# Statement of Environmental Effects

Mayfair at North Penrith

160, 162 and 172 Lord Sheffield Circuit, North Penrith

**Submitted to Penrith City Council** 

On behalf of UPG Lord Sheffield 162 Pty Ltd





#### 'Gura Bulga'

Liz Belanjee Cameron

'Gura Bulga' - translates to Warm Green Country. Representing New South Wales.

By using the green and blue colours to represent NSW, this painting unites the contrasting landscapes. The use of green symbolises tranquillity and health. The colour cyan, a greenish-blue, sparks feelings of calmness and reminds us of the importance of nature, while various shades of blue hues denote emotions of new beginnings and growth. The use of emerald green in this image speaks of place as a fluid moving topography of rhythmical connection, echoed by densely layered patterning and symbolic shapes which project the hypnotic vibrations of the earth, waterways and skies.

Ethos Urban acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We acknowledge the Gadigal people, of the Eora Nation, the Traditional Custodians of the land where this document was prepared, and all peoples and nations from lands affected.

preliminary draft.

We pay our respects to their Elders past, present and emerging.

Contact	Stephen Gouge Associate Director			sgouge@ethosurban (02) 9956 6962	.com
This document h	as been prepared by:	Ala	, 2	This document has b	peen reviewed by:
Oscar Davie	11/11/2022	Julia Moiso	11/11/2022	Stephen Gouge	11/11/2022
Working Draft Final Draft Final	14/10/2022 11/11/2022 11/11/2022	Reproduction of this document or any part thereof is not permitted without written permission of Ethos Urban Pty Ltd. Ethos Urban operates under a Quality Management System. This report has been prepared and reviewed in accordance with that system. If the report is not signed, it is a preliminary draft			

**Ethos** Urban Ethos Urban Pty Ltd | ABN 13 615 087 931 | 173 Sussex Street Sydney NSW 2000 (Gadigal Land) | +61 2 9956 6962 | ethosurban.com

# **Contents**

1.0	Introduction	11
1.1	Background	12
1.1.1	Concept (Stage 1) Development Approval – MP10-0075	12
1.1.2	Invited Design Competition	12
1.2	Consultation	14
1.2.1	Penrith City Council	14
1.2.2	Design Integrity Panel	14
2.0	Site Analysis	15
2.1	Local Context – Thornton North Penrith	15
2.2	Site Description	15
2.2.1	Existing Site Condition	16
2.2.2	Existing Community Garden at Lot 3011	17
2.3	Land Ownership and Easements	18
2.4	Transport and Access	18
2.4.1	Vehicle Access	18
2.4.2	Pedestrian Access and Movement	18
2.4.3	Public Transport	18
	Active Transport	
2.5	Existing Flood Behaviour	20
2.5.1	Flood Events: PMF and 1% AEP	20
2.5.2	Localised Overland Flooding	20
2.6	Geotechnical and Groundwater Conditions	21
2.7	Site Contamination	
2.8	Lot 3011: No Present Intent to Deliver Bus Underpass	22
2.8.1	Potential Bike Path	22
2.9	Surrounding Development	
2.9.1	Recent DAs	
2.9.2	Surrounding Heritage Items	27
3.0	Description of Proposed Development	28
3.1	Summary Overview	28
3.2	Numerical Breakdown	29
3.3	Site Preparation and Excavation	30
3.3.1	Site Clearance and Vegetation Management	30
3.3.2	Bulk Excavation	30
3.3.3	Dewatering	30
3.4	Built Form and Design	30
3.4.1	Tower Forms: 'East Tower' and 'West Tower'	31
3.4.2	Podium	33
	Materials	
3.4.4	Façade Design	35
	Roof Level Communal Open Spaces	
	Tower Communal Rooftop	
	t Tower	

3.5	Landscape and Public Domain	39
3.5.1	Public Domain	39
3.5.2	Community Forecourt	39
3.5.3	'Bush Tucker Walk' and Community Garden	40
3.5.4	Soil Depth	4
3.5.5	Planting	41
3.6	Public Art	41
3.7	Dwelling Mix	42
3.7.1	Adaptable Apartment Units	43
3.8	Site Access	44
3.9	Parking Provision and Loading Facilities	44
3.9.1	Car Parking	44
3.9.2	Bike Storage	45
3.9.3	Loading and Servicing	45
3.10	Waste Management and Storage	45
3.10.1	Residential Waste Management	45
3.10.2	2 Commercial and Retail Waste Management	47
3.11	Building Services	47
3.12	Vertical Transport	47
3.13	Utilities and Services	48
3.14	Stormwater Management	48
3.14.1	Stormwater Filter Cartridges	48
3.14.2	2 On-Site Stormwater Detention	48
3.14.3	3 Erosion and Sediment Control	49
3.15	Subdivision	49
4.0	Planning Assessment	
4.1	NSW Legislation and Policies	
4.1.1	SEPP (Transport and Infrastructure) 2021	
	SEPP (Biodiversity and Conservation) 2021	
	Penrith Local Environmental Plan 2010	
4.3	Penrith Development Control Plan 2014	
	Part E, Chapter E11: Part B – North Penrith Precinct	
4.3.2	Part C: General Provisions	
4.4	Building Height and Overshadowing	
	Overshadowing	
4.4.2	Visual Impact	78
4.4.3	Design Excellence	
4.5	Dwelling Mix	80
4.6	Rail Interface Report	
4.6.1	Referrals	81
4.7	Draft Connecting with Country Framework	81
	Background	
4.7.2	Landscape Design Response	81
4.7.3	Public Art Response	82
4.7.4	· Lighting	82
4.8	Heritage	
4.8.1	Non-Aboriginal Heritage	83

4.8.3	Aboriginal Heritage	83
4.9	Traffic and Parking	84
4.9.1	Projected Traffic Generation	84
4.9.2	Parking	84
4.9.3	Bike Storage	84
4.9.4	Loading and Servicing	85
4.10	Contamination	85
4.11	Geotechnical	85
4.11.1	Key Considerations	86
4.11.2	Recommendations	86
4.12	Groundwater Take	87
4.13	Flooding	88
4.13.1	Existing Flood Behaviour	88
4.13.2	Plood Planning Requirements	88
4.13.3	Flood Risk Management Plan and Chief Flood Warden	89
4.13.4	Recommendations and Conclusion	89
4.14	Stormwater Management	89
4.14.1	Stormwater Quantity: On-Site Detention	90
4.14.2	Stormwater Quantity: Flood Planning	91
4.14.3	Stormwater Quality: Overview	91
4.14.4	4Construction Phase – Erosion and Sediment Control	91
4.15	Acoustic Amenity	92
4.15.1	Overview of Acoustic Survey	92
4.15.2	Noise Intrusion and Emission Criteria	93
4.15.3	Findings and Recommended Treatments	94
4.16	Ecologically Sustainable Design (ESD)	94
4.16.1	ESD Initiatives	94
4.16.2	Solar Photovoltaic (PV) System	95
4.17	Wind and Thermal Comfort Design Review	96
4.17.1	Ground Level Wind Comfort	96
4.17.2	Roof Level Wind Comfort	96
4.17.3	Thermal Comfort	97
4.18	Solar Reflection Screening Analysis	98
4.18.1	Screening Analysis	98
4.18.2	2 Detailed Analysis of Receptor Sites	99
4.19	Shoring Wall Design	100
4.20	Operational Waste Management	100
4.20.1	Residential Waste Management	100
4.21	Lot 3011	101
4.21.1	Bike Path	101
4.22	Construction Management	103
4.22.1	Construction Waste Management	104
	Crime Prevention Through Environmental Design	
4.24	BASIX	105
4.25	Building Code of Australia / National Construction Code	105
4.26	Fire Safety	105
4.27	Accessibility	105
	Retail Market	105
4.20	Site Suitability and Dublic Interest	106

# **Figures**

	Inselected Schemes (Cox and Scott Carver, above) and Winning Scheme (SJB, below)	
Figure 2 T	hornton North Penrith: Evolution from 2012 to 2022	15
Figure 3 T	hornton North Penrith: Evolution from 2012 to 2022	16
Figure 4 S	ite Image: View from Penrith Station (site boundary in red)	16
Figure 5 S	ite Image: View to Penrith Station from within Site (site boundary in red)	17
Figure 6 S	ite Images: Towards Rail Line (left) and Facing East from Centre of Site (right)	17
Figure 7 S	ite Images: Community Garden (Lot 3011) – Overview (left) and Seated Area (right)	17
Figure 8 S	tation Plaza: Facing East Towards Site (right) and Site Interface with Plaza (left)	18
Figure 9 P	Penrith Station and Station Interchange: Layout Diagram	19
Figure 10	Penrith Station and Station Interchange: General Images	19
Figure 11	Surrounding Bike Routes	.20
Figure 12	PMF Event Flood Modelling: Flood Depth (AHD) during PMF eventPMF Event Flood Modelling: Flood Depth (AHD) during PMF event	21
Figure 13	Overland Flood Modelling: Probable flow pattern around site	21
Figure 14	Commitment 24: Bus Underpass via Lot 3011 (no present intent to deliver)	. 22
Figure 15	Panorama of Ron Mulock Oval - Community Centre in Left Foreground	.24
Figure 16	South towards Adjacent Defence Force Land from Lord Sheffield Circuit	.24
Figure 17	West towards Multi-Level Car Park from Station Overpass – Rail Line in Left Foreground	.24
Figure 18	Immediate North: Residential Development at 81 and 83 Lord Sheffield Circuit	.24
Figure 19	Recent Approvals Near Site	.26
_	Surrounding Heritage Items	. 27
Figure 21		
	Elevation Extracts: Proposed Tower Forms	
	Elevation Extracts: Proposed Tower Forms – Regular Tower Floorplate	
_	Extract: Close Up Colonnade Sections from Design Report (Appendix C)	
	Extract: Podium Form – Ground Level Layout (retail units shown in blue)	
	Extract: Podium Form - Level 1 Layout (flexible commercial floorspace shown in yellow)	
	Extract of Proposed Materials Palette	
_	Photomontage: Façade Expression to Lord Sheffield Circuit	
_	Photomontage: Façade Expression at East Elevation	
_	Photomontage: Façade Expression to Station Plaza	
Figure 31		
_	Landscape Masterplan Extract: East Tower Rooftop Communal Space	
	Landscape Masterplan Extract: East Tower Rooftop 'Section A'	
	Landscape Masterplan Extract: West Tower Rooftop Communal Space	
	Landscape Masterplan Extract: East Tower Rooftop 'Section B'	
_	Landscape Masterplan Extract: Lord Sheffield Circuit Interface	
_	Landscape Masterplan Extract: 'Community Forecourt'	
	Landscape Masterplan Extract: Community Garden and 'Bush Tucker Walk'	.40
	Extract: Proposed Planting Palette	41
	Potential Locations for Public Art	
_	Public Art Precedent Images Referenced by the Landscape DA Design Report	
	Apartment B202 Example: Pre-Adaption (left) and Post-Adaption (right) Layouts	
•	Site Access Diagram	
	Use Breakdown Diagram: Main Waste Storage Facility	
	Overview of Proposed Easements	
	Shadow Diagram Extracts	
	Proposed Development: Views from Public Domain (incl. 35.2m height plane)	
	Proposed Development: Extent of Protrusion Above 35.2m Height Plane	
	Acoustic Benefit of Elongated Tower Form (right) versus Separated Blocks (left)	
_	Precedent Images: Indigenous Planting for 'Bush Tucker Walk' and Community Garden	
	Precedent Images: Interpretation of Country through Public Art	
_	Precedent Image: Ground Surface 'Gobo Lighting'	
_	Geotechnical Investigation: Borehole Locations and Drilling Depths	
_	Seepage Model Diagram Extract: 'Section BB'	
	Location of OSD Tank A and OSD Tank B at Ground Level	
. 19410 33	2000.0. 0. 00D Tarrit, tarra 00D Tarrit, Dat Ordaria Level	

	ure 56 Noise Logging Sites and Identified Receivers	
_	ure 57 Potential Locations for PV Solar Panels (red)ure 58 Extract: Ground Level (above) Roof Level (below) Wind Comfort Diagrams	
	ure 59 Extract: Example of Potential Control Measures to Address Thermal Comfort Matters	
	ure 60 Extract: Peak Annual Reflected Solar Irradiance	
_	ure 61 Extract: % of Time Above Luminance Threshold	
	ure 62 Solar Reflection Screening Analysis: Receptor Sites	
	ure 63 Spatial Provision for Bike Path through Lot 3011	
	ure 64 Extract: Preliminary Site Establishment Plan	
Fig	ure 65 Overview of Retail Opportunities	106
Ta	ables	
	ble 1 Legal Description of Site	
	ble 2 Overview of Surrounding Development	
	ble 3 Description of Surrounding Heritage Items	
	ble 4 Numerical Breakdown	
	ble 5 Proposed Dwelling Mix	
	ble 6 Summary of consistency with NSW State Legislation and Policies	
	ole 7 SEPP (Transport and Infrastructure) 2021: Traffic Generating Development Thresholds	
	ble 8 SEPP (Biodiversity and Conservation) 2021: Chapter 9	
	ble 9 PLEP 2010: Assessment Against Relevant Provisions ble 10 Part E, Chapter E11: Part B – North Penrith Precinct	
	ble 11 PDCP 2014: Assessment Against Relevant General Provisions (Part C)	
	ble 12 Proposed Traffic Generation	
	ble 13 On-Site Stormwater Detention Requirements	
A	opendices	
Α	Architectural Plans	
	SJB	
В	Survey	
	SDG Group	
С	Design Report	
	SJB	
D	SEPP 65 Design Verification Statement	
	SJB	
E	Pre-DA Meeting Minutes	
	City of Penrith	
F	Response to Pre-DA Meeting Feedback	
	Ethos Urban	
G	Response to Design Competition Jury Feedback to Winning Scheme	
	Ethos Urban	
Н	Response to Design Integrity Panel Feedback	
	Ethos Urban	
ı	Landscape Development Application Design Report	

Ethos Urban | 2210647

Arcadia

Arcadia

Landscape Detail Drawings

K Invited Design Competition Jury Report

Ethos Urban

L Design Integrity Panel Documentation

Design Integrity Panel

M Noise Impact Assessment

Pulse White Noise Acoustics

N Flood Impact and Risk Management Report

Integrated Group Services

O Ecologically Sustainable Development (ESD) Framework and Options Report

Integrated Group Services

P Solar Reflection Screening Analysis

RWDI Australia

**Q** BASIX Assessment and Certificate

DMN/12/1451

**R** BCA Regulatory Compliance Report

McKenzie Group Consulting

S Accessibility Compliance Report

Access Link Consulting

T Building Services Report

Integrated Group Services

U Preliminary Construction Management Plan

Urban Property Group

V Environmental Site Assessment Report

El Australia

W Geotechnical Investigation Report

El Australia

**X** Groundwater Take Assessment

El Australia

Y Arboricultural Impact Assessment

Advanced Treescape Consulting

**Z** Capital Investment Value Report

Construction Consultants

**AA** Retail Market Report

Place Narrative and Research

**BB** Fire Engineering DA Statement

Fire Engineering Professionals

**CC** Civil Design and Stormwater Management Plan

Enscape Studio

**DD** Piling Report

Van Der Meer

**EE** Traffic Impact Statement

Varga Traffic Planning

FF Operational Waste Management Plan

Elephants Foot

GG Wind and Thermal Comfort Design Review

Wind and Thermal Comfort Design Review

**HH** Rail Interface Report

Macroplan

II Clause 4.6 Variation Request

Ethos Urban

JJ Digital 3D Model

SJB

**KK** Archaeological Heritage Report and Aboriginal Heritage Due Diligence Assessment

**LL** Non-Aboriginal Heritage Impact Statement

Weir Phillips

**MM** Email Correspondence from Transport for New South Wales

Transport for New South Wales

NN Plan Showing Spatial Provision for Bike Path at Lot 3011

SJB





# 1.0 Introduction

This Statement of Environmental Effects (SEE) is submitted to Penrith City Council (Council) on behalf of UPG Lord Sheffield 162 Pty Ltd (the Proponent) in support of a Development Application (DA) for a new mixed-use development at 160-172 Lord Sheffield Circuit, North Penrith.

Specifically, this DA seeks approval for the construction of a new mixed-use development that will be known as 'Mayfair at North Penrith', and will consist of:

#### • 2x Residential Towers:

2x residential towers above a joint commercial podium, with ground floor retail, containing:

#### o 'East Tower':

To consist of 8 levels above the podium (excl. rooftop), which will include:

- 152x residential apartments.
- Common circulation areas.
- Rooftop open space, incl. 1x swimming pool, landscaping and communal amenities.

#### o 'West Tower':

- 135x residential apartments.
- Common circulation areas.
- Rooftop open space, incl. 1x swimming pool, landscaping and communal amenities.

## o <u>2-Storey Podium:</u>

- 14x ground level retail units, including a unit where design provision has been made for conversion to 2x split tenancies if needed, with a combined GFA of 1794m<sup>2</sup>.
- Flexible commercial floorspace across Level 1 with a GFA of 4331m<sup>2</sup>.

# • 3x Basement Parking Levels:

3x joint basement parking levels, which will accommodate a total of 410 car parking spaces, including:

- o 331x car parking spaces allocated for the use of residential occupants (incl. 30x accessible).
- o 79x car parking spaces allocated for the use of commercial / retail tenants (incl. 2x accessible).

# Landscaping and Communal Spaces:

Landscaping, public domain improvements, and communal open spaces, including:

## o Public Domain Improvements:

- Additional public domain curtilage at ground level, including a pedestrian colonnade to the Lord Sheffield Circuit and Station Plaza interfaces.
- Provision of additional street trees and retention of existing trees at the Lord Sheffield Circuit and Station Plaza interfaces.

#### o Communal Open Spaces and Facilities:

- 2x communal open spaces at the roof levels of the East Tower and the West Tower, each to include a swimming pool and other facilities for residential occupants.
- 1x community garden at ground level towards the south-east corner of the site.

# • Building Services:

All proposed building services are accommodated at ground level and within the basement.

This SEE has been prepared by Ethos Urban on behalf of Urban Property Group, and is based on the Architectural Plans provided by SJB (see **Appendix A**), in addition to other supporting technical documents that is appended to this report (see Table of Contents).

# 1.1 Background

# 1.1.1 Concept (Stage 1) Development Approval – MP10-0075

The original Major Projects approval for the Thornton Precinct ('the North Penrith Defence Site') was granted by the NSW Minister for Planning and Infrastructure on 9 November 2011.

The original Part 3A Concept Plan (MP10\_0075) and Stage 1A Project Application (MP10\_0078) submitted by Urban Growth NSW (formerly Landcom) provided for mixed use and residential precinct development on the 40-hectare site.

The original Major Projects approvals are summarised as follows:

- Part 3A Concept Plan (MP10\_0075): Concept mixed use residential development comprising 1,000 new dwellings, a village centre with commercial (10,625 sqm), retail (4,500 sqm), and community land uses, light industrial uses (7,000 sqm), public open space, and heritage conservation.
- Stage 1 Project Application (MP10\_0078): First subdivision stage (site preparation works, traffic control measures, bulk earthworks, internal and external road works, landscaping, and staged subdivision).

The Part 3A Concept Plan included Design Guidelines that established standards for urban design, built form and environmental management for the precinct. The Design Guidelines also included street design and hierarchy, landscape treatments for different types of open space, and public domain materials and treatments.

A State Significant Site listing for Thornton Precinct was sought concurrently with the Major Projects applications to enable rezoning of the land. With the approval of the State Significant Site listing, the State Environmental Planning Policy (Major Development) Amendment (North Penrith) 2010 was gazetted on 25 November 2011.

The original Part 3A project approvals established the planning approval framework for the subsequent future development, subdivision, infrastructure, and public open space of the Thornton Precinct.

### 1.1.2 Invited Design Competition

In accordance with Clause 8.4 of the Penrith Local Environmental Plan 2010 (PLEP 2010), an Architectural Design Competition was held in relation to the site at 160, 162 and 172 Lord Sheffield Circuit, Penrith. The applicant invited three architectural firms to participate in the design competition, being:

- Cox Architecture.
- Scott Carver Architecture.
- SJB Architects.

The architectural firms invited to participate were selected due to their demonstrated ability to design high-quality and sustainable transit orientated developments and commitment to timeless design and place making.

Each of the three competing design schemes provided a distinct and inventive response to the Competition Brief, with each Competitor presenting a high-quality written submission to address the complexities of the site and the importance of the site as a key gateway site for the North Penrith Town Centre. Photomontages of the three competing design schemes are provided at **Figure 1**.





Figure 1 Unselected Schemes (Cox and Scott Carver, above) and Winning Scheme (SJB, below)

Source: Cox; SJB; Scott Carver

The Competition Jury unanimously agreed that scheme presented by SJB Architects was most capable of achieving design excellence in accordance with the LEP, subject to resolution of matters identified in the Jury Report.

It is further noted that, as stated in the Endorsed Design Competition Report, the Jury will have an ongoing role throughout the design development process as the Design Integrity Panel (DIP). It is understood that the Jury (or DIP) have the responsibility of evaluating the final DA proposal prior to lodgement (refer to **Section 1.2.2**).

Matters that were raised by the Jury at this stage of the project are considered in relation to the detailed design scheme proposed by this DA at **Appendix G**.

# 1.2 Consultation

# 1.2.1 Penrith City Council

The proponent engaged in Pre-DA consultation with Penrith City Council at a meeting held on 2 August 2022. Written Pre-DA feedback was provided by Council to the Proponent on the 22 August 2022.

The items that were raised in the Pre-DA Minutes provided by Council are addressed at **Appendix F**. A copy of the Pre-DA Minutes is provided at **Appendix D**. A response to the matters that are raised in the Pre-DA Minutes is provided at **Appendix F**.

# 1.2.2 Design Integrity Panel

As mentioned at **Section 1.1.2**, the Design Competition Jury have had an ongoing role throughout the design development process as the Design Integrity Panel (DIP).

The Competition Jury (current DIP) evaluated the final design scheme on 16 September 2022, which has been the subject of further minor design changes to address DIP commentary to the scheme. The detailed design scheme that is reflected at **Appendix A** incorporates these design changes, which are assessed against matters raised by the DIP at **Appendix H.** 

# 2.0 Site Analysis

# 2.1 Local Context - Thornton North Penrith

Thornton North Penrith Precinct is a strategically significant site in Western Sydney, located in a prominent location adjacent to the Penrith Train Station and Penrith Town Centre. It was declared a State Significant Site by the Minister for Planning to accommodate significant residential and employment growth for the region.

The site occupies a prominent location at the interface between Thornton North Penrith Precinct, Penrith Train Station, and the CBD. The urban context of the site is predominantly characterised by recently constructed development associated with the Thornton North Penrith Precinct.

The site comprises one of the last remaining undeveloped areas of land within the precinct. The location and evolution of development within the locale of Thornton North Penrith Precinct is shown at **Figure 2.** 

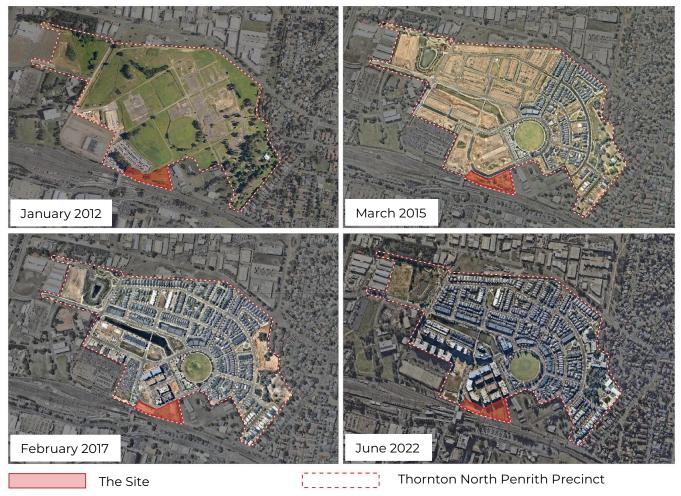


Figure 2 Thornton North Penrith: Evolution from 2012 to 2022

Source: Nearmap / Ethos Urban

# 2.2 Site Description

The Site comprises three (3) lots of vacant land known as 160, 162 and 172 Lord Sheffield Circuit, Penrith. The Site has a total area of 8,281m², with approximately 170.44m of frontage to Lord Sheffield Circuit.

The western portion of the site (Lot 3011 DP1184498) accommodates the Thornton Community Garden. The Thornton Community Garden is leased to and managed by the Thornton Community Group, who we understand are seeking to relocate the community garden to an alternative site. The existing community garden is further discussed at **Section 2.2.2**.

The legal description for each lot within the site is listed at **Table 1**. The arrangement of these lots within the site is shown at **Figure 3**.

**Table 1 Legal Description of Site** 

Address	Legal Description	Area (approx.)	Map Reference Refer to Figure 2
160 Lord Sheffield Circuit	Lot 3011 DP 1184498	1136.4m²	1
162 Lord Sheffield Circuit	Lot 3001 DP 1184498	4414.7m <sup>2</sup>	2
172 Lord Sheffield Circuit	Lot 3002 DP 1184498	2726.7m <sup>2</sup>	3



Figure 3 Thornton North Penrith: Evolution from 2012 to 2022

Source: Nearmap / Ethos Urban

### 2.2.1 Existing Site Condition

The site has been cleared and is currently vacant, notwithstanding the community garden that exists within Lot 3011. One tree exists at the east portion of the site.

There is no other established vegetation at the site, which primarily consists of managed grassland. Images of the site are provided at **Figure 4** to **Figure 6**.



Figure 4 Site Image: View from Penrith Station (site boundary in red)

Source: Ethos Urban



Figure 5 Site Image: View to Penrith Station from within Site (site boundary in red)

Source: Ethos Urban



Figure 6 Site Images: Towards Rail Line (left) and Facing East from Centre of Site (right)

Source: Ethos Urban

# 2.2.2 Existing Community Garden at Lot 3011

As mentioned, the west portion of the site (Lot 3011) comprises the Thornton Community Garden. The community garden comprises of planter boxes, seating, framing for shade tarpaulins, and other temporary structures that will be moved off-site.

The existing community garden is shown at Figure 7.



Figure 7 Site Images: Community Garden (Lot 3011) – Overview (left) and Seated Area (right)

Source: Ethos Urban

# 2.3 Land Ownership and Easements

The site is owned by Urban Property Group and has several easements. The Concept Plan (MP10\_0075) Statement of Commitments notes that that relevant approvals and licences from utility and service providers are necessary to support the redevelopment of the site. Existing easements are shown in the Site Survey (**Appendix B**).

Further reference should be made to the Building Services Report (**Appendix S**) and Rail Corridor Interface Report (**Appendix HH**) in relation to the proposed arrangement for easements and affections across the site.

# 2.4 Transport and Access

#### 2.4.1 Vehicle Access

Vehicle access to the site is provided from Lord Sheffield Circuit. Access to the broader local road network is primarily provided via Coreen Avenue to the north, Parker Street and Richmond Road to the east and Castlereagh Road to the west.

#### 2.4.2 Pedestrian Access and Movement

The North Penrith (Thornton) Precinct is planned with footpaths provided on both sides of Lord Sheffield Circuit and the surrounding local street network.

The site is a 400m (6 minute) walk from Westfield Penrith, and is under five minutes walk from the intersection of Great Western Highway and Station Street which marks the beginning of the City Centre.

Immediately adjacent to the site (west) is a pedestrian plaza that doubles as a forecourt to the northern entrance of Penrith Station. This plaza is known as the 'Station Plaza'. Penrith Station includes a covered pedestrian overbridge across the Western Rail Line.

