



1-5 Chester Street Annandale Urban Design Report

prepared for Britely Property

20th September 2017

1.0 Introduction

This Urban Design Report has been prepared by ae design partnership to support a Planning Proposal for renewal of the site No. 1-5 Chester Street Annandale. The site is located within the Camperdown Precinct of the Parramatta Road Corridor Urban Transformation Strategy 2016 (PRCUTS 2016), prepared by Urban Growth NSW. The Strategy has been adopted by NSW Government and is given statutory force by Ministerial Direction under Section 117 of the Environmental Planning and Assessment Act 1979 NSW (Pg 6, 9, 19, 75 of the PRCUTS 2016).

The local area currently comprises a mix of architectural styles including heritage items, terrace houses, light industrial warehouses and contemporary residential flat buildings.

Consistent with the PRCUTS 2016, the Planning Proposal proposes a residential flat building on the site and seeks to modify the current zoning, floor space ratio and building height controls under the Leichhardt Local Environmental Plan 2013.

The Urban Design Report includes a building envelope prepared by ae design partnership for the purpose of testing the planning controls proposed by the PRCUTS 2016. ae design partnership has identified a mismatch between the maximum permissible building height and floor space ratio controls proposed within the PRCUTS 2016. The proposal also includes a contribution to affordable housing and 2 X SOHO Apartments providing space for up to 8 workers replacing the 4 existing workers on site.

The desired future character of the area includes medium to high density residential proposals of a light industrial warehouse character, built to the street alignment with a predominant building height of 5 storeys or higher.

The building envelope prepared by ae design partnership matches the above mentioned desired future character, whilst achieving a floor space ratio of 2.6 : 1, greater than a floor space ratio of 1.5 : 1 proposed under the PRCUTS 2016.

The proposal is consistent with all other planning and design controls identified within the PRCUTS 2016.

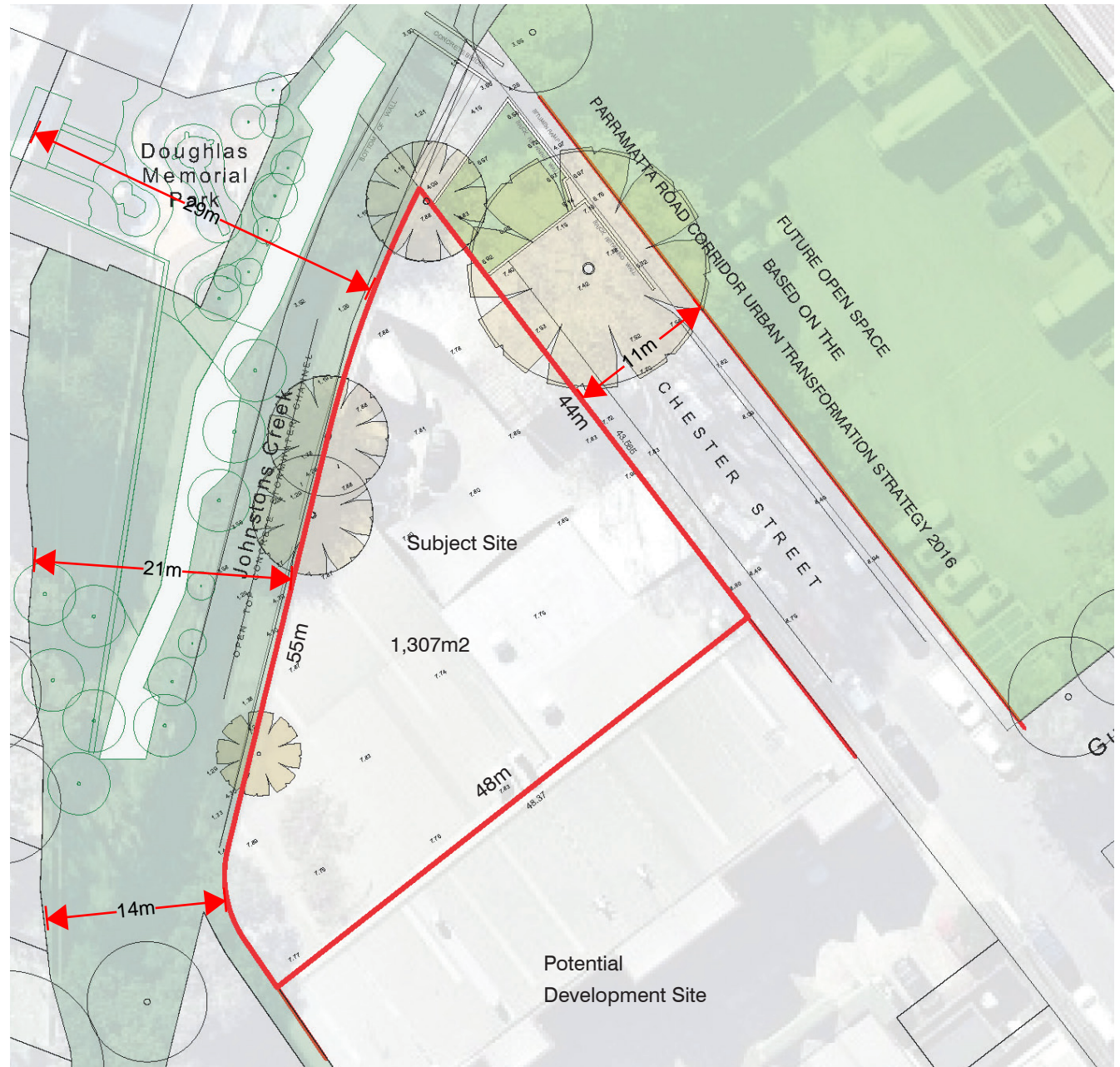


Figure 1: Site Location - No. 1-5 Chester Street Annandale NSW

2.0 Strategic Context

2.1 Greater Sydney Commission:

The Planning Proposal can benefit from the Greater Sydney Commission's Draft Central District Plan's direction related to Central City and the Camperdown-Ultimo precinct.

Some of the vision, priorities and actions outlined for the Central District and provide guidelines to this project are as following:

- Plan for the growth of Camperdown-Ultimo as a Health and Education Super Precinct;
- Identify opportunities to create the capacity to deliver 20-year strategic housing supply targets with councils to increase housing capacity, diversity and housing choice across the District;
- Independently assess need and viability for an increase in affordable housing; and
- Increase affordable rental housing by providing guidance on the housing targets.

There will be an expected population growth of 325,000 by 2036, this comprises an additional 21% more babies and pre-schoolers, 41% more 5-19 year olds, an increase of 90,150 in persons 65 years or greater and 102% more at an age of 85+

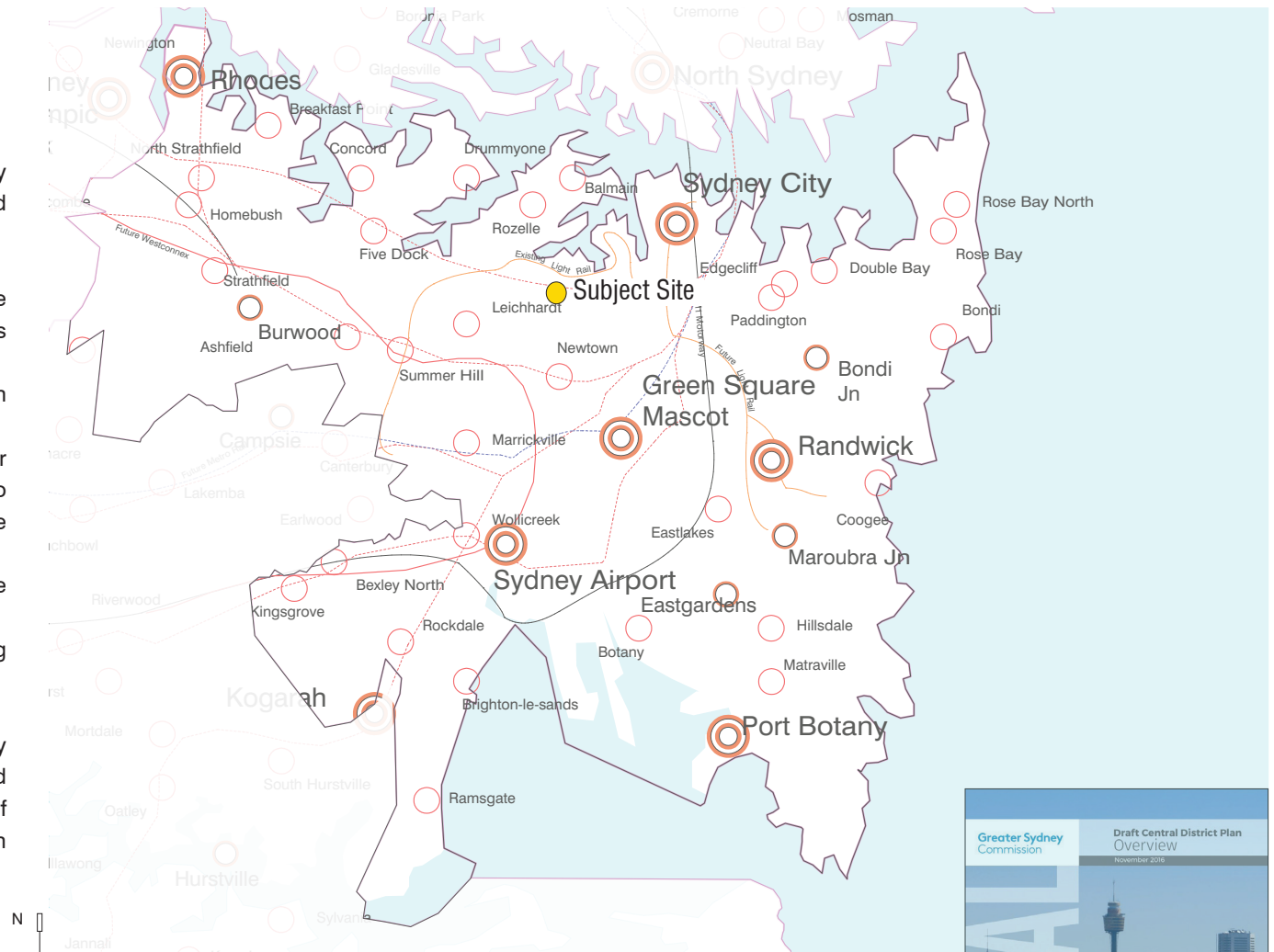


Figure 2: Site location within the Greater Sydney Commission's Central Sydney District

- Strategic Centres
- District Centres
- Local Centres



2.2 Camperdown-Ultimo Precinct within the Greater Sydney Commission

Camperdown-Ultimo is one of the 9 precincts within the Sydney Strategic Centre identified by the Greater Sydney Commission. The precinct has been identified as a Health and Education super Precinct with the vision for a high quality multi-use Corridor with improved transport choices, better amenity and balanced growth of housing and jobs. This will guide the delivery of 27,000 new homes and 50,000 new jobs in a range of industries across the Corridor over the next 30 years.

The Greater Sydney Commission & Parramatta Road Corridor Urban Transformation Strategy 2016:

- The Greater Sydney Commission refers to the Parramatta Road Corridor Urban Transformation Strategy 2016 prepared by Urban Growth NSW.
- The Greater Sydney Commission has set direction for local councils, including the Inner West Local Government Area to increase the housing capacity across the District and to implement the Parramatta Road Corridor Urban Transformation Strategy 2016 (*Action L3: Greater Sydney Commission - Draft Central District - P97*).
- The Strategy has been adopted by the NSW Government and is given statutory force by Ministerial Direction under Section 117 of the Environmental Planning and Assessment Act 1979 (NSW).

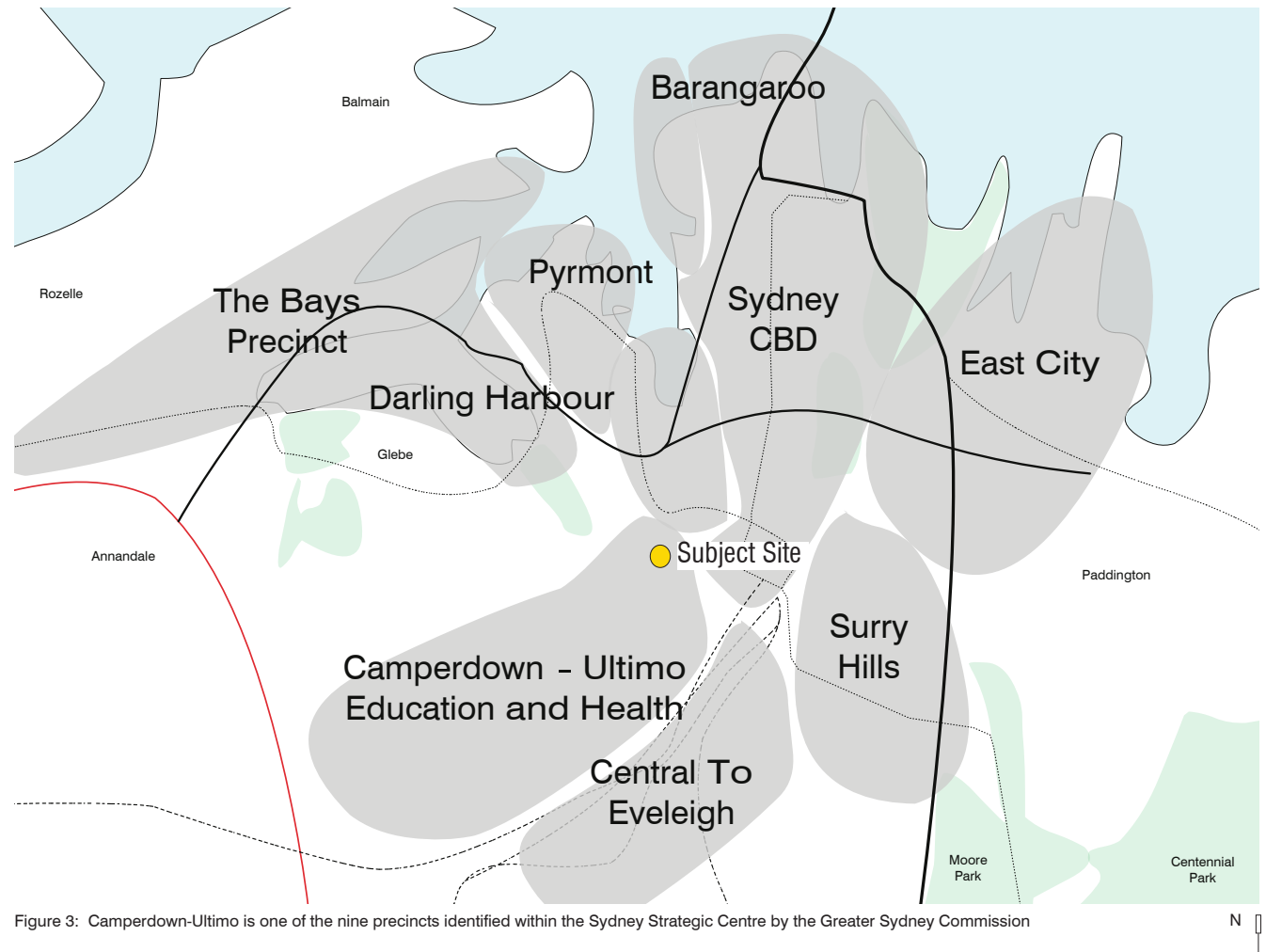


Figure 3: Camperdown-Ultimo is one of the nine precincts identified within the Sydney Strategic Centre by the Greater Sydney Commission

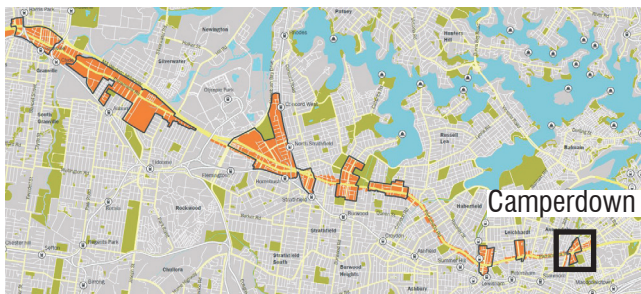
2.3 Parramatta Road Corridor Urban Transformation Strategy 2016

The Parramatta Road Corridor Urban Transformation Strategy prepared by Urban Growth NSW provides a long-term vision and framework to support co-ordinated employment and housing growth in the Corridor response to a significant shift anticipated in Greater Sydney.

The site is located within the Camperdown Precinct. There is little amenity for pedestrians, cyclists and residents and businesses function in a challenging environment.

The Strategy provides development guidance and a framework for a population growth of 1,400 new people before 2050, 700 new homes and 2,300 new jobs within the Camperdown precinct. The key actions applicable to the site are identified in 2.4 Camperdown Precinct.

The site is located at the north-western edge of the precinct, adjacent to Johnstons Creek and the Annandale Heritage Conservation Area located further to west of the Creek.



