



ENVIRONMENTAL IMPACT STATEMENT

Waterloo Metro Quarter Over
Station Development -
Amending Concept SSDA

Prepared for
WL DEVELOPER PTY LTD
26 October 2020



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SIGNED DECLARATION

SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT

This Environmental Impact Statement has been prepared in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.

Environmental Assessment prepared by:

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Address:	Urbis Pty Ltd Level 8, 123 Pitt Street Sydney NSW 2000
In respect of:	SSD-10441 – Waterloo Metro Quarter OSD – Concept Amending SSDA

Applicant and Land Details:

Applicant:	WL Developer Pty Ltd
Applicant address	Level 10, 54 Park Street Sydney NSW 2000
Land to be developed:	The Waterloo Metro Quarter site - land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street. The heritage listed Waterloo Congregational Church located at 103–105 Botany Road is within this street block but is not part of the Sydney Metro Waterloo Quarter site boundaries.
Legal description:	1368 Raglan Street (Lot 4 DP 215751), 59 Botany Road (Lot 5 DP 215751), 65 Botany Road (Lot 1 DP 814205), 67 Botany Road (Lot 1 DP 228641), 124-128 Cope Street (Lot 2 DP 228641), 69-83 Botany Road (Lot 1, DP 1084919), 130-134 Cope Street (Lot 12 DP 399757), 136-144 Cope Street (Lots A-E DP 108312), 85 Botany Road (Lot 1 DP 27454), 87 Botany Road (Lot 2 DP 27454), 89-91 Botany Road (Lot 1 DP 996765), 93-101 Botany Road (Lot 1 DP 433969 and Lot 1 DP 738891), 119 Botany Road (Lot 1 DP 205942 and Lot 1 DP 436831), 156-160 Cope Street (Lot 31 DP 805384), 107-117A Botany Road (Lot 32 DP 805384 and Lot A DP 408116), 170-174 Cope Street (Lot 2 DP 205942).
Project Summary	Concept Amending State Significant Development Application for the amended building envelope and description of development for the Northern Precinct of the Waterloo Quarter site approved under SSD 9393.

We certify that the content of the Environmental Impact Statement, to the best of our knowledge, has been prepared:

- In accordance with the requirements of the *Environmental Planning and Assessment Act 1979*, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*, and *State Environmental Planning Policy (State and Regional Development) 2011*;
- Contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which that statement relates; and
- The information contained in this statement is neither false nor misleading.

Name/Position	Peter Strudwick, Director	Ashleigh Ryan, Associate Director	Andrew Hobbs, Senior Consultant
Signature:			
Date:	26 October 2020	26 October 2020	26 October 2020

GLOSSARY AND ABBREVIATIONS

Reference	Description
100 year ARI	1 in 100 year flood (average recurrence interval)
ACHAR	Aboriginal Cultural Heritage Assessment Report
ADG	Apartment Design Guide
AHD	Australian height datum
AMS	Archaeological Method Statement
AQIA	Air Quality Impact Assessment
ARD	Archaeological Research Design
BASIX SEPP	State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
BC Act	Biodiversity Conservation Act 2016
BC Reg	Biodiversity Conservation Regulation 2017
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
CEEC	critically endangered ecological community
CEMP	Constructional Environmental Management Plan
CHP	Community Housing Provider
CIV	capital investment value
CMP	Construction Management Plan
Concept DA	A concept DA is a staged application often referred to as a 'Stage 1' DA. The subject application constitutes a detailed subsequent stage application to an approved concept DA (SSD 9393) lodged under section 4.22 of the EP&A Act.
Contributions Plan 2015	City of Sydney Development Contributions Plan 2015
Council	City of Sydney Council
CPTED	Crime Prevention Through Environmental Design
CPTMP	Construction Pedestrian Traffic Management Plan
CSSI approval	critical State significant infrastructure approval
CTMP	Construction Traffic Management Plan
DA	development application

Reference	Description
DAPS	Disability (Access to Premises - Buildings) Standards, 2010
DCP 2012	Sydney Development Control Plan 2012
DDA	Disability Discrimination Act 1992
DEEP	Design Excellence Evaluation Panel
Design Guidelines	Waterloo Design Amenity Guidelines
DIR	Design Integrity Report
DPIE	NSW Department of Planning, Industry and Environment
DRP	Sydney Metro Design Review Panel
DTS	Deemed-to-Satisfy
EIS	Environmental Impact Statement
EOI	Expression of Interest
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPA Regulation	Environmental Planning and Assessment Regulation 2000
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ESD	ecologically sustainable design
GANSW	NSW Government Architect's Office
GEM	Gust Equivalent Mean
GFA	gross floor area
GTP	Green Travel Plan
HCA	Heritage Conservation Area
HIA	Heritage Impact Assessment
HIS	Heritage Interpretation Strategy
ISEPP	State Environmental Planning Policy (Infrastructure) 2007
LAHC	Land and Housing Corporation
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
MGB	1100L bin

Reference	Description
MRV	Medium Rigid Vehicle
NCC	National Construction Code
OSD	over station development
PIR	Preferred Infrastructure Report
PMF	Probable Maximum Flood
POM	Plan of Management
PSI	Preliminary Site Investigation
RL	Reduced Level
RMS	Roads and Maritime Services
SACL	Sydney Airport Corporation Limited
SDRP	NSW State Design Review Panel
SDRP SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SEPP 55	State Environmental Planning Policy No 55—Remediation of Land
SEPP 64	State Environmental Planning Policy No. 64 – Advertising and Signage
SEPP 65	State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development
SLEP 2012	Sydney Local Environmental Plan 2012
SRV	Small Rigid Vehicle
SSD	State significant development
SSD 9393	Concept DA
SSDA	State significant development application
SSI	State significant infrastructure
SSI 15_7440	CSSI Approval
Sydney CBD	Sydney Central Business District
TfNSW	Transport for New South Wales
The Church	Waterloo Congregational Church
The proposal	The proposed development the subject of the amending concept SSDA

Reference	Description
The site	The site the subject of the detailed SSDA
The Station Contractor	John Holland
TIA	Traffic Impact Assessment
Transport for NSW	Transport for New South Wales
VIA	Visual Impact Assessment
VPA	Voluntary planning agreement
WMP	Waste Management Plan
WMQ	Waterloo Metro Quarter
WSUD	water sensitive urban design

EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) has been prepared to accompany a concept State significant development (SSD) development application (DA) which seeks consent to amend the concept SSDA (SSD 9393) approved for the over station development (OSD) at the Waterloo Metro Quarter site.

The subject amending DA is a new concept SSDA made under Section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It seeks approval for an amended concept development in order to modify the building envelopes for the Northern Precinct of the Waterloo Metro Quarter site approved under SSD 9393. An additional minor change is sought to Building 2, located in the Central Precinct of the Waterloo Metro Quarter site. No change is proposed to the building envelopes within the Southern Precinct of the Waterloo Metro Quarter site.

This EIS should be read in conjunction with the Secretary's Environmental Assessment Requirements (SEARs) dated 9 April 2020 and included at **Appendix A**, and the supporting technical documents provided at **Appendix B – Appendix EE**.

This EIS has been prepared in accordance with and meets the minimum requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) and contains an assessment of the proposal against the relevant considerations under Section 4.15 of the EP&A Act.

SYDNEY METRO

Sydney Metro is Australia's biggest public transport project. There are four core components:

Metro North West Line (formerly the 36 kilometre North West Rail Link)

Services started in May 2019 in the city's North West between Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and \$1 billion under budget.

Sydney Metro City & Southwest

The Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of the Metro North West Line at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.

Sydney Metro City & Southwest will deliver new metro stations at Barangaroo, Crows Nest, Victoria Cross, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition it will upgrade and convert all 11 stations between Sydenham and Bankstown to metro standards.

Sydney Metro West

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and supporting employment growth and housing supply between the two CBDs.

The locations of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays.

The NSW Government is assessing an optional station at Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

Sydney Metro - Western Sydney Airport

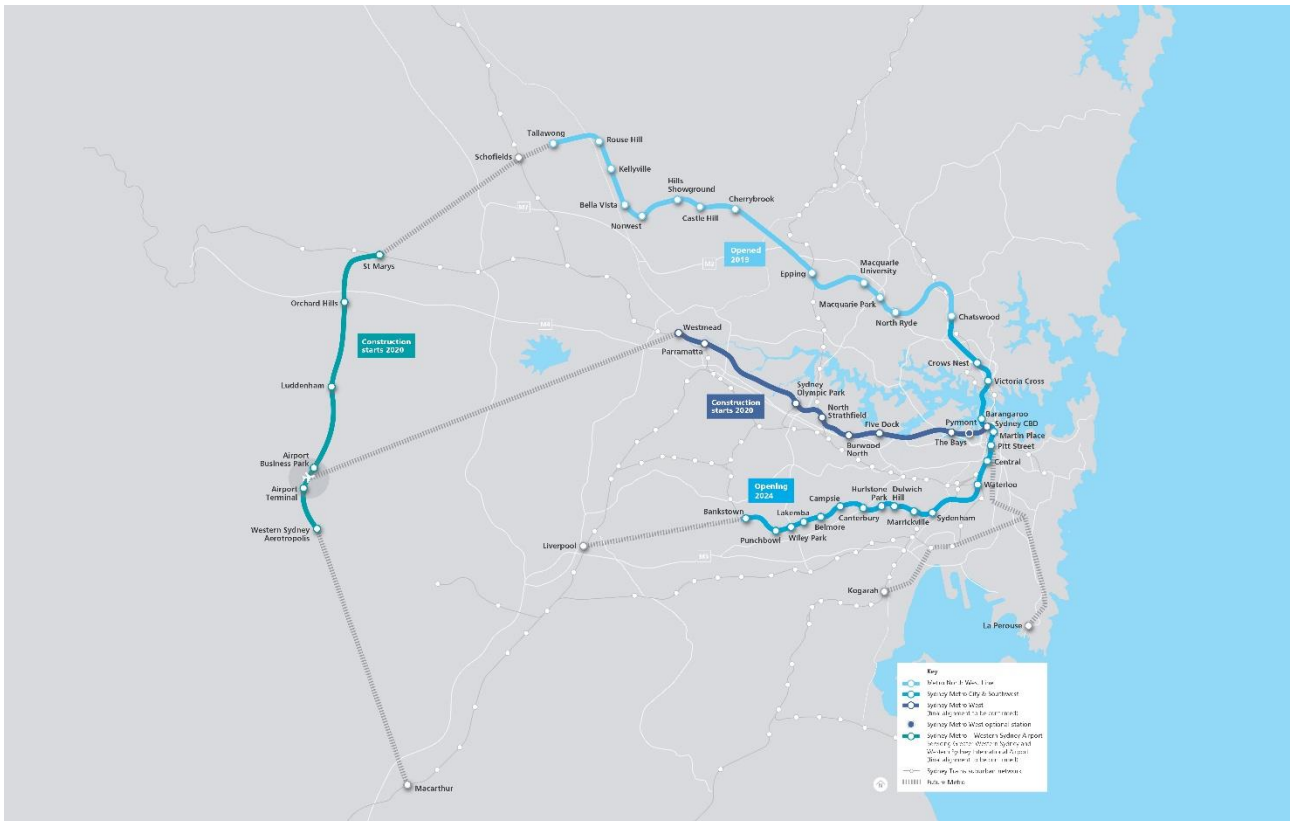
Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. Six new stations will be delivered at St Marys, Orchard Hills, Luddenham, Airport Business Park, Airport Terminal and Western Sydney Aerotropolis. The Australian and NSW governments are partners in the delivery of this new railway.

In 2024, customers will benefit from a new fully-air conditioned Sydney metro train every four minutes in the peak in each direction with lifts, level platforms and platform screen doors for safety, accessibility and increased security.

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a Critical State significant infrastructure project (reference SSI 15_7400) (CSSI approval).

The terms of the CSSI approval includes all works required to construct the Sydney Metro Waterloo station, including the demolition of existing buildings and structures. The CSSI approval also includes construction of below and above ground structures associated with the metro station and structures required to facilitate the construction of any OSD.

Figure 1 Sydney Metro Alignment Map



Source: Sydney Metro

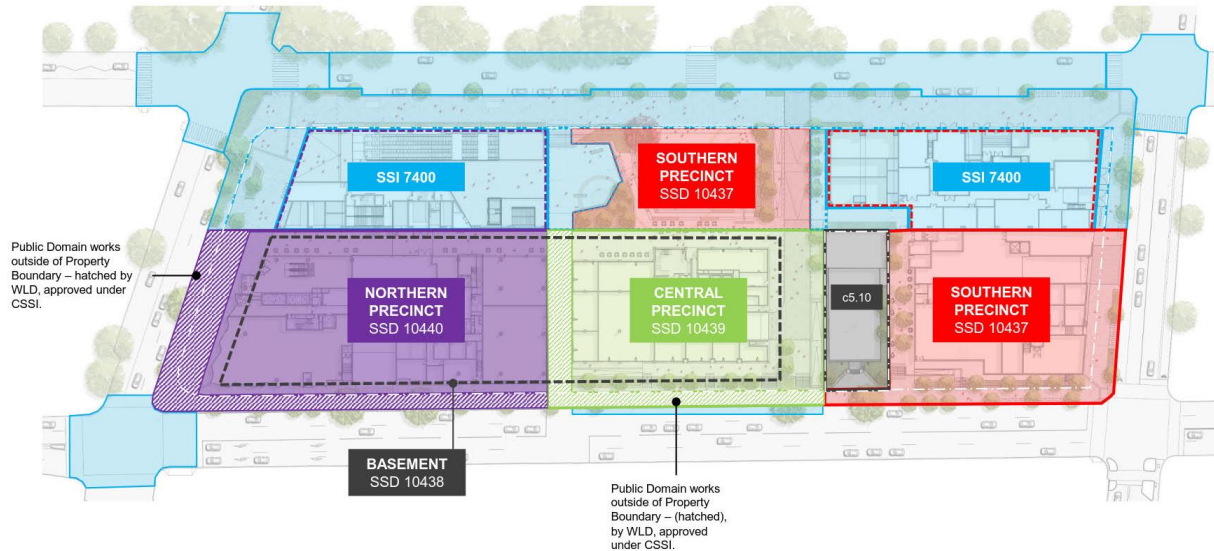
THE SITE

The site is located within the City of Sydney Local Government Area (LGA). The site is situated approximately 3.3 kilometres south of Sydney CBD and approximately 8 kilometres northeast of Sydney International Airport within the suburb of Waterloo.

The Waterloo Metro Quarter site comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street (refer to Figure 2). The heritage listed Waterloo Congregational Church located at 103–105 Botany Road is within this street block but does not form a part of the Waterloo Metro Quarter site boundaries.

The Waterloo Metro Quarter site is a rectangular shaped allotment and has an overall site area of approximately 1.287 hectares. The concept amending DA applies to the Northern Precinct and the Central Precinct of the Waterloo Metro Quarter site. The boundaries of the precincts within the Waterloo Metro Quarter site are illustrated at Figure 2.

Figure 2 Waterloo Metro Quarter Station Site Precinct Identification (SSDA Boundaries)



Source: Applicant

BACKGROUND

CSSI Approval – CSSI 7400

The CSSI approval (CSSI 7400), as it relates to the Waterloo station, includes:

- Demolition of existing buildings within the site.
- Excavation of the rail tunnel, concourse and platforms and therefore the setting of surrounding structural zones, services and accesses.
- Establishment of an aboveground station footprint (station boxes).
- Space provisioning for future lift cores, access, minor associated parking provision, retail and building services for the future OSD.
- Station entry via a Raglan Street, and via the public plaza from Cope Street.
- Public domain works (including to parts of the Raglan Street Plaza and the Cope Street Plaza).

The CSSI approval included Indicative Interface Drawings for the below and above ground works at Waterloo metro Station. Section 2.3 of the Preferred Infrastructure Report (PIR) noted that the integration of the OSD elements and the metro station elements would be subject to a further design resolution process, noting that the detailed design may vary from the concept design assessed within the planning approval.

Condition E101 of that approval requires that a detailed Station Design and Precinct Plan (SDPP) be approved by the Secretary of the DPIE prior to the construction of above ground works.

The building design adjacent to the station boxes approved by SSD 9393 will need to be coordinated with the Waterloo SDPP prior to their approval by the Secretary.

Concept Approval – SSD 9393

Development consent was granted on 10 December 2019 for the concept SSDA (SSD 9393) for the Waterloo Metro Quarter OSD including:

- A maximum building envelope for podium, mid-rise and tower buildings.
- A maximum gross floor area of 68,750sqm, excluding station floor space.
- Conceptual land use for non-residential and residential floor space.
- Minimum 5% residential gross floor area as affordable housing dwellings.
- 70 social housing dwellings.

- Minimum 12,000sqm of non-residential gross floor area including a minimum of 2,000sqm of community facilities.
- Basement car parking, motorcycle parking, bicycle parking, and service vehicle spaces.

DEVELOPMENT DESCRIPTION

The amending DA seeks consent to modify the approved building envelopes at the Waterloo Metro Quarter site approved under SSD 9393. For clarity, this amending DA is a concept DA (formerly referred to as a 'Stage 1' DA) made under Section 4.22 of the EP&A Act.

Specifically, the proposal seeks to modify the approved building envelope for the Northern Precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393), as well as a minor amendment to the Central Building, through:

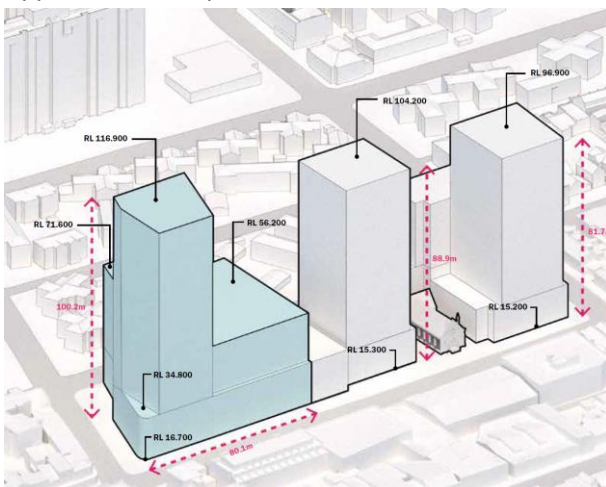
- Increasing the maximum building height for the southern portion of the building envelope from RL56.2 to RL72.60.
- Removing the 'tower component' of the northern precinct, reducing the overall height of the tower envelope from RL116.9 to RL90.40, to enable the redistribution of floor space to commercial office floor plates.
- Amending the description of development to refer to a mid-rise (approximately 17-storey) commercial office building, comprising approximately 34,125sqm of commercial office floor space within the northern portion of the site, rather than a third residential tower.
- Minor amendment to the podium design of Building 2 along the cope street plaza eastern façade to accommodate increased community GFA.
- Condition amendments to enable balustrades, pergola, and the like to be located outside of the approved building envelope and provide clarity on minor design items.

The modification of the approved concept SSDA will enable the detailed design of a new commercial building (comprising office and retail premises) to be pursued on the site, significantly increasing the proportion of employment generating floor space on the Waterloo Metro Quarter site. This new commercial building is proposed in replacement of four building envelopes approved under SSD 9393, which comprised one residential tower, and three mid-rise residential buildings.

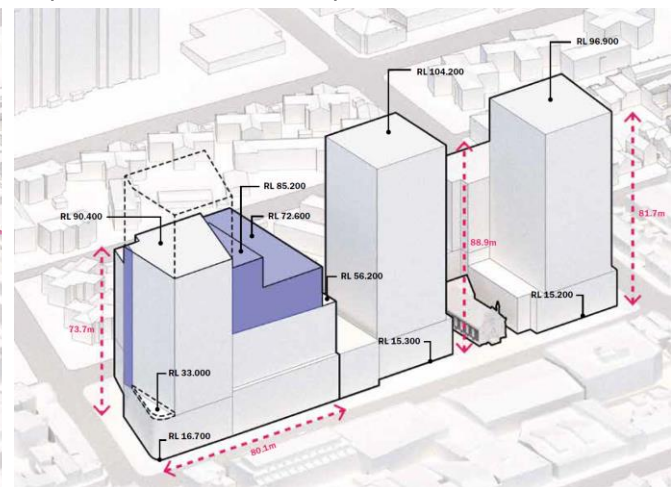
This proposal will not exceed the permissible building height for the site under the *Sydney Local Environmental Plan 2012* (SLEP 2012) or the maximum height approved under SSD 9393. Separate detailed SSDAs will be lodged concurrently for the detailed design, construction and operation of the Northern Precinct and Central Precinct in accordance with the proposed new building envelopes. No changes are proposed to the concept approval as it relates to the Southern Precinct.

Figure 3 Approved and Proposed Building Envelopes (view from north west)

Approved Envelope



Proposed Amended Envelope



Source: Hassell

PROJECT NEED AND BENEFITS

The Waterloo metro station is a key new station on the Sydney Metro network, comprising one of five metro stations in the City of Sydney LGA, alongside Barangaroo station, Martin Place station, Pitt Street station and Central station (new underground platforms). The Waterloo metro station will be a key catalyst for the revitalisation of the Redfern-Waterloo Area and assist in reducing overcrowding at existing Redfern and Green Square train stations.

The Waterloo Metro Quarter OSD will be integrated with the new metro station and is an opportunity to truly integrate transport and land use. The overall proposal, which is being delivered in stages, capitalises on the introduction of the Sydney Metro by providing a mixture of residential accommodation (both market housing, affordable housing, social housing, and student accommodation), as well as approximately 34,125sqm of commercial office floor space above and adjacent to the Sydney Metro network, with connections to the Sydney CBD and strategic centres.

The primary objective of the proposal is to act upon a unique opportunity to deliver high grade employment generating floorspace in conjunction with a mix of other interrelated land uses above a Sydney metro station. The project intent is to redistribute floorspace to enable the delivery of increased commercial office floor space across the site, in turn resulting in additional employment generating floor space with a direct connection to Sydney's new metro network. In achieving this broader objective, the proposal also seeks to achieve the following project-specific objectives:

- Support the NSW Government's planning strategies and objectives, including the Greater Sydney Region Plan (2018) and the Eastern City District Plan (2018).
- The proposal will deliver an improved building envelope to enable a commercial office building supporting commercial and retail uses in Sydney's inner suburbs that has the potential to accommodate up to 3,384 employees once operational.
- 24-hour precinct activation through a redefined landmark architectural design of the prominent Northern Precinct of the Waterloo Metro Quarter development, reducing the visual dominance of the building via redistribution of building height and associated floor space, setting a catalyst development for the broader Waterloo context.
- Enable a significant increase in high grade employment generating floor space which is fully integrated into the station precinct.
- Enable a reduction in building height to minimise overshadowing to public open space and nearby residential areas and heritage conservation zones.
- Create an improved pedestrian wind environment through reduced and redefined building envelopes and wind reduction devices on the Raglan Street Plaza and Cope Street Plaza.
- Create scalable floor plates, providing for an increase in tenant size when transitioning from the lower levels to the upper levels, resulting in shared space focused on a central lobby and building core.
- Enable enhanced vertical connections through continued voids and greenspaces, ensuring all levels share a visual and breathable connection.

The key change sought under this proposal is to enable a greater amount of available floor space for commercial office space. This will result in the increase in proportion of the overall employment generating floor space at the Waterloo Metro Quarter site. As outlined above, this will deliver an improved balance of mixed land uses across the site, while delivering new high-quality employment floor space in conjunction with a high frequency public transport network.

PLANNING FRAMEWORK

The proposal is declared to be SSD under Section 4.36(2) of the EP&A Act, as the development has a capital investment value (CIV) in excess of \$30 million for the purpose of residential accommodation or commercial premises, and is associated with railway infrastructure under clause 8(1)(b) of State Environmental Planning Policy (*State and Regional Development*) 2011 (SRD SEPP).

In addition, the subject application constitutes a concept DA (SSD 9393) lodged under section 4.22 of the EP&A Act.

The Minister for Planning and Public Spaces, or their delegate, is the consent authority for the SSD, and the application is lodged with the NSW Department of Planning, Industry and Environment (DPIE) for assessment.

This amending concept DA has been prepared to accompany multiple detailed SSDAs lodged concurrently which seeks detailed consent for the development of the Waterloo Quarter OSD, in accordance with Division 4.4 of the EP&A Act.

This EIS considers the relevant regulatory framework applicable to the site and the proposal and contains an assessment of the proposal against the following statutory controls and regulatory instruments:

- *State Environmental Planning Policy (State and Regional Development) 2011*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy No. 55 – Remediation of Land*
- *State Environmental Planning Policy No. 64 – Advertising and Signage*
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
- *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017*
- *Draft State Environmental Planning Policy (Environment)*
- *Draft State Environmental Planning Policy (Remediation of Land)*
- *Sydney Local Environmental Plan 2012*
- *Any exhibited Planning Proposal or draft State Environmental Planning Policy related to the land*

The proposal has also been assessment in accordance with its consistency with the key planning objectives, priorities and actions outlined within relevant strategic land use and transport planning policies.

STAKEHOLDER CONSULTATION

To inform the detailed design of the development, consultation has been undertaken with the local community, government agencies including though not limited to:

- Department of Planning, Industry and Environment
- City of Sydney Council
- Transport for NSW
- Sydney Trains
- Sydney Metro
- Transport Coordination Office within Transport for NSW
- Land and Housing Corporation
- Department of Community Justice – Family and Community Services
- Aboriginal Affairs NSW
- NSW Fire
- Sydney Water
- Ausgrid
- Jemena
- NSW Police
- Sydney Local Health District

- Surrounding residents and businesses including though not limited to the Waterloo Congregational Church
- Relevant community groups including Waterloo Redevelopment Group, REDWatch, and South Sydney Business Chamber

A specific program to engage with Aboriginal stakeholders was also undertaken by Murawin, an Aboriginal placemaking consultancy.

Various strategies were implemented to ensure collaborative community involvement in the project, including emails to subscribers and stakeholders, stakeholder briefings, website information, community newsletters and updates, pop ups and community information sessions. Specific consultation has also occurred with the Aboriginal community through yarning circles, workshops, formal and informal briefings, updates, and partnerships.

Feedback received through the consultation has informed the detailed design of the proposed OSD. It is noted that feedback received through the consultation process will also inform the detailed design of the station, public domain design, further work related to the future retail tenancy strategy, programming works for the publicly accessible space, and other matters that are outside of the scope of the SSDA for the OSD.

IMPACTS AND MITIGATION MEASURES

This EIS has addressed the SEARs requirements issued for the development and includes an assessment against the relevant environmental planning instruments, policies, and guidelines and demonstrates that the proposed development does not result in any significant departures from applicable controls or unreasonable environmental effects.

The general and key impacts resulting from the proposed development are outlined in detail in the EIS. Key impacts resulting from the concept development as proposed to be amended include:

- Impacts resulting from an amended building envelope within the Northern Precinct, including:
 - a net reduction in overshadowing of the Alexandria Park Heritage Conservation Area resulting from the revised Building 1 envelope; and
 - reduced visual and view impact from key public view corridors.
- The achievement of design excellence for Building 1 in accordance with the recommendations of the Design Excellence Evaluation Panel and the Sydney Metro Design Review Panel.
- Amended design guidelines to address the increase in height of a single larger ‘mid-rise’ building compared to a tower form and multiple mid-rise buildings within the Northern Precinct.
- Revision of the podium design at Building 2 to ensure activation at the interface with the Cope Street Plaza, and weather protection for pedestrians traversing the Waterloo Metro Quarter site.
- Reduced quantum of residential dwellings located on Botany Road corridor.
- The increase in commercial office floor space proposed at the Waterloo Metro Quarter site and the economic benefits to the locality for increased employment at the site.
- The proposed integration with Sydney Metro Station Infrastructure.
- The relationship between the proposed massing within the Northern Precinct and surrounding local heritage items.
- Traffic and parking requirements, utilities, ecologically sustainable development, and other consequential matters resulting from a change in predominant land use at the Northern Precinct from residential development to commercial.

In considering each of the above key planning issues and potential impacts associated with the development, the EIS outlines the proposed mitigation measures to address each of these matters.

CONCLUSION

The proposed development sought within the amending concept SSDA is considered appropriate for the site and warrants approval for the following reasons:

- The proposal supports the objectives for development within the Eastern City District as outlined within the District Plan. The proposal provides a place for investment and innovation at a suitable scale that can contribute to the Waterloo and Redfern locality to develop as a knowledge intensive cluster, while enhancing urban amenity and local character.
- The proposal results in an orderly and economic use of the land that leverages significant NSW Government investment in public transport to the site, specifically Sydney metro. The mix of uses provides activation through various times of the day, optimising use of the new metro infrastructure throughout the day.
- The proposal will deliver approximately 34,125sqm of commercial office floor space, rather than a third residential tower. This ensures employment generating floor space is located above and adjacent to high frequency public transport, supporting the ambition for a 30-minute city.
- The remaining residential accommodation proposed across the site meets the diverse housing needs of the community through the provision of social housing, affordable housing, traditional market housing, and student accommodation. A mix of dwellings typologies and unit mix is also facilitated through the building envelopes.
- The proposal satisfies the applicable State planning policies and relevant environmental planning instruments that apply to the site. The proposed uses are permitted with consent and meet the objectives of the B4 Mixed Use zone in SLEP 2012.
- The proposed envelopes facilitate the delivery of through-site links to improve the walkability and amenity of the precinct and provide connected places within the precinct to support knowledge sharing and collaboration between diverse businesses, institutions, and talent.
- The proposal delivers a genuine mixed-use precinct that celebrates distinct economic, social, heritage and cultural characteristics of Waterloo.
- The proposed building envelope amendments enhance the ability of future development on the Waterloo Metro Quarter site to achieve consistency with SEPP 65 and the Apartment Design Guide.
- The proposed building envelope amendments reducing the maximum height of buildings within the northern precinct by 26.5m and removes overshadowing from the building to the Alexandria Park Heritage Conservation Area compared to the original approved envelope and reduces visual impact from a third tower.
- The proposed amendments reduce the total provision of car parking spaces on the site, supporting sustainability initiatives and reducing the reliance of private vehicle ownership within the precinct.
- The proposal satisfies the SEARs as demonstrated in this EIS and accompanying specialist reports.

In view of the above, it is submitted that the proposal is in the public interest and should be approved subject to appropriate consent conditions.

1. INTRODUCTION

This Environmental Impact Statement (EIS) has been prepared to accompany a concept State significant development (SSD) development application (DA) which seeks consent to amend the approved concept DA (SSD 9393) Waterloo Metro Quarter site, specifically as it relates to the Northern Precinct and Building 2 on the site.

The subject amending DA is a new concept SSDA made under Section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It seeks approval for an amended concept development in order to modify the building envelope and description of development for the Northern Precinct of the Waterloo Metro Quarter site approved under SSD 9393. An additional minor change is sought to Building 2, located in the Central Precinct of the Waterloo Metro Quarter site. No change is proposed to the building envelopes within the Southern Precinct of the Waterloo Metro Quarter site.

This report has been prepared by Urbis Pty Ltd on behalf WL Developer Pty Ltd (the applicant). Following the completion of a competitive tender bid process, Sydney Metro appointed WL Developer Pty Ltd as the preferred development partner to deliver the Waterloo Metro Quarter over station development (OSD).

This EIS is submitted to the NSW Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the EP&A Act. The Minister for Planning and Public Spaces, or their delegate, is the consent authority for the amending DA.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 9 April 2020 included at **Appendix A**, and should be read in conjunction with the supporting documents provided at **Appendix B - Appendix EE**.

1.1. AMENDING THE EXISTING CONCEPT APPROVAL

Section 4.22 of the EP&A Act relates to concept development applications. A concept DA is one that sets out a concept proposal for the development of a site, prescribing 'conceptual' elements of a proposal. Concept proposals provide a pathway to enable detailed applications for specific components of a development to be lodged and assessed.

As outlined in Section 2.3, on 10 December 2019 the Minister for Planning approved a concept SSDA (SSD 9393) for an OSD at the Waterloo Metro Quarter site. The concept approval sets out the building envelopes, land uses, gross floor areas and includes, car parking requirements, as well as Design Guidelines with which the detailed design of buildings (lodged under separate detailed SSDAs) must be consistent.

This amending DA seeks consent to modify the existing concept approval for the Northern Precinct and Central Precinct, by amending the building envelopes to redistribute floor space to suit a new mix of land uses now proposed. In doing so, this application will establish a new planning framework as the basis for which the design of the future built form will be assessed again within the relevant detailed SSDA.

It is requested that a condition be imposed on any approval of the amending DA pursuant to clause 4.17(1)(b) of the EP&A Act, requiring the modification of the concept approval (SSD 9393) upon the commencement of the amending DA development consent in accordance with the procedures under clause 97 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The amendment of the concept approval by way of this condition would remove any inconsistency between the original concept approval and this application, upon commencement of the latter consent. This would remove any potential inconsistency between the concept approval and subsequent detailed SSDAs lodged concurrently with this application.

Clause 4.17(1)(b) of the EP&A Act makes it clear that a condition of a development consent may be imposed requiring the modification or surrender of another development consent relating to the same land. Furthermore clause 4.17(5) of the EP&A Act provides:

"If a consent authority imposes (as referred to in subsection (1)(b)) a condition requiring the modification or surrender of a consent granted under this Act or a right conferred by Division 4.11, the consent or right may be modified or surrendered subject to and in accordance with the regulations."

This power to modify a consent is quite separate from the modification power under section 4.55 of the EP&A Act, as confirmed by the NSW Land and Environment Court in *Waverly Council v C M Hairis Architects (2002)* NSWLEC 180.

The detailed SSDAs for the construction and operation of development at the Northern Precinct and Central Precinct of the Waterloo Metro Quarter site has been prepared to be consistent with the concept SSDA, as proposed to be amended.

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the EP&A Regulation, and the environmental assessment requirements of the SEARs, for the preparation of the EIS. This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

As the project is within a rail corridor and is associated with rail infrastructure, involves commercial premises, and has a capital investment value of more than \$30 million, it is declared as SSD for the purposes of the EP&A Act. Accordingly, this amending DA is lodged under Section 4.38 of the EP&A Act.

This report describes the precinct, its environs and the proposed concept development, and provides an assessment of the proposal in terms of the matters for consideration under Section 4.15(1) of the EP&A Act.

1.2. PROJECT OVERVIEW

The amending DA seeks consent to modify the approved building envelopes at the Waterloo Metro Quarter site approved under SSD 9393. For clarity, this amending DA is a concept DA (formerly referred to as a 'Stage 1' DA) made under Section 4.22 of the EP&A Act.

Specifically, the proposal seeks to modify the approved building envelope for the Northern Precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393), as well as a minor amendment to Building 2 which is located in the Central Precinct of the site, through:

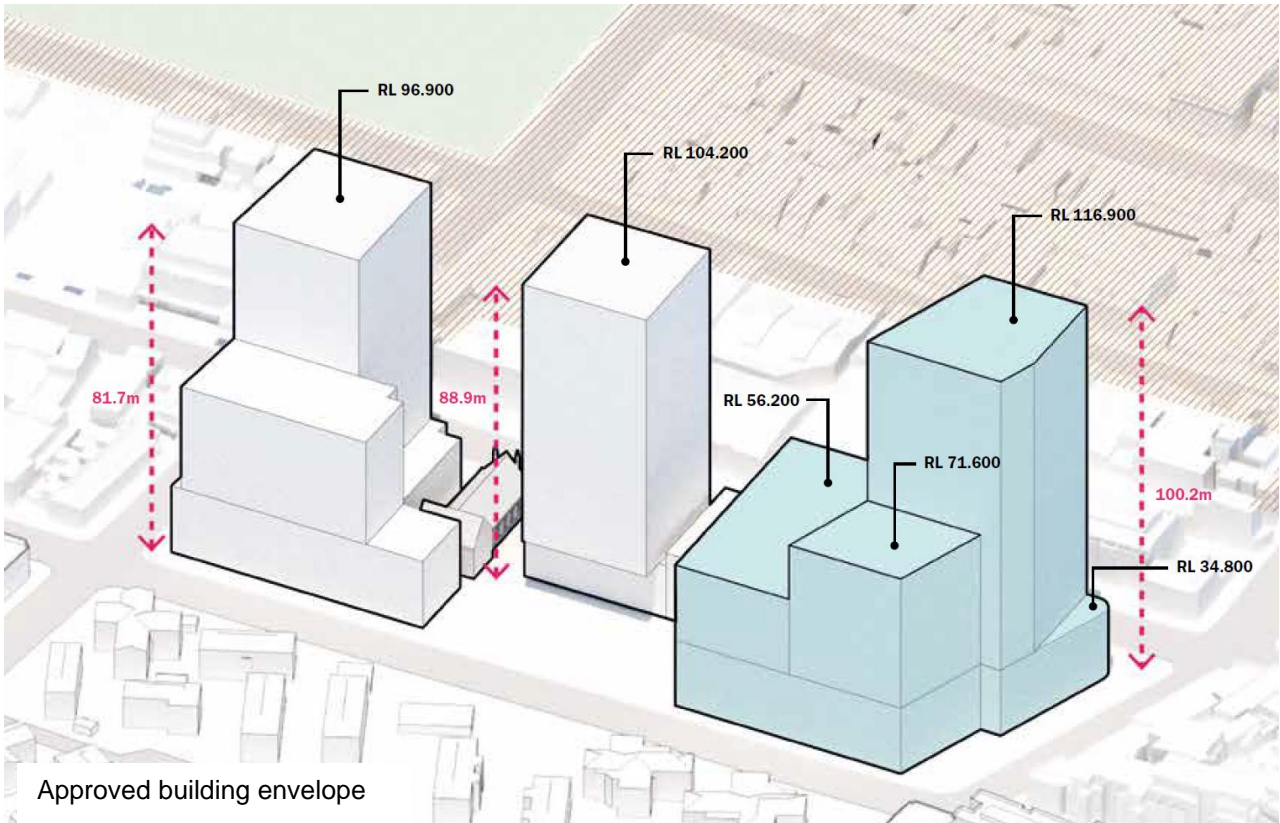
- Increasing the maximum building height for the southern portion of the building envelope from RL56.2 to RL72.60 (refer Figure 4).
- Removing the 'tower component' of the northern precinct, reducing the overall height of the tower envelope from RL116.9 to RL90.40, to enable the redistribution of floor space to commercial office floor plates.
- Amending the description of development to refer to a mid-rise (approximately 17-storey) commercial office building, comprising approximately 34,125sqm of commercial office floor space within the northern portion of the site, rather than a third residential tower.
- Minor amendment to the podium design of Building 2 along the cope street plaza eastern façade to accommodate increased community GFA.
- Condition amendments to enable balustrades, pergola and the like to be located outside of the approved building envelope and provide clarity on minor design items.

The modification of the approved concept SSDA will enable the detailed design of a new commercial building (comprising office and retail premises) to be pursued on the site, significantly increasing the proportion of employment generating floor space on the Waterloo Metro Quarter site. This new commercial building is proposed in replacement of four building envelopes approved under SSD 9393, which comprised one residential tower, and three mid-rise residential buildings.

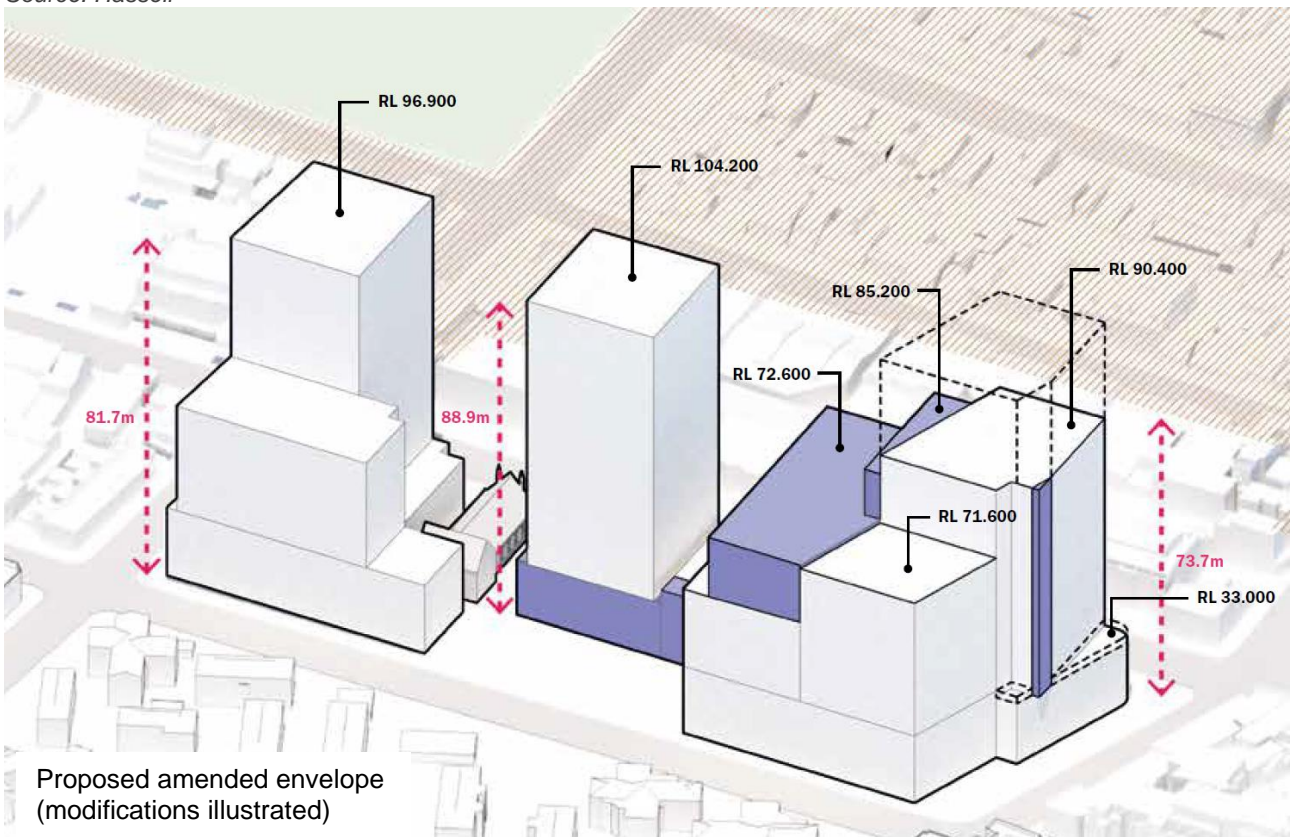
This proposal will not exceed the permissible building height for the site under the SLEP 2012 or the maximum height approved under SSD 9393. Separate detailed SSDAs are lodged concurrently for the detailed design, construction and operation of the OSD.

No changes are proposed to the concept approval as it relates to the Southern Precinct of the Waterloo Metro Quarter site.

Figure 4 Proposed Amendments to Concept Approval SSD 9393 (view from north east)

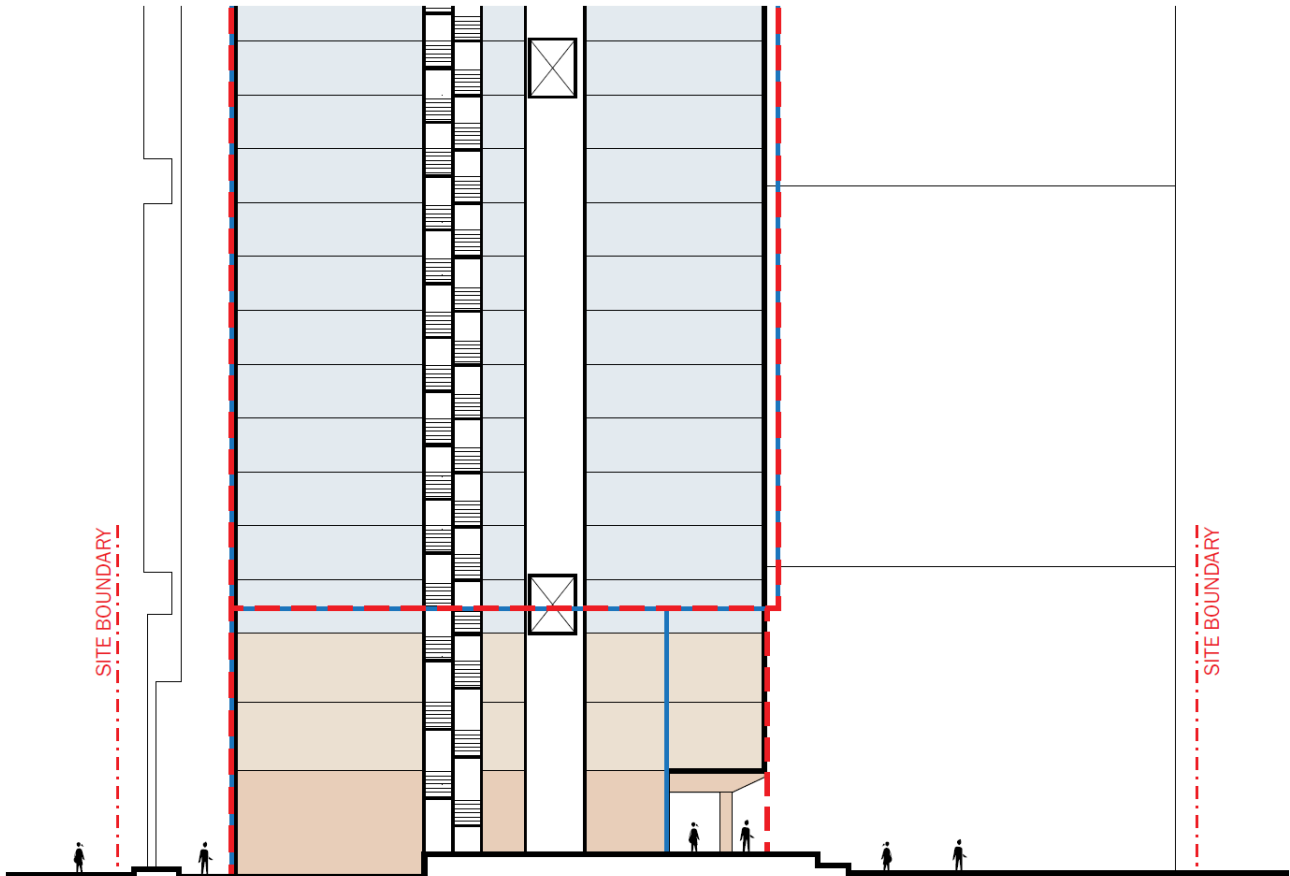


Source: Hassell



Source: Hassell

Figure 5 Central Building Podium Amendment (east-west section)



Source: Hassell

1.3. PROJECT OBJECTIVES

The primary objective of the proposal is to act upon a unique opportunity to deliver high grade employment generating floorspace in conjunction with a mix of other interrelated land uses above a Sydney Metro station. The project intent is to redistribute floorspace to enable the delivery of increased commercial office floor space across the site, in turn resulting in additional employment generating floor space with a direct connection to Sydney’s new metro network. In achieving this broader objective, the proposal also seeks to achieve the following project-specific objectives:

- Support the NSW Government’s planning strategies and objectives, including the Greater Sydney Region Plan (2018) and the Eastern City District Plan (2018).
- 24-hour precinct activation through a redefined landmark architectural design of the prominent Northern Precinct of the Waterloo Metro Quarter development, reducing the visual dominance of the building via redistribution of building height and associated floor space, setting a catalyst development for the broader Waterloo context.
- Enable a significant increase in high grade employment generating floor space which is fully integrated into the station precinct.
- Enable a reduction in building height to minimise overshadowing to public open space and nearby residential areas and heritage conservation zones.
- Create an improved pedestrian wind environment through reduced and redefined building envelopes and wind reduction devices on the Raglan Street plaza and Cope Street plaza.
- Create scalable floor plates, providing for an increase in tenant size when transitioning from the lower levels to the upper levels, resulting in shared space focused on a central lobby and building core.

- Enable enhanced vertical connections through continued voids and greenspaces, ensuring all levels share a visual and breathable connection.

1.4. STRATEGIC NEED

As identified in the Greater Sydney Region Plan (2018), Sydney's population is forecast to grow to eight million by 2056. Sydney Metro has responded to the transport demand that will accompany this growth with a plan to deliver a new standalone railway with 31 stations and more than 66 kilometres of new rail. Once completed, the Sydney metro, along with other signalling and infrastructure upgrades across the existing networks, will increase the capacity of Sydney's train services from approximately 120 per hour currently, up to 200 services by 2024. The project has been endorsed by the NSW Government as a key component of *Sydney's Rail Future: Modernising Sydney's Trains*.

Waterloo metro station will be a key catalyst for change in the Redfern-Waterloo area, providing residents, workers and visitors access to the Sydney metro network and connecting to surrounding metropolitan and strategic centres, such as Central Sydney, St Leonards and Macquarie Park.

As detailed in the Sustainable Sydney 2030 (2019), the City of Sydney is seeking to make the City 'more green, global and connected'. The Waterloo Metro Quarter OSD project will deliver sustainable transport options in conjunction with additional employment generating floor space, residential development and community facilities. The proposal will enable the realisation of productivity and job growth as identified in the Greater Sydney Regional Plan, while supporting the key theme of a '30 minute city', through an increase in employment floorspace in a highly accessible part of the Harbour City (Objective 14).

Consistency of the proposal with key strategic plans, strategies and policies is discussed in detail in Section 5 of this EIS.

1.5. PROJECT ALTERNATIVES

This section discusses the consideration of feasible alternatives to the carrying out of the proposed development as per clause 7(1)(c), Part 3, Schedule 2 of the EP&A Regulation. Three options for the proposal could be considered to address the project objectives and site constraints and opportunities, which include:

- Scenario 1: Do nothing.
- Scenario 2: Development of the project at an alternative location.
- Scenario 3: A mixture of residential and commercial.

1.5.1. Do Nothing

The 'do nothing' scenario, involving no OSD above the approved Waterloo metro station, is not a feasible development option for the site. The OSD forms a key component of the overall Sydney Metro project which Transport for New South Wales (TfNSW) is committed to delivering.

It is also noted that demolition of the existing structures was approved under the CSSI approval and has been completed on the site. Construction works are currently underway on site for the delivery of the Waterloo station elements approved under the CSSI approval.

No future OSD development on the site provides minimal placemaking benefits and would result in a net loss of floor space on the site. Ultimately a 'do nothing' scenario constitutes gross under-development of a valuable site within Waterloo.

Also, a 'do nothing' scenario could create further issues should the site be developed separately in the future. A separate, future, development would likely result in a less integrated development that does not maximise the opportunities of new transport infrastructure.

1.5.2. Development of the Proposal at Alternative Location

A second option for the proposal involves proposing the development at an alternative location. This would result in the commercial and retail development that would otherwise not be classified as SSD due to not being associated with a rail corridor.

This option would also be inconsistent with NSW transport policy and State and local strategic objectives for the site. In particular, the proposal would not maximise opportunities to leverage off the significant investment in Sydney metro for employment generating and housing uses.

In addition, the alternative location scenario would not include the significant commercial and retail development being constructed above the Waterloo metro station. The opportunity cost to the local community and broader metropolitan region would be significant and key economic, transport, and social benefits presented by the proposal not being realised.

1.5.3. A Mixture of Residential and Commercial

The third option is to include a mixture of land uses, to enable the retention of residential dwellings as originally anticipated by the concept DA, while delivering reduced commercial floor space. This could be delivered through the retention of existing building and tower forms.

This option would result a sub-optimal development of this key site. Firstly, the inclusion of residential forms in the envelope result in very poor Apartment Design Guideline performance, with a large number of south-facing units, minimal building separation, and poor solar and acoustic amenity. The development of a commercial product resolves these issues by providing a contemporary large-plate office building suitable for accommodating the future commercial needs of the site.

Secondly, the project provides a key opportunity to bring through-day activation to the site by introducing meaningful employment generation. This not only enlivens the local area and drives local businesses but also goes to the core capacity of infrastructure projects to decentralise Sydney's employment centres and drive true urban renewal.

Lastly, the creation of an investment scale commercial asset on the site allows for the holistic ownership of the commercial, retail and public realm in one line, affording an ongoing custodianship, activation and preservation of the value and outcomes on the site. This alignment of corporate ownership and ongoing success of the precinct is a vital outcome, made possible by the proposed amendment to the concept DA.

While the site wide approach is to ensure the delivery of a truly mixed use and integrated development, the need remains to ensure precinct specific land uses are compatible to the delivery of the project while continuing to be viability and in line with overall project objectives.

