details.
Clause 7.6 Environmentally Significant Land		**Complies** A Flora and Fauna Assessment and a Riparian Zone Assessment has been prepared. The report is relevant to the site at 26 Shepherd Street, with a flora and fauna assessment relevant to development of 28 Shepherd Street provided in consent (DA-612/2015. The assessment has made the following observation; - 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. As such, the proposed development is not considered to have any negative impacts on the environmentally sensitive land.
Clause 7.7 Acid Sulfate Soils	Provisions relating to acid sulfate soils.	**Complies** Acid Sulfate Soils and Contamination Assessment were undertaken by EI Australia, who determined that the likelihood of encountering acid sulphate soils at the site were unlikely.
Clause 7.8 Flood Planning	Provisions relating to the development on flood prone land.	**Complies** This aspect of the development has been reviewed by Council's Floodplain Engineering Section, who have supported the development subject to conditions. The site is located within the catchment of Georges River however, it is not affected by flooding under the 1% Annual Exceedance Probability (AEP) event. It is noted that the Shepherd Street precinct has evacuation difficulties during the 1% AEP flood event, given that the only access to the precinct is via Shepherd Street and the depth of flooding at below the railway line is 1.3m during the 1% AEP flood event. In view of the evacuation difficulties of the precinct, Council's Floodplain Engineers have requested the submission of a comprehensive flood evacuation management plan (FEMP) and put into operation to ensure the safe evacuation of people during floods The FEMP has been conditioned as a requirement prior to issue of a construction certificate.
Clause 7.9 Foreshore Building Line	The rear of the site is affected by the foreshore building line.	**Complies** The development does not involve works within the foreshore building line.
Clause 7.14 Minimum Building Street Frontage	A minimum building street frontage of 24m is required.	**Complies** A combined street frontage of approximately 100m is provided.

Discussion of Clause 7.4 Building Separation in Liverpool City Centre

In accordance with Clause 7.4 Building Separation in the Liverpool City Centre, the development provides the following building separation:

Site	Between 12m and 25m (Levels 4 to 7)	Between 25m and 35m (Levels 8 to 11)	Above 35m (Level 12 and above)

	9m separation required	12m separation required	18m Separation required
Between 20 and 26 Shepherd Street	Complies 11.3m separation distance provided.	**Non-compliant** A separation distance of 11.3m is provided, which represents a numerical variation of 0.7m or 5.8%	Not applicable given that adjoining development at 20 Shepherd Street is 9 storeys in height.
Between 26 and 28 Shepherd Street	Complies 12.6m separation distance provided.	Complies 12.6m separation distance provided.	**Non-compliant** A separation distance of 12.6m is provided to level 12 and above. This represents a numerical variation of 5.5m or 30%
Between 28 Shepherd Street and future development of 30-32 Shepherd Street	Complies Approximately 20m separation distance provided.	Complies Approximately 20m separation distance provided.	Complies Approximately 20m separation distance provided.

As shown above the development proposes the following variations to Clause 7.4:

- Between the tower located at 20 Shepherd Street and the proposed tower at 26 Shepherd Street: A 12 metre separation distance is required at height of between 25mn and 35m. The development provides a separation distance of 11.3m, which represents a numerical non-compliance of 0.7m or 5.8%.
- Between the proposed tower located at 26 Shepherd Street and the proposed tower at 28 Shepherd Street: An 18 metre separation distance is required at height above 35m. The development provides a separation distance of 12.5m, which represents a numerical non-compliance of 5.4m or 30%.

The proposed variations are demonstrated in the figures below:

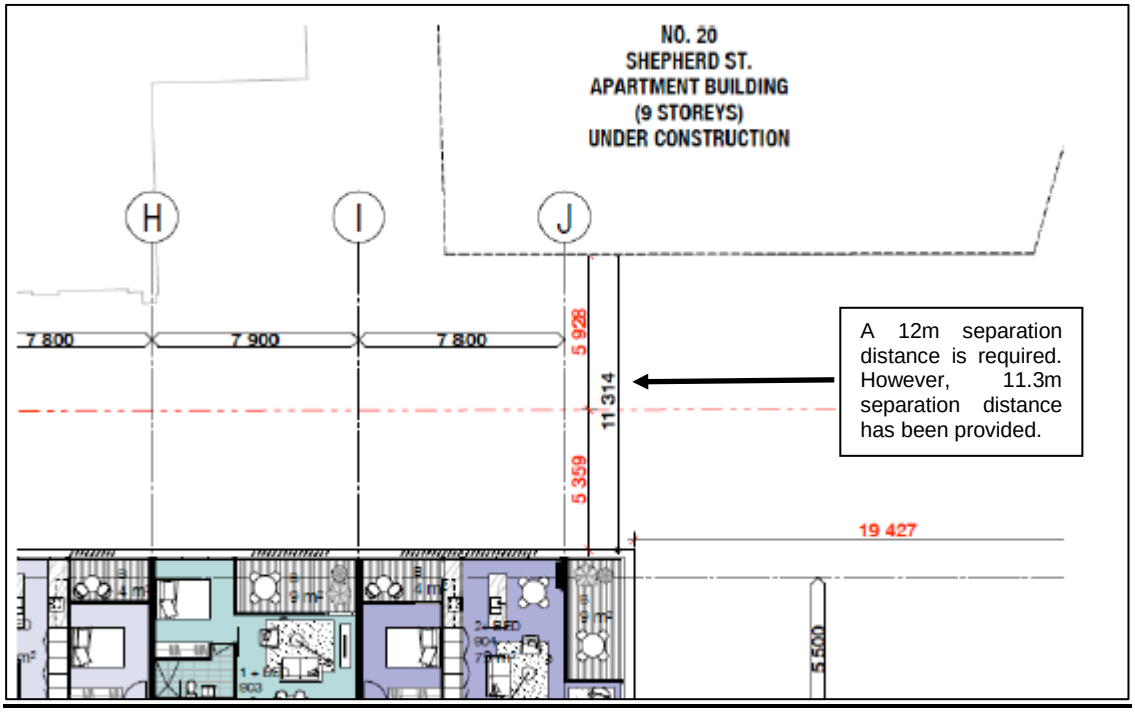

Figure 20 – Building separation distance between 20 Shepherd Street and 26 Shepherd Street