Location Plan for the Parramatta Road Corridor Urban Transformation Strategy 2016 showing the Camperdown Precinct

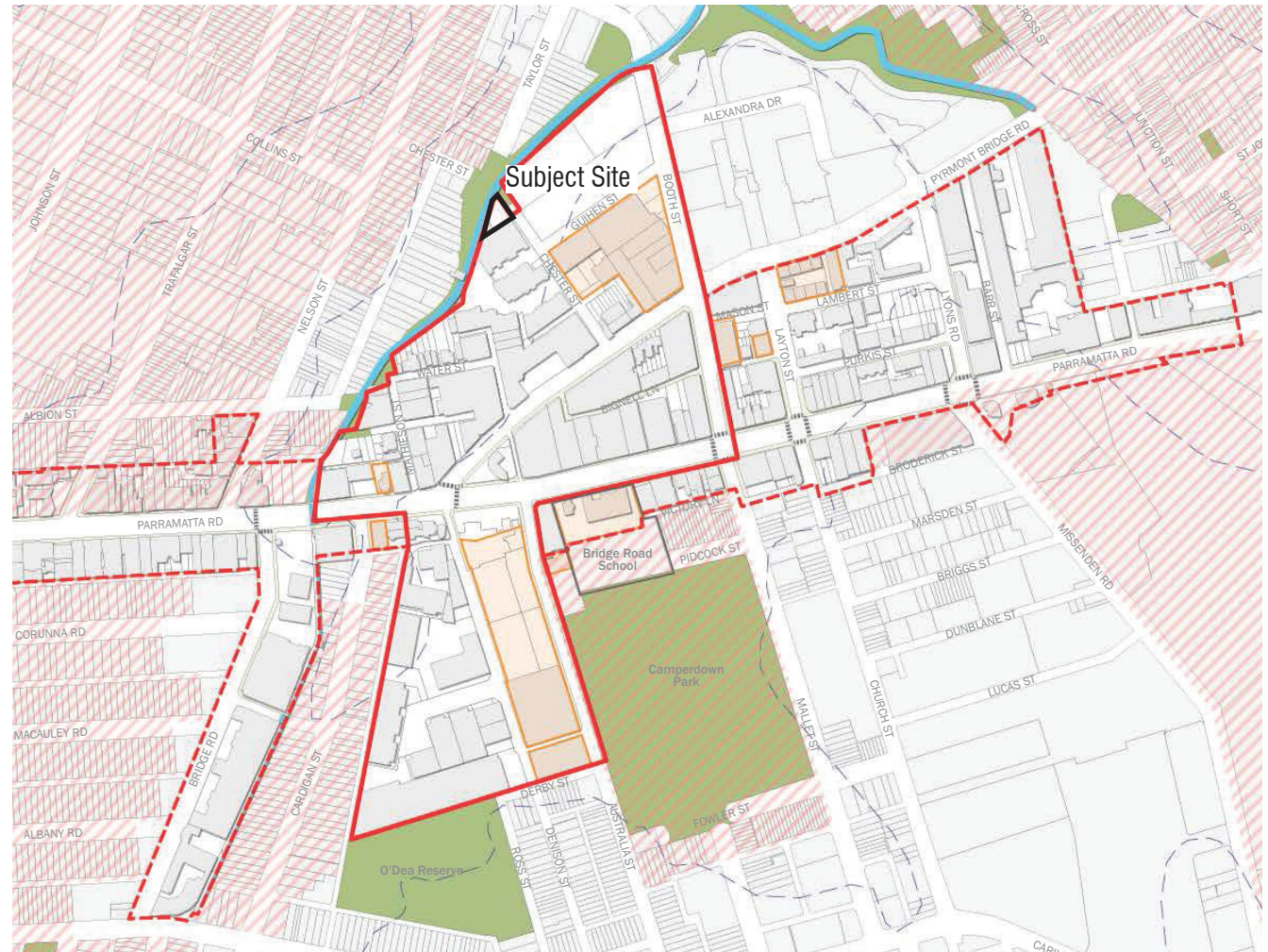


Figure 4: Camperdown is one of the precincts identified within the Parramatta Road Corridor Urban Transformation Strategy 2016

- Precinct Boundary
- - - Frame Boundary
- Accessible Open Space
- Waterway
- Existing Building Footprint
- Pedestrian Crossing
- Heritage
- Conservation Area
- - - Contour

The key actions for Camperdown Precinct from the Parramatta Road Corridor Urban Transformation Strategy 2016 include:

- Focus residential development on students, key workers, and affordable housing;
- Formalise Parramatta Road as a vibrant street and Pyrmont Bridge Road as a place for active transport, with low-priority given to additional private vehicle movements;
- Adapt, retain and celebrate the existing industrial heritage;
- Create streets that connect residents and workers to small, diverse, local and regional open spaces;
- Prioritise works to complete the Johnstons Creek green corridor, connecting the Precinct to the Bicentennial Parklands and the harbour foreshore walks; and
- Provide new cycle routes along Johnston's Creek, Mathieson Street, Chester Street and Guihen Street to improve connections with other cycleways.

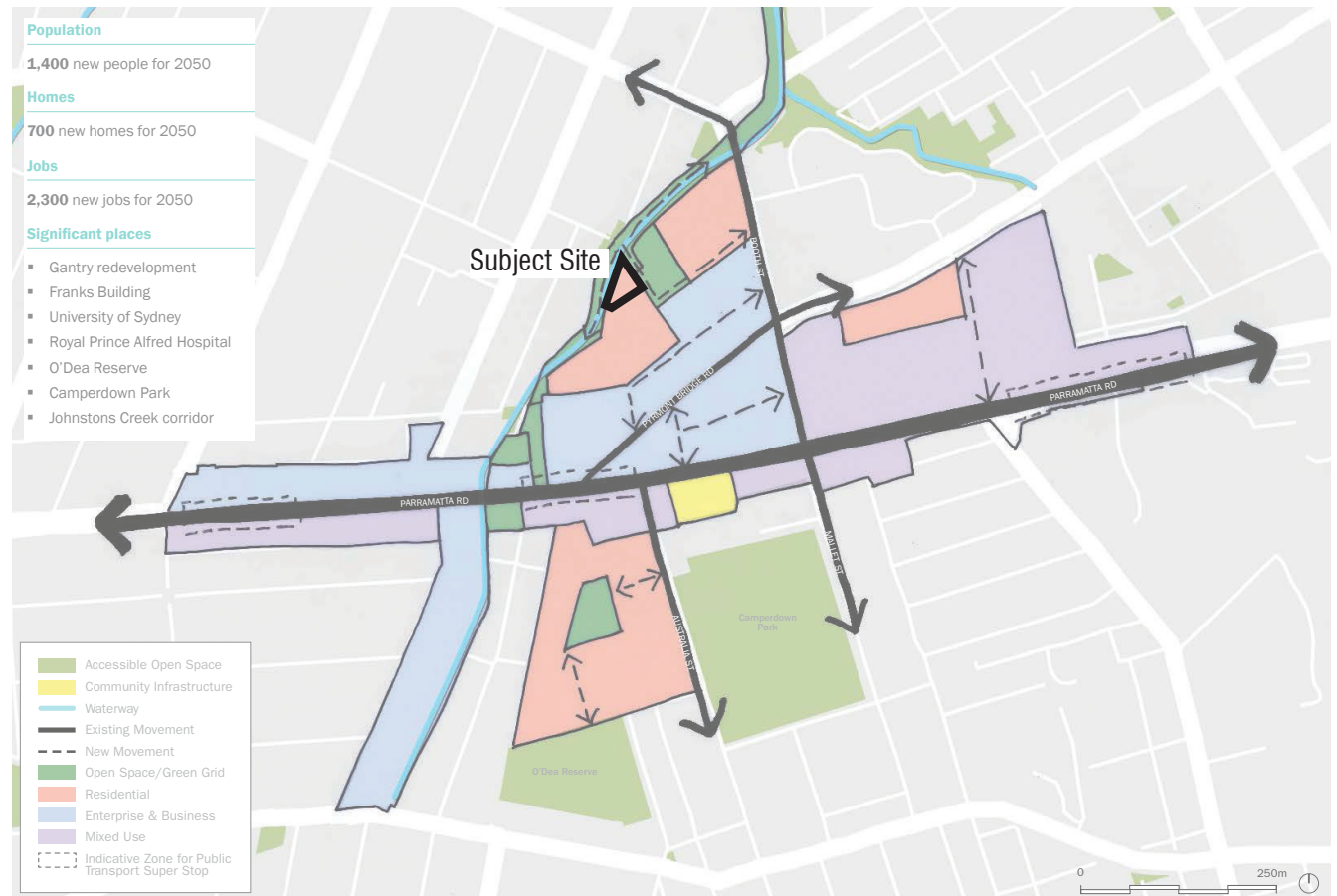


Figure 5: Key actions for the Camperdown Precinct based on the Parramatta Road Corridor Urban Transformation Strategy 2016

3.0 Planning Context

Draft Central District Plan (Greater Sydney Commission 2016):

The Draft Central District Plan seeks to support the growth of housing and innovative creative industries specifically the new creative economy and smart logistics.

Parramatta Road Corridor Urban Transformation Strategy 2016 - Planning & Design Guidelines:

The Parramatta Road Corridor Urban Transformation Strategy 2016 proposes a R3 Medium Density Residential Zone for the site with a maximum permissible floor space ratio of 1.5 : 1 and with a building height control of 17m.

Section 117 Directions:

A Planning Proposal is prepared based on the Section 117 Direction to rezone the current zoning, floor space ratio and building height controls within the LLEP 2013. The Planning Proposal provides an assessment of the proposed zoning, floor space ratio, height and other controls against the PRCUTS 2016.

Leichhardt Local Environmental Plan 2013:

The site is currently zoned IN2 Light Industrial within the Leichhardt Local Environmental Plan 2013 with a maximum permissible floor space ratio of 1.0 : 1 and without a building height control (Annexure Refers).

Parramatta Road Corridor Urban Transformation Strategy 2016 - Proposed Controls:

PRCUTS 2016 Zoning:

The site is zoned R3 Medium Density Residential in the Parramatta Road Corridor Urban Transformation Strategy 2016.

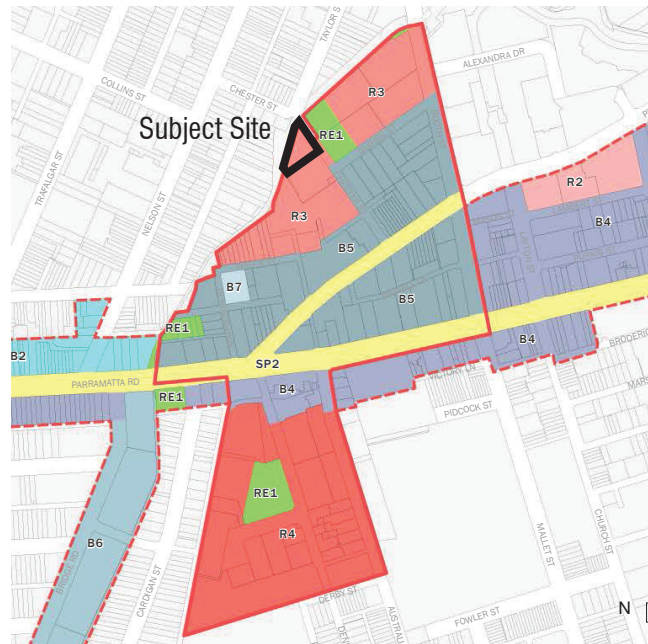


Figure 6: PRCUTS 2016: Zoning

R2	Low Density Residential
R3	Medium Density Residential
R4	High Density Residential
B2	Local Centre
B4	Mixed Use
B5	Business Development
B6	Enterprise Corridor
B7	Business Park
SP2	Infrastructure
RE1	Public Recreation

PRCUTS 2016 Floor Space Ratio:

The site has a floor space ratio of 1.5:1 as per the Parramatta Road Corridor Urban Transformation Strategy 2016.

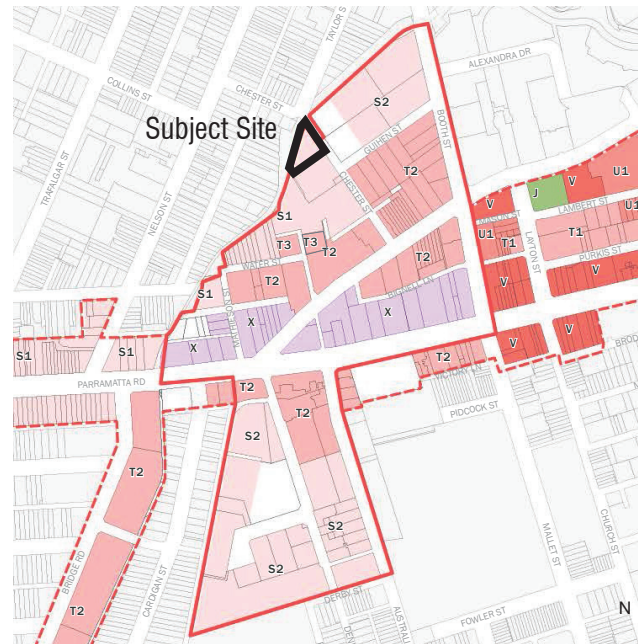


Figure 7: PRCUTS 2016: FSR

J	0.8:1
S1	1.5:1
S2	1.6:1
T1	2.0:1
T2	2.1:1
T3	2.2:1
U1	2.5:1
V	3.0:1
X	4.0:1

PRCUTS 2016 Height of Buildings:

A building height of 17m applies to the site based on the Parramatta Road Corridor Urban Transformation Strategy 2016.

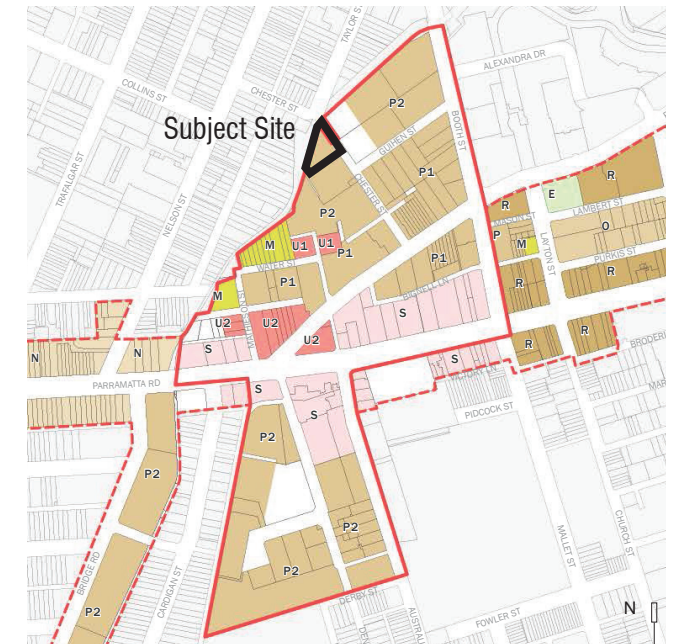


Figure 8: PRCUTS 2016: Height of Buildings

E	6m
M	12m
N	14m
O	15m
P1	16m
P2	17m
P3	18m
R	22m
S	24m
U1	30m
U2	32m

Staging, Opportunity & Constraints

The PRUTS Implementation Plan 2016-2023 and WestConnex:

The PRUTS indicates a release area for 2016-2023 as shown below. Since the finalisation of the PRUTS, we understand Government has moved to compulsorily acquire several sites that combine to consume a large component (over 1 Hectare) of this '2016-2023' stage of the precinct (over 40,000m2 of proposed B5 Business Enterprise developable GFA). This is for the purpose of constructing the Westconnex (Dive Site only, not for any on/off ramps) and will therefore significantly impact on the timeframe of delivering the Vision of this precinct as outlined for this stage in the PRUTS.

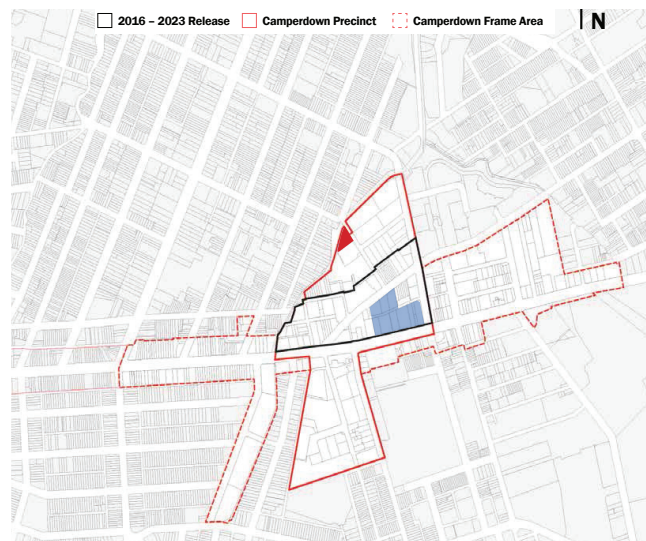


Figure 9: Subject Site and the WestConnex Construction Dive-Site shown with the Camperdown Action Plan 2016-2023

- Site
- Camperdown Precinct
- Camperdown Frame Area
- 2016-2023 Release
- WestConnex Construction Dive Site

Strata Land Holdings:

It is worth noting the significant amount of existing Strata Land Holdings within the PRUTS Camperdown Precinct frame area. In particular, strata land located in close proximity to the Subject Site being: 17 Chester St, 21-29 Chester St, and 1 Water St Annandale. As described in the PRUTS, these neighbouring strata land holdings have a combined site area of approximately 8,000m2 and a proposed developable floor space of approximately 12,300m2 of R3 Residential GFA. The strata titled ownership nature of these properties make them very difficult (commonly impossible) for development in near to medium future, therefore adversely impacting the programme for achieving the PRUTS' Vision for the precinct.