1.6. STRUCTURE OF THE EIS

The EIS provides the following sections:

- **Section 2:** Provides background of the proposal and relevant approvals in relation to the site.
- **Section 3:** A description of the site and surrounding context, including identification of the site, existing development on the site and surrounding development.
- **Section 4:** A detailed description of the proposed development.
- **Section 5:** Details the strategic context including the planning policies and guidelines relevant to the site and the proposal.
- **Section 6:** Provides a detailed assessment of the State, regional and local strategic planning policies and the development contributions framework.
- **Section 7:** Details the community and stakeholder engagement undertaken by the applicant as part of the preparation of this EIS.
- **Section 8:** Provides a comprehensive assessment of the existing environment, potential impacts, and mitigation measures for each of the key criteria in the SEARs.
- **Section 9:** Details the changes required to SSD 9393.
- **Section 10:** Details the Environmental Risk assessment undertaken and a consolidated list of mitigation measures based on the technical studies undertaken as part of this application.
- **Section 11:** Provides concluding statements and a recommendation for determination of the application.

1.7. SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

A request was made to the Minister for the issuance of SEARs, pursuant to clause 3(1), Part 2, Schedule 2 of the EP&A Regulation. SEARs were subsequently issued on 9 April 2020 (**Appendix A**) and have informed the preparation of this EIS and supporting technical documents. Table 1 provides a summary of the SEARs and identifies the section of this EIS where the relevant requirement is addressed.

Table 1 Summary of SEARs

Requirement	Reference
GENERAL REQUIREMENTS	
<i>The environmental impact statement (EIS) must be prepared in accordance with, and meet the minimum requirements of clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the Regulation).</i>	Refer to Statement of Validity and throughout.
<i>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.</i>	Section 10 – Environmental Risk Assessment
<i>Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:</i>	Section 10 – Environmental Risk Assessment
<ul style="list-style-type: none"> ▪ <i>adequate baseline data</i> ▪ <i>consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed);</i> ▪ <i>measures to avoid, minimise and if necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment; and</i> ▪ <i>a health impact assessment of local and regional impacts associated with the development, including those health risks associated with relevant key issues.</i> 	
<i>The EIS must also be accompanied by a report from a qualified quantity surveyor providing:</i>	A QS Summary Report provided at Appendix B which includes the estimated cost of works and jobs that will be created by the development.
<ul style="list-style-type: none"> ▪ <i>a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate applicable GST component of the CIV;</i> ▪ <i>an estimate of jobs that will be created during the construction and operational phases of the proposed development; and</i> ▪ <i>certification that the information provided is accurate at the date of preparation.</i> 	
KEY ISSUES	
This EIS must address the following specific matters:	

Requirement	Reference
<p>1. Environmental Planning Instruments, Policies and Guidelines</p> <p><i>Address the statutory provisions applying to the development contained in all relevant environmental planning instruments, including:</i></p> <ul style="list-style-type: none"> ▪ <i>State Environmental Planning Policy (State and Regional Development) 2011</i> ▪ <i>State Environmental Planning Policy (Infrastructure) 2007</i> ▪ <i>State Environmental Planning Policy No. 55 – Remediation of Land</i> ▪ <i>State Environmental Planning Policy No. 64 – Advertising and Signage</i> ▪ <i>State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development and accompanying Apartment Design Guide (SEPP 65)</i> ▪ <i>State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004</i> ▪ <i>Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005</i> ▪ <i>State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017</i> ▪ <i>Draft State Environmental Planning Policy (Environment)</i> ▪ <i>Draft State Environmental Planning Policy (Remediation of Land)</i> ▪ <i>Sydney Local Environmental Plan 2012</i> ▪ <i>Any exhibited Planning Proposal or draft State Environmental Planning Policy related to the land</i> <p><i>The EIS shall address the provisions, goals and objectives of the relevant policies referred to in Attachment A.</i></p>	<p>Section 6 – Statutory Planning Context</p>
<p>2. Amending Concept Proposal</p> <p><i>The EIS shall:</i></p> <ul style="list-style-type: none"> ▪ <i>describe how the existing Concept Approval (SSD 9393) will be amended by the proposed Amending Concept scheme.</i> ▪ <i>address any changes to the land use mix and associated floor space and justify the proposed amendments.</i> ▪ <i>illustrate the amendments sought to the existing Concept Proposal, including comparative analysis on building envelopes, floor spaces, uses and any relevant conditions of consent.</i> 	<p>Section 4 – Proposed Development</p> <p>Section 4.2 – Land use and GFA</p> <p>Amended Building Envelope Plans at Appendix D.</p>

Requirement	Reference
<ul style="list-style-type: none"> ▪ <i>include a staging and delivery plan for the coordinated delivery of public domain, car parking and other common facilities and any public benefits such as social and affordable housing.</i> ▪ <i>address the relevant site-specific provisions for the Waterloo Metro Quarter in Division 5 of Part 6 of the Sydney Local Environmental Plan 2012.</i> 	<p>Staging and delivery plan provided within the urban design report at Appendix E.</p> <p>Section 6.13 – SLEP 2012</p>
<p>3. Integration with Sydney Metro Station infrastructure</p> <p><i>The EIS shall:</i></p> <ul style="list-style-type: none"> ▪ <i>describe any changes made to how the State Significant Development component will relate to the approved Critical State Significant Infrastructure (CSSI 7400) and any modifications to the CSSI.</i> ▪ <i>address how the amended development supports the design objectives, principles and standards of the Station Design Precinct Plan and Interchange Access Plan under the CSSI.</i> 	<p>Section 4.3</p> <p>Section 4.3.1 – Interface Areas</p>
<p>4. Design Excellence and Built Form</p> <p><i>The EIS shall:</i></p> <ul style="list-style-type: none"> ▪ <i>Demonstrate the Amending Concept Proposal exhibits design excellence with respect to:</i> <ul style="list-style-type: none"> - <i>requirements of Sydney Local Environmental Plan 2012</i> - <i>approved design excellence strategy of Concept Approval (SSD 9393)</i> - <i>adopted Design Guidelines of Concept Approval (SSD 9393) and any required amendments to the Guidelines</i> ▪ <i>illustrate how the orientation, height, bulk, scale, massing, articulation, and materials of the proposed development will integrate with the Concept Approval (SSD 9393).</i> 	<p>Section 8.1 – Built Form and Urban Design</p> <p>Section 8.1 – Built Form and Urban Design</p>
<p>5. Visual and Amenity Impacts</p> <p><i>The EIS shall:</i></p> <ul style="list-style-type: none"> ▪ <i>describe any reductions or additional impacts in relation to visual privacy, noise and vibration impacts and reflectivity to the surrounding area, including neighbouring properties and the public domain as a result of the Amended Concept Proposal.</i> ▪ <i>Identify any reduction (s) or increase in solar access and overshadowing impact(s) having particular regard to the impact of the amended envelope on solar access to Alexandria Park and Alexandria Heritage Conservation Area. This shall include a statement on the benefits and impacts of design options with respect to shadow impact to Alexandria Park.</i> 	<p>Section 8 – Environmental Impact Assessment</p> <p>Section 8.3.2 – Solar Access & Overshadowing</p>

Requirement	Reference
<ul style="list-style-type: none"> ▪ <i>provide a revised visual and view impact assessment, addressing any changes to the view / visual impacts arising from the amended envelope when viewed from adjoining developments, key vantage points and streetscape locations including photomontages or perspectives of the proposed development.</i> ▪ <i>provide a revised wind analysis report outlining any changes arising from the amended envelope to wind flow and wind impacts, in particular any impacts to existing and proposed public domain areas and open space.</i> ▪ <i>identify any other potential impacts of the Amending Concept Proposal on the amenity of surrounding land uses and the public domain.</i> 	<p>Section 8.3.1 – View and Visual Impact and Appendix AA</p> <p>Section 8.4 – Wind Impacts and Appendix DD</p> <p>Section 8 – Environmental Impact Assessment</p>
<p>6. Heritage</p> <p>The EIS shall:</p> <ul style="list-style-type: none"> ▪ <i>include a revised heritage impact statement (HIS) that identifies, considers and addresses any potential impact(s) of the Amending Concept Proposal to surrounding heritage items, including any built and landscape items, conservation areas, heritage views and settings, having particular regard to the impact of the proposal on adjoining Waterloo Congregational Church.</i> 	<p>Appendix H – Heritage Impact Assessment</p> <p>Section 8.2 – Heritage Impact</p>
<p>7. Ecologically Sustainable Development (ESD)</p> <p>The EIS shall:</p> <ul style="list-style-type: none"> ▪ <i>Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the EP&A Regulation 2000) will be met by the Amending Concept Proposal.</i> ▪ <i>include a framework for how the proposed development will reflect national best practice sustainable building principles to improve environmental performance, including energy and water efficient design and technology, use of renewable energy and best practice in waste management strategy.</i> 	<p>Section 8.5 – Environmental Performance and ESD and Appendix M.</p>
<p>8. Traffic, parking and access</p> <p>The EIS shall:</p> <ul style="list-style-type: none"> ▪ <i>include a traffic, public transport, point to point transport, pedestrian, bicycle parking, freight, servicing and access assessment</i> ▪ <i>identify any changes or additional impacts of the Amending Concept Proposal on the traffic and transport network and pedestrian and cyclist safety and amenity when compared to the existing approved Concept Approval (SSD 9393). Any associated mitigation / management measures are to be included in the EIS.</i> 	<p>Section 8.7 – Traffic, Access and Car Parking and Appendix I.</p>
<p>9. Utilities</p>	

Requirement	Reference
<p><i>The EIS shall:</i></p> <ul style="list-style-type: none"> ▪ <i>identify the existing capacity to service the existing Concept Proposal and any augmentation requirements for utilities to service the Amending Concept Proposal in consultation with relevant agencies.</i> 	<p>Section 4.9 – Services and Utilities</p>
<p>10. Biodiversity</p> <p><i>The EIS shall provide an assessment of the proposal’s biodiversity impacts in accordance with Section 7.9 the Biodiversity Conservation Act 2016, the Biodiversity Assessment Method and document the findings in a Biodiversity Development Assessment Report (BDAR) where required under the Act.</i></p>	<p>Section 6.2 – Biodiversity Conservation Act 2016</p>
<p>11. Public benefits, contributions and/or voluntary planning agreement</p> <p><i>The EIS shall identify the provision of public benefit, services and contributions in consultation with key stakeholders, such as the Department, Council and TfNSW, and provide details of allocation or voluntary planning agreement (VPA) or other legally binding instrument agreed between a relevant public authority and the Applicant.</i></p>	<p>Section 6.13 – SLEP 2012</p>
<p>12. Prescribed airspace for Sydney Airport</p> <p><i>The EIS shall identify impacts (if any) of the Amended Concept Proposal on the prescribed airspace for Sydney Airport.</i></p>	<p>Section 8.1.4 – Prescribed Airspace</p>
<p>13. Pre-submission consultation statement</p> <p><i>The EIS must include a report describing pre-submission consultation undertaken, including a record of the stakeholders consulted, the issues raised during the consultation and how the proposal responds to those issues.</i></p>	<p>A Pre-lodgement Consultation Report has been prepared and included at Appendix U.</p>
PLANS AND DOCUMENTS	
<p><i>The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.</i></p> <p><i>In addition, the EIS must include the following:</i></p> <ul style="list-style-type: none"> ▪ <i>site title diagrams and survey plan, showing existing levels, location and height of existing and adjacent structures/buildings</i> ▪ <i>physical and 3D digital model (in accordance with the City of Sydney specifications)</i> ▪ <i>plans and schedules showing compliance with the Sydney LEP 2012</i> ▪ <i>schedule of proposed gross floor area, per level and allocation according to the SSD or CSSI</i> 	<p>Documents required by the SEARs have been prepared to support this application and are included in Appendix A - Appendix EE.</p>

Requirement	Reference
<ul style="list-style-type: none"> ▪ <i>architectural drawings (to a usable scale at A3), clearly identifying where approval is sought as an Amending Concept Proposal, those components approved in the Stage 1 DA, SSD 9393 and approved in CSSI 7400.</i> ▪ <i>architectural and urban design statement</i> ▪ <i>visual and view impact analysis and photomontages</i> ▪ <i>shadow / solar access report and diagrams, and verification: View from the sun diagrams are to be provided between 9am and 3pm during the winter solstice at 15 minute intervals</i> ▪ <i>wind assessment</i> ▪ <i>ESD statement (incorporating a sustainability framework)</i> ▪ <i>heritage impact statement</i> ▪ <i>revised traffic and parking assessment</i> ▪ <i>services and utilities infrastructure report</i> ▪ <i>reflectivity analysis</i> ▪ <i>noise and vibration report</i> ▪ <i>revised airspace assessment (where relevant)</i> ▪ <i>staging plan/ preliminary construction management statement</i> ▪ <i>revised flood/stormwater management plan (where relevant)</i> ▪ <i>DDA/access assessment (where relevant)</i> ▪ <i>CPTED/security assessment (where relevant)</i> ▪ <i>waste management plan (where relevant)</i> ▪ <i>air quality assessment (where relevant)</i> ▪ <i>signage details (if proposed)</i> ▪ <i>pre-submission consultation statement</i> 	
CONSULTATION	
<p><i>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.</i></p> <p><i>In particular you must consult with:</i></p> <ul style="list-style-type: none"> ▪ <i>City of Sydney Council</i> ▪ <i>Transport for NSW</i> ▪ <i>Sydney Trains</i> 	<p>Refer to Pre-lodgement Consultation Report at Appendix U and Section 7.</p>

Requirement	Reference
<ul style="list-style-type: none"> ▪ <i>Sydney Metro</i> ▪ <i>Sydney Coordination Office within Transport for NSW</i> ▪ <i>Surrounding residents and businesses including the Waterloo Congregational Church</i> ▪ <i>Relevant community groups</i> ▪ <i>Relevant special interest or recreational groups</i> <p><i>The EIS must describe the consultation process and the issues raised and identify where the design or proposed outcomes of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</i></p>	

2. BACKGROUND

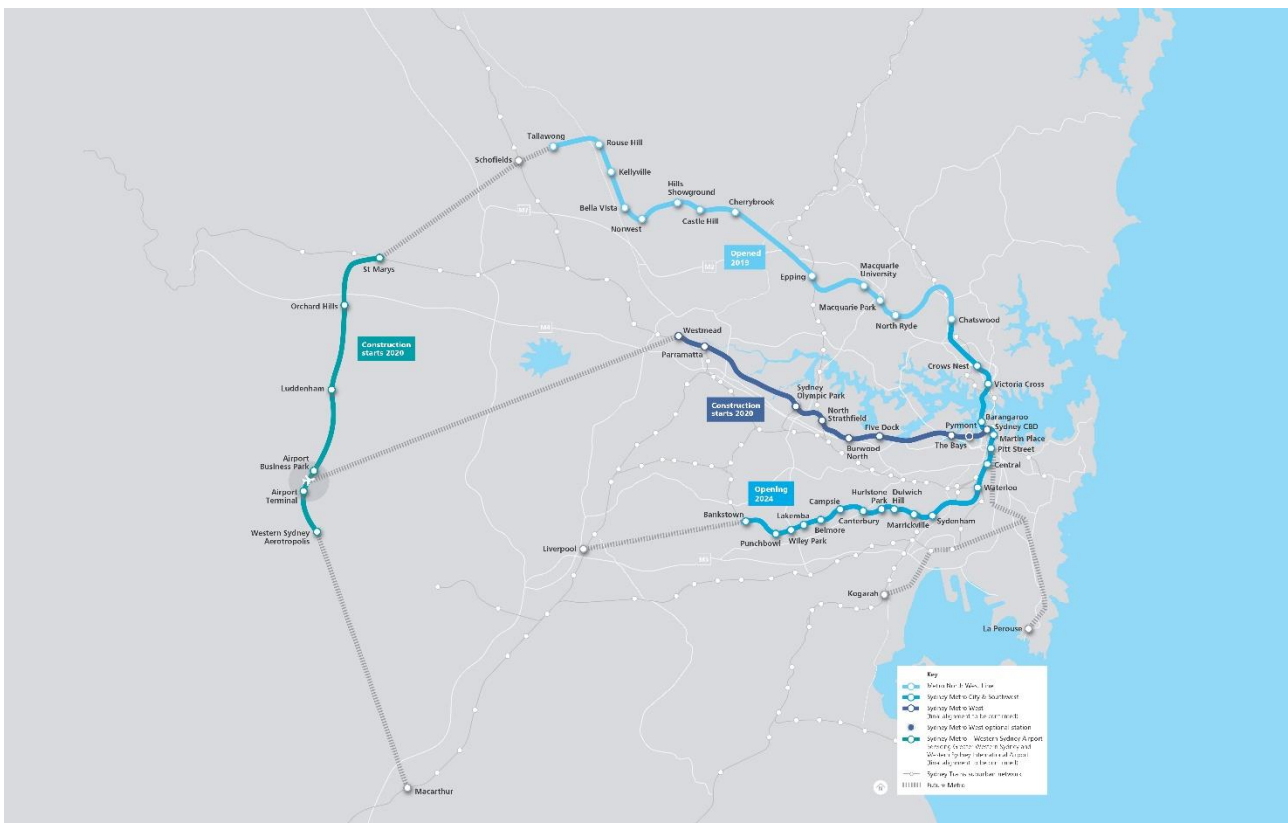
2.1. SYDNEY METRO

Sydney Metro is Australia's biggest public transport project. In 2024, Sydney will have 31 metro railway stations and a 66km standalone metro railway system – the biggest urban rail project in Australian history. The Sydney Metro project is illustrated in Figure 6 Sydney Metro Alignment Map below.

Services commenced in May 2019 in the city's north west with a train every four minutes in the peak. Sydney metro will be extended into the CBD and beyond to Bankstown in 2024. There will be new metro railway stations underground at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new metro platforms under Central.

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a Critical State Significant Infrastructure project (reference SSI 15_7400) (CSSI approval). The terms of the CSSI approval includes all works required to construct the Sydney Metro Waterloo station, including the demolition of existing buildings and structures. The CSSI approval also includes construction of below and above ground structures associated with the metro station and structures required to facilitate the construction of any OSD.

Figure 6 Sydney Metro Alignment Map



Source: Sydney Metro

2.2. CSSI APPROVAL – CSSI 7400

On 9 January 2017, the Minister for Planning approved Stage 2 of the Sydney Metro project, involving the construction and operation of a metro rail line between Chatswood and Sydenham, including the construction of a tunnel under Sydney Harbour, links with the existing rail network, seven metro stations (including a station at Waterloo Metro Quarter), and associated ancillary infrastructure.

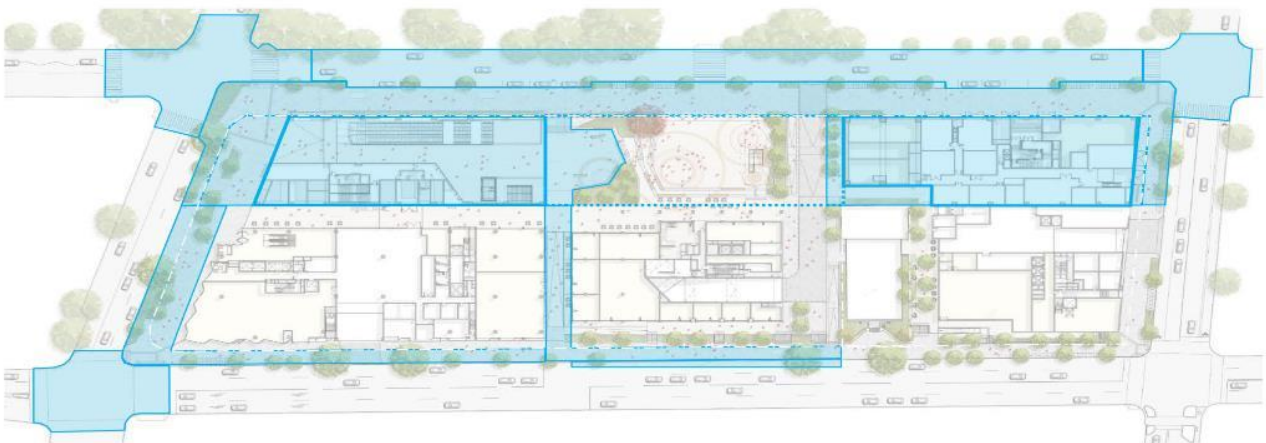
The CSSI approval, as it relates to the Waterloo metro station, includes:

- Demolition of existing development including vegetation removal.

- Excavation and remediation of the station box site undertaken in line with a Remediation Action Plan and Earthworks Management Plan.
- Design and construction of station box above existing ground level up to RL 33.1, including primary station works, structural works (base build), retail/commercial tenancies, structural and service provision for the OSD (e.g. structure, lift cores and mechanical services).
- Design and construction of station services box above existing ground level up to RL 35.1, including primary station works, structural works (base build), retail/commercial tenancies, structural and service provision for the OSD (e.g. structure, lift cores and mechanical services).
- Station structure including the concourse and platforms.
- Retail spaces within the station building.
- Public domain improvements, including the through site link from metro to bus stop adjacent to Building 2 (physical connection excluding awnings).
- Access arrangements including vertical transport such as escalators and lifts.
- Structural and service elements and relevant space provisioning necessary for constructing OSD, such as columns and beams, space for lift cores, plant rooms, access, parking, retail and building services.

In addition to the two station boxes themselves, a significant component of the public domain improvements to be delivered on and adjacent to the Waterloo Metro Quarter site will be delivered under the scope of the CSSI approval where this work is required to service the functionality of the metro station itself. This is clearly illustrated in the following figure. The remaining public domain works will be delivered under the terms of the relevant detailed SSDA for that precinct.

Figure 7 Scope of public domain and ground plane works to be completed under the CSSI approval



Source: Applicant

Further detailed discussion on the relationship of public domain works proposed is discussed in Section 4.5.

The CSSI approval included Indicative Interface Drawings for the below and above ground works at Waterloo Metro Station. Section 2.3 of the Preferred Infrastructure Report (PIR) noted that the integration of the OSD elements and the metro station elements would be subject to the design resolution process, noting that the detailed design may vary from the concept design assessed within the planning approval.

Condition E101 of the CSSI approval requires that a detailed Station Design and Precinct Plan (SDPP) be approved by the Secretary of the DPIE prior to the construction of above ground works.

The building design adjacent to the station boxes approved by SSD 9393 will therefore need to be coordinated with the preparation of the Waterloo SDPP prior to their approval by the Secretary.

2.3. CONCEPT APPROVAL – SSD 9393

Development consent was granted on 10 December 2019 for the concept SSDA (SSD 9393) for the Waterloo Metro Quarter OSD including:

- A maximum building envelope for podium, mid-rise and tower buildings.
- A maximum gross floor area of 68,750sqm, excluding station floor space.
- Conceptual land use for non-residential and residential floor space.
- Minimum 12,000sqm of non-residential gross floor area including a minimum of 2,000sqm of community facilities.
- Minimum 5% residential gross floor area as affordable housing dwellings.
- 70 social housing dwellings.
- Basement car parking, motorcycle parking, bicycle parking, and service vehicle spaces.

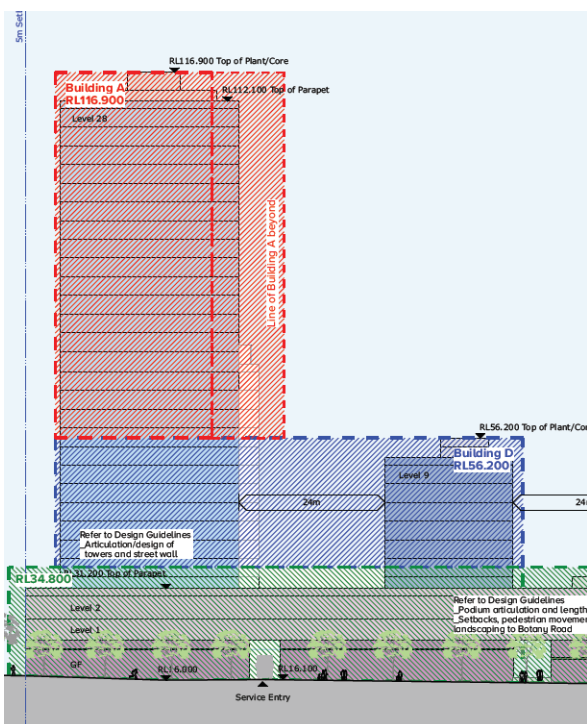
It is noted that no change is proposed to the description of development outlined in Schedule 1 of the SSD 9393 consent within this amending concept DA as many of the key commitments and attributes of the proposed scheme remain consistent with that approved.

The concept SSDA instrument of approval does not consent to any physical works commencing on site. The approved building envelopes for the Waterloo Metro Quarter OSD are illustrated in Figure 8 and Figure 9.

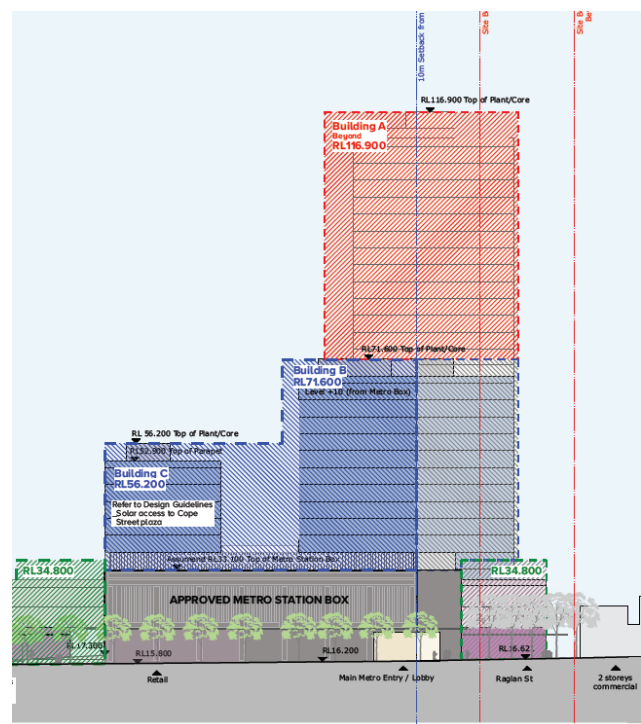
It is noted however that as a condition of the concept SSDA that the Botany Road setback of 6.5m is to be extended to the north as identified in the Response to Submissions (RtS) Figure 10, Page 39 (to the boundary with 'Building D'). This change is not illustrated in Figure 6 however has been adopted in the amended building envelope plans proposed within the amending DA at **Appendix D**.

Separate detailed SSDAs have been prepared for Northern Precinct of the site, Central Precinct, Southern Precinct, and the Basement Car Park and each are lodged concurrently with this amendment to the concept SSDA.

Figure 8 Approved Concept DA Building Envelope – Western (left) and Eastern (right) Elevations

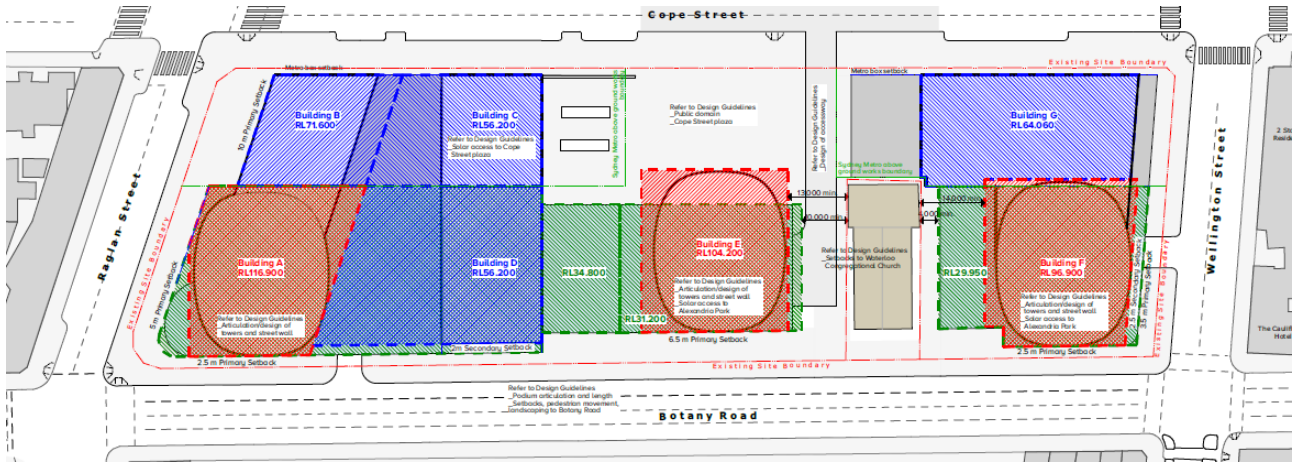


Source: SSD 9393 Approved Plans



Source: SSD 9393 Approved Plans

Figure 9 Approved Concept DA Building Envelope – Site Plan



Source: SSD 9393 Approved Plans

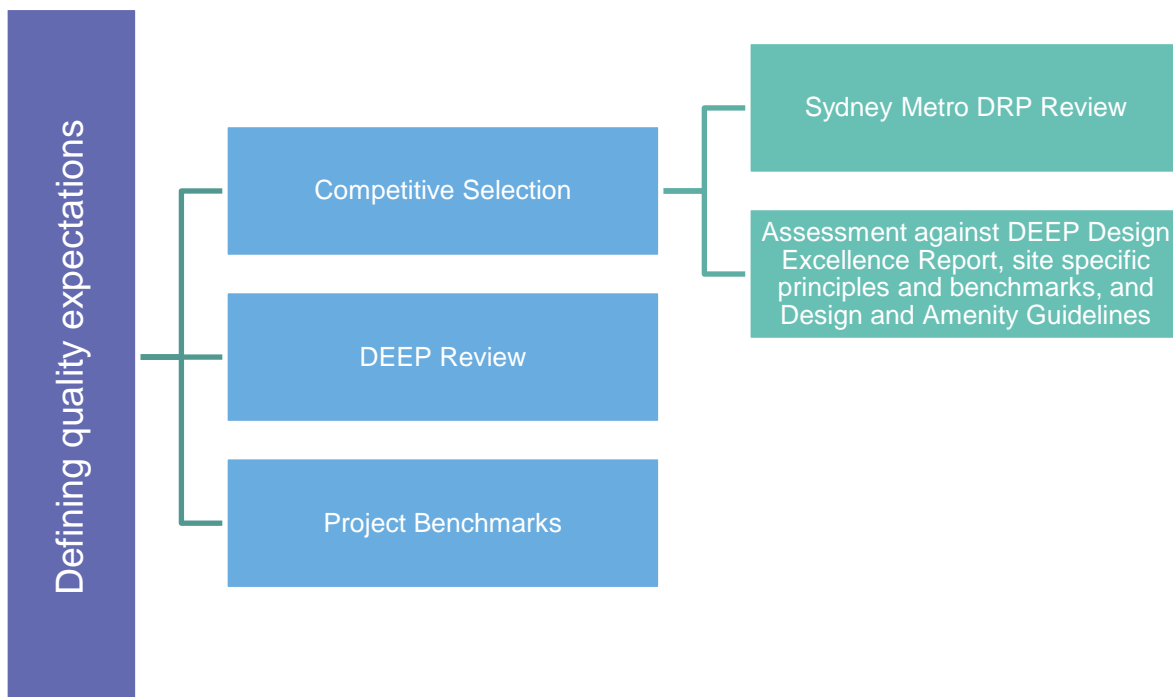
2.4. WATERLOO METRO QUARTER DESIGN EXCELLENCE STRATEGY

The concept approval exercises the discretion available under clause 6.21(6) of SLEP 2012 to waive the requirement for a competitive design process under clause 6.21(5) as the concept design has been the subject of the Sydney Metro Waterloo Design Excellence Strategy.

The Design Excellence Strategy provides specific project benchmarks for the Waterloo metro station OSD. These documents were established to guide the detailed design of the future OSD and ensure a high quality of design is achieved for the site and other over station developments.

The endorsed Design Excellence Strategy is included within the Design Integrity Report at **Appendix Y**. The Design Excellence Strategy comprises a multi-phase process including a competitive selection which involved an Expression of Interest (EOI) and Request for Tender process, benchmarking studies and continued design review by a Design Excellence Evaluation Panel (DEEP) and subsequently the Sydney Metro Design Review Panel (DRP). A summary of the design excellence process undertaken is illustrated in Figure 8 below.

Figure 10 Summary of Design Excellence Process



A critical objective of the competitive tendering process was to review alternative approaches to the Waterloo Metro Quarter site and strive for design excellence for the OSD project. Following the approval of the concept proposal and completion of the EOI and Request for Tender process, WL Developer Pty Ltd and its architectural partners were chosen as the successful development partner for the Waterloo Metro Quarter OSD.

The Design Excellence Strategy also requires DRP to review and provide feedback on the SSDAs prior to lodgement, including assessment against site specific principles, benchmarks, design guidelines and the DEEP report.

Since the selection of WL Developer Pty Ltd as the development partner for the Waterloo Station OSD, the applicant has presented to the Sydney Metro DRP 10 times. Throughout this process, the DRP has provided ongoing design review of the proposed Central Precinct proposal to ensure design excellence and integrity have been achieved.

The specific details of the consultation undertaken to achieve design excellence in accordance with the Design and Amenity Guidelines are outlined at Section 6.14 of this EIS, with a detailed discussion of the proposal's design excellence included at Section 8.1.1.

3. SITE ANALYSIS

3.1. SITE CONTEXT AND LOCATION

The site is located within the City of Sydney Local Government Area (LGA). The site is situated approximately 3.3 kilometres south of Sydney CBD and 7.5 kilometres northeast of Sydney International Airport.

The Waterloo Metro Quarter site comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street (refer to Figure 11). The heritage listed Waterloo Congregational Church located at 103–105 Botany Road is within this street block but is not part of the Waterloo Metro Quarter site boundaries.

The site is a rectangular shaped allotment and an overall site area of approximately 1.287 hectares. The site is reasonably flat with a slight fall to the south.

The boundaries of the Waterloo Metro Quarter site are shown below.

Figure 11 Aerial of the Subject Site



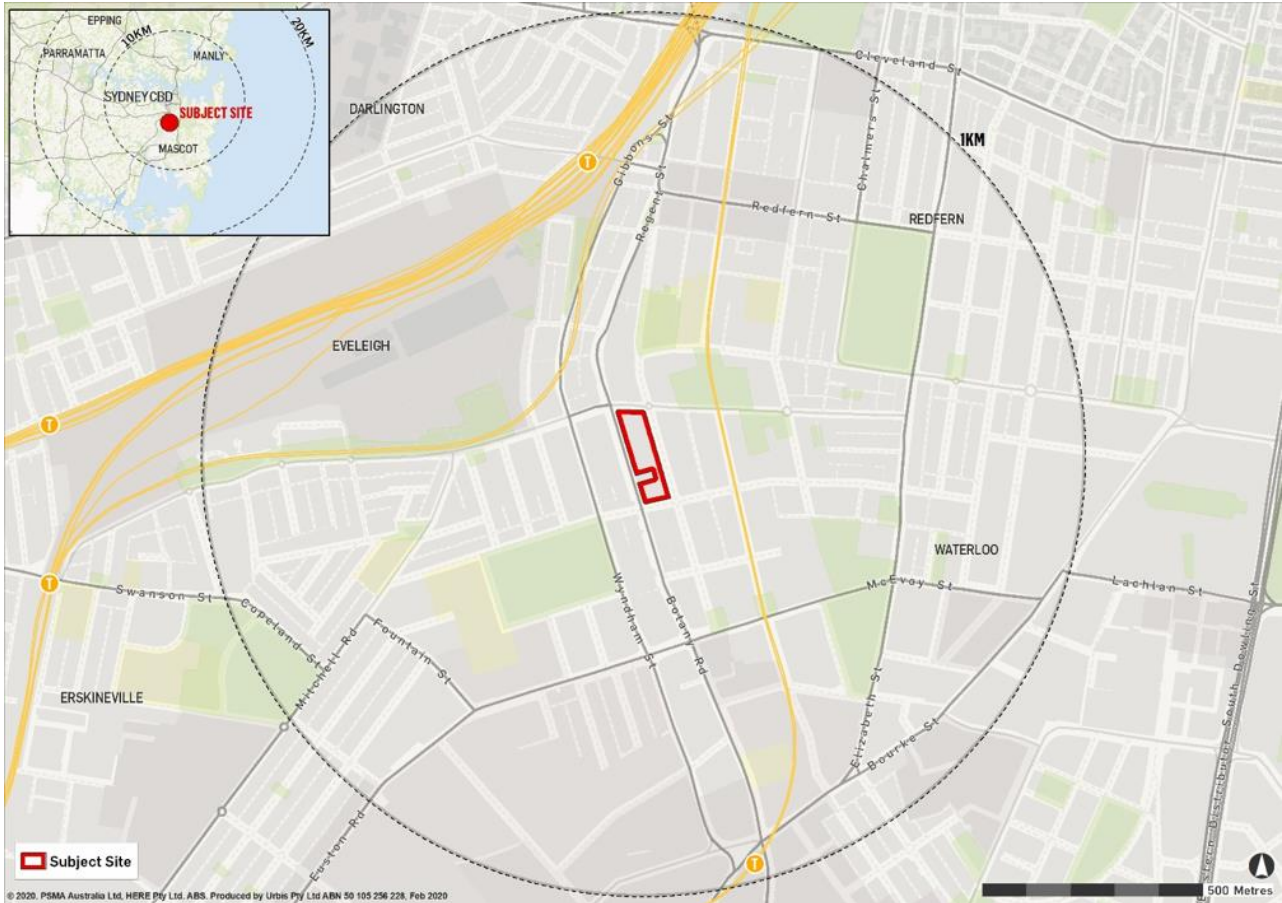
Source: Urbis

The area surrounding the site consists of commercial premises to the north, light industrial and mixed-use development to the south, residential development to the east and predominantly commercial and light industry uses to the west. To the south west is Alexandria Park, an open space area containing formal and informal recreation areas. The eastern half of the park comprises open space containing grassed areas with walking paths and shade trees for passive recreation. The western half contains a grassed oval and other facilities used for active recreation including cricket, soccer, athletics, tennis and basketball.

The surrounding suburbs have large parks which are well maintained which connects to an existing local and district pedestrian and cycle network connecting to central Sydney to the north and green square to the south. Botany Road traffic volumes and street block configuration create a significant barrier to the east west movement, and access to transport hubs, social spaces and green amenity. There are a range of existing

building typologies across Waterloo for residential and non-residential uses, reflecting the dense grain of the area. Waterloo reflects a wide range of building heights from 1 to 30 stories across many residential and non-residential typologies. These building typologies include shops, offices, and hotels which are traditionally found in clusters at corners throughout the locality. The broader context has significant heritage items and conservation zones, as well as a strong social and cultural history. Several heritage items sit adjacent to the Waterloo Metro Quarter site as is discussed further within this EIS.

Figure 12 Location Map of Subject Site



Source: Urbis

The Waterloo Metro Quarter site is located within the Innovation Corridor, which represents a cluster of knowledge intensive business which are considered vital to the Districts ongoing economic success and global competitiveness. With this corridor is the Camperdown-Ultimo Health and Education precinct, and areas within Pyrmont through to Central including the Sydney Innovation and Technology Precinct, Redfern and Waterloo and the Botany Road Corridor.

The corridor has been identified as being critical to benefiting off significant investment in transport infrastructure and is located within the City Fringe area which may contribute at least 53,800 additional jobs by 2036. The role of this corridor is proposed to be strengthened by prioritising space for specialised and knowledge-based clusters and planning for a genuine mixed-use precinct with high amenity.

3.2. LEGAL DESCRIPTION

The site comprises the following 16 allotments and as outlined within the Site Survey (refer to **Appendix C**).

- 1368 Raglan Street (Lot 4 DP 215751)
- 59 Botany Road (Lot 5 DP 215751)
- 65 Botany Road (Lot 1 DP 814205)
- 67 Botany Road (Lot 1 DP 228641)
- 124-128 Cope Street (Lot 2 DP 228641)

- 69-83 Botany Road (Lot 1, DP 1084919)
- 130-134 Cope Street (Lot 12 DP 399757)
- 136-144 Cope Street (Lots A-E DP 108312)
- 85 Botany Road (Lot 1 DP 27454)
- 87 Botany Road (Lot 2 DP 27454),
- 89-91 Botany Road (Lot 1 DP 996765)
- 93-101 Botany Road (Lot 1 DP 433969 and Lot 1 DP 738891)
- 119 Botany Road (Lot 1 DP 205942 and Lot 1 DP 436831)
- 156-160 Cope Street (Lot 31 DP 805384)
- 107-117A Botany Road (Lot 32 DP 805384 and Lot A DP 408116)
- 170-174 Cope Street (Lot 2 DP 205942)

3.3. EXISTING DEVELOPMENT

The site previously included three to five storeys of commercial, light industrial and shop top housing buildings. All previous structures except for an office building at the corner of Botany Road and Wellington Street have been demolished to facilitate construction of the new Waterloo metro station. As such the existing site is predominately vacant and being used as a construction site.

Construction of the Sydney metro is currently underway on site in accordance with the CSSI approval (CSSI 7400). Photographs of the existing site context are provided in the following figures:

Figure 13 Photographs of existing site condition at Waterloo Metro Quarter site (dated 21 July 2020)



Picture 1 South western corner of site, located at the corner Wellington Street and Botany Road

Source: Urbis



Picture 2 Botany Road street frontage, looking north east

Source: Urbis



Picture 3 North western corner of site, looking north east illustrating station construction vehicular entrance



Picture 4 Raglan Street frontage, looking east

Source: Urbis



Picture 5 Cope Street frontage, looking north

Source: Urbis



Picture 6 South eastern corner of site, located at corner of Cope Street and Wellington Street

Source: Urbis

3.4. SURROUNDING DEVELOPMENT

The area surrounding the site consists of a mix of commercial, residential and light industrial uses, civic uses and open space. An overview of surrounding development is provided below. Photographs of surrounding site context and development are included at Figure 13.

3.4.1. Waterloo Estate

The Waterloo Estate located to the east of the site will be redeveloped over the next 15-20 years, and will seek to deliver a mix of social, affordable, and market housing.

The NSW Land and Housing Corporation has submitted a planning proposal to the City of Sydney requesting to redevelop the public and private lands in the southern part of the Waterloo Estate by changing the planning controls that currently apply to the precinct. This planning proposal is referred to as 'Waterloo South.'

Waterloo South includes land bounded by Cope, Raglan, George, Wellington, Gibson, Kellick, Pitt and McEvoy streets, and has an approximate site area of 12.32 hectares (approximately 65% of the total estate). It currently comprises 749 social housing dwellings owned by the NSW Land and Housing Corporation, 125 privately owned dwellings, and some commercial properties on the south-east corner of Cope and Wellington streets.

With up to 3,000 new dwellings proposed, the redevelopment is sought to be delivered in a staged approach and is still the subject of a finalised master planning process. Waterloo South is set to see building heights of up to 30-storeys and will benefit from the delivery of improved public transport from the new metro station and the services provided within the Waterloo Metro Quarter OSD.

3.4.2. North

To the north of the site on the northern side of Raglan Street is a mix of one and two-storey commercial buildings with ground floor retail. Further to the north is Redfern train station and town centre which is characterised by a mix of residential, retail and student accommodation uses. Redfern Park is located approximately 500m north-east of the site and is a well-used recreational space with a grassy recreational park, sports fields, grandstand and children's playground.

3.4.3. East

To the east of the site is a mix of one and three-storey residential flat buildings and attached dwellings that form part of the Waterloo social housing estate. Further to the east and north east are high density residential dwellings which also form part of the estate.

3.4.4. West

Beyond Botany Road to the west are two and three-storey commercial and light industrial buildings, as well as a five-storey mixed use residential flat building. Council recently granted consent for an affordable housing development located at 74-88 Botany Road. The proposal includes ground floor retail fronting Botany Road.

Further to the west is the Alexandria Park Heritage Conservation Area (HCA). The HCA comprises a mix of late nineteenth-century houses including one to three-storey terraces and cottages. The area also includes corner shop buildings, industrial and warehouse buildings. The South Eveleigh (formerly known as the Australian Technology Park) is a business and technology centre in Eveleigh, located approximately 400m north-west of the site.

3.4.5. South

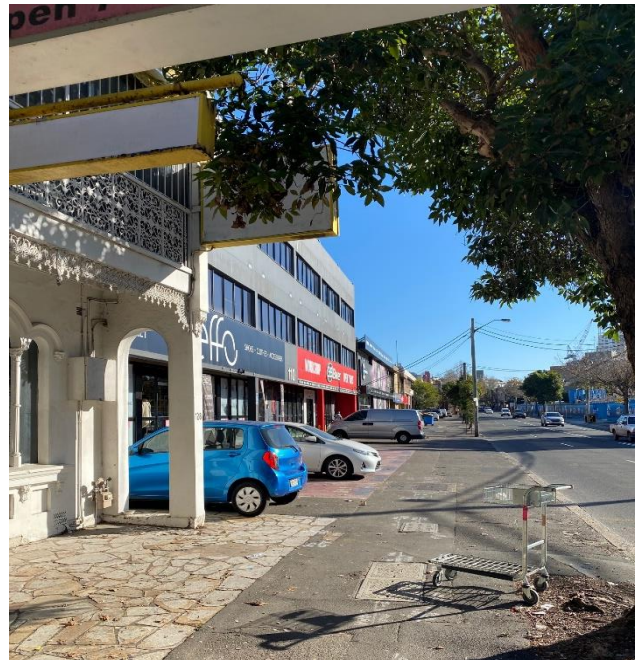
Land to the south of the site is characterised by a mix of low to mid rise industrial, commercial and residential buildings. Immediately to the south of the site on the opposite side of Wellington Street is the Cauliflower Hotel, a locally listed heritage item. Further to the south along Botany Road are a mix of residential apartments and row of terraces. Alexandria Park, a large area of public open space is located to the south-west of the site. Green Square train station and Green Square town centre are located approximately 800m south of the site. The town centre comprises a mix of mid to high rise buildings containing retail, commercial, civic and residential uses. Existing surrounding buildings are shown in Figure 14.

Figure 14 Photographs of surrounding site context (dated 21 July 2020)



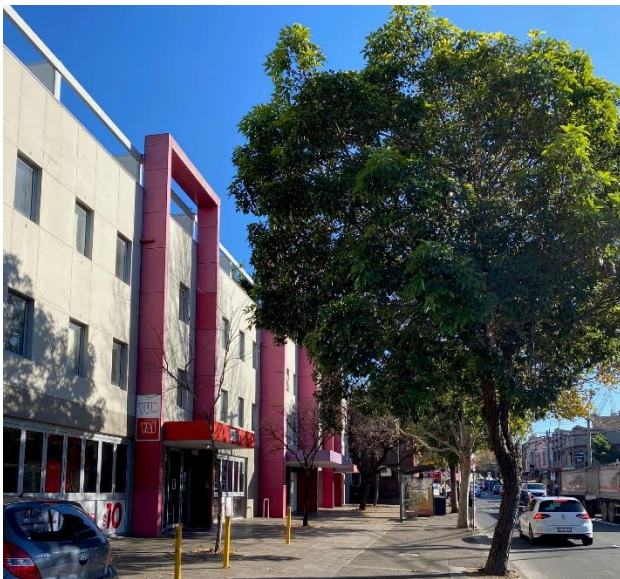
Picture 7 Botany Road, looking north from the north western corner of the site

Source: Urbis



Picture 8 Botany Road, looking north from south of the site

Source: Urbis



Picture 9 Western site of Botany Road, directly opposite the site looking north

Source: Urbis



Picture 10 Raglan Street, immediately opposite the site to the north, looking west

Source: Urbis



Picture 11 Locally heritage listed Cauliflower Hotel, located at 123 Botany Road

Source: Urbis



Picture 12 Alexandria Park, located to the south west of the site

Source: Urbis



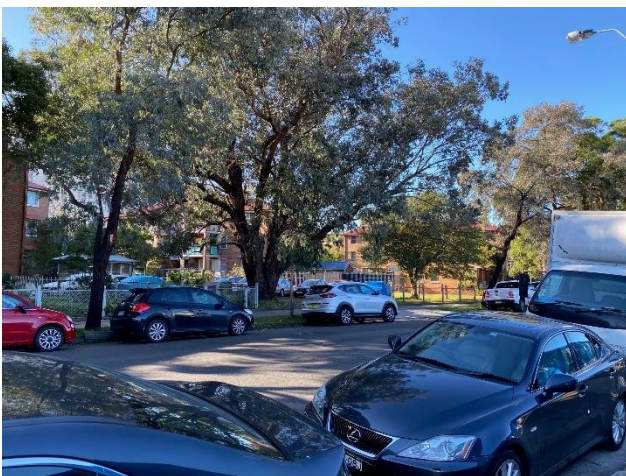
Picture 13 Locally heritage listed Waterloo Congregational Church located at 103-105 Botany Road

Source: Urbis



Picture 14 Locally heritage listed Former CBC Bank, including Interior located at 60 Botany Road

Source: Urbis



Picture 15 Residential flat buildings on Cope Street, east of the site, looking east

Source: Urbis



Picture 16 Terrace housing on Wellington Street, south of the site, looking south

Source: Urbis

3.5. BUILT HERITAGE

The site is not heritage listed or located within a heritage conservation area under the SLEP 2012. However, the site is situated in proximity to several local heritage items, as illustrated in Figure 14. The following local and state heritage items of particular significance to the proposal are detailed in Table 2.

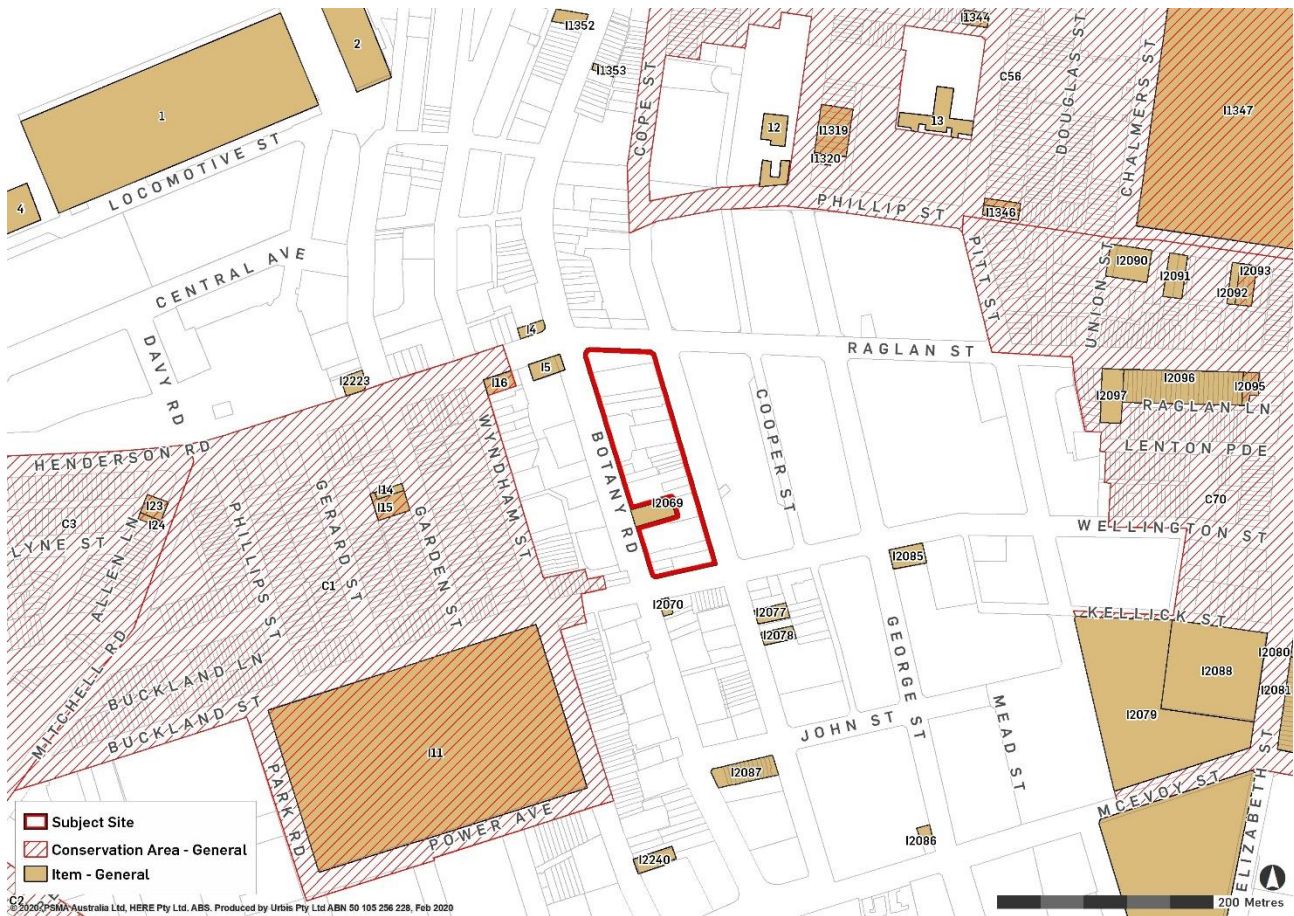
Table 2 Heritage Items in Proximity to the Site

Item	Name and Address	Significance	Statement of Significance
I2069	Waterloo Congregational Church, 103-105 Botany Road	Local	<i>The Gothic church of rendered brick construction was constructed in 1883 to replace the congregation chapel built in 1865. The symmetrical design of the façade demonstrate high quality architectural traits of the building. It is one of the earliest worship venues in Waterloo.</i>
I2070	Cauliflower Hotel, 123 Botany Road	Local	<i>The Cauliflower Hotel is a good example of a mid-Victorian hotel in the Georgian style and was built in c1862 by George Rolfe who was a leaseholder and a market gardener. The hotel was under the ownership and operation by the Rolfe family until 1920s, and later by Tooheys and Tooth & Co. The name "Cauliflower Hotel" is associated with former market gardens on the site which were said to be used for cauliflower growing. The hotel has been continually licensed since its establishment. This Georgian style building and the unique cauliflower sign is the landmark on Botany Road.</i>
I5	Former CBC Bank, including Interior, 60 Botany Road	Local	<i>It represents a good example of the Victorian Italianate style by prominent government architect Mansfield. It is a landmark building on a prominent corner site.</i>
C3	Alexandria Park Heritage Conservation Area	Local	<i>The Alexandria Park Conservation Area is significant for its ability to demonstrate the growth of the municipality of Alexandria in the second half of the nineteenth century and the first half of the twentieth century. The area developed in association with the industrial growth of Waterloo and the establishment of the Eveleigh Railway and Goods Yards, providing housing for workers. The housing stock reflects successive subdivisions of the Coopers freeholds and Park View Estate. The industrial development illustrates a later overlay reflecting the growing importance of the area as an industrial centre in the early twentieth century. Alexandria Park provides a focus for the community.</i>

Potential impacts resulting from the amending concept proposal on the surrounding heritage items have been carefully considered in the detailed design of the proposal to ensure the built form and heritage significance of these items continues to be appreciated and enjoyed.