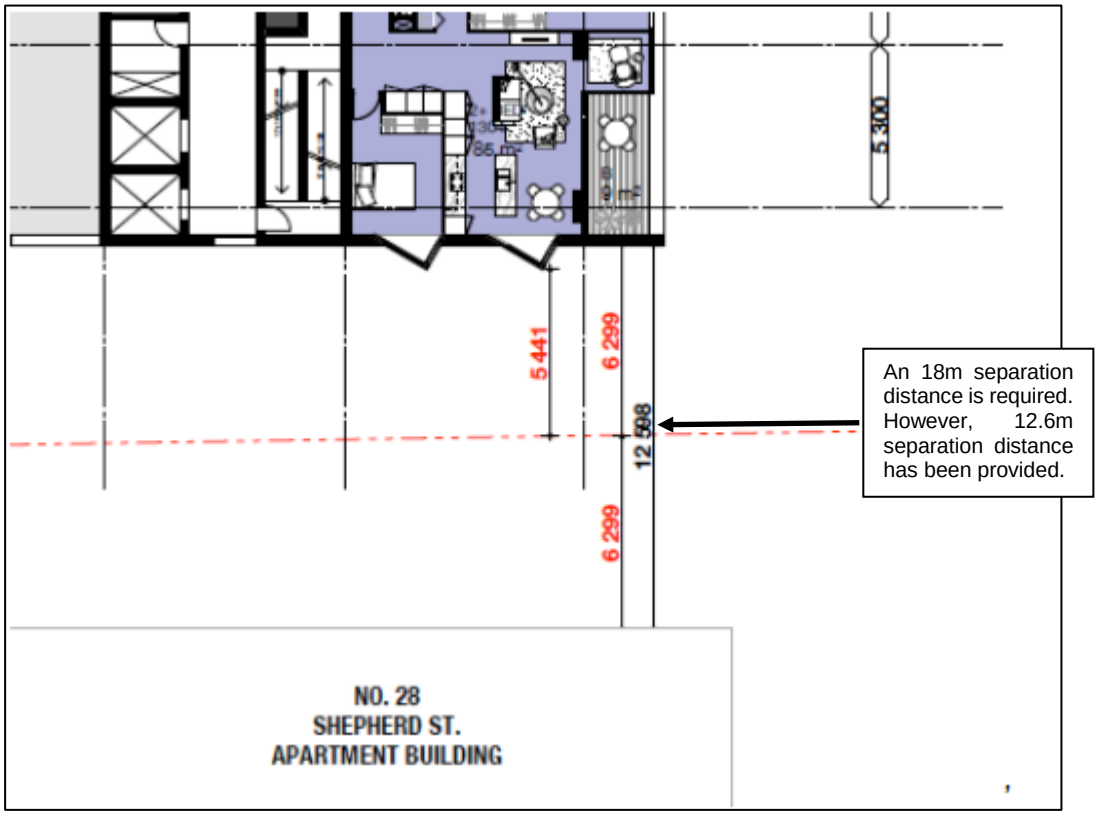

Figure 21 – Building separation distance between 26 Shepherd Street and 28 Shepherd Street

The applicant has submitted a written request seeking variation to the building separation prescribed by Clause 7.4. Clause 4.6(2) provides that in certain circumstances, consent …*may be granted for development even though the development would contravene a development standard imposed* by the LLEP.

The objectives of Clause 4.6 are as follows:

> *(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,*
> *(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.*

Clause 4.6(3) prescribes:

> *Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:*
>
> *(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*
> *(b) that there are sufficient environmental planning grounds to justify contravening the development standard.*

The applicant has demonstrated that compliance with the standard is unreasonable and unnecessary in the circumstances given:

- The proposed non-compliance is associated only with a small portion of the development as a whole.
- The development of the precinct as a whole has been considered from an urban design perspective, supported by Council under the Shepherd Street Planning Proposal. This development application is consistent with the urban design analysis and proposed building footprints.

- There is no significant benefit in maintaining the building separation standard as the contravention facilitates the following public benefits:
    - The proposed building locations responds to the siting of the nearby heritage building on 20 Shepherd Street which is important to the heritage conservation of the locality;
    - The proposal will maintain important view corridors from the heritage item to Georges River;
    - The variation will not reduce amenity for the subject site or adjoining sites;
    - The proposal is a high quality architectural design which displays design excellence; and
    - The variation does not inhibit the proposal's compliance with the objectives of the standard or the zone, as outlined within this report.

There are sufficient environmental grounds for the variation from the building separation distances which are detailed below:

- The proposal locates the majority of height and bulk of the 26 Shepherd Street tower towers the rear of the site. This ensures the protection of the heritage building at 20 Shepherd Street from any significant impacts, as only a 2 storey tower element is proposed at the street frontage. The heritage Woollen Mills building is being restored and reused as part of the precinct redevelopment, and it is considered a significantly better outcome to locate the majority of bulk away from this sensitive building. This however necessitates the minor variations to building separation, as sufficient setbacks cannot be reasonably achieved whilst delivering appropriate apartment layouts given the width of the site in this location.
- Unit windows are offset at 26 Shepherd Street to ensure there are no visual privacy impacts; and
- the separation distances between the proposed towers will allow for view corridors from the internal courtyard to Georges River.

Although the proposed building separation distances do not strictly comply with numerical control it still satisfies the objective of Clause 7.4 which states:

The objective of this clause is to ensure minimum sufficient separation of buildings for reasons of visual appearance, privacy and solar access

The following comments are provided in relation to the above objective:

- Visual Appearance:
    - The proposed development was reviewed by the DEP, who considered that the overall design of the development was acceptable, subject to the incorporation of some minor changes. As such, the minor variations to the building separations distances are not considered to impact upon the overall visual appearance of the development.

- Solar Access:
    - 67% of the proposed units of 26 Shepherd Street and 28 Shepherd Street will achieve 2 hours or more of solar access. Given, the orientation of the site, strict compliance with the building separation distances is unlikely to result in full compliance with the ADG provisions relating to solar access.

- Privacy:
    - Despite the numerical variation to the separation distances, the development has been designed to ensure that potential privacy impacts on adjoining development is mitigated. These are as follows:
        - In order to mitigate potential privacy impacts between 26 Shepherd Street and the existing development at 20 Shepherd Street, privacy screens/louvres have been provided to the northern façade of 26 Shepherd Street.

- In order to mitigate potential privacy impacts between 26 Shepherd Street and 28 Shepherd Street, 26 Shepherd Street has been designed with angled bay windows which will direct sight lines to the street or to the river. Additionally, the northern façade of 28 Shepherd Street is predominantly a blank facade with the exception of a living room window on the north eastern corner. To further mitigate privacy impacts translucent glazing or angled bay windows (as required by way of condition of consent) will be provided to these living room windows. This is demonstrated in the below figure:

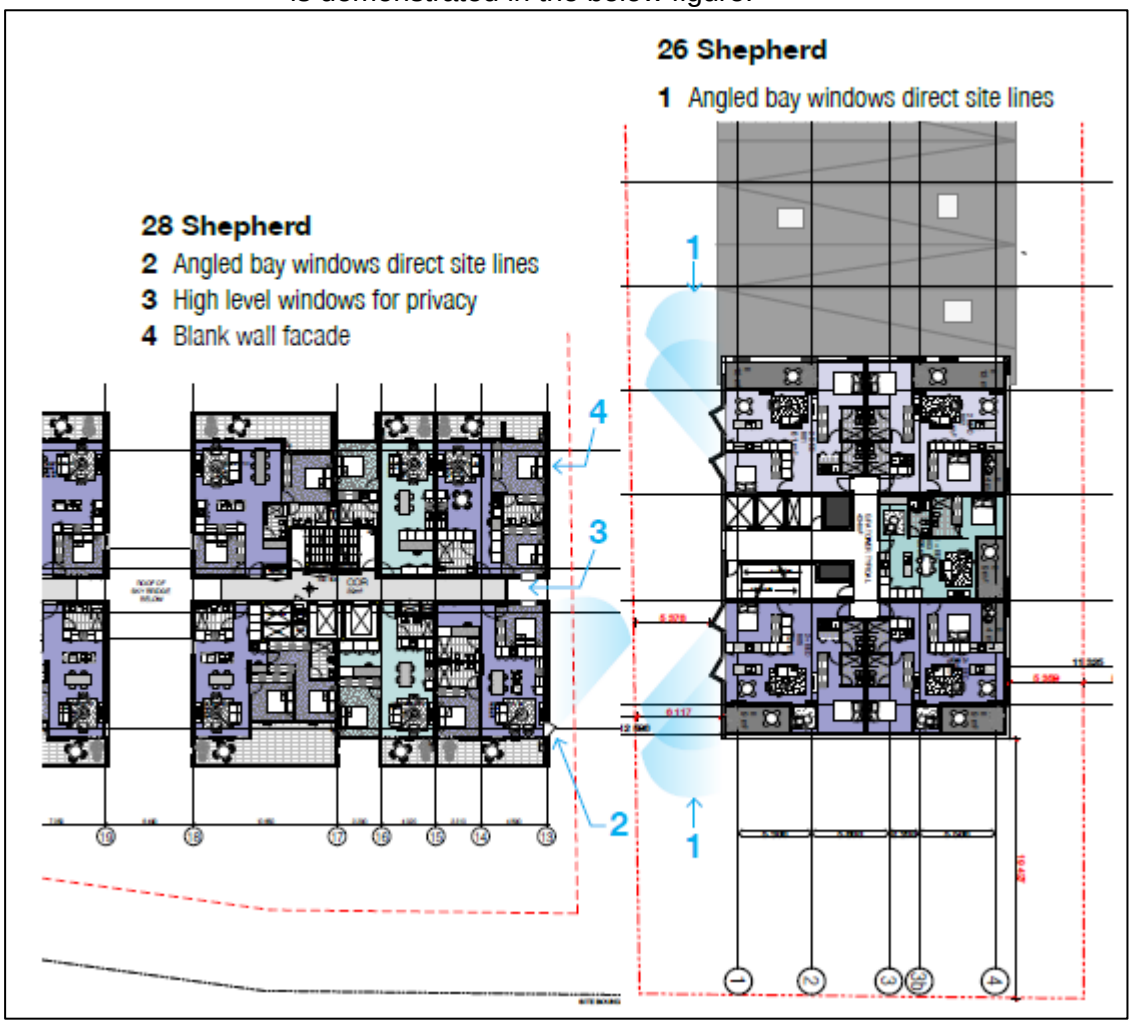

Figure 22 – Above figure demonstrates how privacy impacts will be mitigated

Having regard to the above, it is considered that strict compliance with the building separation standard is unnecessary and unreasonable in this case, and that based on the circumstances of this proposal, it is reasonable to allow flexibility in the application of Clause 7.4. There are sufficient environmental planning grounds to justify contravening the development standard.