Figure 10: PRUTS Planning & Design Guidelines - Camperdown Opportunities and Constraints

- Precinct Boundary
- Frame Boundary
- WestConnex Tunnel
- Accessible Open Space
- Waterway
- Heritage
- Conservation Area
- Strata

The Proposal seeks to assist in delivering the PRUTS' vision for the precinct sooner. This combats the above potential causes for significant delay, while being a relatively small Proposal (of approximately 40 dwellings), it has no adverse impacts on precinct's social, road, transport or services infrastructure. Further, the development of a strong residential frame creates the local captive population necessary to sustain a vital and vibrant Business and Enterprise Core.

4.0 Context Analysis:

4.1 Urban Structure:

The PRCUTS 2016 aims at improving the regional walking and cycling connectivity by expanding through the existing network of links and open spaces. Figure 9 shows the existing network of bicycle links combined with the desired future links from the PRCUTS 2016.

4.2 Public Realm:

4.2.1 Open Space:

Johnstons Creek connects a series existing open spaces:

- A small pocket located on Chester Street, adjacent to site;
- Douglas Grant Memorial Park,
- Spindlers Park,
- Jubilee Park,
- Pope Paul VI Reserve, and
- Bicentennial Park.

There is a proposed open space to be located across the site addressing Chester Street based on the PRCUTS 2016. The proposal has opportunity to overlook the proposed open space.







-  Site
-  Creek Lines
-  Open Spaces
-  Future Open Space based on Parramatta Road Corridor Urban Transformation Strategy 2016
-  Existing Bicycle Links along Johnstons Creek
-  Desired Future Bicycle Link based on Parramatta Road Corridor Urban Transformation Strategy 2016



Figure 11: Open Space Network and Bicycle Links along Johnstons' Creek



1. A small pocket park on Chester Street located adjacent to the site



3. An existing concrete bridge over Johnstons Creek connecting pedestrians and cyclists to the Annandale Heritage Conservation area located to west.

4.2.2 Site Interface along Johnstons Creek:

- There is a car paint workshop currently located on site overlooking Johnstons Creek. The workshop is built to the creek alignment and creates an unmaintained and discarded interface to the Creek.
- The proposal provides an opportunity to improve the future interface with Johnstons Creek and to integrate the future public domain with the natural state of Johnstons Creek.



2. View of the existing bicycle and pedestrian track within Douglas Grant Memorial Park located opposite across Johnstons Creek



4.3 Built Form:

- The local area has a number of light industrial warehouses which are built to the street alignment.
- The built form of some of the higher quality residential flat buildings adopts in part the warehouse character by having a strong vertical rhythm expressed using brick pilasters.
- The buildings contain a tall parapet masonry wall at the top to create a vertical emphasis.
- The primary building material is masonry and follows traditional load bearing walls with similar sized windows placed at a regular interval. Typically there is a stronger emphasis on the solid masonry compared to the voids, which suits the light industrial warehouse character.
- There are a number of medium to high density residential flat buildings and mixed use proposals with a predominant height of 5 storeys or higher.



An existing high density residential development located at the corner of Booth Street and Alexandra Drive



Residential flat building located along Nelson Street



Residential flat building located near corner of Nelson Street and Collins Street

4.4 Access & Movement:

- Chester Street terminates at the junction of Johnstons Creek. The land subdivision around the junction of Johnstons Creek is inconsistent and has resulted in a small triangular shaped site.
- There is an existing pedestrian bridge connecting Chester Street across Johnstons Creek to the Annandale Heritage Conservation Area.
- A new connection from the subject site to the existing pedestrian and bicycle link on Douglas Grant Park can improve walking and cycling in the area.



opportunity to extend the existing bicycle and pedestrian connection








- N
-  Potential extension of the existing bicycle and pedestrian link
-  Existing pedestrian bridge across Johnstons Creek
-  Open Spaces
-  Lots
-  Existing buildings
-  Existing pedestrian and cycle link
-  Future pedestrian and cycle link

Figure 12: Access & Movement

5.0 Desired Future Character:

Transformation of the Camperdown Precinct:

The Camperdown Precinct is undergoing a transformation with light industrial warehouse buildings being replaced by new mixed use proposals, residential flat buildings and office buildings with a predominant height of 5 storeys or higher.

The Parramatta Road Corridor Urban Transformation Strategy 2016 has identified the site and its surroundings to change to a medium to high density residential area. The sites located at corner of Parramatta Road and Pymont Bridge Road are proposed to be tallest with a 32m height limit, based on the PRCUTS 2016. The sites along Parramatta Road are proposed with a 24m height. The height around the north-western edge of the precinct, where the subject site is located is 17m, which equates to a building with 5 storeys or higher. It seems that the heights are proposed to create a built form transition from the Parramatta Road Corridor to Annandale Heritage Conservation Area.

Local Character of the Area:

The site is located within the Character Area 3 of the PRCUTS 2016 Fine Grain Study. The objectives for the Character Area 3 include:

1. Preserve the eclectic mix of large industrial warehouses, scattered with terrace houses and low scale apartment buildings.
2. Preserve the predominant zero lot setbacks to reflect the existing warehouse character.
3. Preserve the green pocket parks at the termination of Johnstons Creek. The buildings are predominantly built to the street alignment and address narrow and discontinuous streets.

Prevalent Built Form within the Area:

The area around the site has a prevalent industrial character informed by predominant masonry elements of the light industrial warehouse buildings. The existing residential flat buildings follow the warehouse nature with a vertical rhythm expressed using masonry elements and windows placed at a regular interval bringing more emphasis to the solid masonry walls compared to the openings.

6.0 Building Envelope Testing of the Parramatta Road Corridor Urban Transformation Strategy 2016 Controls:

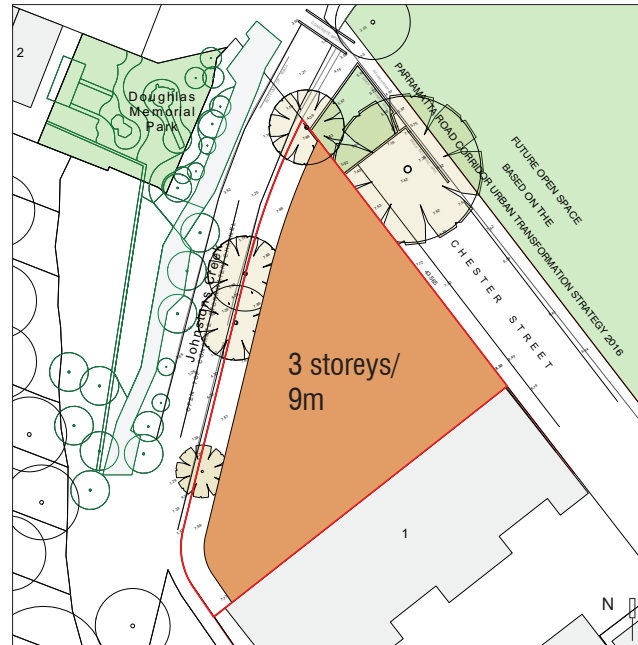
Mismatch between FSR and Height of Buildings:

ae design partnership conducted building envelope testing for the subject site using the primary planning controls identified within the PRCUTS 2016 - Planning and Design Guidelines. The testing shows a mismatch between the maximum permissible building height and floor space ratio controls proposed for the subject site.

The Parramatta Road Corridor Urban Transformation Strategy 2016 proposes a floor space ratio of 1.5 : 1 within a building height of 17m. A building envelope with a 17m height can achieve a floor space ratio much greater than 1.5 : 1 on the subject site.

The following options describe the mismatch between FSR and height of buildings.

Option 1: Maximum Permissible FSR of 1.5:1:



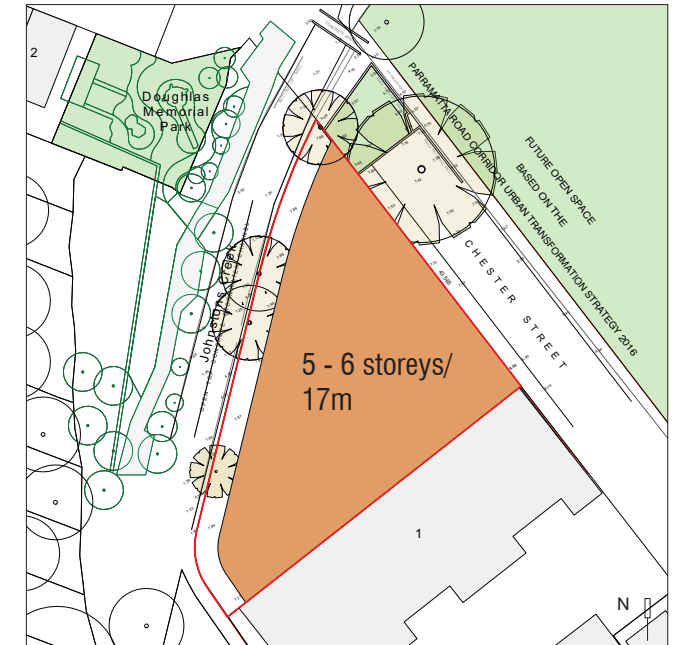
Floor Space Ratio = 1.5 : 1

Height of Building = 3 storeys, 9m

Option 1 is prepared using a fixed floor space control of 1.5 : 1. The maximum permissible floor space ratio is achieved within a building height of 3 storeys.

However, a 3 storey proposal is not consistent with the desired future character of the area. The desired future character area is for medium to high density residential proposals with a predominant building height of 5 storeys or higher.

Option 2: Maximum Permissible Height of 17m:



Floor Space Ratio = 2.6 : 1

Height of Building = 5 - 6 storeys, 17m

The above Option 2 is prepared using a 17m building envelope built to the street alignment.

The option is consistent with the desired future character of the area, whilst exceeding the maximum floor space ratio control proposed under the Parramatta Road Corridor Urban Transformation Strategy 2016. A floor space ratio of 2.6 : 1 or higher will be required to achieve a building height of 5 storeys or higher, in order to match the desired future character of the area.

7.0 The Proposal

Floor Space Ratio & Height of Buildings:

- The proposal achieves a floor space ratio of 2.6 : 1 within a building height of 17m.
- A lower ground level is proposed along Johnstons Creek at RL 5.45, which is above the 1 in 100 year flood level + a 500mm freeboard level. The 6 levels along Johnstons Creek are within the 17m PRCUTS 2016 building height plane from the existing natural ground level.
- The carpark entry is at 8.50RL which is above the probable maximum flood level.

Number of Apartments:

- The proposal includes a total of 41 apartments including 9 X 1 bedroom, 24 X 2 bedroom, 6 X 3 bedroom and 2 X SOHO apartments addressing Chester Street.
- The proposed number of apartments will require a total of 26 car spaces based on the PRCUTS 2016 parking rates.

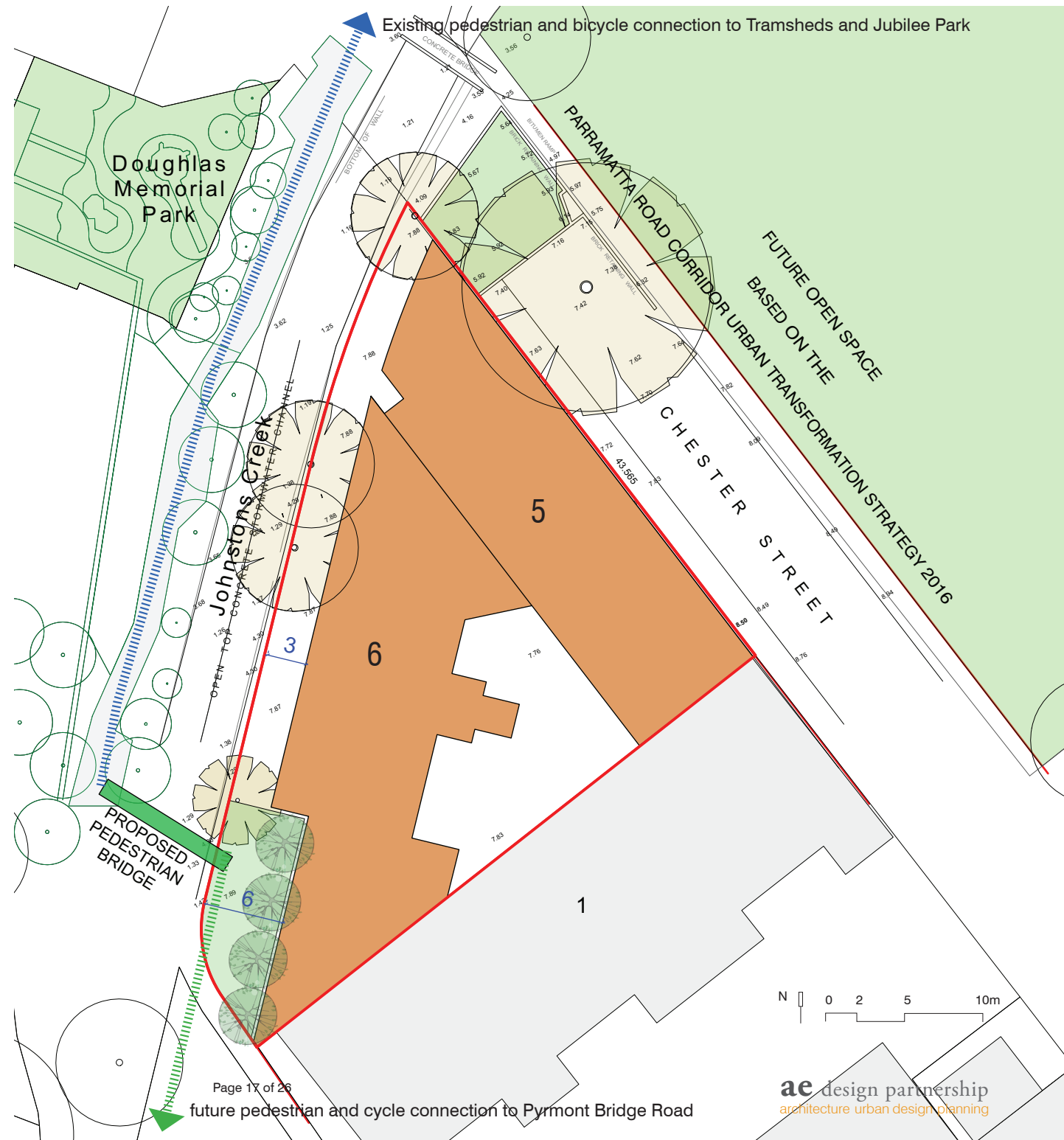
Public Domain:

- A 3m setback along Johnstons Creek provides an opportunity to integrate the proposal with the natural state of Creek to improve the interface with heritage items to north.
- A pedestrian bridge is proposed at the southern corner of site connecting to the existing pedestrian and bicycle track within Douglas Grant Memorial Park, the Tramsheds and Jubilee Park beyond.

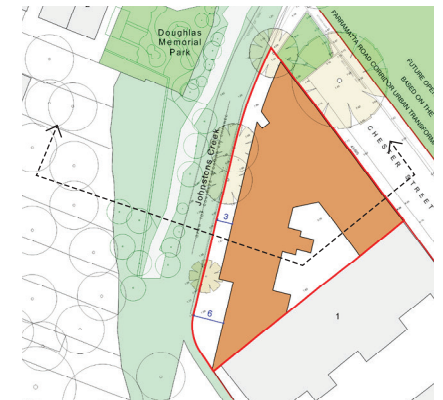
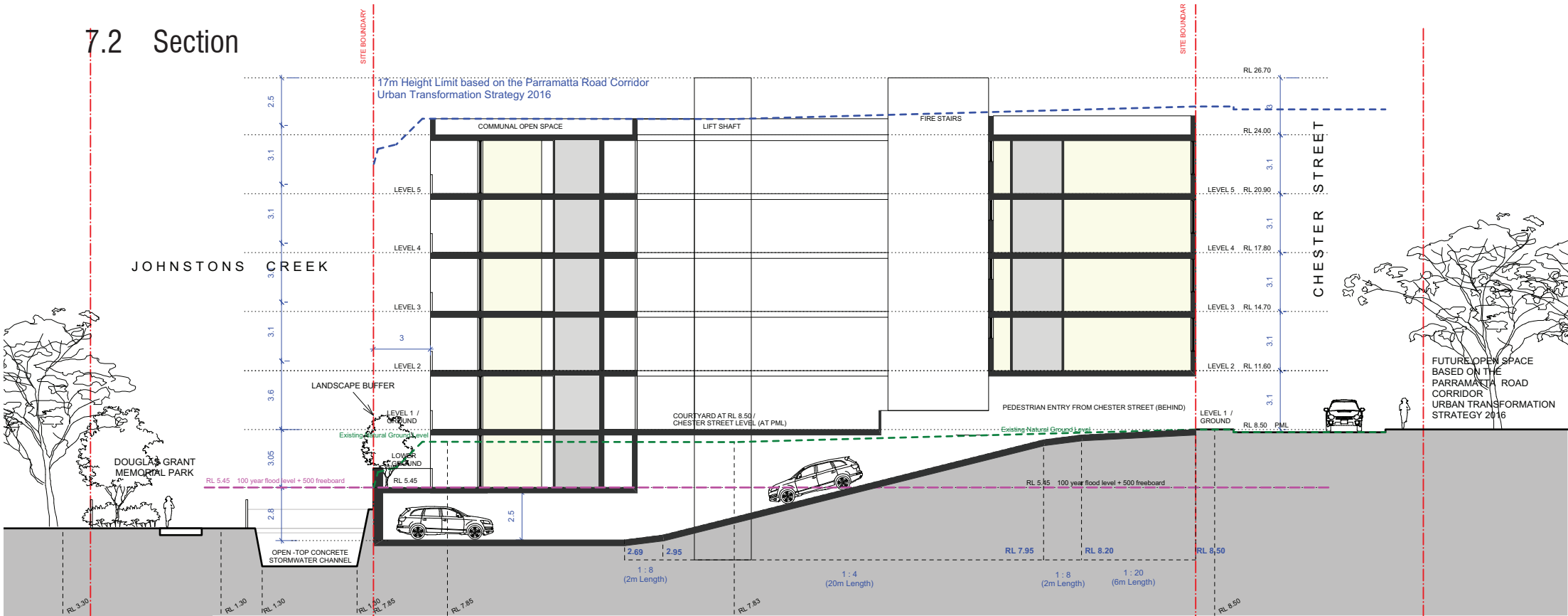
Apartment Design Guide:

The proposal matches the Apartment Design Guide in terms of the following:

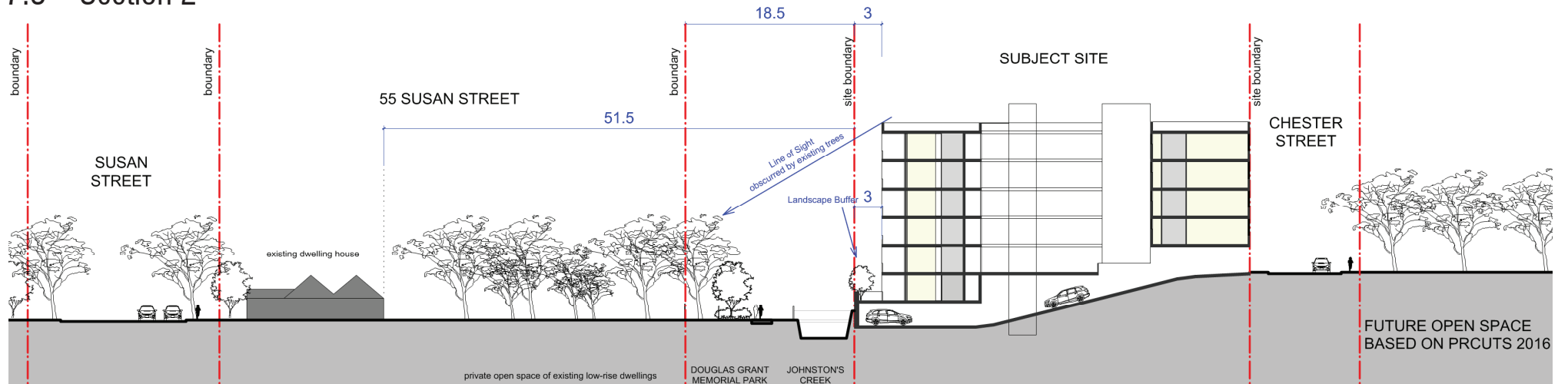
1. Proposed apartment mix and minimum apartment sizes,
2. A minimum 2 hour direct solar access to habitable areas of apartments during mid winter, and
3. A rooftop communal open space matching the minimum area requirement and direct sunlight access requirement during mid winter.



7.2 Section



7.3 Section 2



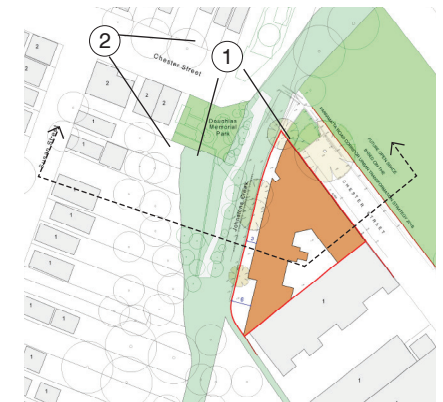
- A 3m setback along Johnston's Creek provides an opportunity to integrate the proposal with the natural state of Creek.
- The site is approximately 18.5m from the existing lots within the Annandale Conservation Area. A 21.5m separation between the proposed and existing private open spaces matches the ADG - Building Separation requirement.
- The existing trees located within the private open space of the dwelling houses and within the reserve along Johnston's Creek will obscure the line of sight from the proposal and retain amenity.



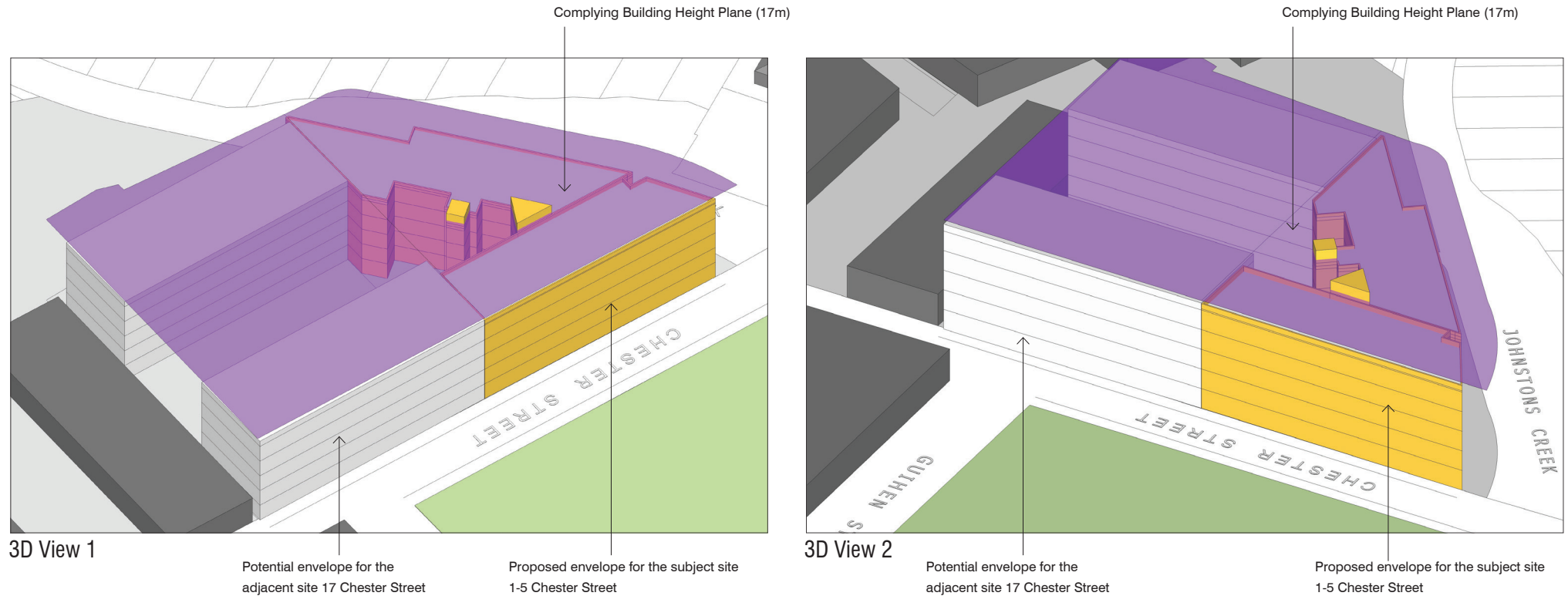
View 1 from Douglas Memorial Park near corner of Chester and Taylor Street. The proposed envelope on the subject site is likely to be obscured by significant trees located within the reserve along Johnston's Creek.



View 2 from Chester Street near Susan Street showing existing trees located within the reserve along Johnston's Creek.



7.4 3D Envelope Views



3D views show the proposed envelopes are within the PRCUTS 2016 17m complying height plane. In isolated areas, a liftshaft and a firestairs extend beyond the building height place to provide access to the rooftop communal open space. These encroachments are minor and would not be visible from the street.

The building envelope testing for the adjacent site - 17 Chester Street achieves an ADG compliant scheme. The scheme integrates with the proposal for 1-5 Chester Street, whilst matching the Desired Future Character as identified by the Parramatta Road Corridor Urban Transformation Strategy 2016.

7.5 Preliminary 3D Concept



View 1

future development on 17
Chester Street

subject site:
1-5 Chester Street

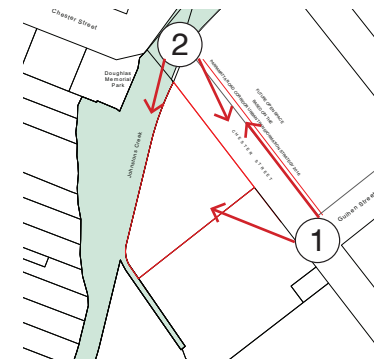


View 2

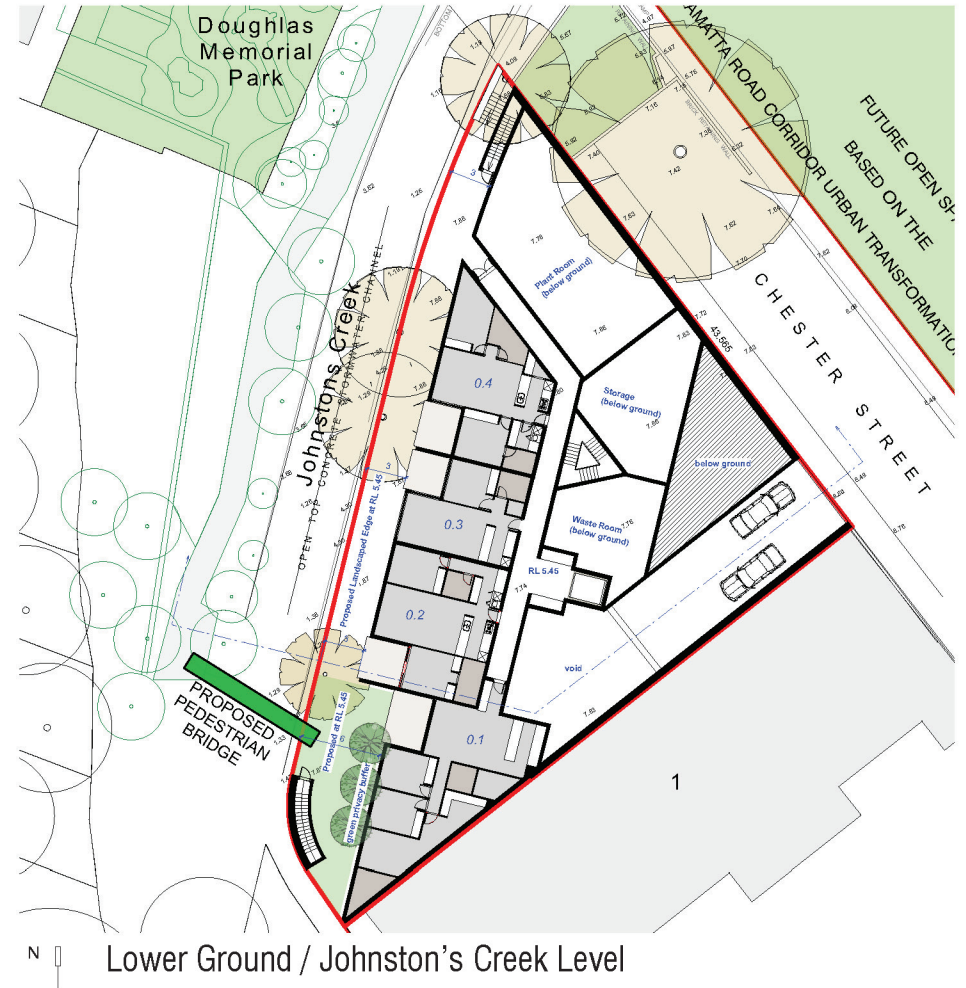
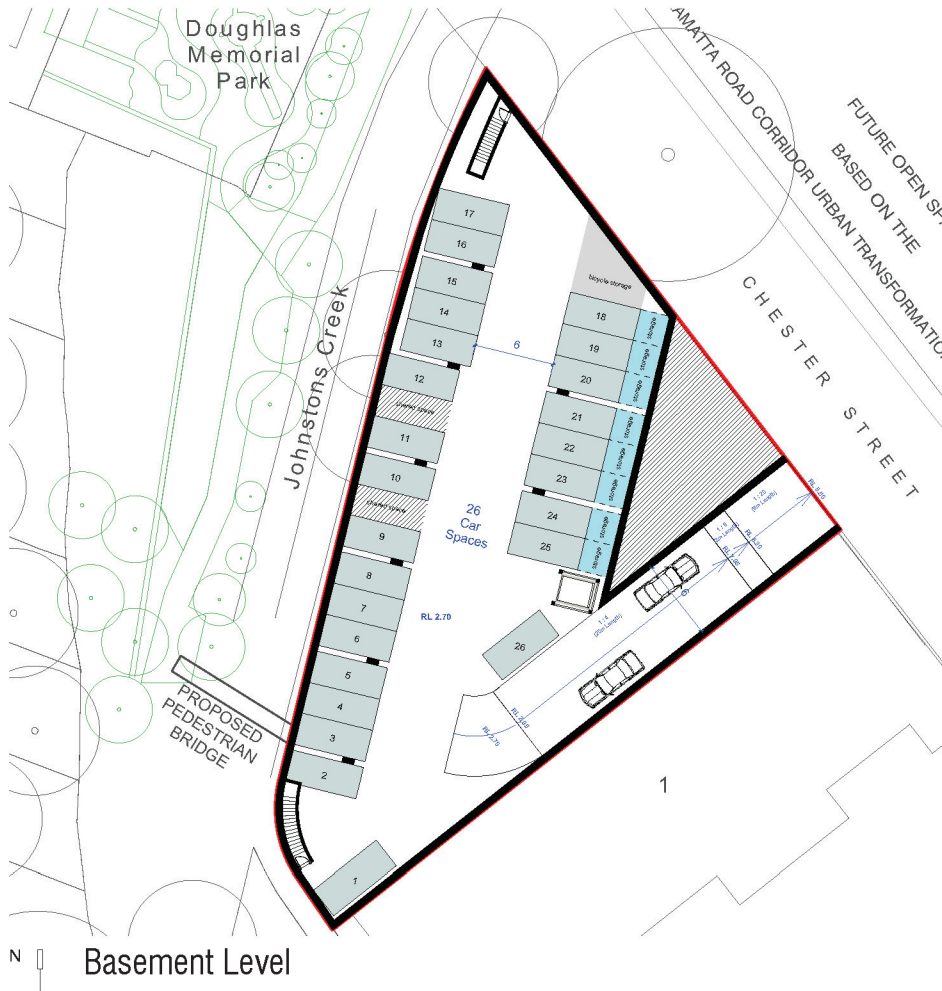
future development on 17
Chester Street

subject site:
1-5 Chester Street

The proponent intends to provide a high quality building on the site, that will be subject to a future development application.



7.6 Indicative Floor Plans



Architectural drawings subject to further design resolution at DA stage



N | Level 1 / Ground / Chester Street Level



N | Level 2

Architectural drawings subject to further design resolution at DA stage



N | Level 3, 4 and 5



N | Rooftop Communal Open Space

Architectural drawings subject to further design resolution at DA stage

8.0 Assessment of the Proposal against Parramatta Road Corridor Urban Transformation Strategy 2016:

8.1 Desired Future Character:

- The proposal is consistent with the PRCUTS 2016 Fine Grain Study:
 1. The proposal preserves the predominant zero lot setback to reflect the existing warehouse character; and
 2. The proposal preserves and enhances the green pocket parks at the termination of Johnstons Creek Stormwater Channel No. 55.
(PRCUTS 2016 Fine Grain Study, Character Area 3, Pg 63)
- The proposal is to include vertical elements at a rhythm to match the prevalent subdivision pattern within the Annandale Heritage Conservation Area located to north-west of the site. A predominant zero lot setback provided with vertical elements at a rhythm matches Precincts industrial heritage character.
- The proposal matches the prevalent character of the area which includes recently built medium to high density residential flat buildings with a height of 5 storeys or more.

8.1.1 Built Form:

Setbacks:

- The proposal is built to the street alignment to match the existing light industrial warehouse nature of the buildings within the vicinity.

Built Form Character:

- The proposal has a strong vertical rhythm expressed using brick pilasters.
- A tall parapet masonry wall at the top creates gives a vertical emphasis to the proposal.
- The proposal uses masonry as the primary building material and emulates traditional load bearing walls with similar sized windows placed at a regular interval.
- The proposal creates a stronger emphasis on the solid masonry elements compared to the voids, which matches the desired future character for light industrial warehouse buildings.

Building Height:

- The proposal complies with the PRCUTS 2016 17m height limit. A lower ground level is proposed along Johnstons Creek at RL 5.45, which is above the 1 in 100 year flood level + a 500mm freeboard level.
- The ground floor and the entrance to the carpark is set above the probable maximum floor level of RL8.50.
- The liftshaft and firestairs exceed the height plane to provide access to a rooftop communal open space.

8.1.2 Public Domain:

Open Space & Pedestrian Link:

- The proposed apartments street address and enhance the small pocket park located at end of Chester Street.
- A proposed 3m setback along Johnstons Creek provides an opportunity to improve the future interface with Johnstons Creek and an opportunity to integrate the proposal with the natural state of Johnstons Creek.
- A pedestrian bridge is proposed at the southern corner of the site connecting to the existing pedestrian and bicycle track across Johnstons Creek, to match the PRCUTS 2016.
- Apartments addressing Chester Street will have the opportunity to overlook the future open space proposed across the site, based on the Parramatta Road Corridor Urban Transformation Strategy 2016.

Communal Open Space:

- A rooftop communal open space is proposed overlooking Johnstons Creek, and matching the Apartment Design Guide Criteria for minimum area and direct sunlight at mid-winter.