These potential impacts have been discussed in further detail in Section 8.2 of this EIS and within the Revised Heritage Impact Assessment in **Appendix H**.

Figure 15 Surrounding Heritage Items



Source: Urbis / SLEP 2012

3.6. TRANSPORT AND ACCESSIBILITY

3.6.1. Public Transport

Heavy Rail

The site is located midway between Redfern Station (located approximately 650m north of the Site) and Green Square Station (located approximately 900m south of the Site).

Redfern Station currently services all Sydney Trains lines, excluding the T2 Airport Line, and some NSW Trainlink services. Green Square Station currently services the T2 Airport, Inner West and South Line. This line provides high frequency services between Macarthur and the City.

The Waterloo metro station will provide alternative access to the rail network, reducing pressure on Redfern and Green Square Station to accommodate residential and commercial growth in the area.

Bus

The Site is located close to multiple bus stops operating the following State Transit bus services:

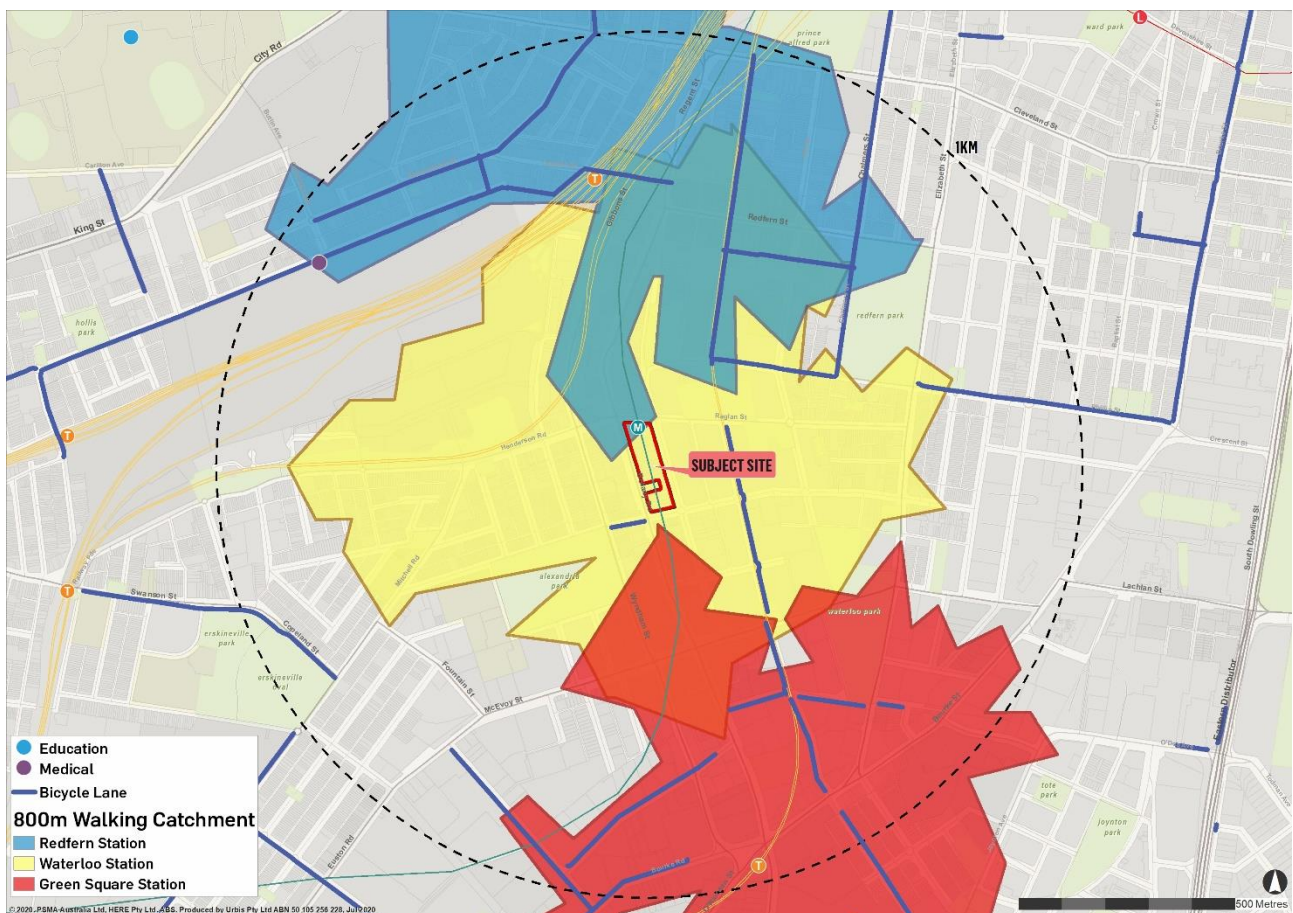
- Botany Road
 - Route 309 – Central Station to Banksmeadow via Mascot.
- Raglan Street
 - Route 308 – Redfern to Marrickville metro via Eveleigh, Surry Hills and Erksineville.

- Route 301, 302, 303 and 305 – Eastgardens to Redfern via Mascot, Eastgardens to Redfern via Kingsford, Sans Souci to Redfern via Mascot.
- Wellington Street
 - Route 355 – Marrickville metro to Bondi Junction via Moore Park and Erksineville.

Sydney Metro

The site is located directly above and adjacent to the future Waterloo metro station currently under construction. Waterloo station is part of the NSW Government’s Sydney Metro: City & Southwest transport project which is the second stage of the Sydney metro project. The project will extend the Stage 1 metro line (Sydney metro: Northwest) from Chatswood to Bankstown via Sydney CBD. Between Sydenham to Bankstown, the existing T3 line will be converted to metro standards. Figure 13 illustrates an 800m walking catchment from the Redfern rail station, and Waterloo metro station, in addition to the Green Square rail station to demonstrate the high level of public transport accessibility to the site.

Figure 16 Walking catchment to high frequency public transport



Source: Urbis

3.6.2. Road Network

Arterial roads

The site is well connected by key regional roads. The site has frontage to Botany Road which is identified as a classified State Road. Botany Road is a key corridor connecting the Site to Sydney Airport. McEvoy Street and Henderson Road both run east-west, providing links between the inner west and the Sydney CBD or the eastern suburbs.

Cycleways

The site benefits from proximity to several dedicated cycleways. These include a combination of separate dedicated cycleways and bike lanes along Wellington Street, Raglan Street and George Street. There is currently no dedicated cycleway along Botany Road given the high volumes of traffic along this road.

Figure 17 Road network and cycling routes



Source: City of Sydney

3.6.3. Pedestrian Network

Pedestrians can access the site via dedicated footpaths on all street frontages. The surrounding street network comprises a grid pattern which facilitates high pedestrian permeability and activity. Due to the traffic volumes of Botany Road, east-west pedestrian movements from the site to adjoining neighbourhoods are limited.

The site is well located for residents to walk to Green Square Station and Redfern Station as well as various retail, community facilities and public spaces.

3.7. OPEN SPACE AND SPECIAL AREAS

The site has around 5.3 ha of open space within walking distance (RE1 and RE2 zoned areas within 400m) and around 19.1 ha of open space within 1km (including Waterloo Park, Redfern Park, Erskineville Oval and Alexandria Park. The site is located in close proximity to the following public open space areas:

Raglan Street Basketball Courts are located directly to the north of the site on the opposite side of Raglan Street.

Waterloo Park is located approximately 280m south-east of the Site. It comprises a playing field, skate park, basketball court and children's playground.

Alexandria Park is located approximately 220m south-west of the site. It comprises a multipurpose sports field, tennis courts, a basketball court and children's playground. The playground is fenced and comprises equipment for children of all ages. Picnic shelters, bubblers and bike storage racks are also located within the park. An off-leash dog area is also located outside the oval, courts and playground.

Redfern Park is located approximately 500m north-east of the site. It is a large, heritage listed park comprising a total of 4.8 hectares. It comprises an oval, grandstand and children's playground. The Park underwent a refurbishment in 2007/08 which included upgrading of all paths, kerbs, lights and furniture and the restoration of the park's historic features.

Eveleigh Green formerly known as the Vice Chancellor's Oval is an active recreational space that provides grassed lawn areas, playground equipment and sports courts. It adjoins Yerrabingin House which is a community building fitted with café, gym and public toilets.

The following public parks and recreation facilities are also proposed to be provided:

Perry Park and Recreation Centre – a new multi-purpose sports centre is proposed in Perry Park, Alexandria. The sports centre will comprise two indoor and two outdoor multi-purpose courts for sports such as netball, basketball and futsal.

Gunyama Park Aquatic and Recreation Centre – a new aquatic and recreation centre is proposed on Zetland Avenue, Zetland. It will be the largest pool built in Sydney since the 2000 Olympics. Outdoor recreational space will also be provided in the form of a playground, picnic facilities, a fitness training circuit and a 4,950sqm multipurpose sports field. The aquatic centre is due for completion in 2020.

3.8. PROXIMITY TO COMMUNITY FACILITIES, SERVICES, AND EDUCATION

The site is within walking distance to three community facilities and within 1km of 16 others. Community facilities located within walking distance include Alexandria Town Hall, Salvation Army Street level and Counterpoints Factory Community Centre.

Carriageworks, The Aboriginal Dance Theatre Redfern and the Green Square Community and Cultural Precinct including Joynton Avenue Creative Centre, Banga Community Shed and Performing Arts Hub are all within 1km of the Waterloo Metro Quarter site.

There are two primary schools, four high schools and two combined primary and high schools within 1km of the site. This includes the Alexandria Park Community School, a combined primary and high school, which is currently being redeveloped to cater for 1,000 primary students and up to 1,200 secondary students.

There are 14 childcare facilities located within 1km of the site with a total number of 806 approved childcare places.

There are two health facilities located within walking distance to the site; Waterloo Medical Centre and Healthcare Family Medical Centre, and eight health facilities located within 1km of the site including the Redfern Community Health Centre and the Aboriginal Medical Service.

3.9. TOPOGRAPHY

The site generally slopes to the south from the northern portion of the site (AHD 18m) to the southern portion of the site (AHD 16m AHD). The site falls approximately towards the south with a high point on the northern edge along Raglan Street. The cross-fall on an east-west direction is of approximately 0.1m falling towards Botany Road. The Probable Maximum Flood level (PMF) across the site grades down from north to south along the edge of Botany Road.

The surrounding area is also relatively flat, partly due to the existing urbanised nature of the region and partly resulting from the natural state of the area.

3.10. UTILITIES AND INFRASTRUCTURE (SERVICES)

The site is located within an established urban area and currently contains all necessary services including electricity, gas, water, communications, drainage and sewerage. Future development on the site can be connected to these services when required. Section 4.9 provides a detailed discussion of the required utility and service infrastructure provisions associated with the detailed design and future use of the OSD.

4. PROPOSED DEVELOPMENT

4.1. DESCRIPTION OF THE PROPOSAL

The amending concept DA seeks consent to modify the existing concept approval for the Waterloo Metro Quarter OSD, by amending the building envelopes to reflect detailed design developments made by the applicant and a proposed new mix of land uses for the site.

The proposed amendment to the approved concept SSDA will enable the detailed design of a new commercial building (comprising office and retail premises) to be pursued on the site. The amendments will significantly increase the proportion of employment generating floor space on the Waterloo Metro Quarter site. This new commercial building is proposed in replacement of four building envelopes approved under SSD 9393, which comprised one residential tower, and three mid-rise residential buildings.

Specifically, the proposal seeks to modify the approved building envelope for the Northern Precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393), through:

- increasing the maximum building height for the southern portion of the building envelope from RL56.2 to RL72.60.
- removing the 'tower component' of the northern precinct, reducing the overall height of the tower envelope from RL116.9 to RL90.40, to enable the redistribution of floor space to commercial office floor plates.
- amending the description of development to refer to a mid-rise (approximately 17-storey) commercial office building, comprising approximately 34,125sqm of commercial office floor space within the northern portion of the site, rather than a third residential tower.
- small reduction in the podium height at the corner of Botany Road and Raglan Street, from RL34.800 to RL33.000.

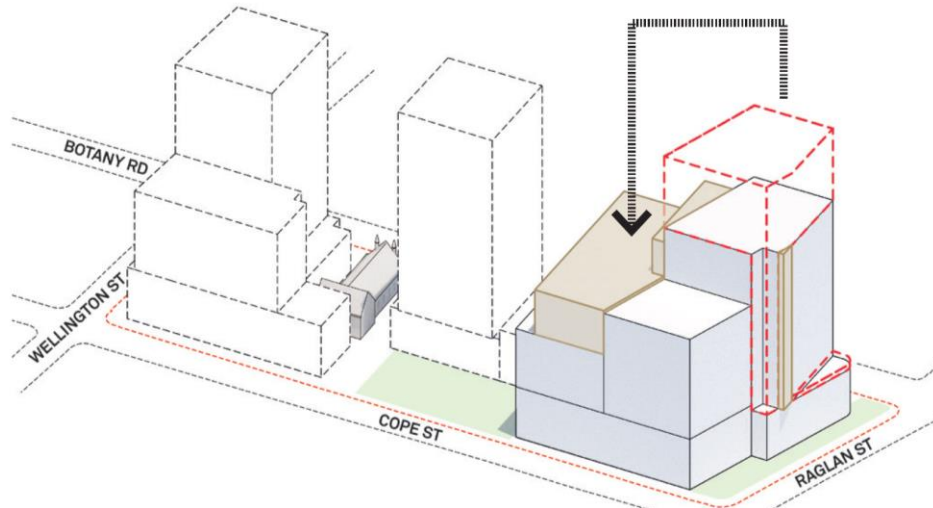
The proposal also seeks to modify the Central Building approved building envelope (previously comprising 'Building E' under SSD 9393) through:

- modifying the eastern extent of the podium envelope to allow for a more useable floorplate shape and design and to articulate the entry to Raglan Walk.

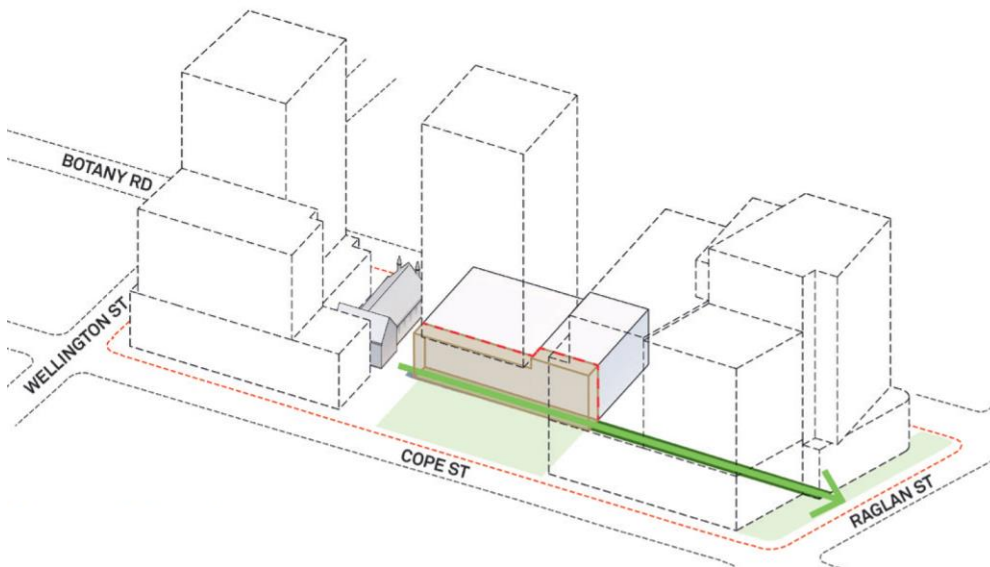
Finally, the amending concept DA seeks minor amendments to the conditions of approval under SSD 9393 to enable awnings, balustrades, roof top pergolas and the like to be located outside of the approved building envelope and provide clarity on minor design items.

No changes are proposed to the concept approval as it relates to the Southern Precinct. The proposed amendments to the approved building envelopes are illustrated in Figure 17.

Figure 18 Proposed amendments to the approved building envelope



Picture 17 Illustration to the proposed building envelope amendment at the Northern Precinct



Picture 18 Illustration of the proposed building envelope amendment at the Central Precinct

Source: Hassell

It is noted that the proposed amendments to the concept approval do not necessitate a modification to the description of approved development which remains as follows:

Concept Development Application for Waterloo Metro Quarter precinct comprising a mixed use development over and adjacent to the approved Waterloo Metro Station including:

- *Maximum building envelopes for podium, mid-rise and tower buildings*
- *A maximum gross floor area of 68,750sqm excluding station floor space*
- *Conceptual land use for non-residential and residential floor space*
- *Minimum 12,000sqm of non-residential gross floor area including a minimum 2,000sqm of community facilities*
- *Minimum 5% residential gross floor area as affordable housing dwellings*
- *70 social housing dwellings*
- *Basement car parking, motorcycle parking, bicycle parking and service vehicle spaces*

Notwithstanding the above, it is noted that the extent of changes to the northern building envelope resulting from the reallocation of floor space from residential accommodation to commercial premises may not be described as ‘substantially the same development’ as originally approved under SSD 9393. As such the proposed modifications to the approved building envelopes are sought in this amending concept DA.

4.1.1. Numeric Overview

The key numerical aspects of the proposed modification to the concept SSDA are summarised below.

Table 3 Detailed SSDA Numerical Overview

Components	Approved Concept SSD	Proposed Amendment
Site area	1.287 hectares	No change
Maximum Gross Floor Area (GFA)	68,750sqm, excluding station floor space	No change
Indicative land use breakdown (excluding community facilities)	Original reference scheme: <ul style="list-style-type: none"> 700 residential dwellings 3,905sqm retail 8,645sqm commercial office RtS alternative land use scheme: <ul style="list-style-type: none"> 450 residential dwellings 3,905sqm retail 20,000sqm commercial office 	Proposed reference scheme: <ul style="list-style-type: none"> 220 residential dwellings 12,129sqm student accommodation 2,817sqm retail and podium tenancies (including gym and future community uses such as Makerspace, enterprise café, health/medical facility and other future tenant opportunities) 34,116sqm commercial office
Building form	A 3 and 4-storey non-residential podium along Botany Road (RL 29.95 to RL 34.8) Three mid-rise buildings between 4 and 10-storeys above podium level along Cope Street (RL 56.2, RL 64.6 and RL 71.6 respectively) Three residential towers with heights up to 23-storeys (RL96.9), 25 storeys (RL 104.2) and 29-storeys (RL116.9) above the three-storey podium along Botany Road.	A 3 and 4-storey non-residential podium along Botany Road (RL 29.95 to RL 34.8) Three one one mid-rise buildings between 4 and 10 9 9 -storeys above podium level the station services box the station services box along Cope Street (RL 56.2, RL 64.6 and RL 71.6 respectively) One commercial office building 17-storeys including a 4-storey podium level along Raglan Street (RL90.4) Three Two Two residential towers with heights up to 25-storeys (RL96.9), and 24-storeys (RL 104.2) and 29 storeys (RL116.9) including the three-storey podium along Botany Road.
Maximum building height	Northern building: RL116.9 Central building: RL 104.2 Southern tower: RL 96.9 Southern mid-rise building: RL64.6	Northern building: RL90.4 (- 26.5m) Central building: no change Southern tower: no change Southern mid-rise building: no change
Indicative parking	Original reference scheme (total maximum 427 spaces):	Total proposed spaces within the reference scheme (total 155 spaces):

Components	Approved Concept SSD	Proposed Amendment
	<ul style="list-style-type: none"> ▪ 380 residential car spaces ▪ 15 retail car spaces ▪ 32 commercial office car spaces <p>RtS alternative land use scheme (total maximum 333 spaces):</p> <ul style="list-style-type: none"> ▪ 244 residential car spaces* ▪ 15 retail car spaces ▪ 74 commercial office car spaces <p>*noted that the concept approval set a limit of 170 residential car parking spaces</p>	<ul style="list-style-type: none"> ▪ 77 residential car spaces ▪ 0 retail car spaces ▪ 63 commercial office car spaces ▪ 15 spaces for other uses <p>The proposed amendment to the land use mix results in a reduced demand for car parking on the site. Further it is noted that within the detailed SSDAs lodged concurrently for the construction and operation of the development the applicant has not sought to maximise the car parking allowance under the planning controls.</p>

4.2. LAND USE AND GROSS FLOOR AREA

The proposed built form has been refined over the last 12 months to deliver expanded public space, improved legibility, a more balanced mix of uses, round the clock activation, improved solar and wind amenity and architectural resolution. Specifically, the proposed envelope amendment to the Northern Precinct has been designed to accommodate a flexible office floorplate and provide for a greater diversity of uses and activities on the site which will accommodate a combination of commercial and retail uses within the development. The proposal seeks approval for the use of a single building which spans over a total of 17-storeys, located adjacent to and above the metro station box. The building will accommodate loading dock and lobby areas, along with retail for streetscape activation on the lower levels. The building also includes 13 continuous levels of commercial floor space of varying sizes, along with two-storeys of plant and equipment on the upper levels.

As discussed throughout this EIS, the delivery of a large quantum of employment generating commercial floor space within the OSD directly aligns with the strategic objectives for the Eastern City District, which also seek to increase the diversity and affordability of residential accommodation in accessible locations.

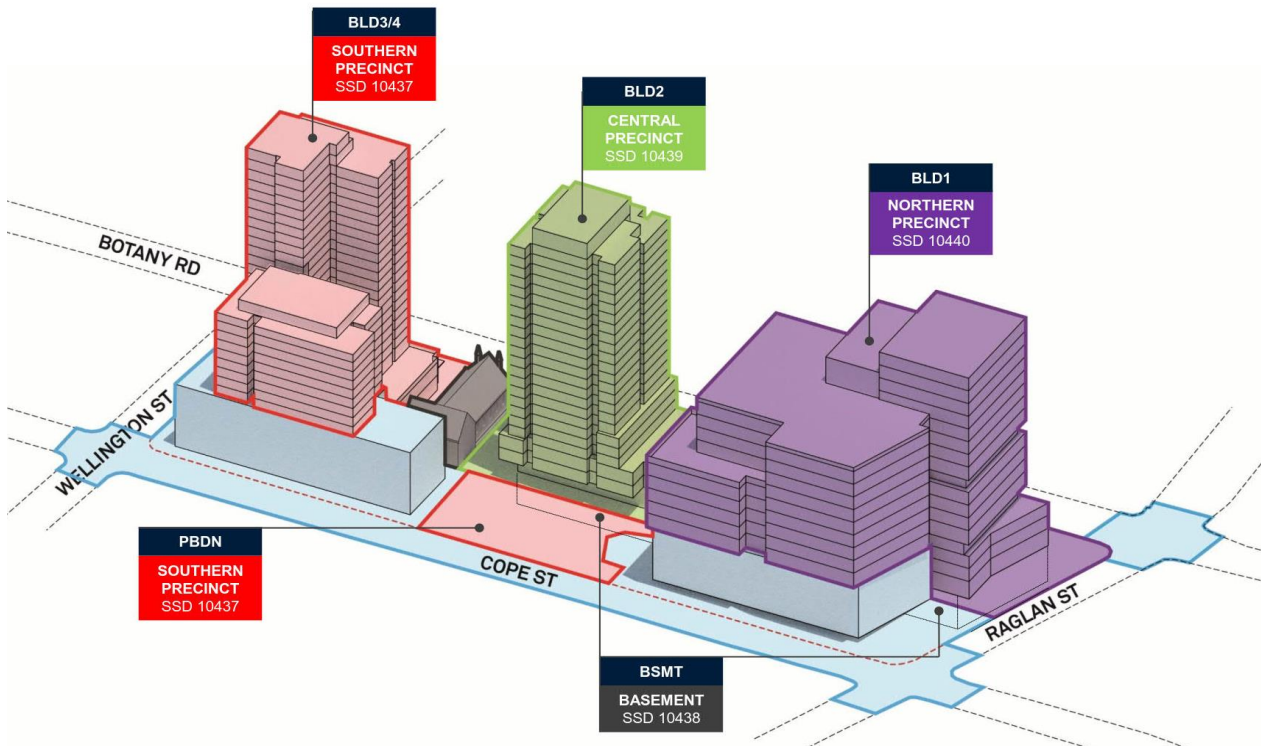
The Architectural Design Report at **Appendix F**, includes a table which identifies the proposed land uses and a floor by floor breakdown of GFA and total GFA.

4.3. RELATIONSHIP BETWEEN OSD (SSD) AND STATION (CSSI) COMPONENTS

The concept SSDA (as proposed to be amended) outlines the integration between the proposed OSD building envelopes with the approved Waterloo metro station including associated station infrastructure. It is important to identify the delineation between the two projects, notwithstanding the development has been designed as a fully Integrated Station Development (ISD). This section clarifies the scope of works included within the CSSI approval and the components sought for approval under the concept SSDA (as proposed to be amended) and subsequent detailed SSDAs.

The proposed amendments to the concept building envelopes do not impact the relationship between the Waterloo metro station and the concept approval for the OSD. The proposed building envelopes remain adjacent to and above the Waterloo metro station box, approved and as indicatively referenced within the Indicative Interface Drawings under the CSSI approval. The delineation between the CSSI approval scope of works and the various OSD buildings is illustrated below.

Figure 19 3D view of delineation between CSSI approval scope and over station development scope



Source: Applicant

4.3.1. Interface Areas

A breakdown of the scope of works relevant to the CSSI approval and the amending concept DA for the Waterloo metro station is provided below.

CSSI Approval (not the subject of this EIS):

- Demolition of existing development including vegetation removal.
- Excavation and remediation of the station box site undertaken in line with a Remediation Action Plan and Earthworks Management Plan.
- Design and construction of station box above existing ground level up to RL 33.1, including primary station works, structural works (base build), retail/commercial tenancies, structural and service provision for the OSD (e.g. structure, lift cores and mechanical services).
- Design and construction of station services box above existing ground level up to RL 35.1, including primary station works, structural works (base build), retail/commercial tenancies, structural and service provision for the OSD (e.g. structure, lift cores and mechanical services).
- Station structure including the concourse and platforms.
- Retail spaces within the station boxes.
- Location of loading dock facilities and services vehicle entrance off Botany Road.
- Public domain and infrastructure improvements.
- Structural and service elements and relevant space provisioning necessary for the construction of the OSD, such as columns and beams, space for lift cores, plant rooms, access, and building services.

Amending Concept DA (the subject of this EIS):

- Modified OSD building envelopes for the Northern Precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393).

- Modified OSD building envelope for Building 2 within the Central Precinct, noting a minor protrusion to the façade building envelope as approved.
- Updates to the proposal land uses, noting the primary use will become commercial floor space with minor ground floor retail for streetscape activation.
- New through site link to be provided connecting Raglan Street with the Cope Street Plaza.

As outlined above, there are several areas where the CSSI approval and the concept SSDA as proposed to be modified interface. This is most pertinently noted in the delivery of the public domain, and the structural integration of the buildings above and adjacent to the station box and the station services box. Further, the design of the basement construction will need to consider its interface with the adjacent metro line and infrastructure.

As outlined previously, this proposed amending concept SSDA does not seek any changes to the interface between the basement nor the proposed OSD above the station services box in the Southern Precinct and with the CSSI approval. The following section however outlines in more detail any additional considerations relevant to the interface between the OSD at the Northern Precinct, and the delivery of the public domain.

It is noted that the proposed amendments to the concept SSDA have been developed concurrently with Sydney Metro and the Waterloo Contractor the evolution of the SDPP and the IAP as required under the terms of the CSSI approval.

The proposed building envelope for the Northern Precinct comprises a single modulated building form situated above and adjacent to the Waterloo station box. The Architectural Drawings (**Appendix D**) and Architectural Design Report (**Appendix F**) prepared by Hassell further identify the integrated elements of the detailed SSDA and CSSI with illustrative references.

To provide further context to the above, the section at Figure 19 provides an illustrative view of the station box below and adjacent to Building 1, noting this section is taken from plans sought for approval under the concurrent detailed DA for Building 1. It is noted that the detailed design for Building 1 provides a link through the building from Raglan Street in the north to the Cope Street Plaza and Building 2 in the south. This additional link has driven a desire to ensure weather protection is provided along the eastern façade of the Building 2 podium and has resulted in the proposed amendment to the Building 2 building envelope.

Figure 20 Section view illustrating Interface between metro station box and Building 1



Source: Hassell

4.3.2. Structural Integration

While this amending concept DA does not seek to change elements of structural integration, the following background surrounding the proposed integration of Building 1 and the metro station is provided for context. The specifics of the integration design will be dealt with under the concurrent detailed SSDA for Building 1.

Building 1 and the metro station are divided by the proposed Raglan Walk, a 6m wide covered pedestrian laneway that runs the full length of the metro station box providing connectivity through the precinct on a north south axis. This creates a clear separation zone up to Level 4, above which point the floor plate of the commercial tower extends east to fully cover the footprint of the Metro Station below.

The commercial tower will be connected to two level basement car park that structurally connects to the west wall of the metro station via a buttress system.

Building 1 structurally connects with the metro station at two interface points:

- Top of the box where Level 4 lands on the metro transfer beam.
- Underground basement where buttresses support to the west wall of the metro box.

In addition to the above there are close design and operational interfaces identified at the following points:

- Façade alignment and detailing around the whole perimeter of the box.
- Awning to the south exit and visual connection along Grit Lane (lane between Building 1 and Building 2).
- Proposed artwork along Raglan Walk.
- Operational connection with the ground floor loading dock across Raglan Walk.
- Blast and security measures throughout the precinct.

4.3.3. Staging

The OSD will be the subject of multiple detailed SSDAs, submitted to the DPIE in accordance with the approved concept SSDA, as proposed to be amended by this application. The future detailed SSDAs will likely relate to four key components of the OSD, being the basement structure, Building 1 within the Northern Precinct, Building 2 in the Central Precinct, and Buildings 3 and 4 including the Cope Street Plaza within the Southern Precinct.

While it is likely that the Waterloo metro station and the various over station building components will be constructed concurrently, the multiple detailed DAs allows for the staged construction of buildings where required and the completion of buildings most notably in the Southern Precinct, concurrently with the opening of the Waterloo metro station in 2024.

4.4. BUILT FORM AND DESIGN

The proposed concept amendments are detailed in the Architectural Plans (**Appendix D**) and Design Report (**Appendix F**) prepared by Hassell. The following sections of the EIS establish the design principles which underpin the design of the concept amendments provide a description of the key design elements.

A set of design principles relating to built form, integration, movement and open space have been developed to guide the planning and design of the building envelopes, and directly relate to the detailed design of the OSD buildings sought under concurrent detailed applications.

As illustrated within the Architectural Design Report included at **Appendix F**, the design strategy of the concept amendments has been driven by the following rationale:

A greater mix of uses to deliver improved diversity and activation of the site

The amendment of the Building 1 envelope allows for a greater proportion of commercial floorspace for the Waterloo Metro Quarter site. This aligns with state and local policies through supporting the emerging Innovation Corridor and creating a precinct that has greater visitation, diversity, and round-the-clock activation.

Public transport investment is optimised through increased commercial floorspace, with greater numbers of people using the metro and counter-flow movements throughout the day. Access to and interchange between metro and buses is enhanced through new connections, such as Raglan Walk, and more open and legible circulation routes such as Church Lane and Grit Lane.

A greater diversity of uses, along with new public spaces and a significant community building, will make this place a hub for surrounding neighbourhoods and precincts.

A better integration of community and connectivity systems

The amendment of the Building 2 envelope allows for a better integration of the community building within the tower above, the Cope Street Plaza and surrounding pedestrian connections. The extension of podium levels creates a welcoming and human-scale interface for this important community building.

Compared to the previous reference design, public space provision across the Waterloo Metro Quarter has been increased, with solar access to the Cope Street improved. Existing community needs (including childcare, health and learning, collaboration spaces) are to be delivered as part of the detailed SSDA to be submitted for Building 2.

The site prioritises community infrastructure, such as public transport, public spaces and movement networks - connecting, not competing with, surrounding centres.

A stronger expression of culture and character of Waterloo

The reference design process has been informed by cultural research, conversations and collaborations with local community members and artists. It has been supported by a place story, developed with input from local community members. This process has created a more meaningful, embedded expression of the unique Waterloo community and context.

The place story also outlines how the community will be engaged through the process of design, delivery and beyond.

4.4.1. Built Form

While not the subject of this amending DA, the following built form descriptions have been included for reference as they relate to both Building 1 and Building 2, noting the detailed design of these buildings will be subject to separate detailed DAs.

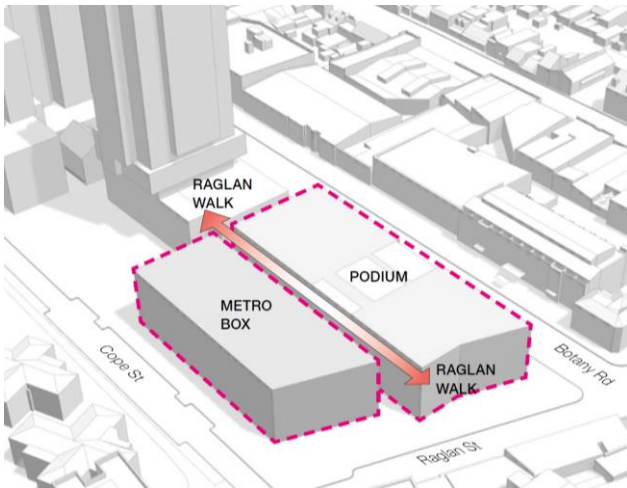
Building 1 overview

Situated on the northern edge of the proposed Waterloo Metro Quarter, at the corner between Botany Road and Raglan Street and interfacing the north entry of the Waterloo metro station, the Northern Precinct is a 17-storey tower generating approximately 30,000 sqm of commercial space (NLA), ground floor retail and commercial tenancies, and shared loading dock.

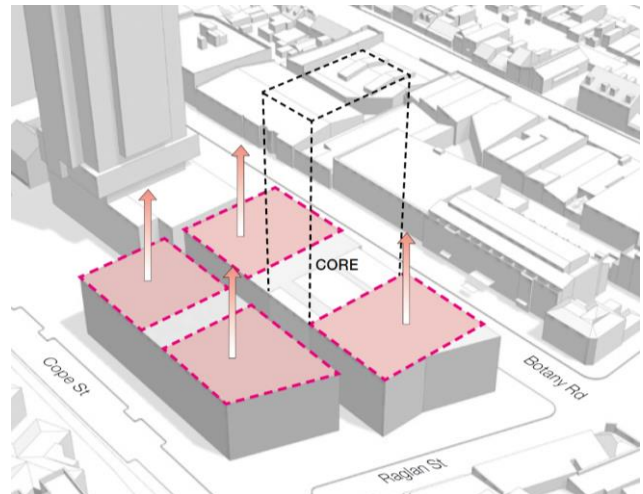
The Northern Precinct also connects to a two-level basement car park, new public open space such as Raglan Street Plaza, Raglan Walk and deep planted footpaths along Botany Road, contributing to a greater pedestrian experience. At street level the podium manifests an identifiable link to surrounding building typologies through the articulation of façade openings, shopfronts and the use of a rich textural materiality.

The tower above is broken down in four distinctive volumes (quadrants) descaling the visual appearance of the commercial towers to better integrate with the local context. Green roofs and planted recesses to the facade soften the edges of the building providing for greater general amenity within the precinct.

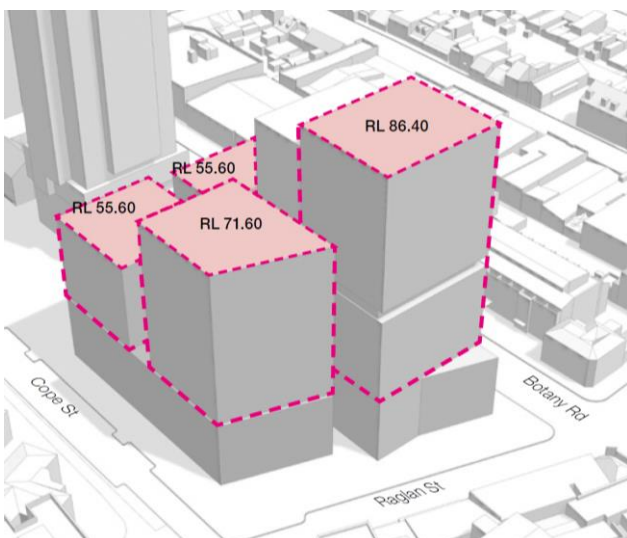
Figure 21 Evolution of Building 1 Massing



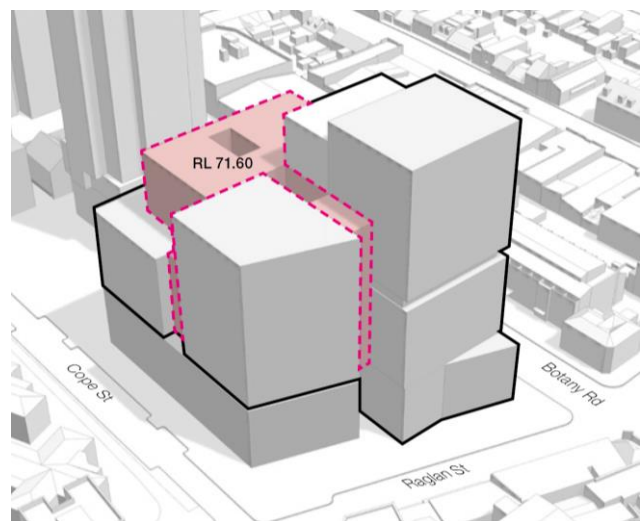
Picture 19 Podium occupies the western edge



Picture 20 Tower form dividing base into four



Picture 21 Each quadrant is extruded to different heights responding to scale of context



Picture 22 The quadrants are amalgamated into a single building

Source: Woods Bagot

Building 2 overview

The central building is a vibrant, vertically connected neighbourhood with an active ground plane. The building incorporates community and childcare uses in the podium, affordable (key worker) housing and residential apartments within the tower, and a shared lounge and outdoor garden on the roof top.

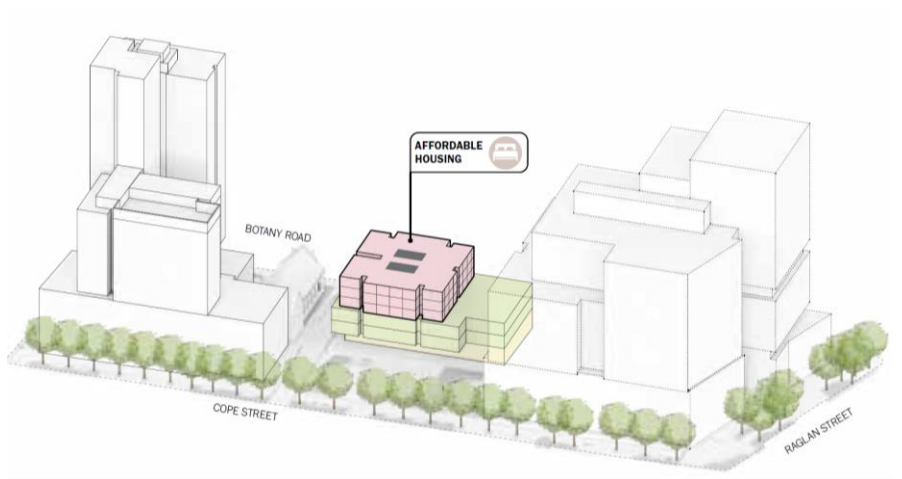
Prominently located in the centre of the precinct, facing the new Cope Street Plaza to the east and the bus interchange to the west this building will play a significant role in how people engage and remember this place.

The podium and ground plane is generously setback to the south to create Church Square which will be integrated with the existing Congregational Church providing improved access and visual connection to the Church from the wider precinct.

The tower expresses a sense of individuality through a finer grain floor by floor and 'room by room' expression to reflect the idea of individual homes in the sky that draws inspiration from the uniqueness and personality of the Waterloo spirit.

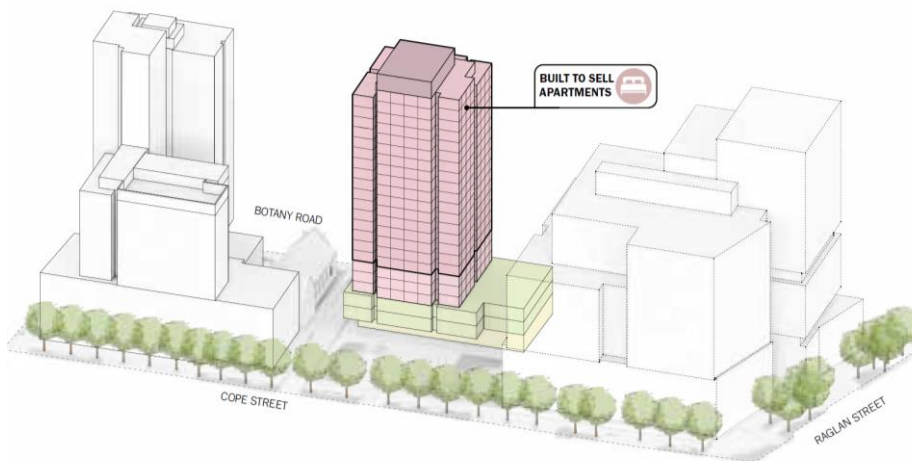
The development vision is that this will be a safe, welcoming and engaging place that fuels social interaction between residents, workers and visitors. The build form and materiality will capture the rich and layered character of Waterloo - through the juxtaposition of two distinct identities that have been carefully woven together.

Figure 22 Breakdown of Building 2 design and uses



Picture Affordable Key Worker Housing

Source: Woods Bagot



Picture 23 Market Housing

Source: Woods Bagot

4.4.2. Envelope Comparison (Building 1)

The more regular form of the amended envelope allows for a more flexible, feasible and higher performing commercial building. The approved envelope is configured with a corner tower, proportioned to better suit a residential floorplate. This would sit above a commercial and retail podium, also containing service and loading spaces. Provision of separate lift cores and lobbies complicates the building configuration and results in reduced flexibility and feasibility for the commercial levels.

The Reference Design for the northern precinct is a 17-storey commercial building with additional retail, commercial, and service space on the ground floor, as well as integration with the metro station entry. Typical commercial levels have:

- A flexible and adaptable floorplate that can be occupied by one tenant or subdivided to accommodate a number of tenants.
- Articulation of the form into four "quadrants", with spaces for amenity and vertical circulation between areas.

At the ground floor, reduced lobby, servicing and egress requirements (due to no residential uses) means more frontages can be occupied by active uses such as retail. This scale and typology of a commercial building is attractive within city fringe locations like Waterloo - and strategically, supports the government's

Innovation Corridor plan. It will bring many people to site every day. Supporting retail and other services and activating the site during the day and evening.

The reallocation of floorspace within the amended envelope significantly reduces the height of the envelope at the corner of Botany Road and Raglan Street - by more than 25 metres. This reduces the visual bulk of the building when viewed from a number of different angles, including along Botany Road and from the adjacent Waterloo housing estate and residential areas.

The lower form also reduces impact on views from the Central Precinct, where the proposed residential building will be able to enjoy wider views across the context and towards the Sydney city centre.

The amended envelope also significantly improves overshadowing to the surrounding context, particularly to the Alexandria Park heritage conservation zone (located west of Wyndham Street and containing a mix of residential, commercial and industrial buildings).

4.4.3. Envelope Comparison (Building 2)

The amended envelope proposes that the podium levels of the central building are extended towards the plaza. This provides greater opportunity for community uses without compromising the open space outcomes. The residential building would now sit in line with (not project in front of) the community levels, giving the community building greater presence, identity and accessibility.

The extension of the podium levels, and the creation of a colonnade space on the ground floor, provides better connectivity and integration with adjacent buildings and movement spaces. The colonnade space aligns directly with Raglan Walk, ensuring a clear and legible connection from Raglan Street to the community building and plaza. Continuous weather protection is provided, ensuring greater amenity and comfort for people moving around the site - especially between the community building, metro station entry and Botany Road bus stops.

The amended envelope seeks to improve the interface between the central building tower and Cope Street Plaza - a highly visible and important part of the site.

The approved envelope shows the tower form cantilevering over three podium levels, with the plaza extending to the building line of the podium levels. This configuration would result in emphasising the scale of the tower form, which could have an adverse effect when viewed from the ground plane.

The amended envelope allows for a colonnade space to be created on the ground floor of the central building, with the levels above extending to the line of the tower. This colonnade space is of a human scale, providing a sense of enclosure and weather protection. It provides a better transition from the open plaza space to the community building entry - a space for circulation as well as dwelling.

Compared to the approved envelope, the extent of publicly accessible space (i.e. from street edge to ground floor building line) is maintained. The colonnade creates an additional public accessible area of at least 150sqm.

4.4.4. Commercial Floor Plates

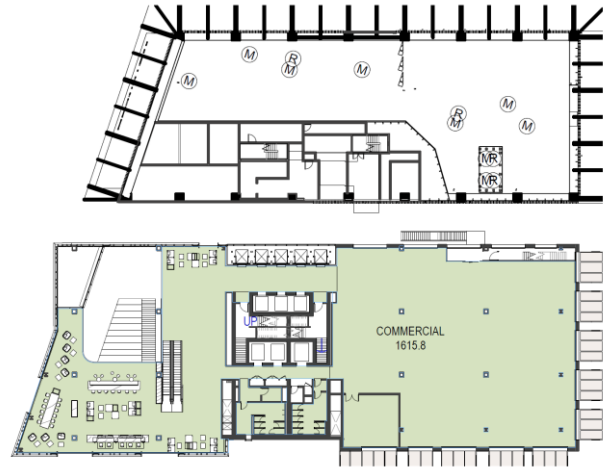
The following information provides context to support the proposed modifications to the building envelopes and form proposed for Building 1. Specifically, the proposed concept amendments seek to enable the delivery of approximately 34,125sqm of commercial GFA across Levels 2 to 14 in Building 1. This redistribution of floor space will provide larger floor plates to facilitate commercial uses and have been carefully designed to deliver flexible yet integrated space for future tenants. The detailed SSDA lodged concurrently to this amending concept DA outlines that there is a shift in the demographics of workforces as the needs of tenants evolves. A variety of requirements suit different business sections, while the common theme of connected and breathable spaces remains.

The floor plates facilitated by the proposed building envelope amendments are able to evolve to suit the space and needs requirements of future tenants, while remaining connected via a central hub. The indicative floor plates facilitated by the proposed envelope are illustrated in the following figures.

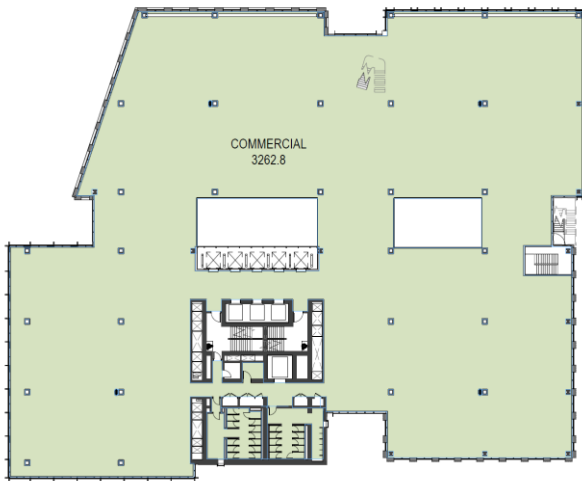
Figure 23 Typical Floor Plates



Picture 24 Building 1 Ground Level



Picture 25 Building 1 First Level



Picture 26 Building 1 Level 8

Source: Woods Bagot



Picture 27 Building 1 Levels 9 to 13

Source: Woods Bagot

4.4.5. Public Art

A Public Art Strategy has been prepared by Aileen Sage Architects with art curators Tess Allas and Sebastian Goldspink and is to be submitted with the subsequent detailed DAs. Public art is proposed to be delivered across the Waterloo Metro Quarter site. Opportunities for public art themes have been identified within the Strategy including

- Opportunity 1 – Celebrating country
- Opportunity 2 – Celebrating community and language
- Opportunity 3 – Celebrating knowledge and innovation

It is noted that separately public art will also be proposed under the CSSI approval within the metro station box as part of a broader Sydney metro public art strategy.

While specific public art opportunities, strategies and installations will be outlined within subsequent applications, it is noted that the proposed amendments to the building envelopes do not undermine the achievement or success of the Public Art Strategy, and affords additional publicly accessible spaces, including Raglan Walk as an opportunity to deliver public art within the precinct.

4.5. PUBLIC DOMAIN

The public domain of the Waterloo Metro Quarter site is to be delivered under both the CSSI approval and the subsequent details SSD applications. As outlined in Section 4.3.1, the majority of public domain works are proposed under the scope of the CSSI approval and as such concept approval for these works are not sought within this application.

However it is noted that Aspect Studio have been engaged to design the public domain improvements under both the CSSI approval and for the OSD components, and as such they have designed the public domain outlined in the SDPP and the detailed SSDAs as one scope of work that is seamlessly integrated.

4.6. TRAFFIC AND TRANSPORT

4.6.1. Parking and Access

This amending DA results in a new mix of land uses on site, specifically as it relates to Building 1. The proposed amendments have altered the required parking provision on the site, however the physical delivery of these parking spaces is not sought for consent under this amending concept DA. Rather, consent for the delivery of these spaces will be sought under the detailed SSDA for the Basement Car Park to be lodged concurrently with this application. Further, this amending concept DA does not seek to alter access arrangements for the site.