(iv) Other Relevant LLEP 2008 Clauses

In addition to the above development standards, the application has also been considered in regards to other relevant standards of the LLEP 2008. The key clauses applicable to the application are discussed in further detail below. The proposal demonstrates full compliance with the LLEP 2008 standards and is satisfactory.

- **Clause 5.10 Heritage Conservation**

The subject site is not listed as a heritage tem, however, the site is located adjacent to the McGrath Services Centre building, which is listed as a heritage item of local significance under

the LLEP 2008. The listing pertains to the 1914 building which was formerly the Challenge Woollen Mills and the Australian Paper Company's Mill (item no. 104).

An extract of the location of the heritage item in relation to the site is provided below:

Figure 23 – Extract of the Heritage Map

In accordance with Clause 5.10(5) of the LLEP 2008:

> *The consent authority may, before granting consent to any development:*
> *(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),*
> *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.*

The application was accompanied by a Statement of Heritage Impact (refer to attachment 11) to assess the extent to which the proposed development would affect the heritage significance of the item. The development has been designed to respect and complement the heritage item in terms of height, bulk and scale.

The bulk and scale of the proposed development has been carefully considered in order to ensure they do not adversely impact on the heritage item, 20 Shepherd Street. This has been achieved through the application of a lower saw-tooth roof section to the west, directly adjacent to the heritage building, and the location of the new residential towers further south. This will allow and ensure street-long views of the former 1914 Mills Building remaining as the prominent element of the development site, which combines a number of allotments from Atkinson Street to the eastern end of Shepherd Street where it terminates as a cul-de-sac.

This separation allows for an appropriate buffer between the former Woollen Mills Building and the proposed towers to be in line with the other towers that are currently under construction within the site of 20 Shepherd Street complementing the rhythm created by these residential developments. The proposed new development together with the existing development at 20 Shepherd Street will create interest along the foreshore of the Georges River and bring a new layer of development and life to this area of Liverpool. The articulation of the building form also prevents the tower from appearing bulky.

Through the articulation of the facades, implementation of the saw-tooth roof to western section of 26 Shepherd Street and location of the towers to the south (and east towards the river), the proposed development is considered an appropriate response to the heritage context of the sites and the changing character of the immediate local area.
Council's Heritage Officer has reviewed this aspect of the development and has determined that the proposal is considered to have a minimal to moderate impact with the distance between the item and the subject site, and the architectural design providing the necessary mitigation measures to reduce the impact.

- **Clause 7.1 Objectives for Development in Liverpool City Centre**

Clause 7.1 of the LLEP 2008, stipulates the objectives that must be satisfied by any redevelopment in the city centre. The proposed development is generally consistent with the relevant objectives as follows:

(a) to preserve the existing street layout and reinforce the street character through consistent building alignments,

Comment: The development provides building alignments which are consistent with the Urban Design Report prepared with the Planning Proposal.

(b) to allow sunlight to reach buildings and areas of high pedestrian activity,

Comment: The surrounding development will be impacted to an extent commensurate with the anticipated scale of development on the site. However, the development is consistent with the maximum height permitted under LLEP 2008.

(c) to reduce the potential for pedestrian and traffic conflicts on the Hume Highway,

Comment: The development is unlikely to impact on pedestrian and traffic conditions of the Hume Highway.

(d) to improve the quality of public spaces in the city centre,

Comment: The development provides a high quality presentation to the public domain.

(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,

Comment: The development will have no direct impact on the physical area surrounding the Liverpool Railway Station.

(f) to enhance the natural river foreshore and places of heritage significance,

Comment: The development will enhance the foreshore area through the provision of a high quality residential development.

As discussed previously within this report the proposed development is unlikely to affect the heritage significance of the adjacent heritage item at 20 Shepherd Street.

(g) to provide direct, convenient and safe pedestrian links between the city centre (west of the rail line) and the Georges River foreshore.

Comment: The development provides pedestrian and through site link access from Shepherd Street to the river.

- **Clause 7.5 Design Excellence in Liverpool City Centre**

Clause 7.5 of the LLEP 2008 prescribes that development consent must not be granted to development within the Liverpool City Centre, unless the consent authority considers that the development exhibits design excellence. The objective of this clause is to deliver the highest standard of architectural and urban design within the city centre. The Clause sets out the matters that must be considered by Council.

The matters set out in the Clause have been carefully considered in consultation with the DEP. Consequently, the application has been through amendments to improve the design quality in line with provisions of the LLEP 2008 and the comments provided by the DEP.

In conclusion, the overall development satisfies the LLEP 2008 design excellence provisions and demonstrates satisfactory design excellence.

6.2 Section 79C(1)(a)(ii) - Any Draft Environmental Planning Instrument

There are no draft environmental planning instruments applicable to the site.

6.3 Section 79C(1)(a)(iii) - Provisions of any Development Control Plan

The application has been assessed against the controls of the LDCP 2008, particularly Part 1 *General Controls for all Development*; and Part 4 *Development in Liverpool City Centre*.

The tables below provide an assessment of the proposal against the relevant controls of the LDCP 2008.

LDCP 2008 Part 1: General Controls for All Development

Development Control	Provision	Comment
Section 2. Tree Preservation	Controls relating to the preservation of trees	**Not Applicable** The DA does not involve the removal of significant vegetation.
Section 3. Landscaping and Incorporation of Existing Trees	Controls relating to landscaping and the incorporation of existing trees.	**Complies** Comprehensive landscaping will be provided to the ground floor and to the communal open space areas on the rooftops.
Section 4 Bushland and Fauna Habitat Preservation	Controls relating to bushland and fauna habitat preservation	**Complies** The DA does not involve works which would impact upon bushland and fauna habitat.
Section 5. Bush Fire Risk	Controls relating to development on bushfire prone land	**Not Applicable** The development site is not identified as being bushfire prone land.
Section 6. Water Cycle Management	Stormwater runoff shall be connected to Council's drainage system by gravity means. A stormwater drainage concept plan is to be submitted.	**Complies** This aspect has been reviewed by Council's Land Development Engineers, who have raised no issues subject to conditions.
Section 7. Development Near a Watercourse	If any works are proposed near a water course, the Water Management Act 2000 may apply, and you may be required to	**Complies** The development site is within close proximity to Georges River. The DA was referred to the NSW