8.2 Floor Space Ratio:

- The proposal achieves a floor space ratio of 2.6 : 1 whilst complying with all other Parramatta Road Corridor Urban Transformation Strategy 2016 controls.
- The proposed floor space ratio requires to be increased by 0.9 : 1 in order to meet the Desired Future Character of the area and to revise the existing mismatch between the proposed floor space ratio and building height controls relevant to the subject site.

Appendix:

Leichhardt Local Environmental Plan 2013 (current controls):

Zoning:

The site is currently zoned IN2 Light Industrial within the Leichhardt Local Environmental Plan 2013.

Floor Space Ratio:

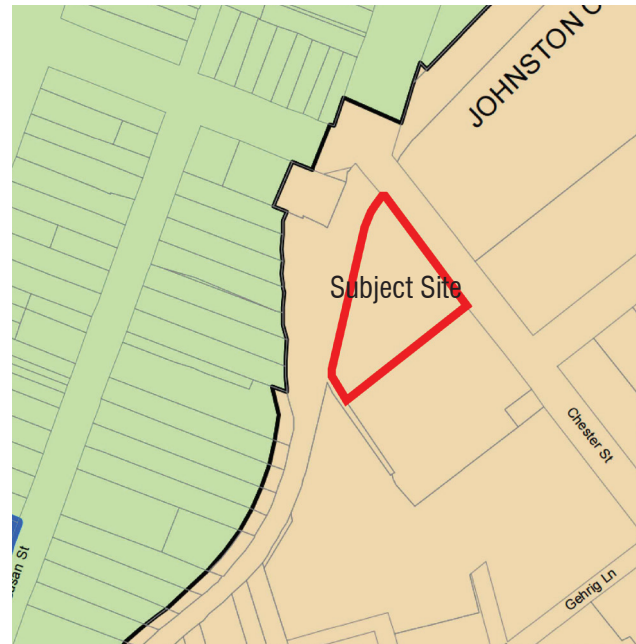
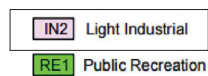
The current maximum floor space ratio for a building is not to exceed 1.0:1 based on the Leichhardt Local Environmental Plan 2013.

Height of Buildings:

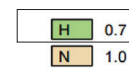
There is no height limit for the site based on the Leichhardt Local Environmental Plan 2013.



L LEP 2013 - Zoning



L LEP 2013 - Floor Space Ratio



Addendum to Urban Design Report 1-5 Chester Street Annandale

1 February 2018

Urban Design Report - Addendum

This Report is an addendum to the Planning Proposal Urban Design Study dated 20 September 2017 for the site No. 1-5 Chester Street Annandale. The Report responds to Council's comments raised in their Letter dated 26 October 2017.

The addendum provides further justification for the proposed floor space ratio and documents 3 x design options explored in the process.

The justification is based on the following:

1. The proposal is consistent with the Desired Future Character of the Area defined in the Parramatta Road Corridor Urban Transformation Strategy 2016.
2. A comparison of 3 x Design Options led to the Preferred Design Option;
3. Typically, the floor space ratio achievable on small sites and corner sites is higher than larger infill sites.
4. The proposal includes a Lower Ground Level addressing Johnston's Creek, which is the proposed response to the unique location of the site
5. The proposal exceeds the minimum required controls of the Part 2, 3 and 4 of the SEPP 65 Apartment Design Guide.

1. Desired Future Character of the Area:

Renewal of Camperdown:

Camperdown is undergoing renewal with addition of mixed use proposals, residential flat buildings and office buildings to the area. The new buildings have a predominant height of 5 storeys or higher.

Desired Land Use:

The Parramatta Road Corridor Urban Transformation Strategy 2016 (PRCUTS 2016) identifies that the site and the surrounding area is to be transformed into a residential area. A proposal for a residential flat building is consistent with the desired land use.

Desired Building Heights:

The PRCUTS 2016 suggests a built form transition with building heights stepping down from the centre to the edge of Camperdown Precinct:

- The sites located in centre of the precinct, near the intersection of Parramatta Road and Pyrmont Bridge Road have a maximum height of 32m;
- The sites along Parramatta Road are proposed with a 24m height; and
- The sites along the edge of the precinct have a height limit of 17m.
- The proposal has a height of 17m consistent with the desired building height.

Desired Built Form Character:

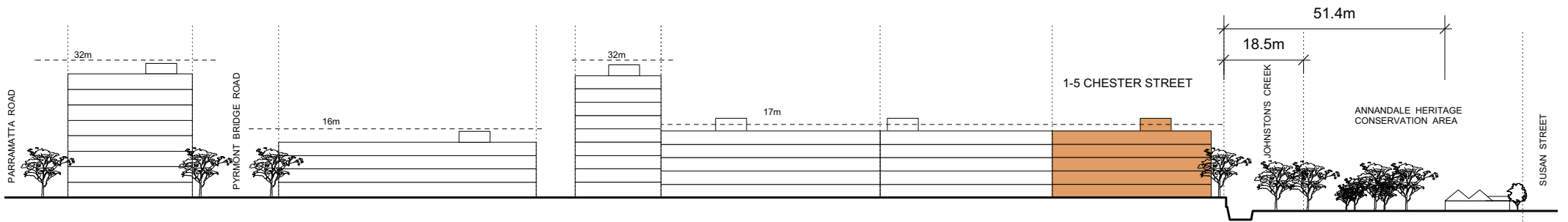
The area around the site has an industrial character with predominantly light industrial warehouse buildings. The following characteristics contribute to the built form character of the area:

- Buildings built to street alignment;
- Predominant masonry elements;
- A vertical rhythm expressed through pilasters;
- A vertical emphasis created by a tall parapet masonry wall at the top; and
- A stronger emphasis on the solid masonry walls formed by using smaller windows with regular intervals.

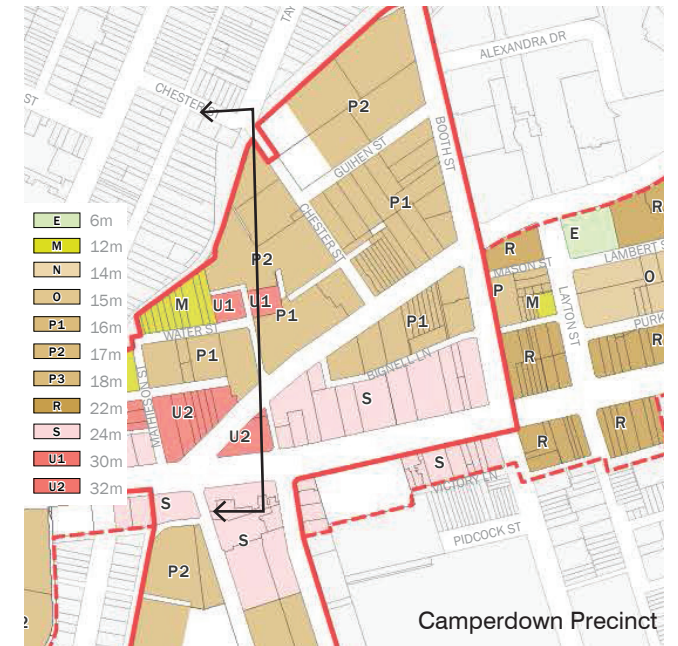
The proposed built form is consistent with the Character Area 3 of the PRCUTS Fine Grain Study. The proposal:

- Preserves the predominant zero setback to reflect the existing warehouse character; and
- Preserves the green pocket park at the termination of Johnston's Creek.

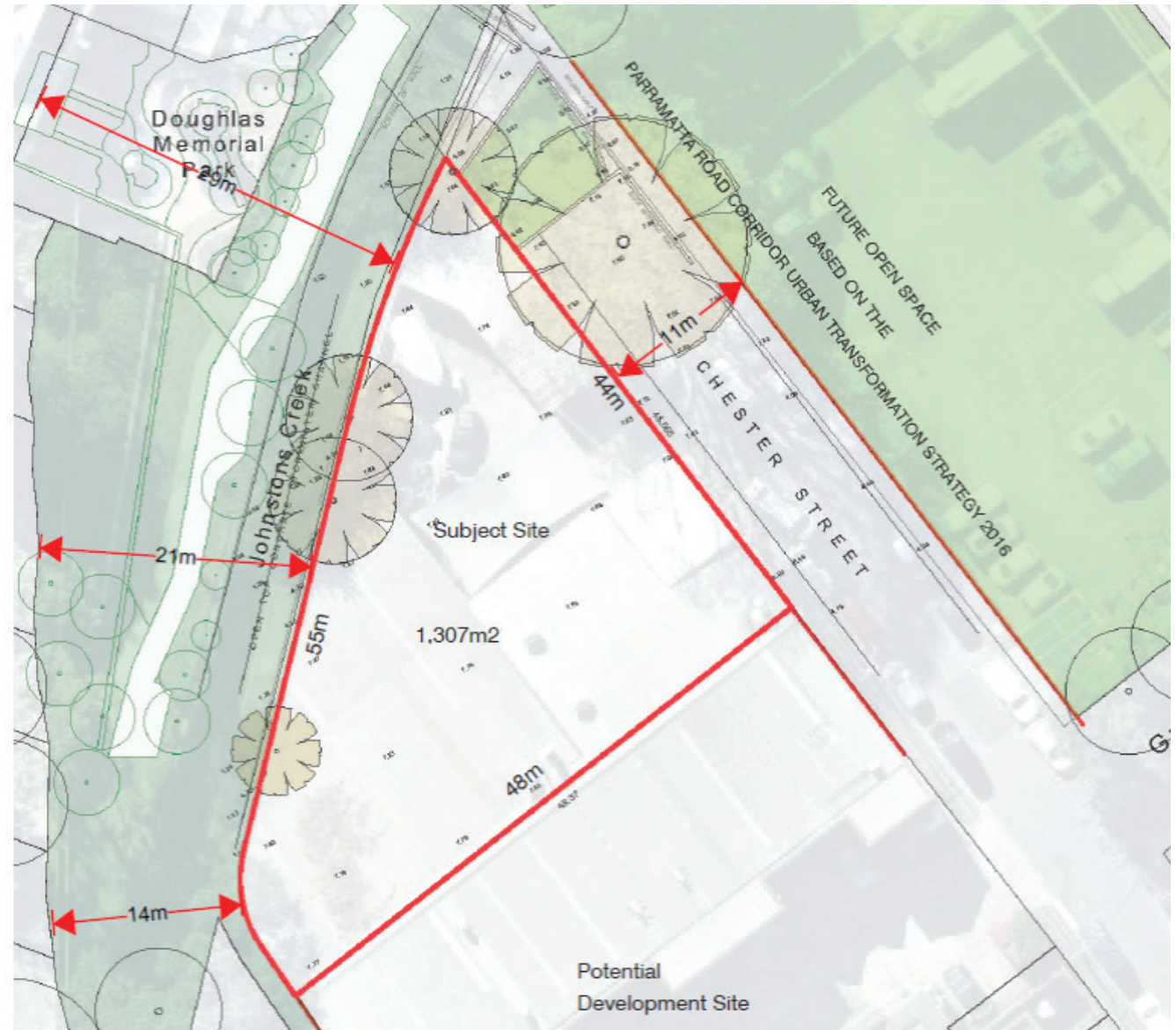
The proponent intends to provide a high quality building consistent with the desired land use, building heights and the desired built form character. The floor space ratio is a



Section AA shows the Desired Built Form Transition for Camperdown Precinct



Proposed building heights from the PRCUTS 2016



Site location plan confirming the building separation distances from the adjacent dwellings to the north. The building separation distances range from 14 to 29m and exceed the SEPP 65 Apartment Design Guide requirement.

2. Comparison of Design Options:



Option 1

Envelope Area = 1,400m²/floor

1. Southern building wing relies on the adjacent site for amenity;
2. Built form does not address or activate Johnston's Creek.



Option 2

Envelope Area = 865m²/ floor

1. Built form partially activates Johnston's Creek;
2. Built form does not achieve the required ADG solar access to all habitable areas because of its orientation. The habitable areas along the south-western wall will receive no direct sunlight at mid winter.



Option 3 (Preferred)

Envelope Area = 850m²/ floor

1. Built form creates an address to the future open space along Chester Street and a 3m wide pedestrian link proposed along Johnston's Creek;
2. Built form maximises solar access and cross ventilation to the habitable areas with a single aspect apartments with north-eastern and north-western aspect;
3. Built form minimises amenity impact to the adjacent site located to south.

Best Design Outcome for Site:

The above design options were developed based on the Desired Future Character of the Area. Note that Option 3, the final option has the smallest building footprint. The proposed built form for Option 3 is considered to achieve the best outcome because it ensures:

- Maximum extent of direct sunlight and daylight access to the habitable areas and open spaces;
- Visual privacy and amenity is maximised to the future residents on the adjacent site to south;

- A communal open space is provided on roof-top with direct sunlight access;
- An optimum building depth is provided to support a preferred apartment layout. A building depth of 14-15m allows single aspect apartments;
- Surveillance of the public domain is maximised including activation of the future park along Chester Street and the future pedestrian link along Johnston's Creek; and
- An opportunity is explored to create public benefit by adding a through-site link and a pedestrian bridge along the Creek.

3. Floor Space Ratio on Small Sites and Corner Sites:

Typically floor space ratio and height controls prescribed by planning studies such as the PRCUTS are treated as 'blanket controls' applied across entire urban blocks.

The floor space ratio outcome varies constantly across different sites with the same height control. This is because:

- Small sites are able to accommodate a greater floor space ratio through an efficient architectural design. 7.6 Indicative Floor Plans of the Urban Design Report demonstrate that the proposal maximises efficiency by reducing the extent of circulation spaces.
- Smaller sites, similar to the subject site, include a single building compared to larger sites which typically include multiple buildings requiring building separation distances and may achieve a smaller floor space.
- Typically proposals built to the street alignment accommodate greater floor space ratio.
- Corner sites have a greater floor space ratio capacity compared to mid-block sites. The subject site is located at the corner of Chester Street and Johnston's Creek with opportunity to create built form activating the street and the Creek.

4. Additional Floor Space Ratio achieved in a Lower Level:

The proposal includes an additional Lower Ground Level for the part addressing Johnston's Creek. It is critical to locate habitable areas at a Lower Ground Level to activate the Creek and to provide surveillance to the 3m wide pedestrian link proposed along Johnston's Creek.

Addition of the Lower Ground Level increases the floor space ratio, whilst ensuring that there is no additional visual impact from the public domain or loss of amenity for the surrounding properties.

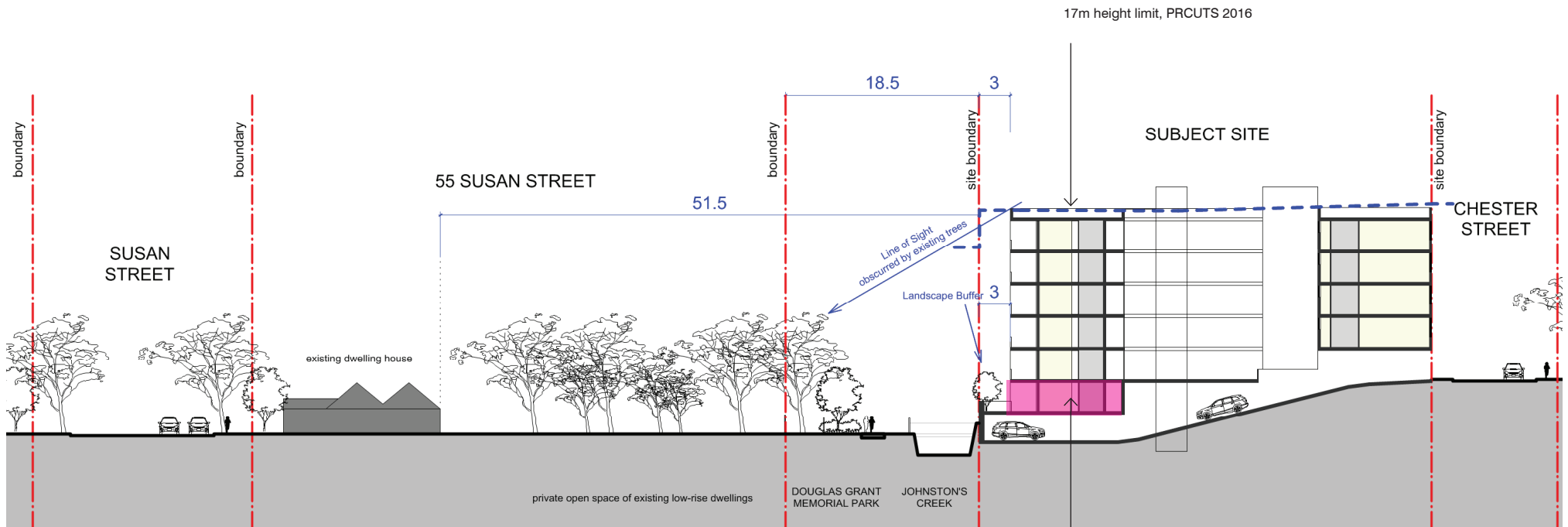
The proposed built form is within the 17m height plane of the PRCUTS 2016 and is consistent with the desired future character of the area.

5. SEPP 65 Apartment Design Guide - Part 2, 3 and 4:

The SEPP 65 Apartment Design Guide informs what is required to achieve good design and planning practice for residential apartments.

The proposal ensures compliance with the Key Criteria of the Apartment Design Guide is not compromised, while a greater floor space ratio of 2.6 : 1 is achieved for the site.

An assessment against the Key Criteria included in Part 2, 3 and 4 of the Apartment Design Guide is included (annexure refers).