Images of the Station Plaza, including the site interface with the plaza, are provided at Figure 8.





Figure 8 Station Plaza: Facing East Towards Site (right) and Site Interface with Plaza (left)

Source: Ethos Urban

#### 2.4.3 Public Transport

The site is adjacent to the northern entry of Penrith Station, which is serviced by the TI Western Line and the Blue Mountains Line. These train lines provide direct links to Sydney CBD, Parramatta CBD and the Blue Mountains. There is a combined eastbound rail service every 4 to 5 minutes during peak periods.

Penrith Station Interchange is located on the southern and northern sides of Penrith Station. The interchange includes bus stands and taxi ranks. The focus of the Penrith bus network is the interchange on the southern side of Penrith Station.

The layout of Penrith Station and the Interchange is shown at **Figure 9**. General images of the station and interchange are provided at **Figure 10**.



Figure 9 Penrith Station and Station Interchange: Layout Diagram

Source: Transport for NSW







Figure 10 Penrith Station and Station Interchange: General Images

Source: Transport for NSW

# 2.4.4 Active Transport

There are several shared paths and marked bike routes that are located within the vicinity of the site. These routes support the use of active transport modes from the site towards Penrith CBD (south), surrounding suburban areas (north, east), and several schools.

The surrounding network of bike routes (on and off-road) is shown at Figure 11.

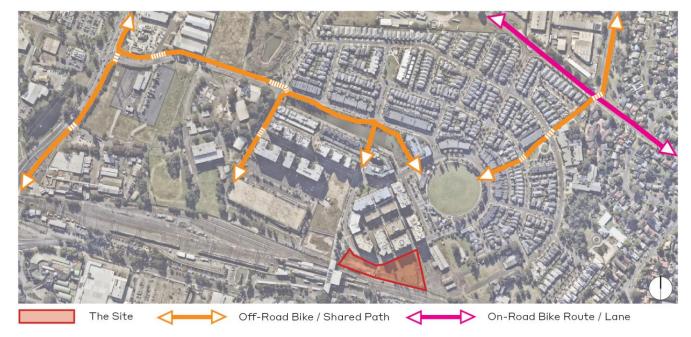


Figure 11 Surrounding Bike Routes

Source: Nearmap / Ethos Urban (trail data sourced from Transport for NSW)

# 2.5 Existing Flood Behaviour

Existing flood behaviour at the site is summarised at **Section 2.5.1** and **Section 2.5.2**. For additional information regarding the flood planning context for the site, reference should be made to the Flood Impact and Risk Management Report (**Appendix N**).

#### 2.5.1 Flood Events: PMF and 1% AEP

The site is located ~1.35km to the east of the Nepean River, and is susceptible to mainstream flooding during extreme storm events. The Nepean River Flood Study (2018) identifies the site within the area of flood-liable land that is affected by the Probable Maximum Flood (PMF) event. The flood level during the PMF event is approximately 30.45m AHD with varying flood depths of 3-4m.

In noting the above, it is acknowledged that the site is not affected by 1% AEP storm events. There is no hazard associated with 1% AEP Mainstream flooding on this site. However, some hazards will be related to the area due to the local catchment flooding events due to potential blockages of stormwater networks and road cut-offs.

The modelled PMF event flood depth at the site is shown at Figure 12.

#### 2.5.2 Localised Overland Flooding

The Penrith CBD Floodplain Risk Management Study (Molino Stewart, 2020) identifies that the east periphery of the site is affected by overland flows. Due to the flat topography of the site, there is potential for overland flows to affect the east periphery of the site during extreme storm events. The southern site boundary that adjoins the rail corridor is also identified as a potential location for localised flooding.

As mentioned at **Section 2.5.1**, the 1% AEP storm event flood overlay does not include the site. However, the site is affected by 1% AEP event overland flows towards the east site boundary, in addition to overland flows that respond to the natural depression on Lord Sheffield Circuit.

Former flood modelling has identified the probable flow pattern around the site during the 1% AEP storm event. An extract of this model is provided at **Figure 13** for reference.

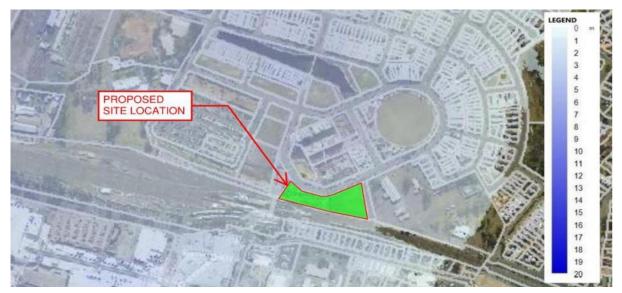


Figure 12 PMF Event Flood Modelling: Flood Depth (AHD) during PMF event

Source: Penrith City Council



Figure 13 Overland Flood Modelling: Probable flow pattern around site

Source: Integrated Group Services

# 2.6 Geotechnical and Groundwater Conditions

Information on regional subsurface conditions, referenced from the Department of Mineral Resources Geological Map Penrith 1:100,000 Geological Series Sheet 9030 (DMR 1991) indicates the site to be underlain by gravel, sand, silt and clay.

This is underlain by Bringelly Shale, consisting of shale, carbonaceous claystone, laminate, lithic sandstone and rare coal.

A site-specific geotechnical model has been prepared to further establish existing subsurface conditions at the site, including groundwater levels. This is further considered at **Section 4.11**.

## 2.7 Site Contamination

A Detailed Environmental Site Assessment has been completed by EI Australia (**Appendix V**). This report establishes that there is low potential for contaminated material at the site, which was deemed to present a suitable location for the proposed development. In this regard, it is noted that:

• The site is not subject to any statutory notice under the Contaminated Land Management Act 1997 and/or the Protection of the Environment Operations Act 1997. The site is also not included on the List of NSW Contaminated Sites Notified to the EPA.

• No visual evidence of contamination was observed during a physical site inspection, and the potential for acid sulfate soils to be present at the site was deemed to be low.

# 2.8 Lot 3011: No Present Intent to Deliver Bus Underpass

As outlined at **Section 1.1.1**, the site is subject to an approved Concept Plan (MP10-0075). It is therefore necessary for this DA to consider the Statement of Commitments as it applies to the site. The Statement of Commitments are provided at Schedule 3 of the original Instrument of Approval for the Concept Plan.

We note that there have been no amendments to the Statement of Commitments made by any of the modifications to the Concept Plan.

In regard to the above, it is noted that the Statement of Commitments identifies the east part of the site (Lot 3011) as part of a potential bus corridor to be delivered in the future, as shown at **Figure 14**. Specifically, Commitment 24 establishes Landcom's responsibility to reserve Lot 3011 in order to make provision for a bus underpass beneath the Western Rail Line.

Noting the dated status of Commitment 24, the Proponent has consulted Transport for New South Wales (TfNSW) in order to confirm present intent (or lack thereof) to deliver this bus underpass. TfNSW has since provided the following statement to confirm that there is no present intention to deliver this bus underpass:

"Please be advised at this stage, TfNSW (Roads) has no proposal which currently requires any part of Lot 3011. TfNSW also does not have any plans over the subject property from a bus perspective. However please note, TfNSW has commenced work on developing the Strategic Cycleway Corridors (SCC) for Western Parklands City. Therefore until the SCC works are complete, TfNSW would be reluctant to relinquish any land reservation at this stage"

The statement above was provided via email correspondence from TfNSW (refer to Appendix MM).

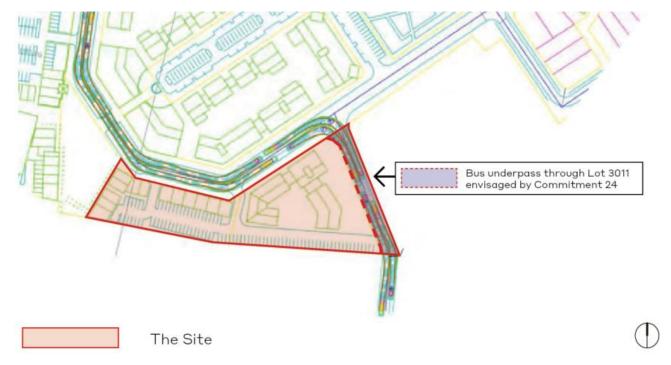


Figure 14 Commitment 24: Bus Underpass via Lot 3011 (no present intent to deliver)

Source: Nearmap / Ethos Urban / DPE

# 2.8.1 Potential Bike Path

While confirmation has been received that there is no present intent to deliver a bus underpass through Lot 3011, it is understood from discussions with TfNSW that reasonable provision is to be made for the potential delivery of a bike path through Lot 3011.

Specifically, it is noted that reasonable spatial provision is to be provided by way of a 3,000mm wide strip within Lot 3011 where it adjoins the east site boundary. This matter has been sufficiently addressed by the proposal, as discussed at **Section 4.21.1**. Reference should also be made to the plan showing a provisional location for the potential bike path at **Appendix NN**.

# 2.9 Surrounding Development

An overview of development that surrounds the site is provided at **Table 2**. Images of development surrounding the site are provided from **Figure 15** to **Figure 19**.

Table 2 Overview of Surrounding Development

Direction	Summary
North	The site is bounded by Lord Sheffield Circuit to the north. The other side of Lord Sheffield Circuit is fronted by several residential flat buildings that were constructed following several recent DA approvals (refer to <b>Section 2.9.1</b> ).  Ron Mulock Oval is located approximately ~100m north-east of the site. Two playgrounds and the Thornton <i>Community</i> Centre are located at the periphery of Ron Mulock Oval
South	The southern site boundary adjoins the western rail corridor and Penrith Station. The Penrith Station Interchange is located to the immediate south-east of the station terminal.
	Belmore Street runs adjacent to the opposite side of the rail corridor, which separates this street from the site. A significant retail and commercial cluster begins from the southern side of Belmore Street. This retail and commercial cluster functions as the primary offering for the Penrith CBD.  The Westfield Penrith shopping mall is located further to the south-west of the site beyond Belmore Street. This shopping mall is the primary retail anchor for the Penrith CBD.
East	The east site boundary adjoins the property at 10 The Crescent. This property is Government owned Defence Force land that is subject to a SPI Special Activities Zoning application.  Further east, single-detached residential dwellings become the prevailing form of development. Nepean Hospital is located 1.8km to the south-east beyond the rail corridor.
West	The site is immediately adjacent to the Station Plaza, which adjoins the west site boundary. The northern entry to Penrith Station is located within the area of the Station Plaza approximately ~15m from the west site boundary.
	West across the Station Plaza is 184-192 Lord Sheffield Circuit, which will be developed under DA-22/0213 (refer to <b>Section 2.9.1</b> ).
	A multi-level car parking building is located further west, which is accessible to the site via a pedestrian walkway that bisects 184-192 Lord Sheffield Circuit



Figure 15 Panorama of Ron Mulock Oval – Community Centre in Left Foreground

Source: Ethos Urban



Figure 16 South towards Adjacent Defence Force Land from Lord Sheffield Circuit

Source: Ethos Urban



Figure 17 West towards Multi-Level Car Park from Station Overpass – Rail Line in Left Foreground

Source: Ethos Urban



Figure 18 Immediate North: Residential Development at 81 and 83 Lord Sheffield Circuit

Source: Ethos Urban

#### 2.9.1 Recent DAs

The urban context of the site is characterised by recently approved and constructed development associated with Thornton North Penrith Precinct, including several residential apartment buildings to the immediate north of the site across Lord Sheffield Circuit.

Recent DAs are summarised in list form below, and are shown in relation to the site at **Figure 19** over page.

#### DA-22/0214 and DA-22/0213: 184-192 Lord Sheffield Circuit (Under Assessment)

- o <u>184 Lord Sheffield Circuit (DA-22/0213):</u> Mixed-use development, including 2x residential towers (13 and 31-storeys) to accommodate 316 residential apartments, ground level retail, and commercial tenancies. Lodged on 11 March 2022.
- o 192 Lord Sheffield Circuit (DA-22/0214): Mixed-use development, including 2x residential towers (13 and 25-storeys) to accommodate 237 residential apartments, ground level retail, and commercial tenancies. Lodged on 11 March 2022.

#### DA-18/0298: 91 Lord Sheffield Circuit (Completed)

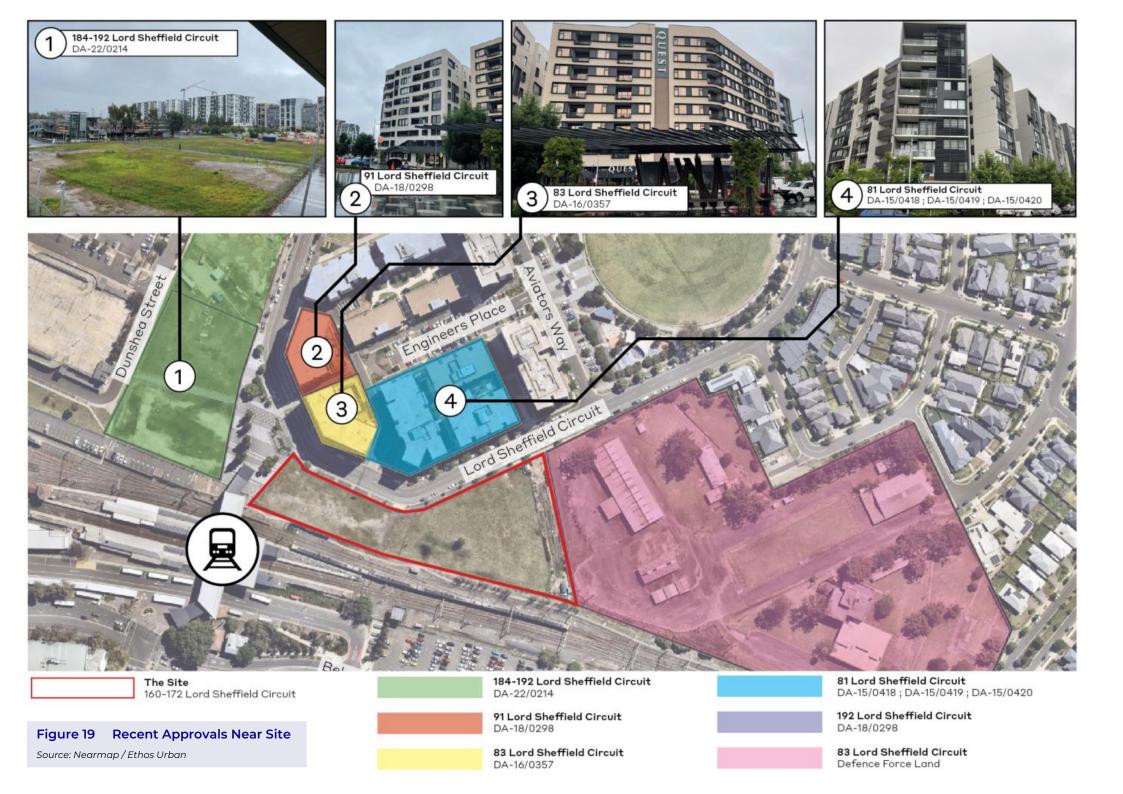
Completed 9-storey residential flat building, including 48 residential apartments and several ground level retail tenancies. Approved 26 March 2018.

# DA-16/0357: 83 Lord Sheffield Circuit (Completed)

Completed 8-storey serviced apartment building, comprising 61 apartments (47 dual-key) and several ground level retail tenancies. Approved 13 September 2016.

### • DA-15/0418 to DA-15/0420: 81 Lord Sheffield Circuit (Completed)

Several completed residential flat buildings, each ~9-storeys in height, comprising 191 residential apartments in total. These buildings are located to the immediate north of the site across Lord Sheffield Circuit. Approved 17 September 2017.



# 2.9.2 Surrounding Heritage Items

There are 5 local heritage items listed by Schedule 5 Part 1 of the Penrith LEP 2010 and 1 item listed on the State Heritage Register under the NSW Heritage Act 1977 that are located within the vicinity of the site. These heritage items are described at **Table 3**, and are shown in relation to the site at **Figure 20**.

**Table 3 Description of Surrounding Heritage Items** 

Listing	Description
State Heritage Listed Items	
'Penrith Railway Station Group' State Heritage ID: No.01222 LEP Schedule 5 ID: No.187	The south site boundary adjoins the state heritage listed 'Penrith Railway Station Group'.  The Statement of Significance prepared by Heritage NSW establishes that the station is of state heritage significance for reasons including:  Original station buildings from the 1860s-1890s.  The Penrith Signal Box, turntable, water tank and associated items are identified to exhibit significant heritage values as part of the 'Railway Station Group'.
'Station Master's House (former)' State Heritage ID: No.1222 LEP Schedule 5 ID: No.188	The 'Station Master's House' is included as part of the same state heritage listing (ID: No.1222), however it is identified as a separate item under Schedule 5 of the PLEP 2012 (ID: No.188). The Station Master's House was constructed between 1877-1888. This item is of particular significance to the Penrith Railway Station group heritage listing.
Local Heritage Listed Items	
'Penrith Council Chambers (former)' LEP Schedule 5 ID: No.189	The 2-storey brick building that was constructed in 1959. The former Council chambers represent the first chambers of the (then)newly incorporated City of Penrith Council.
<b>'TAFE Building'</b> LEP Schedule 5 ID: No.689	The 2-storey TAFE Building is one of Penrith's first modern civic buildings to be constructed in what was referred to by the Statement of Significance as 'international style'.
<b>'Red Cow Hotel'</b> LEP Schedule 5 ID: No.690	The Red Cow Hotel is located to the immediate south-west of Penrith Station across Jane Street. The building is unique in Penrith as an extant inn of the mid nineteenth century.

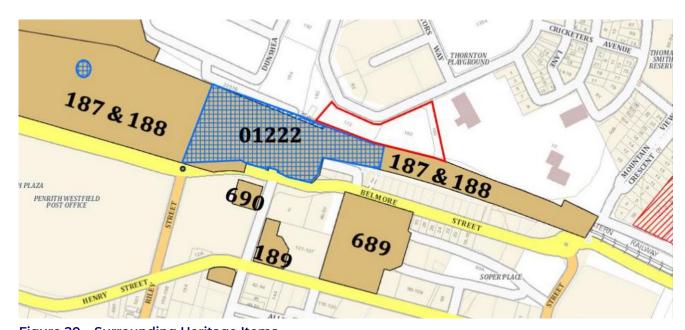


Figure 20 Surrounding Heritage Items

Source: Penrith City Council

# 3.0 Description of Proposed Development

# 3.1 Summary Overview

This section provides a detailed description of the proposed development, as reflected by the Architectural Plans that are provided at **Appendix A**.

The proposed development, which is known as 'Mayfair on Penrith', seeks approval for the following scope of works:

#### • 2x Residential Towers:

2x residential towers above a joint commercial podium, with ground floor retail, containing:

### o 'East Tower':

To consist of 8 levels above the podium (excl. rooftop), which will include:

- 152x residential apartments.
- Common circulation areas.
- Rooftop open space, incl. 1x swimming pool, landscaping and communal amenities.

#### o <u>'West Tower':</u>

- 135x residential apartments.
- Common circulation areas.
- Rooftop open space, incl. 1x swimming pool, landscaping and communal amenities.

#### o 2-Storey Podium:

- 14x ground level retail units, including a unit where design provision has been made for conversion to 2x split tenancies if needed, with a combined GFA of 1794m<sup>2</sup>.
- Flexible commercial floorspace across Level 1 with a GFA of 4331m<sup>2</sup>.

### • 3x Basement Parking Levels:

3x joint basement parking levels, which will accommodate a total of 410 car parking spaces, including:

- o 331x car parking spaces allocated for the use of residential occupants (incl. 30x accessible).
- 79x car parking spaces allocated for the use of commercial / retail tenants (incl. 2x accessible).

## • Landscaping and Communal Spaces:

Landscaping, public domain improvements, and communal open spaces, including:

#### o Public Domain Improvements:

- Additional public domain curtilage at ground level, including a pedestrian colonnade to the Lord Sheffield Circuit and Station Plaza interfaces.
- Provision of additional street trees and retention of existing trees at the Lord Sheffield Circuit and Station Plaza interfaces.

# o Communal Open Spaces and Facilities:

- 2x communal open spaces at the roof levels of the East Tower and the West Tower, each to include a swimming pool and other facilities for residential occupants.
- 1x community garden at ground level towards the south-east corner of the site.

#### • Building Services:

All proposed building services are accommodated at ground level and within the basement.

# 3.2 Numerical Breakdown

A detailed numerical breakdown for the proposed development is provided at **Table 4**.

Table 4 Numerical Breakdown

Component		Proposed Development	Section Reference
Site-Wide Metrics			
Site Area (m²)		8,281m²	
Total GFA (m²)		Total GFA of 32,353m <sup>2</sup> .	
Total Floor Spa	ace Ratio (FSR)	3.91:1	
Deep Soil (m²)		850m², equating to 10.3% of the site area.  NB: 3.5% of the site area is covered by deep soil that has a depth of < 6m.	
Communal Open Space	Total	3328m², equating to 40.2% of the site area.	
(m <sup>2</sup> )	Ground Level	721m² at ground level.	
	Roof Level	2607m <sup>2</sup> across the roof levels of the East Tower and	d the West Tower.
Total No. Dwel	lings	287x residential apartments across East Tower and	l West Tower.
Dwelling Mix	1 Bed Apartment	58x apartments.	
	2 Bed Apartment	182x apartments.	
	3 Bed Apartment	47x apartments.	
Vehicle Access		Vehicle access via Lord Sheffield Circuit provided by basement ramp and proposed 'Shared Zone' at Lot 3011.	
Total Car Park Provision		421x car parking spaces (331x residential, 79x retail / commercial, 7x servicing spaces and 4x car wash bays)	
'East Tower' (Residential)			
Maximum Building Height (RL)		RL 68.314m (incl. lift over runs). No habitable floor s	pace above RL 62.6m.
No. Levels (abo	ove podium)	8x levels above the podium roof level.	
No. Dwellings		152x residential apartments.	
'West Tower' (	(Residential)		
Maximum Bui	lding Height (RL)	RL 68.314m (incl. lift over runs). No habitable floor space above RL 62.6m.	
No. Levels (abo	ove podium)	8x levels above the podium roof level.	
No. Dwellings		135x residential apartments.	
Podium (Commercial, Retail)			
No. Retail Tenancies		14x retail tenancies, each at ground level.  NB: Design provision has been made for the potential conversion of Unit 10-11 as two separate tenancies, subject to the preference of future tenant(s).	
Retail GFA (m²)		GFA of 1,794m² across the ground level.	
Commercial GFA (m²)		GFA of 4,331m² across Level 1.	
Basement		•	
Level B1	Residential Parking	40x spaces (residential use allocation).	

	Commercial Parking	79x spaces (commercial use allocation).
	Bike Storage	119x storage spaces (residential use allocation).
		14x storage spaces (retail use allocation).  NB: Provision for additional spaces. Refer to <b>Section 3.9.2</b> .
Level B2	Residential Parking	145x spaces (residential use allocation).
	Car Wash Bays	2x car wash bays.
Level B3	Residential Parking	146x car parking spaces (residential use allocation).
	Car Wash Bays	2x car wash bays.

# 3.3 Site Preparation and Excavation

# 3.3.1 Site Clearance and Vegetation Management

Structures associated with the existing community garden will be dismantled for disposal and/or will be recycled or reused elsewhere. Due to the temporary nature of the existing structures at the site, heavy demolition works will not be required.

The site includes 1x existing low value tree located towards the centre of the site, which will be removed. Further to this, it is noted that each of the 8x existing street trees within the road reservation of Lord Sheffield Circuit will be retained. All tree removal and management will be undertaken in accordance with the Tree Protection Plan and Tree Management Plan that are appended to the Arboricutural Impact Assessment (**Appendix Y**).

Once the site is cleared, excavation works will commence as discussed at Section 3.3.2.

## 3.3.2 Bulk Excavation

As indicated by the Site Survey (**Appendix B**), the existing ground level generally ranges between RL 26.9m to RL 27.9m. Bulk excavations to an approximate depth of RL 18.3m are required to provide for the delivery of the 3-level joint basement.

The extent of the proposed bulk excavation is further outlined by the Geotechnical Investigation (**Appendix W**). The Excavation Methodology Statement that is appended to the Piling Report (**Appendix DD**) establishes an expected maximum excavation depth of 10m below natural ground level, as necessary to provide for three basement levels.

The Excavation Methodology Statement also provides an overview of the methodology for the 'top down' excavation of land, followed by the 'bottom up' construction of three basement levels. Due to the proximity of Transport for New South Wales assets within the south-adjacent rail corridor, the use of ground anchors has not been permitted. The Excavation Methodology Statement establishes a sound design alternative that does not employ the use of ground anchors.

#### 3.3.3 Dewatering

Due to existing groundwater levels, dewatering will be required at a rate of 0.9ml/180 days based on the estimated construction timeframe for the basement. The proposed dewatering is further discussed at **Section 4.12**. Reference should be made to the detailed scope for the dewatering that is outlined by the Groundwater Take Assessment (**Appendix X**).

# 3.4 Built Form and Design

The proposed development consists of a joint 2-storey podium that spans the length of the site. As discussed, the podium form will accommodate 14x retail tenancies at ground level (incl. 1x unit where provision has been made for a potential split tenancy arrangement in the future) and flexible commercial floorspace across Level 1. Two tower forms are proposed above the podium. Each tower form will provide 8 residential levels, in addition to a communal rooftop space.

Further reference should be made to the Design Report (**Appendix C**). Photomontages provided in the Design Report are shown at **Figure 21.** 



Figure 21 Extract: Photomontages from Design Report (Appendix C)

Source: SJB

# 3.4.1 Tower Forms: 'East Tower' and 'West Tower'

As noted at **Section 3.4**, it is proposed to provide 2x residential towers above the podium form, which will deliver a combined total of 287x residential apartments.

The roofline height for each tower (incl. communal rooftop access and canopy) is RL 68.314m (40.54m above ground level). The proposed residential towers are referred to by this SEE as the 'East Tower' and the 'West Tower'.

The proposed tower forms are labelled in the elevation extracts that are provided at Figure 22.

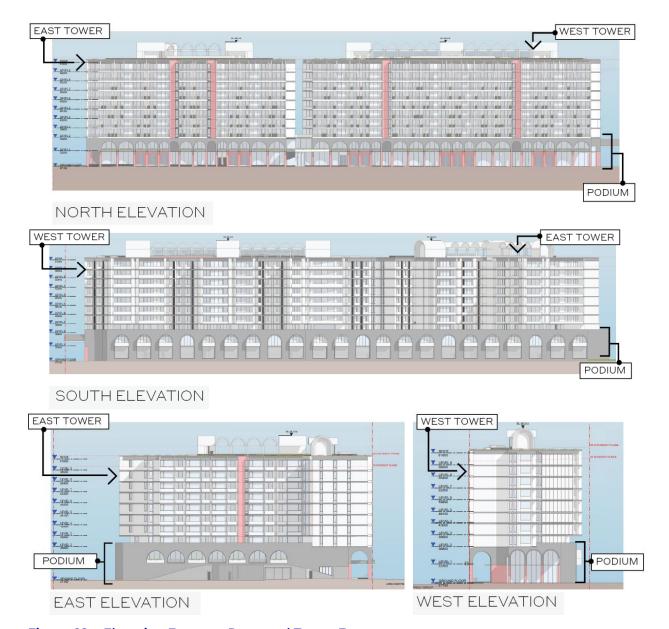


Figure 22 Elevation Extracts: Proposed Tower Forms

Source: SJB (annotations by Ethos Urba



Figure 23 Elevation Extracts: Proposed Tower Forms – Regular Tower Floorplate

Source: SJB (annotations by Ethos Urban)

#### 3.4.2 Podium

As outlined at **Table 4**, the proposed podium form will accommodate 14x retail tenancies at ground level (incl. 1x unit where provision has been made for a potential split tenancy arrangement in the future) with a combined GFA of 1794m<sup>2</sup> and flexible commercial floorspace at Level 1 with a GFA of 4331m<sup>2</sup>.