Development Control	Provision	Comment
	seek controlled activity approval from the NSW Office of Water.	DPI –Water, who have issued there general terms of approval. Following on from the unauthorised works, the application was re-referred to the DPI-Water who confirmed that no further approvals were required and the GTAs were not required to be amended.
Section 8. Erosion and Sediment Control	Erosion and sediment control plan to be submitted.	**Complies** Conditions of consent will be imposed to ensure that erosion and sediment controls measures are implemented during the construction of the development.
Section 9. Flooding Risk	Provisions relating to development on flood prone land.	**Complies** As discussed above, this aspect has been reviewed by Council's Flooding Engineers, who have raised no issues, subject to conditions.
Section 10. Contaminated Land Risk	Provisions relating to development on contaminated land.	**Complies** As discussed earlier within this report, the site is suitable for the proposed residential use, subject to remediation.
Section 11. Salinity Risk	Provisions relating to development on saline land.	**Complies** The Salinity Map for Western Sydney (2002) identifies the site in an area of 'moderate' salinity. This section of the DCP requires a Level 3 salinity response for 'moderate' salinity areas. The applicant has identified the land as containing low levels of salinity and will construct the foundations and slab flooring in accordance with AS2159-2009 and AS2870-2011.
Section 12. Acid Sulphate Soils	Provisions relating to development on acid sulphate soils	**Not Applicable** The subject site is identified as Class 5 on the Acid Sulphate Soils Map. A Geotechnical Assessment has been submitted, which confirms no special building measures are required as the proposal will not be substantially affected by Acid Sulphate Soils.
Section 13. Weeds	Provisions relating to sites containing noxious weeds.	**Not Applicable** The site is not identified as containing noxious weeds.
Section 14. Demolition of Existing Development	Provisions relating to demolition works	**Not Applicable** Demolition works are not proposed as part of the DA.
Section 15. On Site Sewage Disposal	Provisions relating to OSMS.	**Not Applicable** OSMS is not proposed.
Section 16. Aboriginal Archaeology	An initial investigation must be carried out to determine if the proposed development or activity occurs on land potentially containing an item of aboriginal archaeology.	**Complies** The application was accompanied by an Aboriginal Archaeology report which concluded that the subject site was not identified as containing the potential for aboriginal archaeology.
Section 17. Heritage and Archaeological Sites	Provisions relating to heritage sites.	**Complies** As discussed within this report, the potential impact of the proposed development on the Heritage Item is considered to be acceptable.
Section 18. Notification of Applications	Provisions relating to the notification of applications.	**Complies** The application was advertised in accordance with the LDCP 2008. No submissions have been received.

Development Control	Provision	Comment
Section 19. Used Clothing Bins	Provisions relating to used clothing bins.	**Not Applicable** The DA does not propose used clothing bins.
Section 20. Car Parking and Access	Residential Development Car Parking Requirements: - 1 space per two studio apartments; - 1 space per one bedroom or two bedroom apartments - 1.5 spaces per three of more bedroom units - 1 space per 10 units or part thereof, for visitors - 1 space per 40 units for service vehicle (including revivalist vans and car washing bays), up to a maximum of 4 spaces per building).	**Complies** The following parking is required: - 9 x studio units requires 4.5 spaces; - 144 x 1 bedroom units requires 144 spaces - 184 x 2 bedroom units requires 184 spaces - 36 x 3 bedroom units requires 54 spaces A total of 386.5 spaces required for the residential units. - 373 residential units requires 37 visitor spaces - 4 carwash/service bays are required. Therefore, a total of 428 parking spaces are required to meet the above requirements. The development provides for 428 parking spaces.
	Provision is to be made for motorcycle parking at the rate of 1 motorcycle space per 20 car spaces	**Complies** A total of 424 (excluding the 4 service bays) parking spaces are provided which equates to 21.1 motorcycle spaces. A total of 22 motorcycle spaces have been provided.
	Provide 2% of the total demand generated by a development, for parking spaces accessible, designed and appropriately signposted for use by persons with disabilities.	**Complies** A total 8.5 spaces of the 424 parking spaces shall be accessible spaces. A total of 41 accessible spaces have been provided.
	1 bicycle space per 200m^2 of gross floor area. 15% of this requirement is to be accessible to visitors	**Complies** A total GFA of 31,529m^2 is provided, therefore 157 bicycle spaces (including 24 accessible to visitors) shall be provided. A total of 133 bicycle spaces are provided within the basement. It is recommended that conditions are imposed to ensure that the ground floor incorporates bikes racks for 24 bikes, which are accessible to visitors.
Section 21. Subdivision of Land and Buildings	Provisions relating to the subdivision of land.	**Not Applicable** The DA does not propose the subdivision of land.
Section 22. and Section 23 Water Conservation and Energy Conservation	New dwellings are to demonstrate compliance with State Environmental Planning Policy – Building Sustainability Index (BASIX).	**Complies** Conditions of consent will be imposed to ensure compliance with the BASIX commitments.
Section 25. Waste Disposal and Re-use Facilities	Provisions relating to waste management during construction and on-going waste.	**Complies** During Construction: A waste management plan has been submitted. Conditions of consent will be imposed to ensure that compliance with the WMP is achieved during construction.

Development Control	Provision	Comment
		On-going Waste Management: Residents will dispose their garbage in the waste chute located in a designated room on each level of each building. A room for interim storage of recyclables on each floor is provide in the interim storage area (that also house the garbage chute hopper) on each floor. The caretaker will be responsible for transferring the recyclables from the interim storage to the waste storage rooms within the basement. Bins will be brought to the interim bin holding room on the ground floor, which will be collected twice weekly.
Section 26 Outdoor Advertising and Signage	Provisions relating to signage.	**Not Applicable** The DA does not propose any signage.
Section 27. Social Impact Assessment	A comprehensive social impact assessment shall be submitted for residential flat buildings greater than 100 units.	**Complies** The application was accompanied by a comprehensive social impact assessment.

LDCP 2008 Part 4: Liverpool City Centre

Development Control	Provision	Comment
Section 2 Controls for Building Form		
Building Form	Street building alignment and street setbacks applicable to the site is a 4-4.5m landscape setback to both street frontages. The external facades of buildings are to be aligned with the streets that they front. Minor projections into front building lines and setbacks for sun shading devices, entry awnings and cornices are permissible.	<u>26 Shepherd Street:</u> **Non-compliant** The development provides a setback of 0.5m which does not comply. However, the variation is considered to be acceptable given that the setback is consistent to that of the adjoining approved building at 28 Shepherd Street. The reduced front setback and two storey building height has been provided to ensure 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. <u>28 Shepherd Street:</u> **Not applicable** The development does not propose any changes to the approved front setback of 0.6m.
Street Frontage Height	The street frontage height of buildings must comply with the minimum and maximum heights above ground level on the street front as shown in Figure 5 which requires a street frontage height to Shepherd Street of 15-20m (5-6 storeys).	<u>26 Shepherd Street:</u> **Non-compliant** The proposed development has a street frontage height of 2 storeys, which does not comply. However, the variation is considered to be acceptable, as the front portion of the development has been designed to respect the bulk, scale and height of the adjoining heritage item on 20 Shepherd Street.

Development Control	Provision	Comment
		28 Shepherd Street **Not applicable** The development does not propose any changes to the approved street frontage height of 6 storeys.
Boundary Setbacks	Side Setback: Up to 12m (i.e. ground floor to level 3): 3m non-habitable rooms 6m habitable rooms Between 12-25m (i.e. level 4 to level 7): 5.5m non-habitable rooms 9m habitable rooms Between 25-35m (i.e. level 8 to level 11): 6m non-habitable rooms 12m habitable rooms Over 35m (i.e. level 12 and above): 6m non-habitable rooms 14m habitable rooms	26 Shepherd Street Northern Side Boundary: **Non-compliant** A side setback of 5.3m is provided from ground floor to level 14, which does not achieve compliance. The variation is considered acceptable given that an appropriate level of amenity for amenity for building occupants in terms of daylight, outlook, view sharing, ventilation, wind mitigation, and privacy. Southern Side Boundary: **Complies** Not applicable, as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance. 28 Shepherd Street Northern Side Boundary: **Complies** Not applicable, as the lots will be consolidated, as such there will be no side setback, but rather a building separation distance. Southern Side Boundary: **Complies** A setback of 6.1m is provided to non-habitable rooms, which achieves compliance.
	Rear Setback Up to 12m (i.e. ground floor to level 3): 6m non-habitable rooms 6m habitable rooms Between 12-25m (i.e. level 4 to level 7): 6m non-habitable rooms 9m habitable rooms Between 25-35m (i.e. level 8 to level 11): 6m non-habitable rooms 12m habitable rooms Over 35m (i.e. level 12 and above): 9m non-habitable rooms 14m habitable rooms	26 Shepherd Street **Complies** A rear setback of 19m is provided to habitable rooms which achieves compliance. 28 Shepherd Street **Partially Non-compliant** A rear setback ranging from 11.2m to 17m is provided to habitable rooms which does not achieve compliance. The variation is considered acceptable, given that the rear setbacks are consistent with the approved setbacks of Development Consent No. DA-612/2015. Additionally, the rear setbacks do not result in any potential impact in terms of amenity, as the developments backs onto the Georges River.