Section showing the proposed lower ground level to activate the future pedestrian link along Johnston's Creek. The building separation distances from the adjacent dwellings exceed the SEPP 65 Apartment Design Guide requirement.

Lower Ground Level to activate future pedestrian link and Johnston's Creek

Appendix 1 – Design Criteria and Guidance of the Apartment Design Guide

Table 1: Assessment against Design Criteria and Guidance of the Apartment Design Guide


✓ = complies; × = does not comply; N/A = Not Applicable; • refer to comment

Part 2 Developing the Controls		
2C Building Height		
Considerations in setting height controls:	Comment:	Compliance:
<p>Set building heights by adding together the floor to ceiling heights for the desired number of storeys. Add 0.4m per floor for structure, services, set downs and finishes. Add 1m to the total to allow for rooftop articulation. Add 2m to the total to allow for topographic changes where required. Provide additional height in flood prone areas</p>	<p>The proposal has height of 5-6 storeys with 5 storey element fronting Chester Street and 6 storey element at the site's rear. Due to existing natural ground level being approximately 1 storey above 100 year flood level + 500mm freeboard, the 6 storey element is to be constructed 1 storey lower than existing natural ground, thereby resulting in both buildings having RL 24 metres at roof level.</p> <p>As such, both buildings are predominantly below the 17 metre height limit desired under the PRCUTS Planning and Design Guidelines with heights informed by:</p> <ul style="list-style-type: none"> • 300 millimetre slabs; • 3.1 metre floor to floor heights; and • 1 metre parapets at roof level. <p>Contravention of the 17 metre height limit desired under the PRCUTS Planning and Design Guidelines is limited to the lift shaft and fire stairs which extend to a height of RL 26.7 metres, considered acceptable on the grounds that:</p> <ul style="list-style-type: none"> • Not visible from public domain (see Section 7.4 of the Urban Design Report); • Reduction in height of lift shaft and fire stairs would require the deletion of the upper storey, inconsistent with the desired height under the PRCUTS Planning and Design Guidelines; and 	<p>✓</p>

	<ul style="list-style-type: none"> Extension of the lift shaft and fire stairs above the height limit enables access to the rooftop communal open space. 	
<p>Develop site-specific building envelopes and heights within a development control plan for large or complex sites such as those on steep slopes and those with changing topography.</p> <p>These specific heights need to be achievable within the building height set in the LEP.</p>	<p>Notwithstanding being a small site (1,307m²) with generally flat topography (8.5 metres at the site's eastern corner falling to 7.75 metres at the site's southern corner), a site-specific development control plan forms part of the application.</p>	✓
<p>Ensure that building height controls respond to the desired number of storeys, the minimum floor to floor heights required for future building uses and include generous ground floor heights</p>	<p>Proposed 5-6 storey heights are predominantly below the 17 metre height limit desired under the PRCUTS Planning and Design Guidelines, with the exception of lift shaft and fire stairs which extend beyond the 17 metre height limit by 1.6 metres in isolated locations only, considered acceptable on the grounds that:</p> <ul style="list-style-type: none"> Not visible from public domain and does not create any additional overshadowing (see Section 7.4 of the Urban Design Report); and Extension of the lift shaft and fire stairs above the height limit enables access to the rooftop communal open space, ensuring improved amenity for occupants. 	✓
<p>Ensure the maximum building height allows for articulated roof planes and building services or that architectural roof features are enabled by the LEP</p>	<p>As above.</p>	✓
<p>Where rooftop communal open space is desired, ensure adequate maximum height is provided and consider secondary height controls for lift/stair access and shade structures</p>	<p>As above.</p>	✓
<p>Where a floor space ratio control is defined, test height controls against the FSR to ensure a good fit</p>	<p>Proposed FSR (U2 – 2.6:1) exceeds that which is desired under the PRCUTS Planning and Design Guidelines (S1 – 1.5:1) due to built form envelope testing which identified mismatch between maximum height and FSR where the</p>	✓

	height (2 – 17 metres) complies with the PRCUTS Planning and Design Guidelines (see Urban Design Report).
<p>It may be appropriate to determine heights by relating them to site-specific features such as cliff lines or heritage items. This may include:</p> <ul style="list-style-type: none">• defining an overall height or street wall heights to key datum lines, such as eaves, parapets, cornices or spires• aligning floor to floor heights of new development with existing built form	<p>The locality is to undergo transition in response to PRCUTS, given statutory force via Ministerial Direction under Section 117 of the Act.</p> <p>Proposed heights respond to site-specific features:</p> <ul style="list-style-type: none">• Corner site configuration addressing both:<ul style="list-style-type: none">○ Johnstons Creek including new through site link as part of an open space and movement corridor between Booth Street and Parramatta Road; and○ Chester Street, including new open space on the eastern side of Chester Street as desired under the PRCUTS Planning and Design Guidelines.• Whilst the site is not being identified as a heritage item or as forming part of a heritage conservation area, the proposed development responds to the heritage character of the broader precinct and PRCUTS Fine Grain Study through (Architectural Projects 2016, p. 17):<ul style="list-style-type: none">○ <i>Retention of the kerbing and guttering of Chester Street</i>○ <i>Street alignment</i>○ <i>Masonry wall character</i>○ <i>Compliance with 17m height limit</i>○ <i>Proposed articulation of façades</i>○ <i>Proposed use of repetitive window treatment</i>○ <i>The façade rhythm as a backdrop to the creek which enhance its linear peak</i>○ <i>The façade rhythm as 5 metre bays which counterpoint the proportion of</i> <p style="text-align: right;">✓</p>

	<i>terrace development in the Annandale Conservation Area</i> ".	
Consider secondary height controls to transition built form, for example: <ul style="list-style-type: none"> • a street wall height to define the scale and enclosure of the street • a step down in building height at the boundary between two height zones 	The PRCUTS Fine Grain Study suggests a contiguous street alignment and "warehouse" style topography. The proposal considers this in its response.	✓
The Building Code of Australia has certain requirements based on the effective height of a building. When setting height controls, consider these thresholds as it can have an impact on the feasibility of a development. Applicants should be able to design a building to the maximum height while achieving an economically viable development	The proposal is designed in accordance with the requirements of the Building Code of Australia.	✓
2D Floor space ratio		
Considerations in setting FSR controls:	Comment:	Compliance:
Test the desired built form outcome against the proposed FSR to ensure it is coordinated with the building envelope, height, depth, setbacks and open space requirements	Built form envelope testing against the unique constraint of the subject site, carefully considers building envelope, height, depth, setbacks and open space requirements, however results in an FSR of 2.6:1 (compared to 1.5:1 in the PRCUTS).	✓
The GFA should fit comfortably within the building envelope as the envelope needs to also account for building elements and service areas that are not included in the GFA definition and to allow for building articulation (see section 2B Building envelopes)	The proposal fits within the proposed PRCUTS building envelope and: <ul style="list-style-type: none"> • Accounts for building elements and service areas that are not included in the definition of GFA; and • Includes building articulation. 	✓
Consider how floor space is implemented across larger sites. A single floor space ratio may result in under or over development. For example, in an area with a consistent height control: <ul style="list-style-type: none"> • corner, mid-block or wide shallow sites tend to have different floor space capacities 	The site has corner configuration between Johnstons Creek and Chester Street. As such, it has the capacity to accommodate development with FSR U2 – 2.6:1, as shown in built form envelope testing which identified mismatch between maximum height and FSR where the height (2 – 17 metres) complies with the PRCUTS	✓

<ul style="list-style-type: none"> • small sites with a single building may have greater floor space capacity than larger sites with multiple buildings • large sites with multiple buildings require greater space between buildings and may have less floor space capacity 	Planning and Design Guidelines (see Urban Design Report).	
On precinct plan sites with new streets and/or open spaces, both the gross FSR for the whole site and the net FSR for individual development parcels need to be defined. The net FSR may be significantly higher than the gross FSR	N/A – The subject site is not a precinct plan site.	N/A
Where both residential and non-residential uses such as retail or commercial offices are permitted, develop FSR controls for each use. Commercial and retail generally fill 80-85% of their envelope. Allow for services, circulation, car park and loading requirements. Note that residential FSR tends to be lower compared with commercial or retail ratios. This is because residential buildings are typically less deep than commercial buildings to provide higher levels of internal amenity and to incorporate more non-GFA elements such as balconies	N/A – The proposal incorporates no commercial GFA in accordance with its PRCUTS proposed R3 Medium Density Residential land use zoning. However the proposed development does incorporate SOHO units to replace jobs on the site.	N/A
Consider opportunities to achieve public benefits such as community facilities and public domain improvements, such as new streets, through-site links and open spaces	The proposal incorporates: <ul style="list-style-type: none"> • Through site link forming part of an open space and movement corridor along Johnstons Creek between Booth Street and Parramatta Road; and • Beautification of the public domain and public art mural. 	
In noisy or hostile environments, the impacts of external noise and pollution may require enclosing of balconies (e.g. wintergardens). When setting FSR controls in these situations, consider providing additional area to compensate for the enclosing of balconies	N/A – The subject site is not identified as being within a noisy or hostile environment.	N/A
2E Building Depth		
Considerations in setting building depth controls:	Comment:	Compliance:

<p>Use a range of appropriate maximum apartment depths of 12-18m from glass line to glass line when precinct planning and testing development controls. This will ensure that apartments receive adequate daylight and natural ventilation and optimise natural cross ventilation</p>	<ul style="list-style-type: none"> • Apartment depths range between 12 and 18 metres; • 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and • 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	<p>✓</p>
<p>Test building depths against indicative floor plate and apartment layouts to ensure they can meet natural ventilation and sunlight requirements</p>	<ul style="list-style-type: none"> • 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and • 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	<p>✓</p>
<p>Site constraints may require varied building depths to achieve good levels of residential amenity for residents and neighbours</p>	<p>The proposal achieves a high level of internal amenity (see above), without impacting the amenity of existing residential uses west of Johnstons Creek (screened by mature trees along Johnstons Creek) or future residents of development in adjoining properties (see Section 7.4 of the Urban Design Report).</p>	<p>✓</p>
<p>Consider varying building depth relative to orientation. For example, buildings facing east-west capture sun from both aspects and may have apartments of up to 18m wide (if dual aspect), while buildings facing north-south should be narrower to reduce the number of south facing apartments that have limited or no direct sunlight access (consider relationship with section 4A Solar and daylight access)</p>	<p>Building orientation responds to the site's corner configuration between Chester Street and Johnstons Creek. A high level of internal amenity is achieved:</p> <ul style="list-style-type: none"> • 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and • 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	<p>✓</p>
<p>Where greater depths are proposed, demonstrate that indicative layouts can achieve acceptable amenity with room and apartment depths. This</p>	<p>N/A – Greater depths not proposed.</p>	<p>N/A</p>

may require significant building articulation and increased perimeter wall length		
Coordinate building height and building depth: <ul style="list-style-type: none"> buildings that have smaller depths over a greater height deliver better residential amenity than those with greater depth and a lower height greater building depths may be possible where higher ceiling heights are provided, for example adaptive reuse of an existing building (see 4D Apartment size and layout) 	Complies – building depth is minimised whilst height responds to the maximum permissible height desired under the PRCUTS Planning and Design Guidelines, given statutory force via Ministerial Direction under Section 117 of the Act.	✓
For mixed use buildings, align building depth to the likely future uses. For example, transition deeper commercial or retail podium levels to a narrower residential tower above. For precinct planning, if the intended building use changes, the building depth needs to change accordingly	N/A – The proposal incorporates nil commercial GFA in accordance with its R3 Medium Density Residential land use zoning (which permits with consent the development of residential flat buildings), as desired under the PRCUTS Planning and Design Guidelines, given statutory force via Ministerial Direction under Section 117 of the Act.	N/A
Set the depth control in metres. The building depth includes the internal floor plate, external walls, balconies, external circulation and articulation such as recesses and steps in plan and section	Complies – building depth is minimised.	✓
2F Building Separation		
Considerations in setting building separation controls	Comment	Compliance:
Design and test building separation controls in plan and section	Building separation responds to the unique constraints of the site and corner configuration between Johnstons Creek and Chester Street. Nil separation is provided at southern boundary to 17 Chester Street so as to not preclude its redevelopment (see Section 7.4 of the Urban Design Report).	✓
Test building separation controls for sunlight and daylight access to buildings and open spaces	<ul style="list-style-type: none"> 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and 	✓

	<ul style="list-style-type: none"> 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	
<p>Minimum separation distances for buildings are:</p> <p><i>Up to four storeys (approximately 12m):</i></p> <ul style="list-style-type: none"> 12m between habitable rooms/balconies 9m between habitable and non-habitable rooms 6m between non-habitable rooms <p><i>Five to eight storeys (approximately 25m):</i></p> <ul style="list-style-type: none"> 18m between habitable rooms/balconies 12m between habitable and non-habitable rooms 9m between non-habitable rooms <p><i>Nine storeys and above (over 25m):</i></p> <ul style="list-style-type: none"> 24m between habitable rooms/balconies 18m between habitable and non-habitable rooms 12m between non-habitable rooms 	<p>The proposed development:</p> <ul style="list-style-type: none"> Is separated from nearest residential dwellings in Susan Street by approximately 40+ metres; and Presents blank wall to adjoining 17 Chester so as to not preclude its future redevelopment (see Section 7.4 of the Urban Design Report) in accordance with the consideration of the ADG outlined below. 	✓
<p>Building separation may need to be increased to achieve adequate sunlight access and enough open space on the site, for example on slopes</p>	<ul style="list-style-type: none"> 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	✓
<p>Increase building separation proportionally to the building height to achieve amenity and privacy for building occupants and a desirable urban form</p>	<p>See above.</p>	✓
<p>At the boundary between a change in zone from apartment buildings to a lower density area, increase the building setback from the boundary by 3m</p>	<p>The subject site is separated from lower order residential land use zoning R1 General Residential to the west by Johnstons Creek within land zoned RE1 Public</p>	✓

	Recreation. Mature trees along Johnstons Creek screen the development from residential uses to the west.	
No building separation is necessary where building types incorporate blank party walls. Typically this occurs along a main street or at podium levels within centres	Blank party walls are presented to the southern boundary adjoining 17 Chester to allow orderly development in the future consistent with the PRCUTS desired future character for the area (see Section 7.4 of the Urban Design Report).	✓
Required setbacks may be greater than required building separations to achieve better amenity outcomes	The proposal is made sympathetic to the industrial heritage character of the locality through the appropriation of nil street setbacks consistent with existing warehouses in the broader Precinct.	✓
2G Street setbacks		
Considerations in setting street setback controls	Comment	Compliance
Determine street setback controls relative to the desired streetscape and building forms, for example: <ul style="list-style-type: none"> • define a future streetscape with the front building line • match existing development • step back from special buildings • retain significant trees • in centres the street setback may need to be consistent to reinforce the street edge • consider articulation zones accommodating balconies, landscaping etc. within the street setback • use a setback range where the desired character is for variation within overall consistency, or where subdivision is at an angle to the street • manage corner sites and secondary road frontages 	The proposal is made sympathetic to the industrial heritage character of the locality through the appropriation of nil street setbacks consistent with existing warehouses in the broader Precinct.	✓
Align street setbacks with building use. For example in mixed use buildings a zero street setback is appropriate	N/A – The proposed development is not mixed use, however inclusion of SOHO units to replace jobs on the site.	N/A

Consider nominating a maximum percentage of development that may be built to the front build-to line, where one is set, to ensure modulated frontages along the length of buildings	The proposal is made sympathetic to the industrial heritage character of the locality through the appropriation of nil street setbacks consistent with existing warehouses in the broader Precinct.	✓
Identify the quality, type and use of open spaces and landscaped areas facing the street so setbacks can accommodate landscaping and private open space	As above.	✓
In conjunction with height controls, consider secondary upper level setbacks to: <ul style="list-style-type: none"> reinforce the desired scale of buildings at the street frontage minimise overshadowing of the street and other buildings 	As above.	✓
To improve passive surveillance, promote setbacks which ensure a person on a balcony or at a window can easily see the street	All ground floor apartments directly address adjoining public domain including Chester Street and Johnstons Creek.	✓
Consider increased setbacks where street or footpath widening is desired	The proposal is made sympathetic to the industrial heritage character of the locality through the appropriation of nil street setbacks consistent with existing warehouses in the broader Precinct.	✓
2H Side and rear setbacks		
Considerations in setting side and rear setback controls	Comment:	Compliance:
Test side and rear setbacks with height controls for overshadowing of the site, adjoining properties and open spaces	<p>35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).</p> <p>The proposal will not preclude solar access to:</p> <ul style="list-style-type: none"> Existing and future open space surrounding the subject site (all located north-east/north-west of the subject site); and 	✓

	<ul style="list-style-type: none"> • Future development in the adjoining 17 Chester (see Section 7.4 of the Urban Design Report). 	
<p>Test side and rear setbacks with the requirements for:</p> <ul style="list-style-type: none"> • building separation and visual privacy • communal and private open space • deep soil zone requirements 	<p>For response to:</p> <ul style="list-style-type: none"> • Building separation and visual privacy: See response to Consideration 3 of 2F of the ADG. • Communal and private open space: See Design Criteria 1 of 3D of the ADG. • Deep soil zone requirements: See Design Criteria 1 of 3E of the ADG. 	✓
<p>Consider zero side setbacks where the desired character is for a continuous street wall, such as in dense urban areas, main streets or for podiums within centres</p>	<p>The proposal is made sympathetic to the industrial heritage character of the locality through the appropriation of nil street setbacks consistent with PRCUTS fine grain study and existing warehouses in the broader Precinct.</p>	✓
<p>On sloping sites, consider increasing side and rear setbacks where new development is uphill to minimise overshadowing and assist with visual privacy</p>	<p>N/A – The subject site has generally flat topography (8.5 metres at the site’s eastern corner falling to 7.75 metres at the site’s southern corner).</p>	✓
Part 3 Siting the Development		
3D Communal and public open space		
3D-1 Objectives:	Comment:	Compliance:
<p>An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping</p>	<p>1,150m² (88% of site area, exceeding 25% minimum requirement of Design Criteria 1 of 3D) is provided as follows:</p> <ul style="list-style-type: none"> • Lower Ground landscaped through-site link (200m²) forming part of a movement corridor along Johnstons Creek between Booth Street and Parramatta Road. • Ground Floor landscaped forecourt (250m²) between building elements, creating opportunity 	✓

for incidental interaction between residents, fostering a sense of community.