Approval for the fit out of these spaces will be sought by future tenants at a later date. The podium form will incorporate a pedestrian colonnade at the Lord Sheffield Circuit interface, which is further discussed at **Section 3.4.4**. The uses that will be accommodated within the podium form are shown at **Figure 24** to **Figure 26**.

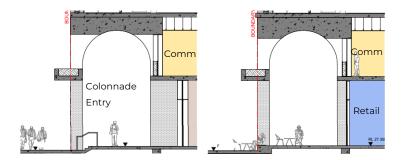


Figure 24 Extract: Close Up Colonnade Sections from Design Report (Appendix C)

Source: SJB



Figure 25 Extract: Podium Form – Ground Level Layout (retail units shown in blue)

Source: SJB



Figure 26 Extract: Podium Form – Level 1 Layout (flexible commercial floorspace shown in yellow)

Source: SJB

### 3.4.3 Materials

The proposed development has sought to incorporate materials that are durable and timeless. The rationale for the selection of materials across the building exterior is outlined by the Design Report that is provided at **Appendix C**. Brickwork, warm concrete and neutral colour tones are prominent features of the proposed material palette, as shown in the extract that is provided at **Figure 27** over page.



# 3.4.4 Façade Design

The rationale for the proposed façade design is outlined by the Design Report (**Appendix C**). The proposed façade design is summarised in list form below.

# • Lord Sheffield Circuit (North)

The proposed façade expression to Lord Sheffield Circuit (refer to Figure 28) includes:

- A 2-storey or 'double height' pedestrian colonnade to the Lord Sheffield Circuit frontage.
   The pedestrian colonnade incorporates archways to facilitate through-movement and to deliver a 'grand public gesture' as referenced by the Design Report.
- o An aligned street wall expression above the cannonade, which will incorporate a series of vertical cuts to articulate the overall built form.
- Glazing that is set back from the edge of the façade. The rationale for providing set back glazing seeks to ensure visual privacy, and will support ESD objectives for the project.

#### East Elevation

The proposed façade expression to the east elevation (refer to Figure 29) includes:

- A prominent 2-storey podium form, to incorporate green elements. The podium form will include several archways to achieve a visually coherent façade expression at each frontage.
- The East Tower is recessed back from the podium edge to reduce the visual prominence of the proposed development.
- o Recessed glazing, alike the façade to the Lord Sheffield Circuit interface.



Figure 28 Photomontage: Façade Expression to Lord Sheffield Circuit

Source: SJB



Figure 29 Photomontage: Façade Expression at East Elevation

Source: SJB

### • Station Plaza (West)

The proposed façade expression to the Station Plaza (refer to Figure 30) includes:

- A 2-storey or 'double height' awning that will extend into the station plaza to provide a
  forecourt for the pedestrian colonnade.
- o Arched entrance to the pedestrian colonnade.
- Reduced prevalence of glazing to preserve the privacy of residential occupants.

#### South Elevation

The proposed façade expression to the south elevation (refer to Figure 31) includes:

- A 2-storey podium form with arched elements to achieve a visually coherent façade expression at each frontage.
- o Cantilevered tower form with recessed glazing and vertical columns that are placed to provide a noise buffer for residential occupants.
- The design rationale for the south façade is further outlined in the Design Report (**Appendix C**), Noise Impact Assessment (**Appendix M**), and the Rail Corridor Interface Report (**Appendix HH**), which considers acoustic amenity matters.



Figure 30 Photomontage: Façade Expression to Station Plaza



Figure 31 Photomontage: Façade Expression at South Elevation

Source: SJB

## 3.4.5 Roof Level Communal Open Spaces

The proposed development presents two communal spaces at the roof levels of the East Tower and the West Tower. These rooftop spaces will deliver communal open space with a combined area of 2607m<sup>2</sup>. The design of these communal spaces is shown in the Architectural Plans (**Appendix A**) and the Landscape DA Design report (**Appendix F**).

#### **East Tower Communal Rooftop**

The East Tower communal rooftop space is provided across the tower's 'L' shaped roof form. Access to the communal rooftop space for the East Tower will be provided by vertical circulation cores comprising 5x elevators and 2x stairwells. Buffer planting will be established at the edge of the communal open space towards the tower façade.

The East Tower communal rooftop will incorporate a range of amenities for the use of residents, including:

- 1x swimming pool with an approximate area of 100m<sup>2</sup>.
- 2x spa pools towards the rear of the rooftop space.
- Canopy trees to screen railway line views.
- BBQ facilities and alfresco dining facilities.
- Turf area for light recreation activities such as yoga.



Figure 32 Landscape Masterplan Extract: East Tower Rooftop Communal Space

Source: Arcadia

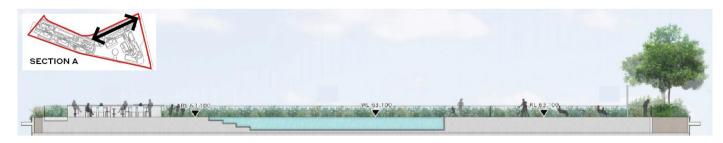


Figure 33 Landscape Masterplan Extract: East Tower Rooftop 'Section A'

Source: Arcadia

#### **West Tower**

The rooftop terrace space for the West Tower is linear in shape. Access to the communal rooftop space for the East Tower will be provided by 6x elevators and 3x stairwells. Planting will be established towards the tower edge.

The West Tower communal rooftop will incorporate a range of amenities for the use of residents, including:

- 1x swimming pool with an approximate area of 114m<sup>2</sup>.
- Canopy trees to screen railway line views.
- BBQ facilities and alfresco dining facilities.
- Alcove seating towards the east part of the rooftop to provide intimate gathering opportunities.



Figure 34 Landscape Masterplan Extract: West Tower Rooftop Communal Space

Source: Arcadia

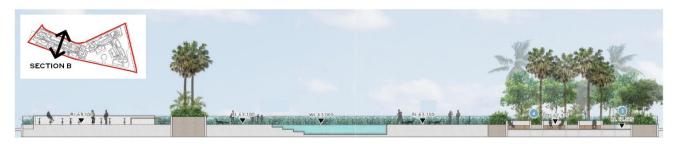


Figure 35 Landscape Masterplan Extract: East Tower Rooftop 'Section B'

Source: Arcadia

# 3.5 Landscape and Public Domain

The landscape outcome that is proposed for the site is outlined in the Landscape DA Design Report (**Appendix F**) and the Landscape Detail Drawings (**Appendix J**) that have been prepared by Arcadia.

This landscape design package establishes a landscape vision and concept design for the site. The landscape design approach seeks to compliment building architecture and establish a strong connection to the civic context of the site. Key aspects of the proposed landscape design are outlined from **Section 3.5.1** to **Section 3.5.4**.

#### 3.5.1 Public Domain

The Landscape DA Design Report (**Appendix F**) presents a full-width pedestrian footpath to Lord Sheffield Circuit. This interface between the proposed development and the public domain will include 13x street trees and provision for alfresco dining spaces beneath the colonnade.

As mentioned, these street trees include 8x retained street trees, which will be retained in accordance with the Tree Protection Plan and Tree Management Plan that are appended to the Arboricultural Impact Assessment (**Appendix Y**).

The pedestrian colonnade and street footpath are distinguished by an approximate grade separation of ~350mm, with stairs between these two spaces proposed at regular intervals.

The landscape proposal incorporates a seated plaza known as the 'Community Forecourt' towards the Lord Sheffield Circuit frontage, which is further discussed at **Section 3.5.2**.

An extract of the landscape design proposal for this interface is provided at Figure 36.

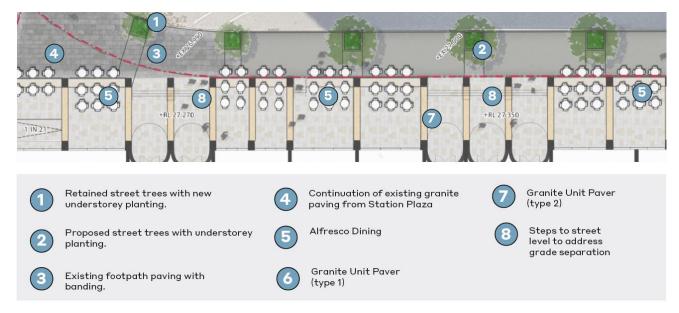


Figure 36 Landscape Masterplan Extract: Lord Sheffield Circuit Interface

Source: Arcadia

# 3.5.2 Community Forecourt

As mentioned, it is proposed to provide a seated plaza known as the 'Community Forecourt' towards the Lord Sheffield Circuit frontage. The proposed design for this space incorporates 2x alcove seating areas, a planter box, and sculptural elements.

A 'zero-depth' water feature is proposed towards the centre of the Community Forecourt. As outlined by the Landscape DA Design Report (**Appendix F**), the potential for this water feature to be programmed with lighting for events and/or performances will be considered through ongoing design development.

An extract of the proposed Community Forecourt is provided at Figure 37.



Figure 37 Landscape Masterplan Extract: 'Community Forecourt'

Source: Arcadia

# 3.5.3 'Bush Tucker Walk' and Community Garden

The proposed Community Garden will be sited towards the south-east corner of the site. A raised 'threshold' step will establish a sense of separation between the Community Garden and the driveway from Lord Sheffield Circuit.

It is proposed to provide an 'educational loop' based on Aboriginal cultural knowledge as it relates to bush food or 'Bush Tucker', as referenced. Specifically, planting that has historically been used for sustenance will be established at the east periphery of the site towards the proposed Community Garden.

An overview of these spaces is provided at Figure 38.



Figure 38 Landscape Masterplan Extract: Community Garden and 'Bush Tucker Walk'

Source: Arcadia

# 3.5.4 Soil Depth

The Landscape DA Design Report (**Appendix F**) and Drawing A-6103 of the Architectural Plans (**Appendix A**) specify the extent of softscape deep soil coverage across the site (850m²), which equates to 10.3% of the site area (8281m²). The proposed deep soil coverage will be delivered in the form of:

- Deep soil zones towards the east and south site boundaries, which will have a depth of <6m. These deep soil zones will have an area of 288m², which equates to 3.5% of the site area.
- Deep soil zone towards the south-east corner of the site, which will have a depth of >6m. This deep soil zone will have an area of 526m², which equates to 6.8% of the site area.

The landscape design package further identifies specific locations for permeable pavement treatments, which are proposed to facilitate groundwater percolation.

# 3.5.5 Planting

The Landscape DA Design Report (**Appendix F**) provides a planting palette that includes image extracts of the tree, shrub, grass and climber species that will be established across the planted areas at the Ground Level and Roof Level landscaped spaces.

The proposed plant species have been selected with reference to local weather conditions, in addition to site-specific wind and solar reflectivity studies.

An extract of the proposed planting palette is provided at Figure 39.



Figure 39 Extract: Proposed Planting Palette

Source: Arcadia

## 3.6 Public Art

As outlined by the Landscape DA Design Report (**Appendix F**), the proposed development will make provision for the implementation of a Public Art Strategy, which will be the subject of ongoing development as design details for the project are refined.

The Public Art Strategy will respond to opportunities to deliver meaningful public art installations across public domain curtilage areas that are provided at the ground plane.

The Landscape DA Design Report (**Appendix F**) includes a preliminary plan that identifies potential locations at ground level where public could be established. These locations are shown by the extract at **Figure 40.** The Landscape DA Design Report also provided public art precedent images, which are shown by the extract at **Figure 41.** 

The Public Art Strategy will be prepared with regard for the draft Connecting with Country Framework. This is further discussed at **Section 4.7.3**.

Ethos Urban | 2210647

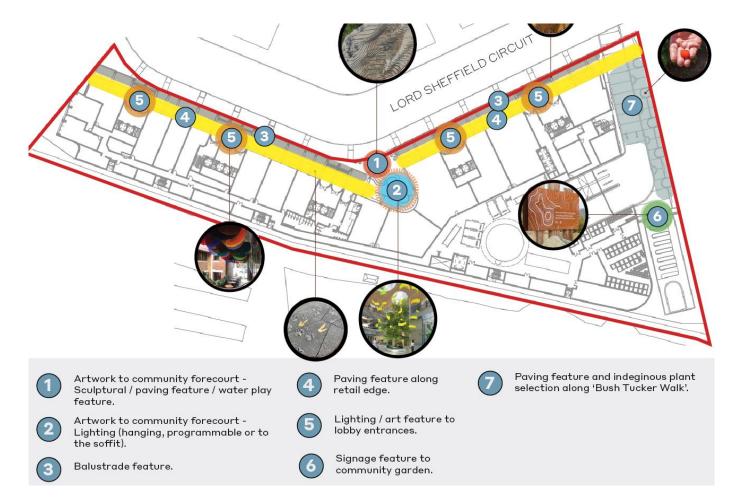


Figure 40 Potential Locations for Public Art

Source: Arcadia



Figure 41 Public Art Precedent Images Referenced by the Landscape DA Design Report

Source: Arcadia

# 3.7 Dwelling Mix

As mentioned, the proposed development will deliver 287x residential apartments. The East Tower will contain 152x residential apartments, while the West Tower will contain 132x residential apartments. None of the proposed residential apartments will be provided within the podium form. The proposed dwelling mix is outlined at **Table 5**.

Table 5 Proposed Dwelling Mix

Component	Proposed Development
1 Bedroom Apartments	58 Units (20.2% of overall)
2 Bedroom Apartments	182 Units (63.4% of overall)
3 Bedroom Apartments	47 Units (16.4% of overall)
Total No. Apartments	287 Units

# 3.7.1 Adaptable Apartment Units

As shown in the Architectural Drawings (**Appendix A**), the proposed development includes a total of 29 adaptable apartment units. All of the adaptable apartment units will have 2 bedrooms.

These adaptable apartments are listed below. An extract showing the pre-adaption and post-adaption layout scenarios for Apartment B202 is provided at **Figure 42** for reference.

- Apartment A203: 2x Bedrooms.
- Apartment A303: 2x Bedrooms.
- Apartment B202: 2x Bedrooms.
- Apartment B302: 2x Bedrooms.
- Apartment B402: 2x Bedrooms.
- Apartment B502: 2x Bedrooms.
- Apartment B602: 2x Bedrooms.
- Apartment B702: 2x Bedrooms.
- Apartment B802: 2x Bedrooms.
- Apartment B902: 2x Bedrooms.
- Apartment C203: 2x Bedrooms.
- Apartment D202: 2x Bedrooms.
- Apartment D203: 2x Bedrooms.
- Apartment D302: 2x Bedrooms.
- Apartment D303: 2x Bedrooms.

- Apartment D402: 2x Bedrooms.
- Apartment D403: 2x Bedrooms.
- Apartment D502: 2x Bedrooms.
- Apartment D503: 2x Bedrooms.
- Apartment D602: 2x Bedrooms.
- Apartment D603: 2x Bedrooms.
- Apartment D702: 2x Bedrooms.
- Apartment D703: 2x Bedrooms.
- Apartment D802: 2x Bedrooms.
- Apartment D803: 2x Bedrooms.
- Apartment D902: 2x Bedrooms.
- Apartment D903: 2x Bedrooms.
- Apartment E202: 2x Bedrooms.
- Apartment E302: 2x Bedrooms.

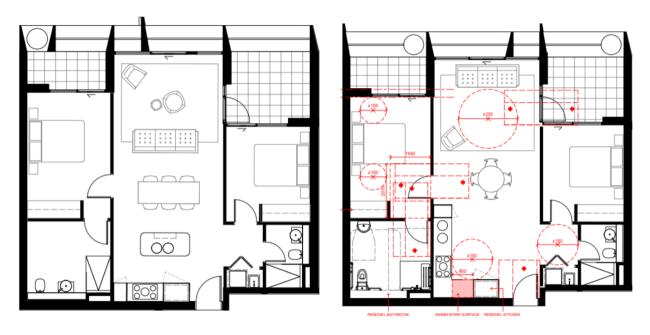
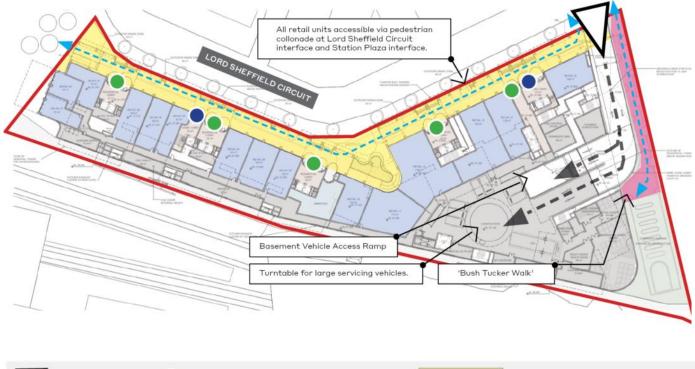


Figure 42 Apartment B202 Example: Pre-Adaption (left) and Post-Adaption (right) Layouts

Source: SJB

# 3.8 Site Access

Access to the site is provided from Lord Sheffield Circuit. A diagram of the various access points for vehicle and pedestrians across the site is provided at **Figure 43**. On overview of parking provision and the proposed loading facilities is provided at **Section 3.9**.



Vehicle Access Point Commercial Lobby Pedestrian Entrance

Residential Lobby Pedestrian Entrance

Public Domain Curtilage

Pedestrian Route

Vehicle Access Route

Figure 43 Site Access Diagram

Source: Ethos Urban (incl. Architectural Plans prepared by SJB)

# 3.9 Parking Provision and Loading Facilities

# 3.9.1 Car Parking

It is proposed to deliver a total of 421x car parking spaces across 3 basement levels (incl. 4x car wash bays and 7x servicing spaces). A breakdown of the proposed car parking spaces and car wash bays is provided for each basement level in list form below.

#### Level B1:

- $\circ$  40x car parking spaces with a residential use allocation.
- o 79x car parking spaces with a retail / commercial use allocation.

#### Level B2:

- o 145x car parking spaces with a residential use allocation.
- o 2x car wash bays.

#### Level B3:

- o 146x car parking spaces with a residential use allocation.
- 2x car wash bays.

#### 3.9.2 Bike Storage

The proposed development has made provision for the delivery of 119x residential bike storage spaces, 14x retail bike storage spaces, and associated end of trip (EOT) facilities at Basement Level B2 and Basement Level B3. The proposed EOT facilities are adjacent to elevators, which provide direct vertical transport to the commercial and residential uses above.

It is further noted at there are storage cages across the proposed basement levels, which are capable of storing 34 bicycles. This additional storage capacity can be utilised by commercial and/or retail uses at the site, which can be fitted out to include additional storage facilities for bicycles as necessary.

# 3.9.3 Loading and Servicing

The proposed development provides a loading dock at ground level towards the rear of the site. The loading dock is accessible via a separate vehicle entrance from the main driveway at the east periphery of the site.

The loading dock provides 6x spaces for courier vehicles and/or smaller servicing vehicles, and 1x space that is capable of accommodating a Heavy Rigid Vehicle (HRV). A turntable has been provided towards the centre of the loading dock to ensure all vehicles can enter and exit the loading dock in a forward direction.

The loading dock will be used by waste collection vehicles. Due to this, the proposed residential, commercial and retail waste storage rooms are immediately adjacent to the loading dock. The Traffic Impact Statement (**Appendix EE**) confirms the adequacy of the proposed design for the loading dock in relation to clearance heights and parking requirements for waste collection vehicles.

# 3.10 Waste Management and Storage

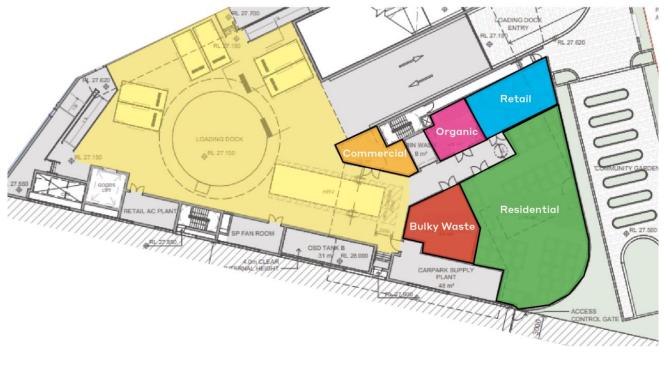
The proposed waste storage spaces are shown in the Architectural Plans (**Appendix A**), while waste management procedures are outlined by the Operational Waste Management Plan (OWMP) at **Appendix FF**. An overview of the proposed arrangement for waste management is provided at **Section 3.10.1** and **Section 3.10.2**, however further reference should be made to the OWMP.

#### 3.10.1 Residential Waste Management

Section 5.3 of the OWMP (**Appendix FF**) outlines the waste disposal procedures that will be implemented throughout the operation of the proposed development. Residents will use dual chute systems that will be installed towards the core of each tower core. These dual chute systems will include one chute for the disposal of general waste and one chute for the disposal of recyclables.

The collection procedures for residential waste are set out under Section 5.4 of the OWMP. The building caretaker will be responsible for transporting waste from each chute discharge room to the residential waste storage room, or alternative storage rooms for bulky waste and organic waste.

For reference, a breakdown of the waste storage rooms within the main waste storage facility is provided at **Figure 44**.



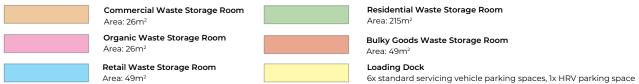


Figure 44 Use Breakdown Diagram: Main Waste Storage Facility

Source: Ethos Urban (incl. Architectural Plans prepared by SJB)

#### **Residential Common Areas**

Residential common areas such as lobbies, amenities and circulation areas will be supplied with suitably branded waste and recycling bins where required. It is expected that residential common areas will generate minimal waste, however general waste and recycling receptacles will be established at convenient locations.

## **Residential Waste Storage and Collection**

A residential waste storage room is proposed towards the rear of the site at a location that is immediately adjacent to the loading dock and the waste chute discharge at the eastern tower core. The residential waste storage room is 215m² in area. The design of the residential waste storage room has made provision for bin storage in accordance with the relevant waste storage requirements for residential uses. This is further discussed at **Section 4.20.1**.

On the nominated collection day, the building caretaker(s) will be responsible for transporting waste from each chute discharge to the residential waste storage room. The building caretaker(s) will provide Council waste collection officers with access to the residential waste storage room from the loading dock, as necessary to provide for the servicing of waste bins on site.

Once the bins are serviced, the waste collection vehicle will exit the loading dock in a forward direction through use of the proposed turntable.

## **Bulky Waste Storage and Management**

A bulky waste storage room will be immediately adjacent to the residential waste storage room. The bulky waste storage room will be  $49m^2$  in area. The design of the bulky waste storage will comply with all applicable design standards, including the requirement for a minimum doorway width of 1.5m to facilitate the movement of bulky waste into and out of the storage room.

As outlined by the OWMP (**Appendix FF**), residents and will be required to residents will need to liaise with building caretaker(s) regarding the transportation of bulky items and the availability of the bulky goods room. The caretaker(s) will be responsible for arranging collection dates with Council.

On the day of bulky waste collection, and alike the collection procedure for residential waste, the building caretaker(s) will provide Council waste collection officers with access to the bulky waste storage room.

# 3.10.2 Commercial and Retail Waste Management

#### **Retail Uses**

Appropriate waste disposal and collection procedures will be established for future retail and commercial uses once tenants are confirmed. Section 6.3 of the OWMP (**Appendix FF**) contemplates potential waste management procedures for expected commercial / retail uses.

The OWMP has particular regard for the needs of food and beverage tenancies, as a different waste management approach would be required compared to general retail tenancies. In this regard, it is noted that any food and beverage tenancies would be responsible for their own storage of waste and recycling back of house (BOH) during daily operations.

As shown at **Figure 44**, the proposal provides a 49m<sup>2</sup> a communal retail waste storage room at ground level. Detailed waste management arrangements for general retail uses will be established as necessary when approval is sought for the fit out and operation of retail tenancies.

A private waste collection contractor will be engaged to service the retail waste and recycling bins per an agreed schedule. The OWMP assumes waste and recycling is collected 3x weekly.

#### Commercial / Office

As shown at **Figure 44**, the proposal provides a 26m<sup>2</sup> a communal commercial waste storage room at ground level. Small bins would be provided around commercial tenancies / office floorspace for the collection of general waste and recycling. The proposed waste storage facilities can also provide for the storage of bulky cardboard waste generated from any future commercial use(s) at Level 1.

At the end of each trading day, or as needed, it will be the responsibility of nominated staff or cleaning contractors to empty the small waste and recycling bins in the offices into designated bin receptacles that will be installed as part of the Level 1 fit out.

Notwithstanding the above, and alike the 14x retail tenancies (incl. 1x unit where provision has been made for a potential split tenancy arrangement in the future), detailed waste management arrangements will be established as necessary when approval for fit out works is sought to support the introduction of commercial uses at the site.

# 3.11 Building Services

The location of building services and plant across the proposed development is indicated in the Architectural Plans (**Appendix A**). The majority of the proposed building services are located across the Ground Level and at Basement Level B1.

Provision has been made for the delivery of building services at the Ground Level within rooms that include (but are not limited to) the retail air conditioning plant room, car park supply plant room, fire control room, and the sprinkler tank room.

Provision has been made for the delivery of building services at the Basement Level B1 within rooms that include (but are not limited to) the 3x grease arrestor rooms, cold water pump room, switch room, and an exhaust plant room.

The locations that are nominated to accommodate building services have been selected to minimise the prominence of unsightly features at public interfaces.

# 3.12 Vertical Transport

Street level access to elevators will be provided via 2x commercial lobby spaces and 5x residential lobby spaces. The proposed vertical circulation cores will incorporate:

- 3x elevators that are allocated for the use of future commercial tenants at Level 1.
- 13x elevators that are allocated for the use of residents across the East Tower and the West Tower.

Stairwell access to the commercial floorspace across Level 1 is provided by 6x core stairwells. These stairwells continue upwards to each level of the East Tower and the West Tower, with each tower to be serviced by 3x stairwells. These stairwells provide access to the roof level communal spaces where they terminate.

# 3.13 Utilities and Services

Connection to and augmentation of underground services will be undertaken to service the proposed development. This is addressed by the Building Services Report (**Appendix S**) and the Civil Design Plans (**Appendix CC**).

It is further noted that the proposed development presents an updated arrangement for easements and affections across the site. An overview of the proposed easements is provided at **Figure 45.** Please note the high visibility pink line shown in this figure is not intended to denote the site boundary.

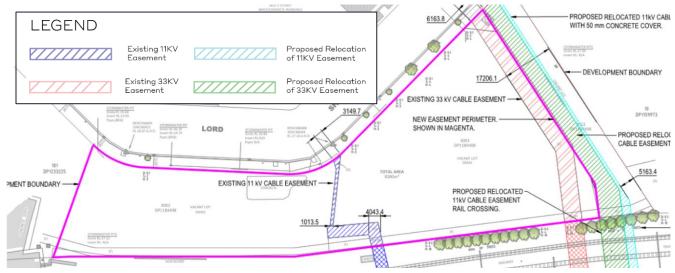


Figure 45 Overview of Proposed Easements

Source: Integrated Group Services

# 3.14 Stormwater Management

A Stormwater Management Plan (incl. appended Civil Design Plans) has been prepared by Enscape Studio. This documentation is provided at **Appendix CC**.