Development Control	Provision	Comment
Building Depth and Bulk	500m^2 maximum floor plate sizes and depth of buildings above 25m (level 8 and above) in height for residential development.	26 Shepherd Street: **Non-compliant** The proposed development has a floor plate size of 600m^2. 28 Shepherd Street **Non-compliant** The proposed development has a floor plate size of 650m^2. The variation is considered acceptable as the development has been designed with a significant amount of the bulk of the building addressing Georges River, to preserve existing heritage values of 20 Shepherd Street. The proposal also concentrates the residential aspects in an area of greatest amenity, being the Georges River. This has resulted in a tower arrangement, which includes significant floor area above the 25m.
Mixed Use Buildings	The ground floor component of a mixed-use building is to be used for a permitted non-residential use. Provide flexible building layouts which allow variable tenancies or uses on the first floor of a building above the ground floor in the Mixed Use zone Separate commercial service requirements, such as loading docks, from residential access, servicing needs and primary outlook.	**Not Applicable** The DA is not for a mixed use development.
Deep Soil Zones	The deep soil zone shall comprise no less than 15% of the total site area. It is to be provided preferably in one continuous block but otherwise with no dimension (width or length) less than 6m.	26 Shepherd Street **Complies** 619m^2 of deep soil zones is provided at the rear which equates to 22%. 28 Shepherd Street **Complies** 1079m^2 of deep soil zones is provided at the rear which equates to 18%.
Amenity		
Pedestrian Permeability	Provisions relating to through site links.	**Not Applicable** The site is not identified as a 'through site' requiring a pedestrian link.
Front Fences	Controls relating to front fences	**Not Applicable** Front fences are not proposed.
Safety and Security	Address 'Safer-by-Design' principles to the design of public and private domain, and in all developments (including the NSW Police 'Safer by Design' crime prevention though environmental design (CPTED) principles). Ensure that the building design allows for passive surveillance of public and communal spaces,	**Complies** The proposed development is considered to be satisfactory in relation to the safer by design principles.

Development Control	Provision	Comment
	access ways, entries and driveways.	
	Avoid creating blind corners and dark alcoves that provide concealment opportunities in pathways, stairwells, hallways and car parks.	
	Maximise the number of residential 'front door' entries at ground level.	
	Provide entrances which are in visually prominent positions and which are easily identifiable, with visible numbering.	
Awnings	Wet weather protection to be provided to all entrances	**Complies** Wet weather protection is provided to all entrances.
Vehicle Footpath Crossings	No additional vehicle entry points will be permitted into the parking or service areas of development along those streets identified within the LDCP2008.	**Not Applicable** The proposed addition involves no changes to vehicle crossings.
	In all other areas, one vehicle access point only (including the access for service vehicles and parking for non-residential uses within mixed use developments) will be generally permitted.	
	Where practicable, vehicle access is to be from lanes and minor streets rather than primary street fronts or streets with high pedestrian priority routes identified in Figure 18 (marked yellow).	
	Vehicle access ramps parallel to the street frontage will not be permitted.	
	Ensure vehicle entry points are integrated into building design.	
	Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.	
Pedestrian Overpasses and Underpasses	Provisions relating to overpasses and underpasses.	**Not Applicable** No pedestrian overpasses and underpasses are proposed.
Building Exteriors	Balconies and terraces should be provided, particularly where buildings overlook public spaces. Gardens on the top of setback areas of buildings are encouraged.	**Complies** The overall building design has been reviewed by the DEP, who support the proposal.
	Adjoining buildings (particularly heritage buildings) are to be considered in the design of new buildings in terms of: - appropriate alignment and street frontage heights, - setbacks above street frontage heights, - appropriate materials and	

Development Control	Provision	Comment
	finishes selection, - facade proportions including horizontal or vertical emphasis, and - the provision of enclosed corners at street intersections.	
	Articulate façades so that they address the street and add visual interest. Buildings are to be articulated to differentiate between the base (street frontage height), middle and top in design.	
	Limit sections of opaque or blank walls greater than 4m in length along the ground floor to a maximum of 30% of the building frontage.	
	Highly reflective finishes and curtain wall glazing are not permitted above ground floor level.	
	A materials sample board and schedule is required to be submitted with applications for development over $1million or for that part of any development built to the street edge.	
	Roof top structures, such as air conditioning, lift motor rooms, and the like are to be incorporated into the architectural design of the building.	
Traffic And Access		
Pedestrian Access and Mobility	Main building entry points should be clearly visible from primary street frontages and enhanced as appropriate with awnings, building signage or high quality architectural features that improve clarity of building address and contribute to visitor and occupant amenity.	**Complies** The main entry points are clearly visible with public access provided to the foreshore.
	The design of facilities (including car parking requirements) for disabled persons must comply with the relevant Australian Standards.	**Complies** The design of the car parking facilities is in accordance with Australian Standards. The application has been reviewed by Councils Traffic and Transport Section who have responded in support, subject to conditions.
Vehicular Driveways and Manoeuvring Areas	Driveways should be: - provided from lanes and secondary streets rather than the primary street, wherever practical, - located taking into account any services within the road reserve, such as power poles, drainage inlet pits and existing street trees, - located a minimum of 10m from the perpendicular of any intersection of any two	**Not Applicable** Changes are not proposed to driveways.

Development Control	Provision	Comment
	roads, and - Located to minimise noise and amenity impacts on adjacent residential development.	
	Vehicle access is to be integrated into the building design so as to be visually recessive.	**Complies** The vehicle access is visually recessive as it is setback behind the building façade.
	All vehicles must be able to enter and leave the site in a forward direction without the need to make more than a three point turn.	**Complies** Minimum aisle widths are provided within the basement car parking area to sufficiently enable a three point turn. All vehicles will therefore be able to enter and exit the site in a forward direction.
	Design of driveway crossings must be in accordance with Council's standard Vehicle Entrance Designs, with any works within the footpath and road reserve subject to a Section 138 Roads Act approval.	**Complies** Conditions will be imposed regarding the approval of Section 138 Roads Act certificate and a driveway crossing application.
	Driveway widths must comply with the relevant Australian Standards.	**Not Applicable** Changes to the driveway widths are not proposed.
	Car space dimensions must comply with Australian Standard 2890.1..	**Complies** Car space dimensions are in accordance with AS.
	Driveway grades, vehicular ramp width/ grades and passing bays must be in accordance with the relevant Australian Standard, (AS 2890.1).	**Complies** The driveway grades, vehicular ramp width/grades are in accordance with relevant AS.
	Access ways to underground parking should be sited to minimise noise impacts on adjacent habitable rooms, particularly bedrooms.	**Complies** No habitable rooms are located adjacent to the access way.
On Site Parking	Car Parking Requirements - 1 space per one bedroom or two bedroom apartments; - 1.5 spaces per three or more bedroom units - 1 space per 10 units for visitors	**Complies** As discussed above appropriate parking facilities are provided.
	Motorcycle Car Parking Spaces - 1 motorcycle space per 20 car spaces	
	Accessible Car Parking Spaces - 2% of the total demand generated by a development.	
	Bicycle Parking - 1 bicycle space per 200m^2 of LFA.	