- Rooftop (700m²) communal open space with high level of amenity derived from district views and facilities including BBQs for residents and their visitors.

Design criteria:	Comment:	Compliance:
1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3)	1,150m ² of communal open space (88% of site area) is provided at Lower Ground (200m ²), Ground (250m ²) and Roof (700m ²).	✓
2. 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)	The rooftop communal open space has uninterrupted solar access between 9am and 3pm in mid-Winter.	✓
Design guidance:	Comment:	Compliance:
Communal open space should be consolidated into a well designed, easily identified and usable area	Complies.	✓
Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions	Complies.	✓
Communal open space should be co-located with deep soil areas	Complies.	✓
Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies	Complies.	✓
Where communal open space cannot be provided at ground level, it should be provided on a podium or roof	Complies.	✓
Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should:	N/A – site has sufficient area to accommodate communal open space in accordance with Apartment Design Guide Design Criteria and definition.	N/A

	<ul style="list-style-type: none"> provide communal spaces elsewhere such as a landscaped roof top terrace or a common room provide larger balconies or increased private open space for apartments demonstrate good proximity to public open space and facilities and/or provide contributions to public open space 		
3D-2 Objectives:		Comment:	Compliance:
	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	Complies.	✓
Design guidance:		Comment:	Compliance:
	Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements: <ul style="list-style-type: none"> seating for individuals or groups barbecue areas play equipment or play areas swimming pools, gyms, tennis courts or common rooms 	Complies.	✓
	The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts	Complies.	✓
	Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks	Whilst location of services is to be resolved at Development Application stage, it is anticipated that services can be located predominantly at basement level.	✓
3D-3 Objectives:		Comment:	Compliance:
	Communal open space is designed to maximise safety	Complies.	✓
Design guidance:		Comment:	Compliance:

<p>Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include:</p> <ul style="list-style-type: none"> • bay windows • corner windows • balconies 	Complies.	✓
Communal open space should be well lit	Complies.	✓
Where communal open space/facilities are provided for children and young people they are safe and contained	Complies.	✓
3D-4 Objectives:	Comment:	Compliance:
Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	Limited public open space is provided at Lower Ground as part of an open space and movement corridor along Johnstons Creek between Booth Street and Parramatta Road, designed in response to existing nearby public open space.	✓
Design guidance:	Comment:	Compliance:
The public open space should be well connected with public streets along at least one edge	Proposed public open space forms part of an open space and movement corridor along Johnstons Creek between Booth Street and Parramatta Road.	✓
The public open space should be connected with nearby parks and other landscape elements	As above.	✓
Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid	As above.	✓
Solar access should be provided year round along with protection from strong winds	35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).	✓

Opportunities for a range of recreational activities should be provided for people of all ages	Proposed communal open space provides opportunities for a range of recreational activities as discussed in response to 3D-1 above.	✓
A positive address and active frontages should be provided adjacent to public open space	Proposed public open space forms part of an open space and movement corridor along Johnstons Creek between Booth Street and Parramatta Road.	✓
Boundaries should be clearly defined between public open space and private areas	Complies.	✓

3E Deep soil zones

3E-1 Objectives:	Comment:	Compliance:
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Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality	Nil deep soil zones are provided. This is an acceptable outcome on the following grounds:	
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Design criteria:

1. Deep soil zones are to meet the following minimum requirements:														
<table border="1"> <thead> <tr> <th>Site area</th> <th>Minimum dimensions</th> <th>Deep soil zone (% of site area)</th> </tr> </thead> <tbody> <tr> <td>Less than 650m²</td> <td>-</td> <td rowspan="4">7%</td> </tr> <tr> <td>650m²-1,500m²</td> <td>3m</td> </tr> <tr> <td>Greater than 1,500m²</td> <td>6m</td> </tr> <tr> <td>Greater than 1,500m² with significant existing tree cover</td> <td>6m</td> </tr> </tbody> </table>	Site area	Minimum dimensions	Deep soil zone (% of site area)	Less than 650m ²	-	7%	650m ² -1,500m ²	3m	Greater than 1,500m ²	6m	Greater than 1,500m ² with significant existing tree cover	6m	<ul style="list-style-type: none"> Limited site area (1,307m²); Highly urbanised locality; Communal open space provided at a rate (88% of site area) far exceeding the minimum requirement set out in Design Criteria 1 of 3D (25% of site area); 200m² of site area is dedicated as public open space as part of a through-site link forming part of a movement corridor along Johnstons Creek between Booth Street and Parramatta Road; and The subject site is within walking distance to a number of parks, including: <ul style="list-style-type: none"> Douglas Grant Memorial Park: 25 metres to the north which includes children's play equipment; Smith Hogan and Spindlers/Jubilee Park 450 metres to the north including children's playgrounds, walking trails and cricket oval. 	X
Site area	Minimum dimensions	Deep soil zone (% of site area)												
Less than 650m ²	-	7%												
650m ² -1,500m ²	3m													
Greater than 1,500m ²	6m													
Greater than 1,500m ² with significant existing tree cover	6m													

Design guidance:	Comment:	Compliance:
<p>On some sites it may be possible to provide larger deep soil zones, depending on the site area and context:</p> <ul style="list-style-type: none"> • 10% of the site as deep soil on sites with an area of 650m² - 1,500m² • 15% of the site as deep soil on sites greater than 1,500m² 	N/A – Nil deep soil zones provided.	N/A
<p>Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. Design solutions may include:</p> <ul style="list-style-type: none"> • basement and sub basement car park design that is consolidated beneath building footprints • use of increased front and side setbacks • adequate clearance around trees to ensure long term health • co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil 	N/A – Nil deep soil zones provided.	N/A
<p>Achieving the design criteria may not be possible on some sites including where:</p> <ul style="list-style-type: none"> • the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres) • there is 100% site coverage or non-residential uses at ground floor level <p>Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure</p>	Nil deep soil zones are provided due to the constrained, urban nature of the site as outlined above. Nevertheless, the Flooding & Stormwater Management Planning Report (Sparks+Partners 2017) forming part of this application concludes that “the site can be rezoned from IN2 to R3 subject to other relevant planning requirements being met” (p. 3).	✓
3F Visual privacy		
3F-1 Objectives:	Comment:	Compliance:

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy

Design criteria

1. Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:

Building height	Habitable rooms and balconies	Non-habitable rooms
Up to 12m (4 storeys)	6m	3m
Up to 25m (5-8 storeys)	9m	4.5m
Over 25m (9+ storeys)	12m	6m

Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2) Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties

The proposed development:

- Is separated from nearest residential dwellings in Susan Street by approximately 40+ metres; and
- Presents blank wall to adjoining 17 Chester so as to not preclude its future redevelopment (see Section 7.4 of the Urban Design Report) in accordance with the consideration of the ADG outlined below.



Design guidance:

Generally one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance

Comment:

Siting and nil stepping of proposed building elements is acceptable on the grounds that:

- Does not result in any visual privacy impacts within the site due to nil windows or balconies being incorporated in south-west facing external wall of the 5 storey building and east facing external wall of the 6 storey building;

Compliance:

N/A

	<ul style="list-style-type: none"> • No residential dwellings located nearby, with the exception of the rear of townhouses fronting Susan Street, screened by mature trees along Johnstons Creek; and • Does not preclude the redevelopment of adjoining sites in accordance with the PRCUTS Planning and Design Guidelines (see Section 7.4 of Urban Design Report). 	
<p>For residential buildings next to commercial buildings, separation distances should be measured as follows:</p> <ul style="list-style-type: none"> • for retail, office spaces and commercial balconies use the habitable room distances • for service and plant areas use the non-habitable room distances 	<p>N/A – Adjoining commercial buildings present blank façade to the subject site.</p>	<p>N/A</p>
<p>New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include:</p> <ul style="list-style-type: none"> • site layout and building orientation to minimise privacy impacts (see also section 3B Orientation) • on sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4) 	<p>The proposed development:</p> <ul style="list-style-type: none"> • Is separated from nearest residential dwellings in Susan Street by approximately 40+ metres; and • Presents blank wall to adjoining 17 Chester so as to not preclude its future redevelopment (see Section 7.4 of the Urban Design Report) in accordance with the consideration of the ADG outlined below. 	<p>✓</p>
<p>Apartment buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for a transition in scale and increased landscaping (figure 3F.5)</p>	<p>N/A – R4 High Density Residential land use is desired in adjoining land east of Johnstons Creek under PRCUTS Planning and Design Guidelines.</p>	<p>N/A</p>
<p>Direct lines of sight should be avoided for windows and balconies across corners</p>	<p>Nil visual privacy impacts within the subject site due to nil windows or balconies being incorporated in south-west facing external wall of the 5 storey building and east facing external wall of the 6 storey building.</p>	<p>✓</p>

	No residential dwellings located nearby, with the exception of the rear of townhouses fronting Susan Street, screened by mature trees along Johnstons Creek; and	
No separation is required between blank walls	The 5 and 6 storey building elements present blank façade to 17 Chester Street so as to not preclude the development potential of that site (see Section 7.4 of the Urban Design Report).	✓
3F-2 Objectives:	Comment:	Compliance:
Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space	<p>Site and building design elements:</p> <ul style="list-style-type: none"> • Ensure privacy through: <ul style="list-style-type: none"> ○ Nil windows or balconies being incorporated in south-west facing external wall of the 5 storey building and east facing external wall of the 6 storey building; and ○ All apartments having outlook towards Chester Street or Johnstons Creek. • Do not compromise access to light and air: <ul style="list-style-type: none"> ○ 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and ○ 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	✓
Design guidance	Comment:	Compliance:
Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include: <ul style="list-style-type: none"> • setbacks • solid or partially solid balustrades to balconies at lower levels 	Complies.	✓

	<ul style="list-style-type: none"> • fencing and/or trees and vegetation to separate spaces • screening devices • bay windows or pop out windows to provide privacy in one direction and outlook in another • raising apartments/private open space above the public domain or communal open space • planter boxes incorporated into walls and balustrades to increase visual separation • pergolas or shading devices to limit overlooking of lower apartments or private open space • on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies 		
	Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas	Complies.	✓
	Balconies and private terraces should be located in front of living rooms to increase internal privacy	Complies.	✓
	Windows should be offset from the windows of adjacent buildings	Complies.	✓
	Recessed balconies and/or vertical fins should be used between adjacent balconies	Complies.	✓
3J Bicycle and car parking			
3J-1	Objectives:	Comment:	Compliance:
	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	Parking (including bicycle and shared parking) is provided in accordance with 3.8 of the Corridor Guidelines set out in the PRCUTS Planning and Design Guidelines.	✓
	Design criteria:	Comment:	Compliance:

<p>1. For development in the following locations:</p> <ul style="list-style-type: none"> 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 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 <p>The car parking needs for a development must be provided off street</p>	<p>Parking is provided in accordance with 3.8 of the Corridor Guidelines set out in the PRCUTS Planning and Design Guidelines.</p> <p>All parking is to be provided at basement level.</p> <p style="text-align: right;">✓</p>	
Design guidance:	Comment:	Compliance:
Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site	N/A – no car share spaces provided as part of the proposed development.	N/A
Where less car parking is provided in a development, council should not provide on street resident parking permits	N/A – on street resident parking permits are not proposed as part of the development.	N/A
3J-2 Objectives:	Comment:	Compliance:
Parking and facilities are provided for other modes of transport	N/A – Parking and facilities for other modes of transport to be resolved at Development Application stage.	N/A
Design guidance:	Comment:	Compliance:
Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters	N/A – Parking and facilities for other modes of transport to be resolved at Development Application stage.	N/A
Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas	N/A – Parking and facilities for other modes of transport to be resolved at Development Application stage.	N/A

	Conveniently located charging stations are provided for electric vehicles, where desirable	N/A – Parking and facilities for other modes of transport to be resolved at Development Application stage.	N/A
3J-3	Objectives:	Comment:	Compliance:
	Car park design and access is safe and secure	Complies – see responses to Design Guidance.	✓
	Design guidance:	Comment:	Compliance:
	Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas and car wash bays can be accessed without crossing car parking spaces	Whilst location of services is to be resolved at Development Application stage, it is anticipated that services can be located such that crossing parking spaces is not required in order to access them.	✓
	Direct, clearly visible and well lit access should be provided into common circulation areas	Complies – lighting can be resolved at detailed design stage.	✓
	A clearly defined and visible lobby or waiting area should be provided to lifts and stairs	Complies.	✓
	For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	N/A – the proposed carpark, accommodating parking spaces at a rate in accordance with 3.8 of the Corridor Guidelines set out in the PRCUTS Planning and Design Guidelines, is not considered to be large.	N/A
3J-4	Objectives:	Comment:	Compliance:
	Visual and environmental impacts of underground car parking are minimised	Basement carparking is located entirely underground and is hence not likely to have any visual or environmental impacts.	✓
	Design guidance:	Comment:	Compliance:
	Excavation should be minimised through efficient car park layouts and ramp design	Complies.	✓

	Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles	Complies.	✓
	Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites	N/A – Basement carparking is located entirely underground.	N/A
	Natural ventilation should be provided to basement and sub basement car parking areas	To be resolved at Development Application stage.	✓
	Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	As above.	✓
3J-5	Objectives:	Comment:	Compliance:
	Visual and environmental impacts of on-grade car parking are minimised	Nil on-grade parking is proposed.	
	Design guidance		
	On-grade car parking should be avoided		
	Where on-grade car parking is unavoidable, the following design solutions are used: <ul style="list-style-type: none"> • parking is located on the side or rear of the lot away from the primary street frontage • cars are screened from view of streets, buildings, communal and private open space areas • safe and direct access to building entry points is provided • parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space • stormwater run-off is managed appropriately from car parking surfaces • bio-swales, rain gardens or on site detention tanks are provided, where appropriate • light coloured paving materials or permeable paving systems are used and shade trees are planted between 		N/A

every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving

3J-6 Objectives:

Visual and environmental impacts of above ground enclosed car parking are minimised

Design guidance

Exposed parking should not be located along primary street frontages

Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include:

- car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels)
- car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage (see figure 3J.9)

Positive street address and active frontages should be provided at ground level

Part 4 Designing the building

4A Solar and daylight access

4A-1 Objectives:

To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space

Comment:

35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).