Key elements of the stormwater civil design approach for the proposed development are discussed from **Section 3.14.1** to **Section 3.14.3**, however further reference should be made to the Stormwater Management Plan.

## 3.14.1 Stormwater Filter Cartridges

The stormwater civil design response includes 'Stormwater360 Stormfilter Cartridges'. As discussed at Section 6.2.1 of the Stormwater Management Plan (**Appendix CC**), these stormfilter cartridges can capture suspended solids, hydrocarbons, nutrients, soluble heavy metals and other common pollutants.

The benefits associated with the proposed use of these stormwater cartridges are discussed in regard to water quality at **Section 4.14.3**.

#### 3.14.2 On-Site Stormwater Detention

As there are two stormwater catchments at the site, which are known as 'Catchment A' and 'Catchment B', two On-Site Detention (OSD) facilities are proposed towards the rear of the site at ground level. The proposed OSD tanks are described below:

## • 'Tank A' (west)

Located towards the rear boundary within the western quadrant of the site. This OSD tank, which is known as 'Tank A', will have a storage capacity of 161.20m<sup>3</sup>.

# • 'Tank B' (east)

Located towards the rear boundary within the eastern quadrant of the site. This OSD tank, which is known as 'Tank B', will have a storage capacity of 129.80m<sup>3</sup>.

The proposed OSD tanks are considered in relation to Penrith City Council's fixed rates for the provision of OSD facilities at **Section 4.14.1**. The proposed OSD tanks will discharge to two separate legal discharge points, which are both sited at the interface between the site and Lord Sheffield Circuit.

#### 3.14.3 Erosion and Sediment Control

During the construction phase, it is proposed to implement all necessary erosion and sediment control measures to minimise silt-laden runoff from the site. These erosion and sediment control measures will be implemented in accordance with Landcom's 'Managing Urban Stormwater – Soils and Construction' guideline.

The Civil Design Drawings that are appended to the Stormwater Management Plan (**Appendix CC**) include a Preliminary Erosion and Sediment Control Plan (drawing no. C-02). The potential erosion and sediment controls that are presented by this plan are further discussed at **Section 4.14.4**.

## 3.15 Subdivision

The proposed development does not include subdivision of land, or strata subdivision.

# 4.0 Planning Assessment

This section considers the planning issues relevant to the proposed development and provides an assessment of the relevant matters prescribed in section 4.15(1) of the Environmental Planning and Assessment Act 1979 (EP&A Act). The DA's consistency and compliance with the relevant environmental planning instruments is considered in the sections below.

# 4.1 NSW Legislation and Policies

An assessment of the proposed development against relevant planning controls across the State Environmental Planning Policies, in addition to an assessment against relevant strategic plans, is provided at

Table 6 Summary of consistency with NSW State Legislation and Policies

Plan	Plan Comments	
State Environmental Planning Policies		
SEPP (Resilience and Hazards) 2021  EI Australia have prepared an Environmental Site Assessment assessment follows the completion of previous investigations relation to Thornton North Penrith Precinct and surrounding development sites.  The Environmental Site Assessment concluded that the poter for site contamination was low, and that the site is suitable for proposed development, subject to standard recommendation. The Environmental Site Assessment concluded that the site we suitable to accommodate the proposed development, subject the implementation of reasonable recommendations detailed the report.  The Environmental Site Assessment that is appended to this I was undertaken in accordance with all applicable standards a guidelines. The Environmental Site Assessment demonstrates the proposal complies the provisions of the SEPP (Resilience as Hazards) 2021.		Appendix V Section 2.7 Section 4.10
SEPP 65 – Design Quality of Residential Apartment Apartment Buildings  A SEPP 65 Design Verification Statement and an assessment of the proposal against the Apartment design Guide (ADG) has been prepared by SJB. The SEPP 65 Design Verification Statement is provided at <b>Appendix D</b> .		Appendix D
SEPP (BASIX) 2002	A BASIX Certificate has been provided at <b>Appendix Q</b> . The report demonstrates that the proposed development will satisfy the relevant requirements for water, thermal and energy efficiency.	Appendix Q Section 4.24
SEPP (Planning Systems) 2021	The proposed development has a Capital Investment Value (CIV) that exceeds \$30 million. The proposed development is therefore classed as Regionally Significant Development. The DA will be determined by the Sydney Western City Planning Panel.	N/A
SEPP (Transport and Infrastructure) 2021	Refer to the assessment that is provided within <b>Table 7</b> at <b>Section 4</b>	.1.1.
SEPP (Biodiversity and Conservation) 2021 – Chapter 10	Refer to the assessment that is provided within <b>Table 8</b> at <b>Section 4</b>	.1.2.

# 4.1.1 SEPP (Transport and Infrastructure) 2021

Division 1 of Part 2.2 within the SEPP (Transport and Infrastructure) 2021 provides a number of standards in respect to consultation referral requirements for development applications that propose Traffic Generating Development, as defined by Schedule 3 of the SEPP.

As mentioned, the proposal comprises residential accommodation in the form of 287 dwellings, in addition to retail and commercial uses within the joint podium form beneath the East Tower and West Tower. The thresholds for Traffic Generating Development from Schedule 3 of the SEPP are considered in relation to the proposed land uses at **Table 7**.

Table 7 SEPP (Transport and Infrastructure) 2021: Traffic Generating Development Thresholds

Table 7 SEPP (Transport and Intrastructure) 2021: Trainic Generating Development Intresholds				
Column	Requirement	Comment		
Residential Accommodation				
2	The development has access to a road (generally) and contains 300 or more dwellings.	Not applicable. The development proposes 287 dwellings.		
3	The development has access to classified road or to road that connects to classified road.	Not applicable.  The site fronts Lord Sheffield Circuit, which is a Local Road under the NSW Road Network Classification Map. Local Roads are unclassified roads, and therefore are not listed in the Schedule of Classified Roads and Unclassified Regional Roads.  The proposed point of vehicle access is to Lord Sheffield Circuit, which does not connect to a Classified Road, or to a road that connects to a Classified Road within 90m of a connection.		
Commerc	ial			
2	The development has access to a road (generally) and provides >10,000m² of commercial floorspace.	<b>Not applicable.</b> The proposal will deliver 4,331m <sup>2</sup> of commercial GFA at Level 1.		
3	The development has access to classified road or to road that connects to classified road.	Not applicable.  As above, the proposal does not have access to a Classified Road, or to a road that connects to a Classified Road within 90m of a connection.		
Shops				
2	The development has access to a road (generally) and provides >10,000m² of retail shop floorspace.	Not applicable.  The proposed retail floorspace quantum equates to 1794m². Note potential uses are not limited to Retail Shop Premises.		
3	The development has access to classified road or to road that connects to classified road.	Not applicable. As above.		
Food and	Food and Beverage (excl. takeaway)			
2	The development has access to a road (generally) and provides >200 car parking spaces.	Not applicable.  Any future food and beverage offering at the site would not be serviced by >200 car parking spaces.		

3	The development has access to	Not applicable.
	classified road or to road that connects to classified road.	As above.

As demonstrated by the assessment that is provided at **Table 7**, the proposal is not traffic generating development. This trigger for referral to Transport for New South Wales is not relevant to this DA.

# 4.1.2 SEPP (Biodiversity and Conservation) 2021

An assessment of the proposal against the Environmental Planning Policy (Biodiversity and Conservation) 2021 is provided at **Table 8**. Of relevance to the proposal is Clause 9.4 within Chapter 9, which outlines general planning considerations for development on land within the Hawkesbury-Nepean River Catchment.

Table 8 SEPP (Biodiversity and Conservation) 2021: Chapter 9

Clause	Requirement	Assessment			
Chapte	Chapter 9 – Hawkesbury and Nepean River				
9.4 – Ge	neral Planning Considerations				
(a)	The aim of this Chapter.	Complies.  The site is not proximate to any water body. Appointed contractors will use erosion and sediment control measures as required during construction in accordance with an approved Construction Management Plan (CMP).			
(b)	The strategies listed in the Action Plan of the Hawkesbury-Nepean Environmental Planning Strategy.	Not applicable.  The site is not located near any water body. The development will not have an impact on the catchment, or result in adverse effects to downstream locations.			
(c)	Whether there are any feasible alternatives to the development or other proposal concerned.	Not applicable.  The site comprises land that is earmarked for residential uplift under the Penrith Development Control Plan 2014. The proposal will not result in any adverse effects on the catchment.			
(d)	The relationship between the different impacts of the development or other proposal and the environment, and how those impacts will be addressed and monitored.	Not applicable. As above, the proposal will not result in adverse impacts to any water body.			

# 4.2 Penrith Local Environmental Plan 2010

An assessment of the proposal against the Penrith Local Environmental Plan 2010 (PLEP 2010) is provided at **Table 9**.

Table 9 PLEP 2010: Assessment Against Relevant Provisions

Sections	Assessment
Part 4 – Principal Development Standards	
Clause 2.2 – Complies.	
Land Use Zone	The land is zoned B2 Local Centre. A broad range of employment generating uses are permissible on land zoned B2 Local Centre, including Commercial Premises.
	Under Schedule 1 (23)(1)(h), residential flat buildings, multi dwelling housing and seniors housing are also permitted with consent at the site.
	All of the proposed land uses are permitted with consent at the site.
Clause 4.3 –	Variation sought.
Height of Building	The maximum permitted height on the site is 32m, as reflected by the LEP Building Height Map.
	However, under Clause 8.4(5), a height exceedance that is greater than 10% of the LEP height limit is allowable for developments that are the subject of an Architectural Design Competition. Specifically, a building height of 35.2m is allowable, subject to Clause 8.4.
	The proposed development presents 2 communal rooftop spaces that will require stairwell and elevator access. Due to this, a maximum building height of 40.54m (RL 68.314m). As a result, the lift cores and stairwell entrance areas will breach the allowable building height under Clause 8.4.
	This DA is accompanied by a Clause 4.6 Variation Request ( <b>Appendix II</b> ), which addresses the proposed variation to Clause 4.3 with regard for Clause 8.4. Further reference should be made to this document.
Clause 4.4 –	Not applicable.
Floor Space Ratio	There is no Floor Space Ratio (FSR) applicable to the site under the PLEP 2010.
Part 5 – Miscel	laneous Provisions
Clause 5.10 –	Complies.
Heritage Conservation	The southern site boundary adjoins Penrith Station, which is state heritage listed. There are a number of other local and state heritage listed items within the vicinity of the site (refer to <b>Table 3</b> ).
	Under Clause 5.10, Council must consider the effect of the proposed development on the heritage significance of the item or area concerned.
	The Non-Aboriginal Archaeological Heritage Impact Statement ( <b>Appendix KK</b> ) and Heritage Impact Statement ( <b>Appendix LL</b> ) demonstrates that the proposal satisfies the relevant matters under Clause 5.10 of the PLEP 2010.
Clause 5.21 –	Complies.
Flood Planning	The proposal satisfies all of the applicable flood planning provisions that are provided under the PLEP 2010. This is demonstrated by the Flood Impact and Risk Management Report ( <b>Appendix N</b> ).

# Part 7 – Additional Local Provisions

# Clause 7.4 -Complies. Sustainable In deciding whether to grant development consent for development, the consent Development authority must have regard to the principles of sustainable development as they relate to the development based on a "whole of building", including the ESD measures that are outlined beneath Clause 7.4 of the PLEP 2010. The proposal presents an outcome for the site that will satisfy all applicable ESD requirements, as demonstrated by the ESD Framework and Options Report (Appendix O). Clause 7.7 -Complies. Servicing Adequate provision of services exists within the Lord Sheffield Circuit road reserve. Connection / augmentation will be undertaken as required to service the proposed This is addressed by the Building Services Report (Appendix S) and the Civil Design Plans (Appendix CC), which also consider easements and affections as relevant to the site. Part 8 Local Provisions - Penrith City Centre

# Clause 8.1 -Applies. **Application** This Part only applies to land identified as "Penrith City Centre" on the Clause Application of this Part Map. Clause 8.1 applies to the site, which is located on the boundary of this overlay. Complies. Clause 8.2 -The proposal will not result in overshadowing of public open space to a greater degree Sun Access than would result from adherence to the controls indicated for the land on the Height of Buildings Map. Refer to the shadow analysis that is provided within the Design Report (Appendix C). Complies. Clause 8.4 -NB: Refer to Clause 4.6 Variation Request (Appendix II). Design Excellence The proposal satisfies the relevant considerations for Design Excellence, noting: The proposal achieves a high standard of design, and is supported by the Design Integrity Panel (comprising members of the Design Competition Jury). The form and external appearance of the development will improve the quality and

Circuit.
The proposal will not result in any impact to significant views or vistas.
<ul> <li>It is demonstrated by this SEE that the proposal presents an outcome that is suitable for the site and in the public interest.</li> </ul>
<ul> <li>The proposal incorporates a range of ESD initiatives, as demonstrated by the ESD Framework and Options Report (Appendix O).</li> </ul>
<ul> <li>The technical documentation appended to this DA demonstrate that the proposal presents an acceptable outcome for the site in regard to wind impacts, reflectivity, and traffic impacts.</li> </ul>
<ul> <li>The proposal will provide an acoustic barrier between the rail corridor and surrounding residential apartment buildings to the north of the site. This demonstrates a design outcome that is particularly well-considered in regard to the context of the site.</li> </ul>
• Provision has been made for the delivery of public art that will have regard for the Draft

amenity of the public domain, in particular the proposed colonnade to Lord Sheffield

Strategy, which is currently being developed. A range of other design elements will be integrated with the proposal to achieve an appropriate outcome in regard to the Draft Connecting with Country Framework, as outlined at **Section 4.7**.

Please note the above is a summary overview that is provided in list form. A further

Connecting with Country Framework. This will be achieved through a Public Art

detailed assessment against the provisions of Clause 8.4 is contained within the Clause 4.6 Variation Request (**Appendix II**).

#### Noted.

Under Clause 8.4(2), development consent may not be granted for the erection or alteration of a building to which this clause applies that has a floor space ratio of up to 10% greater than that allowed by Clause 4.4, or a height of up to 10% greater than that allowed by Clause 4.3, unless:

- The design of the building or alteration is the result of an architectural design competition.
- The concurrence of the Director-General has been obtained to the development application.

This Clause is noted in regard to the proposed height variation, which is addressed by the Clause 4.6 Variation Request (**Appendix II**).

# Clause 8.5 –

#### Noted.

# Building Separation

Clause 8.5 stipulates that buildings on land to which this Part applies must be erected so that the separation distance:

- From neighbouring buildings, and
- Between separate parts or other separate raised parts of the same building,

Is not less than that provided for in a development control plan made by Council.

Reference should be made to the assessment that is provided against the PDCP 2014 at **Section 4.3**.

#### Clause 8.7 -

#### Not applicable.

Community Infrastructure on Certain Sites The site is not identified as a Key Site under the Key Sites Map, and is therefore not required to accommodate community infrastructure.

#### Schedule 1 - Additional Permitted Uses

#### Clause 23 -

#### Applies.

Use of certain land at Lord Sheffield Circuit, Penrith. Clause 23(1) notes that this provision applies to **Lots 3001–3005, 3011** and 3013, DP 1184498 Lord Sheffield Circuit. This land includes the entire site.

#### Noted.

Clause 23(2) stipulates that development for the purposes of exhibition villages, high technology industries, multi dwelling housing, residential flat buildings and seniors housing are permitted with consent at the site.

# 4.3 Penrith Development Control Plan 2014

#### 4.3.1 Part E, Chapter E11: Part B – North Penrith Precinct

This DA is required to consider specific development controls that relate to Thornton North Penrith Precinct, which is referred to as 'North Penrith Precinct' by the PDCP 2014. These provisions are provided within Part B of Chapter E11, and have been considered as relevant to this DA at **Table 10** over page.

Standard / I	Provision	Assessment
11.8.2 – Cond	cept Plan	
11.8.2.1 – Visi	ion	Consistent.
•	oment of North Penrith is to: create well-designed spaces that engage and activate its community for living and working;	The proposed development is the culmination of an extensive design development process that included a Design Competition. As outlined at <b>Table 9</b> of this SEE, the proposal satisfies the relevant considerations for Design Excellence tha are outlined beneath Clause 8.4 of the PLEP 2010.
(b)	provide well-connected linkages, nodes and destinations that integrates with a significant water body;	The proposed development will activate the southern portion of Thornton North Penrith Precinct towards the Station Plaza. This will encourage people to shop, visit, and work in the area.
(c)	create diverse, yet cohesive, housing products that allow capability to ever changing household needs and formations;	Many and varied employment opportunities (direct and indirect jobs) will be generated during marketing, construction, fit-out, and operation of the development.  Further reference should be made to the design
(d) provide a business/employment centre that is complementary and an extension to the Penrith CBD.	documentation that is appended to this DA, which provides a outline of the design rationale for the proposed development. The proposal is consistent with the vision for Thornton North Penrith Precinct, or 'North Penrith Precinct', as outlined by Chapter E11 of the PDCP 2014.	
Outcomes (a)	A residential density, urban structure and parking provision that supports the establishment of a model transit oriented development;  An integrated and legible network of open space and pathways to encourage pedestrian and cyclist activity, particularly to and from the train station.	Consistent.  From conception, this project has sought to respond to the transit-orientated context of the site. It is noted from the outs that the architectural firms that were invited to participate in the competitive design process for this project were selected due to their demonstrated ability to design high-quality and sustainable transit orientated developments.  In this regard, it should be acknowledged that the proposed development will deliver additional public domain curtilage a ground level, including a pedestrian colonnade to the Lord Sheffield Circuit and Station Plaza interfaces. It is further note that the proposal will provide for an appropriate level of pedestrian wind comfort across the public domain, as outline at Section 4.17.  The proposed development will also activate the southern portion of Thornton North Penrith Precinct towards the Static Plaza. This will encourage people to shop, visit, and work in the area.  The proposal presents a high-quality transit-orientated outcome for the site that will support the operation of Penrith Station and the adjacent bus interchange.
	Jrban Design Outcomes  A dense and interconnected mixture of land uses which include residential, recreational, employment, retail, office and business services;	Consistent.  The proposed development will deliver 287x residential apartments, 14x ground level retail tenancies (incl. 1x unit where provision has been made for a potential split tenancy arrangement in the future), 4331m² of commercial floorspace,

Ethos Urban | 2210647 56

and additional public space.

is consistent with this objective.

The proposed mix of uses presents an outcome for the site that

(b) Create a transit oriented,

cohesive development

business, civic, community,

incorporating retail, commercial,

- recreation, residential and employment uses; and
- (c) Create a safe and convenient pedestrian network formed by a closely spaced grid of streets interconnected with public open spaces.

#### 11.8.33 - Housing and Community Outcomes

- (a) A vibrant urban community of around 900 to 1,000 dwellings;
- (b) Meet the growing and ageing population of Penrith through the provision of a diverse range of dwellings;
- (c) Around 7ha of open space/canals including a new oval with outdoor recreational facilities, canal edge boardwalk and local parks.

#### Consistent.

The proposed development will deliver 287x residential apartments, which will support housing density targets for Thornton North Penrith Precinct.

The proposed development will achieve a range of unit typologies and sizes, which will improve the supply of housing for residents and families. The proposal will also address the existing supply shortage of apartments that are suitable for families near Penrith CBD.

The proposed mix of apartment typologies is further considered in regard to the local demographic makeup at **Section 4.5**.

#### 11.8.22 (4) - Economic Outcomes

- (a) Generate up to 770 direct jobs on the site and over 1,100 flow-on jobs;
- (b) Deliver a high level of selfcontainment in terms of employment generation and retail expenditure, reducing the trip generation of residents, workers and commuters visiting North Penrith;
- (c) Cater for the daily needs and services of the North Penrith community and commuters using Penrith Railway Station; and
- (d) Provide opportunities for employment generating development within a close proximity to public transport services.

#### Consistent.

Many and varied employment opportunities (direct and indirect jobs) will be generated during marketing, construction, fit-out, and operation of the development.

The provision of ongoing employment opportunities is noted in the form of 14x ground level retail tenancies (incl. 1x unit where provision has been made for a potential split tenancy arrangement in the future), and 4331m² of commercial floorspace at Level 1.

A Retail Market Report has been prepared to demonstrate the viability of the retail uses that are proposed at ground level. This report is provided at **Appendix AA**.

The Retail Market Report identifies several opportunities for retail uses to be established at the site. These opportunities are associated with market trends, the local worker population and the proximity of Penrith Station.

The proposal presents an outcome for the site that will support the envisaged economic outcomes for Thornton North Penrith Precinct.

#### 11.8.22 (5) Environmental Outcomes

- (a) Retention of identified key stands of existing trees;
- (b) Mitigation and management of existing flooding issues on the site.

# Consistent.

As outlined by the Landscape DA Design Report (**Appendix F**) and the Landscape Detail Drawings (**Appendix J**), the proposal presents a net increase to the number of street trees provided at the site frontage to Lord Sheffield Circuit and the Station Plaza.

Specifically, the provision of 5x additional street trees and retention of 8x existing trees at the Lord Sheffield Circuit and Station Plaza interfaces is proposed.

As mentioned, the retained street trees will be retained in accordance with the Tree Protection Plan and the Tree Management Plan that are appended to the Arboricultural Impact Assessment (**Appendix Y**).

Flood planning matters are considered throughout **Section 4.13** and at **Section 4.14.2**.

## 11.8.22 (6) Heritage Outcomes

- (a) Enhance the heritage characteristics of Thornton Hall;
- (b) Respect the Coombewood curtilage;
- (c) Protection of environmental heritage by incorporation of the heritage features and vistas into the road and open space network.

#### Consistent.

The Heritage Impact Statement (HIS), (**Appendix LL**) considers the potential for impacts to nearby heritage items (listed at **Section 2.9.2**).

The HIS confirms that the proposal presents an acceptable outcome for the site in regard to historic values that are associated with several heritage items, including the state heritage listed Penrith Station group.

# 11.8.3.1 - Residential Development - Housing Density and Diversity

#### A - Objectives:

- To ensure that a minimum residential density is achieved in the precinct in recognition of its proximity to public transport and the Penrith City Centre;
- (2) To provide a diverse range of housing forms and densities;
- (3) To promote a range of dwellings types to meet the needs of a diverse range of age groups and family types.

#### Consistent.

As mentioned, the proposed development will deliver 287x residential apartments, which will support housing density targets for Thornton North Penrith Precinct.

The proposed mix of apartment typologies is further considered in regard to the local demographic makeup at **Section 4.5**.

#### **B** - Controls:

(2) Between 900 and 1,000 dwellings are envisaged across the whole precinct.

#### Consistent.

As above.

(3) Subject to agreement of Council and consultation with relevant landowners, dwelling yields may be 'traded' between sub-precincts as long as it meets overall targets and objectives of this DCP.

#### Consistent.

As above.

Stage	Dwelling Target
Sub – Precinct A1 – A4	128 – 142
Sub – Precinct B1 – B10	181 – 313
Sub – Precinct C1 – C7	153 – 169

#### 11.8.3.3 - Residential Development - Building Envelopes

#### **B** - Controls

(1) The maximum number of storeys for residential development is shown at Figure E11.37.

#### **Minor Variation.**

Chapter E11 of the PDCP 2014 has sought to implement a 6-storey building height across the site.

This is not consistent with the updated vision for the site, which has been the subject of a Competitive Design Process in accordance with Clause 8.4 of the PLEP 2010.

This DA is accompanied by a Clause 4.6 Variation Request (**Appendix II**), which addresses the proposed height variation.

Further reference should be made to this document in particular.

(3) The location and siting of the third storey is to ensure adequate solar access and privacy for the lot and adjacent residential lots.

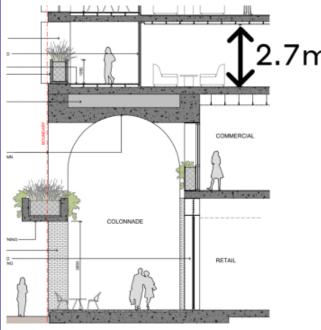
#### Consistent.

The proposal satisfies the relevant internal solar access provisions of SEPP 65, as outlined by the SEPP 65 Design Verification Statement (**Appendix D**).

(5) A minimum floor to ceiling height of 2.7m is to be provided for all ground floor living spaces.

#### Consistent.

The proposal will achieve a general residential floor to ceiling height of 2.7m. Refer to the annotated extract from the Architectural Plans (**Appendix A**) below.



Above: Architectural Plan Extract - Section Detail

Source: SJB

- (6) The maximum depth of a dwelling (exclusive of roofs and privacy screens etc) is:
  - (a) 15m for the second storey (identified as L2 on Figures E11.38 and E11.39);
  - (b) 12m for any third storey component of a dwelling (identified as L3 on Figures E11.38 and E11.39).

# Consistent.

The proposal does not provide any apartment that exceeds the maximum dwelling depths that are specified beneath this control.

(13) Where a studio loft above a garage straddles a property boundary, the central maintenance setback is not required. Appropriate arrangements for maintenance are to be included within the stratum lot title for the studio loft.

#### Not applicable.

No studio loft is proposed.

# 11.8.3.4 – Residential Development – Building Design and Articulation

(1) The front articulation zone should include at least 1 primary element or 2 secondary elements from the list below. The minimum depth for a secondary element is 500mm.

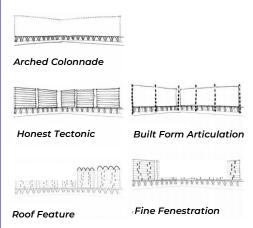
#### Consistent.

The façade design incorporates a 2-storey or 'double height' pedestrian colonnade, an aligned street wall expression above the cannonade, and a number of arched elements.

The façade design has sought to include vertical inlets to break up the building mass. Articulation is also provided by recessed glazing, which further contributes to the appropriate ratio of solid to void that is achieved across the façade.

The proposal is considered to achieve consistency with the intended effect of this control, which seeks to promote effective approaches to façade articulation. The design rationale for the proposed façade design is outlined in the Design Report (**Appendix C**).

For reference, a visual overview of the design approach for the façade is provided by the extract below.



Above: Design Report Extract – Design Approach Overview Sketch Source: SJB

(6) Eaves are to provide sun shading, to protect windows and doors and provide aesthetic interest. Subject to 11.8.3.2(3), eaves should have a minimum of 600mm overhang (measured to the fascia board). Council will consider alternative solutions to eaves so long as they provide appropriate sun shading to windows and display a high level of architectural merit.

#### Consistent.

The proposal incorporates glazing that is recessed from the façade edge, as necessary to provide for the comfort and privacy of residential occupants.

The proposal is considered to compliment the intended effect of this control.



Above: Design Report Extract – Recessed Façade Elements (incl. glazing)

Source: SJB

(7) Building colours, materials and finishes are to be consistent the Residential Design Palette included at Appendix B.

#### Consistent.

The proposal has sought to incorporate sustainable materials that respond to the context of the site.

The proposed development has sought to incorporate materials that are durable and timeless. The rationale for the

selection of materials across the building exterior is outlined by the Design Report that is provided at **Appendix C**.

The proposed materials have been selected with regard for ESD matters, including (but not limited to) potential for reuse, as outlined by the Ecologically Sustainable Design (ESD) Framework and Options Report (**Appendix O**).

Based on the above, the proposal is considered to achieve consistency with the intended effect of this control.

(8) Multi-coloured roof tiles are not permitted.

#### Consistent.

Multi-coloured roof tiles are not proposed.