For completeness, a short overview of the proposed delivery of the parking spaces for the Waterloo Metro Quarter site is provided below:

- The proposed parking provision will be accommodated within a two-level basement, located below the Northern and Central Precincts, which will be accessed off the proposed Church Lane shared zone.
- Two loading docks are also proposed, one at ground level within the Northern Precinct, which will be accessed off Botany Road and one on the ground level within Southern Precinct, accessed off Wellington Street.
- As informed by the SLEP 2012, Sydney Development Control Plan 2012 (SDCP 2012), RMS Guide to Traffic Generating Developments and SSD 9393 Conditions of Consent issued by the Department of Planning, Industry and Environment on 10th December 2019, the following parking provisions are proposed for the development:

Table 4 Parking provision rates sought for consent under separate Basement Car Park detailed SSDA

Commercial Parking Spaces	63 (incl. 2 accessible spaces)
Residential Parking Spaces	Private sector housing – 55 spaces (incl. 8 accessible) Social housing – 8 spaces (incl. 2 accessible) Affordable housing – 12 spaces (incl. 1 accessible) Visitor – 2 (incl. 2 accessible) Total = 77 residential spaces
Childcare spaces	1
Waterloo Congregational Church Spaces	2
Sydney Metro Spaces	2
Car Share Spaces	4
Service Vehicles	5

Commercial Parking Spaces	63 (incl. 2 accessible spaces)
Car Wash	1
Total Car Parking	155
Motorcycle Parking Spaces	13 (6 commercial, 7 residential)
Bicycle Parking Spaces (Class 1 and 2)	Commercial – 236 Residential – 65 dedicated, in addition to basement storage cages Retail and Childcare – 14 Total = 315
Visitor Bicycle Parking	Provided at-grade or within the Sydney metro EOTF outside the scope of the basement.

4.6.2. Pedestrian Access

The proposal focuses on delivering a pedestrian focused public domain that integrates with the broader Waterloo Metro Quarter. As discussed in 4.5 above, the delivery of the public domain is subject multiple consents, however consent for physical public domain works is not sought under this amending DA.

The following key elements are provided as part of the Northern Precinct to which this amending DA relates:

- Pedestrian through-site links from Raglan Street to the Cope Street Plaza, being delivered as part of the Southern Precinct.
- Connection and integration to the metro station box and entrance into the metro station.
- Direct pedestrian access from Raglan Street and Botany Road into the ground floor lobby and retail.
- Direct pedestrian access to ground floor retail along Raglan Street and from the through site link connecting Raglan Street and the Cope Street Plaza.

4.6.3. Bicycle Parking

This amending DA results in a new mix of land uses on site, specifically as it relates to Building 1. The proposed amendments have altered the required bicycle parking provision on the site, however the physical delivery of these parking spaces is not sought for consent under this amending DA. Rather, consent for the delivery of these spaces will be sought under the detailed SSDA for the basement works to be lodged concurrently with this amending DA.

For completeness, a short overview of the proposed delivery of the parking spaces for the Waterloo Metro Quarter site is provided below:

- The bicycle parking arrangements have been designed in accordance with the requirements of AS2890.3.
- The bicycle parking has been provided as a combination of horizontal spaces, vertical spaces and provisions within storage cages.

4.6.4. Motorcycle Parking

This amending DA results in a new mix of land uses on site, specifically as it relates to Building 1. The proposed amendments have altered the required motorcycle parking provision on the site, however the physical delivery of these parking spaces is not sought for consent under this amending DA. Rather, consent for the delivery of these spaces will be sought under the detailed SSDA for the basement works to be lodged concurrently with this amending DA.

For completeness, a short overview of the proposed delivery of the parking spaces for the Waterloo Metro Quarter site is provided below:

- The SDCP 2012 stipulates a minimum motorcycle parking requirement of 1 motorcycle space for every 12 car parking spaces. With 155 parking spaces proposed, this results in a minimum motorcycle parking requirement amounting to the area of 13 motorcycle bays.
- The proposed development will provide 13 motorcycle spaces, therefore meeting the minimum requirement of the SDCP 2012.

4.6.5. Accessible Parking Provision

With reference to Section 7.8.5 – Accessible Car Parking Spaces, of the SDCP 2012, the following Accessible car parking provision relate to the Northern Precinct of the Waterloo Metro Quarter site:

- One accessible car parking space is to be provided for every adaptable residential unit.
- One space for every 20 car parking spaces or part thereof is to be allocated as accessible visitor parking.

It is noted that there are no minimum adaptable apartments required across the OSD, as the SDCP 2012 in this regard does not apply to the proposed development. Notwithstanding, an appropriate provision of adaptable apartments are proposed to be delivered within the development, in line with the local standard.

It is noted that while no accessible car parking spaces are required on the site, accessible car parking spaces are proposed to be allocated to the proposed adaptable apartments, however at the same proportionate rate proposed for the private housing. This provision ensures that the objectives and benefits of reducing car parking provision on the site are not undermined and that equity is achieved for parking across adaptable and tradition unit types. This provision is proposed to meet the conditions of the concept SSDA and the Waterloo Metro Quarter Design and Amenity Guidelines.

Further assessment will be provided as part of the detailed SSDA for the basement to be lodged concurrently with this amending DA.

4.6.6. Loading, Unloading and Servicing

This amending DA results in a new mix of land uses on site, specifically as it relates to Building 1. It is noted however that the physical delivery of loading docks and service bays is not sought for consent under this amending DA. Rather, consent for the delivery of these elements will be sought under the detailed SSDA for the basement works and Building 1 to be lodged concurrently with this amending DA.

For completeness, a short overview of the proposed delivery of loading docks and service bays as they relate to the Waterloo Metro Quarter site is provided below:

- The Waterloo Metro Quarter site will utilise two loading docks, one located on the ground floor of the northern precinct accessed directly from Botany Road, and a second location on the ground floor of the southern precinct accessed directly from Wellington Street.
- The northern loading dock will consist of two small rigid vehicles (SRV) bays and two medium rigid vehicle (MRV) bays. The MRV bays have the provision to accommodate the 9.25m City of Sydney waste collection vehicle.
- Within Level 1 of the basement car park, five service/courier bays are provided. These have been designed to be suitable for utes and vans and are accessed from the Church Lane shared zone via a basement access ramp.

4.7. SUSTAINABILITY INITIATIVES

The proposed amendments do not seek to alter or change the sites objectives for ecologically sustainable development (ESD) targets as set out in development consent SSD 9393. The project's commitment to sustainability will remain following the building envelope amendments, however, are not sought to be achieved by this amending DA. The subsequent detailed SSDAs to be lodged will demonstrated compliance with the ESD targets as required by SSD 9393.

For completeness, the following target ratings as they relate to the detailed SSDA for Building 1 have been included below to demonstrate that the proposed amendments will not alter the ability to comply with ESD targets as required.

Building 1 will achieve national best practice environmental sustainability via third party certification against the following rating tools and frameworks:

- 5 Star rating – Green Star Design and As-Built v1.3 rating tool
- 5.5 Star rating – NABERS Energy (base building)
- 4.5 Star rating – NABERS Water
- Gold rating – WELL Core
- BASIX Energy score of 30 (exceeding min. 25 requirement)
- BASIX Water score of 40+

The wider Waterloo Metro Quarter site will obtain the following site-wide certifications:

- 6 Star rating – Green Star Communities v1.1 rating tool
- One Planet Community – recognition from Bioregional Australia

An Ecological Sustainable Design Report has been prepared by Cundall Johnston and Partners and is included at **Appendix M**. This report provides further detail on how the overall planning and design has incorporated ESD principles as defined in clause 7(4) Schedule 2 of the EP&A Regulations.

4.8. SIGNAGE ZONE

Signage zones do not form part of this amending concept DA, however it is noted that consent for signage zones will be sought within the detailed SSDAs and subsequent applications where required.

4.9. SERVICES AND UTILITIES

As required by the SEARs, the proposal has reconfirmed the capacity required to service the existing concept proposal and provided an assessment on the amended design noting the need to highlight augmentation requirements in consultation with relevant agencies. These augmentations however will be discussed in more details in the subsequent detailed DAs to be lodged concurrently with this application.

The Services and Utilities Report has been prepared by the applicant and WSP and is provided at **Appendix T**. The report acknowledges the amendment to Building 1, noting the amendment will increase the electrical maximum demand, and reduce the potable water, wastewater and natural gas. The increase in electrical demand is attributed to the commercial building having a higher maximum demand when compared to a residential building. However, the electrical maximum demand submitted with the concept DA allowed for adjusted increases to the site and as such the overall electrical demand as required by this amendment will not increase the allowances approved with the original concept DA. Further, the report acknowledges the minor amendments to the building envelope of Building 2, and concludes that the amendment will not change the electrical maximum demand, potable water, wastewater, or natural gas for Building 2.

The technical assessment of the utility requirements for the Waterloo Metro Quarter precinct buildings, has determined that all connections to services as anticipated in the concept DA, will be consistent and of a similar size to the connections to services required for the amendment to the concept DA. It is however noted that the detailed design will be the subject of concurrent detailed SSDAs for the site.

4.10. CONSTRUCTION MANAGEMENT AND STAGING

This amending DA has no material impact on the initiatives established in the concept DA Construction Management Plan. Notwithstanding, a summary of the proposed initiatives, having regard for the Detailed Development Application's that have been prepared for the site are summarised in the following sections.

4.10.1. Site Establishment

A Construction Environmental Management Plan (CEMP) has been prepared by John Holland and provided at **Appendix Q**. Demolition and excavation works associated with the CSSI approval have commenced on site. Hoardings will be installed by John Holland Building Pty Ltd (OSD Contractor) following handover of the Southern Precinct work areas by the Station Contractor.

The site will be surrounded by both A-Class and B-Class hoardings along the perimeter of the site. These hoardings will be erected along Raglan Street, Cope Street, Wellington Street and Botany Road. No unauthorised access will be permitted.

The project office will be located within one block of the site and will include accommodation for project management staff. Accommodation and amenities such as lunch sheds, office sheds, first aid sheds, change rooms and toilets for the construction workforce will be provided in stages.

Initial site accommodation sheds will be erected on top of the B class hoarding along the surrounding streets (Wellington Street, Botany Road and/or Raglan Street). As the works progress, accommodation will be relocated into the basement and lower floors of the building.

4.10.2. Construction Hours

Construction hours for the site have been established in accordance with the concept DA approval and approved Noise and Vibration report.

It is proposed to retain these hours for the construction of the OSD with the exception of extending Saturday construction hours from 8.00am to 7.30am and 1.00pm to 3.30pm in accordance with City of Sydney standard hours.

- Monday to Friday: 7am – 6pm
- Saturday: 7:30am – 3.30pm
- Sunday: No work

There will be times when out of hours works may be required. An out of hours protocol for the assessment, management and approval of work outside of the standard construction hours will be prepared and submitted as required.

4.11. SUBDIVISION

Stratum subdivision does not form part of this amending concept DA, however it is noted that consent for staged stratum subdivision will be sought within the detailed SSDAs and subsequent applications where required.

5. STRATEGIC CONTEXT

The strategic planning policies and design guidelines identified in the SEARs are assessed in the following sections.

5.1. NSW STATE PRIORITIES

The proposed development is consistent with the relevant key objectives contained within the plan. The broader WMQ development will positively contribute to achieving the 'Greener Public Spaces' priority of the NSW Premier:

Increase the proportion of homes in urban areas within 10 minutes' walk of quality green, open and public space by 10 per cent by 2023.

The WMQ development will increase housing supply in a location that is within 10 minutes' walk of a number of high-quality green, open and public spaces including Alexandria Park, Waterloo Park and Redfern Park. The proposed development is also consistent with the goals and objectives set out within the former NSW State Priorities. These include:

- **Creating Jobs:** The NSW Government targeted the creation of 150,000 new jobs in NSW by 2019, whilst this jobs target was achieved in May 2016, the NSW Government is continuing to support key initiatives that assist in the creation of jobs, such as attracting large and international companies to base their headquarters in NSW.
 - The proposal will generate approximately 466 jobs during the project's construction phase.
 - The proposal will deliver an improved building envelope to enable a commercial office building supporting commercial and retail uses in Sydney's inner suburbs that has the potential to accommodate up to 3,384 employees once operational.
 - The delivery of a major construction project across this precinct and the wider Waterloo Metro Quarter site relies on the input of a range of industries, with the economic contribution and benefits extending beyond the direct capital expenditure and employment associated with project goods and services, and jobs on-site.
- **Delivering infrastructure:** The NSW Government has committed to delivering 10 of the largest and most high-profile infrastructure projects on time and on budget, including the Sydney metro, planned to open in 2024.
 - The proposal will facilitate the provision of a significant development opportunity for the State in conjunction with the new Sydney metro project. The amending DA will enable the lodgement of a detailed SSDA to support the delivery of Sydney metro by facilitating employment growth which is coordinated with the new Waterloo metro station. The proposed built form includes active ground floor uses and provides clear wayfinding to the metro station entrance from Raglan Street and the through-site link.
 - The delivery of the Northern Precinct OSD will indirectly assist in improving road travel reliability and reducing journey time targets for road users by providing a development which encourages commuter use of public transport.

The proposed development is consistent with the goals and objectives set out within the NSW State Priorities.

5.2. GREATER SYDNEY REGION PLAN: A METROPOLIS OF THREE CITIES

A Metropolis of Three Cities (the Region Plan) is a bold vision for three, integrated and connected cities that will rebalance Greater Sydney – placing housing, jobs, infrastructure and services within greater reach of more residents, no matter where they live.

The Region Plan sets a 40-year vision (to 2056) and establishes a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters. The Region Plan informs district and local plans, assists infrastructure agencies to align infrastructure delivery and informs the private sector and wider community of the growth management and infrastructure investment intentions moving into the future.

The vision for the plan is built on three 30-minute cities within Greater Sydney with the intent of improving access to jobs, services, entertainment and cultural facilities through different modes of transport.

The Eastern Harbour City is well-established, well-serviced and highly accessible by its radial rail network, with half a million jobs and the largest office market in the region. The proposed Waterloo metro OSD is considered to be consistent with the Region Plan, in particular the following objectives:

- Objective 1: Infrastructure supports the three cities.
- Objective 2: Infrastructure aligns with forecast growth – growth infrastructure compact.
- Objective 3: Infrastructure adapts to meet future needs.
- Objective 4: Infrastructure use is optimised.
- Objective 12: Great places that bring people together.
- Objective 14: A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities.
- Objective 18: Harbour CBD is stronger and more competitive.
- Objective 22: Investment and business activity in centres.

The proposed amending DA responds to the Harbour CBD's focus on innovation and global competitiveness to underpin its continued growth, backed up by the significant Sydney Metro City & Southwest project. As outlined below, the proposal specifically aligns with the above objectives:

- *“To deliver a 30-minute city, connections to existing infrastructure across all three cities needs to be improved. Planning decisions need to support new infrastructure in each city.”* The proposal will support new infrastructure, being the new Sydney Metro network, through enabling residents, workers and visitors to the city to benefit from being well connected to services and jobs.
- The proposal will deliver equitably enhanced local opportunities through providing jobs and services as part of a highly connected network.
- Across Greater Sydney significant areas have already been committed to growth and change. At the same time the NSW Government is allocating unprecedented levels of investment in transport. Aligning growth with infrastructure is crucial to ensuring the expansion is managed in a sustainable manner. The proposal benefits from the investment in infrastructure through delivering connections linking people to their homes, jobs and services.
- Providing employment generating floor space in a location where use of the future metro will be optimising the ability to connect workers to their homes, contributing to the theme of a 30-minute city.
- Encouraging a mixed-use activity centre within proximity to the metro station, ensuring activity throughout the day and night.
- Providing employment generating opportunities in conjunction with publicly accessible plazas with activated street frontage.
- Integrating residential, retail and commercial land uses within close proximity to public transport to facilitate 30-minute cities.

5.3. OUR GREATER SYDNEY 2056: EASTERN CITY DISTRICT PLAN

The Eastern City District Plan covers the LGAs of Sydney, Woollahra, Waverly, Randwick, Bayside, Inner West, Burwood, Strathfield and Canada Bay. Planning Priorities that directly relate to the proposed amending concept DA include:

E1 - Planning for a city supported by infrastructure

The growth of key employment centres is a key organising element of the urban structure of Greater Sydney. The need to provide access to jobs, good and services has never been more prevalent. The proposal directly benefits from the development of the Waterloo metro station by locating additional high grade employment generating floor space above a transport infrastructure. The development proposed by this amending

concept DA aligns with the place-based infrastructure service which encourages the use of public transport as well as active transit methods such as walking and cycling.

E4 – Fostering healthy, creative, culturally rich and socially connected communities

The reduced residential use across the Waterloo Metro Quarter site will contribute positively to the social and physical wellbeing of the Waterloo community as it enables increased streetscape activation to improve site permeability and pedestrian connections to the station by creating clear sight lines and view corridors. The combination of residential accommodation and non-residential land uses across the entire precinct will further activate the Southern Precinct during the night and weekends, creating a constant buzz.

E6 – Creating and renewing great places and local centres, and respecting the District’s Heritage

The proposed amendments to Building 1 and Building 2 will ensure the Waterloo Metro Quarter precinct is fully integrated comprising a well-balanced mix of land uses. The non-residential podiums of both buildings will activate the Southern Precinct and create a safe and inviting place for people to work and visit. The subsequent detailed DAs for both buildings will contribute to high-quality public spaces in the form of Cope Street Plaza, Raglan Walk and Grit Lane. The adjoining heritage item, Waterloo Congregational Church, has been considered through ensuring the amendments do not result in any additional impacts.

E10 - Delivering integrated land use and transport planning and a 30-minute city

By providing additional high-grade employment generating floor space above high frequency public transport service, the proposal contributes to the vision for a 30-minute city. The proposal will encourage the use of public transport through locating multiple retail and commercial opportunities at a metro station. Further, the proposal will help deliver a fundamental part of the transport system, being walking and cycling. The proposal will result in direct, safe and accessible access to routes for both cycling and walking, which improves the attractiveness of these transport methods.

5.4. TOWARDS OUR GREATER SYDNEY 2056

Towards our Greater Sydney 2056 is a draft amendment to the Greater Sydney Region Plan. The Plan focuses on the regional significance of central and western Sydney and provides a framework that will underpin strategic planning for a more productive, liveable and sustainable city.

The Eastern City is described as an ‘economic engine’ comprising the established Sydney City as well as economic corridors such as Macquarie Park, Sydney Airport and Port Botany to Kogarah. Opportunities to enhance the Eastern City include the renewal of government-owned land near Sydney City and reducing congestion.

The metropolitan priorities of relevance to the amending concept DA aim to:

- Support the generation of over 817,000 additional jobs.
- Increase Greater Sydney’s economic growth rate.
- Increase total economic activity by 75% to approximately \$655 billion.
- Increase the proportion of people with good access to jobs and prioritise socially disadvantaged areas.
- Improve accessibility to jobs across all districts.

The amending concept DA is consistent with the above priorities, for the following reasons:

- The proposal will deliver more than 33,000sqm of additional employment generating floor space, which will deliver additional job growth.
- The additional commercial and retail floor space will help to increase the total economic activity.
- The location of the additional commercial and retail floor space in conjunction with the metro station will provide improved accessibility of employment to residents.

5.5. FUTURE TRANSPORT 2056 STRATEGY

The NSW Government’s Future Transport Strategy 2056 (Future Transport Strategy) sets the 40-year vision, directions and outcomes framework for the transport system and customer mobility in NSW, which are divulged for Regional NSW and Greater Sydney. The Future Transport Strategy was published by Transport

for NSW to align with the Greater Sydney Commission's Regional Plans and sets out a transport vision, directions, and outcomes framework for NSW to guide transport investment and policy. It will guide transport investment over the longer term delivered through a series of services and infrastructure plans and other supporting plans.

The Strategy acknowledges the importance of transport in supporting a productive economy, liveable communities, and more sustainable transport solutions. The strategic location of additional employment generating commercial floor space above Waterloo metro station delivers economic benefits for Sydney by enhancing connectivity between dwellings, businesses, and people. The proposal provides an opportunity to boost the city's productivity by allowing residents to access jobs faster and more reliably.

The proposed amending concept DA is consistent with the key outcomes of the Future Transport Strategy, as it:

- Will deliver 30 minute access for customers to their nearest metropolitan centre and strategic centre by public transport seven days a week, particularly by placing employment generating floor space above a metro station.
- It will encourage the use of the new metro station, as well as other forms of public transport and active travel such as walking and cycling.
- The site is located within walking distance to other high frequency public transport services including bus services and existing rail, which will enable workers to further capitalise on public transport offerings in the locality.

5.6. STATE INFRASTRUCTURE STRATEGY 2018

The State Infrastructure Strategy 2018-2038 sets out the NSW Government's vision for infrastructure over the next 20 years, focusing on aligning investment with sustainable growth. The State Infrastructure Strategy goes beyond current projects and identifies policies and strategies to provide infrastructure that meets the needs of a growing population and a growing economy. For Metropolitan NSW, the primary goal is to provide residents with access to jobs and services within 30 minutes, known as the '30-minute city' model.

The proposal provides direct consistency with the State Infrastructure Strategy as it capitalises on the investment in the metro network by placing a large quantum of employment generating floor space above a new metro station. The proposal will deliver on the following cross-sectoral strategic directions:

- **Continuously improve the integration of land and infrastructure planning so that population growth does not erode the amenity and character of our suburbs, towns and communities:** The proposal will capitalise on the capital investment of the state government in the new metro network, by delivering additional employment generating floor space in a desirable location integrating with a metro station.
- **Optimise the management, performance and use of the State's assets:** Locating a substantial quantum of high grade employment generating commercial floor space above a new metro station will optimise the use of the station, through the delivery of an attractive high frequency public transport stop which is well connected to Sydney's public transport network.

5.7. SUSTAINABLE SYDNEY 2030

Sustainable Sydney 2030 is a long-term plan prepared by the City of Sydney to achieve a green, global and connected city. The plan includes ten targets for the measurement of sustainability success, as well as ten strategic directions intended to guide the future direction of Sydney.

As outlined below, the proposal has been designed to achieve the relevant targets and be consistent with the strategic directions contained within Sustainable Sydney 2030. The following strategic directions are of relevance to the proposal:

- **A globally competitive and innovative city:** The proposal enhances Sydney's global position and attractiveness as a destination for people, business and investment by delivering high-quality employment generating commercial floor space. The additional commercial floor space will attract new business, investment and global talent, which will help deliver a city economy which is competitive prosperous and inclusive.

- **Integrated transport for a connected city:** Constrained road capacity is prioritised for essential purposes, including public transport, emergency services, services provision and freight movement. The new metro network is delivering high frequency connections between the city and other key economic and residential centres in metropolitan Sydney. This enhanced integration supports the proposed increase in commercial floor space by delivering accessible employment opportunities to the greater Sydney region.
- **Sustainable development, renewal and design:** The city's urban renewal areas are considered best practice and aspired internationally. Waterloo is no exception, with the proposal being required to demonstrate design excellence. This will ensure that public spaces and buildings are beautiful to look at and to be in, which will in turn generate space for economic growth and innovation. The proposal will deliver efficient, well designed commercial floor space integrated into a metro station, providing sustainable and reliable public transport opportunities for workers.

5.8. DEVELOPMENT NEAR RAIL CORRIDORS AND BUSY ROADS – INTERIM GUIDELINE

The Development Near Rail Corridors and Busy Roads guideline assists in the planning, design and assessment of development which is in or adjacent to rail corridors and busy roads. The application of the guideline shares a close relationship with the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP).

The Guideline relates to development impacted by rail corridors and busy roads, in terms of noise, vibration and air quality. Further, the consider the potential impact of adjacent development on roads and railways, specifically in relation to safety and design issues during excavation, earthworks and other construction-related issues.

The amending concept DA proposal will capitalise on locating employment generating commercial floor space above the future Sydney metro station. This will deliver improved accessibility opportunities which will increase rail patronage across the Sydney network.

Further, the proposal will reduce the residential development proposed for the site, reducing the potential for reverse amenity impacts from Botany Road. This enables the site to be maximised with developable floor space without the application of requirements such as the Apartment Design Guidelines.

5.9. GUIDE TO TRAFFIC GENERATING DEVELOPMENTS, ROADS AND MARITIME SERVICES

The RMS' Guide to Traffic Generating Development outlines all aspects of traffic generation considerations relating to developments. The Guide establishes the grounds for traffic impact assessment in terms of daily traffic volumes and peak traffic volumes for residential and retail land uses.

This amending concept DA is accompanied by a Transport and Accessibility Statement (**Appendix I**) which considers the strategic context of this Guideline and the statutory context of the Infrastructure SEPP as the basis for assessment. Traffic generation impacts are also discussed in further detail in Section 8.7.

5.10. HERITAGE COUNCIL GUIDELINE ON HERITAGE CURTILAGES 1996

The Revised Heritage Impact Assessment (HIA) prepared by Urbis is included at **Appendix H**. It provides a comprehensive assessment of key heritage impacts and establishes the heritage management framework for the development of the Northern Precinct and entire Waterloo Metro Quarter site. Notably the assessment considered in detail the interface of the building envelopes (approved and proposed to be amended) and the adjacent Waterloo Congregational Church, a locally significant heritage item. Heritage impacts with regards to the proposal are discussed further in Section 8.2.

5.11. HERITAGE COUNCIL GUIDELINE, DESIGN IN CONTEXT – GUIDELINES FOR INFILL DEVELOPMENT IN THE HISTORIC ENVIRONMENT, 2005

The subject Waterloo Metro site does not contain any listed heritage items or heritage conservation areas. However, it is located within the vicinity of a number of locally significant heritage items and heritage conservation areas.

The Revised Heritage Impact Assessment (HIA) prepared by Urbis is included at **Appendix H**. It provides a comprehensive assessment of the contextual environment for the development of the Northern Precinct and entire Waterloo Metro Quarter site. Heritage impacts with regards to the proposal are discussed further in Section 8.2.

5.12. CITY OF SYDNEY'S ENVIRONMENTAL ACTION 2016 – 2021 STRATEGY AND ACTION PLAN

The City of Sydney's Environmental Action 2016-2021 Strategy and Action Plan focuses on defining actions to 2021 on the way to achieving 2030 environmental targets. By 2021, the City aims to reduce emissions in its operations by 44 per cent from 2006 levels and move to 50 per cent renewable energy.

An Ecologically Sustainable Development (ESD) Report has been prepared by Cundall and is provided at **Appendix M**. The report demonstrates that the proposed development is committed to achieving the following ESD targets:

- 5 Star rating – Green Star Design and As-Built v1.3 rating tool
- 5.5 Star rating – NABERS Energy (base building)
- 4.5 Star rating – NABERS Water
- Gold rating – WELL Core
- BASIX Energy score of 30 (exceeding min. 25 requirement)
- BASIX Water score of 40+

Further to the above, it is noted that through the detailed design of the development, the proposal aims to achieve a 6-star Green Star Communities v1.1 rating and recognition under the One Living Planet framework. The proposal therefore works to assist the City of Sydney in achieving their aims as outlined under the Environmental Action Strategy and Action Plan.

5.13. NSW GOVERNMENT CLIMATE CHANGE POLICY FRAMEWORK

Initiatives are being pursued as part of the detailed design of the proposed buildings to contribute to the achievement of net zero emission buildings within NSW. Initiatives considered for the achievement of zero carbon energy outcomes on the site include no on-site fossil fuels, passive design, energy efficient HVAC, energy efficient lighting, energy efficient lifts, and renewable energy.

The proposed amendments to the building envelopes facilitate more effective use of roof space and a reduction in residential dwellings on the site. The key commitments made within the concept SSDA relating to sustainability however are not proposed to be modified within this amending concept DA.

5.14. NSW GOVERNMENT'S DRAFT CLIMATE CHANGE FUND STRATEGIC PLAN AND A PLAN TO SAVE NSW ENERGY AND MONEY

As discussed above, the ESD report provided at **Appendix M** includes specific goals, targets and initiatives regarding climate change that will inform the design, construction and operational stages of the project. No specific changes are however proposed to the commitments made within the concept SSDA relating to sustainability within this amending concept DA

5.15. BETTER PLACED – AN INTEGRATED DESIGN POLICY FOR THE BUILT ENVIRONMENT OF NEW SOUTH WALES

Better Placed (2017) is an integrated design policy for the built environment, prepared by the Government Architect of NSW, to create a transparent approach to ensure good design outcomes are achieved to deliver desired architecture, public places and environments throughout NSW (September 2017). Seven distinct objectives have been created to define the key considerations in the design of the built environment.

The policy includes seven applicable objectives:

- Objective 1: Better fit – contextual, local and of its place

- Objective 2: Better performance – sustainable, adaptable and durable
- Objective 3: Better for the community – inclusive, connected and diverse
- Objective 4: Better for people – safe, comfortable and liveable
- Objective 5: Better working – functional, efficient and fit for purpose
- Objective 6: Better value-creating and adding value
- Objective 7: Better look and feel – engaging, inviting and attractive.

The amending concept DA seeks to adjust approved building envelopes, however, has been informed by the detailed design of the Northern Precinct detailed design. The detailed design has been subject to an extensive design review that involved a collaborative, cyclical and iterative process. The final design outcome will accommodate a built form that is sustainable, functional, sensitive to its context and visually distinctive as encouraged by objectives of Better Placed, in line with the amended concept DA.

5.16. DRAFT CONTAMINATED LAND PLANNING GUIDELINES

The Draft Contaminated Land Planning Guidelines (Guidelines) have been prepared by the DPIE and Environment Protection Authority (EPA) to assist planning authorities to address land contamination issues and assess development applications for remediation works. The Guidelines are primarily for planning authorities however have been considered as part of this assessment.

All demolition will be completed as part of the Sydney Metro station works, and potential site contaminants will be addressed in accordance with the relevant conditions of the CSSI approval. Therefore, the provisions of Guidelines have been wholly addressed through that approval and are not relevant to the amending concept DA. Further it is noted that the amending concept DA does not propose changes to the approved building envelopes below ground. No further assessment has been provided as relevant to the Guidelines.

5.17. OTHER RELEVANT COUNCIL POLICIES, CODES AND GUIDELINES

Other relevant State and local strategies, policies and guidelines are discussed in Table 5 below.

Table 5 Relevant State and Local Strategies, Policies and Guidelines

Strategy	Consistency
<i>City of Sydney Interim Floodplain Management Policy</i>	A Stormwater Management and Flood Impact Assessment has been prepared by WSP (Appendix O) in accordance with the City of Sydney Interim Floodplain Management Policy.
<i>City of Sydney Guidelines for Waste Management in New Developments</i>	A Waste Management Plan has been prepared by Elephant's Foot (Appendix L) in accordance with City of Sydney Guidelines for Waste Management in New Developments.
<i>City of Sydney Interim Guidelines for Public Art in Private Developments</i>	A Public Art Strategy has been prepared by Aileen Sage Architects in accordance with the City of Sydney Interim Guidelines for Public Art in Private Developments.
<i>City of Sydney Landscape Code Volume 2</i>	While the detailed design of the public domain landscaping does not form a part of the amending concept DA, the integrated landscaping proposed by Aspect Studio across the site has been designed to be consistent with the relevant City of Sydney guidelines.
<i>City of Sydney Public Domain Manual</i>	
<i>City of Sydney Light Design Code</i>	
<i>City of Sydney Street Tree Masterplan</i>	

Strategy	Consistency
City of Sydney Technical Streets Specification and Street Design Code	

5.18. CITY PLAN 2036

City Plan 2036 is the draft Local Strategic Planning Statement (LSPS) for the City of Sydney and links the state and local strategic plans with the planning controls to guide future development and the Local Environmental Plan review. It delivers on the 10 strategic directions of our community strategic plan, Sustainable Sydney 2030, and has been informed by the City's other social, environmental, economic and cultural plans and strategies.

The City Plan sets 13 priorities to achieve the City's Green, Global, Connected vision and guide future changes to the City's planning controls, of which the following are notably relevant:

1. Movement for walkable neighbourhoods and a connected city

The proposed development is integrated with the future Sydney Metro and will directly facilitate the development of a place-base infrastructure service which encourages active transit methods such as walking and cycling and the Sydney Metro Waterloo station.

By locating commercial employment floor space and jobs above the Sydney Metro Waterloo station, the proposal contributes to the vision for a 30-minute city. Further, the proposal is considered sustainable as it increases the proportion of trips by public transport, walking and cycling trips to reduce emissions and health.

2. Align development and growth with supporting infrastructure

The proposal directly assists in the timely delivery of the new Waterloo metro station and in achieving the priority to provide infrastructure projects on-time and on-budget. Through the provision of bicycle storage and end of trip facilities, and the provision of minimal necessary car parking (delivered as part of the concurrent basement SSDA), the proposal will assist in promoting the use of the existing walking and cycling networks in the area, as well as encouraging the use of the heavy and light rail metro network.

8. Developing innovative and diverse business clusters in the City Fringe

The development facilitated through the proposed amendment to the approved building envelopes, directly aligns with the City's strategic priority to develop innovative and diverse business clusters in the City Fringe.

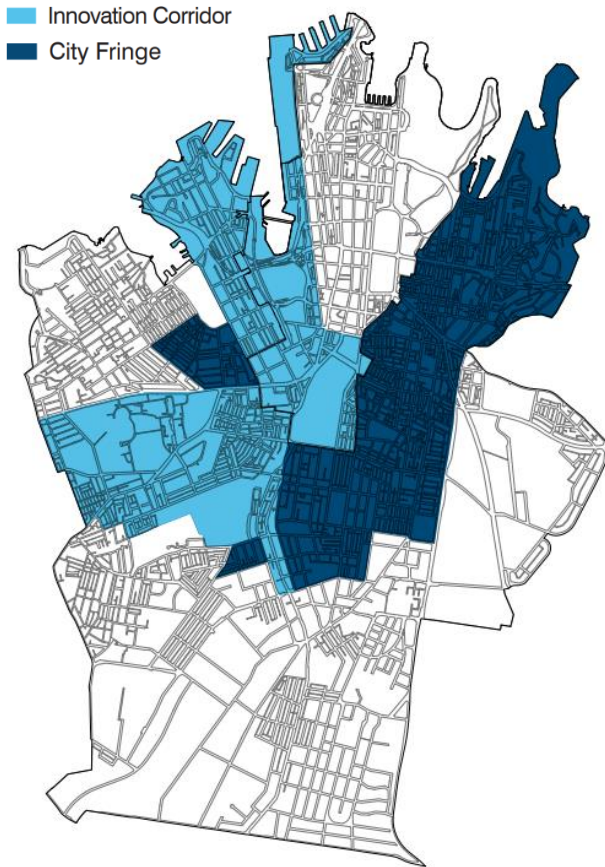
The proposal delivers a commercial office building and an increase in employment floor space within Sydney's inner suburbs with direct access to the Sydney CBD via the future Sydney Metro Waterloo station. The site is also in proximity to the Green Square-Mascot Strategic Centre.

The proposal works to achieve the objectives of this priority as follows:

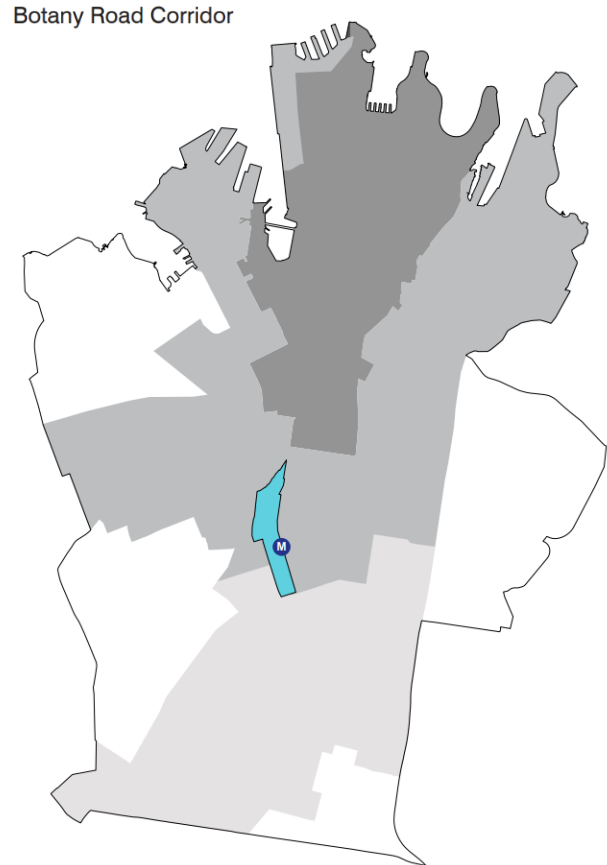
- Providing a place for investment and innovation at a suitable scale that can contribute to the Waterloo and Redfern locality to develop as a knowledge intensive cluster, while enhancing urban amenity and local character.
- Providing through-site links to improve the walkability and amenity of the precinct and provide connected places within the precinct to support knowledge sharing and collaboration between diverse businesses, institutions, and talent.
- The proposed supports the Innovation Corridor as a globally competitive with specialised knowledge intensive, research and innovation-based clusters, industries, and institutions.
- The proposal delivers a genuine mixed-use precinct that celebrates distinct economic, social, heritage and cultural characteristics of Waterloo.
- The proposal also delivers a genuine mix of uses to support lively and thriving village economies within the City Fringe, including residential development that has been designed to integrate well with the proposed commercial office building, meet a variety of housing demand and needs, and does not compromise commercial or enterprise uses.

The location of the site within the City Fringe, Innovation Corridor, and notably within the Botany Road Corridor is illustrated in the following figure.

Figure 24 Extracts from the City Plan 2036



Source: City Plan 2036



Source: City Plan 2036

City Plan 2036 notes that the Botany Road Corridor is an opportunity to grow the Eveleigh node of the Camperdown-Ultimo Health and Education precinct to support the NSW Government's Sydney Technology and Innovation precinct and link to the future Waterloo metro station. City Plan 2036 notes that the Botany Road Corridor has the potential for private sector business and investment to leverage off and support the offering of Australian Technology Park. The proposed increase in commercial office floor space directly supports the achievement of this objective with the provision of employment floorspace within the Botany Road Corridor, notably in the northern portion of the precinct with the greatest links to the Australian Technology Park.

The proposed amendment to the land use mix across the Waterloo Metro Quarter also aligns with the City's intended future action to investigate opportunities to increase non-residential capacity in the Botany Road Corridor.

11. Creating better buildings and places to reduce emissions and waste, and use water efficiency

The sustainability framework for the project implements both the Green Star rating scheme and the NABERS rating. Green Star assesses projects based on their performance in the categories of management, indoor environmental quality, energy, transport, water, materials, land use and ecology, emissions and innovation. The development will reflect leading industry practice for commercial development by incorporating appropriate sustainability measures and initiatives.

6. STATUTORY CONTEXT

As outlined in the SEARs, the statutory provisions contained in the planning instruments listed below have been addressed for the amending concept DA:

- *State Environmental Planning Policy (State and Regional Development) 2011*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy No. 55 – Remediation of Land*
- *State Environmental Planning Policy No. 64 – Advertising and Signage*
- *State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development and accompanying Apartment Design Guide (SEPP 65)*
- *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
- *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017*
- *Draft State Environmental Planning Policy (Environment)*
- *Draft State Environmental Planning Policy (Remediation of Land)*
- *Sydney Local Environmental Plan 2012*
- *Any exhibited Planning Proposal or draft State Environmental Planning Policy related to the land*

The proposals compliance with the relevant statutory provisions is outlined in the following sections.

6.1. ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Pursuant to clause 4.36(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act):

(2) A State environmental planning policy may declare any development, or any class or description of development, to be State significant development

The proposal is classified as SSD as detailed in Section 6.3, below.

In accordance with Section 4.5 of the EP&A Act, the Independent Planning Commission is designated as the consent authority if there is a Council objection to the DA or there are more than 25 submissions, unless otherwise declared by the Minister as a State significant infrastructure related development.

Unless otherwise declared, the Minister will be the consent authority for the amending concept SSDA (refer Clause 8A of the SRD SEPP).

Table 6 below provides an assessment of the proposal against the objectives contained within Section 1.3 of the EP&A Act.

Table 6 Objectives of the EP&A Act

Objectives	Comment / Response
<i>To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.</i>	The proposal promotes the social and economic welfare of the community and a better environment through the delivery of an integrated transport-oriented development above the Waterloo metro station.
<i>To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making</i>	The ESD commitments are consistent with those approved within the concept SSDA. While it will be specifically dealt with under concurrent detailed DAs,

Objectives	Comment / Response
<i>about the environmental planning and assessment.</i>	this amending DA has considered the revised scheme's ability to comply with the relevant ESD targets. The ESD report which is submitted with this application concludes that the proposal is able to satisfy the required ESD targets.
<i>To promote the orderly and economic use and development of land.</i>	The proposal promotes the orderly and economic use and development of land by maximising an efficient mix of land uses across the site through the delivery of increased employment generating commercial floor space in conjunction residential and retail uses.
<i>To promote the delivery and maintenance of affordable housing.</i>	While not the subject of this amending DA, the Central Precinct application includes the delivery of 24 affordable housing dwellings to be dedicated to a community housing provider. Further, the Southern Precinct will deliver 70 social housing units and 474 beds for student accommodation which promotes the delivery of affordable housing and housing diversity in Waterloo.
<i>To protect the environment, including the conservation of threatened and other species of native animals and plants, ecologically communities and their habitats.</i>	The proposal is located within an established urban environment. A BDAR waiver has been issued from the DPIE which determined the proposal will have no impact on threatened species or their habitats.
<i>To promote sustainable management of built and cultural heritage (including Aboriginal cultural heritage).</i>	The proposed amendments to Building 1 and Building 2 respect the significance of surrounding built heritage as outlined in the Heritage Impact Assessment included at Appendix H .
<i>To promote good design and amenity of the built environment.</i>	<p>While not the subject of this amending DA, the subsequent detailed DAs for both Building 1 and Building 2 are considered to exhibit design excellence and mitigates adverse amenity impacts. The endorsed Design Excellence Strategy for the Waterloo Metro Quarter site is included at Appendix G which is proposed to be maintained as part of this amending concept DA.</p> <p>The Design Integrity Report at Appendix Y describes how the DRP has reviewed the proposed modifications to the approved building envelopes in accordance with the Design Excellence Strategy and has endorsed the submission of this amending concept DA.</p>

Objectives	Comment / Response
<i>To promote proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.</i>	Construction staging and impact management are discussed in Section 8.8. A Construction Environmental Management Plan is attached at Appendix Q .
<i>To promote the sharing of responsibility for environmental planning and assessment between different levels of government in the State.</i>	Relevant Government agencies have been consulted throughout the preparation of this amending DA and the subsequent detailed design processes. It is noted that the Minister for Planning and Public Spaces is the consent authority as the development is considered SSD.
<i>To provide increased opportunity for community participation in environmental planning and assessment.</i>	An inclusive public consultation strategy has been implemented throughout the project design process (refer to Section 7.1 and Appendix U)

Overall, the proposed development is consistent with the objects and general terms of the EP&A Act.

6.2. BIODIVERSITY CONSERVATION ACT 2016

The purpose of the *Biodiversity Conservation Act 2016* is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and in the future, consistent with the principles of ecologically sustainable development. Clause 2 of Section 7.9 of the *Biodiversity Conservation Act 2016* requires a DA for SSD to be accompanied by a Biodiversity Development Assessment Report (BDAR).

As part of the assessment of the concept SSDA, the NSW DPIE granted a waiver on 2 November 2018 under section 7.9(2) of the *Biodiversity Conservation Act 2016*, concluding that:

- The proposed development is not likely to have any significant impact on biodiversity values
- There is no need to submit a BDAR as part of the detailed SSDA.

A request seeking a waiver for the requirement for a BDAR associated with SSD-10294 was submitted to the NSW DPIE on 16 July 2020. This was accompanied by an assessment of the proposed development against the relevant provisions of the *Biodiversity Conservation Act 2016* and the *Biodiversity Conservation Regulation 2017*.

The assessment concludes that the proposal will not have any likely impact on the surrounding natural environment and abundance of species, habitat connectivity, threatened species movement and flight paths of protected animals, nor will it impact upon water quality surrounding the site (sustainability) and the site does not contain abundant vegetation.

Accordingly, a BDAR waiver (**Appendix V**) was issued by the NSW DPIE and OEHL on 28 July 2020, and it was determined that a BDAR is not required as part of this detailed SSDA. Based on this assessment by NSW DPIE and OEHL, it is considered that clause 2 of Section 7.9 of the *Biodiversity Conservation Act 2016* has been satisfied.

6.3. STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

The *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) has the purpose of identifying development that is SSD, State significant infrastructure (SSI) (including critical) and regionally significant development.

The concept DA was classified as SSD under Section 4.36 of the EP&A Act as the development has a CIV in excess of \$30 million, and is for the purpose of residential accommodation associated with railway

infrastructure under clause 8(1)(b) of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

For context with the entire Waterloo Metro Quarter development, in accordance with clause 12 of the SRD SEPP, subsequent detailed DAs under the concept DA are considered SSD regardless of CIV, as follows:

12 Concept development applications

If—

a) development is specified in Schedule 1 or 2 to this Policy by reference to a minimum capital investment value, other minimum size or other aspect of the development, and

b) development the subject of a concept development application under Part 4 of the Act is development so specified,

any part of the development that is the subject of a separate development application is development specified in the relevant Schedule (whether or not that part of the development exceeds the minimum value or size or other aspect specified in the Schedule for such development).

Accordingly, all subsequent detailed DAs to be sought for the Waterloo Metro Quarter site are considered SSD. For clarity this includes applications for the following:

1. Southern Precinct – Cope Street Plaza; Social Housing; Student Accommodation; Gym; Retail Premises
2. Central Building – Community Facilities; Affordable Housing; Market Housing; Retail Premises
3. Basement – to support the Northern Precinct and Central Building
4. Northern Precinct – Commercial Office; Retail Premises

6.4. STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) came into force in December 2007 and aims to facilitate the effective delivery of infrastructure across the State. The SEPP identifies matters for consideration in the assessment of types of infrastructure development, including all new development that generates large amounts of traffic in a local area. The following clauses are relevant to this application:

- Excavation in, above, below or adjacent to rail corridors (clause 86 of Division 15 Railways)
- Residential development on land in or adjacent to a rail corridor (clause 87 of Division 15 Railways).
- Development in or adjacent to an rail corridor (clause 88 of Division 15 Railways).
- Major development within the Interim Metro Corridor (clause 88A of Division 15 Railways).
- Development with a frontage to a classified road (clause 101 of Division 17 Roads and Traffic).
- Impact of road noise or vibration on non-road development (clause 102 of Divisions 17 Roads and Traffic).
- Traffic generating development (Schedule 3).

As per clause 85, the consent authority must provide notice to the relevant rail authority within seven days after the application is made for their consideration prior to the determination of the DA. The proposal relates to development located within the Sydney Metro city & south-west corridor and will be referred to Sydney Metro and TfNSW for comment.

Pursuant to clause 104 (Traffic Generating development) and schedule 3 of the ISEPP, the modification application also triggers consultation with the TfNSW (Road Division), as the proposed development has more than 2,500sqm commercial floor space, a basement with more than 50 car parking spaces, and more than 75 dwellings with access to a road that is less than 90m from a classified road. The proposed amendments aren't however considered to substantially impact the surrounding road network compared to the originally approved concept SSDA which included the same maximum GFA across the precinct. Traffic

impacts associated with the proposed amendment to the concept envelope and land use mix are outlined in detail at Section 8.7.

6.5. STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55) provides a State-wide approach to the remediation of contaminated land, and primarily promotes the remediation of contaminated land for the purpose of reducing the risk of harm to human health.

All demolition will be completed as part of the Sydney Metro station works, and potential site contaminants will be addressed and remediated across the Waterloo Metro Quarter site in accordance with the relevant conditions of the CSSI approval. Any site remediation for the eastern portion of the site affected by the construction of the Sydney Metro Waterloo station is wholly assessed and approved in accordance with the CSSI approval.

Further consideration of SEPP 55 is therefore only required on the western portion of the site. This affects the land immediately below the location of the proposed Northern Precinct and Central Building. Accordingly, this matter will be addressed as part of the subsequent detailed SSDAs to be lodged for the Northern Precinct and Central Building.

The amending concept DA does not propose changes to the approved building envelopes below ground, nor proposes and new or sensitive land uses not otherwise considered as part of the original concept DA. As such the amending concept DA remains consistent with SEPP 55.

6.6. STATE ENVIRONMENTAL PLANNING POLICY NO. 64 – ADVERTISING AND SIGNAGE

State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64) aims to ensure that advertising and signage is compatible with the desired amenity and visual character of an area and provides effective communication in suitable locations and is of high-quality design and finish. It does not regulate the content of signs and advertisements.

Signage will be proposed as part of subsequent detailed SSDA applications.

6.7. STATE ENVIRONMENTAL PLANNING POLICY NO. 65 – DESIGN QUALITY OF RESIDENTIAL APARTMENT DEVELOPMENT AND ACCOMPANYING APARTMENT DESIGN GUIDE (SEPP 65)

State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development (SEPP 65) applies to development for the purposes of a building that comprises three or more storeys and four or more self-contained dwellings.

The proposed amendment to the concept DA does not introduce any new residential land uses across the Waterloo Metro Quarter site. Notwithstanding, it is noted that the proposed amendment to the building envelopes achieves improvements to the residential amenity delivered on site and to surrounding properties as follows:

- A minimum 24m building separation is maintained between Building 1 and Building 2 above the non-residential podium height.
- By consolidating the building massing of the approved building envelopes identified as 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393, the revised building envelope removes potential visual privacy and building separation between previously approved residential buildings within the Northern Precinct.
- At least 50% of the rooftop communal open space on the rooftop of Building 2 can receive more than 2 hours solar access between 9pm and 3pm in mid-winter (21 June).
- The ability to achieve solar access to 70% of residential apartments within Building 2 and Building 4 are not undermined by the proposed amending concept building envelope for Building 1.

- Notwithstanding the proposed amendment to the approved building envelopes, the overall Waterloo Metro Quarter site achieves approximately 1,210sqm of deep soil landscaping, which equates to over 15% of the overall Waterloo Metro Quarter site area (excluding the station box area), exceeding the 7% Apartment Design Guideline.
- By removing residential land uses from Building 1, fewer mitigation measures are required to address noise and vibration impacts resulting from construction along Botany Road and above the Waterloo metro station.

The proposed amendment to the approved building envelopes enhances the ability of future development on the Waterloo Metro Quarter site to achieve consistency with SEPP 65 and the Apartment Design Guide. Notably, the reference schemes provided to inform the proposed building envelopes demonstrate an improved residential amenity for the remaining residential buildings on the Waterloo Metro Quarter site than approved under SSD 9393.

6.8. STATE ENVIRONMENTAL PLANNING POLICY (BUILDING SUSTAINABILITY INDEX: BASIX) 2004

The *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004* (BASIX SEPP) requires all residential development in NSW to achieve a minimum target for energy efficiency, water efficiency and thermal comfort.

This amending concept DA does not propose any change to the approved residential development at the Central Building or Southern Precinct of the Waterloo Metro Quarter site. The amending DA removes residential accommodation from the Northern Precinct. Accordingly, no further assessment has been provided against the BASIX SEPP.

6.9. STATE REGIONAL ENVIRONMENTAL PLAN (SYDNEY HARBOUR CATCHMENT) 2005 (SREP SYDNEY HARBOUR)

The *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005* (SREP) is a regional planning instrument that aims to ensure the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected, enhanced and maintained as a natural and public asset of national significance.

The Waterloo Metro Quarter is located outside the Sydney Harbour Catchment, as indicated on the Sydney Harbour Catchment Map published in Gazette No 38 of 7 April 1989 at page 1841. Therefore, the SREP does not apply to the site and the SSDA.

6.10. STATE ENVIRONMENTAL PLANNING POLICY (VEGETATION IN NON-RURAL AREAS) 2017

The *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* (Vegetation SEPP) works together with the *Biodiversity Conservation Act 2016* and the *Local Land Services Amendment Act 2016* to create a framework for the regulation of clearing of native vegetation in NSW. The Vegetation SEPP applies to the Sydney metropolitan areas and land zoned for urban purposes.

The site is within an established urban area and has been cleared of all vegetation, buildings, and structures under a separate CSSI approval. As such, no further consideration of the Vegetation SEPP is required.

6.11. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (ENVIRONMENT)

In October 2017 the NSW DPIE released an Explanation of Intended Effect (EIE) for the proposed Draft State Environmental Planning Policy (Environment SEPP) 2017. The overarching aim of the Draft Environment SEPP is to combine seven existing SEPPs into a simple, modern and accessible instrument which promotes the protection and improvement of key environmental assets for their intrinsic value and social and economic benefits.