Compliance:



Design criteria:	Comment:	Compliance:
1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas	35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).	✓
2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter	N/A – subject site is located within the Sydney Metropolitan Area.	N/A
3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	All apartments receive at least an hour of solar access in mid-winter.	✓
Design guidance:	Comment:	Compliance:
The design maximises north aspect and the number of single aspect south facing apartments is minimised	Complies.	✓
Single aspect, single storey apartments should have a northerly or easterly aspect	Where possible, single aspect, single storey apartments have northerly or easterly aspect.	✓
Living areas are best located to the north and service areas to the south and west of apartments	Where possible, living areas are located to the north and service areas to the south and west of apartments.	✓
To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used: <ul style="list-style-type: none"> • dual aspect apartments • shallow apartment layouts • two storey and mezzanine level apartments • bay windows 	35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).	✓
To maximise the benefit to residents of direct sunlight within living rooms and private open spaces, a minimum of 1m ² of direct	Complies.	✓

<p>sunlight, measured at 1m above floor level, is achieved for at least 15 minutes</p>		
<p>Achieving the design criteria may not be possible on some sites. This includes:</p> <ul style="list-style-type: none"> • where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source • on south facing sloping sites • where significant views are oriented away from the desired aspect for direct sunlight <p>Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective</p>	<p>N/A – 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).</p>	<p>N/A</p>
<p>4A-2 Objectives:</p>	<p>Comment:</p>	<p>Compliance:</p>
<p>Daylight access is maximised where sunlight is limited</p>	<p>35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%).</p>	<p>✓</p>
<p>Design guidance:</p>	<p>Comment:</p>	<p>Compliance:</p>
<p>Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms</p>	<p>Complies.</p>	<p>✓</p>
<p>Where courtyards are used :</p> <ul style="list-style-type: none"> • use is restricted to kitchens, bathrooms and service areas • building services are concealed with appropriate detailing and materials to visible walls • courtyards are fully open to the sky • access is provided to the light well from a communal area for cleaning and maintenance 	<p>Complies.</p>	<p>✓</p>

<ul style="list-style-type: none"> acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved 		
<p>Opportunities for reflected light into apartments are optimised through:</p> <ul style="list-style-type: none"> reflective exterior surfaces on buildings opposite south facing windows positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light integrating light shelves into the design light coloured internal finishes 	Complies.	✓
<p>4A-3 Objectives:</p>	<p>Comment:</p>	<p>Compliance:</p>
<p>Design incorporates shading and glare control, particularly for warmer months</p>	To be resolved at Development Application stage.	✓
<p>Design guidance:</p>	<p>Comment:</p>	<p>Compliance:</p>
<p>A number of the following design features are used:</p> <ul style="list-style-type: none"> balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting horizontal shading to north facing windows vertical shading to east and particularly west facing windows operable shading to allow adjustment and choice high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided) 	To be resolved at Development Application stage.	✓
<p>4B Natural ventilation</p>		

4B-1 Objectives:	Comment:	Compliance:
All habitable rooms are naturally ventilated	41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG.	✓
Design guidance:	Comment:	Compliance:
The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms	As above.	✓
Depths of habitable rooms support natural ventilation	Complies.	✓
The area of unobstructed window openings should be equal to at least 5% of the floor area served	Complies.	✓
Light wells are not the primary air source for habitable rooms	Complies.	✓
Doors and openable windows maximise natural ventilation opportunities by using the following design solutions: <ul style="list-style-type: none"> • adjustable windows with large effective openable areas • a variety of window types that provide safety and flexibility such as awnings and louvres • windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors 	To be resolved at Development Application stage.	✓
4B-2 Objectives:	Comment:	Compliance:
The layout and design of single aspect apartments maximises natural ventilation	41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG.	✓
Design guidance:	Comment:	Compliance:
Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3)	Complies.	✓

<p>Natural ventilation to single aspect apartments is achieved with the following design solutions:</p> <ul style="list-style-type: none"> • primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) • stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries • courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells 	Complies.	✓
4B-3 Objectives:	Comment:	Compliance:
<p>The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents</p>	41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG.	✓
Design criteria:	Comment:	Compliance:
<p>1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed</p>	41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG.	✓
<p>2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line</p>	Complies.	✓
Design guidance:	Comment:	Compliance:
<p>The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths</p>	Dual aspect apartments are limited due to privacy impacts associated with overlooking between the building elements. However, corner and cross through apartments are provided. Apartment depths are limited in accordance with Design Criteria 2 of 4B of the ADG.	✓

<p>In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) (see figure 4B.4)</p>	<p>Complies.</p>	<p>✓</p>								
<p>Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow</p>	<p>Complies.</p>	<p>✓</p>								
<p>Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow</p>	<p>Complies.</p>	<p>✓</p>								
<p>4C Ceiling heights</p>										
<p>4C-1 Objectives:</p>	<p>Comment:</p>	<p>Compliance:</p>								
<p>Ceiling height achieves sufficient natural ventilation and daylight access</p>	<p>Complies.</p>	<p>✓</p>								
<p>Design criteria:</p>	<p>Comment:</p>	<p>Compliance:</p>								
<p>1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are:</p> <table border="1" data-bbox="400 935 1131 1327"> <tr> <td colspan="2" data-bbox="400 935 730 1027"> Minimum ceiling height for apartment and mixed use buildings </td> </tr> <tr> <td data-bbox="400 1027 730 1088"> Habitable rooms </td> <td data-bbox="730 1027 1131 1088"> 2.7m </td> </tr> <tr> <td data-bbox="400 1088 730 1149"> Non-habitable </td> <td data-bbox="730 1088 1131 1149"> 2.4m </td> </tr> <tr> <td data-bbox="400 1149 730 1327"> For 2 storey apartments </td> <td data-bbox="730 1149 1131 1327"> 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> </table>	Minimum ceiling height for apartment and mixed use buildings		Habitable rooms	2.7m	Non-habitable	2.4m	For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area	<p>Complies.</p>	<p>✓</p>
Minimum ceiling height for apartment and mixed use buildings										
Habitable rooms	2.7m									
Non-habitable	2.4m									
For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area									

	Attic spaces	1.8m at edge of room with a 30 degree minimum ceiling slope		
	If located in mixed use areas	3.3m for ground and first floor to promote future flexibility of use		
Design guidance:			Comment:	Compliance:
Ceiling height can accommodate use of ceiling fans for cooling and heat distribution			Complies.	✓
4C-2 Objectives:			Comment:	Compliance:
Ceiling height increases the sense of space in apartments and provides for well proportioned rooms			Complies.	✓
Design guidance:			Comment:	Compliance:
A number of the following design solutions can be used: <ul style="list-style-type: none"> the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces well proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist 			To be resolved at Development Application stage.	✓
4C-3 Objectives:			Comment:	Compliance:
Ceiling heights contribute to the flexibility of building use over the life of the building			Flexibility of ground floor uses is ensured through the provision of 2 SOHO apartments, 3.6 metre floor to ceiling heights and direct access from the street.	✓

Design guidance:		Comment:	Compliance:										
Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses (see figure 4C.1)		As above.	✓										
4D Apartment size and layout													
4D-1	Objectives:	Comment:	Compliance:										
	The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	Complies.	✓										
Design criteria:		Comment:	Compliance:										
1. Apartments are required to have the following minimum internal areas:		Complies – all proposed apartments have area greater than minimum requirements.	✓										
<table border="1"> <thead> <tr> <th>Apartment type</th> <th>Minimum internal area</th> </tr> </thead> <tbody> <tr> <td>Studio</td> <td>35m²</td> </tr> <tr> <td>1 bedroom</td> <td>50m²</td> </tr> <tr> <td>2 bedroom</td> <td>70m²</td> </tr> <tr> <td>3 bedroom</td> <td>90m²</td> </tr> </tbody> </table>				Apartment type	Minimum internal area	Studio	35m ²	1 bedroom	50m ²	2 bedroom	70m ²	3 bedroom	90m ²
Apartment type	Minimum internal area												
Studio	35m ²												
1 bedroom	50m ²												
2 bedroom	70m ²												
3 bedroom	90m ²												
2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms		Complies.	✓										
Design guidance:		Comment:	Compliance:										
Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space)		Complies.	✓										

A window should be visible from any point in a habitable room	Complies.	✓
Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits	N/A – rooms forming part of the proposed development meet minimum dimension requirements.	N/A
4D-2 Objectives:	Comment:	Compliance:
Environmental performance of the apartment is maximised	<p>The environmental performance of the proposed development is maximised through:</p> <ul style="list-style-type: none"> • 35/41 apartments (85%) meet minimum solar access requirements set out in Design Criteria of 4A of the ADG (70%); and • 41/41 apartments (100%) meet minimum cross ventilation requirements set out in Design Criteria of 4B of the ADG. 	✓
Design criteria:	Comment:	Compliance:
1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height	Complies.	✓
2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	Complies.	✓
Design guidance	Comment:	Compliance:
Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths	Noted.	✓
All living areas and bedrooms should be located on the external face of the building	Complies.	✓

<p>Where possible:</p> <ul style="list-style-type: none"> • bathrooms and laundries should have an external openable window • main living spaces should be oriented toward the primary outlook and aspect and away from noise sources 	<p>Where possible:</p> <ul style="list-style-type: none"> • Bathrooms in corner apartments have high opacity windows to building circulation areas. ✓ • Main living spaces are oriented toward the primary outlook and aspect away from noise sources. 	
4D-3 Objectives:	Comment:	Compliance:
<p>Apartment layouts are designed to accommodate a variety of household activities and needs</p>	<p>Complies – see responses to Design Criteria.</p>	<p>✓</p>
Design criteria:	Comment:	Compliance:
<p>1. Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space)</p>	<p>Complies – all apartments have:</p> <ul style="list-style-type: none"> • Master bedrooms with minimum area 10m². • Other bedrooms with minimum area 9m². 	<p>✓</p>
<p>2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)</p>	<p>Complies – all bedroom have minimum dimension 3 metres.</p>	<p>✓</p>
<p>3. Living rooms or combined living/dining rooms have a minimum width of:</p> <ul style="list-style-type: none"> • 3.6m for studio and 1 bedroom apartments • 4m for 2 and 3 bedroom apartments 	<p>Complies – all living dining rooms have minimum width 3.6 metres for studios/1 bedroom apartments or 4 metres for 2/3 bedroom apartments.</p>	<p>✓</p>
<p>4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts</p>	<p>Complies.</p>	<p>✓</p>
Design guidance	Comment:	Compliance:
<p>Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas</p>	<p>Where possible, direct opening between living and service areas are minimised.</p>	<p>✓</p>

All bedrooms allow a minimum length of 1.5m for robes	To be resolved at Development Application stage.	✓
The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high	To be resolved at Development Application stage.	✓
<p>Apartment layouts allow flexibility over time, design solutions may include:</p> <ul style="list-style-type: none"> • dimensions that facilitate a variety of furniture arrangements and removal • spaces for a range of activities and privacy levels between different spaces within the apartment • dual master apartments • dual key apartments <p>Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments</p> <ul style="list-style-type: none"> • room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) • efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms 	Flexibility of ground floor uses is ensured through the provision of 2 SOHO apartments, 3.6 metre floor to ceiling heights and direct access from the street.	✓
4E Private open space and balconies		
4E-1 Objectives:	Comment:	Compliance:
Apartments provide appropriately sized private open space and balconies to enhance residential amenity	Complies.	✓
Design criteria:	Comment:	Compliance:

<p>1. All apartments are required to have primary balconies as follows:</p> <table border="1" data-bbox="400 288 1131 624"> <thead> <tr> <th>Dwelling type</th> <th>Minimum area</th> <th>Minimum depth</th> </tr> </thead> <tbody> <tr> <td>Studio apartments</td> <td>4m²</td> <td>-</td> </tr> <tr> <td>1 bedroom apartments</td> <td>8m²</td> <td>2m²</td> </tr> <tr> <td>2 bedroom apartments</td> <td>10m²</td> <td>2m²</td> </tr> <tr> <td>3+ bedroom apartments</td> <td>12m²</td> <td>2.4m²</td> </tr> </tbody> </table> <p>The minimum balcony depth to be counted as contributing to the balcony area is 1m</p>	Dwelling type	Minimum area	Minimum depth	Studio apartments	4m ²	-	1 bedroom apartments	8m ²	2m ²	2 bedroom apartments	10m ²	2m ²	3+ bedroom apartments	12m ²	2.4m ²	<p>Complies.</p> <p style="text-align: right;">✓</p>
Dwelling type	Minimum area	Minimum depth														
Studio apartments	4m ²	-														
1 bedroom apartments	8m ²	2m ²														
2 bedroom apartments	10m ²	2m ²														
3+ bedroom apartments	12m ²	2.4m ²														
<p>2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m² and a minimum depth of 3m</p>	<p>Complies.</p> <p style="text-align: right;">✓</p>															
<p>Design guidance:</p>	<p>Comment:</p>	<p>Compliance:</p>														
<p>Increased communal open space should be provided where the number or size of balconies are reduced</p>	<p>Private open space is provided in accordance with the minimum requirements set out in Design Criteria 1 of 4E of the ADG.</p> <p>1,150m² (88% of site area, exceeding 25% minimum requirement of Design Criteria 1 of 3D) is provided at Lower Ground (200m²), Ground (250m²) and Roof (700m²).</p>	<p style="text-align: right;">✓</p>														
<p>Storage areas on balconies is additional to the minimum balcony size</p>	<p>To be resolved at Development Application stage.</p>	<p style="text-align: right;">✓</p>														
<p>Balcony use may be limited in some proposals by:</p> <ul style="list-style-type: none"> consistently high wind speeds at 10 storeys and above 	<p>N/A – subject site is not within close proximity to a major road, rail line or other noise source and does not have</p>	<p style="text-align: right;">N/A</p>														

<ul style="list-style-type: none"> • close proximity to road, rail or other noise sources • exposure to significant levels of aircraft noise • heritage and adaptive reuse of existing buildings <p>In these situations, juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated</p>	<p>exposure to significant levels of aircraft noise. The proposal is to be built new, to a height of 5-6 storeys.</p>	
4E-2 Objectives:	Comment:	Compliance:
Primary private open space and balconies are appropriately located to enhance liveability for residents	Complies.	✓
Design guidance:	Comment:	Compliance:
Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space	Complies – balconies provided primarily adjoining living rooms.	✓
Private open spaces and balconies predominantly face north, east or west	Complies – private open spaces address Chester Street (north-east) or Johnstons Creek (north-west).	✓
Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	Complies – all balconies have longer sides facing outwards.	✓
4E-3 Objectives:	Comment:	Compliance:
Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building	Complies.	✓
Design guidance:	Comment:	Compliance:
Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual	Solid balustrades are provided in keeping with the heritage character of the locality.	✓

privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred		
Full width full height glass balustrades alone are generally not desirable	Full width full height glass balustrades are not proposed.	✓
Projecting balconies should be integrated into the building design and the design of soffits considered	N/A – No projecting balconies proposed.	N/A
Operable screens, shutters, hoods and pergolas are used to control sunlight and wind	Complies.	✓
Balustrades are set back from the building or balcony edge where overlooking or safety is an issue	Complies.	✓
Downpipes and balcony drainage are integrated with the overall facade and building design	To be resolved at Development Application stage.	✓
Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design	To be resolved at Development Application stage.	✓
Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design	To be resolved at Development Application stage.	✓
Ceilings of apartments below terraces should be insulated to avoid heat loss	To be resolved at Development Application stage.	✓
Water and gas outlets should be provided for primary balconies and private open space	To be resolved at Development Application stage.	✓
4E-4 Objectives:	Comment:	Compliance:
Private open space and balcony design maximises safety	Complies.	✓
Design guidance:	Comment:	Compliance:

	Changes in ground levels or landscaping are minimised	Complies.	✓
	Design and detailing of balconies avoids opportunities for climbing and falls	Complies.	✓
4F Common circulation and spaces			
4F-1	Objectives:	Comment:	Compliance:
	Common circulation spaces achieve good amenity and properly service the number of apartments	Complies.	✓
	Design criteria:	Comment:	Compliance:
	1. The maximum number of apartments off a circulation core on a single level is eight	A maximum of 8 apartments are to be provided per level.	✓
	2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	N/A – the proposal does not exceed 10 storeys in height.	N/A
	Design guidance:	Comment:	Compliance:
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement and access particularly in entry lobbies, outside lifts and at apartment entry doors	Corridor widths and/or ceiling heights are in accordance with relevant standards and/or controls.	✓
	Daylight and natural ventilation should be provided to all common circulation spaces that are above ground	Proposed common circulation is open air.	✓
	Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors	Proposed common circulation is open air.	✓
	Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: <ul style="list-style-type: none"> a series of foyer areas with windows and spaces for seating 	Proposed common circulation is open air.	✓

	<ul style="list-style-type: none"> wider areas at apartment entry doors and varied ceiling heights 		
	Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments	N/A – Single core provided.	N/A
	<p>Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including:</p> <ul style="list-style-type: none"> sunlight and natural cross ventilation in apartments access to ample daylight and natural ventilation in common circulation spaces common areas for seating and gathering generous corridors with greater than minimum ceiling heights other innovative design solutions that provide high levels of amenity 	Proposed number of apartments accessible from a circulation core is compliant with Design Criteria 1 of 4F of the ADG.	N/A
	Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	Proposed number of apartments accessible from a circulation core is compliant with Design Criteria 1 of 4F of the ADG.	N/A
	Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled	Complies – primary living rooms and bedrooms do not open directly onto common circulation spaces.	✓
4F-2	Objectives:	Comment:	Compliance:
	Common circulation spaces promote safety and provide for social interaction between residents	Complies – Proposed common circulation is open air.	✓
	Design guidance:	Comment:	Compliance:

Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	Complies – Proposed common circulation provides direct and legible access to apartments through minimal corridor lengths.	✓				
Tight corners and spaces are avoided	Complies.	✓				
Circulation spaces should be well lit at night	To be resolved at detailed design stage.	✓				
Legible signage should be provided for apartment numbers, common areas and general wayfinding	To be resolved at detailed design stage.	✓				
Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	To be resolved at Development Application stage.	✓				
In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space	N/A – The proposal incorporates 41 apartments and is therefore not considered to be a larger development.	N/A				
Where external galleries are provided, they are more open than closed above the balustrade along their length	Complies.	✓				
4G Storage						
4G-1 Objectives:	Comment:	Compliance:				
Adequate, well designed storage is provided in each apartment	To be resolved at Development Application stage.	✓				
Design criteria:	Comment:	Compliance:				
1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:	To be resolved at Development Application stage.	✓				
<table border="1"> <tr> <td>Dwelling type</td> <td>Storage size volume</td> </tr> <tr> <td>Studio apartments</td> <td>4m³</td> </tr> </table>	Dwelling type		Storage size volume	Studio apartments	4m ³	
Dwelling type	Storage size volume					
Studio apartments	4m ³					

1 bedroom apartments	6m ³
2 bedroom apartments	8m ³
3+ bedroom apartments	10m ³

At least 50% of the required storage is to be located within the apartment

Design guidance:	Comment:	Compliance:
Storage is accessible from either circulation or living areas	To be resolved at Development Application stage.	✓
Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street	To be resolved at Development Application stage.	✓
Left over space such as under stairs is used for storage	To be resolved at Development Application stage.	✓
4G-2 Objectives:	Comment:	Compliance:
Additional storage is conveniently located, accessible and nominated for individual apartments	To be resolved at Development Application stage.	✓
Design guidance:	Comment:	Compliance:
Storage not located in apartments is secure and clearly allocated to specific apartments	To be resolved at Development Application stage.	✓
Storage is provided for larger and less frequently accessed items	To be resolved at Development Application stage.	✓
Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible	To be resolved at Development Application stage.	✓

If communal storage rooms are provided they should be accessible from common circulation areas of the building	To be resolved at Development Application stage.	✓
Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain	To be resolved at Development Application stage.	✓