#### 11.8.3.5 - Residential Development - Private Open Space and Landscaping

#### A - Objectives

- To provide a high level of residential amenity with opportunities for outdoor recreation and relaxation within the property;
- (2) To enhance the spatial quality, outlook, and usability of private open space;
- (3) To facilitate solar access to the living areas and private open spaces.

#### Consistent.

The proposal will provide a high level of residential amenity with opportunities for outdoor recreation and relaxation within the property. This is because it will deliver:

#### Rooftop Communal Open Space

The proposed development presents two communal spaces at the roof levels of the East Tower and the West Tower. These rooftop spaces will deliver communal open space with a combined area of 2607m<sup>2</sup>.

#### East Tower Communal Rooftop:

To include a swimming pool, spa pools, alfresco dining opportunities, BBQ facilities and associated amenities.

A Turf area will also be established for light recreation activities such as yoga.

# West Tower Communal Rooftop:

To include a swimming pool, alfresco dining opportunities, BBQ facilities and associated amenities.

#### • Community Garden:

The proposed Community Garden will be sited towards the south-east corner of the site.

# 'Bush Tucker Walk':

It is proposed to provide an 'educational loop' based on Aboriginal cultural knowledge as it relates to bush food or 'Bush Tucker'. This will be provided at the east periphery of the site towards the proposed Community Garden.

The podium roof is proposed as a passive space which provides outlook to the residential apartments and acts as a landscaped buffer to the railway corridor.

The proposed apartments are designed to maximise solar access, cross ventilation, while addressing acoustic and privacy matters that are associated with the immediacy of the railway corridor. This approach is further outlined by the Design Report (**Appendix C**).

Based on the points above, the proposal is considered to present an outcome for the site that compliments the vision for private open spaces and landscaping at Thornton North Penrith Precinct.

#### **B** - Controls

(2) The location of PPOS is to be determined having regard to allotment orientation, dwelling layout, adjoining dwellings, landscape features, and the preferred locations of PPOS.

Where an allotment is located on the southern, eastern and western side of a street, the PPOS must not be provided exclusively within the front of the allotment between the dwelling and the primary street frontage, but may take the form of a garden court, verandah or balcony within the side and/or rear setback.

PPOS located in the front of a dwelling must be useable and adjacent to a living space.

#### Consistent.

Each apartment has a private balcony space. The location and orientation of each private balcony is appropriate in relation to the residential tower forms.

The proposed balconies are not exclusively provided at the Lord Sheffield Circuit frontage.

Notwithstanding the above, the proposal incorporates two generous rooftop communal spaces at the East Tower and West Tower. These spaces afford all residents the opportunity to enjoy outlooks from different aspects of the proposed development.

In light of the points above, the proposal is considered to demonstrate consistency with the intended effect of this control.

(3) The majority of dwellings within any given Development Block should receive at least 2 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to 50% of the required PPOS of both the proposed development and the adjoining properties.

#### Consistent.

The apartments are designed to maximise solar access, cross ventilation, whilst dealing with the acoustic and privacy implications of the railway corridor, as detailed in the Design Report (**Appendix C**).

The proposed development achieves 70% solar access at midwinter as required by the SEPP 65 and the ADG.

The percentage of apartments that do not receive solar access at mid-winter is greater than that prescribed by the ADG (22%), however this is not inappropriate in the context of site conditions and the high level of access to communal open spaces.

The proposal is consistent with the intended effect of this control.

(4) The first 1m of a site, measured from the front boundary, (excluding driveways, footpaths etc.) is to be soft landscaped. Landscaping within the front yard is to comprise species from the Residential Design Palette included at Appendix B.

# Minor Variation.

The Landscape DA Design Report (**Appendix I**) and Drawing A-6103 of the Architectural Plans (**Appendix A**) specify the extent of softscape deep soil coverage across the site (850m<sup>2</sup>), which equates to 10.3% of the site area.

To build on this, it is further noted that the Landscape DA Design Report further identifies specific locations for permeable pavement treatments, which are proposed to facilitate groundwater percolation.

The proposed landscape design outcome responds to the transit-orientated context of the site, through complimenting the proposed colonnade to the Lord Sheffield Circuit frontage.

This control applies generally to residential development in Thornton North Penrith Precinct. The application of this control is not appropriate in the context of the site or the proposed development, which presents the outcome of an extensive competitive design process.

#### 11.8.3.7 - Residential Development - Garages, Site Access and Parking

#### B – Controls Consistent.

(1) The parking rates provided in this Section override the parking rates outlined in the Transport, Access and Parking Section of this DCP.

It is proposed to deliver a total of 421x car parking spaces across 3 basement levels, including 4x car wash bays.

As outlined by the Traffic Impact Statement (**Appendix EE**), the proposal satisfies the applicable parking rates within Chapter E11 the PDCP 2014.

Refer to Section 4.9.2.

(7) All parking and driveway access is to comply with AS 2890.1 – 2004.

#### Consistent.

All parking, driveways and vehicle access ramps will comply with the applicable Australian Standards, and other design requirements as relevant.

#### 11.8.3.8 - Residential Development - Visual and Acoustic Amenity

#### **B** - Controls

# (1) Direct overlooking of main habitable areas and private open spaces of adjacent dwellings should be minimised through building layout, window and balcony location and design, and the use of screening devices, including landscaping.

#### Consistent.

As mentioned, the proposed development intentionally sets the glazing back from the façade to ensure visual privacy and as a passive ESD measure.

Plenums and other façade elements have also been integrated (in part) to provide an appropriate level of privacy to residential occupants.

On this basis, the proposal is considered to achieve consistency with this control.

- (2) Habitable room windows with a direct sightline to the habitable room windows in an adjacent dwelling within 3m are to:
  - (a) be obscured by fencing, screens or appropriate landscaping, or
  - (b) be offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent window, or
  - (c) have sill height of 1.5m above floor level, or
  - (d) have fixed opaque glazing in any part of the window below 1.5m above floor level.

#### Consistent.

As mentioned, the proposed development intentionally sets the glazing back from the façade to ensure visual privacy and as a passive ESD measure.

As above, the proposal is considered to achieve consistency with this control.

- (5) Residential development in close proximity to the railway corridor, Coreen Avenue, the east and west sides of the Boulevard, the upgraded commuter car park and those flanking the entry road from Coreen Avenue to the commuter car park, are to include design measures so as to achieve the following internal noise levels at these residences:
  - (a) a target internal noise level of 35 dB(A) LAeq is to apply in the sleeping areas, and
  - (b) a target internal noise level of 40 dB(A) LAeq in other living areas.

#### Consistent.

The use of a solid material to the external envelope of the building creates a threshold between internal living spaces and the south-adjacent rail corridor. As mentioned, the proposal incorporates recessed glazing. The south façade includes acoustic plenums as a further noise attenuation measure.

The apartments that will have acoustic plenums for the purpose of noise attenuation are shown in blue at the extract below.



Above: Design Report Extract – Standard Floorplate – Apartments requiring acoustic plenums (shown in blue).

Source: SJB

Further reference should be made to the Noise Impact Assessment (**Appendix M**). This report confirms that the proposed development can satisfy all of relevant instruments and guidelines, subject to standard recommendations that can be readily achieved before a Construction Certificate is issued.

#### 11.8.3.10 - Residential Development - Specific Provisions - Residential Flat Buildings

# A – Objectives

- To establish high quality residential flat developments that have a good level of amenity.
- (2) To provide additional guidance with respect to the urban design outcomes for residential flat buildings in the precinct.

#### Consistent.

It is well-established throughout this report that the proposed development will achieve a high level of amenity for residential occupants.

As detailed in full by the Design Report (**Appendix C**), the proposal responds to the conditions of the site by making necessary provision for internal solar access, communal open spaces and associated amenities, landscaping, and visual privacy.

Importantly, the proposal has addressed concerns that relate to acoustic amenity by demonstrating particular regard for the interface between the site and the south-adjacent rail corridor.

The proposal is considered to present a strong and supportive response to the objectives for residential flat buildings within Thornton North Penrith Precinct.

#### B - Controls

(1) Residential flat development is to be generally consistent with the guidelines set out within the NSW Residential Flat Design Code and the development controls in the table below. If there is any inconsistency, the development controls below prevail.

#### Consistent.

#### NB: Reference to be made to Section E11.8.4.2.

The proposal is generally consistent with the NSW Apartment Design Guide, as demonstrated by the ADG compliance assessment that is provided with the SEPP 65 Design Verification Statement (**Appendix D**).

In regard to the requirements that are outlined by this particular control (refer to the table extract below), it is noted that:

- The proposal complies with the minimum permitted lot size requirement.
- The proposed building height has been previously justified in relation to Chapter E11 of the PDCP 2014.
- The proposal provides 331x car parking spaces that are allocated for residential use. Based on the proposed mix of apartment units, the proposal complies with the maximum

permitted number of residential parking spaces under this the control.

Element	Control
Minimum Lot Size	650m²
Maximum Building Height	Maximum 6 storeys, except for Block C3 which is 3 storeys
Maximum car parking rates	Studio: 0.5 spaces per dwelling 1 – 2 bedroom: 1 space per dwelling 3+ bedrooms: 2 spaces per dwelling Visitor parking on street

Based on the points above, the proposal is considered to present an outcome for the site that is consistent with the intended effect of this control.

Notwithstanding the above, it is acknowledged that the proposal is subject to parking rates that apply exclusively to the 'Village Centre' component of Thornton North Penrith Precinct. These parking rates are considered towards the end of this table.

(2) In addition, the parking rates provided in Table E11.8 override the parking rates outlined in the Transport, Access and Parking Section of this DCP.

#### Noted.

Refer above. The proposal complies with the maximum permitted number of parking spaces under Table E11.8.

(3) Development on the residential flat development sites nominated at Figure E11.44 is to achieve the desired outcomes specified below.

**Note:** Residential flat buildings may occur on sites other than those nominated at Figure E11.44.



#### Consistent.

The proposed development is sited within the B2 Local Centre Zone where the proposed mix of uses are permitted with consent.

The proposed development will deliver 287x residential apartments, 14x ground level retail tenancies (incl. 1x unit where provision has been made for a potential split tenancy arrangement in the future), 4331m² of commercial floorspace, and additional public space.

Notwithstanding the above, it is acknowledged that the residential apartments are the most significant use component for the proposed development.

As the proposed development is sited across Block T3 and Block T5, as shown by Figure E11.44, this DA is considered to demonstrate consistency with the intended effect of this control.

#### Blocks T3 - T5

- (1) Residential uses at ground floor should be designed as 'live/ work' spaces.
- (2) The residential component is to be consistent with relevant controls in Section 11.8.4 The Village Centre.

#### Consistent.

No residential uses are proposed at ground level.

The relevant controls of Section 11.8.4 are considered in relation to the proposed development in the rows below.

#### 11.8.4 - The Village Centre

# A – Objectives

- To encourage a vibrant and active mixed use village centre and cater for the needs of the North Penrith residents.
- (2) To create an urban village environment that is complementary to its location

#### Consistent.

The proposed development will activate the southern portion of Thornton North Penrith Precinct towards the Station Plaza. This will encourage people to shop, visit, and work in the area.

The proposed development will deliver 287x residential apartments, 14x ground level retail tenancies (incl. 1x unit

- near the Penrith City Centre and the Penrith Railway Station.
- (3) To provide the opportunity to accommodate a large format commercial and / or education use as part of the Village Centre.
- (4) To provide consistent streetscapes through control of the built form visible from the public domain.
- (5) To ensure developments are safe and secure for pedestrians and contribute to the safety of the public domain.
- (6) To provide shelter from sun, wind and rain for public streets where most pedestrian activity occurs.
- (7) To ensure buildings and places are accessible to people with a disability.
- (8) To ensure that all signage and advertising achieves a very high level of design quality in terms of graphic design, its relationship to the architectural design of buildings and the character of streetscapes.
- (9) To ensure buildings achieve a high level of environmental sustainability.

where provision has been made for a potential split tenancy arrangement in the future), 4331m² of commercial floorspace, and additional public space. It has been established throughout this report that the proposed mix of uses has sought to address the transit-orientated context of the site, including the needs of commuters.

As outlined by the Design Report (**Appendix C**), the proposal presents an outcome for the site that is not visually discordant with either the visual appearance of surrounding development or the desired future character of Thornton North Penrith Precinct towards the station plaza.

The Solar Reflection Screening Analysis (**Appendix P**) and the Wind and Thermal Comfort Design Review (**Appendix GG**) further demonstrate an outcome for the site that has strong regard for pedestrian comfort.

The proposal presents an outcome for the site that will satisfy all applicable ESD requirements, as demonstrated by the ESD Framework and Options Report (**Appendix O**).

The proposal does not include tenancy signage. Approval for tenancy signage will be sought as part of a separate application.

#### B - Controls

# (1) The location of preferred land uses within the Village Centre is to be generally consistent with the Figure E11.47. The nominated 'Opportunity Site' may be developed for commercial, educational uses and the like should the demand arise.

#### Consistent.

The proposed development is sited within the B2 Local Centre Zone where the proposed mix of uses are permitted with consent.

The proposed development will deliver 287x residential apartments, in addition to ground level retail and commercial floorspace.

The proposed mix of uses is consistent with the mix of uses that is envisaged under this control across the 3 lots that comprise the site.

(2) Building heights with the Village Centre are to be a minimum of 2 storeys, excluding the supermarket, and a maximum of 6 storeys.

#### Minor Variation.

The maximum height of 6 storeys imposed under this control is not appropriate in the context of the site.

This height control is not consistent with the updated vision for the site, which has been the subject of a Design Competition in accordance with Clause 8.4 of the PLEP 2010.

This DA is accompanied by a Clause 4.6 Variation Request (**Appendix II**), which addresses the proposed height variation to Clause 4.3 of the PLEP 2010 (incl. the +10% height allowance under Clause 8.4). Further reference should be made to this document in particular.

(3) The ground floor of all mixed-use buildings is to have a minimum floor to ceiling height of 3.6m in order to provide for flexibility of future use.

Above ground level, minimum floor to ceiling heights are 3.3m for commercial office, 3.6m for active public uses, such as retail and restaurants, and 2.7m for residential.

#### Consistent.

The floor to ceiling height across the ground level retail units exceeds the minimum height of 3.6m.

The general floor to ceiling height at Level 1 (commercial) is generally consistent with the required floor to ceiling height of 3.3m.

(4) Building setbacks / build-to lines within the Village Centre are to be consistent with Figure E11.48. Buildings are generally to be built to the street/square alignment.

No upper-level setbacks are required.



#### Consistent.

#### Overview:

The proposed development will activate the southern portion of Thornton North Penrith Precinct towards the Station Plaza. This will encourage people to shop, visit, and work in the area.

The proposal presents an active retail frontage to the Lord Sheffield Circuit frontage, which will be supported by a pedestrian colonnade that will facilitate movement to/from the station.

The proposal is consistent with the intended effect of this objective. It is further noted that the proposal is the culmination of extensive design development, including a competitive design process.

#### East Frontage:

Figure E11.48. presents the intent for an active frontage to the east-facing aspect of the development.

The delivery of retail/commercial units along this frontage would not be viable in the absence of any through-traffic, noting Transport for New South Wales has confirmed that there is no present intent to provide a busway through Lot 3011 (refer to **Section 2.8**).

On this basis, it is reiterated that the proposal responds to a relevant and updated vision for the site that has been established through a competitive design process.

(5) Building frontage types within the village centre are to be consistent with the table below.

[Relevant items from table listed below].

#### Consistent.

Refer below.

#### Village Square Colonnade:

- Continuous and consistent frontage treatment around the Village Square required with linkage to railway station entrance
- May be in the form of a colonnade, posted verandah or similar structure.
- Minimum height of 8m to the top of the colonnade.
- Must extend over 2 storeys with a minimum clear depth of 3m and height of 3.6m (at ground level).

#### Consistent.

As outlined at **Section 3.4.2**, the proposal presents a visually consistent frontage treatment to each interface with the site.

Specifically, and as discussed previously, the façade design incorporates arched elements throughout to deliver a 'grand gesture' that compliments the civic context of the Station Plaza.

The proposal will deliver substantial public domain curtilage, which will be enhanced by a double-height pedestrian colonnade to the Lord Sheffield Circuit frontage. The arched elements within the colonnade are replicated by the proposed awning/overhang towards the Station Plaza that will create a forecourt.

The proposed frontage treatments are considered to present a strong and contextually appropriate design response. On this basis, the proposal is consistent with the intended effect of this control.

(6) Street frontages are required at ground level of buildings as shown at Figure E11.51 and Table E11.11 below.

#### Consistent.

Our response to this control is provided in the rows below. In summary, the proposal is consistent with this control because:

- The proposed frontages are consistent with the frontage types that are set out be Table E11.11.
- The proposed frontages are consistent with the frontage types that are envisaged to the Lord Sheffield Circuit and Station Plaza interfaces by Figure E11.51.

#### Table E11.11: Street Frontage Requirements

#### Active:

- o Retail shop fronts and entries.
- Cafe / restaurants with direct access to the street.

#### Semi-Active:

- o Active street frontage uses.
- o Glazed entries to commercial and residential lobbies occupying less than 50% of the street frontage, to a maximum of 12m frontage.
- Active office uses, such as reception, if visible from the street.
- Public building if accompanied by an entry.

#### Street Address:

- Active and semi-active street frontage uses.
- Residential entries, lobbies, and habitable rooms with clear glazing to the street not more than 1.2m above street level, and does not include car parking areas

#### Consistent.

In regard to the proposal, the following frontage uses are noted:

#### · Active:

- 14x retail tenancies (incl. 1x potential split tenancy) towards the Lord Sheffield Circuit and Station Plaza interfaces.
- The retail uses within these tenancies will be known when tenants are confirmed, however it is tentatively expected that there will be food/beverage, retail shops and other potential retail uses accommodated within these tenancies.

#### Semi-Active:

- Street level access to elevators will be provided via 2x commercial lobby spaces and 5x residential lobby spaces.
- o The proposal will deliver 4,331m² of commercial floorspace within the joint podium form at Level 1.

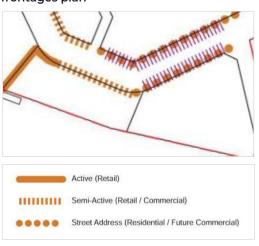
  It is acknowledged that the proposed commercial floorspace is not provided at the ground plane.

  However, the commercial floorspace will attract additional activity towards the site, and is considered to present a semi-active frontage use with reference to the intended effect of this control.

# • Street Address:

 As above, street level access to elevators will be provided via 2x commercial lobby spaces and 5x residential lobby spaces.

Figure E11.51 - Village Centre active frontages plan



# Consistent.

Based on the summary provided above, the proposal presents an outcome for the site that is consistent with the proposed frontage types that are shown at Figure E11.51.

A marked-up extract showing the proposed orientation of retail units at the corner of the Station Plaza and the Lord Sheffield Circuit interface is provided below for further reference.





Above: Retail Units To Station Plaza and Lord Sheffield Circuit Interfaces

Source: SJB / Ethos Urban

(7) Main building entry points should be clearly visible from primary street frontages and enhanced as appropriate with awnings, building signage or high quality architectural features that improve clarity of building address and contribute to visitor and occupant amenity.

#### Consistent.

As mentioned, Street level access to elevators will be provided via 2x commercial lobby spaces and 5x residential lobby spaces.

The location of building entry points is rational, and will provide a functional arrangement for building access.

Entrances to the elevator lobbies at ground level will be visually distinguished, with each doorway provided towards the centre of a miniature curved inlet.

- (8) Mixed use buildings within the Village Centre are to:
  - (a) provide direct 'front door' access from ground floor residential units;
  - (b) provide clearly separate and distinguishable commercial and residential entries and vertical circulation;
  - (c) provide multiple entrances for large developments including an entrance on each street frontage.

#### Consistent.

The proposal is consistent with this control, noting:

- There are no residential units proposed at ground level.
- There are separate and distinguishable commercial and residential entries. Adequate separation is also achieved regarding vertical separation.
- Multiple entrances are proposed.
- (14) Non-residential developments including mixed-use developments with a construction cost of \$1 million or more are to demonstrate a commitment to achieving no less than 4 stars under Green Star and 5 stars under the Australian Building Greenhouse Rating system.

#### Consistent.

The proposal is consistent with the intended effect of this control – to enable high quality sustainable design outcomes for the Village Centre. In this regard, it is noted that:

- The development is not seeking a formal Green Star certification, however, where feasible, the design team will consider the sustainable design initiatives associated with Green Star.
- Section J of the National Construction Code (NCC)
   establishes regulations for energy efficiencies for all types of
   buildings with respect to the building's construction, design,
   and activity. The objective of the NCC Section J is to reduce
   the greenhouse gas emissions. As detailed in the ESD
   Framework and Options Report (Appendix O), the proposed
   development will meet and outperform the NCC energy
   efficiency requirements of Section J.
- The proposed development will utilise passive design interventions to minimise the amount of air-conditioning required, and therefore significantly reduce the building's energy consumption and greenhouse performance. These passive design interventions are outlined by the ESD Framework and Options Report (Appendix O).
- The proposal complies with the State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004. Refer below.

(15) All dwellings, including those dwellings in a mixed-use building and serviced apartments which are intended to be or are capable of being strata titled, are to demonstrate compliance with the State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.

#### Consistent.

The proposal complies with the State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.

Refer to the BASIX Assessment and Certificate that is provided at **Appendix Q**.

(16) For commercial buildings that will be accommodating 'general office areas', the target internal noise level is to be 40 dB(A) LAeq.

#### Consistent.

The proposed development is capable of satisfying all relevant noise standards.

Refer to the Noise Impact Assessment (Appendix M).

#### 11.8.4.2 - The Village Centre - Access, Parking and Servicing

## B – Controls

# (1) The parking rates provided in this Section override the parking rates outlined in the Transport, Access and Parking Section of this DCP.

#### Noted.

The parking rates from this section are assessed below.

(2) Maximum parking rates are to be in accordance with Table E11.12. The preferred location of and access to car parking within the Village Centre is shown at Figure E11.52.

#### Refer below.

An assessment is provided against Table E11.12 and Figure E11.52 in the rows below.

# Parking Rates from Table E11.12:

#### • Commercial / Retail:

1 space per 50m<sup>2</sup> of GFA (max) 1 space per 75m2 of GFA (min)

# • Residential:

# 1-Bed and 2-Bed:

1 space per dwelling

#### 3-Bed+:

2 spaces per dwelling

#### Visitors:

On-street only.

#### Car Wash:

1 space for car washing for every 50 units up to a maximum of 4 spaces per building.

#### Consistent.

#### Residential Uses:

Based on the proposed mix of apartment typologies, this control specifies that no more than 334 car parks can be provided with a residential use allocation. The proposal will provide 331 car parks with a residential use allocation, and therefore satisfies this aspect of the control.

# **Commercial Uses:**

In regard to the commercial parking rate, the following floorspace areas are noted:

- Retail GFA: 1794m<sup>2</sup>
- Commercial GFA: 4331m<sup>2</sup>

The proposed development provides 79 car parking spaces that are allocated for retail/commercial uses. The proposed number of commercial car parking spaces is slightly beneath the minimum provision rate for commercial/retail uses, however the PDCP 2014 stipulates a maximum rate for all parking provision, with the exception of service vehicle bays. While the proposed commercial/retail parking spaces is less than the maximum provision rate, this does not contravene the PDCP 2014 as it regulates parking provision at the site.

To build on the above, the proposed number of car parking spaces allocated for commercial use is considered to be appropriate in relation to the transit-orientated context for the site. Further reference should be made to the Traffic Impact Statement (**Appendix EE**).

	Based on the above, the development is considered to present an outcome that is consistent with the intended effect of this control.
Location of Parking in Figure E11.52:	Minor variation.
	The proposal does not include above-ground car parking, which presents a superior design outcome for the site in regard to visual amenity.
→ Site entry Private parking	Figure E11.52 also shows the intent for vehicle access to be provided from the centre of the Lord Sheffield Circuit frontage. However, as there is no present intent for the use of Lot 3011 as a bus underpass, the provision of vehicle access to the site via Lot 3011 is viable.
Public parking Commuter Carpark	We further note concerns that have been raised previously in regard to sight lines (or lack thereof) from a centrally located vehicle access point. Safety issues that would be associated with a centrally located vehicle access point have informed the provision of vehicle access via Lot 3011.
	It is acknowledged that the proposal presents an outcome for the site that is different from Figure E11.52. However, the proposed arrangement for vehicle access and car parking reflects an updated vision for the site that will deliver a superior design outcome.
(7) All parking provided on site is to meet AS2890 and where, appropriate AS1428.	Consistent.  The proposed car parking will comply with all relevant design requirements, including those imposed by the Australian Standards.

# 4.3.2 Part C: General Provisions

Relevant general provisions from Part C of the PDCP 2014 are considered at **Table 11**.

Table 11 PDCP 2014: Assessment Against Relevant General Provisions (Part C)

Pro	ovision / Contr	ol	Assessment	
Part C – General Controls				
Sed	ction C3 – Wat	er Management – Water Sensitive U	rban Design Controls	
Performance Criteria Water conservation requirements for development type			es identified in Table C3.1 are: [refer below]	
(a) All residential buildings are to demonstrate compliance with State Environmental Planning Policy – Building Sustainability Index (BASIX), as required.		with State Environmental Planning	Compliance with this control is demonstrated by the BASIX Assessment and Certificate ( <b>Appendix Q</b> ).	
(b)	•	not covered by the State tal Planning Policy – BASIX:  That are installing any water use fittings must demonstrate minimum standards defined by the Water Efficiency Labelling	Consistent.  The residential component of the proposed development is subject to the State Environmental Planning Policy – BASIX. However, the commercial and retail uses that are proposed within the joint podium	

and Standards (WELS) Scheme. Minimum WELS ratings are 4 star dual-flush toilets, 3 star showerheads, 4 star taps (for all taps other than bath outlets and garden taps) and 3 star urinals. Water efficient washing machines and dishwashers are to be used wherever possible.

- (ii) To install rainwater tanks to meet 80% of non-potable demand including outdoor use, toilets and laundry.
- (iii) To incorporate passive cooling methods that rely on improved natural ventilation to supplement or preclude mechanical cooling.

are subject to the requirements that are outlined beneath this control.

In this regard, it is noted that:

- All water use fittings that will service the commercial and retail uses within the joint podium will be selected in accordance with the water conservation and management initiatives that are outlined in the ESD Framework and Options Report (Appendix O).
- Rainwater will be collected from roof runoff and piped to storage tanks for use on site. Harvested water will be considered to supplement nonpotable water uses such as common area landscape irrigation. The proposed rainwater tanks are summarised as follows:
  - o 10KL Rainwater Tank:

To provide 88.3% of the water demanded for potable uses across Catchment A. Refer to the MUSIC model summary that is provided at **Appendix CC**.

o 20KL Rainwater Tank:

To provide 85.5% of the water demanded for potable uses across Catchment B. Refer to the MUSIC model summary that is provided at **Appendix CC**.

• Natural lighting and natural ventilation will be utilised very effectively throughout the development. In addition to thermal comfort, energy and water efficiency, the proposed building design will provide sustainable and efficient operation to the occupants. Refer to the ESD Framework and Options Report (Appendix O).

#### Section C3.5 - Flood Planning

- (1) Submission requirements:
  - (a) Where relevant, a comprehensive flood study, incorporating:
    - (i) a survey of the main watercourse;
    - (ii) A survey of the site; and
    - (iii) a detailed flood and drainage investigation which establishes the estimated 1% AEP (100 year ARI) flood level;

is to be submitted with any development application on land identified as fully or partially flood affected. The levels on the survey are required to be verified during construction by a survey certificate.