In summary, the new Environment SEPP will repeal and replace the following seven existing SEPPs:

- *State Environmental Planning Policy No. 19—Bushland in Urban Areas*
- *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*

- *State Environmental Planning Policy No. 50—Canal Estate Development*
- *Greater Metropolitan Regional Environmental Plan No. 2—Georges River Catchment*
- *Sydney Regional Environmental Plan No. 20—Hawkesbury-Nepean River (No.2-1997)*
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
- *Willandra Lakes Regional Environmental Plan No. 1—World Heritage Property.*

The Explanation of Intended Effect provided as part of the consultation package, as well as the exhibited maps, demonstrates that the site would continue to be defined within the Sydney Harbour Catchment and continues to not be located in any of the specific zones contemplated by the REP. On this basis, the previous assessment of the general principles of the Sydney Harbour REP remain relevant.

6.12. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (REMEDIATION OF LAND)

In January 2018, the DPIE exhibited the draft Remediation of Land SEPP, which seeks to provide an updated framework for the management of contaminated land in NSW. It is proposed that the new Remediation of Land SEPP will:

- Provide a state-wide planning framework for the remediation of land.
- Maintain the objectives and reinforce those aspects of the existing framework that have worked well.
- Require planning authorities to consider the potential for land to be contaminated when determining development applications and rezoning land.
- Clearly list the remediation works that require development consent.
- Introduce certification and operational requirements for remediation works that can be undertaken without development consent.

Any site remediation for the eastern portion of the site affected by the construction of the Sydney Metro Waterloo station is assessed and approved in accordance with the CSSI approval. Further consideration of SEPP 55 is therefore only required on the western portion of the site. This affects the land immediately below the location of the proposed Northern Precinct and Central Building. Accordingly, this matter will be addressed as part of the subsequent detailed SSDAs to be lodged for the Northern Precinct and Central Building.

6.13. SYDNEY LOCAL ENVIRONMENTAL PLAN 2012

The *Sydney Local Environmental Plan 2012* (SLEP 2012) is the principal local planning instrument applying to the site, establishing the permissible land uses, key development standards, visual impact, views and heritage conservation requirements.

6.13.1. Zoning and Permissibility

The prominent land use proposed in this amending DA is best defined as commercial premises, which is defined as follows:

commercial premises means any of the following—

- (a) *business premises,*
- (b) *office premises,*
- (c) *retail premises.*

It is noted that within this definition, two land uses are relevant to the proposal. These are defined below:

office premises means a building or place used for the purpose of administrative, clerical, technical, professional or similar activities that do not include dealing with members of the public at the building or place on a direct and regular basis, except where such dealing is a

minor activity (by appointment) that is ancillary to the main purpose for which the building or place is used.

retail premises means a building or place used for the purpose of selling items by retail, or hiring or displaying items for the purpose of selling them or hiring them out, whether the items are goods or materials (or whether also sold by wholesale), and includes any of the following—

- (a) *(Repealed)*
- (b) *cellar door premises,*
- (c) *food and drink premises,*
- (d) *garden centres,*
- (e) *hardware and building supplies,*
- (f) *kiosks,*
- (g) *landscaping material supplies,*
- (h) *markets,*
- (i) *plant nurseries,*
- (j) *roadside stalls,*
- (k) *rural supplies,*
- (l) *shops,*
- (la) *specialised retail premises,*
- (m) *timber yards,*
- (n) *vehicle sales or hire premises,*

but does not include highway service centres, service stations, industrial retail outlets or restricted premises.

The proposed land use which will be included within the podium of Building 2 is best defined as *commercial premises, centre-based childcare, and a community facility*, which is defined as follows:

community facility means a building or place—

- (a) *owned or controlled by a public authority or non-profit community organisation, and*
- (b) *used for the physical, social, cultural or intellectual development or welfare of the community,*

but does not include an educational establishment, hospital, retail premises, place of public worship or residential accommodation.

The proposed use of 'office premises' and 'retail premises', noting both are a kind of 'commercial premises', as well as 'community facility', are permissible with consent in the B4 Mixed use zone. It is acknowledged that the specific use of various components of the development will be the subject of future applications for their physical construction and operation.

The site is zoned as B4 Mixed Use in SLEP 2012. The objectives of this zone are:

- *To provide a mixture of compatible land uses.*
- *To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.*

- To ensure uses support the viability of centres.

The amending concept DA is consistent with the zone objectives as it:

- Provides land uses envisaged and anticipated within the B4 Mixed Use zone, noting additional compatible and supporting land uses are proposed in the form of retail premises on the ground floor of the Northern Building and Central Building to support the upper levels of commercial and wider precinct mix which includes residential.
- Provides a genuine mix of uses across the Waterloo Metro Quarter site which will integrate, and benefit off each other. The overall mixture of uses sought will enable greater activation throughout the day and night to enliven the precinct and create a sense of place.
- Maximises public transport patronage by locating employment generating floor space above the Waterloo metro station. This ensures that the investment into the public transport network across Sydney is maximised and promoted through encouraging its use by increased accessibility.
- Forms part of a large development in a key centre within Sydney. It will ensure the viability and long-term growth of the area, supporting the Innovation Corridor which is vital to the ongoing economic success and global completeness.
- The Innovation Corridor forms part of the City Fringe which has been identified as needing to contribute at least 53,800 additional jobs by 2036. The proposal will support this through the delivery of additional accessible employment generating floor space.

6.13.2. Key Development Standards

The proposed development has been assessed against the relevant development standards contained within the SLEP 2012 and is discussed in Table 7 below.

Table 7 SLEP 2012 Compliance of Development Standards

Clause and Control	Proposal / Compliance
<p>4.3 Height of buildings</p> <p>The height of buildings control varies across the site from RL 116.9 (Northern Precinct), RL 104.2 (Central Precinct), and RL 96.9 (Southern Precinct).</p>	<p>Complies</p> <p>The proposal seeks to reduce the building envelope of Building 1 to a maximum of RL 90.4. No changes are proposed to the maximum permitted building height of Building 2 which remains at RL 104.2.</p>
<p>4.4 Floor space ratio</p> <p>6:1 (across the site)</p>	<p>Complies</p> <p>The amending DA does not seek a change to the maximum GFA cap for the OSD component of the ISD. The maximum GFA of 68,750sqm, excluding station floor space result in an FSR of 5.34:1.</p>
<p>5.6 Architectural roof features</p> <p>Development that includes an architectural roof feature that exceeds or causes a building to exceed the height limits set by the SLEP 2012 may be carried out, but only with development consent.</p>	<p>Complies</p> <p>The proposed development does not seek to rely on clause 5.6. The proposed roof of the OSD does not exceed the height limit detailed in SLEP 2012.</p>
<p>5.10 Heritage Conservation</p> <p>A heritage management document may be required to be prepared for land that is within the vicinity of a heritage item. The</p>	<p>Complies</p> <p>The site is located within close proximity to a number of local heritage items listed under the SLEP 2012. The building envelopes are proposed to be modified maintain</p>

<p>Clause and Control</p> <p>document is to assess the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item.</p>	<p>Proposal / Compliance</p> <p>key height datums that align with surrounding heritage items. Notably, Building 2 adjoins the Waterloo Congregational Church as discussed within the Heritage Impact Assessment attached at Appendix H.</p> <p>The proposed revised building envelopes also significantly reduce overshadowing and visual impact of the proposal from the Alexandria Park Heritage Conservation Area to the west of the site. The Heritage Impact Assessment provides a further assessment of the impacts of the revised envelopes on heritage items and heritage conservation areas in vicinity of the site, as discussed at Section 8.2.</p>
<p>6.21 Design excellence</p> <p>The Concept Approval exercises the discretion available under clause 6.21(6) of SLEP 2012 to waive the requirement for a competitive design process under clause 6.21(5) as the concept design has been subject to the Sydney Metro Waterloo Design Excellence Strategy.</p>	<p>Complies</p> <p>The concept SSDA exercised the discretion available under clause 6.21(6) of SLEP 2012 to waive the requirement for a competitive design process under clause 6.21(5) as the concept design has been subject to the Sydney Metro Waterloo Design Excellence Strategy</p> <p>The Design Integrity Report at Appendix Y confirms that the concurrent detailed SSDAs meet the design excellence requirements established for the site in accordance with the Endorsed Design Excellence Strategy at Appendix G and has received feedback from the Design Review Panel.</p> <p>Further discussion of design excellence has been addressed in Section 8.1.1.</p>
<p>6.45 Waterloo Metro Quarter - general</p> <p>The consent authority must not consent to development on land at the Waterloo Metro Quarter unless it is satisfied that the development is consistent with the following objectives:</p> <ul style="list-style-type: none"> ▪ 12,000 sqm of GFA below podium for land uses other than residential accommodation or passenger transport facilities. ▪ 2,000 sqm of GFA for the purpose of community facilities. ▪ 2,200 sqm of land for publicly accessible open space. <p>Further, the consent authority must not consent to the construction of one or more dwellings on land at the Waterloo Metro Quarter unless:</p>	<p>Complies</p> <p>The proposed development does not seek formal consent for the detailed fit out and use of the site, however, the amending building envelopes will result in a podium for Building 1 with the following uses:</p> <ul style="list-style-type: none"> – Retail premises and commercial premises. <p>The three-storey podium for Building 2 with the following uses:</p> <ul style="list-style-type: none"> – Retail premises, commercial premises, and centre based childcare to be designed and operated as a community facility. <p>In accordance with clause 6.45, the following precinct wide conclusions have been made:</p> <ul style="list-style-type: none"> – A total of 11,347.6sqm GFA is proposed within the indicative scheme to be located at or below the podium (three-storeys for Buildings 2 and 3, and four-storeys for Building 1) for land uses other than residential accommodation or passenger transport facilities across the Waterloo Metro Quarter. This figure excludes residential lobbies, however includes

Clause and Control	Proposal / Compliance
<ul style="list-style-type: none"> ▪ It is satisfied that at least 5% of the residential GFA used affordable housing ▪ It is satisfied that no dwelling used for the purposes of affordable housing will have a GFA less than 50 square metres <p>It is satisfied that land uses other than residential accommodation or passenger transport facilities will be evenly distributed throughout the Waterloo Metro Quarter</p>	<p>the communal facilities within the podium of Building 3. Further approximately 720sqm retail GFA will be delivered within the ground level of the two station boxes under the CSSI approval which in total will exceed the minimum 12,000sqm non-residential GFA proposed at or below the podiums of development at the Waterloo Metro Quarter site.</p> <ul style="list-style-type: none"> – Non-residential GFA is proposed to be located across all four buildings proposed on the Waterloo Metro Quarter site. While numerically the proportion of non-residential GFA is weighted towards the northern precinct given the location of the commercial office building, it is noted that the podium levels of all buildings will include a variety of non-residential land uses including community facilities, retail, future community uses, commercial office, and recreation facilities (gymnasium). – A total of 2,219sqm GFA is to be provided for the purposes of community facilities within Building 2. Under the detailed SD DA for Building 2 it is proposed that this community facility will be used for the purposes of not-for-profit, community centre-based childcare. Furthermore it is noted that an <i>additional</i> 630sqm of ground level GFA is proposed to be used for a variety of community uses including for instance a medical/health centre, enterprise café, Makerspace, community hub etc, however with the specific uses to be determined at a future stages. – A minimum 2,200sqm of publicly accessible open space is proposed to be provided within the boundaries of the Waterloo Metro Quarter site, with additional publicly accessible open space to be delivered outside of the property boundaries through widened footpaths and the delivery of the full scope of Raglan Street Plaza. <p>The Waterloo Metro Quarter site will provide 70 social housing dwellings and 24 affordable housing dwellings which exceeds 5% of the proposed residential GFA. Social housing is proposed to be located within Building 4, whereas affordable housing is to be located within Building 2.</p> <p>The proposed affordable housing dwellings within Building 2 have a minimum area 50sqm (GFA).</p>
<p>6.46 Waterloo Metro Quarter - State public infrastructure</p> <p>Development consent must not be granted for development for the purposes of residential accommodation (whether as part of a mixed use development or otherwise) on land at the Waterloo Metro Quarter that results in an increase in the</p>	<p>Complies</p> <p>As per the Assessment Report for the concept SSDA (SSD 9393), it has been confirmed that the Secretary is satisfied that an arrangement has been made for the contribution to the provision of designated State public infrastructure through the Waterloo Metro Quarter ISD project.</p>

Clause and Control	Proposal / Compliance
<p>number of dwellings on that land, unless the Planning Secretary has certified in writing to the consent authority that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to the land.</p>	
<p>Clause 7.20 Development requiring or authorising preparation of a development control plan (DCP)</p> <p>Requires the preparation of a DCP for sites outside of Central Sydney if the site area is more than 5,000 sqm or if the development will result in a building with a height greater than 25m above existing ground level. However, this obligation can be satisfied by the approval of a staged development application for the site.</p>	<p>Complies</p> <p>A staged development application has been approved for the site (SSD 9393), therefore clause 7.20 has been satisfied.</p>
<p>7.3 Car parking not to exceed maximum set out in this Division</p> <p>The LEP sets a maximum provision of car parking based on site area. The site is located on Category A land.</p>	<p>Complies</p> <p>While not physically sought for approval under this amending DA, car parking provision will be delivered for Building 1 and Building 2 inclusive of the amendments to built form and land use sought under this amending DA in the subsequent detailed SSDA for the basement.</p>
<p>7.15 Flood Planning</p> <p>Minimise flood risk to life and property associated with the use of land and significant adverse impacts on flood behaviour and the environment.</p>	<p>Complies</p> <p>The proposed amendments to built form and land use as they apply to Building 1 and Building 2 which are sought under this amending DA do not impact on the sites flood management. Specific detail regarding the management of flooding and stormwater across the site will be dealt with in the subsequent detailed SSDA applications to be submitted.</p>
<p>7.16 Airspace Operations</p> <p>Provide for the effective and on-going operation of the Sydney (Kingsford-Smith) Airport by ensuring that such operation is not compromised by proposed development that penetrates the Limitation or Operations Surface for that airport.</p>	<p>Complies</p> <p>The proposed development has a maximum building height of RL104.2. This amending DA does not seek to increase previously approved building height, and does not exceed the existing airspace height approval to the maximum height of 116.9m AHD.</p>
<p>7.27 Active Street Frontages</p> <p>Development consent must not be granted to the erection of a building, or a change of</p>	<p>Complies.</p> <p>While the proposal does not seek consent for the detailed delivery of active street frontages, the design for the</p>

Clause and Control	Proposal / Compliance
<p>use of a building, on land to which this clause applies unless the consent authority is satisfied that, after its erection or change of use—</p> <p>(a) all premises on the ground floor of the building that face the street will be used for the purposes of business premises or retail premises, and</p> <p>(b) those premises will have active street frontages</p>	<p>amended building envelopes has occurred in conjunction with the detailed design of Building 1 and Building 2. The detailed designs which will follow the envelope amendments will deliver a truly active and integrated street edge throughout the entire Northern and Central Precinct. This activation will include Botany Road, Raglan Street, Raglan walk, and Grit Lane.</p>

6.14. WATERLOO METRO QUARTER DESIGN AND AMENITY GUIDELINES

To reflect condition requirements of the concept SSDA, Sydney Metro has revised the Waterloo Metro Quarter Design and Amenity Guideline (March 2020) which have guided the detailed design of the proposed residential tower and OSD project.

The proposed modifications to the amending DA include minor modifications to the Waterloo Metro Quarter Design and Amenity Guidelines, specifically the addition of design objectives and design criteria to inform the future use and architectural design of Building 1. The proposed new design objectives and design criteria include the following:

3C Public domain

- Provide opportunities for seating in the public domain, especially at the edges of Cope Street Plaza, near metro entries and bus stops
- Provide for a diversity of awning expressions, with scale, materiality and character related to context and use

3D Streets, lanes and footpaths

- East-west laneways open to the sky
- Create a 6m wide north-south public link between Raglan Street and Cope Street Plaza

3J Podium and street wall

- Consider the expression of contextual typologies (such as terrace houses, workshops and factories) in the form and expression of podium buildings
- Provide a richness of detailing and materiality in retail shopfronts
- To improve permeability and safety, provide a publicly accessible connection along the eastern side of the church

3K Built form above the podium

- Articulate the upper levels of the northern building to break down the building mass, improve amenity and allow for flexibility for a range of tenants

The proposed amendments to the building envelopes and the revised land use mix does not require any further amendments to the Design and Amenity Guidelines, and the detailed SSDA applications will demonstrate that the proposed development is generally consistent with the objectives and design criteria of the Design and Amenity Guidelines. Where it is not possible to satisfy the design criteria, the detailed SSDAs are required to demonstrate how the objective has been achieved.

6.15. SYDNEY DEVELOPMENT CONTROL PLAN 2012

In accordance with clause 11 of the State and Regional Development SEPP, the provisions of Sydney Development Control Plan 2012 (SDCP 2012) do not apply to this development. Notwithstanding, the SDCP 2012 has been considered as a reference point for the design of the proposed development, including the concept. A summary of key SDCP 2012 provisions relevant to the site are discussed in Table 7.

Table 8 Consistency of the Proposed Development with Key Provisions of the SDCP 2012

Section	Response
<p>2. Locality Statements</p>	<p>The site is located in the Regent Street / Botany Road locality. The proposal is consistent with the principles of the Regent Street / Botany Road locality statement as the development will enable the delivery of mixed-use buildings comprising commercial, retail uses and community facilities.</p> <p>The concept building design has redistributed floor space to reduce the overall building height of the Northern Precinct. While this approval does not seek consent for detailed aspects of the proposal, it has been designed with these final details in consideration to ensure the future uses of the building will promote visually appealing building materiality and activation of the street edge along Botany Road.</p> <p>The commercial uses also create an appropriate transition between the adjacent residential uses within the central building to the south.</p>
<p>3.1.1 Streets, lanes and footpaths</p>	<p>The proposed shared way prioritises pedestrians, cycling and transit use. Various pedestrian through-site links are also proposed through the precinct. Extended public footpaths around the Waterloo Metro Quarter site are likewise proposed across the ISD.</p>
<p>3.1.5 Public Art</p>	<p>A Public Art Strategy has been prepared by Aileen Sage Architects with Tess Allas and Sebastian Goldspink in conjunction with the site wide detailed SSDAs for the site.</p>
<p>3.2.1.1 Sunlight to publicly accessible spaces</p>	<p>Overshadowing effects of the new building envelope on publicly accessible open space are minimised between the hours of 9am to 3pm on 21 June.</p> <p>Shadow diagrams which have been prepared and submitted with the detailed DAs for each precinct collectively indicate the existing condition and proposed shadows between 9am, 12pm on 21 June. The results demonstrate that the publicly accessible open space being Cope Street Plaza forming part of the Waterloo Metro Quarter site and the Alexandria Park are minimised as outlined in detail at Section 8.3.2.</p>
<p>3.2.1.2 Public Views</p>	<p>A View and Visual Impact Analysis has been prepared (Appendix AA) and provides an assessment of impacts on public views resulting from the proposed OSD, as discussed in Section 8.3.1.</p>
<p>3.2.2 Addressing the street and public domain</p>	<p>The proposal has been designed to positively address the street with several entrances proposed from both Botany Road, Raglan Street, entrances from Grit Lane as well as from Raglan Walk. This will ensure that activation is provided around the entire base of the Northern Precinct, which also incorporates a separate end of trip entrance. A further assessment is provided in the Architectural Design Report in Appendix F.</p>

Section	Response
3.2.3 Active frontages	The development has frontage to Botany Road and Raglan Street. As discussed above, multiple pedestrian access points are proposed on both these road frontages, as well as from Raglan Walk and Grit Lane. With a mix of commercial lobby entrances, retail and community uses on the ground floor, this will encourage streetscape activation encouraging use of the public realm resulting in a positive user experience.
3.2.6 Wind effects	A revised wind effects report has been prepared to provide an assessment of wind impact at the pedestrian level which result from the amended building envelope. This assessment is included at Appendix DD as is discussed further at Section 8.4.
3.2.7 Reflectivity	A revised reflectivity report has been prepared and provides an assessment of the impacts of reflectivity from amended envelopes, as discussed in Section 8.11 and Appendix Z .
3.3 Design Excellence and Competitive Design process	The proposal has been informed by the completion of a Design Excellence Process as described in Section 8.1.1 and an endorsed Design Excellence Strategy attached at Appendix G .
3.4 Hierarchy of Centres, City South	The site is located within the Green Square Town Centre Primary Trade Area. The proposed development contains predominantly commercial and employment generating floor space which will complement the Green Square Town Centre as the primary retail, commercial and community centre in south Sydney. Social and economic impacts resulting from the proposed building envelopes and revised unit mix are addressed in Section 8.13.
3.5 Urban Ecology	Indicative landscape designs have been prepared and included at Appendix BB .
3.6 Ecologically Sustainable Development	An amended ESD report has been prepared and provides an assessment of the NABERS and Green Star ratings of the proposed development and is attached at Appendix M .
3.7 Water and Flood Management	<p>The management of water and potential flooding impacts have been conceptually addressed by the stormwater management plan report provided at Appendix O. The report demonstrates that with appropriate management measures, the site can suitably be addressed through stormwater management practices, with detailed design subject of subsequent detailed applications.</p> <p>Section 8.10 of the EIS provides a detailed assessment of the stormwater and flooding management proposed for the site.</p>
3.9.1 Heritage Impact Statements	<p>The site adjoins Waterloo Congregational Church, a locally listed heritage item.</p> <p>A revised Heritage Impact Statement (HIS) has been prepared and is provided at Appendix H. The HIS identifies the existing heritage items within proximity of the site and the potential impacts of the OSD proposal on the local and state heritage items. Section 8.2 of the EIS provides a detailed assessment of the heritage impacts of the OSD.</p>

Section	Response
	<p>As concluded in the HIS, there are no amendments to the concept envelope with any critical interfaces within the Waterloo Congregational Church heritage item. Further, there are no impacts on any of the broader vicinity heritage items located to the south of the Waterloo Metro Quarter site as a result of this amended concept DA. The amended concept envelope actually results in a reduced scale of development when viewed from within the Alexandria Park Heritage Conservation Area.</p>
<p>3.11 Transport and Parking</p>	<p>A transport, traffic and parking assessment is discussed in Section 8.7.3 and is provided at Appendix I.</p>
<p>3.11.2 Car share scheme parking spaces</p>	<p>The site is located on land identified as Category A. 1 car share space per 50 car spaces is to be provided in residential development. 1 car share space per 30 car spaces is to be provided for office, business or retail development.</p> <p>The proposed amendments to the concept envelope maintain the ability to achieve this provision of car share spaces.</p>
<p>3.11.3 Bike parking and associated facilities</p>	<p>The provision of bicycle parking and associated facilities including end of trip facilities will be outlined within the detailed SSDA for the various components of the development.</p> <ul style="list-style-type: none"> ▪ As outlined in the Transport, Traffic and Parking Assessment at Appendix I, bicycle parking and end of trip facilities have been designed to be generally consistent with the SDCP 2012 bicycle parking provisions in accordance with the requirements of each user group. It is noted that visitor bicycle parking spaces are likely to be shared between user groups given the extent of bicycle parking to be delivered on site, however this is to be detailed within the detailed SSDAs.
<p>3.12 Accessible design</p>	<p>The reference schemes prepared to support the revised building envelopes (and inform the detailed SSDAs) have been assessed against the relevant accessibility requirements of the <i>Building Code of Australia access requirements; and Disability Discrimination Act 1992</i>. The assessment concludes that the proposed design generally meets the requirements of the applicable legislation, where strict compliance has not been achieved a deemed to satisfy solution has been proposed.</p>
<p>3.13.1 Crime Prevention Through Environmental Design</p>	<p>A detailed CPTED and Security Risk Assessment of the proposed development has been undertaken. The report in Appendix N concludes that subject to the implementation of the CPTED mitigation measures outlined in the report, the remaining impacts associated with the proposed development are deemed to be appropriate and acceptable. Further discussion and assessment of the proposed development against CPTED principles is undertaken in 8.13 of this EIS.</p>
<p>3.14 Waste</p>	<p>Waste generation and minimisation initiatives have been addressed in the accompanying Waste Management Plan at Appendix L. The proposal satisfactorily addresses the requirements of the SDCP 2012.</p>

Section	Response
4.2.1.2 Floor to ceiling heights and floor to floor heights	Buildings with a commercial or retail use are to have a minimum floor to floor height of 4.5m on the ground floor; and 3.6m on the first commercial floor and any commercial floor above. The reference scheme prepared to inform the proposed building envelopes illustrate that with these requirements can be accommodated within the building envelopes as illustrated at Appendix F .
4.2.3.11 Acoustic privacy	An amended Noise Impact Assessment has been prepared and is submitted at Appendix K . Due to the change in land use proposed, namely the removal of residential from Building 1, the concept amendments are confirmed as being able to be delivered within out resulting in adverse acoustic impact.
4.2.3.12 Flexible housing and dwelling mix	The proposed amending DA achieves a significant diversity in dwellings mix and dwelling tenure, including build to sale, affordable housing, social housing and student accommodation.
4.2.4 Fine Grain, Architectural Diversity and Articulation	While this amending DA does not seek to confirm built form specifics such as granularity or articulation, consideration of the detailed design for Building 1 has been given to the amendments. As outlined in the Architecture Design Report at Appendix F , the proposed street frontages and public domain will result in a human scale with pedestrian legibility. The design will seek to reduce visual mass through finer grain building details.
Schedule 7 – Transport, Parking and Access	
7.5 The requirements for a Parking and Access Report	A Transport, Parking and Access report has been prepared by PTC and submitted at Appendix I .
7.6 Green Travel Plan requirements	A Green Travel Plan has been prepared and submitted as part of the revised Traffic Impact Assessment at Appendix I .
7.8.4 Motorcycle parking spaces	1 motorcycle space for every 12 car parking spaces. With 155 parking spaces proposed across the entire Waterloo Metro Quarter site, 13 motorcycle bays are required. The proposed development can accommodate 13 motorcycle spaces, therefore meeting the minimum requirement of the SDCP.
7.8.5 Accessible car parking spaces	<p>One accessible car parking space is to be provided for every adaptable residential unit. One space for every 20 car parking spaces or part thereof is to be allocated as accessible visitor parking.</p> <p>The accessible car parking provision has been reviewed by the access consultant. It is noted that the DDA Report at Appendix S demonstrates that a proportionate reduction in adaptable unit car spaces (as illustrated in the reference design and detailed SSDA) compared to a reduction in overall provision of car parking across the site is appropriate.</p>

7. COMMUNITY & STAKEHOLDER ENGAGEMENT

7.1. COMMUNITY CONSULTATION

Community consultation has been undertaken with the relevant community groups, including the local community and surrounding landowners/occupiers. This has occurred throughout all stages of the development approval process from CSSI to concept SSDA, through to the preparation of this amending concept DA and the concurrent detailed SSDAs. A Pre-submission Consultation Report has been prepared and submitted at **Appendix U**.

The timeframe for engagement coincided with the restrictions imposed to respond to the COVID 19 pandemic. Accordingly, engagement activities were modified to comply with requirements to minimise community exposure and transmission. Whilst opportunities to conduct face to face engagement were limited, the applicant hosted a series of online events for the surrounding community to respond to emerging ideas and designs for the OSD.

Various strategies were implemented to ensure collaborative community involvement in the project. This included online forums, targeted emails to stakeholders and invitations to contact the Stakeholder Manager to discuss issues and opportunities relating to the design of the Waterloo Metro Quarter ISD as well as construction impacts. A specific program to engage with Aboriginal stakeholders was also undertaken by Murawin, an Aboriginal placemaking consultancy.

Specific community consultation actions undertaken are summarised in Table 9 below.

Table 9 Summary of Responses to Community Consultation Activities

Activity	Content	Date
Aboriginal Yarning Circle	Aboriginal Yarning Circle.	11 May 2020
One on one stakeholder meeting	Meeting with City of Sydney, Community Infrastructure Team.	5 June 2020
One on one stakeholder meeting	Meeting with landowner – 60 Botany Road, Waterloo.	16 June 2020
One on one stakeholder meeting	Meetings with: <ul style="list-style-type: none"> ▪ Licensee, Cauliflower Hotel. ▪ Custodian, Waterloo Congregational Church. ▪ Waterloo Redevelopment Group (including Inner Sydney Voice). ▪ Body Corporate – Botany Road, Waterloo (opposite site) 	17 June 2020
One on one stakeholder meeting	Meeting with REDWatch.	18 June 2020
One on one stakeholder meeting	Meetings with: <ul style="list-style-type: none"> ▪ Land and Housing Corporation. ▪ Department of Community Justice – Family and Community Services. 	19 June 2020
Webinar	General community webinar with Wellington Street residents.	20 June 2020
One on one stakeholder meeting	South Sydney Business Chamber.	23 June 2020.

Activity	Content	Date
One on one stakeholder meeting	Ethics Communities Council – Cope Street.	1 July 2020
One on one stakeholder meeting	Sydney Local Health District	8 July 2020
Webinar	General community webinar.	14, 15 & 18 July 2020 22 & 24 June 2020
Forum	Aboriginal forums	14-15 July 2020

The above events were notified by:

- Emails to approximately 1700 subscribers.
- Flyers distributed to 5000 properties within 500 metres of the site, incorporating residents, landowners, businesses and community groups.
- Invitations to community-based groups and organisations.

Feedback received through the consultation has informed the detailed design of the proposed OSD. It is noted that feedback received through the consultation process will also inform the detailed design of the station, public domain design, further work related to the future retail tenancy strategy, programming works for the publicly accessible space, and other matters that are outside of the scope of the SSDA for the OSD.

The community consultation strategy and all content (responses) received throughout the engagement phase are included at **Appendix U**. A summary of the matters raised by the community during the consultation that relate to the amending concept DA and the proposal's response is included in Table 10.

Table 10 Summary of Responses to Community Consultation Matters

Matters Raised	Proposals Response / Document Reference
Traffic, Transport and Pedestrian Access	
Suggested that CCTV be placed throughout the precinct.	▪ CCTV will operate within the station and throughout the precinct through the detailed design phase.
Encouraged a strategic approach to planning for pedestrian movement including the need to: <ul style="list-style-type: none"> ▪ See detailed modelling for vehicular and pedestrian traffic. ▪ Consider cumulative impacts of the development upon pedestrian flows and traffic flows. ▪ Facilitate pedestrian flows across Botany Road for commuters travelling to and from Eveleigh, Redfern Station and the south via Wellington/Buckland Streets. 	<ul style="list-style-type: none"> ▪ Enhanced pedestrian crossings are being created at the intersections of Cope Street and Wellington Street and Cope Street and Raglan Street. ▪ Provision is also made for a potential midblock crossing on Botany Road. ▪ The Waterloo Metro Quarter precinct links directly into the regional cycle network via the bike path on Wellington Street. The Wellington Street bike path is a City of Sydney / TfNSW requirement.
<ul style="list-style-type: none"> ▪ Congestion of surrounding streets particularly Botany Road. 	<ul style="list-style-type: none"> ▪ Refer to Transport, Traffic and Parking Assessment at Appendix I and Section 8.7. The traffic modelling undertaken demonstrated that the external road network should operate at acceptable levels of

Matters Raised	Proposals Response / Document Reference
<p>Feedback about buses noted that more consideration should be given to planning for:</p> <ul style="list-style-type: none"> ▪ A layby for northbound buses to accommodate increased numbers of buses queuing along Botany Road between Raglan and Wellington Streets. ▪ Protection and shelter for bus patrons. <p>More parking should be provided on site. Others felt parking within the new development should be limited.</p> <ul style="list-style-type: none"> ▪ Concerns regarding loss of carparking along Cope and Wellington Streets. Retention of longer stay and disability parking spaces in Cope Street for older people and people with disability who regularly access the services of the Ethnic Communities Council. ▪ When the precinct is operational, implement measures to ensure no commuter, workers or residents park in surrounding streets. ▪ Requested additional detail regarding how parking for construction workers would be managed. 	<p>service or at a level of service less than the approved concept DA and therefore, the amendment should not have a detrimental effect on the network operation.</p> <ul style="list-style-type: none"> ▪ Suggestions for improvements to Botany Road and bus operations will be passed onto TfNSW. ▪ Within the site there are two new bus stops on Raglan and Botany Road. Widened footpaths around the perimeter of the precinct will enable waiting bus passengers to safely queue whilst also allowing pedestrians to pass. ▪ Within the precinct, awnings on Botany Road and Raglan Street will provide weather protection for bus patrons. ▪ Carparking is proposed in accordance within the SLEP 2012 requirements. ▪ Bicycle parking is provided throughout the precinct to promote active transport and discourage reliance on cars with 80 racks on surrounding footpaths and 320 undercover bicycle spaces within the station. ▪ The kiss and ride area is an essential part of enabling access to the station and the broader precinct. It was envisaged in the CSSI approval. ▪ As an integrated station development, public and active transport is the dominant and preferred mode of access to both the station and the development. ▪ On street parking regulation and enforcement is the responsibility of the City of Sydney. This feedback will be passed onto the City. ▪ Refer to Constructional Environmental Management Plan at Appendix Q.
<p>Precinct Level Design Considerations</p>	
<p>Reduction in height from concept DA was well received. Others felt the buildings were too tall, would cast shadows, were dominant and would result in loss of amenity, views, and privacy.</p> <p>Some of the responses that were more frequently heard included:</p> <ul style="list-style-type: none"> ▪ The need for building design that pushes the envelope and is unique to, and reflective of, Waterloo. ▪ Greenery and landscaping to soften the appearance of the buildings and plaza. 	<ul style="list-style-type: none"> ▪ The amending DA proposes a lower maximum building height for Building 1, which reduces overshadowing and visual impact from surrounding properties. ▪ All buildings have been developed to the same level of design resolution. ▪ Buildings and public domain have benefited from an extensive DRP process and the team has focused on developing highly distinctive buildings while also ensuring the precinct remains cohesive.

Matters Raised	Proposals Response / Document Reference
<ul style="list-style-type: none"> ▪ The southern buildings do not seem to have the same level of design detail and resolution as the central and northern towers. ▪ The designers should not be afraid of some colour on the buildings. ▪ A palette of warmer natural materials was preferable to harder industrial materials and finishes. ▪ Incorporation of public art across the precinct is important to telling the story of this area. <p>Concerns about amenity impacts arising from the development included:</p> <ul style="list-style-type: none"> ▪ Measures to reduce the heat island effect. ▪ Minimising wind impacts within the plaza and around the precinct. ▪ Measures to attenuate noise from servicing and plant for the station. ▪ Overshadowing and loss of sunlight to Wellington Street and the Alexandria heritage area. ▪ Noise from people congregating on balconies. ▪ Loss of privacy and outlook for residents to the north of the site in the Cope Street apartments. 	<ul style="list-style-type: none"> ▪ A diverse palette of building materials and finishes have been employed to provide visual interest with a focus on highly detailed podium structures. ▪ The proponent has also made a significant contribution to public art that will be integrated throughout the precinct. ▪ The public art strategy has been informed by a deep understanding of the area and development of individual works will entail additional community engagement. Refer to the detailed SSDAs for more detail. ▪ The detailed design of buildings including balcony placement is not proposed within this amending concept DA. ▪ Refer to Wind Impact Assessment at Appendix DD and Section 8.4 ▪ Refer to Overshadowing Analysis at Appendix EE and Section 8.3.2.
Community Uses and Facilities	
<p>Suggested a Health One centre, new school facilities, community library or learning centre, small movie theatre or farmer's market.</p>	<ul style="list-style-type: none"> ▪ Childcare is an approved community use under the terms of the bid.
<p>Officers of the City of Sydney noted consideration should be given to providing a medical hub or a Health One facility on site.</p>	<ul style="list-style-type: none"> ▪ Preliminary discussions are underway with Sydney Local Health District to explore opportunities for providing health services within the precinct.
<p>Officers of the City of Sydney noted the importance of working with local organisations to explore:</p> <ul style="list-style-type: none"> ▪ Activities within the Makerspace. ▪ An ongoing program of community, recreational and cultural events. ▪ Providing services and amenities that respond to changing demographics and community needs including affordable retail. 	<ul style="list-style-type: none"> ▪ In addition to public art there will be a contribution to placemaking, activation and events within the precinct. Details of the nature and operation of the Makerspace will be developed in consultation with the community over the three year construction period.
<p>Secure economic opportunities for Aboriginal people and residents of social housing who live within the Waterloo area. This should not just cover participation in construction but extend to working with employers locating to the precinct.</p>	<p>There is a program for Aboriginal participation in construction. Consideration will also be given to ways to promote Aboriginal enterprise and employment opportunities within the precinct.</p>
Retail and Services	
<p>Consideration whether a supermarket is needed or desirable. Other suggestions included:</p> <ul style="list-style-type: none"> ▪ Smaller local offers with no chains. ▪ Good quality cafes and food. 	<p>The feedback is noted and will inform the retail and procurement strategy that will be implemented closer to the time when the station</p>

Matters Raised	Proposals Response / Document Reference
<ul style="list-style-type: none"> ▪ Butchers, delis and a bakery. ▪ A small specialty gift shop that showcases the work of local artisans and producers. ▪ Not competing with established local retailers on Regent Street. ▪ Affordable retail to respond to the needs of people on low incomes. ▪ Positioning of retail in the station building on the corner of Cope and Wellington Streets was supported. 	<p>and precinct is ready to operate. The intention is for retail to support the varied needs of:</p> <ul style="list-style-type: none"> ▪ Metro customers ▪ Workers and residents within the precinct ▪ The surrounding community. <p>Activation of the frontages along Cope Street and Botany Road is a key feature of the proposal.</p>
The Plaza and Public Domain	
<p>Concerns regarding adequacy of open space provided. Suggested rooftops and podium areas be landscaped to extend the amount of planting and available open space across the precinct. Others noted that green walls would help to provide room for nature.</p>	<p>Provision of open space was addressed in the CSSI and concept DA approval. The Cope Street Plaza is consistent with these approvals. The community facility originally proposed within the plaza has been removed to increase open space and secure unobstructed access to and from the station.</p> <p>The change in building envelope for Building 1 allows more useable roof tops within the Northern Precinct which are proposed to be landscaped where possible.</p>
<p>Supported reduction in height of northern building. Would like more detail on the extent of sunlight to the plaza at different times of the year.</p>	<p>The reduction in height of the commercial building will increase sunlight to the plaza. The amount of sunlight the plaza receives is consistent with City of Sydney requirements and outlined in detail at Appendix EE.</p>
<p>Other suggestions were:</p> <ul style="list-style-type: none"> ▪ Minimising hard surfaces, planting trees, making the public spaces safe. ▪ Including areas to sit, managing anti-social behaviour, infrastructure to support events and activation of the plaza. ▪ Introducing water features, considering the final design of the plaza in the context of the park across the road as envisaged in the Waterloo Estate masterplan, using endemic trees and plants as part of the Aboriginal story of the area. ▪ Providing awnings around the perimeter of the precinct and particularly near the bus stop on Botany Road. 	<ul style="list-style-type: none"> ▪ Durable hard surfaces are required to withstand the significant foot traffic the plaza will receive. ▪ Visual interest will be provided by an inground artwork that will extend throughout the plaza area. ▪ Extensive plantings and advanced trees will be provided to soften the appearance of the plaza and provide shade. Endemic plants will be featured across the precinct and their significance to Aboriginal people will be interpreted. ▪ Vertical gardens are not proposed due to issues of maintenance and public health. ▪ Additional seating is anticipated to be included in planter boxes and within the plaza. It is required to be provided around all street frontages. ▪ CCTV and the utilisation of CPTED principles will assist to address concerns around safety and antisocial behaviour.
Public Art	

Matters Raised	Proposals Response / Document Reference
<p>The commitment to public art was considered to add a distinctive dimension to the precinct. Suggestions included:</p> <ul style="list-style-type: none"> ▪ A sculpture that acknowledges Aboriginal people's links to the land. ▪ Works that speak to the contemporary Aboriginal culture of the area. ▪ Street art in laneways. ▪ Bold largescale works like in Madrid Airport. ▪ Bring colour into the area particularly the station. ▪ Works that reference the rich and diverse multicultural nature of the area. ▪ Ongoing arts events and production not just large fixed public art works. 	<p>The Public Art Strategy (outlined within the detailed SSDAs) provides for a series of significant works to be commissioned throughout the precinct. These works will be in a range of media and scales. The strategy has been developed by Aboriginal curator Tess Allas and Sebastian Goldspink and informed by the work of Murawin, a specialist placemaking consultancy.</p>
Precinct Operation and Governance	
<ul style="list-style-type: none"> ▪ Prohibit drinking of alcohol (outside of licensed areas). ▪ Train management and security to deal with challenging behaviour in a sensitive way. ▪ Security and centre managers will also have to build relationships with local health services and community service providers to assist in difficult situations. ▪ Clear precinct governance about who is responsible for maintaining the area given multiple ownership and that different parts of the precinct would fall under the responsibility of Sydney Metro, Mirvac, City of Sydney, Land and Housing Corporation and a community housing provider. ▪ More information was sought about emergency management. Some were concerned that the “crowded nature” of the site and surrounding streets could make it difficult for services to access the station. 	<ul style="list-style-type: none"> ▪ The plaza has been designed as both a gathering place and access way to the station. Design of the public domain is compliant with all requirements for disability access. ▪ Retail uses around the edges of the plaza, at key points along street frontages and balconies will provide passive surveillance throughout the day. ▪ The plaza area is publicly accessible private open space and managed by Mirvac. Mirvac's intention is to designate the plaza itself an alcohol-free area with exemptions for licensed restaurants and small bars surrounding the plaza and events such as food festivals. ▪ Footpaths around the precinct are under control of the City of Sydney. The applicant will pass on this community feedback for the City to consider. ▪ CCTV will operate within the station and throughout the precinct. ▪ Security within the station and at entrances to the station will be responsibility of Sydney Metro. We will pass on community feedback regarding security for them to consider. ▪ The Place Manager will also build networks with local first responders and mental health services to appropriately manage difficult situations. ▪ Responsibility for maintaining areas within and around the precinct is outlined below. Station area: Sydney Metro Wider precinct: Plaza, Laneways, Interfaces with Buildings: Mirvac

Matters Raised	Proposals Response / Document Reference
<p>Precinct Activation</p> <ul style="list-style-type: none"> ▪ Support for reducing the number of residential apartments and creating more commercial space. ▪ Programming and events in the plaza, community hub and Makerspace to activate the precinct. ▪ Suggestions included: farmers markets, spaces for affordable retail and social enterprises, opportunities for Aboriginal enterprises and workshops to make and repair things. ▪ The use of the Makerspace for artist studios was not supported as it was felt this would not provide any extended community benefit. 	<p>Footpaths and local streets: the City of Sydney.</p> <ul style="list-style-type: none"> ▪ A structure will be developed for these different parties to liaise with each other, share information and where required, coordinate response. <p>The proposed amendments deliver additional commercial space in lieu of a third residential tower approved in the concept SSDA. The Plaza has been designed:</p> <ul style="list-style-type: none"> ▪ As a welcoming and inclusive community gathering space. ▪ For community events appropriate to a space of its size. ▪ To facilitate ready and unencumbered access to the station. ▪ While the station is constructed over the next few years, engagement will occur with community organisations to identify locally relevant activations for publicly accessible areas and facilities when the precinct is operational.
<p>Cultural Heritage</p> <ul style="list-style-type: none"> ▪ Some community members noted the significance of Redfern and Waterloo to new Australians who had settled in the area and that diversity is strongly reflected in the social housing community. ▪ The Ethnic Communities Council building in Cope Street was the birthplace of SBS and played a key role in the evolution of multiculturalism as a tenet of civic life within Australia. The ECC noted that this contribution should be celebrated within the precinct and offered to provide details of this history to inform the heritage and cultural strategy. 	<p>These points are noted. The Public Art Strategy and Placemaking Strategy has a strong emphasis on recognition and celebration of Aboriginal culture and the multicultural diversity of the area. Refer to the detailed SSDAs for more detail.</p>
<p>Construction Management</p> <p>Community members in proximity to the site noted that:</p> <ul style="list-style-type: none"> ▪ While there have been amenity impacts from works to date these have generally been well managed and complaints have been addressed. ▪ The contractor will need to continue to work with the community and keep them informed. ▪ Night works should be minimised. 	<p>These comments are noted. For further detail of how impacts will be managed please refer to the CEMP at Appendix Q. A comprehensive community relations program will also be implemented to keep the neighbours informed of the construction program and provide ready channels for receiving feedback and responding to queries.</p>
<p>Aboriginal Perspectives</p> <p>Aboriginal stakeholders raised the following concerns:</p>	<p>These points are noted. The Public Art Strategy and Placemaking Strategy have a strong emphasis on recognition and celebration of</p>

Matters Raised	Proposals Response / Document Reference
<ul style="list-style-type: none"> ▪ Waterloo Station should be distinctive and highlight the contemporary Aboriginal culture of Redfern and Waterloo. ▪ The Gadigal language and local heroes of the Aboriginal community should be celebrated. ▪ Support for Murawin’s cultural landscapes approach of telling the First People’s stories first and using this foundation then tell the stories of colonial and multicultural immigration to the area. ▪ Opportunities for Aboriginal participation should not just be limited to public art. There should also be opportunities for Aboriginal enterprise, procurement, and employment. <p>Other points included:</p> <ul style="list-style-type: none"> ▪ The extent of change within the area is displacing Aboriginal people. ▪ A proportion of affordable housing should be targeted to Aboriginal people who are being forced out of the area. ▪ The public plaza and surrounding areas should be welcoming to Aboriginal people. <p>It was also noted that Sydney Metro needs to:</p> <ul style="list-style-type: none"> ▪ Run programs to recruit, train and employ Aboriginal staff. ▪ Require consultant teams working for them to provide employment for Aboriginal professionals. ▪ Consult Aboriginal people in the early stages of a project rather than when designs are fully developed. 	<p>Aboriginal culture, as well as the multicultural and social diversity of the area.</p>
Waterloo Congregational Church	
<p>Given their proximity within the precinct the Church was a key stakeholder. Discussions with the Church focused upon:</p> <ul style="list-style-type: none"> ▪ Ensuring access for vehicles for weddings and funerals. ▪ Enabling continued operations throughout construction ▪ Security given no fences are proposed. ▪ Managing changes in levels around the Church. ▪ The Church custodian and the proponent have agreed to meet regularly throughout planning and construction. 	<p>An initial meeting was held on 17 June 2020 with the church custodian.</p> <p>The existing dedicated wedding and funeral vehicle zone on Botany Road, immediately outside the church, will be retained. This was presented to the Transport Coordination Office on 25 June 2020 and agreed by all parties present at the session.</p> <p>Construction activities will be planned to avoid or minimise disruption of church operations as much as possible. As the existing vehicle zone will be retained on Botany Road, there is no disruption envisaged to the church.</p> <p>The church will have a dedicated relationship manager, who will be the sole point of contact and the interface with the construction team to resolve any issues.</p> <p>The public domain has been designed to integrate the church seamlessly into the</p>

Matters Raised	Proposals Response / Document Reference
	<p>Waterloo Metro Quarter precinct. Bollards, vehicle mitigation devices and plantings are proposed to control movement of vehicles and pedestrians in the vicinity of the church.</p> <p>The landscape design has been integrated with the existing church levels to ensure access via the side doors is retained.</p> <p>The custodian of the Church and the developer have agreed to meet regularly throughout planning and construction.</p>

7.2. GOVERNMENT AGENCIES

The applicant and its consultants have engaged with the relevant Government agencies and City of Sydney Council throughout the preparation of the amending concept DA, as outlined in the table below.