Development Control	Provision	Comment
	Car parking and associated internal manoeuvring areas provided over and beyond that required by the LDCP 2008 is to be calculated towards gross floor area.	**Not Applicable** Surplus of parking is not provided.
	Car parking above ground level is to have a minimum floor to ceiling height of 2.8 so it can be adapted to another use in the future.	**Not Applicable** Above ground parking is not provided.
	Onsite parking must meet the relevant Australian Standards	**Complies** Subject to conditions.
	Onsite parking for residential flat buildings (or residential flat building component of a mixed use development) is to be wholly in basement parking unless Council is satisfied that unique site conditions prevent achieving all parking in basements. Council may require provision of a supporting geo-technical report or other supporting documentation, prepared by an appropriately qualified professional as information to accompany a development application to Council	**Complies** On-site parking is provided within the basement levels.
	The impact of any on grade car parking must be minimised by: - Locating parking on the side or rear of the lot, away from the street frontage - Provision of fencing or landscaping to screen the view of cars from adjacent streets and buildings - Incorporating car parking into landscape design of the site (such as plantings between parking bays to improve views, selection of paving material and screening from communal and open space areas)	**Not Applicable** On grade parking is not provided.
	Natural ventilation should be provide to underground parking areas, where possible, with ventilation grills and structures: - Integrated into the overall façade and landscape design of the development - Not located on the primary street façade and - Oriented away from windows of habitable rooms and private open space areas	**Not Applicable** Above ground parking is not provided.
Environmental Management		

Development Control	Provision	Comment
Energy Efficiency and Conservation **Water Conservation**	New dwellings are to demonstrate compliance with SEPP (BASIX), 2004	**Complies** The proposal is accompanied by a BASIX Certificate which is consistent with the aims and intent of the SEPP (BASIX), 2004. It is recommended that conditions are imposed to ensure compliance with the BASIX commitments.
Reflectivity	New buildings and facades should not result in glare that causes discomfort or threatens safety of pedestrians or drivers.	**Complies** The development uses materials which are unlikely to cause any significant light reflectivity.
	Visible light reflectivity from building materials used on the facades of new buildings should not exceed 20%.	
	Subject to the extent and nature of glazing and reflective materials used, a Reflectivity Report that analyses potential solar glare from the proposed development on pedestrians or motorists may be required	
Wind Mitigation	To ensure public safety and comfort, the following maximum wind criteria are to be met by new buildings: - 10m/second in retail streets, - 13m/second along major pedestrian streets, parks and public places, and - 16m/second in all other streets.	**Complies** The application was accompanied by Wind Assessment Report and was considered acceptable, subject to recommendations.
	Site design for tall buildings (towers) should: - set tower buildings back from lower structures built at the street frontage to protect pedestrians from strong wind downdrafts at the base of the tower, - ensure that tower buildings are well spaced from each other to allow breezes to penetrate city centre, - consider the shape, location and height of buildings to satisfy wind criteria for public safety and comfort at ground level, and - ensure useability of open terraces and balconies.	
	A Wind Effects Report is to be submitted with the DA for all buildings greater than 35m in height.	
	For buildings over 48m in height, results of a wind tunnel test are to be included in the report	

Development Control	Provision	Comment
Noise	An acoustic report is required for all noise affected locations, as identified in figure 25. Sites adjacent to noise sources identified in figure 25 are to be designed in a manner that any residential development is shielded from the noise source by virtue of the location and orientation of built form on the site.	**Complies** An acoustic report was submitted due to the sites proximity to the railway line. As demonstrated within the Acoustic Report, the dwellings will be able to achieve compliance with the noise criteria, subject to noise mitigation measures.
Waste	Provisions must be provided for the following waste generation: - General waste: 120L/week/dwelling. - Recycling: 120L/week/dwelling - Green waste: a communal waste bin of sufficient capacity to accept waste from landscape areas.	**Complies by way of condition.** The application was accompanied by a waste management plan prepared by Elephants Foot Pty Ltd The following is a summary of the waste management for the development: - Each level has a service room with a chute hopper inlet for depositing wastes and recyclables; - Garbage and recycling will be collected twice weekly; - Garbage will be compacted using a static compaction machine at a ratio of 2:1. Recycling is not compacted; - Five waste storage rooms are provided within the basement for the storage of the MGB's and to house the static compaction unit. The rooms have a total area of approximately 160m^2. The waste storage rooms will also allocate space for the storage of bulky items. - MGB's of 660L will be utilised; - A loading bay is provided on the ground floor for the temporary storage of waste, awaiting collection. Prior to collection, MGBs will be moved to the loading area via a waste hoist/elevator. - Collection will be provided by a contactor/or Council. The waste management plan was reviewed by Council's Waste Management Officer, who did not support the application, as waste generation was based on 80L per unit/week. Additionally, concerns were raised if the loading bay on the ground floor was capable of accommodating a garbage truck. As per Council's Waste Management Services for RFBs and MUD Housing Fact Sheet waste and recycling generation rate is 120L per unit/week. Based on this requirement, the following bins will be required for the development: - 17 x 660L garbage bins; and - 34 x 660L recycling bins. It is recommended that a condition of consent is imposed to ensure the submission of a revised waste management plan to address Council's requirements as listed in the Waste Management Services for RFBs and MUD

Development Control	Provision	Comment
		Housing Fact Sheet. As discussed further in this report the Traffic and Parking Assessment Report confirms that loading bay as approved under DA-612/2015 is capable of accommodating a 9.9m long refuse collection vehicle.
	Commercial Premises Note: The LDCP 2008, does not contain provisions for waste generation relating to commercial tenancies. As such, the *Better Practice Guide for Waste Management 2008* developed by the Department of Environment and Climate Change NSW has been used as a guide. The average waste generation rate is: Garbage generation of 200L/100m^2 floor area/day Recycling generation of 40L/100m^2 floor area/day	**Not Applicable**
	In a development of more than six dwellings or where the topography, or distance to the street makes access difficult for individual occupants, a collection and storage area is required. The storage area must be located in a position which is: - Not visible from the street - Easily accessible to dwelling occupants - Accessible by collection vehicles (or adequately managed by the body corporate to permit relocation of bins to an approved collection point), - Has water and drainage facilities for cleaning and maintenance; and - Does not immediately adjoin private open space, windows or clothes drying areas	**Complies** The following comments are made: - The waste storage area will not be visible from the street. - It is easily accessible for dwelling occupants. - The storage area will be managed by the body corporate - Water facilities can be conditioned. - The waste storage area does not immediately adjoin private open space, windows or clothes drying areas.
	The size and number of the waste bins shall be determined having regard to the need for either on-site access by collection vehicles or the requirement for bins to be wheeled to the street for collection by a contractor. If transferred to the street for collection. The body corporate or a caretaker will be responsible for the movement of bins to their collection point.	**Complies** On-site access for waste collection vehicles will be provided via the driveway accessed off Shepherd Street, which was approved under DA-612/2015

Development Control	Provision	Comment
Floodplain and Water Cycle Management	The following controls apply to development that is located within Council's identified floodplain. (Note: site specific investigations will need to be undertaken by proponents): The habitable floor level of all dwellings is to be at least 0.5m above the 1% flood level.	**Complies** This aspect has been reviewed by Council's Floodplain Engineer who has raised no issue subject to conditions.
	All services associated with the development are to be either flood proofed or located at least 0.5m above the 1% flood level.	
	Development is to comply with Council's adopted Floodplain Management Studies and Plans for relevant catchments such as Georges River, Cabramatta Creek and the city centre.	
	Development is to comply with the NSW Government's current Floodplain Management Manual	
	Development is not to make flooding any worse than existing conditions and demonstrate any mitigation measures for changes in floodplain, such as loss of flood storage.	
	Any SEE submitted with an application shall identify the flood impact and risk of flooding to residents as a result of the development. The Statement is to assess the development by considering the primary objective of the NSW Government's Flood Prone Land Policy, that is: *"to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecologically positive methods wherever possible."*	
	Development is to provide effective flood access and evacuation routes from flood prone areas. The routes shall: - Remain accessible for sufficient period of time to evacuate people and possessions. - Consider both pedestrian and vehicular access - Consider access and evacuation during extreme flood up to and including PMF.	
	Any basement car parking area is to be protected from inundation by	