#### Consistent.

A Flood Impact and Risk Management Report has been prepared by Integrated Group Services (IGS). This report is provided at **Appendix N**. Flood planning matters that are relevant to this DA are considered from **Section 4.13.1** to **Section 4.13.4** of this SEF.

From the outset, it is noted that:

- According to the Nepean River Flood Study (2018), the site is not affected by 1% AEP storm events but only by the Probable Maximum Flood (PMF) event. The flood level at the site during the PMF event is approximately 30.45m AHD with varying Flood depths of 3-4m.
- According to the Penrith CBD Floodplain, Risk Management Study Plan by Molino Stewart (2020), this site is affected by overland flows towards the east site boundary.
- This site falls downstream of Warragamba Dam. This Dam is categorised as a potential risk to downstream properties.

To address the relevant flood planning controls in the PDCP 2014 and Clause 5.21 of the PLEP 2010, a Flood Risk Management Plan has been appended to the Flood Impact and Risk Management Report.

The Flood Impact and Risk Management Report also provides a number of readily achievable recommendations to further minimise flood hazard, which are summarised at **Section 4.13.4** of this SEE.

It is further noted that the proposed stormwater design has been prepared to address flood planning matters. This is summarised at **Section 4.14.2** of this SEF

The technical documentation that is appended to this DA satisfies the intended effect of this control.

(11) Generally, residential development on land below the flood planning level will not be supported. Further provisions relating to the proposed subdivision of such land can be found in the Subdivision Section of this Plan.

Further, Council will generally not support an application for any land use which may attract large numbers of people (including schools, function centres, child care centres, hostels, etc.) on land below the flood planning level and on land that cannot be safely and effectively evacuated during a 1% AEP (100 year ARI) flood event.

#### Consistent.

According to the Nepean River Flood Study (2018), the site is not affected by 1% AEP storm events. It is reiterated that the technical documentation that is appended to this DA satisfies the intended effect of the control above.

#### (13) Overland Flow Flooding:

- (a) Council has undertaken a Penrith
  Overland Flow Flood 'Overview' Study.
  Consideration must be given to the
  impact on any overland flow path.
  Generally, Council will not support
  development obstructing overland flow
  paths. Development is required to
  demonstrate that any overland flow is
  maintained for the 1% AEP (100-year ARI)
  overland flow. A merit based approach
  will be taken when assessing
  development applications that affect the
  overland flow.
- (b) Council's Stormwater Drainage Specification for Building Developments provides information on the details required in the preparation of an overland flow study.

#### Consistent.

According to the Penrith CBD Floodplain, Risk Management Study Plan by Molino Stewart (2020), this site is affected by overland flows towards the east site boundary. However, and according to the Nepean River Flood Study (2018), the site is not affected by 1% AEP storm events.

As outlined throughout **Section 2.5** and **Section 4.13**, the proposed development (incl. the proposed stormwater design) must respond to local flood conditions. This matter has been addressed by the Stormwater Management Plan and Civil Design Plans (**Appendix CC**).

In particular, it is noted that:

- The in-ground drainage system has been designed to ensure that it will not be inundated during a flood event.
- Stormwater infrastructure has been designed to ensure that there will be no uncontrolled discharge from the site to neighbouring properties during a flood event.

Further reference should be made to the Stormwater Management Plan and Civil Design Plans (**Appendix CC**).

### Section C3.6 - Stormwater Management and Drainage

- (1) Natural environment:
  - (c) Permeable ground surfaces are to be maintained as far as possible, and where

#### Consistent.

suitable conditions exist, stormwater is to be infiltrated on-site.

The Landscape DA Design Report (**Appendix I**) and Drawing A-6103 of the Architectural Plans (**Appendix A**) specify the extent of softscape deep soil coverage across the site (850m²), which equates to 10.3% of the site area (8281m²). The proposed deep soil coverage will be delivered in the form of:

- Deep soil zones towards the east and south site boundaries, which will have a depth of <6m. These deep soil zones will have an area of 288m², which equates to 3.5% of the site area.
- Deep soil zone towards the south-east corner of the site, which will have a depth of >6m. This deep soil zone will have an area of 526m², which equates to 6.8% of the site area.

Permeable paving treatments are also proposed where possible, including at the Community Garden. This will facilitate stormwater percolation.

It is further noted that the Stormwater Management Plan and Civil Design Plans (**Appendix CC**) present a stormwater design that will effectively avoid voluminous stormwater discharges from the site.

In particular, the proposed stormwater design will:

- Provide 2 on-site stormwater detention (OSD) tanks at ground level. Discharge from the proposed OSD tanks will be controlled by orifice plates constructed over each of the discharge pipes on the tank wall.
- Convey stormwater towards stormwater inlet structures by utilising site topography and gravity.
   The inlet structures have been designed to adequately convey the surface runoff into the inground drainage network.

Based on the above, this DA is considered to present a well-considered and effective stormwater management outcome for the site that surpasses minimum benchmarks set by Council (refer below).

#### (1) Drainage:

- (a) Council's Stormwater Drainage Specification for Building Developments provides details on drainage requirements including on-site detention, new drainage systems and the like.
- (g) The applicant should demonstrate how existing soil type and associated constraints (e.g. salinity and poor percolation) have been considered in the drainage design).

#### Consistent.

The Stormwater Management Plan and Civil Design Plans (**Appendix CC**) have been prepared to satisfy Council's Stormwater Drainage Specification for Building Developments (2016, as amended).

In particular, it is noted that the Stormwater Management Plan references Penrith City Council's fixed rates for the provision of on-site detention OSD facilities. The stormwater detention will be provided in the form of two concrete OSD tanks at the ground floor level.

As outlined at **Section 4.14.1** of this SEE, the proposed OSD tanks surpass the minimum storage capacity that is required under Council's Stormwater Drainage Specification for Building Developments.

### Section C5 – Waste Management Guidelines for Residential Flat Buildings

# 2.2.1 – On-site Collection Consistent.

Council's standard waste collection vehicle must be able to safely and efficiently access the site and nominated collection point in accordance with section 5.3.4.1, subsection 3 of Chapter C5:

"There must be sufficient manoeuvring area onsite to allow collection vehicles to enter and leave the site in a forward direction and service the development efficiently with little or no need to reverse." On the nominated collection day, the building caretaker(s) will be responsible for transporting waste from each chute discharge to the residential waste storage room. The building caretaker(s) will provide Council waste collection officers with access to the residential waste storage room from the loading dock, as necessary to provide for the servicing of waste bins on site.

Once the bins are serviced, the waste collection vehicle will exit the loading dock in a forward direction through use of the proposed turntable.

This waste collection procedure presents a safe and efficient arrangement that satisfies section 5.3.4.1 of Chapter C5.

The proposed waste management procedures and storage spaces are shown in the Architectural Plans (**Appendix A**) and are further detailed in the Operational Waste Management Plan (OWMP) at **Appendix FF**.

A detailed overview of the proposed arrangement for waste management is provided at **Section 3.10**, however further reference should be made to the OWMP.

#### 3.5.2 - Waste Collection Room

All developments are required to provide a waste collection room located close proximity to the proposed loading bay. The room is to be designed for the storage of the entire fleet of bins for collection by Council's collection contractors

#### Consistent.

Waste storage rooms for different waste streams are proposed at a location that is immediately adjacent to the loading dock and turntable, which makes provision for waste collection vehicles to enter and exit the site in a forward direction. Refer to **Section 3.10**.

### 3.5.3 - Bulky Goods Room

Residential Flat Buildings are required to provide a bulky goods collection room. The room allows for the placement of various household items including mattresses, furniture and other goods to be collected by Council's waste collection service. Council provides a bulky goods collection service for each development.

### Consistent.

A bulky waste storage room will be immediately adjacent to the residential waste storage room. The bulky waste storage room will be 49m² in area.

The design of the bulky waste storage will comply with all applicable design standards, including the requirement for a minimum doorway width of 1.5m to facilitate the movement of bulky waste into and out of the storage room. Refer to **Section 3.10**.

### 3.9 - Compaction Units

To facilitate on-site waste collection within residential flat buildings with 80 or more dwellings, compaction units are designed to facilitate an efficient on-site waste collection solution. Each RFB is required to provide a separate compaction unit for residual and recyclable waste streams.

### Consistent.

Section 5.3 of the OWMP (**Appendix FF**) outlines the waste disposal procedures that will be implemented throughout the operation of the proposed development. Residents will use dual chute systems that will be installed towards the core of each tower

These dual chute systems will include one chute for the disposal of general waste and one chute for the disposal of recyclables. The incorporation of compaction units at chute discharge points will be considered as part of ongoing design development.

Section C5 –Waste Management Guidelines for Commercial, Mixed-Use, and Industrial Uses

#### 2.2.1 - On-site collection

The waste collection vehicle must be able to safely and efficiently access the site and the nominated collection point to perform on-site waste collection. There must be sufficient manoeuvring area on-site to allow the collection vehicle to enter and exit the site in a forward direction and service the development efficiently with little or no need to reverse.

#### Consistent.

Appropriate waste disposal and collection procedures will be established for future retail and commercial uses once tenants are confirmed. Section 6.3 of the OWMP (**Appendix FF**) contemplates potential waste management procedures for expected commercial / retail uses.

#### 3.4.1 - Waste Collection Room

All developments are required to provide a waste collection room integrated wholly within the developments built form to permit a safe and efficient waste collection service.

#### Consistent.

Small bins would be provided around commercial tenancies / office floorspace for the collection of general waste and recycling. A space will also be dedicated for the collection of bulky cardboard.

At the end of each trading day, or as needed, it will be the responsibility of nominated staff or cleaning contractors to empty the small waste and recycling bins in the offices into designated bin receptacles that will be installed as part of the Level 1 fit out.

The proposal makes provision for an effective commercial waste management arrangement that demonstrates consistency with the intended effect of this control.

### 4.4 Building Height and Overshadowing

Clause 4.3 of the Penrith Local Environmental Plan 2010 (PLEP 2010) imposes a maximum permitted building height of 32m across the site. However, as this DA is the subject of a competitive design process, the maximum allowable height for the proposed development is 35.2m under Clause 8.4(5) of the PLEP 2010. Therefore, the maximum allowable building height of 35.2m that applies to this DA under Clause 8.4 is considered to present the principal height standard to be assessed.

The proposed maximum building height of 40.54m exceeds the maximum allowable building height (35.2m) by 5.8m. The extent of the proposed variation equates to 15.2% of the maximum allowable building height under Clause 8.4(5), which applies to DAs that have been the subject of a Design Competition.

The proposed height variation is justified throughout the appended Clause 4.6 Variation Request (**Appendix II**). In summary, the Clause 4.6 Variation Requests establishes the following key points to demonstrate that the proposed height variation will achieve a superior outcome for the site:

- The proposed variation will not result in any unacceptable overshadowing to surrounding residential dwellings, or to the public domain, including the Station Plaza.
- The proposal is consistent with the objectives for the B2 Local Centre Zone, and does not present an outcome for the site that is discordant with the height, bulk and scale of the existing and desired future character of the locale.
- The proposal will develop a site that is currently vacant, and will maximise land use opportunities that are associated with the immediacy of Penrith Station.
- The proposed development presents a high-quality outcome for the site that exhibits design excellence, subsequent to the extensive competitive design process that preceded this DA.
- The proposed height variation is necessary to achieve the best outcome for the site in lieu of less suitable alternative approaches, noting:
  - o The proposal will offer a high-amenity outcome for future residential occupants, who will benefit from the delivery of two significant communal roof spaces with sufficient solar access. In this regard, it is acknowledged that these spaces would experience poor solar amenity if they were provided at the podium.
  - The elongated form of the proposed development will function as a noise buffer between the south-adjacent rail corridor and surrounding residential buildings, in particular the residential apartment buildings to the immediate north of the site across Lord Sheffield Circuit.
  - Any reduction to the length of the proposed development would negatively impact the
    efficacy of its function as a noise buffer. Due to this, the delivery of communal open space(s)
    at ground level is much less viable than providing the principal communal offering across
    the tower rooftops.
  - The commercial and retail uses that are incorporated within the joint podium provide for the spatial separation of residential dwellings from the south-adjacent rail corridor.
  - It is noted that any communal space at ground level towards the south site boundary would be burdened by poor acoustic amenity in addition to overshadowing, while the public interface to Lord Sheffield Circuit would not be a suitable location for communal spaces.
  - As established by the Clause 4.6 Variation Request (Appendix II), complying with the maximum allowable building height of 35.2m under Clause 8.4 of the PLEP 2010 would compromise the above-listed benefits.
- Supporting technical studies which accompany this DA confirm that the proposed height variation will not give rise to any unacceptable adverse environmental impact. Further noting the above listed benefits, it would not be reasonable to limit residential uplift at the site through enforcing full compliance with the maximum allowable height limit of 35.2m.

### 4.4.1 Overshadowing

Shadow diagrams are appended to the Architectural Plans (**Appendix A**). The shadow diagrams show the extent of the shadow footprint that will be cast by the proposed development during Winter Solstice at 9:00 AM, 12:00 PM, and 3:00 PM.

It is noted that there will be no additional overshadowing to any private residential dwelling or the Station Plaza. The extent of the shadow footprint that will be cast from the proposed development is generally restricted to the south-adjacent rail corridor, in addition to the station and the associated atgrade car parking lot on the southern side of the rail corridor.

It is further noted that the proposed height variation will not result in a perceptible difference to the extent of the shadow footprint that will be cast from the development compared to a height-compliant (35.2m) scenario. This is shown by the shadow diagrams at **Appendix A**, which overlay the proposed shadow footprint with the extent of a shadow footprint that is modelled on a height-compliant (35.2m) scenario. Extracts of these shadow diagrams are provided at **Figure 46** for reference.



Figure 46 Shadow Diagram Extracts 9AM (top right), 12PM (top left) and 3 PM (bottom)

Source: SJB

### 4.4.2 Visual Impact

The proposed maximum building height of 40.54m exceeds the maximum allowable building height (35.2m) by 5.8m at several points where the built form extends above this height limit to provide access to the communal areas at the roof levels of the East Tower and the West Tower. Specifically, the height exceedance is attributed to the lift overrun / roof structures that are necessary to provide this communal rooftop offering. These elements of the built form are recessed back from the edge of the façade, and are therefore not visually prominent, or readily visible, when observed from the public domain.

Further noting the proposed development provides a visual barrier between the surrounding area and the rail corridor, which is not a visually desirable setting, the proposal is considered to present an improved visual setting for the locale.

A visual render of the proposed development is shown in relation to a translucent height plane that is based on the maximum allowable height limit (35.2m) at **Figure 47** and **Figure 48**. This imagery further demonstrates that any difference to the perceived bulk and height of the proposed development, compared to a height-compliant scenario, would be imperceptible.



Figure 47 Proposed Development: Views from Public Domain (incl. 35.2m height plane)

Source: SJB

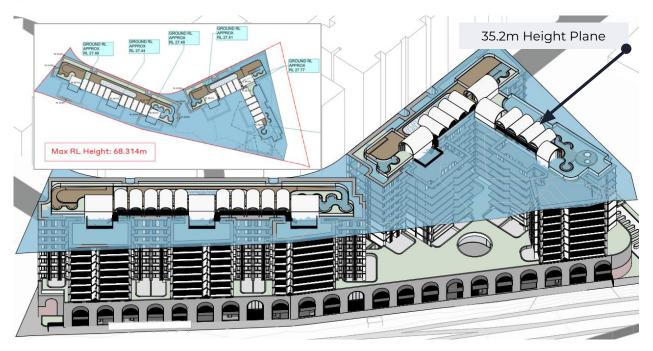


Figure 48 Proposed Development: Extent of Protrusion Above 35.2m Height Plane

Source: SJB

## 4.4.3 Additional Matters for Consideration - Design Excellence

Under Clause 8.4 of the PLEP 2010, the consent authority is required to consider a range of matters in determining whether a DA exhibits Design Excellence. These matters are listed and assessed in detail at Table 1 of the Clause 4.6 Variation Request (**Appendix II**). However, the following matters under Clause 8.4 that must be considered are noted in particular:

- (a) "How the development will address the following matters:
  - (i) the suitability of the land for development,
  - (v) bulk, massing and modulation of buildings"

In regard to the above-listed considerations, it should be acknowledged that the building form, which extends for the length of the site, has been commended by the Design Competition Jury and Design Integrity Panel for addressing acoustic amenity concerns that are associated with the south-adjacent rail corridor. In relation to Subclause (d), it should be acknowledged that the proposed massing strategy has sought to address acoustic volume as a key site constraint. This design resolution

presents a massing strategy that achieves a suitable outcome for the site, and therefore responds directly to matters (d)(i) and (d)(v).

With reference to the above, it should be accepted that any approach to provide communal open space at ground level could compromise the delivery of a suitable outcome for the site in regard to acoustic amenity. This is because it would likely necessitate a reduction to the length of each tower form, which would in turn impact the function of the proposed development as a noise buffer.

It is established throughout the appended Clause 4.6 Variation Request that the proposed roof level communal open spaces, and by association this height variation, will not give rise to any adverse environmental impact. In this regard, it should also be acknowledged that reducing the height of the development to provide rooftop communal spaces beneath the 35.2m height plane is a sub-optimal approach that would not maximise uplift at the site.

Further reference should be made to **Appendix G** and **Appendix H**, which provide a breakdown of commentary that was received from the Design Competition Jury and the subsequent Design Integrity Panel throughout the design development process that preceded this DA.

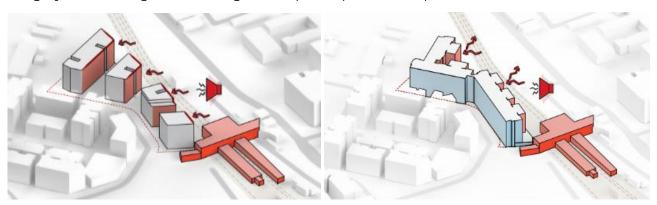


Figure 49 Acoustic Benefit of Elongated Tower Form (right) versus Separated Blocks (left)

Source: Arcadia

## 4.5 Dwelling Mix

As previously outlined at **Table 4**, it is proposed to deliver 287x residential apartments, with a generous proportion of 2-bedroom apartments that will be accompanied by a reasonable mix of 1-bedroom and 3-bedroom apartments.

The site is located within Penrith LGA. The 2016 census data indicates that the LGA has an existing household structure that comprises of the following:

Couples with children: 48.8%

Couples without children: 30.3%

• One parent families: 19.3%

• Other family: 1.5%

These household demographics suggest that Penrith requires a significant mix of 2+ bedroom units in order to accommodate couples and families, and some 1-bedroom units in order to accommodate single persons.

The proposed development will achieve a range of unit typologies and sizes, which will improve the supply of housing for residents and families. The proposal will also address the existing supply shortage of apartments that are suitable for families in proximity to the Penrith CBD.

## 4.6 Rail Interface Report

The southern site boundary adjoins the western rail corridor and Penrith Station. A Rail Interface Report (**Appendix HH**) has been prepared to address statutory planning considerations that are associated with the sensitive interface between the site and the rail corridor.

The specific purpose of the Rail Corridor Interface Report is to address the applicable technical requirements contained in the TfNSW Standard T HR CI 12090 ST (Airspace and External Developments). This standard regulates the design, construction, maintenance and decommissioning of developments that adjoin or impact on rail services and/or rail infrastructure.

The Rail Corridor Interface Report demonstrates that the proposed development will satisfy the statutory planning considerations and requirements associated with the south-adjacent rail corridor.

#### 4.6.1 Referrals

The Rail Corridor Interface Report (Appendix HH) identifies the following referrals for this DA:

- Given the nature of the proposed development and its interface with the rail corridor the DA will be the subject of a rail authority referral. The prescribed rail authority is TfNSW.
- Due to the proximity of the proposed development to rail electrical infrastructure, the DA will be the subject of a electrical supply authority referral. The prescribed electrical supply authority is the Transport Asset Holding Entity (TAHE).

The provisions of the SEPP (Transport and Infrastructure) 2021 that require the above-listed referrals are outlined by the Rail Corridor Interface Report.

### 4.7 Draft Connecting with Country Framework

### 4.7.1 Background

The Draft Connecting with Country Framework prepared by GANSW sets out a framework for understanding the value of Aboriginal knowledge and principles guiding the development of connections with Country, to inform the design and planning of places.

The draft Connecting with Country Framework includes the aim for all projects to adopt the following commitment:

"Through our projects, we commit to helping support the health and wellbeing of Country by valuing, respecting, and being guided by Aboriginal people, who know that if we care for Country – it will care for us."

The draft Connecting with Country Framework is informed by and reflects a wider context of debate and policy as well as academic research. Penrith Council has previously raised the importance of the Framework as a reference point for this project. This was established through commentary that was received during the competitive design process that preceded this DA.

### 4.7.2 Landscape Design Response

The landscape design response (**Appendix F**) has sought to incorporate design features that will promote a strong connection to Country.

As outlined by the Landscape Development Application Design Report (**Appendix F**), the proposed introduction of Bush Tucker planting will provide interest and draw people towards the community garden space. Promoting the edible use of indigenous planting is central to the design intent for the community garden as a place for people to gather, grow food, and learn.







Figure 50 Precedent Images: Indigenous Planting for 'Bush Tucker Walk' and Community Garden

Source: Arcadia

### 4.7.3 Public Art Response

As outlined at **Section 3.6**, the proposed development makes provision for the implementation of a Public Art Strategy. The Public Art Strategy will be the subject of ongoing development as design details are confirmed for the proposed development. An extract showing potential locations for public art installations is provided at **Figure 40** for reference.

The Public Art Strategy will respond to opportunities to deliver meaningful public art across public domain curtilage areas that are provided at the ground plane. The Public Art Strategy will be prepared with regard for the draft Connecting with Country Framework. The Public Art Strategy will support an authentic design narrative for the site that is grounded in Country.



Figure 51 Precedent Images: Interpretation of Country through Public Art

Source: Arcadia

### 4.7.4 Lighting

Lighting across the public domain curtilage spaces at the ground plane will be developed at the detailed design phase by Arcadia in collaboration with an Aboriginal Design Consultant. The design intent for the lighting is to create unique site-specific elements that are both contemporary and culturally responsive. This is further discussed in the Landscape Development Application Design Report (**Appendix F**).



Figure 52 Precedent Image: Ground Surface 'Gobo Lighting'

Source: Arcadia

## 4.8 Heritage

### 4.8.1 Non-Aboriginal Heritage

A Non-Aboriginal Statement of Heritage Impact has been prepared by Weir Phillips. This report, herein referred to as the Heritage Impact Statement (HIS), is provided at **Appendix LL**. The HIS provides an assessment of the proposed development that considers the potential for impacts to nearby heritage items (listed at **Section 2.9.2**).

Artefact conducted a physical site inspection to help inform the assessment that is provided by the HIS. During the site inspection, it was observed that there was no potential for any unidentified / unlisted heritage item to be present at the site.

The HIS confirms that the proposal will not have any adverse impact to surrounding heritage items. The primary reason for this conclusion was based on the physical appearance of the proposed development. Specifically, the proposed development was described to be visually consistent with surrounding development, and as such was not considered to present an outcome that was discordant with the character of the locale.

It is further noted that the proposed development is sited at a location that is earmarked for high density residential development under the PLEP 2010 and the PDCP 2014. The proposal presents an outcome for the site that is reasonably anticipated in the context of the B2 Local Centre Zone and the physical location of the site at the periphery of Penrith CBD. To build on this, it should be noted that the proposed height variation is considered in relation to the objectives of the B2 Local Centre Zone at **Appendix II**.

The proposal presents an acceptable outcome for a key opportunity site that demonstrates appropriate regard for the historic values that are associated with each of the heritage items listed at **Table 3**. Further reference should be made to the detailed assessment that is provided by the HIS.

### 4.8.2 Non-Aboriginal Archaeological Heritage

The Archaeological Heritage Report (**Appendix KK**) prepared by Artefact noted that there was nil-low potential for the site to contain non-Aboriginal archaeological remains. In this regard, it is acknowledged that the HIS prepared by Artefact does not include an assessment of Aboriginal archaeology and cultural heritage.

The NSW Heritage Manual provides the framework used for the significance assessment of the potential archaeological remains within the construction footprint, which was referenced by the HIS as part of the archaeological heritage assessment that was undertaken.

The site inspection that was undertaken by Artefact did not provide any evidence that there could be potential archaeological deposits on site. Further reference should be made to the Archaeological Assessment that is provided at Section 5.0 of the HIS.

### 4.8.3 Aboriginal Heritage

Artefact have also prepared an Aboriginal Heritage Due Diligence Assessment, which is herein referred to as the 'Aboriginal Heritage Assessment'. This document is provided at **Appendix KK**.

Table 1.0 of the Aboriginal Heritage Assessment considers the findings of previous archaeological investigations that are relevant to the site. The Aboriginal Heritage Assessment also includes an extensive search of the Aboriginal Heritage Information System (AHIMS), which was undertaken on 17 August 2022. No known Aboriginal artefacts or potential archaeological deposits were identified within the site. In summary, the Aboriginal Heritage Assessment concluded that:

- Land across the site has been the subject of significant disturbance.
- No Aboriginal objects were identified at ground level during a physical site visit. Verga Traffic Planning
- No areas of archaeological sensitivity are identified within the site or in the vicinity of the site.

That notwithstanding the above, works must comply with the unexpected finds protocols that are
outlined under the National Parks & Wildlife Act 1974 (the NPW Act), and any other legislative
standards as relevant. In the event of an unexpected find, albeit extremely unlikely, appropriate
measures would be undertaken to satisfy all applicable requirements.

## 4.9 Traffic and Parking

A Traffic Impact Assessment has been prepared by Verga Traffic Planning. This report is provided at **Appendix EE**. The report considers the traffic and parking implications of the proposed development, as summarised at **Section 4.9.1** and **Section 4.9.2**.

## 4.9.1 Projected Traffic Generation

Traffic generation was projected with reference to the rates provided by the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation* (October 2002), in addition to the updated traffic generation rates in the recently published RMS *Technical Direction (TDT 2013/04a)* document.

The Traffic Impact Assessment (**Appendix EE**) establishes the rationale that informed the use of specific trip generation rates in the context of the proposed residential, retail and commercial uses for the site. These rates were used to estimate traffic generation, as outlined at **Table 12**.

**Table 12 Proposed Traffic Generation** 

Floor Area (m2) / Yield	AM Peak (veh/hr)	PM Peak (veh/hr)		
Ground Level Retail				
1,794m²	29 (15 in, 14 out)	22 (11 in, 11 out)		
Commercial Floorspace				
4,331m <sup>2</sup>	86 (69 in, 17 out)	64 (13 in, 51 out)		
Residential Apartments				
287 apartments	55 (11 in, 44 out)	43 (34 in, 9 out)		

The projected level of traffic activity is that is associated with the proposed development is consistent with the North Penrith (Thornton) Precinct Concept Masterplan, and is reasonably anticipated in the context of the site which is earmarked to accommodate a high-density mixed use development.

Notwithstanding the above, it is further noted that the immediacy of Penrith Station is expected to have a positive impact on tenant and resident demand for private vehicle use. On this basis, it is generally considered that the estimated volumes of peak hour trips are conservative.

## 4.9.2 Parking

The proposed development makes provision for a total of 421x off-street car parking spaces, comprising 331x residential spaces, 79x retail / commercial spaces, 4x car wash bays and 7x service vehicle spaces (incl. 1x HRV). The geometric design layout of the proposed basement carparking facilities has been designed to comply with the relevant Australian Standards.