Table 11 Summary of Feedback from Government Agencies and other Stakeholders

Agency / Meeting Details	Matters Raised	Response / Reference
<p>Department of Planning, Industry and Environment</p> <p>3 February 2020</p> <p>4 June 2020</p> <p>23 June 2020</p> <p>29 July 2020</p>	<p>3 February 2020 – An initial scoping meeting was held on the 3rd February 2020 to discuss the objectives and overall vision for the WMQ OSD, notably the proposal to increase commercial office floor space on the site. The following matters were discussed:</p> <p>Splitting the WMQ Precinct into separate multiple detailed applications.</p> <p>Appropriate planning pathway to amend the concept envelope (i.e. either a Section 4.55 (2) Modification or an Amending DA).</p> <p>The DPIE confirmed an Amending DA would be required.</p>	<p>This Amending DA has been prepared as per the DPIE’s recommendation.</p> <p>Separate detailed SSDA’s have been lodged for each precinct.</p>
	<p>4 June 2020 – The indicative agenda for this meeting was as follows:</p> <p>Demarcation between the CSSI approval and scope of each detailed SSDA.</p> <p>The Waterloo Metro Quarter Amenity and Design Guidelines and specifically questions and comments regarding:</p> <ul style="list-style-type: none"> ▪ Apartment Design Guide ▪ Overshadowing calculations ▪ Traffic and transport ▪ The Amending DA regarding: ▪ Envelope modifications ▪ Deliverables ▪ Structure of reports that apply across the whole site, and clarification of SEARs. 	<p>An assessment of the proposal against the Waterloo Metro Quarter Amenity and Design Guidelines is provided in Section 6.14.</p> <p>Consideration of the proposals impact on the residential land uses contained within Building 2 is provided in Section 6.7.</p> <p>An Overshadowing Report has been prepared by RWDI and included at Appendix EE. The assessment concludes the proposed development complies with the design</p>

Agency / Meeting Details	Matters Raised	Response / Reference
		<p>criteria in the Waterloo Metro Quarter Design and Amenity Guidelines. Refer to Section 8.3.3.</p> <p>A Transport, Traffic and Parking Assessment has been prepared by ptc and included at Appendix I. Refer to Section 8.8. The traffic modelling undertaken demonstrates that the external road network should operate at acceptable levels of service or at a level of service less than the approved concept DA (SSD 9393) and therefore, the development should not have a detrimental effect on the network operation.</p>
	<p>23 June 2020 – The DPIE provided feedback on the matters presented at the previous meeting held on the 4th June 2020. The discussion focused on the proposed demarcation between the CSSI/SSDA including notably the planning pathway for archaeological studies on the site and remediation.</p>	<p>This concept SSDA establishes the building envelope and the indicative integration between the proposed OSD envelope with the approved CSSI Waterloo metro station. Section 4.4 clearly delineates between the works included within the CSSI approval and the components sought for approval under the detailed SSDA. Considerations of archaeological requirements will be dealt with under the subsequent detailed SSDAs.</p>
	<p>29 July 2020 – A meeting was held on the 29th July 2020 to discuss the progress of the development and strategy for lodging four detailed SSDA's concurrently. The DPIE proposed their preference was to stagger the lodgement of the detailed SSDAs.</p>	<p>To meet Sydney Metro commitments, the proposed detailed SSDA's must be lodged concurrently. This will also enable the community to review all detailed SSDA's concurrently and assist with understanding the total vision for the WMQ precinct and cumulative impacts.</p>
<p>City of Sydney (CoS) 4 March 2020</p>	<p>Sustainability - Matters raised included:</p>	<p>The sustainability strategy was developed over several sessions with City of Sydney.</p>

Agency / Meeting Details	Matters Raised	Response / Reference
<p>8 April 2020 28 April 2020 28 April 2020 6 May 2020 19 May 2020 26 May 2020 22 July 2020</p>	<p>Opportunity with the precinct-wide renewal to achieve carbon neutrality.</p> <p>BASIX would apply to student housing.</p> <p>CoS would like to see:</p> <p>Separation of organics and use of City of Sydney Guidelines for Waste Management in New Developments.</p> <p>Initiatives that support the circular economy and local community needs.</p> <p>Five per cent development energy targets for use of renewables.</p> <p>Measures to optimise thermal performance and comfort of the student housing building through use of natural ventilation strategies.</p> <p>Glazing and insulation use.</p> <p>NABERS for apartments rating and the incorporation of energy metering to facilitate these assessments.</p>	<p>Refer to Appendix F - Architectural Design Report, Appendix L - Waste Management and Appendix M – Ecologically Sustainable Development Report.</p>
	<p>Community Facilities - Requested consideration be given to health services or a Health One facility on site.</p> <p>Cited study saying limited demand for childcare in the area.</p> <p>CoS also noted the importance of working with local organisations to explore:</p> <p>Nature of activities provided within the Makerspace to complement what is already occurring within the area.</p> <p>An ongoing program of community, recreational and cultural events.</p> <p>Works that reference the rich and diverse multicultural nature of the area.</p> <p>Ongoing arts events and productions not just large fixed public artworks.</p> <p>Providing services and amenities that respond to changing demographics and community needs, including affordable retail and particularly fresh food.</p> <p>Engaging with LAHC to work on the specific needs of the social residents.</p> <p>Provide opportunities for social and local procurement beyond Aboriginal Participation in Construction. Any social enterprises should also have a strong local connection.</p>	<p>There will be flexibility within the retail strategy for Building 2 to meet the diverse needs of people within the precinct and the surrounding area. This may include health and medical facilities, Services NSW and other potential operators.</p> <p>There is a commitment to establish a placemaking fund to run events and activations. A place manager will also be employed to coordinate activities on site. As the site is being constructed, the developer will be working with local organisations to explore:</p> <p>The nature of this program.</p> <p>How it would be curated.</p> <p>Opportunities for local creatives. The intention is for retail to support the varied needs of the metro customers, workers and residents within the precinct and surrounding community.</p>

Agency / Meeting Details	Matters Raised	Response / Reference
	Sought clarification on how the Makerspace for artist studios would provide any extended community benefit.	In addition to the Aboriginal Participation in Construction program, we will also look at ways to promote Aboriginal enterprise and employment opportunities within the precinct, as part of the retail strategy and the placemaking activation program.
	Traffic and Transport - CoS had minor comments on the traffic and transportation components of the development, presented on 5 May 2020.	The developer confirmed traffic and pedestrian modelling is being undertaken collaboratively across the precinct. For more detail refer to Appendix I .
	Public Domain - CoS did not support the use of the Makerspace for artist studios as it was felt this would not provide any extended community benefit.	Refer to Waterloo Congregational Church section. These comments were all considered in the development of the design. For more detail refer to the Landscape and Public Domain Reports submitted with the northern, central and southern SSDA's (<i>Appendix KK</i>). No actions or follow-up sessions for public domain were requested.
	Noise, vibration and natural ventilation Minor comments on the noise, vibration and natural ventilation requirements, particularly on the residential dwellings impacted by Botany Road.	The noise attenuation strategy employed on the residential buildings, includes the use of external wall integrated noise attenuators to achieve natural ventilation.
Sydney Trains 4 August 2020	Discussion with Sydney Trains staff on 4 August 2020 focused on the following: Wayfinding to support ease of movement between Sydney Trains at Redfern Station, buses and the metro. Positive responses to precinct design, landscaping and public art particularly Aboriginal artwork and cultural elements. Student housing allocation to respond to changes in demand due to COVID-19.	Wayfinding and signage will be implemented close to completion of the station. Connections to Redfern Station will be highlighted. Student allocation remains unchanged. The Waterloo ISD place manager has committed to regularly updating and liaising with Sydney Trains. Attendees invited to opt in to receive email

Agency / Meeting Details	Matters Raised	Response / Reference
		correspondence, including notifications and newsletters.
<p>Transport Coordination Office (TCO) 17 June 2020 25 June 2020 5 August 2020</p>	<p>Consultation with the TCO occurred on 17 and 25 June, and 5 August 2020. Discussions focused primarily on the location and operation of the loading docks in the commercial building (northern precinct) and student accommodation building (southern precinct) and the capacity of the bus stop on Botany Road to accommodate a higher frequency of services given Waterloo's status as an interchange station.</p>	<p>Issues surrounding the loading dock were resolved to the satisfaction of the TCO at the meeting on 25 June 2020. Detailed pedestrian modelling work was undertaken to ensure sufficient pedestrian movement at the bus stop, particularly in peak periods. Provision for the church vehicle zone (for wedding and funeral vehicles), currently located immediately outside the church on Botany Road, was discussed and agreed that it would remain in place. The retention of this dedicated zone has no impact on the increased bus movements anticipated at the new bus interchange.</p>
<p>NSW Fire 16 April 2020 20 April 2020 13 May 2020</p>	<p>Correspondence and meetings with Fire Rescue NSW occurred as follows: 16 April 2020 - emails and phone discussion to agree on the content of the Fire Engineering Strategy 20 April 2020 - emails and phone discussion to agree on the presentation date and attendees for the Fire Engineering Strategy 13 May 2020 - virtual meeting to present the Fire Engineering Safety Strategy for Waterloo Metro Quarter. Fire Rescue NSW provided general positive feedback.</p>	<p>Comments from Fire Rescue NSW have been addressed in each Detailed SSSA submitted concurrently with this application.</p>
<p>Sydney Water 28 May 2020 29 June 2020</p>	<p>Correspondence and meetings with Sydney Water occurred as follows: 8 May 2020 - Sydney Water Statements of Flow and Pressure issued and received for Waterloo Metro Quarter water mains 22 May 2020 - submission of application for Feasibility Notice of Requirements for Waterloo Metro Quarter 28 May 2020 - emails and phone calls to confirm acceptance of application for</p>	<p>Refer to Services and Utilities Infrastructure Report at Appendix T.</p>

Agency / Meeting Details	Matters Raised	Response / Reference
	<p>Feasibility Notice of Requirements for Waterloo Metro Quarter</p> <p>29 June 2020 - virtual meeting to discuss options and status on the Feasibility Notice of Requirements for Waterloo Metro Quarter</p> <p>8 July 2020 - emails to follow up on agreements and actions from virtual meeting</p> <p>21 July 2020 - emails from Sydney Water providing status on Feasibility Notice of Requirements for Waterloo Metro Quarter</p> <p>31 July 2020 - Feasibility Notice of Requirements issued for Waterloo Metro Quarter</p>	
<p>Ausgrid</p> <p>22 May 2020</p> <p>25 May 2020</p> <p>22 June 2020</p> <p>8 July 2020</p> <p>6 July 2020</p> <p>6 July 2020</p> <p>9 July 2020</p>	<p>Correspondence and meetings with Ausgrid occurred as follows:</p> <p>22 May 2020 - email, confirm and accept application for power for Buildings 3 and 4 mini chambers</p> <p>25 May 2020 - email, confirm and accept application for power for Building 1 chamber</p> <p>22 June 2020 - virtual meeting, confirm appointment of Ausgrid contestable project coordinator</p> <p>8 July 2020 - virtual meeting, discuss AN21263 Building 3 mini substation flood planning and position</p> <p>6 July 2020 - email and virtual meeting, AN21263 PDS received</p> <p>6 July 2020 - email and virtual meeting, AN21264 PDS received</p> <p>9 July 2020 - virtual meeting, Buildings 3 and 4 substation flood planning levels.</p>	<p>Refer to Services and Utilities Infrastructure Report at Appendix T.</p>
<p>NSW Police</p> <p>13 July 2020</p>	<p>Correspondence and meetings with NSW Police (South Sydney Police Area Command) occurred as follows:</p> <p>13 July 2020 - present the scheme, discuss local crime issues and items of consideration for the Waterloo precinct.</p> <p>4 August 2020 - further consultation to understand the operational context and specific security threats. Items raised have been incorporated into the Security Risk Assessments.</p>	<p>Refer to the CPTED Assessment at Appendix N.</p>
<p>Jemena</p> <p>17 June 2020</p> <p>18 June 2020</p>	<p>Correspondence and meetings with Jemena occurred as follows:</p>	<p>Refer to Services and Utilities Infrastructure Report at Appendix T.</p>

Agency / Meeting Details	Matters Raised	Response / Reference
1 July 2020	<p>17 June 2020 - email to confirm contact details in Jemena's Network Development Team</p> <p>18 June 2020 - email, response to Waterloo Metro Quarter gas connection assessment and request for estimated design load for assessment from the design team</p> <p>1 July 2020 - email to confirm Waterloo Metro Quarter gas connection capacity based on the information provided to Jemena as per its previous request.</p>	
<p>Land and Housing Corporation (LAHC)</p> <p>19 June 2020</p> <p>11 August 2020</p>	<p>Virtual meeting with LAHC development managers and communications manager.</p> <p>There have been regular discussions with LAHC department staff and these will continue about the over-station development.</p> <p>During consultation the following was noted: Significant reduction in basement car parking. Clarification of height of the commercial building.</p> <p>Purpose of the pre-DA consultation and what it would achieve.</p> <p>Interest in the plaza facing the housing estate.</p> <p>Delivery date of the social housing.</p>	<p>Car parking is provided below the maximum provisions required by the City of Sydney and concept SSDA. Height of the commercial building has been reduced by up to 25 metres below the approved envelope within the concept plan. The plaza faces Cope Street and the park proposed in the latest version of the Waterloo Estate master plan. The social housing building is expected to be completed by late 2023.</p>
<p>Department of Communities and Justice – Family and Community Services</p> <p>19 June 2020</p>	<p>Virtual meeting with Department of Communities and Justice – Family and Community Services Waterloo housing estate client liaison and assets management representatives. There have been regular discussions with LAHC department staff and these will continue about the over-station development. During consultation the following was noted:</p> <p>Disability access to the station.</p> <p>Interest in social housing finishes and external elements.</p> <p>Concerns about the impact to McEvoy Street and surrounding areas from development of the site.</p> <p>Interest in over station building design and future community facilities.</p>	<p>Design of the station's public areas complies with all requirements for disability access. Social housing internal and external finishes will be as agreed in the PDA and are outlined in the SSD-10437 Southern Precinct. As an integrated station development, public transport will be the dominant and preferred mode of travel to and from the station precinct. Ample bike parking facilities will also help to encourage cycling as a mode of travel to the station precinct. This will reduce vehicular traffic on local roads, including McEvoy Street. Community facilities are in the Central Precinct, including a childcare centre.</p>

Agency / Meeting Details	Matters Raised	Response / Reference
		Further community uses are envisaged for the Southern Precinct, Central Precinct and Northern Precinct which may include a Makerspace, community hub, and health/medical uses.
Sydney Local Health District 8 July 2020	Not addressed in consultation report.	Not addressed in consultation report.

Under section 4.55(2)(b) of the EP&A Act, the consent authority must consult with the relevant Minister, public authority or approval body in respect of a condition imposed as a requirement of concurrence to the consent. We, therefore, anticipate that the NSW DPIE will further consult with government agencies such as Ausgrid and TfNSW as part of the assessment of the amending concept SSDA.

For further discussion of one-on-one stakeholder briefings, please refer to the Pre-Consultation Report at **Appendix U**.

7.3. SYDNEY METRO DESIGN REVIEW PANEL

To inform the preparation of the relevant detailed SSDAs and the proposed changes to the approved building envelopes, the scheme has been presented to the Design Excellence Evaluation Panel (DEEP) and Design Review Panel (DRP) 10 times since the appointment of WL Developer Pty Ltd as the development partner, to seek feedback and to confirm design integrity.

Table 12 Meeting Details

Agency / Meeting Details	Matters Raised	Response Reference
Design Excellence Evaluation Panel 29 January 2019 19 February 2019 26 March 2019 7 May 2019	Refer to Design Integrity Report submitted at Appendix Y . Further design resolution was recommended to be considered through the design integrity process, including further consideration to: The approach to flooding, retail levels and the impact on Botany Road interface and public domain needs reconsideration, including setbacks. Expand the public art strategy and embed Aboriginal culture and local community identity into the design of the station, buildings and public realm. More considered response to the local context in the design of the podiums, laneways and facades (e.g. grain, materials and character).	Refer to Design Integrity Report submitted at Appendix Y . As presented to the DRP, these items were further considered through the design integrity process, including lowering retail floor levels to achieve a more activated streetscape along Botany Road, further development of the public art strategy, and refining the architectural treatment of the podium and towers to respond to the local context. The proposed maximum height of the towers has been reduced to improve solar

Agency / Meeting Details	Matters Raised	Response Reference
	<p>Additional technical testing and studies on the resulting wind impact and noise mitigation strategies for all buildings.</p> <p>Any opportunities to improve solar access to public spaces and increase deep soil planting.</p>	<p>access to Alexandria Park and the Alexandria Park Heritage Conservation Area.</p> <p>Further, additional technical testing and studies regarding wind and noise mitigation are included within the detailed SSDAs for the detailed design of the proposed development.</p>
<p>Design Review Panel</p> <p>18 February 2020</p> <p>17 March 2020</p> <p>31 March 2020</p> <p>9 April 2020</p> <p>21 May 2020</p> <p>4 May 2020</p> <p>19 May 2020</p> <p>1 June 2020</p> <p>12 June 2020</p> <p>30 July 2020</p>	<p>The refinement of the SSDA also benefitted from an exhaustive Design Review Panel (DRP) process led by the NSW Government Architect. This panel convened ten times to iteratively review and advise on the emerging design that was being developed within the parameters of the 2017 and 2019 approvals. A key focus of the panel's guidance was to optimise integration of the station and the public spaces and buildings throughout the precinct.</p>	<p>Details of this process and responses to issues raised by the DRP are contained in the Design Integrity Report at Appendix Y.</p>

8. ENVIRONMENTAL IMPACT ASSESSMENT

This EIS accompanying the amending concept SSDA is required to consider and assess impacts from the proposal pertaining to the natural and built environment and the social and economic landscape while determining the suitability of the site and the overall public interest associated with the proposal.

As required by the SEARs, the assessment of each matter informs the environmental risk assessment (at Section 10 based on:

- Adequate baseline data.
- Consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed).
- Measures to avoid, minimise and if necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment.
- A health impact assessment of local and regional impacts associated with the development, including those health risks associated with relevant key issues.

These aspects are assessed accordingly in the following components of this EIS.

8.1. BUILT FORM AND URBAN DESIGN

8.1.1. Design Excellence

The Design Excellence Strategy (**Appendix G**) endorsed by the Planning Secretary on 29 June 2020 establishes the framework within which Sydney Metro and their partners will deliver design excellence for the Waterloo Metro Quarter ISD.

The Design Excellence Strategy approved under the concept SSDA (SSD 9393) was proposed as an alternative to the completion of a competitive design process otherwise required by the SLEP 2012 for the Waterloo Metro Quarter site. This alternative strategy was supported by the DPIE as the completion of a competitive design process, as defined under the City of Sydney Competitive Design Policy, was considered not reasonable or necessary under the circumstances of this development.

The DPIE accepted as per clause 6.21(6) of the SLEP 2012, that discretion be afforded to the development to propose an alternative design excellence process, as formalised through the endorsement of the Design Excellence Strategy. The Design Excellence Strategy includes several rigorous steps to inform and evaluate the design quality of the proposed development, including:

1. Establishing design quality expectations – Sydney Metro DRP
2. Competitive selection – Design Excellence Evaluation Panel (DEEP)
3. Design Integrity – State DRP or alternative

The Design Excellence Strategy draws from the NSW Government Architect's *Better Placed* and is consistent with the underlying principles of the NSW Government Architect's draft Design Excellence Competition Guidelines.

Following contract award, the Sydney Metro DRP is convened for the design integrity process, whereby the DRP reviews and provides advice on the detailed building design to ensure the achievement of design excellence, having regard to the Waterloo Metro Quarter Design and Amenity Guidelines. The applicant is required to obtain Sydney Metro DRP advice on the scheme prior to the lodgement of the detailed SSDA and throughout the assessment and post-approval stages.

The Design Integrity Report provided at (**Appendix Y**), and the summary provided at Section 7.3 outlines the comments received from the DRP on the design evolution of proposed development including the refinements to the building envelopes. As outlined within the Design Integrity Report, the DRP has endorsed the revised building envelopes for submission to the DPIE and has concurrently endorsed the detailed design of the proposed buildings within the Waterloo Metro Quarter as achieving design excellence in accordance with the terms of clause 6.21(4) of the SLEP 2012.

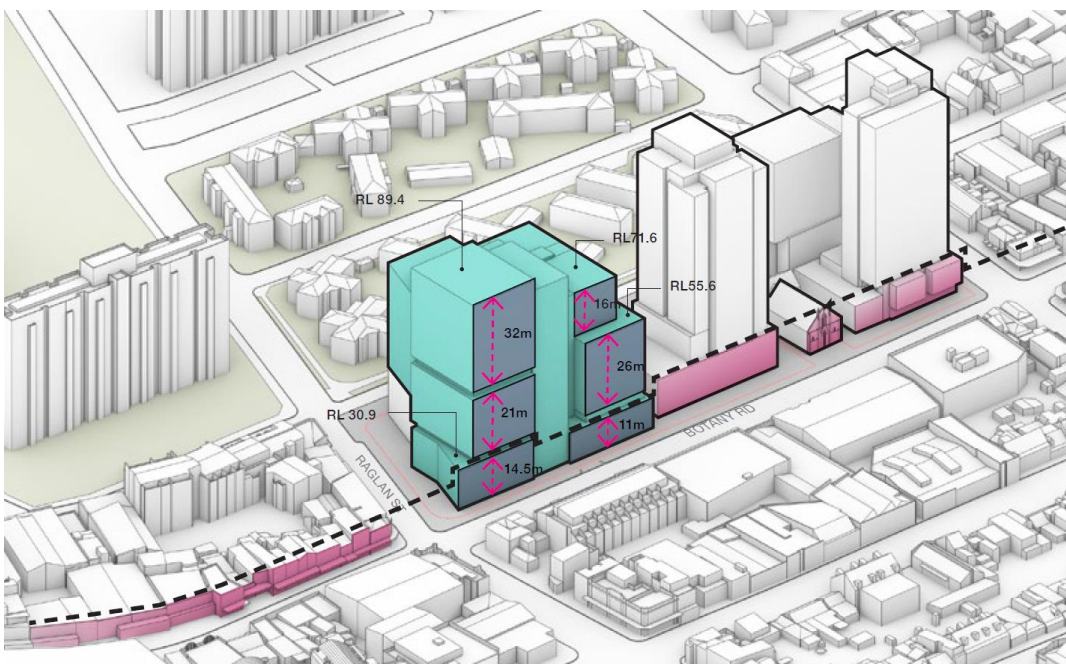
8.1.2. Built Form

The proposed building massing has been designed with consideration of the surrounding site context, including the approved building envelopes within the broader Waterloo Metro Quarter site, heritage items in proximity to the site, including the Waterloo Congregational Church and heritage listed street corner anchors such as the Cricketers Arms Hotel and Former CBC Bank, and the future character of the locality. Additionally, the building massing has considered the role that the north building plays in the context of Waterloo, with its diverse community and neighbouring residential forms. The built form is proposed to be composed by four scaled and articulated volumes marked by central indentations to the façade that reveal split quadrants. The intent of the quadrants is to ensure that bulk of the commercial towers is reduced when viewed from the public realm, and to ensure the north precinct integrates with the central and southern precincts.

Botany Road Streetscape

The proposed building massing to Botany Road has been modified from the approved building envelopes in the concept SSDA, however the design principles to reduce the scale of the podium to reflect a two to three-storey scale has been maintained. The proposed maximum height of the podium building envelope at the corner of Botany Road and Raglan Street has been moderately reduced from RL 34.8 to RL 33. The remainder of the podium height however has been maintained as per the concept SSDA approved building envelope plans. The following figures prepared by Woods Bagot (which illustrates the detailed scheme within the building envelope) demonstrates the design principles of reducing the massing of Building 1 to address the proportionality and scale along Botany Road.

Figure 25 Configuration of Building 1 envelope with consideration of the Botany Road streetscape



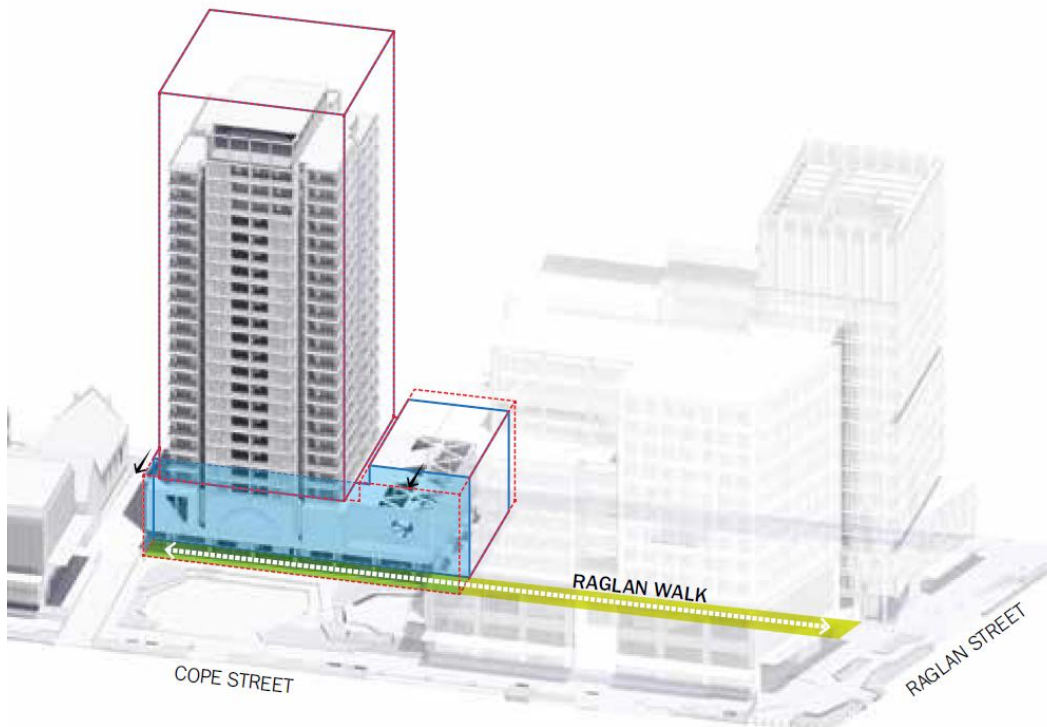
Source: Woods Bagot

Interface with Cope Street Plaza

The proposed amendment to the podium building envelope at Building 2, and the proposed amendments to the Building 1 building envelope have been designed to improve the relationship and interface between the buildings and Cope Street Plaza.

The extension of the podium levels towards the east of Building 2, and the creation of a colonnade space on the ground floor, provides better connectivity and integration with adjacent buildings and movement through the Waterloo Metro Quarter Precinct. As illustrated in the following image, the extended podium is designed to align with the proposed new Raglan Walk through Building 1 to provide a seamless pedestrian connection from Raglan Street to the Cope Street Plaza and beyond, that is weather protected and activated by ground level uses. It is further noted that the use of the extended floor plates within the Building 2 podium are for community facilities, and as such the community facility will have a more direct interface and visual connection to the Cope Street Plaza than the approved building envelope.

Figure 26 Proposed modification to the Building 2 podium envelope



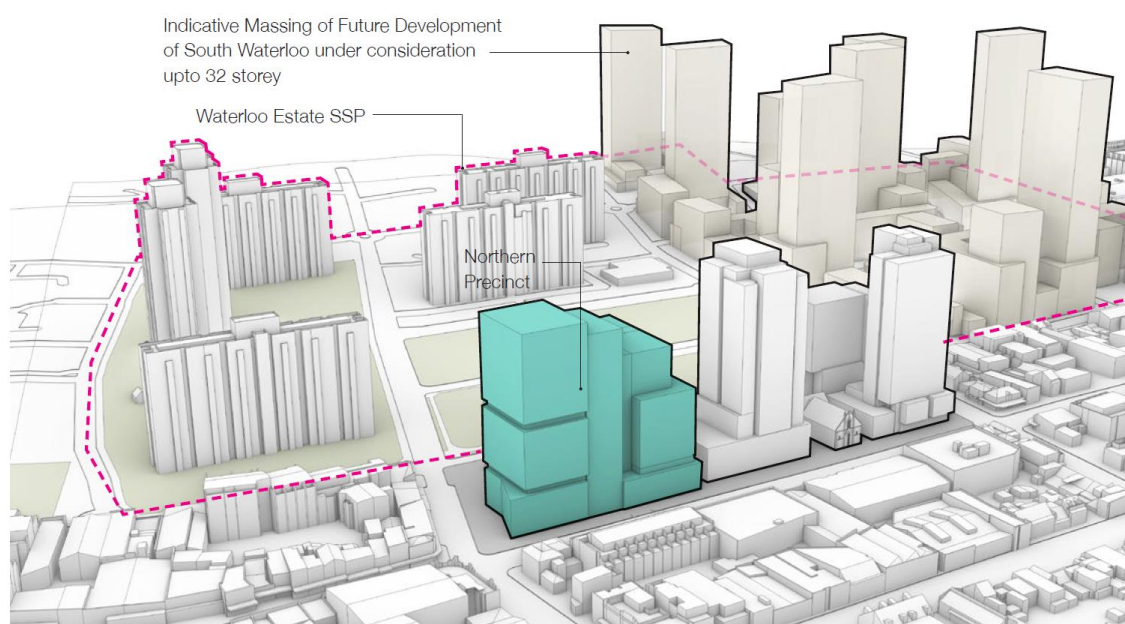
Source: Hassell

Relationship with future site context

The maximum height of Building 1 has been reduced compared to the approved concept SSDA building envelopes, however the scale of the building remains appropriate within the context of the future character of the Waterloo locality. The following figure illustrates the proposed massing within the context of future built form currently proposed within the Waterloo Estate to the south east of the site.

The inclusion of additional employment floorspace and significant building form at the Waterloo Metro Quarter site is appropriate to define the site as a marker for the entrance of the Waterloo metro station and entrance to the Waterloo precinct from Botany Road.

Figure 27 Proposed building massing within the context of the future Waterloo Estate redevelopment



Source: Woods Bagot

8.1.3. Prescribed Airspace

Approval has been sought from Sydney Airport Corporation Limited (SACL) under the *Airports (Protection of Airspace) Regulations 1996* (the Regulations) for the intrusion of multi-storey buildings at the Waterloo Metro Quarter site into the airspace, which under the Regulations is prescribed airspace for Sydney Airport.

Approval has been granted by the Department of Infrastructure, Regional Development and Cities as part of the Concept Approval, for the controlled activity and intrusion into prescribed airspace for Sydney Airport to a maximum height of 116.9 metres AHD. The approved penetration of prescribed airspace is up to 55.9 metres.

The proposed development will result in a maximum building height of RL104.2, being 88.9 metres above the Australian Height Datum inclusive of all plant and ancillary features. This maximum height remains consistent with the previously approved height for the site. Accordingly, Building 1 and Building 2 is below the approved airspace height and would not contribute any measurable adverse effect to the safety, regularity or efficiency of air traffic to and from Sydney Airport and or in the foreseeable future.

This SSDA will continue to conform to the Airspace Approval Conditions imposed by the Department of Infrastructure, Regional Development and Cities.

8.2. HERITAGE IMPACT

A Heritage Impact Statement (HIS) has been prepared by Urbis and is attached at **Appendix H**. The HIS identifies and assesses the potential impacts associated with the amendments proposed to Building 1 and Building 2 on the significant characteristics of neighbouring heritage items, their context and setting.

The HIS provides a comprehensive assessment of key heritage impacts and establishes the heritage management framework for the development of the site. The assessment of heritage impacts has been prepared in accordance with the condition B28 of SSD 9393, the SEARs and the relevant provisions of the applicable planning instruments and Waterloo Design Amenity Guidelines.

In particular, the assessment provides a discussion of the potential impacts of the development on the adjoining Waterloo Congregational Church, the Cricketers Arms hotel, Former CBC Bank and Alexandria Park Heritage Conservation Area.

As discussed previously, the site is located within the vicinity of a number of locally listed heritage items under the SLEP 2012. The HIS has been prepared in accordance with the Heritage NSW's (former Heritage Office) guidelines 'Assessing Heritage Significance', and 'Statements of Heritage Impact'. The philosophy and process adopted is that guided by the Australia ICOMOS Burra Charter 1999 (revised 2013).

Site constraints and opportunities have been considered with reference to the Waterloo Metro Quarter Design and Amenity Guidelines (March 2020).

Waterloo Congregational Church

The Waterloo Congregational Church located adjacent to the central and southern precinct and is identified as a local heritage item under SLEP 2012. The Church is significant as it is one of the earliest worship venues in Waterloo. The Gothic church was constructed in 1883 to replace the congregation chapel built in 1865 and is renowned for its high-quality architectural traits including the symmetrical design of the façade.

The potential impact of the proposed development on the heritage significance of the Church includes views to the item, physical connections, construction adjacent to the Church, and potential visual 'domination' of the item. The amendment sought to Building 1 and Building 2 have been assessed as having no change on the impact of the proposal on the Waterloo Congregational Church heritage item. The amended concept building envelope focuses change to Building 1, with minor changes to the podium of Building 2 facing Cope Street Plaza. There are no amendments to the concept envelope with any critical interfaces within the Waterloo Congregational Church heritage item. Therefore, the proposed amended concept building envelope will have no additional heritage impact on this item, its setting, or its interface with the new buildings.

Cricketers Arms Hotel and Former CBC Bank

The north-west corner of the Waterloo Metro Quarter, where the proposed amendments to the concept building envelope are proposed, is located opposite two listed heritage items of local significance, being;

- Item 4 under the Sydney LEP 2012, “Cricketers Arms Hotel including interior”, at 56-58 Botany Road, Alexandria.
- Item 5 under the Sydney LEP 2012, “Former CBC Bank, including interior”, at 60 Botany Road, Alexandria.

Both of these significant properties would be unaffected physically by the concept proposal and the proposed amendments to the concept building envelope under this amending DA. Both heritage items are located outside of the boundary of the Waterloo Metro Quarter OSD. While the proposed amendments to the concept building envelope are located opposite these heritage items, the changes will have a negligible impact on the impact to these items when compared with the impact of the approved concept building envelope, which has already been assessed under a previous concept DA.

Overall, the scale and form of potential future development provided for by the concept proposal is not considered to have detrimental impacts on the proximate heritage items at the north-west corner of the Waterloo Metro Quarter. There are no impacts on any of the broader vicinity heritage items located to the south of the Waterloo Metro Quarter site as a result of this amended concept DA.

Alexandria Park Heritage Conservation Area

The Alexandria Park Conservation Area is located to the west of the site. It is significant for its ability to demonstrate the growth of the municipality of Alexandria in the second half of the nineteenth century and the first half of the twentieth century. The area developed in association with the industrial growth of Waterloo and the establishment of the Eveleigh Railway and Goods Yards, providing housing for workers. The housing stock reflects successive subdivisions of the Coopers freeholds and Park View Estate. The industrial development illustrates a later overlay reflecting the growing importance of the area as an industrial centre in the early twentieth century. Alexandria Park is also a focus for the community.

The potential impact of the proposed amendments to the building envelopes of Building 1 and Building 2 on Alexandria Park Conservation Area include views to and from the conservation area and overshadowing. The HIS concludes that the scale and design of the revised building envelopes of Building 1 and Building 2 is not considered to have any detrimental impacts on the Alexandria Park Heritage Conservation Area. This conservation area is identified to be significant for its collection of nineteenth century terrace and cottage building stock, which would not be physically affected by the proposed development.

The heritage conservation area generally consists of single and two-storey small scale dwellings with minimal setbacks and street trees throughout. This small scale at pedestrian level creates an insular streetscape with minimal views beyond the immediate context.

As discussed in Section 8.3.1, Cardno have prepared a Visual Impact Assessment which identifies visual changes of the site compared to the approved concept envelope from sensitive viewpoints, including from within the Alexandria Park Heritage Conservation Area. As evident within the report, the proposed building envelope results in no material difference for the proposed southern building when viewed from Alexandria Park Heritage Conservation Area.

The street orientation within the conservation area is principally north-south alignment, with the Waterloo Metro Quarter being located to the east. Therefore, distant views along view corridors within the conservation area are rare towards the Waterloo Metro Quarter and specifically the location of the proposed development. As such, the proposed southern building would have a negligible, if any, visual impact on the conservation area.

The amending concept DA will have no material impact on the heritage impact of the concept envelope on the significance of the Alexandria Park Heritage Conservation Area. In fact, the amended concept envelope actually results in a reduced scale of development when viewed from within the Alexandria Park Heritage Conservation Area as demonstrated by views D, D1 and H in the above amended VIA by Cardno (refer to Section 6.3 of this report). Overall, the proposed amended scheme will have no additional heritage impact on the significance of the Alexandria Park Heritage Conservation Area when compared with the approved concept envelope under SSD-9393.

Other heritage items in the vicinity

The proposal has no other significant interfaces with any other vicinity heritage items and the HIS concludes that overall, the scale and form of the Southern Precinct is not considered to have detrimental impacts on any proximate heritage items.

8.3. AMENITY

8.3.1. View and Visual Impact

A Visual Impact Assessment (VIA) Report has been prepared by Cardno and is provided at **Appendix AA**. The report has been prepared to assess the visual impact of the development when viewed from the public domain and key vantage points surrounding the site. The visual impact assessment also considers views by a pedestrian from the future Cope Street Plaza and the surrounding public domain.

A total of eight local views and 10 regional views were selected. Views from surrounding heritage conservation areas have also been considered. For each of the selected views, the report provides a qualitative assessment of:

- The existing visual environment.
- The capacity of the visual environment to absorb change.
- The amount of change that would be experienced as a result of the implementation of the proposal (carried out with the aid of survey accurate photomontages prepared from agreed critical viewing points).
- The visual quality of the changed visual environment in comparison with the environment prior to development.

The assessment of impacts on views from the public domain has been informed by relevant planning principles for assessment of such impacts set by the Land and Environment Court of NSW, specifically in *Rose Bay Marina Pty Ltd v Woollahra Council and anor [2013] NSWLEC 1046*. While the proposal only seeks amendments to the approved concept building envelopes for Building 1 and Building 2, a complete assessment of the Waterloo Metro Quarter incorporating these changes has been provided below for completeness.

Regional viewpoints were selected from the greater Waterloo precinct and from key public open spaces. Local viewpoints were selected from within the greater Waterloo precinct and along Botany Road to provide an accurate representation of views to the Waterloo Metro Quarter site from local streets and the surrounding public domain. Furthermore, viewpoints were considered from three heritage conservation areas within close proximity of the site. The selected viewpoints considered in the VIA are identified below.

Figure 28 Identification of viewpoints selected within the VIA



Picture 28 Regional viewpoints
Source: Cardno



Picture 29 Local viewpoints
Source: Cardno

The Visual Impact Assessment was carried out for the following categories of views:

- Close views – streets adjacent to the site.
- Medium distant views – streets and open spaces within the Waterloo precinct.
- Medium distant views - streets and parks outside of the Waterloo precinct and between 200 and 700m of the development site.
- Distant views – significant viewpoints up to 2kms from the site.

Close Views

Existing Environment

The visual environment immediately surrounding the site is characterised by Botany Road and streets adjacent to Waterloo Estate. The heritage listed Waterloo Congregational Church is the only structure of significance remaining on the Botany Road frontage. The visual environment of this portion of Botany Road is of low quality, dominated by vehicular traffic, buildings of low architectural quality and generally low pedestrian amenity.

Streets to the north, south and west of Botany Road are significantly different in character to Botany Road. They are less urban and are influenced by their proximity to residential and traditional fine grain retail uses. There is a relatively high level of pedestrian amenity. Street trees are also significant components of the visual environment.

Capacity to absorb change

Botany Road has a high capacity for change and the proposed development represents an opportunity for major improvement to visual quality at street level. The primary constraint for the Botany Road frontage is ensuring the development responds appropriately to the heritage values of the Waterloo Congregational Church.

The streets to the north, south and west of the site reflect built form and landscape elements that contribute to a relatively intact visual character of medium quality. The streets are considered to have a moderate capacity to absorb change.

Changes to close views resulting from the proposal

The proposal would result in additional visibility of open sky from close viewpoints to the north-west and east. The increased setbacks to Botany Road and Raglan Street and proposed through-site link from Botany Road to Cope Street would increase the visual permeability at street level. The increased setbacks of the towers at podium level would also reduce building bulk and view impacts from all four streets adjoining the site.

The montages included within the VIA indicate an improvement in the visual quality of close views from the south at Wellington Street, Cope Street and Botany Road due to reduced building height, particularly as it relates to Building 1. Close views from the south-west are substantially dominated by the approved station box.

When viewed from the north, Buildings 1 and 2 will be visible as part of the overall precinct. The VIA montages indicate that Cope Street Plaza will provide visual relief to the building group by allowing for open views of the sky and significantly opening up views towards the heritage listed Waterloo Congregational Church.

Figure 29 Viewpoint 1A



Picture 30 Approved Concept

Source: Cardno



Picture 31 Amended Concept

Source: Cardno

Medium distant views

Existing visual environment

The Waterloo Estate incorporates a number of elements that contribute to its existing visual character. These include a mix of residential buildings including 29-storey, 6-storey and 3-storey apartment blocks, wide streets, many of which are lined with large street trees, buildings that are well set back from the streets resulting in a feeling of spaciousness and large “forest scale” trees in the streets and around the existing buildings.

Capacity to absorb change

The assessment concludes Waterloo Estate has a moderate capacity to absorb change, contingent on:

- Retention and improvement of the existing streetscape quality and open character with buildings set back from the street. This constraint is of less significance at the interface with Botany Road.
- The Southern Precinct has the capacity to support tall buildings, provided that they do not result in continuous skyline elements and that they exhibit architectural design excellence.
- Tall buildings appearing as sculptural elements would be appropriate in the redevelopment of the Waterloo Metro Quarter.

Changes to medium distant views within Waterloo Estate

Likely impacts on visual quality from medium distant viewpoints within the Waterloo Estate have been assessed via montages from a series of representative street intersections within the site.

From locations in the southern portion of Waterloo Estate, illustrated by the montages from Viewpoints 5 & 7, the proposed development will be a new built element to the skyline. It will be viewed in the context of the existing built environment. Substantial trees within Waterloo Estate and, contingent on achievement of high design quality, will make a positive contribution to the visual character of the locality in these views.

From the central eastern part of the Waterloo Estate, the proposed development would present as a substantial new built element on the skyline to the north-west. As discussed above, its contribution to local visual character will be contingent on achieving high quality design outcomes in built form and finishes.

It is considered that the reduced building height of Building 1 will reduce the visual impact from medium distant views, increasing the openness of the sky and reduced dominance of the precinct as a whole.

Figure 30 Viewpoint 8



Picture 32 Approved Concept

Source: Cardno



Picture 33 Proposed Concept

Source: Cardno

Medium distant views – outside the Waterloo Estate

Visual environment

Views towards the site from the suburban environments in the medium distance generally include the existing Waterloo towers and residential blocks as prominent visual elements. Substantial areas of open space in close proximity to the Waterloo precinct include:

- Redfern Oval and Park
- Waterloo Park (north and south)
- Alexandria Park

These open space areas provide visual relief and contrast in the densely developed environment. They are critical to the visual amenity and character of the region.

Capacity to absorb change

Due to the dominance of existing large-scale development within the Waterloo Precinct, views from locations at middle distances from the site are considered to have a high capacity to absorb change. Specifically, views from the north-east (Viewpoints A, B and I), the existing Waterloo Precinct built form dominates the skyline as an almost continuous wall, providing a screen between the viewer and the site.

From the south (Viewpoint C), the proposed development is less visible due to the screening properties of the local topography and existing trees within the southern area of the Waterloo Precinct.

From the west (Viewpoints D, D1 and H), When comparing the approved concept and the proposed amending concept the montages illustrate that from the western edge of Alexandria Park (Viewpoints D & D1), the visual impact is similar. In both concepts the developed site would read as three new tower elements on the skyline above a foreground of large established trees. The obvious difference between the two concepts is that the towers of the amended concept appear lower, however there is increased bulk and less building separation visible to the north. From some closer locations to the west (Viewpoint G) axial view lines towards the Waterloo Precinct are available along road corridors.

The Alexandria Park Heritage Conservation Area is located to the west of the site. Views out of and into the Conservation Area are contained by dense traditional terrace housing and mature trees so that the area has a high capacity to absorb change in its surroundings. Specifically, views in the direction of the Southern Precinct are substantially screened by these elements.

Changes to medium distant views outside the Waterloo Precinct resulting from the proposal

The amount of likely change to medium distant views outside the Waterloo Precinct resulting from the proposal was assessed via preparation of montages from viewpoints A, B, C, D, D1, G, H and I. Anticipated change to the existing visual environment is assessed below with reference to each of these viewpoints.

Figure 31 Viewpoint D



Picture 34 Approved Concept

Source: Cardno



Picture 35 Proposed Concept

Source: Cardno

Views from the north (viewpoints A, B, and I)

Assessment of views from Redfern Park within Redfern Estate Heritage Conservation Area provide an indication of the general visibility of the Southern Precinct from Redfern Estate.

Viewpoints A, B & I montages indicate that the proposed development would largely be screened by the existing large apartment blocks in Waterloo in views from the western side of Redfern Oval. The assessment has revealed that a fully developed Waterloo Metro Quarter site would be barely visible with only small portions of the proposed northern (Building 1) and Southern (building 3) buildings appearing above the line of existing large apartment blocks in Waterloo in views from the western side of Redfern Oval. In comparison, the montages of the amended concept shows that the visibility of the proposal is similar, if not less due to the reduced height of towers across the site.

At the southern edge of Redfern Oval and the north-eastern edge of the adjoining Redfern Park (Viewpoints B & I) the proposed development will sit below the line of sight and will not be visible. In other areas within the Redfern Estate, the development will be screened by existing buildings on the Waterloo site and / or within the Estate. The visual impacts of the proposed building envelope amendments on this Conservation Area would be minimal.

Views from the south (viewpoint C)

The proposed development will not be visible from locations adjacent to the southern boundary of the Waterloo Precinct, including Waterloo Oval and its environs.

Views from the west (viewpoint D, D1, H and G)

The impacts of the proposal on views from Alexandria Park Conservation Area have been assessed via selected viewpoints within Alexandria Park and along Henderson Road, at the southern and northern edges of the Conservation Area respectively.

The montages illustrate that from the western edge of Alexandria Park (Viewpoints D & D1), the Waterloo Metro Quarter site would read as three new tower elements on the skyline above a foreground of large established trees. When comparing the approved concept and the proposed amending concept the montages illustrate that from the western edge of Alexandria Park (Viewpoints D & D1), the visual impact is similar. In both concepts the developed Waterloo Metro Quarter site would read as three new tower elements on the skyline above a foreground of large established trees. The obvious difference between the two concepts being that the towers of the amended concept appear lower, however there is increased bulk and less building separation visible to the north. This results in less loss of sky in the view but increased

visibility of the built form at lower level. This increase in visibility of the built form is to be further offset by greater articulation in the building forms considered as part of the detailed applications for all three precincts.

From the north eastern point of the Park (Viewpoint H) only a portion of the developed site would be visible behind the substantial stock of existing tall, forest scale trees and buildings. Compared to the approved concept, the proposed amending concept appears as a consolidated, substantially lower building group in the north. The higher tower to the south is not visible in this view due to existing trees. When comparing the approved concept and the proposed amending concept the visual impact is reduced with the amending concept due to significantly less loss of sky resulting from the decreased heights of the proposed central and northern towers and greater articulation provided in the towers architectural forms. The increased bulk at lower levels is predominantly hidden behind existing vegetation, whereas the original envelope which was clearly visible at higher levels has been removed.

The impact of the proposed amended concept on views from Alexandria Park and the Alexandria Park Conservation Area are acceptable, contingent on achievement of design excellence in the proposed tall tower buildings.

In views towards the site from nearby roads (Viewpoint G), the montages of both the approved concept and the proposed amending concept illustrate that the taller buildings would again be the only element of the proposal visible above existing foreground buildings. When comparing the two concepts, the obvious difference between the two is that the towers of the amended concept appear as a consolidated, substantially lower building group in the north. The result is significantly less loss of sky in the view in comparison to the approved concept, particularly with how the actual penetration of building 1 into the sky would have looked when compared to the revised envelope.

While the new skyline created by the towers of the amended concept will still change the character of these views, chiefly by decreasing the amount of visible sky and introducing sculptural forms on the skyline, it is considered that with high quality design the new visible tower elements will not impact negatively on the quality of these views, and will result in lesser impact than the previously approved envelopes through reduction in building height which is visible above existing items in the surrounding locality. Rather, they will function as visual markers that will enhance wayfinding in the neighbourhood and contribute to the presentation of the Metro Centre as a new regional node of activity.

Views from the east

Views towards the site from within the Waterloo Conservation Area to the east were tested and investigated via a visit to the locality. The outcome of the investigation was that there are no views to the Waterloo Metro Quarter site available from the parks and streets in this location. As a result proposed amendments to the building envelopes of Building 1 and Building 2 will have no impact on views from these locations to the east.

Distant Views

Visual environment

Given the highly developed regional environment, opportunities for panoramic long views towards the site are limited. The only open distant view from a public place is from the hilltop at Sydney Park. Largely for the reason that the Sydney Park hilltop provides a relatively rare publicly available 360 panorama that includes the Sydney CBD, this view is considered to be critically important at a regional level.

Capacity to absorb change

In distant views, notably from Sydney Park, the Waterloo Metro Quarter site forms a small component of this very broad and expansive view and a change on the site would only impact on this small portion of the panorama. With the Waterloo building wall as a backdrop, it is considered that the view has a high capacity to absorb change.

Changes on distant views resulting from the proposal

The assessment concludes that the Sydney Park view line is the most representative publicly available regional view that includes the site. The montage from Viewpoint E indicates that the three tall towers of the Northern, Central and Southern Precinct will be new elements in this view post construction of the Waterloo Metro Quarter ISD.

The buildings will be foreground elements in the highly built portion of the view that incorporates high rise housing within the Waterloo Precinct and Redfern. Forest scale trees within Alexandria Park read as a continuous bank of foreground vegetation which softens the impact of the built wall behind and, as indicated

by the montage, would also screen lower level development on the site. It is concluded the proposed development would be an acceptable addition to the view.

In response to a request from the City of Sydney, an assessment from Hollis Park, a suburban park in Erskineville approximately 1.5km west of the site has also been undertaken.

This small park is slightly elevated above Wilson Street Erskineville and has an easterly aspect which is in the direction of the site. Hollis Park supports a continuous row of mature trees along its eastern and north eastern borders which screen all skyline views in those directions. The entire development would not be visible in views from the Park.

In summary, the impact of the proposed amended building envelopes on distant views would be acceptable.

Figure 32 Viewpoint E



Picture 36 Approved Concept

Source: Cardno



Picture 37 Amended Concept

Source: Cardno

Assessment

The above provides an assessment of the visual effects of the proposed building envelopes from surrounding local and distant viewpoints, including adjoining developments, key vantage points and streetscape locations. The report concludes that:

- The amended design will result in additional visibility of open sky, increased visual permeability at street level and greater setbacks of the towers at podium level.
- The existing visual character of the site is relatively non-descript with the only built element of particular value to local visual quality being the heritage listed Waterloo Congregational Church.
- The proposed development, including Cope Street Plaza and through site link to Botany Road, will impact positively on the heritage significance of the Congregational Church by opening up views to and around the Church that were not available prior to the development of the site.
- At a local level, the site would only be substantially visible from its surrounding streets and from residential blocks immediately to its east. The immediate street frontages will change significantly in character but the net change will outweigh this impact as it will result in an overall improved urban amenity of the site and surrounds.
- The development will contribute to a distinctive and interesting urban skyline that, in combination with the Waterloo Metro Quarter, would create distinctive local place markers and contribute positively to the local built environment.
- The amended concept proposal has been found to have an acceptable impact on the conservation values of all local Conservation Areas including specifically, the Redfern Estate, the Alexandria Park Conservation Area and the Waterloo Conservation Area.

Conclusion

The following mitigation measures are recommended to ensure a high-quality development that will have an acceptable impact on the visual character of the proposed development and its surrounds:

- Further design development to result in a high-quality ground plane.
- Subsequent to approval of the revised concept proposal, implement principles of design excellence as articulated in the Waterloo Amenity and Design Guidelines (March, 2020) for precinct plans and development applications for individual buildings.
- Prepare and implement an integrated public domain plan that includes judicious planting of trees along Botany Road, Wellington Street, and Cope Street that will reach mature heights sufficient to provide tree canopies consistent with the existing local tree canopy.
- Prepare and implement an integrated public domain plan that includes judicious planting of trees that will reach mature heights sufficient to provide tree canopies consistent with the existing local tree canopy.
- With respect to visual character, the objective of the tree planting scheme should be to break up continuous built form and provide human scale. Tree canopy studies for the Waterloo Precinct have been carried out and are outlined in the Landscape & Public Domain Report (Aspect Studios, July 7th, 2020). Based on the findings of these studies, we conclude that trees with mature heights between 8 and 15m would be expected to achieve this objective. The proposed tree species described in the Landscape & Public Domain Report would achieve these mature heights and be suitable to achieve this objective.

8.3.2. Overshadowing

Assessment

An Overshadowing Report has been prepared by RWDI Anemos Ltd and submitted at **Appendix EE** to determine the effect of the proposed development on the contribution of additional shadowing to Alexandria Park, Waterloo Heritage Conservation Area and Cope Street Plaza.

The analysis was based on computational 3D modelling of the proposed development and its surrounding context combined with climate data for Sydney.

In accordance with the Waterloo Design Amenity Guidelines, the following design criteria must be met:

- The development does not result in any additional overshadowing of Alexandria Park after 10am on 21 June.
- No more than 30% of Alexandria Park excluding the oval is overshadowed by the development as measured at any time after 9am on 21 June.
- Proposed apartments in the development and neighbouring developments including the Waterloo Heritage Precinct must achieve a minimum of 2 hours direct sunlight between 9am and 3pm on 21 June onto at least 1m² of living room windows and a minimum 50% of the required minimum area of private open space area. Note: This applies to at least 70% of the apartments in a development in accordance with the NSW Apartment Design Guide.
- The new development does not create any additional overshadowing onto a neighbouring dwelling where that dwelling currently receives less than 2 hours direct sunlight to habitable rooms and 50% of the private open space between 9am and 3pm on 21 June.
- At least 50 percent of the area of the Cope Street plaza receives at least two hours sunlight between 9am and 3pm on 21 June.

To undertake a complete assessment of the impacts of the development, the overshadowing impacts have been considered cumulatively for the entire Waterloo Metro Quarter development. Additionally, it is noted that this assessment has specifically considered the proposed build form within precinct, rather than a direct comparison of the envelopes in isolation. While the detailed design of these buildings is not the subject of this amending DA, these designs are known by virtue of the concurrent applications submitted for these buildings and therefore form the basis of this assessment noting the guidelines were written to apply to final built form rather than concept envelopes.

The simulations predict that the proposed development will not create new shadowing on Alexandria Park between 10:00am and 3:00pm on 21 June. Minor additional shadowing is predicted on Alexandria Park

before 10:00am. This shadowing is expected to be at a maximum at 9:00am, amounting to 29.94% of the Park area and reducing rapidly (see

Figure 33).

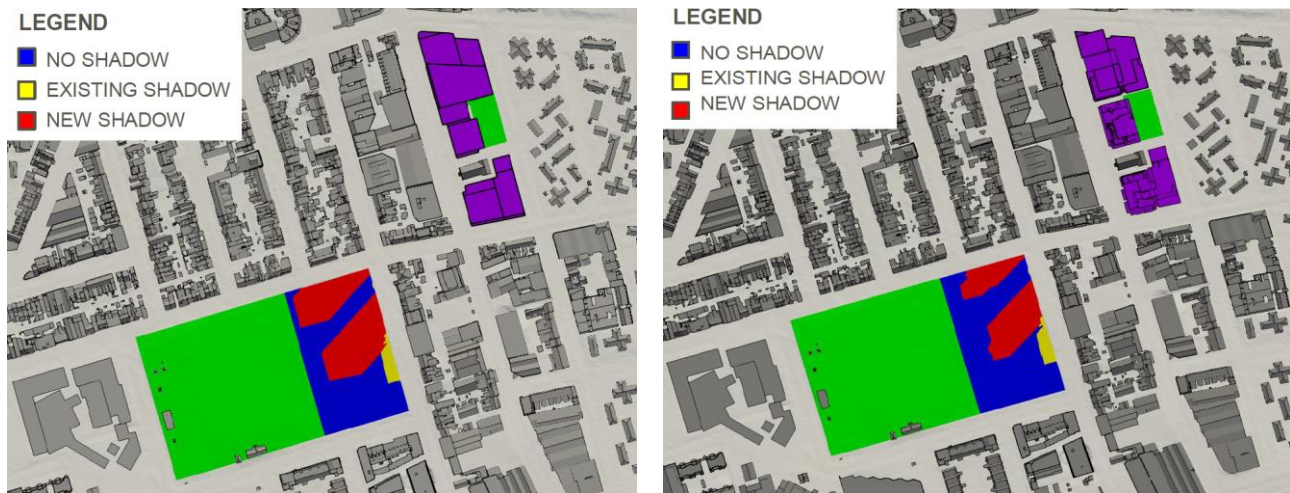
No more than 30% of Alexandria Park excluding the oval is overshadowed by the development as measured at any time after 9am on 21 June.