Development Control	Provision	Comment
	flood equal to or greater than the 1% flood.	
	The driveway providing access between the road and on-site car parking spaces must be provided at a level that minimises risk to persons and vehicles during floods.	
	Any car parking areas that are at a level below the 5% flood level or more than 0.8m below the 1% flood level shall have appropriate warning systems and signs to assist in safe evacuation.	
	All exits from car parking areas shall be located such that pedestrian evacuation paths provide safe travel routes to a place of refuge above the PMF.	
Sewage Treatment Plant	Development within 400m of the Schrivener Street Sewage Treatment Plant needs to be referred to Sydney Water for assessment.	**Not Applicable** The site is not within 400m of the STP.
Controls for Residential Development		
Housing Choice Mix	To achieve a mix of living styles, sizes and layouts within each residential development, comply with the following mix and size: - studio and one bedroom units must not be less than 10% of the total mix of units within each development; - three or more bedroom units must not to be less than 10% of the total mix of units within each development, and	**Complies** The apartment mix is as follows: - 9 x studios and 144 x 1 bedroom units equates to 41% - 184 x 2 bedroom units equates to 49%; and - 36 x 3 bedroom units equates to 10%
	For smaller developments (less than six dwellings) achieve a mix appropriate to the locality.	**Not Applicable**
	For development built by (or on behalf of) the Department of Housing, an alternative mix of unit types may be approved, subject to housing needs being demonstrated by the Department.	**Not Applicable** The development will not be built by the Department of Housing.
	For residential flat buildings and multi-unit housing, 10% of all dwellings (or at least one dwelling – whichever is greater) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes “pre-adaptation” design details to ensure visitability is achieved.	**Complies** A minimum of 37 units are required to be adaptable. A total of 38 adaptable units are proposed which have been designed to be capable of adaptation, when required in accordance with Australian Standards.

Development Control	Provision	Comment
	Where possible, adaptable dwellings shall be located on the ground floor, for ease of access. Dwellings located above the ground level of a building may only be provided as adaptable dwellings where lift access is available within the building. The lift access must provide access from the basement to allow access for people with disabilities.	**Complies** Adaptable units are provided throughout various levels of the buildings. However, this is considered acceptable given that lift access is provided from the basement to the adaptable units on each level.
	The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Adaptable Housing Standard (AS 4299-1995).	**Complies** An access report (refer to attachment 18) was submitted with the application which confirms that the adaptable units are capable of being modified, when required by the occupant, to comply with the AS 4299-1995.

6.4 Section 79C(1)(a)(iiia) - Any Planning Agreement or any Draft Planning Agreement

As discussed earlier within this report, a VPA applies to the Shepherd Street precinct as identified in Figure 5. The VPA specifies certain contributions in the form of monetary contributions and works contribution to be undertaken during the redevelopment of the precinct. Some of these contributions include:

- Provision of bike share pods
- Monetary contributions for local and regional traffic infrastructure;
- Bank stabilisation works;
- Works associated with the provision of a boardwalk and viewing platform along the river;
- Pedestrian and cycle pathway upgrade works; and
- Works associated with the rehabilitation of the riparian zone.

Conditions of consent will be imposed to ensure compliance with the VPA is achieved.

A copy of the VPA is attached to this report.

6.5 Section 79C(1)(a)(iv) – The Regulations

The Environmental Planning and Assessment Regulations 2000 requires the consent authority to consider the provisions of the Building Code of Australia. If approved appropriate conditions of consent will be imposed requiring compliance with the BCA.

6.6 Section 79C(1)(a (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

There are no Coastal Zones applicable to the subject site.

6.7 Section 79C(1)(b) – The Likely Impacts of the Development

(a) Natural and Built Environment

(i) Built Environment

The impacts of the development on the built environment have been assessed and the development is considered to be acceptable and unlikely to cause any adverse impact to the built environment. Consideration has been given to site specific and broader issues such as, but not limited to traffic and access. Further discussion on this issue is provided below:

Traffic Impact

The traffic impacts of the development have been carefully considered in consultation with Council's Traffic Engineers, the RMS and the applicants Traffic and Parking Assessment Report. Consideration has also been given to the RMS Guide to Traffic Generating Development and the LDCP 2008.

Traffic Generation and Impact

An indication of the potential traffic generation of the proposed development is provided by the RMS Guide to Traffic Generating Development 2002. Based on the traffic generation rates specified in the RMS Guide to Traffic Generating Development 2002, of 0.29 vehicle trips per hour (vtph), the proposed development, is expected to generate 108 vehicle movements during the peak hour.

A cumulative traffic impact analysis of the existing, proposed and future development with the Shepherd Street precinct has been undertaken and indicates that the overall development of the precinct will have an impact on Council's local and RMS classified road network and improvement measures are required to minimise these impacts. The RMS also raised concerns that the Shepherd Street precinct has limited access to the main road network and that the signalised intersection of Terminus Street, Newbridge Road and Speed Street are already at capacity and additional traffic volumes at this location will result in an increase in congestion and delays with the majority residents of the Shepherd Street precinct accessing their homes via this intersection.

Based on the results of a Liverpool City Centre Traffic Study and a Shepherd Street Precinct Traffic Study, Council and the RMS have identified required improvements and monetary contributions to minimise the wider local and classified road network. These monetary contributions for local and regional road improvements form part of the VPA.

In addition to the contributions as outlined in the VPA, and in order to address the concerns raised by the RMS, Council have identified that the following local intersection improvement works will be required to be undertaken as part of the proposed development:

These include:

- Modification to the south-eastern corner of the existing signalised intersection of Terminus Street, Newbridge Road and Speed Street to permit right turn and left turn movements simultaneously;
- The provision of a roundabout at the intersection of Shepherd Street and Atkinson Street; and
- The provision of a roundabout at the intersections of Speed Street, Shepherd Street and Mill Road.

The above intersection improvement works will be enforced through a condition of consent.

Council's Traffic Engineers have reviewed the Traffic and Impact Assessment Report and have recommended approval of the application, subject to conditions.

Servicing Arrangements

Swept path analyses have been undertaken to ensure that the largest vehicle expected to access the site (a 9.9m long refuse collection vehicle, in accordance with the specifications for a rear-loading vehicle in Council's Implementation Note 2 : 2014 - Changes to Waste Management Services for residential flat buildings) can be accommodated.

The vehicle tracking diagram as shown below in figure 24 demonstrates that a vehicle of this size would be able to enter the site from Shepherd Street, travel towards the servicing area using the internal roadway along the southern site boundary, reverse into the loading bay for servicing / refuse collection, and then exit the site in a forward direction.

In summary, the proposed servicing and refuse collection arrangements are considered appropriate given the nature and scale of the proposed development.