The Traffic Impact Assessment (**Appendix EE**) considers the proposed provision of car parking spaces in relation to Chapter E11, Table E11.12 of the PDCP 2014. The assessment provided by the Traffic Impact Assessment demonstrates consistency with the parking standards within Chapter E11.

### 4.9.3 Bike Storage

The off-street bicycle parking rates for the proposed development have been assessed using the *Cycling Aspects of Austroads Guides, Appendix H: Bicycle Parking Provision Rates* guideline by Austroads. The Traffic Impact Assessment (**Appendix EE**) provides an assessment that confirms the proposal satisfies this guideline document.

It is proposed to provide 119x bike storage spaces for the use of future residential occupants, and 14x retail bike storage spaces. It is further noted at there are storage cages across the proposed basement levels, which are capable of storing 34 bicycles. This additional storage capacity can be utilised by commercial and/or retail uses at the site, which can be fitted out to include additional storage facilities for bicycles as necessary.

## 4.9.4 Loading and Servicing

Loading/servicing for the proposed development is expected to be undertaken by a variety of light commercial vehicles such as vans, utilities and the like, which are capable of using a conventional parking space.

A dedicated loading dock is proposed within the south-eastern corner of the ground floor level, at the rear of the retail tenancies. The loading dock has been configured with a truck turntable, thereby allowing all vehicles to enter and exit the site in a forward direction at all times.

The loading dock will include 1x space for a Heavy Rigid Vehicle (HRV) and 6x courier bays for light commercial vehicles in accordance with the applicable design requirements established under the PDCP 2014.

### 4.10 Contamination

An Environmental Site Assessment has been prepared by El Australia. This report is provided at **Appendix V**. As summarised at **Section 2.7** of this SEE, the Environmental Site Assessment has deemed that the site is suitable for the proposed development, subject to standard recommendations that can be readily implemented.

In this regard, the following conclusions from the Environmental Site Assessment are noted:

- Based on the surveyed business directories, no commercial and/or industrial activities have operated at the site.
- While there were previous light industrial land uses to the north of the site, there existed on land that is of a distance (>500m) and downgradient from the site that would have minimised any potential impact from these uses.
- The site is not subject to any statutory notice under the Contaminated Land Management Act 1997 and/or the Protection of the Environment Operations Act 1997. The site is also not included on the List of NSW Contaminated Sites Notified to the EPA.
- No visual evidence of contamination was observed during a physical site inspection, and the potential for acid sulfate soils to be present at the site was deemed to be low. There was also no evidence that underground storage tanks were present on the site.
- An assessment of the collected soil samples against adopted health-based criteria was undertaken.
   Notwithstanding two exceptions, all samples satisfied the health-based criteria for residential and commercial development.
- The two exceptional sample results did not indicate that conditions at the site cannot be remedied or addressed through the implementation of the standard recommendations that are provided at Section 10 of the Environmental Site Assessment.

### 4.11 Geotechnical

A Geotechnical Investigation has been prepared by El Australia. This report is provided at **Appendix W**. The Geotechnical Investigation provides an assessment of site surface and subsurface conditions. This assessment is based on results that were gathered from 6 boreholes. The scope of the Geotechnical Investigation is summarised as follows:

- Review of relevant geological mapping and data.
- Site walkover inspection by a Geotechnical Engineer to assess topographical features and site conditions.
- Scanning of proposed borehole locations for buried conductive services using a licensed service locator with reference to Dial Before You Dig (DBYD)plans.

- Drilling of six boreholes (BH1, BH2, BH3, BH4M, BH5, and BH6). The drilling depth for each of these
  boreholes is listed at Table 1-1 of the Geotechnical Investigation. A summary overview of the
  location and drilling depth for each borehole is provided at Figure 53.
- Supplying soil and rock samples to National Australian Testing Authority (NATA) accredited laboratories for testing and storage.



Figure 53 Geotechnical Investigation: Borehole Locations and Drilling Depths

Source: Nearmap / Ethos Urban (all information sourced from El Australia)

### 4.11.1 Key Considerations

Based on the investigation results, Section 4.1 of the Geotechnical Investigation (**Appendix W**) identifies several key matters to be addressed. These matters are listed as follows:

- Basement excavation and retention to limit lateral deflections and ground loss as a result of excavations, resulting in damage to nearby structures.
- Groundwater within the depth of the excavation. Note this matter is addressed by the Groundwater Take Assessment (Appendix X), as discussed at Section 4.12.
- Foundation design for building loads.

The Geotechnical Investigation provides a number of recommendations to address the above-listed matters, as summarised at **Section 4.11.2**.

#### 4.11.2 Recommendations

The Geotechnical Investigation (**Appendix W**) provides detailed recommendations as relevant to particular matters that are addressed throughout the report. These recommendations are summarised at Section 5.0 of the Geotechnical Investigation.

The recommended measures include (but are not limited to) the following:

- Undertaking dilapidation surveys.
- Classification of all excavated material transported off site.
- Witnessing installation of support measures and proof-testing of anchors if required.
- Geotechnical inspections of unsupported vertical excavations in bedrock.

• Ongoing monitoring of groundwater inflows into the bulk excavation. Please note potential groundwater seepage has been further considered by the Groundwater Take Assessment (**Appendix X**).

The recommended undertakings that are detailed throughout the Geotechnical Investigation are readily achievable. Subject to satisfying these standard recommendations, site conditions are considered suitable for the proposal.

### 4.12 Groundwater Take

A Groundwater Take Assessment (GTA) has been prepared by EI Australia. The GTA is provided at **Appendix X**. The GTA was undertaken to estimate the volume of groundwater that would need to be pumped out of the basement excavation, and the potential extent of any subsequent groundwater drawdown.

The GTA was based on modelled subsurface conditions from the Geotechnical Investigation (**Appendix W**). The results for the GTA are based on data that was obtained from groundwater monitoring that was undertaken on 15 December 2021 and 15 July 2022. The monitoring occurred on these dates to account for seasonal variations in ground water levels.

The GTA provides an estimated groundwater take volume of 0.9ml/180 days based on the estimated construction timeframe for the basement. Based on results that were generated by the GTA, it is expected that this groundwater take volume would keep groundwater levels below the Bulk Excavation Level (BEL) while the basement is under construction.

The GTA concluded that the required scope and duration of dewatering during the construction phase would have a negligible impact to surrounding development. It was also concluded that the overall volume of extracted groundwater would be inconsequential.

It is further noted that the proposed basement will be a 'tanked basement', meaning necessary design interventions will be adopted to prevent groundwater infiltration into the basement after works are completed. This will be demonstrated prior to the issue of a Construction Certificate.

An extract of the seepage model diagram (Section BB) is provided at **Figure 54**, which shows the modelled BEL (RL 17.8m) in relation to the modelled external groundwater level (RL 22.5m). Further reference should be made to all of the diagrams that are appended to the GTA (**Appendix X**).

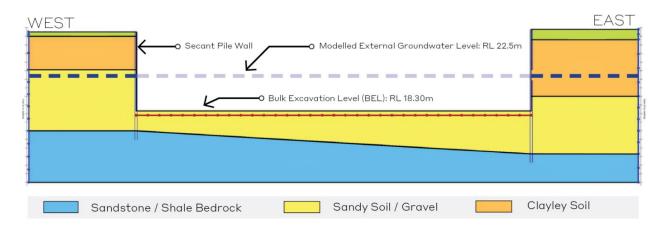


Figure 54 Seepage Model Diagram Extract: 'Section BB'

Source: El Australia (annotations by Ethos Urban)

### 4.13 Flooding

A Flood Impact and Risk Management Report has been prepared by Integrated Group Services (IGS). This report is provided at **Appendix N**. Flood planning matters that are relevant to this DA are considered from **Section 4.13.1** to **Section 4.13.4**.

### 4.13.1 Existing Flood Behaviour

The Flood Impact and Risk Management Report (**Appendix N**) establishes the nature of existing flood behaviour at the site with reference made to relevant information and previous flood studies that have been undertaken.

Key findings that are outlined by the Flood Impact and Risk Management Report in regard to existing flood conditions at the site include:

#### • Nepean River Flood Study (2018):

According to the Nepean River Flood Study (2018), the site is not affected by 1% AEP storm events but only by the Probable Maximum Flood (PMF) event.

The flood level at the site during the PMF event is approximately 30.45m AHD with varying Flood depths of 3-4m.

### Penrith CBD Floodplain and Risk Management Study (2020):

According to the Penrith CBD Floodplain, Risk Management Study Plan by Molino Stewart (2020), this site is affected by overland flows towards the east site boundary.

The Flood Impact and Risk Management Report (Appendix N) notes that:

- o The terrain and contours around the area are very flat, and in an extreme storm event, there is the possibility of overland flows affecting the site's eastern boundary.
- During an extreme storm event there is also potential for localised flooding from the railway corridor along the southern side boundary.
- The study further reinforces the finding from the Nepean River Flood Study (2018) that the site is not affected by 1% AEP storm events.

### Warragamba Dam:

This site falls downstream of Warragamba Dam. This Dam is categorised as a potential risk to downstream properties.

In an extreme event of Dam failure or other unsafe scenarios, this property lies within the flood risk. The considered extremity of this event is that evacuation orders and warnings can be issued at any time of the year.

### 4.13.2 Flood Planning Requirements

The Flood Impact and Risk Management Report (**Appendix N**) considers all relevant flood planning requirements, including (but not limited to) the relevant flood planning controls in the PDCP 2014. These requirements are listed in summary form below:

### Clause 5.21 of the PLEP 2010

Statutory flood planning requirements that apply to the site are outlined under Clause 5.12 of the PLEP 2010. These include the relevant assessment considerations beneath Subclause (2) and Subclause (3).

The Flood Impact and Risk Management Report demonstrates that the proposed development will achieve an acceptable outcome in regard to these flood planning considerations.

### • PDCP 2014: 1% AEP 'Future Proofing'

The floor level shall be at least 0.5m above the 1% AEP (100-year ARI) flood, or the buildings shall be flood-proofed to a least 0.5m above 1%AEP (100-year ARI) flood. Please note the site is not affected by 1% AEP storm events – this requirement therefore does not apply.

### • PDCP 2014: Evacuation Requirements:

Evacuation requirements as per the NSW Department of Planning's Development Assessment Guideline: An Adaptive Response to Flood Risk Management for Residential Development in the Penrith City Centre.

We note this requirement was cited by Council in the Pre-DA Meeting Minutes (**Appendix E**). The Flood Impact and Risk Management Report demonstrates consistency with the guideline document that was referenced by Council.

### 4.13.3 Flood Risk Management Plan and Chief Flood Warden

The Flood Impact and Risk Management Report (**Appendix N**) includes a Flood Risk Management Plan as an appended item.

Flood risk management procedures and undertakings that will be exercised under this DA include:

#### • Flood Risk Management Plan:

This management plan provides direction for future residents, visitors and workers in the event of a serious flood event.

The Flood Risk Management Plan outlines necessary actions to be undertaken before a serious flood event, during a serious flood event, and after the flooding has subsided.

The Flood Risk Management Plan will be made available at areas of the development that will be frequented by residential and commercial building occupants, including the basement car park and building entry points.

#### • Chief Flood Warden:

It is noted that during a regional flood event the site must be evacuated. The development will have a nominated Chief Flood Warden (CFW). The CFW will be required to register for automatic text and email communication and notifications from early warning networks.

Other duties to be undertaken by the CFW are outlined throughout Section 4.0 of the Flood Impact and Risk Management Report. These duties relate to flood preparedness, flood response actions, and flood risk management.

### 4.13.4 Recommendations and Conclusion

The Flood Impact and Risk Management Report (**Appendix N**) provides a number of readily achievable recommendations that will be addressed prior to the issue of a Construction Certificate.

Subject to these recommendations being addressed, the proposed development will present an acceptable outcome for the site that will satisfy all requirements that relate to flood planning and risk management.

These recommendations include:

- During regional flood events, when flood warnings and/or evacuation orders are issued, the site must be evacuated in accordance with the procedures that are established by the Flood Risk Management Plan.
- That flood planning levels, as listed at Section 3.0 of the Flood Impact and Risk Management Report, are maintained to protect the proposed development from overland flows.

### 4.14 Stormwater Management

A Stormwater Management Plan (incl. appended Civil Design Plans) has been prepared by Enscape Studio. This documentation is provided at **Appendix CC**.

The Stormwater Management Plan summarises the proposed civil design interventions that will manage the quantity and quality of stormwater that is discharged from the site, as summarised from **Section 4.14.1** to **Section 4.14.4**.

The proposed stormwater design, as reflected in the Stormwater Management Plan, will achieve a high-quality stormwater management outcome for the site that satisfies all relevant civil design requirements.

### 4.14.1 Stormwater Quantity: On-Site Detention

Section 5.0 of the Stormwater Management Plan outlines the required storage capacity for the on-site detention (OSD) of stormwater.

As there are two stormwater catchments at the site, which are known as 'Catchment A' and 'Catchment B', two OSD facilities are proposed. The Stormwater Management Plan references Penrith City Council's fixed rates for the provision of OSD facilities, which are set out under Council's Stormwater Drainage Specification for Building Developments (2016, as amended).

Council's fixed rates for the provision of OSD facilities were applied in the context of the proposed development to ensure the proposed OSD had a sufficient storage capacity, as outlined at **Table 13**.

**Table 13 On-Site Stormwater Detention Requirements** 

Permitted Discharge	Storage Requirement	Proposed On-Site Detention
Catchment A: 3,970ha		
23.4 L/s	161.18m³	OSD Tank A (west): Capacity: 161.20m³ Dimensions (WxLxD): 3.1m x 13m x 4m
Catchment B: 3,171ha		
18.7 L/s	128.75m³	OSD Tank B (east): Capacity: 129.80m³ Dimensions (WxLxD): 3.2m x 10.4m x 3.9m

As mentioned previously, it is proposed to provide two concrete tanks at ground level to satisfy the above-listed OSD requirements. The proposed OSD tanks are sited at this location because it is above flood water levels. As outlined at **Table 13**, the proposed OSD tanks surpass the minimum storage capacity that is required under Council's Stormwater Drainage Specification for Building Developments

Further reference should be made to the design specifications for the proposed OSD tanks, which are included within the Civil Design Plans (**Appendix CC**).

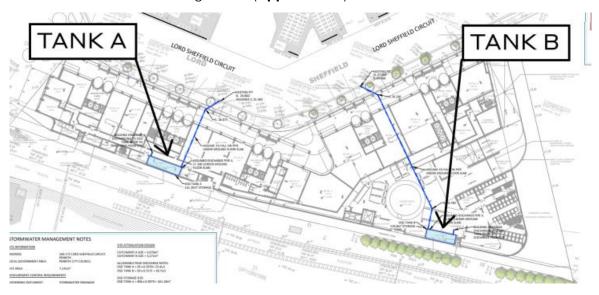


Figure 55 Location of OSD Tank A and OSD Tank B at Ground Level

Source: Enscape Studio

### 4.14.2 Stormwater Quantity: Flood Planning

As outlined throughout **Section 2.5** and **Section 4.13**, the proposed development (incl. the proposed stormwater design) must respond to local flood conditions. This matter has been addressed by the Stormwater Management Plan and Civil Design Plans (**Appendix CC**). In particular, it is noted that:

- The in-ground drainage system has been designed to ensure that it will not be inundated during a flood event.
- Stormwater infrastructure has been designed to ensure that there will be no uncontrolled discharge from the site to neighbouring properties during a flood event.

Further reference should be made to the design specifications for the stormwater infrastructure that is proposed across the site, which are included within the Civil Design Plans (**Appendix CC**).

### 4.14.3 Stormwater Quality: Overview

A MUSIC model is appended to the Stormwater Management Plan (**Appendix CC**). The MUSIC model includes detailed pollutant reduction calculations, and was set up to include modelling parameters in accordance with Penrith City Council's MUSCI-Link.

Civil design interventions are proposed to provide effective stormwater quality management. These are summarised in list form below, however further reference should be made to the Civil Design Plans (**Appendix CC**).

- The proposed stormwater design includes 'Stormwater360 Stormfilter Cartridges'. As discussed at Section 6.2.1 of the Stormwater Management Plan, these stormfilter cartridges can capture suspended solids, hydrocarbons, nutrients, soluble heavy metals and other common pollutants.
- Erosion and sediment control measures to be implemented during the construction phase, as summarised at **Section 4.14.4**.

The proposed stormwater design will provide for the treatment of stormwater prior to discharge. The proposed treatment strategy will surpass quality targets that apply to the proposed development. In particular, it is noted that:

- The proposed stormwater design will achieve an 86.4% reduction to the amount of suspended solids in stormwater discharged from the site. This is above the applicable target of 85%.
- The proposed stormwater design will achieve an 73.1% reduction to the amount of Phosphorus in stormwater discharged from the site. This is well above the applicable target of 60%.
- The proposed stormwater design will achieve an 51.8% reduction to the amount of Nitrogen in stormwater discharged from the site. This is well above the applicable target of 45%.

As demonstrated above, the proposed stormwater design presents an acceptable outcome that surpasses industry-recognised minimum target values that seek to preserve water quality.

### 4.14.4 Construction Phase - Erosion and Sediment Control

The Civil Design Drawings that are appended to the Stormwater Management Plan (**Appendix CC**) include a Preliminary Erosion and Sediment Control Plan (drawing no. C-02). This preliminary plan has been prepared in accordance with Landcom's 'Managing Urban Stormwater – Soils and Construction' guideline.

The Preliminary Erosion and Sediment Control Plan presents a range of viable control measures, including (but not limited to):

### • Sandbag protection:

To be installed surrounding all existing stormwater drainage infrastructure inlets to prevent sediment entering the system.

Shaker Grid and Washdown Facility:

A shaker grid and wash down facility will be installed at all exits from the construction site. All vehicles leaving the site will have their wheels washed down and pass over the shaker grid to remove any spoil collected on their wheels and retaining the spoil on site.

#### Sediment Fences:

Installation of sediment fences on all downstream boundaries of the site to collect sediment and prevent it discharging onto downstream properties or waterbodies.

A final Erosion and Sediment Control Plan will be implemented under an approved Construction Management Plan that will take effect prior to the commencement of works. The final Erosion and Sediment Control Plan will incorporate all necessary measures to prevent the discharge of silt-laden runoff from the site during the construction phase.

## 4.15 Acoustic Amenity

A Noise Impact Assessment has been prepared by Pulse White Noise Acoustics (PWNA). This report is provided at **Appendix M**.

The Noise Impact Assessment has been prepared to address noise management requirements during the construction and operational phases of the proposed development. An overview of the assessment is provided from **Section 4.15.1** to **Section 4.15.3**.

### 4.15.1 Overview of Acoustic Survey

As part of the assessment, a survey of the existing acoustic environment at the site and surrounding receivers was undertaken. The scope of the acoustic survey included noise monitoring that was conducted between 27 July 2022 and 8 August 2022.

The scope of the acoustic survey is summarised below:

### • Unattended Noise Monitoring:

Unattended noise monitoring was undertaken at 2 sites, which are referenced by the Noise Impact Assessment as 'NMI' and 'NM2'. The unattended noise monitoring sites are adjacent to the rail corridor, as necessary to capture noise emissions from train movements and the operation of Penrith Station.

### Attended Noise Monitoring:

Attended noise monitoring was undertaken at 1 site, which is referenced by this SEE as 'NM3'. The attended noise monitoring site is at the interface between the site and the rail corridor, towards the northern station entry.

The location of NM3 was selected to obtain site-specific noise monitoring data that captures noise emissions from train movements and the operation of Penrith Station.

### • Identified Residential Receivers:

Identified residential receivers are located within an area catchment that is referenced by the Noise Impact Assessment as 'Location 1'. The residential receiver catchment includes existing residential dwellings to the north of the site across Lord Sheffield Circuit.

#### • Active Recreational Receivers:

The Noise Impact Assessment identifies 1 active recreational receiver at the east-adjoining property, which is referred to as 'Location 2'. This property (Lot 10 DP1159973) accommodates the Fifth Combat Engineering Regiment.

As an active recreational receiver, the Fifth Combat Engineering Regiment is less sensitive to external noise intrusion than other noise-sensitive land uses.

The location of each noise monitoring site and the identified catchments for surrounding residential and active recreational receivers is shown at **Figure 56**.

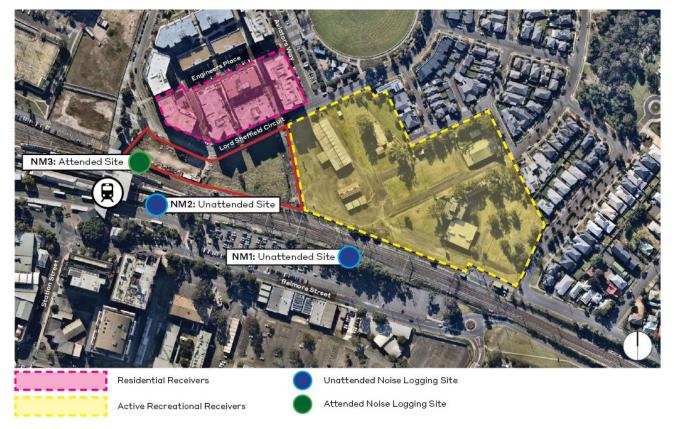


Figure 56 Noise Logging Sites and Identified Receivers

Source: Nearmap / Ethos Urban (based on noise logging sites provided by PWNA)

#### 4.15.2 Noise Intrusion and Emission Criteria

The Nosie Impact Assessment (**Appendix M**) considers all applicable environmental noise emissions criteria, including:

## • Penrith Development Control Plan 2014

The Noise Impact Assessment provides an assessment against the relevant controls of the PDCP 2014. Specifically, the assessment considers the requirements that are outlined by Chapter C12 of Volume 1.

### • State Environmental Planning Policy (Transport and Infrastructure) 2021

The Noise Impact Assessment provides an assessment against the applicable provisions of the SEPP (Transport and Infrastructure) 2021. The SEPP includes provisions for development adjacent to infrastructure (incl. rail corridors) that apply to this DA.

### • Developments Near Rail Corridors and Busy Roads - Interim Guideline

The provisions of the SEPP (Transport and Infrastructure) 2021 that apply to this DA are supported by focussed assessment guidelines from DP – *Developments Near Rail Corridors and Busy Roads* – *Interim Guideline*. The Noise Impact Assessment has been prepared to satisfy these guidelines.

### Australian standards

The Noise Impact Assessment provides an assessment against all Australian Standards that are not captured by the SEPP (Transport and Infrastructure) 2021, including the required design sound level range for apartment common areas under AS2107.

#### NSW EPA Noise Policy for Industry (NPI) 2017

The Noise Impact Assessment provides an assessment against the acceptable noise levels specified in Table 2.2 of the NSW EPA NPI 2017.

In accordance with the this policy, sleep disturbance was assessed in 2 stages, which address the likelihood of sleep disturbance and sleep awakening across all of the proposed residential units.

### 4.15.3 Findings and Recommended Treatments

The Noise Impact Assessment (**Appendix M**) confirms that the proposed development is capable of satisfying all of the assessed instruments and guidelines, subject to standard recommendations that can be readily achieved before a Construction Certificate is issued.

These recommendations include (but are not limited to):

- Provision for an alternative passive air path to units with openings facing the railway line, as outlined at Section 5.1.4 of the assessment.
- Standard acoustic treatments for all future plant equipment, which could include supply and exhaust fans and external condenser units.
- Several measures to regulate noise emissions from the rooftop common area:
  - o Restricting the use of the rooftop common area after 10:00pm.
  - o Not allowing large gatherings, amplified music or parties at the rooftop common area.
  - o Installation of signage to enforce the above.

The Noise Impact Assessment further recommends that a detailed acoustic assessment is undertaken to ensure all cumulative noise from building plants complies with the applicable noise intrusion and emission standards. This recommendation will be satisfactorily addressed by the Proponent prior to the issue of a Construction Certificate.

## 4.16 Ecologically Sustainable Design (ESD)

An Ecologically Sustainable Design (ESD) Framework and Options Report has been prepared by IGS. This report is provided at **Appendix O**. The report confirms that the proposed development will satisfy and/or out-perform the following regulatory requirements:

- NCC Section J (Energy Efficiency).
- BASIX Energy, Water and Thermal Comfort (refer to **Section 4.17**).

While the proposal is not seeking formal rating certification, and where feasible, sustainable design initiatives associated with Green Star will be incorporated through ongoing design development. ESD design initiatives for the proposed development include those summarised at **Section 4.16.1**.

### 4.16.1 ESD Initiatives

ESD initiatives and design resolutions that have been incorporated as part of the proposed development include (but are not limited to) the following:

- High efficiency Heat Pump hot water systems will be used to provide the Domestic Hot Water demands for the facility.
- Energy consumption will be (in part) offset by PV solar panels that will be installed across select roof areas (refer to **Section 4.16.2**).
- All water fixtures (taps, in-built appliances and the like) will be water efficient and, where possible, exceed the BASIX requirements. The ESD Report (**Appendix O**) provides the following criteria for these fixtures to guide further design development:
  - o Hand wash basins: 6 Star WELS.
  - o Kitchen taps: 6 Star WELS.
  - Showerheads: 4 Star WELS.
  - o Toilets: 4 Star WELS.
  - o Dishwashers: 5 Star WELS, preferably higher.

- The use of native, drought-resistant planting will be considered to reduce water consumption used in irrigation.
- Particular regard has been given to elements of sustainability that relate to the materiality of the
  proposed development. In particular, the factors of durability, embodied energies, renewable
  sources content, ease of manufacturing, potential for re-use, maintenance, local availability
  affordability and toxicity have informed material selection.
- Wherever possible, all timber products and materials associated with the proposed development will be sought from ethical sources.

### 4.16.2 Solar Photovoltaic (PV) System

As mentioned, the proposed development will make provision for the installation of a PV System across select roof areas. The Architectural Plans (**Appendix A**) identify 6 potential areas where that could accommodate PV solar panels. Based on the available roof area, it is expected that a 60kW PV system will be installed.

It is expected that the PV system will comprise approximately 100x PV panels, which would be serviced by 1x inverter. Please note these figures are speculative. As reiterated in the ESD Report (**Appendix O**), the exact sizing, configuration and final design of the PV system will be confirmed through ongoing design development.

Notwithstanding the design details that are yet to be confirmed, the Solar Reflection Screening Analysis (**Appendix P**) has considered the potential location, configuration, and overall design of the PV system. This was noted as a consideration for the assessment that was undertaken to determine the impact that solar reflections emanating from the development will have on the surrounding urban terrain.

There is no indication that the installation of a PV solar panel system would result in any unacceptable glare impact to pedestrians, motorists, or train drivers/passengers. As outlined by the technical documentation referenced above, the PV panels can be appropriately located and angled to minimise the potential for any unacceptable adverse glare impact. If needed, this can be further addressed through the application of anti-glare coating.

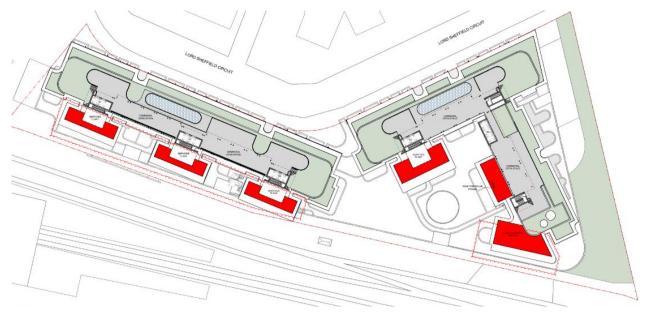


Figure 57 Potential Locations for PV Solar Panels (red)

Source: SJB Architects

### 4.17 Wind and Thermal Comfort Design Review

A Wind and Thermal Comfort Design Review has been prepared by RWDI Australia. This report is provided at **Appendix GG**.