Furthermore, the overshadowing caused by the proposed scheme is significantly less than that caused by the approved Concept envelope. Therefore, the proposed development complies with the criteria stipulated for Alexandria Park.

Table 13 Shadow percentage of Alexandria Park (excluding the oval)

Time	Approved envelope (21 June)	Proposed detailed development (21 June)
9:00	41.5%	29.94%
9:15	27.41%	18.39%
9:30	14.86%	7.67%
9:45	4.99%	0.62%
10:00-15:00	0.00%	0.00%

Figure 33 Comparison of 21 June 9:00am overshadowing on Alexandria Park (concept and proposed)



Source: RWDI

Source: RWDI

The simulations predict that 57.3% of Cope Street Plaza can receive at least 2 hours of direct sunlight between 9 am and 3 pm on June 21, thereby complying with the requirement in the Waterloo Metro Quarter Design and Amenity Guidelines (see Figure 34).

Figure 34 Area of Cope Street Plaza where direct solar access is available above 2 hours (red)



Source: RWDI

Neighbouring Developments and Waterloo Heritage Conservation Area

The new development does not create any additional overshadowing onto a neighbouring dwelling where that dwelling currently receives less than 2 hours direct sunlight to habitable rooms and 50% of the private open space between 9am and 3pm on 21 June (see

Figure 35).

The simulations also indicate that no areas within the Heritage Conservation Area which currently receive 2 hours of direct sunlight experience a reduction to below 2 hours. The approved concept building envelopes were predicted to create areas within the Heritage Conservation Area that see reductions in solar access below 2 hours in mid-winter. The proposed amended building envelopes reduce the total impacted area by approximately 1,330sqm, or approximately 12% of the envelope shadow which is a significant improvement from the approved concept SSDA.

Figure 35 Comparison of approved concept DA and proposed development of grade level areas where direct solar access is reduced to less than two hours on 21 June



Source: RDWI



Source: RDWI

Mitigation Measures

No mitigation measures are required.

Conclusion

In conclusion, the proposed amendments to the building envelope for Building 1 result in a net reduction of overshadowing to the surrounding area compared to the approved concept building envelope. Further the overshadowing caused by the proposed development complies with the design criteria in the Waterloo Metro Quarter Design and Amenity Guidelines. The conclusions in respect of the individual areas assessed are summarised below:

Alexandria Park

- The amended envelope has reduced overshadowing of Alexandria Park as demonstrated by the indicative detailed design, subject to the separate detailed SSDA for Building 1, which is contained wholly within the amended envelope.
- The amended envelope allows for a detailed development which will not create new shadowing on Alexandria Park between 10:00 am and 3:00pm on 21 June, and will not exceed the 30% overshadowing of Alexandria Park at 9:00am in accordance with the Waterloo Metro Quarter Design and Amenity Guidelines.

Cope Street Plaza

- The amended envelope ensures the required amount of sunlight required by the Waterloo Design Amenity Guidelines onto Cope Street Plaza is achieved and exceeded.
- The amended envelope allows for a detailed development which achieves minimum 2 hours of direct sunlight between 9 am and 3 pm on June 21 on over 50% of Cope Street Plaza.

Neighbouring Developments and Waterloo Heritage Precinct

The amended envelope has significantly reduced overshadowing of the Waterloo Heritage Precinct and other neighbouring developments as demonstrated by the indicative detailed design contained wholly within the amended envelope.

8.4. WIND IMPACTS

A Wind Impact Assessment has been prepared by RWDI Anemos and is included at **Appendix DD**. A wind tunnel study has been undertaken to understand any changes to the wind environment conditions for the pedestrian accessible areas within and around the subject site associated with the amended envelope of the proposed development. The assessment has been based on a review of the wind tunnel studies previously undertaken for the approved Reference Design Scheme and wind tunnel testing undertaken by RWDI for the amended envelope in one of RWDI's boundary-layer wind tunnels.

The report considers the wind study criteria under the concept approval (SSD 9393) and identifies specific measures to ameliorate wind impacts at podium level, street level and at the locations of existing and future pedestrian crossings. The assessment also considers critical pedestrian areas, public sidewalks and elevated terrace areas as they relate to the proposed amendments.

The pedestrian wind comfort and safety conditions were assessed based on the Lawson Criteria, consistent with the wind study criteria under the concept approval. In general, the combined effect of mean and gust speeds on pedestrian comfort can be quantified by a Gust Equivalent Mean (GEM). All wind tunnel testing was carried out for the built form design only, without consideration of landscaping or wind mitigation elements such as awnings. This enables an initial understanding of the wind flow patterns and comfort conditions based on the built form only.

The approved concept envelopes note the tower forms in largely square plan shapes with the three main towers at the northern, central and southern portions of the site. This design is slightly different to the Reference Scheme hence a direct comparison with the previously submitted wind tunnel results is not possible. While the submitted Amended Wind Report is somewhat closer to this massing scheme it is noted that the through-site link between the Cope Street Plaza and Botany Road includes two significant baffle screens at either end of the laneway as well as awning elements. These features will have a notable effect on the ground plane wind conditions. While a direct comparison is not possible, it is possible to compare certain aspects of the proposed scheme with the original submitted Wind Report for the Reference Scheme.

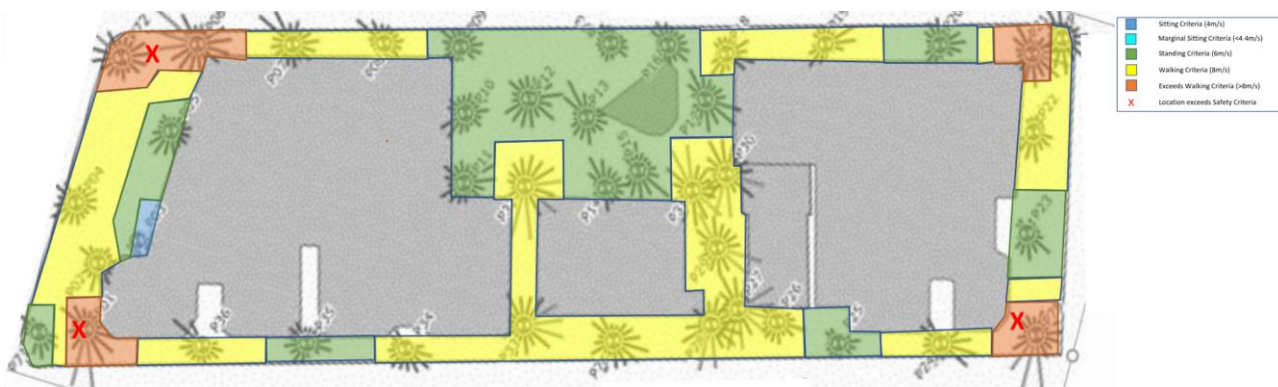
A comparison has been undertaken to understand the expected conditions with regards to the amended building envelopes for the Waterloo Metro Quarter. This comparison has focused on the massing envelope for the precinct with an aim to establish a more favourable starting position for wind comfort through the built form, prior to consideration for wind mitigation measures such as awnings, landscaping.

Approved DA Envelope Scheme

The wind conditions associated with the approved building envelopes has been considered with regards to the massing envelope presented in the original submitted wind report for the precinct. This model had considered the wind conditions without consideration of awnings around the site and also detailed an open through-site link between Cope Street Plaza and Botany Road.

The wind tunnel results, which have been interpreted from the data available, indicate that the majority of the area satisfies either the standing (green) or walking (yellow) criteria for pedestrian comfort. Localised areas of uncomfortable wind conditions are noted at the four corners of the site due to localised downwash and side-stream effects.

Figure 36 Summary of approved reference design scheme wind tunnel results



Source: RWDI

While a number of these areas didn't satisfy the wind comfort conditions, it was noted that mitigation measures could be included to improve these areas. In the Amended Wind Report it was noted that a number of these localised wind conditions could be improved through the inclusion of the following:

- Baffle screens at either end of the east-west through site link between Cope Street Plaza and Botany Road.
- Awning elements around the perimeter of the development to minimise downwash at the corner locations.

The inclusion of mature dense landscaping was also required throughout the precinct to be able to achieve the wind comfort criteria. This would not be the case at the time of planting hence as number of these locations would not meet the requirement at the early stages of the development.

Amended Design Envelope Scheme

The wind tunnel study for the amended building envelope has been undertaken by RWDI to determine the wind comfort conditions associated with the updated massing scheme for the development. The amended building envelopes also include two laneways off Cope Street Plaza one to the north (to Raglan Street) and one west (to Botany Road) to enable greater connectivity to the metro station in accordance with the Waterloo Metro Quarter Design and Amenity Guidelines document for the precinct.

The wind tunnel study was undertaken without the consideration for any awnings around the precinct or the inclusion of any landscaping elements. This enables a clear understanding of the wind flow patterns around the precinct associated with the overall built form of the amended building envelopes proposed. The results of the wind tunnel study with regards to wind comfort conditions are presented in Figure 9 below. Table 4 provides a breakdown in terms of the percentage of the time that the wind comfort criteria for Sitting, Standing and Walking is achieved throughout the year for each location.

Wind conditions throughout the precinct are generally governed by the prevailing north-easterly, southerly and westerly winds for the region. Wind conditions within the laneway connections from Cope Street Plaza to Botany Road to the west and Raglan Street to the north are due to pressure driven funnelling of the prevailing winds. Cope Street Plaza is currently exposed to the southerly winds due to the alignment and exposure of the Plaza upstream (around the eastern aspect of Building 4), and the north-easterly winds across the Plaza and between Building 2 and 3. The final landscaping design for the Plaza will be important in assisting to reduce the wind conditions for this area.

As detailed in RWDI's report, the three locations which were assessed as *uncomfortable* still satisfy the Walking Comfort Criteria 94% of the time. It is considered that this marginal exceedance at this stage of massing design is considered acceptable.

Noting the current wind conditions within and around the site, it is expected that the wind conditions will be further mitigated with the inclusion of façade articulation in the design, awning elements and landscaping throughout the precinct which will result from the detailed design of the proposed development.

Considering the wind conditions noted from the amended building envelopes, wind conditions within and around the precinct are observed to be similar to or better than the noted wind conditions for the approved concept building envelopes.

It is important to note that while the Design Guidelines note the requirement for laneway connections to the surrounding streets from the metro station, this may compromise the ability for the design scheme to achieve the wind comfort criteria in all areas including the laneways and Cope Street Plaza. Previous testing had indicated a need for significant baffling to block the laneways to help achieve these comfort conditions; as such, a balance between the connectivity of the development to the surrounding areas and the wind comfort conditions will need to be considered.

Mitigation Measures

The amended building envelopes enable conditions which are an improvement from the initial massing scheme for the site.

However, there are still areas which currently do not satisfy the wind comfort criteria for pedestrian wind comfort conditions, with three locations assessed as uncomfortable. These wind conditions are expected to be improved through detailed design of the concurrent detailed applications, which have incorporated the following elements:

- Awning elements around the perimeter of the site to minimise localised downwash.
- Landscaping elements in the form of densely foliating trees and hedges throughout the ground plane in accordance with the Landscape Plan for the precinct. Consideration will however need to be made for the wind conditions expected at the time of planting of the trees throughout the precinct before they have sufficient time to mature.
- Localised screening for the upper level terrace spaces to minimise the direct exposure to the prevailing winds due to their elevated locations.

These elements will need to be further investigated as the design of the development progresses.

Conclusion

Wind conditions within and around the precinct associated with the amending design scheme are expected to be similar to or better than the noted wind conditions associated with the envelope approved under SSD 9393.

It is important to note that while the Design and Amenity Guidelines state the requirement for laneway connections to the surrounding streets from the metro station, this may compromise the ability for the design scheme to achieve the wind comfort criteria in some areas including the laneways and Cope Street Plaza. Previous testing had indicated a need for significant baffling to block the laneways to help achieve these comfort conditions; as such, a balance between the connectivity of the development to the surrounding areas and the wind comfort conditions will need to be considered.

8.5. ENVIRONMENTAL PERFORMANCE/ESD

Assessment

An Ecologically Sustainable Development (ESD) Report has been prepared by Cundall in accordance with SEARs Item 8 and is provided at **Appendix M**. The report demonstrates that the proposed development is committed to achieving the following ESD targets:

- 5 Star rating – Green Star Design and As-Built v1.3 rating tool
- 5.5 Star rating – NABERS Energy (base building)
- 4.5 Star rating – NABERS Water
- Gold rating – WELL Core
- BASIX Energy score of 30 (exceeding min. 25 requirement)
- BASIX Water score of 40+

Through the detailed design of the development, the proposal aims to achieve a 6-star Green Star Communities v1.1 rating and recognition under the One Living Planet framework.

BASIX commitments will be considered and assessed as part of the subsequent detailed DA for Building 2, and do not form part of a consideration in this amending concept DA.

In accordance with the SEARs, an analysis of the proposal against the principles of ecologically sustainable development set out in the clause 7(4), Schedule 2 of the EP&A Regulation is provided within the ESD Report at **Appendix M**.

A modified version of the standard One Planet Living categories has been adopted as the Sustainability Framework for the project. The framework will inform design, construction and operational stages of the project. An integrated design approach will be adopted for the incorporation of sustainability measures, with input from the sustainability consultant from early planning through to construction phases. The sustainability framework also aligns with:

- Mirvac's This Changes Everything strategy
- John Holland's Approach to Sustainability
- UN Sustainable Development Goals Sustainable Sydney 2030 – Community Strategic Plan 2017-2021
- Secretary's Environmental Assessment Requirements (SEARs) dated 8 April 2020

- Waterloo Metro Quarter Design and Amenity Guidelines – Section 3R sustainability
- Sydney Metro City & Southwest Sustainability Strategy 2017-2024 (June 2019 update)
- Green Star Design and As-Built rating tool
- Green Star Communities rating tool
- WELL Building Standard
- One Planet Community principles
- NABERS Energy and Water
- BASIX.

Minor refinements to the sustainability initiatives committed within the concept SSDA are proposed to be clarified as part of the amending concept DA to provide consistency against the reference schemes and detailed SSDAs. Specifically, the following amendments to sustainability initiatives are proposed:

- Four car share spaces are to be provided within the basement car park.
- Over 900 bicycle parking spaces available within the Waterloo Metro Quarter precinct with spaces provided for commercial office workers, retail employees, residential occupants and visitors to the precinct and the Metro. A minimum of 65 spaces are accessible to residents only.
- The provision of 34,125sqm of commercial space and approximately 5,035sqm of retail and community facilities will increase the total number of jobs available in the local area, significantly increased from the concept SSDA.
- The amount of on-site renewable energy generated on site will be maximised while also balancing the desire for green roofs to provide occupant amenity, gardens and ecological habitat. Solar PV systems will be located on un-shaded roofs where these roofs are not being used for green roofs or plant. The amount of PV to be installed is estimated to provide at least 5% of the total precinct base building electricity consumption (based on 5.5 Star NABERS Energy Base Building for Offices and equivalent for apartments) and all public realm lighting (excluding council owned street lighting).
- Green Roofs, planted terraces and street level trees and planting are provided to provide amenity and improve microclimate conditions, creating comfortable spaces for recreation.
- A sustainability framework based on the One Planet principles will be developed to guide and report on environmental and social sustainability initiatives and outcomes.

Conclusion

Overall, the development will reflect leading industry practice for precinct development by incorporating the measures documented above. The proposed amendments to the building envelopes do not undermine the achievement of the above criteria compared to the approved land use mix and envelopes under the concept SSDA.

8.6. NOISE AND VIBRATION

A Noise and Vibration Impact Assessment has been prepared by Stantec Pty Ltd and is included at **Appendix K**. The report addresses the impacts of the amendments to the existing Concept Approval forming part of the Amending Concept SSDA. The assessment has determined the project noise and vibration criteria applicable to the amendments to the approved development in accordance with the following requirements:

- Secretary's Environmental Assessment Requirements
- Noise and Vibration Impact Assessment prepared by SLR Consulting dated 09 November 2018 accompanying the existing Concept Approval (SSD 9393)
- Waterloo Design and Amenity Guidelines dated March 2020
- Concept DA Conditions (SSD 9393)

- The requirements in Appendix B8 of the Station Delivery Deed Schedule C1. This includes criteria for the assessment of operational noise and vibration, as well as construction noise and vibration.
- Considered the construction noise and vibration impacts of the noise and vibration sources generated by the amendments to the approved development where these sources have been introduced by amendments to the existing Concept Approval.

In accordance with the Waterloo Design Amenity Guidelines, the existing and proposed conditions resulting from the proposed development have been assessed against:

- Development Near Rail Corridors and Busy Road - Interim Guideline for Noise Criteria
- Sydney Development Control Plan 2012
- NSW Apartment Design Guide

Measuring Noise and Vibration

Site noise investigations were conducted to obtain background noise levels at surrounding noise sensitive receivers together with characteristic noise emission statistics associated with vehicle movements along Botany Road.

The results of the site noise investigations were acquired from a combination of noise monitoring conducted by Stantec Australia between the 7th and 13th April 2020, and previous noise monitoring conducted by SLR Consulting as these results were obtained prior to the COVID-19 pandemic and are a better representation of traffic noise and background levels under typical conditions.

The site location of surrounding noise and vibration sensitive receivers are shown in Figure 33.

Figure 37 Surrounding noise-sensitive receivers



Source: Stantec

The noise model developed for the assessment of the existing Concept Approval has been updated to reflect the form of the proposed development. The results of the noise modelling for the road noise emissions and the construction noise emissions.

8.6.1. Operational Noise and Vibration Impacts

Industrial Noise Emissions

In-line with the assessment and findings reported in the SLR Consulting report, the technical specifications and layout of the proposed mechanical plant and other equipment have not been defined and potential impacts from these sources should be assessed in the Noise and Vibration Impact Assessment prepared for the detailed SSDA for the Northern and Central Precinct.

Similarly, in-line with the recommendations of the SLR Consulting report, the operational noise emissions from mechanical plant associated with the project should be controlled to reduce noise impacts upon neighbouring residential receivers and occupants within the proposed development. Detailed assessment and verification of mechanical noise emissions should be carried out during the detailed design stage of the Northern and Central Precinct to ensure that the nominated criteria for mechanical plant emissions are met.

As noted in SLR Consulting report, the industrial noise sources will be able to achieve compliance with the nominated criteria through common engineering methods that may consist of:

- Selection of low-noise mechanical plant and other noise generated equipment.
- Judicious location of mechanical plant and equipment with respect to nearby noise sensitive receivers.
- Barriers/enclosures (e.g. plant rooms).
- Silencers and acoustically lined ductwork.

Road Noise Impact

Closed Windows

The results of the internal noise predictions for receivers with their windows closed were similar to the results discussed in the SLR Consulting report. To achieve the “windows closed” criteria for each of the sensitive spaces, standard construction materials (including acoustic laminated glass) will be suitable for reducing the incident façade noise levels.

Open Windows

Within the precinct under the existing Concept Approval, approximately 70% of the 700 (approximate) residential dwellings exceeded the open windows criteria and were considered noise-affected. This amounted to approximately 490 noise-affected dwellings where an alternative means of ventilation would need to be provided to maintain the acoustic amenity of the occupants of the dwellings. Within the proposed precinct under the Amending Concept Proposal, approximately 50% of the 220 (approximate) residential dwellings are predicted to be noise-affected (requiring an alternative means of ventilation). This translates to an approximate 110 residential dwellings predicted to require an alternative means of ventilation, an improvement of 380 dwellings.

An alternative means of ventilation shall be investigated and integrated into the design of the proposed development during the detailed design stages of the project.

Sydney Metro

The general analysis provided in the SLR Consulting report is relatively appropriate for the amended concept design, except for the following elements:

- The basement structure is not resiliently connected to the bounding walls of the underground basement. This means there will be further vibration attenuation through the interface between both structures (basement and station).
- The proposed use of the building as part of this amending concept DA situated above the north metro station box is now commercial and no longer residential. This removes the risk of potentially affecting residential dwellings with unwanted noise and vibration (from the operation of the track) in this location.

Accordingly, the amendments to the concept approval are an improvement to the existing reference design from a rail noise and vibration perspective.

Notwithstanding the above, further investigation of the impacts from trains on the OSD should be completed during the detailed design stages of Building 1 and Building 2. It is anticipated that the criteria can be met through the use of specialised construction methods and materials. It should be noted that within the document "NSW Government, Sydney Metro, Station Delivery Deed Schedule C – Appendix B8", it states the trackform will be delivered by an Interface Contractor to ensure compliance with the requirements of the Planning Approval based on residential usage and standard forms of construction for the station and OSD. That is, the OSD should not need to rely on alternative methods of construction to attenuate structure-borne noise and vibration from the operation of the track,

8.6.2. Construction Noise and Vibration

Construction Noise

The construction noise emissions predicted during the construction works for the proposed development are generally in-line with the assessment conducted by SLR Consulting. This is because the information available regarding the construction methodology for the amending concept proposal is similar in nature to the information that was available for the existing concept approval.

Once more specific information regarding the proposed construction methodology, equipment and staging is known, a detailed construction noise assessment will be conducted. This shall be further assessed in the Noise and Vibration Impact Assessment to be prepared for the detailed SSDA for the Northern and Central Precinct.

Construction Vibration

The construction vibration predicted at surrounding sensitive receivers during the construction works for the proposed development are generally in-line with the assessment conducted by SLR Consulting. This is because the information available regarding the construction methodology for the amending concept proposal is similar in nature to the information that was available for the existing concept approval.

Once more specific information regarding the proposed construction methodology, equipment and staging is known, a detailed construction vibration assessment will be conducted which will particularly focus on the Waterloo Congregational Church. This shall be further assessed in the Noise and Vibration Impact Assessment to be prepared for the detailed SSDA for the Northern and Central Precincts.

8.6.3. Cumulative Impacts

Additional Road Traffic Noise

In-line with the criteria established in the SLR Consulting report, the NSW Road Noise Policy (RNP) has been applied to assess the impacts of increases in road traffic noise generated by the proposed development. As discussed in the SLR Consulting report, the NSW RNP requires consideration of noise mitigation where new land use developments increase road traffic noise by more than 2dB. For a 2dB increase in noise to be apparent, a corresponding increase in traffic volumes of approximately 60 percent is required (assuming road speeds and other factors remain unchanged).

Similar to the results of the assessment discussed in the SLR Consulting report, the cumulative increases in traffic from the over station development and wider Waterloo Metro Quarter Development is small in comparison to the high existing traffic volumes during the peak hour periods (morning and afternoon). As a consequence, potential cumulative increases in road traffic noise generated by the proposed development are expected to be significantly less than 2dB.

Industrial Noise Emissions

Similar to the SLR Consulting report, the noise sources and locations within and surrounding the precinct area are unknown at this early stage in the project and as a result, a cumulative impact assessment of potential operational noise from future industrial noise sources within the precinct cannot be completed.

The potential cumulative impacts from all sources of industrial noise from the Waterloo Metro Quarter ISD will be undertaken for the detailed SSDA when more information regarding the various noise sources and locations are known.

8.7. TRAFFIC, ACCESS AND CAR PARKING

Ptc. has prepared a Traffic Impact Assessment (TIA) in accordance with SEARs Item 9 and the conditions of consent for the concept SSDA, which is included at **Appendix I**.

This report provides an assessment of the surrounding traffic and transport network following the introduction of the proposed development, provides a preliminary plan for managing service vehicles within the shared loading dock and assess proposed car parking and bicycle provisions.

A swept path analysis on both driveways is appended to the TIA, and a Green Travel Plan (GTP) is attached at **Appendix I**.

8.7.1. Mode Share

Census 2016 Journey to Work data has been used to assess the current commuter travel behaviour within the suburb of Waterloo.

For people who live within Waterloo, currently the mode of transport to work is dominated by driving (55.91%) and public transport (23.21%) including train (17.18%), bus (5.96%), ferry (0.05%) and tram (0.02%).

Despite the City of Sydney target for the number of bicycle trips made in the City of Sydney, as a percentage of total trips to be 10% by 2030, we note that only 1.51% of commuter trips within Waterloo are by bicycle.

Given its proximity to the proposed Sydney metro station, the proposed OSD will directly benefit from ease of access to the Sydney metro. Together with the existing public transport network, it is anticipated that the public transport mode share to the site will increase in the future.

The proposed mode share targets for the project are detailed under the GTP section of this EIS. The assessment reveals that the travel share mode for train and metro and bicycle will increase significantly given:

- Proximity to the new Waterloo metro station, which will provide access to high quality mass transit services on Sydney Metro City & Southwest.
- Densely located land uses, activities and attractors as well as proximity to Sydney CBD and Green Square, enabling shorter trip lengths more conducive to walking and cycling.
- Low existing traffic generation rates in recent high-density developments in Waterloo.
- Enhancements to the bus network to strengthen east-west routes, enabled by Sydney Metro City & Southwest, and improved cycling connections with key surrounding destinations.

In summary, mode share to the site post development is anticipated to result in increased active and public transit methods with a decrease in private vehicle usage is expected.

8.7.2. Traffic Generation and Road Network Impact

The Traffic Impact Assessment prepared by Jacobs to support SSD 9393 set out the projected traffic activity associated with the concept approval. Based on an assessment of similar developments in Redfern and Waterloo, a traffic generation rate of 0.14 per unit was approved.

It was also assumed that the proposed non-residential uses in the Waterloo Metro Quarter precinct were small in scale. As such the assessment concluded that there will be limited traffic activity associated with these uses and that this activity will be outside the peak hour or undertaken as part of multi-purpose trips by residents. The total traffic generation potential of the Waterloo Metro Quarter was therefore based on the residential yield only.

The approved development proposed 700 dwellings and with a traffic generation rate of 0.14, the development was assessed to generate 98 trips in the peak hour.

Assessment

To provide a comparable assessment of the approved concept and the amended scheme it is necessary to determine the total unconstrained traffic activity associated with the entire yield. The concept approval did not define a proposed parking provision, rather only referring to the maximum permitted parking provision

under the planning controls. Therefore, the traffic assumption under the approved concept approval assumed an unconstrained parking provision.

The amended development traffic impact assessment was undertaken with reference to the RMS Guide to Traffic Generating Developments (2002), and intersection survey data collected on Tuesday 12th March 2020 to determine the traffic activity associated with a development as proposed to be amended.

This form of traffic projection is used where the development has unconstrained on-site parking provision, and provides a direct comparison with the traffic assessment associated with the concept approval, which would have resulted in 292 trips (all land-uses noting that the parking provision was not factored into the trip generations calculations).

However, in accordance with Condition B8 of the concept approval, the development must limit on-site parking provision and therefore the proposed development traffic generation has been derived on the basis of unconstrained parking to enable a direct comparison with the approved scheme, and a limited parking provision to account for the requirement of Condition B8.

While the unconstrained scenario results in an increase in the overall trips during peak hours by approximately 50.16 movements, the conclusion for the assessment of this proposal must consider the limited parking provision as required by Condition B8. Once this limitation is accounted for, the estimated traffic generation associated with the Waterloo Metro Quarter OSD is approximately 57 trips in the peak hour. When compared with the concept approval traffic generation of 98 peak hour trips, this represents a reduction of 41 trips.

Conclusion

It is therefore concluded that the amending concept SSD will result in less impact on the road network that approved under SSD 9393.

8.7.3. Parking and Access

The proposed development is subject to the parking requirements stipulated in the following policies and Condition of Consent:

- Concept Approval SSD 9393 Conditions of Consent B8 – B10
- Waterloo Metro Quarter Design and Amenity Guideline (consistent with rate provided under Conditions B8 to B10)
- Sydney LEP 2012 (consistent with rate provided under Conditions B8)
- RMS Guide to Traffic Generating Developments
- Sydney DCP 2012

It is important to note that in accordance with clause 11 of the SRD SEPP, the provisions of Sydney DCP 2012 do not apply to this development, unless specified by the Concept Approval Condition of Consent B8. Notwithstanding this, the SDCP 2012 has been considered as a reference for childcare and service bay parking rate.

A summary of the permissible and proposed parking provisions for the building 1 and building 2 is summarised in below. Compliance with the parking rates prescribed under the above-mentioned policies are also summarised.

The parking provisions associated with the Northern and Central Precinct will be provided within the shared basement car park located below the Northern and Central Precincts, with approval for this being sought under a separate SSDA – SSD 0438.

Table 14 Car Parking Provision Summary (North and Central Precinct)

Use	Units/GFA/Spaces	Maximum Parking Rate under SSD 9393	DCP Parking Rate (as reference)	Permissible Spaces	Proposed Parking Spaces
Building 1					
Commercial	33,843 sqm	1 space per 175 sqm GFA	1 space per 435 sqm GFA	78	63
Retail	383 sqm	1 space per 90 sqm GFA	1 space per 435 sqm GFA	2	0
Car Share Commercial	63 spaces	1 per 20 spaces	1 per 30 spaces	2	2
Total Permissible Car Spaces (Maximum)				82	65
Commercial Service Bays	33,843 sqm	1 space per 3,300 sqm (DCP min)		10 (min)	4
Total Required Service Bays (Minimum)				10 (min)	4
Building 2 (as it relates to this Concept Amending DA)					
Retail	674m ²	1 space per 90m ² GFA	N/A	Maximum: 2 spaces	0
Retail – car share	0 non-residential car parking provided	1 space per 30 non-residential car parking spaces.	N/A	0	0
Child Care	146 children	N/A	Minimum: 1 space per 8 children and limited in duration to no more than 30 minutes. 1 long term visitor car parking space per centre.	Minimum Short term: 18 spaces Minimum Long term: 1 space	1 long term visitor parking.

Retail Car Parking Shortfall

No retail employment or visitor car parking spaces are proposed, as the site is located in an accessible location close to public transport options. The majority of the retail visitors are also anticipated to be from the

proposed Waterloo Metro Quarter developments or the locality, therefore do not require additional visitor parking onsite.

Childcare Parking Shortfall

No childcare visitor parking spaces are been proposed, and only one long term parking space is provided for the childcare centre within level P1 of the basement.

It is expected that the childcare centre will be used predominately by residential occupants of the development or staff within the commercial offices in the Northern Precinct. Therefore, trips would be undertaken as part of a combined trip, utilising parking already provided within the development or by public transport. Additional parking for drop off or pick up is therefore not required.

Staff of the childcare centre would also be able to use public transport to access the centre and therefore a zero-parking provision is proposed for staff.

Given the above, one long-term visitor parking space is considered adequate to service the childcare centre. This childcare visitor bay is located close to the Central Building left core for ease of access and shall satisfy the following design requirements:

- Vehicle and pedestrian access points are to be appropriately marked and sign posted.
- Vehicles must be able to enter and leave the site in a forward direction.
- Areas used by vehicles must be separated from areas used by children with appropriate fencing and gates.
- Where parking spaces are within a mixed-use development, the space for the childcare centre are to be located and grouped together and conveniently located near the access point to the centre.

The proposed parking provision is able to satisfy maximum concept DA car parking conditions, and to support the initiatives of the GTP and the encouragement of sustainable transport modes.

8.7.4. Loading and Servicing

Loading Dock

While not the subject of this amending DA, the proposed servicing of the Northern and Central Precincts development has been included for reference. A shared loading dock is provided at the ground floor of the Northern Precinct and can be accessed off Botany Road as shown in Figure 65. The driveway allows an inbound vehicle to pass an outbound vehicle within the driveway.

The loading dock can accommodate two MRV bays and two SRV bays. It should be noted that the MRV spaces are sized to accommodate the City of Sydney 9.25m waste collection vehicle.

Access to the loading dock is off Botany Road via a 6.9 metre to 9.0 metre wide driveway and an internal 9.0 metre diameter turntable, which allows vehicles to enter and exit the dock in a forward direction.

The Northern loading dock has a headroom clearance of 4.3 metres. The proposed headroom clearance of 4.3m is adequate for a standard 9.25m City of Sydney refuse collection vehicle, which requires a minimum headroom of 4.0m per the City of Sydney Guidelines for Waste Management in New Developments.

However, it is noted that AS2890.2 stipulates a minimum headroom clearance requirement of 4.5m for standard MRVs. Notwithstanding this, the proposed 4.3m headroom would be able to accommodate service vehicles up to 8.8m MRVs with a maximum body height of 4.0m (plus 300mm safety clearance to any overhead structures).

A roller shutter is located at the building frontage and another one is located at the entry to the loading dock. The outer roller shutter will be open during the peak hours of operation with the inner shutter controlled by the Building Manager.

Once in the loading dock, vehicles will proceed onto the turntable and the appropriately trained user will operate the turntable to rotate the vehicle to the allocated spot to access the allocated loading bay.

Access and egress onto Botany Road will be restricted to left in and left out.

Service/Courier Bays

Within Level 1 of the basement car park (SSD-10438), five service/courier bays are provided. The five bays are suitable for utility vehicles and car derived vans and are accessed from the Church Square Shared Zone, via the 5.8 metre wide basement access ramp.

A boom gate is located at the top of the access ramp, which will control access and egress to the basement car park, via an intercom back to the control room or dock manager.

Vehicular access will be off the Church Square shared zone and the driveway width allows an inbound vehicle to pass an outbound vehicle within the driveway.

Vehicles will enter the basement car park and turn right to access the service vehicles bays. Exit from the service bays will be via the basement access ram and back onto the Church Square shared zone.

The access and use of the loading dock and service bays will be coordinated through the implementation of a Freight and Servicing Management Plan, discussed further below.

Freight and Servicing Management Plan

A Freight and Servicing Management Plan has been prepared by ptc. and included at **Appendix I**. In accordance with the SEARs, the Freight and Servicing Management Plan details loading dock and servicing provision, adequacy and management with consideration of Waterloo Metro Quarter site wide shared loading docks, including the Northern loading dock shared between the Central and Northern Precincts.

The Freight and Servicing Management Plan aims to:

- Increase safety around the Loading Dock between all user groups.
- Maintain a high level of access and efficiency of the Loading Dock and Service Bay facilities.
- Minimise disruption to surrounding road network.
- Reduce conflicting occupancy within the Loading Dock and Service Bays.
- Outline the rules associated with the use of the Loading Dock and Service Bays.

The loading dock will be utilised by Sydney Metro, commercial tenants and residents for the purposes of maintenance, deliveries, waste collection and removalists.

It is expected that all residential waste generated will be collected by Council with garbage being collected twice weekly and recycling once a week. Private waste contractors will collect waste from the retail and commercial facilities. Removalists activity would be restricted to weekends, with maintenance being undertaken on an ad hoc basis as required.

The loading dock will be available for use by appointment only. Similarly, the Service Bays will also be available for the use by the Owners and Occupiers entitled to use the bays, by appointment.

Access to the loading dock and service bays will be managed through an online booking system, which will allocate the times and durations vehicles will be allowed to access the site. This will ensure that bookings do not exceed the number of available bays for each time slot, thus managing vehicular access to the loading dock and service bays and minimise any potential queuing onto Botany Road.

For regular activities and deliveries, a regular time slot should be determined in coordination with the Building Manager. Bookings will be managed by an electronic 'app' based booking management system. This type of system allows the loading dock manager, tenants and vehicles using the dock to book in time slots and see in real time the availability of docks and bays for use. This would also allow tracking of vehicles on-route and allow for adjustments due to delays.

The management of the Loading Dock will be the responsibility of an appointed Building Manager. The Loading Dock management office is located within the Loading Dock area. A 24/7 security control room will be provided onsite and a guard will be positioned in the loading dock during peak operational times for the building. The site will be manned by 24/7 security who will assist with the management of the loading dock outside peak times.

Estimates for the usage of the Northern and Southern loading docks have been prepared which indicate allocated times for required service vehicles. Used in conjunction with the online booking system where only free time slots will be available to be booked, the risk of queuing is greatly minimised.

The entry shutter will be equipped with visual strobe lighting to warn pedestrians when the loading dock shutter is opening to ensure pedestrian safety.

Bollards are located along the shared driveway (Church Square) to segregate pedestrian pathway and ensure pedestrian safety, consistent with the concept approval.

As a requirements of the CSSI approval, measures to segregate hostile vehicles from public transport users and areas of people congregation is to be included throughout the precinct. .

8.7.5. Pedestrian Access and Movements

Assessment

A Pedestrian Modelling Report has been prepared by WSP and is attached at **Appendix I**. The assessment has assessed the entire Waterloo Metro Quarter site, assuming the changes sought under this concept amending DA to the approved concept approval. While site wide, the following assessment has been included for completeness and to demonstrate consideration of the future impacts to pedestrian access and movement in and around the Waterloo Metro Quarter site.

Pedestrian Modelling

The TIA includes a pedestrian assessment that assesses the pedestrian demand for the Waterloo Metro Quarter precinct based on the pedestrian activity modelling undertaken previously by WSP to inform the design of the proposed public domain. Specifically, this assessment considered for key components:

- Demand related to the proposed metro station
- Demand related to the proposed over station development
- Demand related to existing land uses in the wider area
- Demand related to the Botany Road bus stops

The forecast demand has been defined for two design years:

- Initial design year (2026) – the requirement for the capacity to be provided from the start of operations.
- Ultimate design year (2056) – the requirement for the capacity to be safeguarded to allow for long term patronage growth.

Waterloo Station

The demand forecasts include an assumed level of development within the Waterloo Metro Quarter. Demand forecasts provided are limited to the AM peak. To determine the approximate demand for the PM peak, the matrices have been transposed and multiplied by a factor of 0.91. This factor has been retained from previous Sydney Metro City & Southwest reports and is based on historical observation of the flatter customer profile during the PM peak period.

Consequently, as a conservative assumption for assessing the Waterloo Metro Quarter, the OSD has been calculated separately and added to the station peak hour passenger demands to forecast the total precinct demand.

Over Station Development

The OSD demand for the station during the AM and PM peak hours was estimated by:

- Reviewing the proposed development yields for the various land uses.
- Estimating the AM and PM peak person trip generation for each of the proposed land uses.
- Estimating the future mode share split for the person trips based on benchmarking against nearby areas with a similar level of rail access.
- Estimating the OSD's future peak period demand for the station.

The OSD related demand for the metro station is summarised below:

- 1,188 customers, with 515 utilising the station during the AM peak.

- 943 customers, with 400 utilising the station during the AM peak.

For the assessment of the PM peak period, a conservative assumption was adopted. In place of adopting the 400 customers as per the generation rates, a value of 468 customers was assumed based on the transposition of the AM peak movements multiplied by a factor of 0.91 for consistency with the methodology discussed above.

For the resilience scenario, the OSD related pedestrian demand for the metro station is summarised below:

- 2,572 customers, with 1,138 utilising the station during the AM peak.
- 1,884 customers, with 823 utilising the station during the AM peak.

Botany Road Bus Stop

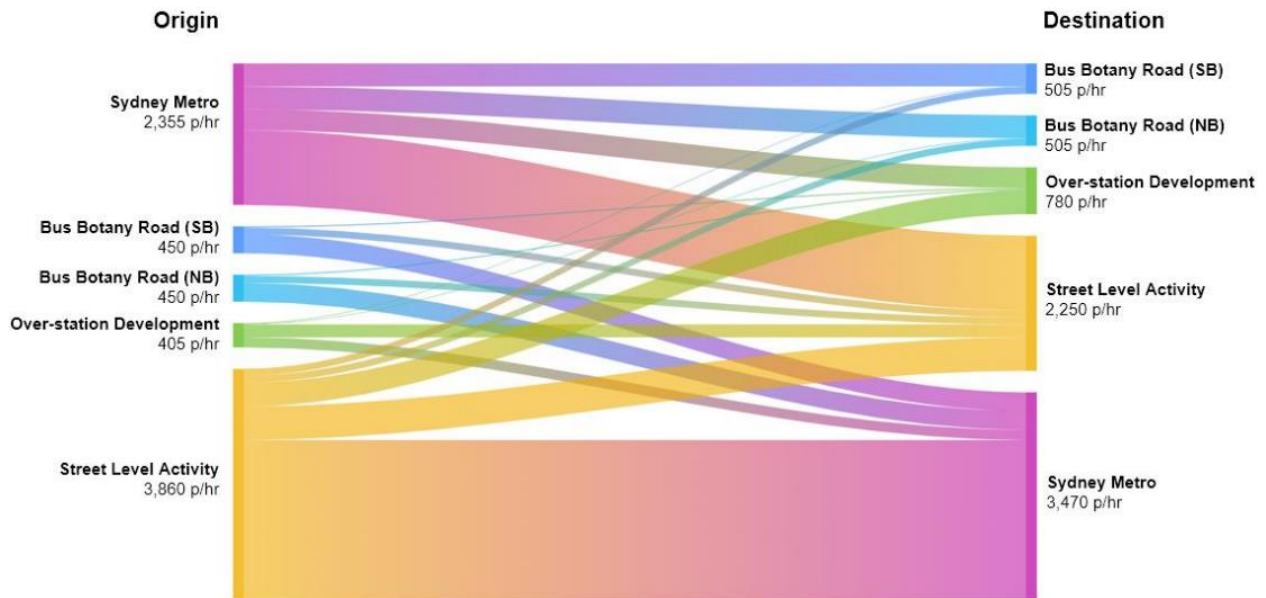
In addition to the metro station, customers can access bus services from Botany Road. Bus demand was consolidated to the two Botany Road stops, which represents the worst-case scenario for the Botany Road stops. If in the future, the bus stops are installed at Raglan Street, it is envisaged some bus routes would be reconfigured to serve these stops therefore reducing the loading on Botany Road.

The southern footpath of Raglan Street (referred to as Raglan Walk) is a sizeable thoroughfare and already accommodates a proportion of the Botany Road bus stop customer demand and therefore anticipated to be able to accommodate the additional bus stop activity.

Demand Scenario

The total customer demand during the AM peak hour through the Waterloo Metro Quarter and along the surrounding footpaths is based on the four key sources of demand and summarised below:

Figure 38 2026 AM and 2056 AM Waterloo Metro Quarter precinct pedestrian demand – total



Source: WSP

Figure 39 2026 AM Waterloo Metro Quarter precinct pedestrian demand – total



Source: WSP

The pedestrian flows for the Waterloo Metro Quarter has been assessed to confirm the provisions of pedestrian infrastructure within and around the precinct. A summary of the precinct performance and its compliance with project requirements is shown below. Overall, the precinct design is compliant with the project requirements.

Table 15 Waterloo Metro Quarter streetscape performance summary

Location	Assessment scenarios	
	2056 AM	2056 AM Resilience
Precinct connectivity		
Internal walkways	✓	✓
External footpaths	✓	✓
Queueing at intersections	✓	✓
Botany Street Bus Stop (southbound)		
Bus customers (waiting)	✓	✓
Non-bus customers (those travelling along Botany Road)	✓	✓
Legend ✓ Compliant ✗ Non-compliant		

Pedestrian Safety and Amenity

Pedestrian safety and amenity have been a key consideration in the design of the development. The shared laneway adjacent Cope Street Plaza includes the following design features to prioritise walking and cycling:

- The surface is an interlocking concrete unit paver, a material used commonly for shared zones as it is very different from typical asphalt road surface and sends a clear message to vehicular drivers to proceed with caution.

- The entrances to the shared laneway will also have signage stating 'Shared Zone 10km/h' as per TfNSW requirements for shared zones.
- In addition to these elements, the shared zone surface is defined by planters, low walls and bollards that identify the area where vehicles can traverse, with these elements arranged to limit opportunity for vehicles to move at higher speeds.
- The northern edge of the shared zone is a pedestrian/cycle only space, separated from vehicles via line of bollards. This means pedestrians and cyclists can use the shared space if they are comfortable to mingle with vehicles or can use the separated space if they need.

8.7.6. Cycle Access and Parking

While not the subject of this amending DA, comment on the cycle access and parking for the detailed design of Building 1 has been included for reference purposes.

The proposed development across the northern precinct provides the following bicycle parking provisions which are facilitated under the basement SSDA (SSD 10438) and throughout the public domain areas:

- Retail – 3 (required – 3)
- Retail visitor – 9 (required – 9)
- Commercial – 236 (required – 226)
- Commercial visitor – 24 (required – 85)
- Retail and childcare (building 2) – 6 (required – 6)
- Retail and childcare visitors (building 2) – 10 (required – 10)

It is acknowledged that there is a shortfall in commercial visitor bicycle parking proposed under the detailed design of Building 1. However, it is noted that there is a large number of visitor bicycle parking available within the Waterloo Metro Precinct on the ground floor of the public domain. It is understood that Sydney Metro will be providing 220 visitor bicycle spaces within the metro EoTF plus an additional 80 visitor bicycle spaces in the public domain. The Waterloo Metro Quarter OSD proposes to provide a further 66 visitor bicycle spaces within the public domain to serve the Northern, Central and Southern Precincts.

As previously discussed, the employee commercial bicycle parking required for building 1 has been provided within the basement car park area, whilst the commercial visitor bicycle parking has been provided throughout the public domain areas. Specifically, the commercial bike storage area is situated on level 1 of the basement in the northern portion adjacent the EOTF. Access to the bike storage area is available via a dedicated entrance off Botany Road.

For compliance with the Green Building Council of Australia (GBCA) Green Star Sustainable Transport Credit, the EOTF and visitor bicycle provisions vary to the DCP. The development adopts the Greenstar requirements on the basis that the guidelines are based on actual and anticipated usage for commercial office uses. The GBCA has worked with industry to develop the Green Star credits to provide realistic requirements to incentivise sustainable transport modes within commercial developments, without prohibitively penalising the development.

The Greenstar guidelines recommends the provision of visitor bicycle parking based on a 5% cycling mode share when considering visitors to a commercial office. In light of the above information, the visitor bicycle parking provision requirement has been calculated as follows for achieving compliance with the Greenstar Sustainable Transport Credit:

- No. of Occupants = 1 person / 10m² GFA * 33,843m² = 3,385 occupants
- Anticipated Visitors = 5% * 3,385 occupants = 170 visitors
- Visitor Bicycle Parking = 5% cycling mode share * 170 visitors = 9 visitor spaces

Based on the calculation, a provision of 9 visitor bicycle parking spaces is required in accordance with the Greenstar Sustainable Transport Credit guidelines. By comparison, the DCP requires a commercial visitor parking requirement of 85 spaces which is a significantly higher provision than the anticipated utilisation by commercial visitors. In compliance with the GBCA Green Star Sustainable Transport Credit, the proposed 24 commercial visitor bicycle spaces exceed the recommended provision of 9 visitor bicycle spaces.

It is noted that cycling may not be a realistic travel mode for commercial visitors as business attire is generally unsuitable for cycling. Notwithstanding this, occupants of the commercial component of the development may be more likely to travel by bike due to the available end of trip facilities.

Furthermore, the provision of any more visitor bicycle parking within the public domain is considered to be detrimental to the overall urban design due to the resulting reduction in landscaping and narrowing of pedestrian walkways, particularly in the highly pedestrianised Raglan Street near the commercial building entrance.

In light of the overall provision of 390 visitor bicycle parking spaces throughout the precinct as part of the Waterloo ISD, the bicycle provision is considered more than adequate to cater for the expected cycling demand.

The bicycle parking arrangements have been designed in accordance with the requirements of AS2890.3 and comprise horizontal spaces. The design and space requirements for are outlined below:

- Horizontal spaces 1.8m length, 0.5m width, 1.5m wide access aisle

An assessment of the bicycle spaces, including aisle widths and access has been undertaken and in this regard the bicycle parking provisions complies with the requirements of AS2890.3.

In terms of cyclist demand, consideration has been given to the existing travel mode split for cyclists. The existing travel mode split for cyclists is approximately 1.5% when travelling to Waterloo for work and 3.5% when travelling from Waterloo for work.

Based on the existing mode split and taking into consideration the future mode share target of 5% cycle trips, the target cycle trips would be 160 trips for the office and retail staff. There is a substantial existing and proposed cycle network in the vicinity of the development, and it is deemed that an increase in 160 cycle trips would not have a detrimental impact on the operation of the cycle provisions within the vicinity of the site.

8.7.7. Green Travel Plan

It is noted that as the proposed development does not seek to maximise car parking provision on site, a GTP will be prepared and finalised to reduce reliance on private vehicle ownership through the operation of the proposed Waterloo Metro Quarter development. The detail of the GTP will be provided within the subsequent detailed SSDAs for the site.

8.8. CONSTRUCTION IMPACT ASSESSMENT

Assessment

A Construction Environmental Management Plan (CEMP) has been prepared by John Holland (**Appendix Q**) which details the procedures and processes associated with the construction methodology for the proposed development. In accordance with the SEARs, the CEMP provides an assessment of potential impacts of the construction on surrounding buildings and the public domain, including air quality and odour impacts, dust emissions, water quality, stormwater runoff, groundwater seepage, soil pollution and construction and demolition waste, and proposed measures to mitigate any impacts.

The assessment also considers the potential cumulative impacts of the proposed development with regards to the works being carried out on site as part of the Sydney Metro Chatswood to Sydenham approval (CSSI 7400) and other developments in proximity to the site during the construction phase.

It is noted that this assessment has been included for completeness, noting that subsequent detailed DAs will be lodged seeking consent for physical works. This information is consistent with the site wide approach to managing and mitigating impacts which may result from development at the Waterloo Metro Quarter site.

Station Works Interface

WL Developer will ensure that effective communication channels are established and maintained through regular correspondence, engagement, meetings, reporting and evaluation on an ongoing basis. The elected interface manager will actively engage with interface parties to ensure that their requirements are proactively sought, managed and delivered by the project team.

With respect to the external interfaces, there are significant Interface Contractor works that run through the development that will create complex interfaces with the proposed works. These interfaces will have to be carefully managed throughout the design and construction phase of the Waterloo OSD project.

WL Developer will work with the Station Contractor to ensure that the delivery and handover of the Station box is integrated. WL Developer will also identify if any of the site constraints or conditions are different from those identified in the Station Contractors Design and Assurance Documentation for the station handover.

Handover from the Station Contractor will be marked upon transfer of as-built documentation, engineering signoff and access to site is provided. The proposed interface with the Station Contractor will allow for early identification of changes in design so that change can be managed.

Site Establishment

A-Class and B-Class hoardings will be installed around the perimeter of the site following the handover of the Southern Precinct work areas by the Station Contractor. These hoardings will be erected along Raglan Street, Cope Street, Wellington Street and Botany Road.

The site will be secured at all times with no unauthorised access permitted. Out of hours security patrols will be utilised strategically during the project. with a focus on shutdown periods such as Christmas and Easter when potential for theft and vandalism increases.

Access to the site will be controlled through a secured gate system. Individuals will require personalised identity swipe cards which will ensure a live record of the workers on-site at any given time. The proposed hoardings and/or fencing will also help delineate between the Station Contractors site and the Southern Precinct site to ensure that Station Contractor and the Southern Precinct workforce cannot access the opposing work areas.

The project office will be located within one block of the site and will include accommodation for project management staff. Accommodation and amenities such as lunch sheds, office sheds, first aid sheds, change rooms and toilets for the construction workforce will be provided in stages.

Initial site accommodation sheds will be erected on top of the B class hoarding along the surrounding streets. As the works are progressed accommodation will be relocated into the basement and lower floors of the building.

Hours of Construction

The following construction hours are proposed:

- Monday to Friday: 7am – 6pm
- Saturday: 7.30am – 3.30pm
- Sunday: No work

There will be times when out of hours works may be required. An out of hours protocol for the assessment, management and approval of work outside of the standard construction hours will be prepared and submitted as required.

8.8.1. Construction Pedestrian and Traffic Management Plan (Preliminary CPTMP)

The construction pedestrian and traffic management requirements for the Waterloo Metro Quarter will not change as a result of the proposed amendment to the building envelopes and land use mix proposed across the site. Notwithstanding, in order to ensure consistency a revised preliminary CPTMP has been prepared and is included at **Appendix J** to demonstrate that pedestrian and traffic movements and safety can be appropriately maintained through the construction of the proposed development.

8.8.2. Construction Waste

The Contractor will ensure that the project supply chain is responsible and accountable for maintaining a clean, clear and safe working environment. A detailed Waste Management Plan will be prepared by a separate party appointed by the developer.