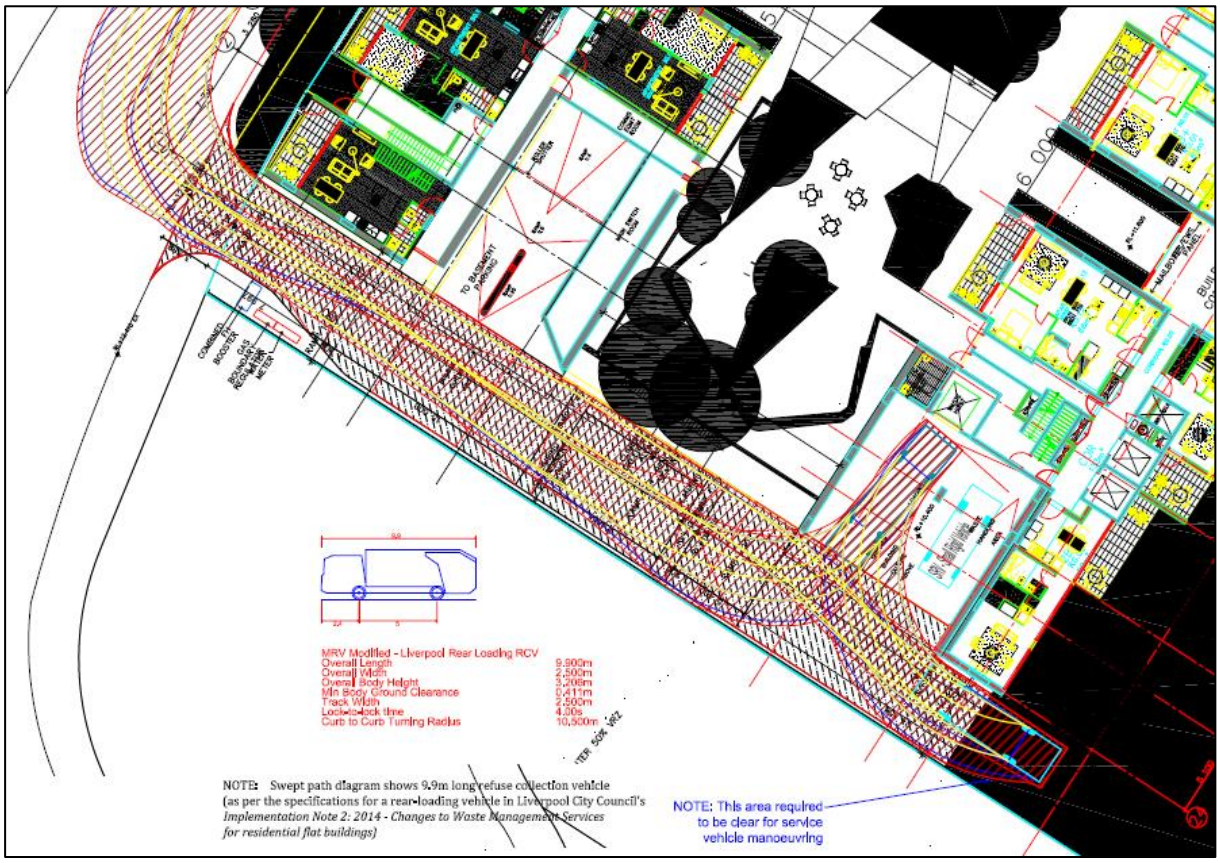

Figure 24 – Vehicle swept path for the refuse collection vehicle

(ii) Natural Environment

The impacts of the development on the natural environment have been assessed and the development is considered to be acceptable and unlikely to cause any adverse impact to the natural environment. Consideration has been given to flora/fauna and the riparian zone. Discussion of these issues are provided below

Flora and Fauna

26 and 28 Shepherd Street are identified as containing the potential for threatened flora and fauna species. A Flora and Fauna Assessment for 26 Shepherd Street was undertaken. It is noted that a Flora and Fauna Assessment for 28 Shepherd Street was undertaken as part of Development Consent No. DA-612/2015 and was considered acceptable.

The Flora and Fauna Assessment for 26 Shepherd Street concluded that 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 recoded within 1km of the site; an individual Swift Parrot in 1996 and a Little Lorikeet in 2014. No habitat exists within the subject site that would potentially attract either of these species.

It was concluded that the site did not contain any potential for threatened flora and fauna species.

Riparian Zone

Northrop was engaged to provide advice regarding to the Riparian Zone delineation and rehabilitation. The purpose of the assessment was 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 under Development Consent No .DA-612/2016, 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 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.

The subject proposal forms part of the overall Shepherd Street Precinct redevelopment, and as such Northrop expanded 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. 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 901m^2 surplus of land that is offset.

The NSW DPI – Water have reviewed this aspect of the development and have provided their concurrence through the issuing of General Terms of Approval.

(b) Social Impacts and Economic Impacts

The development is considered to result in a positive social impact by facilitating a feasible and well residential within the City Centre in close proximity to services and public transport.

The development will result in a positive economic impact, through employment opportunities will also be generated through the construction of the development and the on-going maintenance of the building.

6.8 Section 79C(1)(c) – The Suitability of the Site for the Development

The site and locality are identified for future high density urban development. The proposed development is in keeping with the zones objectives and is compatible with the anticipated future character within the Liverpool City Centre.

There are no significant natural or environmental constraints that would hinder the proposed development, and accordingly the site is considered suitable for the proposed development.

6.9 Section 79C(1)(d) – Any submissions made in relation to the Development

(a) Internal Referrals

The following comments have been received from Council's Internal Departments:

Department	Comments
Building	Supported, subject to conditions.
Engineering	Supported, subject to conditions.
Health and Environment	Supported, subject to conditions.
Heritage Advisor	Supported, subject to conditions.
Traffic and Transport	Supported, subject to conditions.
Flooding	Supported, subject to conditions.
Sustainable Environment	Supported, subject to conditions.
Waste Management	Conditions of consent will be imposed to ensure compliance with the comments provided by Council's Waste Management Officer.

(b) External Referrals

The DA was referred to the following external Public Authorities for comment:

Authority	Comments
NSW DPI Water	Application supported, subject to General Terms of Approval.
Sydney Water	Application supported, subject to recommendations.
Endeavour Energy	Application supported, subject to recommendations.
RMS	Application supported, subject to recommendations.
Bankstown Airport	No comments received to date.
Care flight	No comments received to date.
Air Ambulance	No comments received to date.

(c) Community Consultation

The application was advertised for period of 30 days from 29 March 2017 to 3 May 2017. No Submissions have been received.

6.8 Section 79C(1)(e) – The Public Interest

The proposed development is consistent with the zoning of the land and would represent a high quality development for Liverpool. The development provides additional housing opportunities within close proximity to employment opportunities and public transport.

In addition to the social and economic benefit of the proposed development, it is considered to be in the public interest.

7 SECTION 94 CONTRIBUTIONS

Section 94 contributions have been levied in accordance with the Liverpool Contributions Plan 2007 – Liverpool City Centre, which is based on 2% of the cost of development.

8 CONCLUSION

In conclusion, the following is noted:

- The subject Development Application has been assessed having regard to the matters of consideration pursuant to Section 79C of the Environmental Planning and Assessment Act 1979 and is considered satisfactory.

- The Development Application seeks development consent for a high density residential development at 26 and 28 Shepherd Street, Liverpool.

- The proposal is consistent with consistent with the Urban Design Report prepared with the Planning Proposal.

- The proposal is consistent with the objectives of the R4 – High Density Residential zone that are applicable to the site under the LLEP 2008.

- The proposal substantially complies with the provisions of the LDCP 2008. There are variations proposed to some controls, however these are considered acceptable on merit.

- The proposal provides an appropriate response to the site's context and satisfies the SEPP 65 design principles and the requirements of the ADG. The scale and built form is consistent with the desired future character of the area that is envisaged under the LLEP 2008 and LDCP 2008.

It is for these reasons that the proposed development is considered to be satisfactory and the application is recommended for approval, subject to conditions.

9 ATTACHMENTS

1. Architectural Plans and Landscape Plans
2. Stormwater Drainage Plan and Report
3. Recommended Conditions of Consent
4. Statement of Environmental Effects
5. LDCP 2008 Compliance Table
6. Clause 4.6 Variation
7. SEPP 65 Verification Statement, ADG Design Principles and ADG Compliance Table
8. Acoustic Reports
9. Remediation Action Plan
10. Archaeological Survey Report
11. Heritage Impact Statement
12. Wind Assessment Report
13. Traffic Impact Assessment
14. Flora And Fauna And Riparian Report
15. Riparian Assessment Report
16. Waste Management Plan
17. Social Impact Assessment
18. Access Report
19. Geotechnical Report
20. Acid Sulphate Soils Letter
21. Basix Compliance Report
22. Voluntary Planning Agreement
23. SWCPP Briefing Minutes
24. Design Excellence Panel Comments
25. Urban Design Report
26. Addendum to the Remediation Action Plan
27. Addendum to the Geotechnical Report