The Wind and Thermal Comfort Design Review provides an assessment based on wind modelling to establish wind conditions and pedestrian wind comfort at the site. wind conditions around the site. In addition, solar exposure studies have also been carried out to assess the overall thermal comfort conditions around the site. The Wind and Thermal Comfort Design Review is summarised from **Section 4.17.1** to **Section 4.17.3**.

### 4.17.1 Ground Level Wind Comfort

Ground level open spaces were generally deemed to be suitable for passive use throughout the year, as shown at **Figure 58**.

The assessment did identify slightly higher wind speeds that remain suitable for strolling use at the south-east corner of the site during summer. These conditions at the south-east corner of the site are due to seasonal wind conditions. Notwithstanding this minor observation, it was noted that structural and landscaping design features at this location would minimise the potential for unacceptable wind exposure across the ground level community garden space.

#### 4.17.2 Roof Level Wind Comfort

The roof level communal open spaces were generally deemed to be suitable for passive use throughout the year, as shown at **Figure 58**. Higher wind activity (albeit not unsuitable for strolling) was noted towards the edges of the rooftop space due to exposure to prevailing regional winds.

Notwithstanding the above, the proposed rooftop landscape design is expected to provide a sufficient wind barrier for spaces at the periphery of the roof level. It was further acknowledged that exposure to higher wind speeds would likely be perceived as comfortable, as this is expected to provide heat relief in summer.

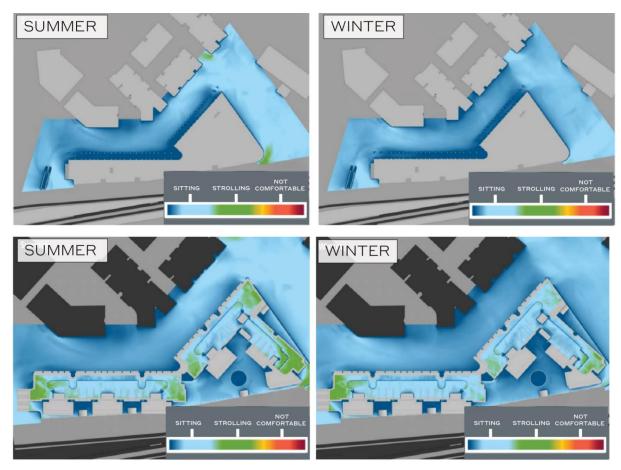


Figure 58 Extract: Ground Level (above) Roof Level (below) Wind Comfort Diagrams

Source: RWDI Australia

#### 4.17.3 Thermal Comfort

Solar simulations have also been generated for the purpose of obtaining a holistic understanding of human comfort across the outdoor spaces that are proposed on site. The results that were generated by the solar simulations informed the following observations:

#### • Ground Level: Public Domain and Garden Colonnade

The results indicate that thermal conditions across the public domain curtilage areas at ground level would be acceptable throughout the majority of the year.

The Wind and Thermal Comfort Design Review recommends several design interventions that can be readily implemented to address seasonal variations to wind and temperature conditions.

#### Ground Level: 'Bush Tucker Walk' and Station Plaza

These spaces are likely to experience conditions that may be perceived as too warm at midafternoon during summer, and too cold during winter evenings.

The assessment noted that additional protection could be provided by canopies, softscape elements, or the like. Such interventions will be considered as ongoing design development occurs.

#### Outdoor Spaces at Level 1 and Level 2

The results indicate that outdoor spaces at Level 1 are generally well shielded from solar exposure and winds. The Level 2 podium garden space is not trafficable. These spaces present an acceptable outcome in regard to thermal comfort.

### • Rooftop Communal Spaces:

The results indicated that thermal comfort levels across the rooftop would be lower during the summer months. Notwithstanding this, shadows cast by the building form and decorative roof level canopies were noted to provide opportunities for heat relief during summer.

The assessment provided several recommended design interventions, including (but not limited to) the provision of additional shading and/or other active cooling measures.

As above, the Wind and Thermal Comfort Design Review provides a number of recommended control measures for consideration. **Figure 59** presents an extract of a supplementary visual that was used by the Wind and Thermal Comfort Design Review to exemplify these potential control measures. As established, such measures will be the subject of further consideration to ensure a suitable outcome for the site.

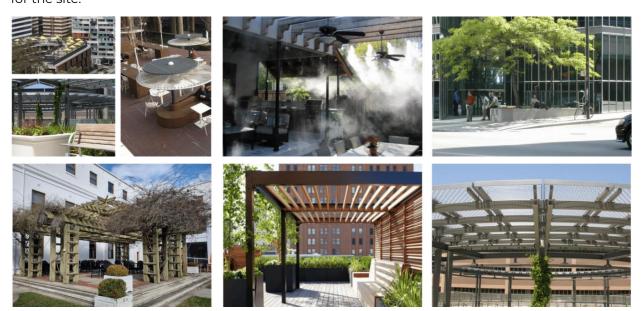


Figure 59 Extract: Example of Potential Control Measures to Address Thermal Comfort Matters

Source: RWDI Australia

### 4.18 Solar Reflection Screening Analysis

A Solar Reflection Screening Analysis has been prepared by RWDI Australia. This report is provided at **Appendix P**. The report summarises computer-generated modelling results that forecast the potential impacts of solar reflections from the proposed development.

An overview of the methodology and results generated by the Solar Reflection Screening Analysis and further detailed analysis that was undertaken by RWDI is provided at **Section 4.18.1** and **Section 4.18.2**.

### 4.18.1 Screening Analysis

The solar reflectivity screening analysis was conducted in two parts. First, a screening simulation was undertaken to estimate the intensity and frequency of potential reflections. The purpose of the screening simulation was to forecast potential thermal, glare and/or visual impacts to people and motorists that could arise from reflections off the proposed development.

We note the screening analysis was completed under the conservative assumption that all viewers would face the building from a horizontal angle. This approach sought to yield results that captured the full extent of potential thermal/glare impacts.

In summary, the results from the screening analysis did not indicate that there would be any unacceptable impact associated with the modelled reflections off the proposed development.

The results from the screening analysis were conveyed by diagrams that are based on two key indicators, as outlined below.

#### • Peak Annual Reflected Solar Irradiance:

Solar irradiance levels are quantified in watts per m<sup>2</sup>. This value is used to identify spaces where solar energy may be concentrated, which could create thermal risks. For instance, 800 watts per m<sup>2</sup> is a typical maximum intensity of direct sunlight.

The results shown by the extract at **Figure 60** do not identify any space where peak annual reflected solar irradiance was found to exceed the threshold value of 800 watts per m<sup>2</sup>.

## • Percentage of Time Above the Veiling Luminance Threshold:

This indicator identifies areas where the percentage of day-time hours where the luminance was predicted to exceed the 500 candelas per m<sup>2</sup> limit. For reference, the candela (cd) is a standard measurement unit that is used to quantify illuminance.

The results shown by the extract at **Figure 61** do not identify any space that would be exposed to excessive illuminance levels for a prolonged period.



Figure 60 Extract: Peak Annual Reflected Solar Irradiance

Source: RWDI Australia



Figure 61 Extract: % of Time Above Luminance Threshold

Source: RWDI Australia

### 4.18.2 Detailed Analysis of Receptor Sites

Based on the findings of the screening analysis, 10 receptor points were selected for further detailed analysis. The location of each receptor point is shown at **Figure 62**.

Based on the detailed analysis that was undertaken and the solar screening analysis that was previously discussed, it was concluded that there would not be any significant adverse impact associated with the proposed development in regard to reflectivity.

The concluding sections of the report provided an outline of the results generated by the screening and detailed analyses in summary form. Conclusive commentary of these results included (but was not limited to) the following:

- It is not expected that the proposed development would result in significant heat gain impact to people or property.
- The screening analysis generally predicted a low potential for glare throughout the public domain, including the Station Plaza, and even under conservative assessment assumptions.
- None of the results that were recorded from any of the receptor sites identified reflections that exceeded the luminance threshold value of 500 cd/m<sup>2</sup>. This (in part) reinforced the results that were generated by the screening analysis.
- The screening analysis also predicted the potential for reflections to fall on the existing railway track, though this was predicted to occur for no more than 0.9% of daytime hours annually.

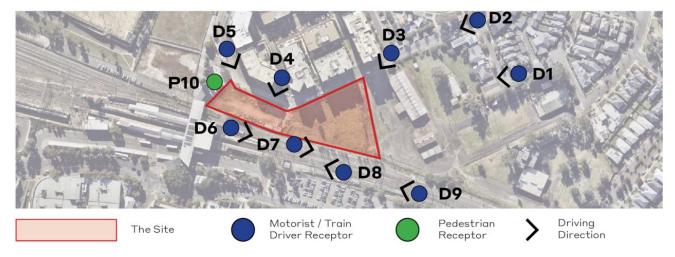


Figure 62 Solar Reflection Screening Analysis: Receptor Sites

Source: Nearmap / Ethos Urban (based on receptor sites provided by RWDI Australia)

## 4.19 Shoring Wall Design

The structural adequacy of the proposed shoring wall design has been investigated by Van Der Meer. This investigation is summarised in the Piling Report that is provided at **Appendix DD.** The investigation is based on information from the Geotechnical Investigation (**Appendix W**), Architectural Plans (**Appendix A**), and structural drawings that are appended to the Piling Report.

The Piling Report demonstrates that the design of the piling for the impermeable wall around the edge of the tanked basement is suitable based on existing site conditions and the structural loads associated with the development.

## 4.20 Operational Waste Management

An Operational Waste Management Plan (OWMP) has been prepared by Elephants Foot. The OWMP is provided at **Appendix FF**. The OWMP has been prepared to satisfy all relevant waste management guidelines and standards. These requirements are established under a variety of planning instruments and non-statutory guidelines, including:

- NSW Environmental Planning & Assessment Act 1979.
- NSW Protection of the Environment Operations Act 1997.
- NSW Waste Avoidance & Resource Recovery Act 2001.
- Penrith Development Control Plan 2014.
- Penrith Local Environmental Plan 2010.
- Penrith City Council: Residential Flat Building Waste Management Guidelines.
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012.

An overview of the proposed operational waste management procedures is provided at **Section 4.20.1** and **Section 4.20.2**. however further reference should be made to the OWMP.

### 4.20.1 Residential Waste Management

The Penrith City Council Residential Flat Building Waste Management Guidelines has been referenced to calculate the total number of bins required for the proposed apartment units.

The number of bins to be provided is based on the estimated volume (L) of generic waste and recycling that the proposed residential units will generate. The estimated amounts of general and recycling waste that the proposed apartment units will generate weekly is as follows:

- General Waste: 17,905.6 litres per week.
- Recyclables: 17,905.6 litres per week.

The above-listed waste generation rates were used to determine the quantity of bins and bin types that would be required to service the proposed apartment units. The proposal has therefore made spatial provision for the following bins:

- General Waste Bins: 18x 1100L mobile garbage bins (MGBs), each collected 2x weekly.
- Recycling Bins: 18x 1100L MGBs, each collected 1x weekly.
- FOGO Bins: 31x 240L MGBs, each collected 1 x weekly.
- Chute Service Bins: 10x 1100L MGBs, to provide interim waste storage prior to collection.
- Bin Cupboard Bins: 40x 240L MGBs, to provide interim waste storage prior to collection.
- Cupboard Service Bins: 5x 240L MGBs, to provide interim waste storage prior to collection.

Section 5.3 of the OWMP outlines the waste disposal procedures that will be implemented throughout the operation of the proposed development. Residents will use dual chute systems that will be

installed towards the core of each tower core. These dual chute systems will include one chute for the disposal of general waste and one chute for the disposal of recyclables.

The collection procedures for residential waste are set out under Section 5.4 of the OWMP. The building caretaker will be responsible for transporting waste from each chute discharge room to the ground level waste collection area via a goods lift.

### 4.20.2 Retail / Commercial Waste Management: Waste Generation and Bin Provision

Retail and commercial waste generation and bin provision requirements were estimated in accordance with standard waste generation rates for a number of potential uses that could be established across the proposed retail/commercial floorspace. This approach was undertaken as specific tenants are unconfirmed at this time.

The estimated amounts of general and recycling waste that commercial/office and retail uses will generate weekly is as follows:

### • Commercial / Office Floorspace:

o **General Waste:** 2138 litres per week.

o **Recyclables:** 3206 litres per week.

#### • Ground Level Retail Tenancies:

o **General Waste:** 10,729 litres per week.

o Recyclables: 18,279 litres per week.

The above-listed waste generation rates were used to determine the quantity of bins and bin types that would be required to service commercial / retail uses on site. The proposal has therefore made spatial provision for the following bins:

### Commercial / Office Floorspace:

- o **General Waste Bins:** 1x 1100L MGBs, to be collected 3 x weekly.
- Paper/Cardboard Bins: 2 x 1100L MGBs, to be collected 1x weekly.
- General Recycling: 1x 1100L MGBs, to be collected 1x weekly.

### • Ground Level Retail Tenancies:

- o **General Waste Bins:** 4x 1100L MGBs, to be collected 3 x weekly.
- Paper/Cardboard Bins: 4x 1100L MGBs, to be collected 3x weekly.
- General Recycling: 3x 1100L MGBs, to be collected 2x weekly.

Appropriate waste disposal and collection procedures will be established for future retail and commercial uses once tenants are confirmed. Section 6.3 of the OWMP contemplates potential waste disposal procedures for expected commercial / retail uses.

### 4.21 Lot 3011

As outlined at **Section 2.8**, TfNSW have confirmed in writing that they have no intention to deliver a bus underpass at present, notwithstanding the Statement of Commitments granted as part of the Concept Approval **Appendix MM** provides a copy of this correspondence.

Notwithstanding the above, it is acknowledged that reasonable provision is to be made for the potential delivery of a bike path through Lot 3011. This matter is discussed at **Section 4.21.1**.

### 4.21.1 Potential Bike Path

While confirmation has been received that there is no present intent to deliver a bus underpass through Lot 3011, it is understood from discussions with TfNSW that reasonable provision is to be made for the potential delivery of a bike path through Lot 3011. Specifically, it is noted that reasonable spatial provision is to be provided by way of a 3000mm wide strip within Lot 3011 where it adjoins the east site boundary.

We understand based on formal correspondence from TfNSW (**Appendix MM**) that TfNSW has commenced work on developing the Strategic Cycleway Corridors (SCC) for Western Parklands City. This ongoing strategic planning process has re-established the potential use of Lot 3011 for transport purposes, however this would be in the form of a two-way bike path instead of a bus underpass.

In regard to the above, the proposed development has sought to avoid the siting of any building component over a 3000mm wide strip within Lot 3011 where it adjoins the east site boundary. This area of land is proposed to accommodate features that can be readily removed, such as planter boxes, to provide for the potential delivery of a bike path through Lot 3011. If TfNSW proceeds with the delivery of a bike path through Lot 3011, these features would remain in place until such time.

It should be acknowledged that the arrangement described above is not dissimilar from that which is currently in place with the existing use of Lot 3011 as a community garden.

Reasonable spatial provision for the potential delivery of a two-way bike path through Lot 3011 is demonstrated at **Figure 63**. This figure has been adapted from the appended plan that has been provided to show the proposed development in relation to a provisional location for the potential bike path through Lot 3011 (**Appendix NN**).

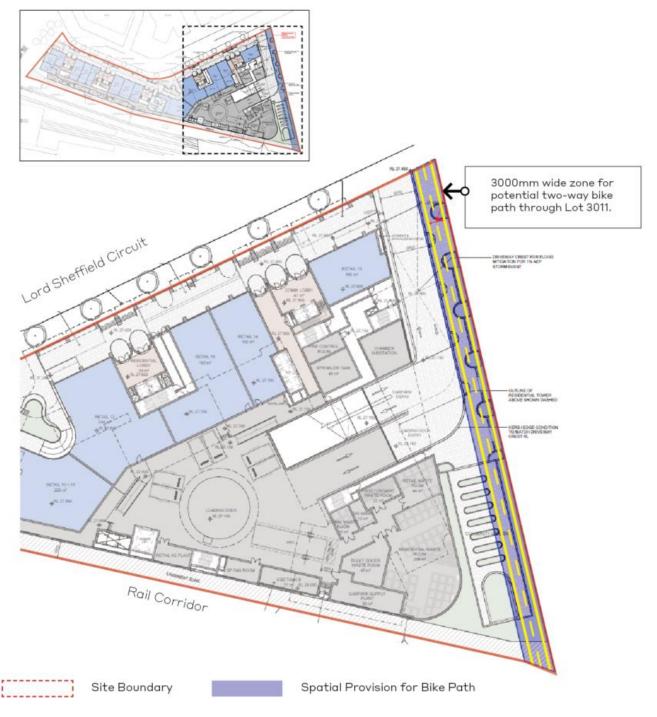


Figure 63 Spatial Provision for Bike Path through Lot 3011

Source: SJB (annotations by Ethos Urban)

## 4.22 Construction Management

A Preliminary Construction Management Plan (CMP) has been supplied by Urban Property Group. This document is provided at Appendix U. The Preliminary CMP provides an outline of the expected approach for the planning and management of construction activities.

In particular, it is noted that the Preliminary CMP provides a preliminary approach that addresses key matters including (but not limited to):

#### • Site Access and Traffic Management:

Section 9.9 of the Preliminary CMP provides an outline of viable measures that will be considered as a detailed Construction Traffic Management Plan is development, which will take effect during the construction phase.

The preliminary measures demonstrate that potential impacts associated with construction traffic can be effectively managed and minimised.

### • Potential Location of Temporary Hoarding / Barrier Fencing:

Temporary hoarding will be established around the unfenced perimeter of the site, as shown by the Preliminary Site Establishment Plan that is attached to the Preliminary CMP. An extract of this plan is provided at **Figure 64** for reference.

### • Construction Noise and Vibration Impacts:

The proposed works will satisfy EPA Noise Control Guidelines for construction and demolition site noise, in addition to all other applicable noise management standards. This will be enforced under a detailed CMP, which will be submitted for approval prior to the issue of a Construction Certificate.

#### • Other Construction Impacts:

Other construction impacts are addressed as relevant throughout this SEE and the appended technical documentation. For instance, appropriate erosion and sediment controls to be implemented during the construction phase are discussed at **Section 4.14.4**.

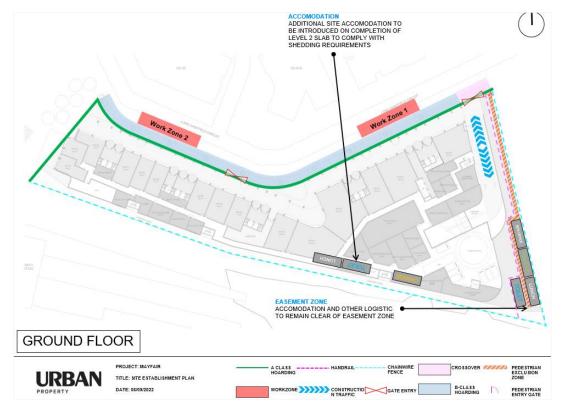


Figure 64 Extract: Preliminary Site Establishment Plan

Source: Urban Property Group

### 4.22.1 Construction Waste Management

Construction waste management procedures will be undertaken in accordance with a Construction Waste Management Plan, which will be submitted for approval prior to the issue of a Construction Certificate. Contractors will be required to comply with relevant applicable construction waste management standards.

## 4.23 Crime Prevention Through Environmental Design

The proposed development has been designed to incorporate the principles of Crime Prevention Through Environmental Design (CPTED).

The CPTED principles that are relevant in the context of this DA are considered below.

#### Surveillance:

The proposed development has been designed to compliment the principle of maximising 'eyes on the street' in that:

- North-facing residential balconies are located and orientated towards the Lord Sheffield Circuit frontage.
- o The ground level retail tenancies will provide effective passive surveillance across the ground plane.
- o The activated interfaces to the Station Plaza and Lord Sheffield Circuit will attract additional activity to the surrounding public domain spaces.
- o The basement car parking levels have been designed to maximise sightlines from car parking spaces to vertical circulation spaces and will be adequately lit and fitted with safety signage as needed to ensure safe access throughout the basement levels.
- o Communal open spaces will be sufficiently lit to create a safe environment for the enjoyment of future residents.

#### Access Control:

Suitable arrangements for access to the proposed development and communal spaces will be established. Specifically, it is noted that:

- o All pedestrian entrances to the proposed development will be appropriately lit and clearly defined from the street.
- Access to the rooftop communal spaces will be restricted to residents and residential visitors via secure residential only swipe passes and keys.
- The landscaped space at Level 2 (podium roof) is for passive use and cannot be accessed by residents for recreational purposes.
- Public access to the interface area between the rail corridor and the southern aspect of the proposed development will be prevented by suitable fencing, planting, and other access control measures as necessary.

#### • Territorial Reinforcement:

The proposal compliments the principle of Territorial Reinforcement, noting:

- o The public domain works proposed as part of the development is designed to ensure that the design maintains its integrity and that vandalism is discouraged.
- o External materials are durable, and are not prone to any damage (unintended or otherwise) associated with pedestrian activity and movement within the public domain.

#### • Space Management:

The proposal compliments the principle of Space Management, noting:

- The development will be managed by a strata body. There will be a split between the responsibilities for landscape maintenance obligations between the strata and the individual property owners.
- The development will include vandalism management to ensure the prompt removal of graffiti.

#### **4.24 BASIX**

A Basix Assessment and Certificate has been provided at **Appendix Q**. This document demonstrates that the proposed development will satisfy the relevant requirements for water, thermal and energy efficiency.

## 4.25 Building Code of Australia / National Construction Code

The BCA Assessment Report provided at **Appendix R** confirms that the proposed development is capable of compliance with the Building Code of Australia (BCA) and relevant Australian standards.

The BCA Assessment Report identifies a number of minor non-compliances the relevant Deemed to Satisfy provisions of the National Construction Code (NCC), which can be readily addressed through appropriate performance-based design solutions. These performance-based solutions will be implemented through ongoing design development.

## 4.26 Fire Safety

A Fire Engineering DA Statement has been prepared by Fire Engineering Professionals (FEP). This statement is provided at **Appendix BB**. This Statement was prepared following the undertaking of an independent review of the BCA Assessment Report prepared by McKenzie Group Consulting (**Appendix R**).

The Fire Engineering DA Statement confirms that the identified non-compliances with the NCC, as listed at **Appendix R**, can be addressed through readily achievable performance solutions that will be implemented through ongoing design development to achieve a suitable outcome in regard to fire safety.

## 4.27 Accessibility

An Accessibility Compliance Report (**Appendix S**) has been prepared by Access Link Consulting. The report provides an assessment of the proposed development in respect to relevant access provisions and standards. It is advised that the design of the proposed development complies, or is capable of complying, with the relevant requirements of the BCA, Liveable Housing Design Guidelines (LHDG), and Australian Standard 4299-1995.

#### 4.28 Retail Market

A Retail Market Report has been prepared to demonstrate the viability of the retail uses that are proposed at ground level. This report is provided at **Appendix AA**. The report identifies several opportunities for retail uses to be established at the site. These opportunities are associated with market trends, the local worker population and the proximity of Penrith Station.

The report demonstrates that the site is a suitable location for retail uses in regard to local market conditions. The analysis that is provided within the Retail Market Report is summarised at **Figure 65**.

#### **Proximity to Penrith Station Worker Population** Penrith Station is frequented by ~20,000 There are ~37.039 workers within a people each day, including many workers. 3km radius of Penrith City Centre. The Retail Market Report identifies the opportunity to capture commuter traffic. Penrith Economic Development Strategy sets a target to increase local jobs of between · Convenient retail uses, 42,000 and 55,000 by 2031. including food and beverage, general retail and leisure offers are ex- High number of sales. pected to appeal to comclerical and administration muters. workers in a 3km radius of the site. Range of viable retail uses due to commuter foot traffic to and from Penrith Station. **Market Growth** The population of the local trade area is forecasted to grow by 3,466 people over the next 15 years. Retail spending within the local trade area is forecasted to grow by Opportunities for Retail 4.4% each year for the next 15 years. Retail expenditure capacity of the There are a range of viable retail uses main trade area is expected to that could be delivered on site, including increase to \$520M by 2036, incl. food and beverage, retail services, leisure \$200M in the primary retail sector. offerings, and general retail. The moving annual turnover in 2026 for retail floorspace on the site is forecast at ~\$3.5M with a productivity rate of \$6,980/ Specific 'destination' uses could attract customers from wider catchment, however this would need to be considered in the context of the tenant.

### Figure 65 Overview of Retail Opportunities

Source: Ethos Urban (all information provided by Place Narrative & Research)

## 4.29 Site Suitability and Public Interest

The proposed development presents an outcome that is suitable for the site and in the public interest. In this regard, it is noted that the proposal will utilise the location of the site to deliver the following benefits:

NARRATIVE & RESEARCH

- The proposed development is sited within the B2 Local Centre Zone where the proposed mix of uses are permitted with consent.
- Many and varied employment opportunities (direct and indirect jobs) will be generated during marketing, construction, fit-out, and operation of the development.
- The proposed development responds to opportunities for retail uses that are presented by the location of the site. Further noting the point above, the proposal will have an overall positive social and economic impact.
- The proposed development will activate the southern portion of Thornton North Penrith Precinct towards the Station Plaza. This will encourage people to shop, visit, and work in the area.
- The site is well serviced by public transport, with close proximity to Penrith Railway Station and Penrith CBD. Future residents of the development will benefit from excellent amenity with ready access to public transport, local services and facilities, and employment opportunities.

- The proposal responds to Government's objectives to provide new employment floor space towards Penrith CBD, and to deliver more residential dwellings within 30 minutes of employment centres. In this regard, the site is eminently suitable for the proposed development.
- The proposed development incorporates CPTED principles to provide a safe pedestrian environment to the immediate east of the Station Plaza.
- The proposed development is the culmination of an extensive competitive design process, and achieves a high standard of architecture and functionality. It delivers a contemporary design which will reinvigorate the streetscape and surrounding area and make a positive contribution to the site and surrounding context.

# 5.0 Conclusion

This DA seeks approval for the construction of a new mixed-use development that is to be known as 'Mayfair on North Penrith' at 160-172 Lord Sheffield Circuit, North Penrith. The proposed development will deliver a total of 287 residential apartments across two residential tower forms. These tower forms, which are known as the 'East Tower' and the 'West Tower', are provided above a joint podium that will include ground level retail units and flexible commercial floorspace across Level 1.

The proposal is generally consistent with the relevant environmental planning instruments applying to the site, including the Penrith Local Environmental Plan 2010 and the Penrith Development Control Plan 2014. A detailed assessment of the environmental impacts has been provided in accordance with Section 4.15(1) of the EP&A Act.

The proposed development presents the culmination of an extensive design development process that included a Design Competition. The proposal will deliver high quality housing stock and new employment opportunities. Importantly, the proposal presents an outcome that responds to the transit-orientated context of the site. This DA is recommended for approval for the following reasons:

- The proposed development is consistent with the aims and objectives of the Penrith Local Environmental Plan 2010 and the Penrith Development Control Plan 2014.
- The proposal will develop a site that is currently vacant, and will maximise land use opportunities that are associated with the immediacy of Penrith Station.
- The proposed development presents an outcome for the site that exhibits design excellence.
- Supporting technical studies which accompany this DA confirm that the environmental impacts associated with the proposal are generally positive and will not give rise to any unacceptable adverse impacts.
- The proposal is suitable for the site and is in the public interest.

In light of the merits of the proposed development and in the absence of any significant environmental impacts, it is without hesitation that we respectfully recommend this application for development consent.