The following waste management initiatives have been considered and will form part of the future detailed assessment and subsequent construction for the proposed for this development:

- The head contractor will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.
- Bins will be provided for work areas and will be regularly removed to a suitable skip bin location for collection and transport from the site to the waste recycling facility.
- Bins will be moved using the man and materials hoists and also by tower cranes, dependant on where they are loaded from and the waste material being removed from site.
- Crane lifted steel bins will be used to service the top floors where structure trades will be working, and large wheelie bins/or similar will service the lower levels where fit-out and service trades will be working. The site skips will be suitably located to ensure easy pick-up by the waste subcontractor.
- Excess materials generated throughout construction will be separated at an approved waste management facility.
- Auditable records will be kept of quantities of all materials both recycled and disposed to landfill.
- Records will be monitored to ensure any applicable recycling targets can be achieved. This information will be collected and reported in compliance with the WMP over the duration of the project. It is intended to engage a licenced entity for the purpose of waste management and recycling.
- Waste will be classified according to the EPA's Waste Classification Guidelines 2014, prior to disposal. Spoil excavated is expected to be classified as excavated natural material (ENM) or as identified in a remediation action plan prepared for the site.
- The EPA waste hierarchy will be implemented by ordering materials in appropriate quantities, requesting minimal packaging, giving a high priority to using non-hazardous products where practical and investigating packaging takeback schemes with suppliers during the procurement phase.

8.8.3. Noise and Vibration

Noise and vibration generated from construction activities will be managed to minimise adverse impact on neighbouring residents, businesses, and associated building structures. Special consideration will be given to the neighbouring Waterloo Congregational Church during the construction of the substructure and ground floor slab.

All noise generating activities are proposed to occur during the approved Standard Construction Hours. It is proposed to extend Saturday hours from 8.00am to 7.30am and from 1.00pm to 3.30pm, consistent with the City of Sydney standard construction hours. The primary source of noise generated will be associated with vehicle movements, generators, heavy machinery, hand-held machinery and tools.

To manage construction noise and vibration the following mitigation measures are proposed:

- Any noise activities proposed outside the nominated site operating hours will require prior written consent from the nominated approval authority.
- During construction, the Contractor will utilise existing noise impact assessment data to determine noise sources and confirm ambient background levels. Alternatively, baseline noise monitoring will be conducted prior to construction work commencing.
- The Contractor may engage an acoustic consultant to monitor construction noise level during its activities.
- Routine inspections of plant and equipment will be conducted to ensure performance relative to compliance requirements.
- When planning for construction work that includes vibration, all practical efforts to protect vibration sensitive buildings and the amenity of adjoining stakeholders (specifically the church) will be considered.
- A practical and economical combination of vibration control measures will be applied to manage vibration impacts such as:
 - Substitution by an alternative process

- Restricting times when work is carried out
- Screening or enclosures
- Consultation with affected residents
- Utilisation of temporary supports where deemed necessary.
- Undertake site inspections and monitoring to confirm noise and vibration levels are being met.

8.8.4. Air Quality and Odour Management

Sources of air emissions from the proposed construction works are deemed to be minimal as no bulk excavation is proposed. Potential air and odour impacts are primarily associated with traffic movements as a result of deliveries to the site.

The minimisation of air borne pollution will be a key component of the construction phase CEMP for the site. Air quality impacts will be minimised by incorporating appropriate dust suppression such as sprinklers, misting and stabilised/cover stockpiles. The layout of the construction site and placement of plant will also consider air quality impacts to nearby receivers, pedestrian, commercial receivers, public and road traffic.

8.8.5. Soil and Water Quality Management

Stormwater runoff

Environmental protection during construction will involve the installation, use and maintenance of a number of temporary erosion and sediment control measures (as required) in accordance with the following principles:

- Before undertaking excavation work, implement all soil and water management controls required to minimise pollution of waters.
- All erosion and sediment controls will be installed in accordance with NSW Blue Book Volumes 1 and 2D (Landcom, 2004 and DECC, 2008).
- Minimisation of soil erosion and mobilisation of sediment during rain events.
- Use of suitable sediment retention structures and control measures to filter or retain mobilised sediment generated during rain events over surface disturbances.
- Maximum sediment capture through effective positioning of temporary erosion and sediment control structures.
- Regular inspection and maintenance of all erosion and sediment controls to ensure they are effective.
- Ensure that any road, footpath, shared path or cycleway is at all times kept free of mud, dirt, dust, deleterious material, debris, obstructions and trip hazards.
- Site exit controls may include wheel wash facilities. These measures would be put in place to mitigate the risk of any loss of fuels, lubricants, load or other substances.
- Any spillage or build-up of such material or debris would be cleaned up as soon as practicable.
- An erosion and sediment control plan will be developed for the site prior to the commencement of excavation. This will be prepared in accordance with the NSW Blue Book requirements. All stormwater will be managed to prevent off site pollution.

Groundwater Seepage

The proposed development is to be constructed above the water table and therefore groundwater inflow/seepage is expected to be minimal.

Soil

Potential impacts to soil are not anticipated under the proposal and will be discussed further in the detailed DA for the basement.

Where soil pollution occurs as a result of spills or leaks, the impacted soil will be removed and disposed at an appropriately licenced facility. All known areas of contamination will be managed prior to commencement of construction on the western portion of the site is to be in accordance with the CSSI approval.

8.8.6. Cumulative Assessment

Assessment

Consideration has been given to the works that are programmed to occur concurrently during the construction of the proposed development. The timing for other external developments such as renewal of the Waterloo Estate are not planned to be undertaken concurrently with any of the proposed works. Accordingly, specific impacts have not been able to be assessed.

Mitigation Measures

The CEMP will be further developed prior to commencement of construction and address any further cumulative impacts as a result of other developments in proximity to the Northern and Central Precinct.

8.8.7. Stakeholder Management

The applicant is committed to respecting and valuing all stakeholders and engaging positively with the community, government, and non-government stakeholders. A stakeholder management plan will be developed prior to project commencement.

In order to achieve this, the following strategies are proposed:

- Establish and maintain effective and open communication with community members, stakeholders' groups and the project partners.
- Be open and accessible to the community, stakeholders, and customers.
- Listen and respond to what the community and stakeholders have to say.
- Provide timely, informative communications material that clearly explains the project works and any potential impacts.
- Identify and address key risks, impacts and opportunities.
- Actively look for opportunities to incorporate the community and stakeholder suggestions in the design, construction and delivery phases of the project.

8.9. OPERATIONAL WASTE MANAGEMENT

The preliminary waste management strategy submitted as part of original concept SSDA addressed both construction and operational waste. The proposed amendments to the building envelopes and land use mix across the site does not have a significant impact on operational waste management at the concept stage. It is noted that each of the subsequent detailed SSDAs will be accompanied by an Operational Waste Management Plan.

Notwithstanding the above, it is noted that the reference designs used to inform the proposed building envelope amendments and land use mix has been tested to ensure that adequate waste management facilities can be accommodated within the building envelope, and notably the reference scheme for the basement and ground floor of Building 1. This is documented within the Waste Management Plan prepared by Elephant's Foot and included at **Appendix L**, which concludes that the land use mix is appropriate, and that further detail is provided within the detailed SSDAs.

8.10. FLOODING AND STORMWATER

8.10.1. Stormwater

WSP have prepared a Stormwater Management Plan and Flood Impact Assessment prepared attached at **Appendix O**, which considers the flood risks and sets out the stormwater management works associated with the detailed design (reference scheme) of Building 1 and Building 2. While this amending DA does not seek consent for detailed design, the following assessment has been incorporated for completeness and to

demonstrate consideration of the subsequent stage of development as proposed for the northern and central precincts.

The site falls under Sydney Water and City of Sydney stormwater requirements. The following guidelines are being considered for the stormwater design:

- *City of Sydney Design Specification A4 Drainage Design*
- *RMS Specification R11.*
- *Concrete Pipe Association's "Concrete Pipe Selection and Installation" Guide*
- *AR&R Vol 1 - Australian Rainfall and Runoff "A Guide to Flood Estimation" Volume 1, 1987*
- *AR&R Vol 2 - Australian Rainfall and Runoff "A Guide to Flood Estimation" Volume 2, 1987*
- *AR&R – Project 10 Australian Rainfall and Runoff – Revision Projects "Appropriate Safety Criteria for People"*
- *AR&R – Project 11 Australian Rainfall and Runoff – Revision projects "Blockage of Hydraulic Structures"*
- *AS 3500.3: Plumbing and Drainage Code – Stormwater Drainage (2003)*
- *AS 3725: Design for Installing of Buried Concrete Pipes*
- *Botany Bay & Catchment Water Quality Improvement Plan. Sydney Metropolitan CMA, 2011*
- *New South Wales Floodplain Development Manual*
- *Waterloo Design and Amenity Guidelines (March 2020)*

The overall Waterloo Metro Quarter site drains to four frontages: Botany Road, Cope Street, Wellington Street and Raglan Street. Botany Road frontage is serviced by a 900mm diameter pipe that is undersized and poorly maintained inlet pits.

The Waterloo Metro Quarter site then drains to Sheas Creek via Sydney Water trunk drainage and ultimately to Alexandra Canal and Botany Bay.

Assessment

The Sydney Water requirements for the overall Waterloo Metro Quarter site were confirmed as part of the Concept Approval and were referenced in the Aecom Water Quality, Flooding and Stormwater Report (dated October 2018). The Permissible Site Discharge (PSD) requirements were undertaken based on the overall Waterloo Metro Quarter site area of 13,500sqm and are as follows:

- On Site Detention (OSD): 208 cubic meters
- Permissible Site Discharge: 503 L/s

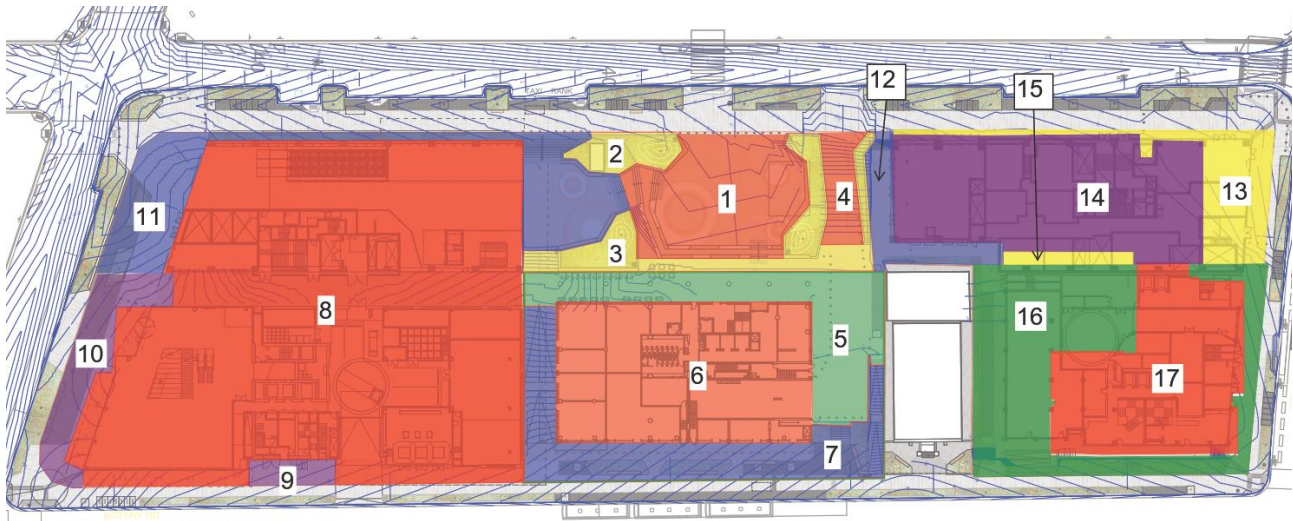
The Concept Approval Aecom report also recommends that the Waterloo Metro Quarter site provides a combined OSD tank volume of 480m³. However, the AECOM report does not clarify why the OSD tank volume has increased from the Sydney Water requirement of 208m³ to 480m³. It should be noted that the DRAINS model results were not included in the report to verify this number.

The Aecom report (Section 6.2) also notes the following statement, which have been taken into consideration at this detailed design stage:

"The total required On-Site Detention volume is approximately 480m³ split through a number of different catchment zones. Hydraulic calculations at the detailed design development stage will determine the final detention storage volumes, outlets and interfaces."

As part of the detailed SSDAs, the overall Waterloo Metro Quarter site area has been reduced from an assumed 13,500sqm to site surveyed 12,733sqm, with a total captured area of 8,472sqm. The proposed catchment areas which will be discussed in further detail in subsequent detailed DAs is shown in the image below.

Figure 40 Overall Waterloo Metro Quarter Site Catchment Areas



Source: WSP

The hydrology and hydraulic analysis for the site was established using a DRAINS (computer program for hydrological and hydraulic assessment) model. The DRAINS model was used to ensure that each individual Precincts meets the required overall PSD rate and OSD volume confirmed by Sydney Water as outlined below.

Table 16 Onsite detention and permissible site discharge for each precinct

	Permissible Site Discharge (L/s)	On Site Detention Volume (CU.M)	Bypass Flow Discharge (L/S)	Captured Flow Discharge (L/S)
Building 1	186	74	26	152
Building 2 (Central Precinct)	94	78*	41	30
Cope Street Plaza	49	-	51	0
Station	32	-	56	0
Building 3&4	139	56	113	29
Total	500	208	287	211

Source: WSP

*The on-site detention volume for the public plaza and the station are proposed to be provided within the Building 2 site within the Central Precinct.

Key components of the proposed Stormwater Management Strategy are outlined below:

- The roof and pavement runoff will be directed to a Stormfilter chamber prior to discharge to Council's stormwater system.
- A separate water quality chamber is proposed at the site boundary to treat runoff from pavement areas in addition to roof runoff.
- The main method of treatment is as follows:
 - 7 Stormfilter cartridges for Building 3 & 4; and,

The following additional water quality treatment methods are to be provided:

- A 10kL rainwater tank is to be installed within Building 3 & 4; and,
- EnviroPod filters (or similar approved equivalent products) are to be installed within every stormwater inlet pit on the site.

In accordance with Condition B26 of the concept consent, the assessment has considered the conclusions and recommendations of the concept Water Quality, Flooding and Stormwater Report dated 31 October 2018 prepared by Aecom. The Aecom report recommends the development provides a combined OSD tank volume of 480 m³ despite Sydney Water's requirement of 208 m³.

The Aecom report does not clarify why the OSD tank volume has increased from the Sydney Water requirement of 208 m³ to 480 m³. 208m³ of On-Site Detention have been provided in the stormwater management plan. The DRAINS modelling undertaken demonstrates that the Sydney Water required OSD volume of 208m³ is sufficient to reduce the overall Permissible Site Discharge to less than the required 503L/s and therefore meets the intention of the Sydney Water discharge requirements.

Furthermore, the flooding impact of the site is reduced as a result of the On-Site Detention, which reduces the peak stormwater runoff from the site.

Mitigation Measures

The Stormwater Management Plan and Flood Impact Assessment concludes that the proposed drainage system and on-site detention tank indicate stormwater collected and discharged from the OSD can be managed in accordance with relevant requirements, including the design criteria recommended by Sydney Water as referenced in the Stormwater Management Strategy and Flood Impact Assessment at Appendix O.

8.10.2. Flooding

The Waterloo Metro Quarter site lies within the Alexandra Canal catchment. The Alexandra Canal catchment covers approximately 12 km of City of Sydney LGA. Flooding within the catchments is mainly a combination of overland flow and mainstream flooding. Mainstream flooding issues tend to occur around Alexandra Canal and the open channels.

WSP engaged with City of Sydney on 15th of April 2020 to obtain the latest hydraulic model to describe the flood conditions (i.e. water level, water depth, water velocity and flood hazard) within the site. For this flood study, WSP updated the City of Sydney hydraulic model to reflect the proposed site topography configuration (is this statement correct, Meriva/WSP to confirm). The hydraulic modelling methodology was also discussed with the City of Sydney flood engineer during a project meeting in April 2020.

Assessment

The proposed development flood impact to the adjacent land have been assessed for the 1 in 20 year, 1 in 100 year and probably maximum flood (PMF) design storm events. Flood impact has been assessed by comparing the baseline and proposed scenario model results for water level, velocity and flood hazard.

The City of Sydney was consulted in April 2020 to discuss the minimum project requirement in terms of flood impact from the overall OSD developments within the Waterloo Metro Quarter site. Council confirmed that the proposed OSD developments flood impact has to demonstrate no increase in water depth to the adjacent land. Council considered 10mm as acceptable tolerance for the flood impact (i.e. no increase in water level more than 10 mm).

This below presents the changes in flood conditions generated by all the proposed OSD developments within the Waterloo Metro Quarter site collectively inclusive of the proposed amendments sought under this amending DA (post development flood impact):

Assessment

The proposed development flood impact to the adjacent land have been assessed for the 20, 100 year and PMF design storm events. Flood impact has been assessed by comparing the baseline and proposed scenario model results for water level, velocity and flood hazard.

City of Sydney Council was consulted in April 2020 to discuss the minimum project requirement in terms of flood impact from the overall OSD developments within the Waterloo Metro Quarter site. Council confirmed that the proposed OSD developments flood impact has to demonstrate no increase in water depth to the adjacent land. Council considered 10mm as acceptable tolerance for the flood impact (i.e. no increase in water level more than 10 mm).



Source: WSP

An assessment has been undertaken to compare the proposed ground floor levels with the maximum water levels and minimum project requirements. Upper floors of the development are not discussed in the flood study as flood risk is not relevant due to the floor elevation higher than the PMF and 100 year ARI + 500 mm flood level.

The assessment concluded that all the identified area can comply with the required minimum flood planning levels (FPLs), except for Area 5. Area 5 has a flood planning level above 100 year ARI and is connected to Area 6 that has a proposed flood planning level above PMF water level. In case of a flood emergency occupants of Area 5 can reach Area 6 that can be used as shelter.

Mitigation Measures

Emergency Planning

A flood warning and evacuation plan will be produced to inform the residents and managers of the building on the procedures to adopt to in case of an emergency associated to flood risk.

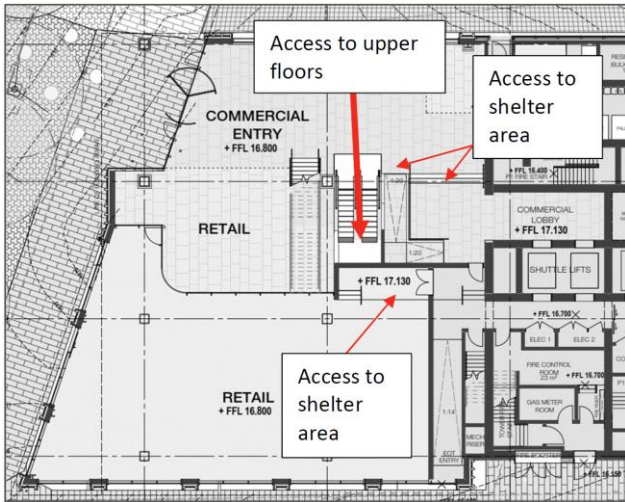
Emergency response measures have been identified in adopting appropriate FPLs that ensure that the occupants of the development can remain safe within the building in case of flood emergency.

This will form part of the condition of approval. but we do need to outline what the emergency planning measures are – provide a summary, so the Department can assess if its adequate.

Safe Refuge / Emergency Response

This section aims to demonstrate that all the occupants of ground floor are safe from a flood risk prospective; this section does not have to be read as an evacuation plan. Refer to Figure 10 or Appendix 13 for ground level areas.

Figure 42 Evacuation Route/Safe Refuge



Picture 38 Northern Precinct – Building Area 1 and 2

Source: WSP

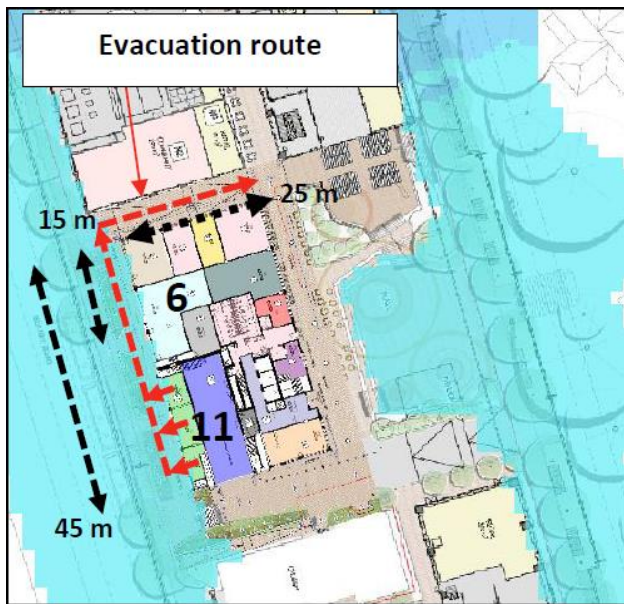


Picture 39 Northern Precinct – Area 5, 6 and 7

Source: WSP

Emergency response for Area 11 can be provided by evacuating these areas towards a safe refuge located at higher ground levels (i.e. above the PMF and 100 year + 500 mm flood event). Figure 39 below shows a possible evacuation route to move the occupants of Area 11 to safe refuge.

Figure 43 Evacuation Route/Safe Refuge



100 year ARI flood event



PMF flood event

Picture 40 Area 6 and 11

Source: WSP

Area 11 is approximately 70 meters from the safe refuge, as shown above. The time required for the water level to reach the retail floor level during the 100 year ARI flood event is approximately 18 minutes. In 18 minutes occupants of retail Area 11 should cover 70 meters to reach the safe refuge before water starts flowing into the retail areas during a 100 year ARI flood event.

The ability of occupants to reach the safe refuge during a flood event is dependent on the establishment of a suitable flood warning procedure for these areas and occupants receiving appropriate instructions following

the flood warning on how to access the safe refuge. These details will be provided in a specific evacuation plan for the development. Maximum water depth in front of the retail areas is approximately 40cm with flood hazard classified as low.

Flooding at retail Area 11 might occur during lower return period events. As such evacuation to higher ground might be required for more frequent flood events. This has been considered and accepted as the small tenancies means population for each shop will be very low.

Details on evacuation and emergency procedures (e.g. emergency flood alarms, sign to evacuate the retail areas, etc.) for the Central Precinct will be discussed in the Evacuation Plan. Refuge for other retail tenancies have also been considered and described in detail in the Stormwater and Flood Report.

Residual Risk

The residual risk related to surface water flooding around the area is mitigated by adopting floor levels above the 100 year ARI where possible. For retail tenancies in Area 11 where it was not possible to meet the design requirements, the residual risk is mitigated by preparing emergency evacuation plan to be implemented in case of flood emergency. During a flood emergency, occupant of Area 11 can reach safe refuge within the site area as discussed above.

Conclusion

The flood impact assessment concluded that:

- There is negligible afflux for the 20 and 100 year ARI events along Botany Road, Raglan Street and Wellington Street.
- In the PMF flood event afflux along Botany Road is below 50 mm; this is deemed to be acceptable for the PMF event. No increase in flood hazard is present in areas affected by PMF afflux.
- In the PMF flood event afflux at the intersection of Raglan and Cope Streets occur only in a limited area. Afflux is below 65 mm. This is deemed acceptable for the PMF event.
- Afflux to the east of Cope Street, is expected to be limited to 8 minutes for the 20 and 100 year ARI flood events; afflux in Cope street might occur for approximately 8 to 14 minutes during the 20 and 100 year ARI flood events.
- The afflux along Cope Street is generated by changes to the local topography (i.e. along Cope Street).
- The proposed building footprints occupy a reduced area in respect to the existing buildings which were located on the site, and do not exceed these building existing boundaries. As such the proposed buildings are not expected to negatively affect the existing flood conditions.
- There is no increase in flood hazard to private properties. There are limited changes in flood hazard within street areas where increases in flood hazard (from low to transitional hazard) alternate to reduction in flood hazard (from transitional to low hazard).

According to the considerations presented above the Northern and Central Precinct is not expected to generate negative flood impact to the adjacent land during the detailed design stage, and notably won't result in increased or negative impacts as a result of the amendments to the concept approval.

The hydraulic model demonstrated that the proposed development has a negligible impact on the existing flood regime. The proposed indicative ground floor levels have been designed consistent with the project requirements.

Flood planning levels at ground floor level, except for Area 5, are set above PMF water level. Area 5 has a flood planning level above 100-year ARI and is connected to Area 6 that has a proposed flood planning level above PMF water level. In case of a flood emergency occupants of Area 5 can reach Area 6 that can be used as shelter. Point of ingresses to underground car park have been protected adopting flood planning levels above the PMF or 100 year ARI + 500 mm (whichever is higher).

8.11. REFLECTIVITY

Assessment

RWDI Anemos Ltd have prepared a Solar Reflectivity Report (**Appendix Z**) to assess the potential for hazardous glare from the façade of the proposed OSD developments affecting motorists, pedestrians and

occupants of neighbouring buildings. The report provides an assessment on the reflectivity of glazing from the southern, central and northern precincts collectively, noting that these assessments are based off the design for the detailed DAs as they apply to the site. This assessment has been included for completeness, and as a demonstration of consideration of the subsequent impacts the proposed amendments could enable.

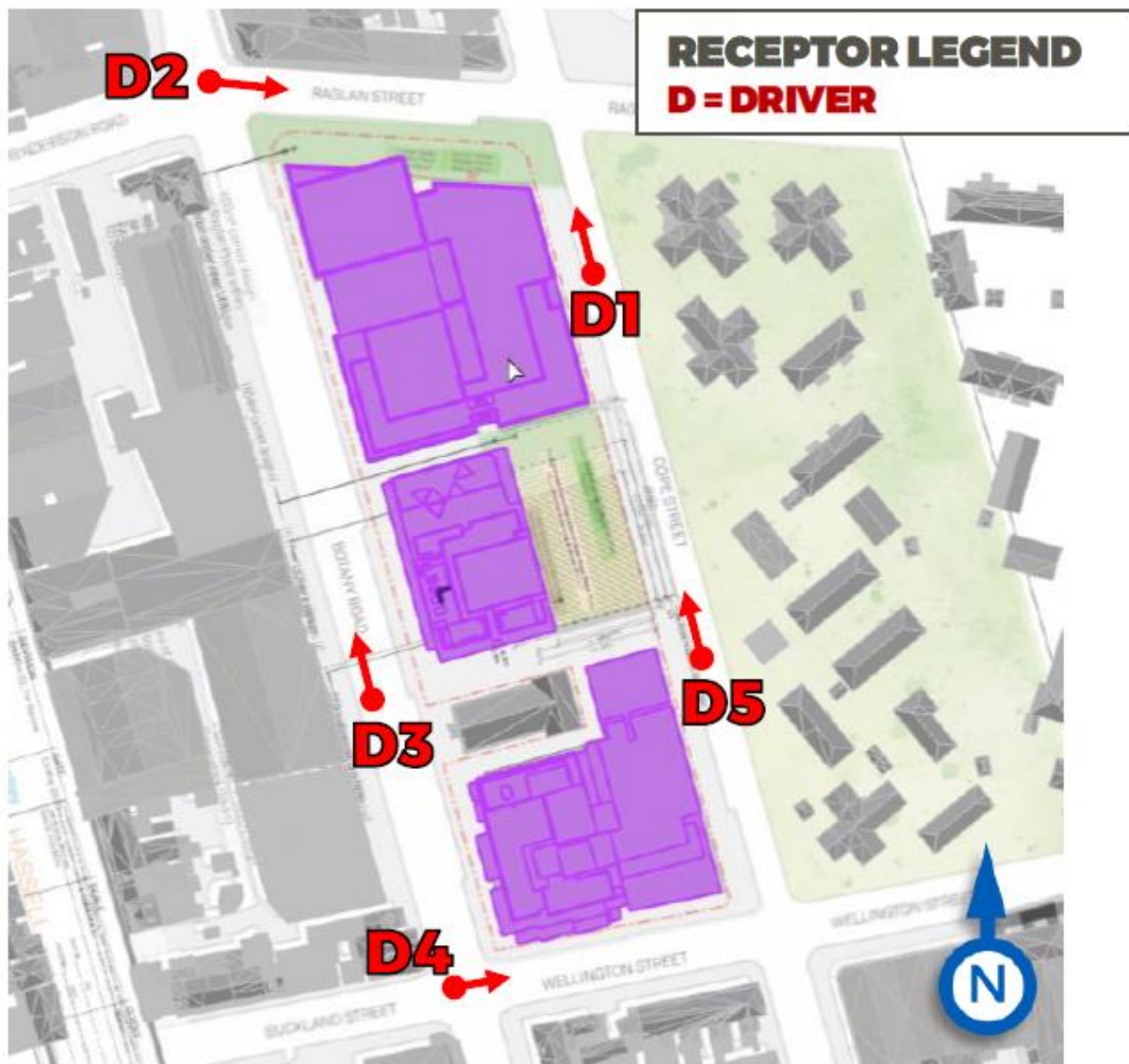
A reflectivity analysis demonstrates that the external treatments, materials and finishes of the developments do not cause adverse or excessive glare. To do this analysis, the Stiles-Holladay glare equation was used to determine the risk of glare due to light reflections from the proposed buildings.

The following reflection criteria have been adopted:

- Veiling luminance (LVL) of 500 candelas per square metre (Cd/m²) has been adopted as the maximum visual glare criteria - typical Australian criteria.
- A maximum external specular reflectance of 20% (for all angles of incidence) was considered for the assessment.

It should be noted that the external reflectivity assessment identified Cope Street, Raglan Street, Botany Road and Wellington Street as the key roads of concern of visual glare assessment.

Figure 44 Receptor Locations



Source: RWDI Anemos Ltd

A summary of the results from the analysis is included in the table below:

Table 17 Summary of reflectance by proposed Waterloo Metro Quarter development collectively

Receptor Description	Impact
D1 Northbound drivers on Cope Street at Raglan Street	Reflections fall intermittently during the winter months between 7:00 am AEST and 10:00 am AEST. Reflections are also possible between 11:00 am and noon from September through early April. None of the reflections were predicted to result in a veiling luminance above 500 cd/m.
D2 Eastbound drivers on Raglan Street at Botany Road	Reflections mainly fall between 9:00 am AEST and noon between March and mid-October. None of the reflections were predicted to result in a veiling luminance above 500 cd/m.
D3 Northbound drivers on Botany Road	Reflections fall infrequently with short duration throughout the year. These reflections are very sporadic and infrequent. None of the reflections were predicted to result in a veiling luminance above 500 cd/m.
D4 Eastbound drivers on Wellington Street at Botany Road	Intermittent reflections were predicted throughout majority of the year between 2:00 pm and 5:00 pm AEST. During summer mornings reflections are also possible between 6:00 am and 8:00 am AEST. None of the reflections were predicted to have a veiling luminance that exceeded 500 cd/m ² .
D5 Northbound drivers on Cope Street near crosswalk	Intermittent reflections occur between 7:00 am and 11:00 am AEST between February and early-November. None of the reflections were predicted to have a veiling luminance that exceeded 500 cd/m ² .

In summary, the glare and shadows testing of the Southern, Central and Northern Precincts collectively confirms that the buildings have low potential for glare.

Assuming that drivers are maintaining forward eye contact, the predicted veiling luminance at all five identified roads is also below the 500 cd/m² limit. Collectively, visible reflectivity of the glazing remains at 20% or lower as a result of the proposed Southern, Central and Northern Precincts.

Accordingly, no mitigation measures are required, and the future design of the development can comply with the overall reflectivity criteria set for the Waterloo Metro Quarter site. The proposed external treatments, materials and finishes of the development do not cause adverse or excessive glare.

8.12. BUILDING CODE OF AUSTRALIA (BCA)

McKenzie Group has undertaken an assessment of the proposed design of Building 1 and Building 2 incorporated the proposed amendments. The assessment has been undertaken against the Deemed-to-Satisfy (DTS) provisions of the relevant sections of the Building Code of Australia (BCA) and applicable Building Regulations and is included at **Appendix R**.

Due to the concept nature of the proposal, the assessment notes that while the proposal is considered deemed to satisfy, the final proposal will be subject to separate BCA assessments. For clarity, a preliminary assessment has been undertaken by McKenzie Group on the detailed architectural drawings prepared by Woods Bagot for Building 1 and Hassell for Building 2. These designs are compatible with the proposed

amendment to the concept approval and demonstrate the ability for development within the amended concept DA is capable of compliance with Building Code of Australia 2019 Amendment 1.

8.12.1. Accessibility

Morris-Goding Accessibility Consulting (MGAC) has assessed the proposed amendments to building 1 and building 2 with regards to accessibility objectives under the BCA, Disability (Access to Premises – Buildings) Standards 2010 (Premises Standards), and the relevant Australian Standards as they relate to access to premises and the intent of the Disability Discrimination Act 1992 (Cth) (DDA) (Refer to **Appendix S**).

The assessment provides advice and strategies to maximise reasonable provisions of access for people with disabilities to ensure the development achieves DDA compliance as part of the future detailed design of each building, noting this amending DA is not seeking consent for such detailed matters.

In conclusion, the proposed envelope designs of Building 1 and Building 2 will be capable of complying with the applicable accessibility requirements of the DDA Access to Premises Standards 2010, relevant Australian Standards and requirements of the BCA pertaining to external site linkages, building access, common area access and sanitary facilities.

The reference design supporting the amended building envelopes indicate that accessibility requirements, pertaining to site access, common area access, can be readily achieved. It is advised that MGAC work with the project team to ensure appropriate outcomes are achieved in building design and external domain design as the design progresses.

8.13. SOCIAL AND ECONOMIC IMPACTS

8.13.1. Crime, Safety, and Security

An Amended Crime Prevention Through Environmental Design (CPTED) Report has been prepared (**Appendix N**) to address the potential for anti-social and criminal behaviour within the public domain footprint and more broadly, throughout the entire detailed OSD design. Further, the reports mitigation measures focus the strategy include assessing and mitigating crime risks by applying CPTED principles. While it is acknowledged that this Amending Concept DA does not seek consent for detailed design elements of Building 1 or Building 2, detailed CPTED considerations have been noted below to demonstrate consideration of future impacts to accommodate for the changes proposed.

Table 18 CPTED Assessment and Mitigation Measures

CPTED Principle	Mitigation Measures
Building 1 – Ground Level (Northern Precinct)	
Territorial Enforcement	It is recommended that the concrete be sloped at the service entry doorway along Raglan Walk on the street side of the exit. This will mitigate the risks of: <ul style="list-style-type: none"> ▪ Rough sleeping. ▪ Urinating in the area. ▪ People blocking the exit with milk crate seats used by smokers out of the rain.
Access Control	It is recommended that access to the external stairs on Raglan Walk from the street be fully secured to prevent unauthorised persons from having access. CCTV of these stairs is recommended.
Natural Surveillance	It is recommended that the Dock Manager’s office be provided with maximum glazing to maximise viewing of the dock area. CCTV is recommended to provide the dock manager with full viewing of the dock.

CPTED Principle	Mitigation Measures
	<p>Treatment is recommended of the southern corner of the entry to the loading dock to remove the blind spot.</p> <p>Natural surveillance of the Community / Child Care Entrance is to be available from Cope Street and Waterloo Plaza. Natural surveillance of the residential entrance and retail spaces needs to be provided from Botany Road, Church Square, Raglan Walk, Cope Street Plaza and Grit Lane.</p> <p>Grit Lane and Church Square both provide a busy retail and pedestrian environment, and should offer good natural surveillance of streets and laneways.</p>
General Note	<p>External lighting in pedestrian areas to AS1158.3.1:2005.</p> <p>CCTV coverage of all entrances, goods lift, and public areas.</p> <p>Electronic access control or secure key for external entrances and goods lift.</p>
Building 1 – Level 1	
Access Control and Natural Surveillance	<p>A concierge is to be provided to manage visitor access and provide natural surveillance of the entry turnstiles. This location will benefit from CCTV viewing of the ground floor public areas.</p>

In response to the above assessment against the CPTED Principles, the following recommendations are proposed for the development:

- Active spaces within the building have been located to maximise casual surveillance from outside the buildings via transparent glazing.
- Toilets are located and designed to maximise casual surveillance to facility entries.
- Blind-corners, recesses and other external areas that have the potential for concealment or entrapment have been minimised.
- Entries are clearly visible, unobstructed and easily identifiable from the street.
- Foyers enable surveillance from the public domain to the inside of the building at night.
- The residential accommodation entry has a clearly defined transitional space between public and private areas.
- Signage that clearly defines the purpose of areas.
- Appropriate lighting levels.
- Consideration of escape paths to avoid entrapment.

8.13.2. Social and Economic Impact

Low income, rising unemployment and an unaffordable private rental market has been driving the demand for social housing across New South Wales. Those who have managed to obtain social housing are now staying longer with the average length of a social housing lease increasing and more than 50% of people in social housing holding a lease for 10 years or more.

This has resulted reduced vacancies and increased wait times for social housing with the waitlist rising to approximately 60,000 households needed across New South Wales. This is in addition to the 151,898 social housing dwelling that were already occupied at the end of June 2016. With Covid-19 expected to impact unemployment rates it is almost certain that demand for affordable and social housing will increase over the coming years.

The proposed amending DA maintains the commitment to deliver 70 new social housing dwellings on site, in addition to 24 new affordable housing dwellings, which exceeds 5% of the likely residential floor space to be delivered on site. The proposed social and affordable housing dwellings are proposed to be provided across a variety of unit types and sizes to meet the varying demands of future tenants. As such the proposed land use mix for the Waterloo Metro Quarter site maintains the social benefits of the delivery of social and affordable housing in a highly accessible location.

While Covid-19 and the current restrictions on international migrations is projected to have an impact on demand for student accommodation, it is anticipated that the short-medium term impacts will be lessened greatly in comparison to our current environment by 2024, with significant demand for student accommodation returning by 2025.

As such the student accommodation proposed to be included within the development will also be able to leverage off its positioning between four university campuses and ample public transport, which will allow it to attract a diverse range of students. As such the proposed student accommodation use within Building 3 is supportable based on future demand and will offer economic benefits from their spending at surrounding supermarkets and retail stores.

The proposed development includes several employment generating uses such as office premises, retail, gym, childcare and student accommodation. Based on industry benchmarks, it is estimated that the development would support 3,591 jobs once fully operational. There may also be a few jobs created because of the residential component though these have been excluded due to the small number.

In addition to supporting additional employment and economic growth, the proposed development will provide a range of other benefits for existing and future Waterloo workers, residents, visitors, and businesses as well as the wider Inner Sydney region.

The proposed over station development is anticipated to be a vibrant precinct with a significant on-site resident and employee population. The service-based components of the development such as retail, childcare and gym will support the onsite residents and workers as well as residents/workers in the local area. The Waterloo Metro Station will be a major hub for local residents and workers and will benefit from the range of support services and community spaces.

8.14. SUITABILITY OF THE SITE

The site is suitability to support a reduction in residential use and an increase in commercial floor space for several reasons. These are discussed in detail below:

- The project is consistent with the NSW Government and City of Sydney policies for the site and surrounding area including the Greater Sydney Region Plan, the East District Plan and local development controls for the revised built form.
- The proposal is an excellent opportunity to take advantage of the approved Sydney Metro project, noting the airspace created as part of the Waterloo Metro Quarter site was identified as being suitable to be developed for the purposes of OSD.
- The proposal will deliver a large quantum of commercial floor space to the precinct. This will ensure efficient and easy accessibility of the metro station to future workers who visit the precinct.
- The proposal uses contained within Building 1 and Building 2 are permissible in the B4 Mixed Use zone pursuant to the SLEP 2012. The subsequent detailed DAs for both buildings will deliver a new mixed-use building to maximise the use of future metro infrastructure, noting the increase in employment generating commercial floor space resulting from the changes to Building 1.
- The amended building envelopes have considered the interface of proposed land uses to ensure sufficient separation distance between buildings. This will allow residential amenity to be achieved for solar access and privacy.
- The proposed amendments to the building envelopes do not create additional overshadowing to Cope Street Plaza, Alexandria Park and Alexandria Heritage Conservation, and does not adversely impact the visual amenity and views from the public domain.
- As part of this amending DA, the proposed facades and exterior colour scheme of the subsequent detailed DAs for Building 1 and Building 2 have been considered. Specifically, the approach has been

designed to be sympathetic to the surrounding context, including the Congregational Church and Alexandria Park Heritage Conservation Area, which feature significant brickwork and masonry elements.

- The proposed amendments will deliver built form which can be successfully integrated with the Waterloo Station to allow optimal use of the public domain, increased pedestrian capacity and not impeding future station uses.

The proposal is considered suitable for the site as it delivers a world-class integrated public transport and residential development, which aligns with relevant strategic and statutory planning policies and significant NSW Government investment in public infrastructure.

8.15. PUBLIC INTEREST

The detailed SSDA proposal is considered to be in the public interest for the following reasons:

- The project supports the concept of the '30 minute' city envisioned within State and Regional strategic planning policy, by locating a large quantum of employment generating floor space within a mixed use development proximate to public transport infrastructure being the Waterloo metro station.
- The proposal paves the way for detailed development which will contribute to the vibrancy of Waterloo by delivering a landmark development which provides complementary land uses to support the local area.
- The proposal provides will provide employment generating floor space in a desirable location connected to a multitude of supporting land uses. Additionally, the proposal will provide for the take up of patronage of the metro network capitalising on the state governments investment.
- The provision of community facilities within the additional podium area of Building 2 including a community childcare centre will support the need of workers and residents within the Waterloo Metro Quarter site as well as workers who attend the site.
- The reduction in residential take up of land uses will enable increase activation of the podium levels. This will afford increased natural surveillance to ensure minimised anti-social and criminal behaviour within the locality.
- The proposal would result in the delivery of 466 jobs during the construction phase. Additional economic benefits would be provided by future residents using surrounding services following the completion of the development.

The proposal is in the public interest as it provides significant public benefits for the local and wider community by enabling an improved amended scheme. The amendments will ensure the site is developed appropriately into a landmark destination for public transport patrons.

9. MODIFICATION OF SSD 9393

It is requested that a condition be imposed on any approval of the amending DA pursuant to clause 4.17(1)(b) of the EP&A Act, requiring the modification of the concept approval (SSD 9393) upon the commencement of the amending DA development consent in accordance with the procedures under clause 97 of the EP&A Regulation. The amendment of the concept approval by way of this condition would remove any inconsistency between the original concept approval and this application, upon commencement of the latter consent. This would remove any potential inconsistency between the concept approval and subsequent detailed SSDAs lodged concurrently with this application.

Accordingly, and to assist the DPIE, a set of proposed amendments to the original concept conditions is included below. The key proposed amendments to the concept approval condition, among other conditions, include:

- No change is proposed to the description of development outlined in Schedule 1 of the SSD 9393 consent. As the description of development is further refined in condition A1 of Schedule 2 of the SSD 9393 consent it is requested that references to the approved building envelope RLs within the SSD 9393 document are amended as per the strike-through and new text (provided in **bold text**) below:
 - *A 3 and 4-storey non-residential podium along Botany Road (RL 29.95 to RL 34.8)*
 - *Three ~~one~~ mid-rise buildings between 4 and 10 ~~9~~-storeys above podium level the station services box along Cope Street (RL ~~56.2~~, RL 64.6 and RL ~~71.6~~ respectively)*
 - **One commercial office building 17-storeys including a 4-storey podium level along Raglan Street (RL90.4)**
 - *Three ~~Two~~ residential towers with heights up to 25-storeys (RL96.9), and 24-storeys (RL 104.2) and 20-storeys (RL116.9) including the three-storey podium along Botany Road.*
- Amendments to the approved drawings referenced in Condition A2 to reflect the architectural drawings included at **Appendix D**.
- Amendment to condition B1 of Schedule 2 Condition amendment to enable awnings, balustrades, pergola, solar panels and the like to be located outside of the approved building envelope as follows:
 - *B1. Future development applications must demonstrate that the buildings, **excluding awnings, balustrades, pergola structures, and the like**, are wholly contained within the building envelopes consistent with the plans listed in Condition A2, as modified by the conditions of this consent.*
- For clarity, amend condition B4 of Schedule 4 to ensure the objectives of the clause are met as follows:
 - *B4. The approved podium building envelopes, as identified with green shading in the approved plans in Condition A2 must **not** be used for ~~non-residential uses~~ **dwelling**s ~~only~~.*
- For clarity, amend condition B9 and B10 as follows:
 - *B9. Future development applications must include a Car Parking Strategy and Management Plan adopting the maximum residential parking cap and allocation rates above and ~~demonstrating compliance~~ **consideration of parking provision** with the following:
 - (a) accessible car parking spaces provided as per Sydney DCP 2012 rates
 - (b) motorcycle parking spaces provided as per Sydney DCP 2012 rates*
 - *B10. Bicycle parking and end-of-trip facilities for the OSD, **excluding visitor parking spaces**, shall be in accordance with the rates specified within the Sydney DCP 2012 for the final use mix in the future development application.*

10. ENVIRONMENTAL RISK ASSESSMENT

10.1. RISK ASSESSMENT

The SEARs require an environmental risk analysis to identify potential environmental impacts associated with the proposal.

This analysis comprises a qualitative assessment consistent with the methodology used for the concept DA and the Australian Standard AS4369:1999 Risk Management and Environmental Risk Tools. The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. The significance of impact is assigned a value between 1 and 5 based on:

- The sensitivity of the environment receiving the impact.
- The level of understanding of the type and extent of impact.
- The likely response to the environmental consequence of the project.

The manageability of the impact is assigned a value between 1 and 5 based on:

- The complexity of mitigation measures.
- The known level of performance of the mitigation measures proposed.
- The opportunity for adaptive management.

The sum of the significance and manageability values provides an indicative ranking (between 1 and 10) of the potential residual impacts after the mitigation measures are implemented. The risk levels for likely and potential impacts were therefore derived using the following risk matrix.

Figure 45 Risk Matrix

		MANAGEABILITY OF IMPACT				
		A – COMPLEX	B – SUBSTANTIAL	C – ELEMENTARY	D – STANDARD	E – SIMPLE
SIGNIFICANCE	5	High	High	Medium	Low	Very Low
	4	High	High	Medium	Low	Very Low
	3	Medium	Medium	Medium	Low	Very Low
	2	Low	Low	Low	Low	Very Low
	1	Very Low	Very Low	Very Low	Very Low	Very Low

The results of the environmental risk assessment for the detailed SSDA are presented in Table 19.

Following the application of each of the mitigation measures, xx residual risks are identified that have a risk profile of 'medium' or greater, including:

Table 19 Risk Assessment

Aspect	Potential Impact	Significance	Manageability	Risk Level
Design Excellence	The development does not achieve design excellence	3	D	Low

Aspect	Potential Impact	Significance	Manageability	Risk Level
Aboriginal Heritage	Potential impacts on Aboriginal places of significance (Construction).	3	D	Low
Non-Aboriginal Heritage	Impact on the significance of heritage items in the vicinity notably	2	D	Low
View and Visual Impact	Adverse view impacts to surrounding developments	3	C	Medium
Solar Access	The residential apartments and student rooms do not achieve adequate sunlight.	3	D	Low
	Potential impacts on adjoining residential dwellings and public open space.	2	D	Low
Privacy	Adverse impact on visual and acoustic privacy of surrounding residential properties	2	D	Low
Overshadowing	Increase in overshadowing to Alexandria Park	2	B	Low
Natural Ventilation	The proposed amendments do not impact on natural ventilation.	1	E	Low
Environmental Performance / ESD	Irreversible increase in energy usage.	2	C	Low
Wind Impact	Adverse wind environment to outdoor areas in the OSD including rooftop terrace and through site links. Potential for general and localised wind effects.	3	C	Medium
Noise and Vibration	Adverse noise conditions within the OSD from Sydney Metro infrastructure.	1	E	Low
	Adverse noise conditions within the OSD from surrounding development and road network	3	C	Medium
	Adverse external noise conditions to surrounding development (Operation).	2	D	Low
	Adverse external noise conditions to surrounding development (Construction).	3	D	Low
Airspace	Impact on prescribed and protected airspace	2	D	Low

Aspect	Potential Impact	Significance	Manageability	Risk Level
Traffic and Transport	Increased traffic on local roads (Operational).	2	C	Low
	Increased traffic on local roads (Construction).	3	D	Low
	Additional demand for on-street car parking spaces (Operational and Construction)	3	D	Low
Pedestrian Management	Conflict with pedestrian and cycle/vehicle operations (Operational).	2	C	Low
	Conflict with pedestrian and cycle/vehicle operations (Construction).	3	D	Low
Pedestrian amenity	Adverse impact on the pedestrian wind environment of surrounding streets.	3	C	Medium
	Pedestrian volumes and footpath/public domain capacity.	2	C	Low
Waste	Waste production (Operation).	2	D	Low
	Waste production (Construction).	2	D	Low
Air Quality, Odour and Dust	Air quality, odour and dust emissions (construction)	2	C	Low
Construction	Impacts associated with public safety, visual amenity, noise, waste and traffic management in the locality during construction	3	D	Low
Soil and Water	Impact on the water table	2	D	Low
Infrastructure provision	Adequate connection to infrastructure and utilities and adequate infrastructure capacity	2	D	Low
Flooding	Potential flooding of the OSD.	2	B	Low
	Potential flooding of aspects of the CSSI 'Sydney Metro box' including the public domain.	2	B	Low
Stormwater	Adverse impact on the quality of stormwater runoff (Operation).	2	D	Low
	Adverse impact on the quality of stormwater runoff (Construction).	3	D	Low

Aspect	Potential Impact	Significance	Manageability	Risk Level
Contamination	Exposure of contamination or hazardous materials during construction and operation.	2	D	Low
Reflectivity	Adverse impact on reflectivity of the proposed buildings on public domain, pedestrians and motorists.	2	D	Low
Building Standards	Compliance and adherence to Australian Standards for Building Codes.	2	C	Low
Safety and Security	Adverse impact on the safety and security of local community.	2	D	Low
Social Impact	General disruption to community associated with large scale construction.	3	D	Low
	Antisocial and criminal behaviour.	2	C	Low
Signage	Detracts from the architectural integrity of the building.	2	D	Low
	Adverse impact on public domain, pedestrians, and motorists.	2	D	Low
Cumulative Impacts	Cumulative impacts (traffic, noise, dust, etc.) associated with concurrent construction of station and OSD, and other development in the area.	3	D	Low
	Cumulative impacts (traffic, noise emissions, etc.) during concurrent operation of station and OSD, and other development in the area.	3	D	Low

10.2. MITIGATION MEASURES

A consolidated set of mitigation measures required for each environmental and social impact is provided in the table below.

For this Concept Amending DA, consideration has been given to whether the mitigation measures outlined below are consistent with the mitigation measures adopted for the original Concept DA, or whether these are new mitigation measures as part of this Concept Amending DA. Mitigation measures which are labelled as 'new' may not necessarily have resulted from the changes proposed under this Concept Amending DA, rather result from a more rigorous assessment conducted as part of this application. Accordingly, the table below includes a column to indicate if mitigation measures are 'new', or 'consistent' with the previous mitigation measures adopted for the Concept DA.

Table 20 Mitigation Measures

Item	New / Consistent	Potential Impact	Mitigation Measure
Design Excellence	Consistent	The development does not achieve design excellence	<p>Comply with the requirements of the design Excellence Strategy dated 1 July 2020 in Appendix G.</p> <p>Maintain engagement with the 'design Architect' through the detailed design of the proposed development.</p>
Aboriginal Heritage	New	Potential impacts on Aboriginal places of significance (Construction).	<p>The potential impact upon aboriginal heritage will be considered under the construction of the Basement Precinct.</p> <p>The updated Archaeological Method Statement (AMS) prepared by AMBS (dated July 2020) must be adhered to for the full extent of excavation and construction associated with the basement. This AMS outlines the proposed excavation methodology for the subject site to manage archaeological significance and impacts.</p>
Non-Aboriginal Heritage	Consistent	Impact on the significance of heritage items in the vicinity notably Cricketers Arm Hotel and Former CBC Bank.	<p>Adopt the recommendations of the Heritage Impact Statement prepared by Urbis, dated 7 August 2020 included at Appendix H, with regard to maintaining the proposed building setbacks, materiality and finishes.</p>
View and Visual Impact	Consistent	Adverse view impacts to surrounding developments	<p>Further design development to result in a high-quality ground plane.</p> <p>Implement principles of design excellence as articulated in "Better Placed – an integrated policy for the built environment in NSW" (Government Architect NSW, September 2017) under the separate detailed DAs to proceed this amendment.</p> <p>Prepare and implement an integrated public domain plan that includes judicious planting of trees along Botany Road, Wellington Street, and Cope Street that will reach mature heights sufficient to provide tree canopies consistent with the existing local tree canopy.</p> <p>Break up continuous built form and provide human scale with tree planting. Trees with mature heights between 10 and 20m would be expected.</p> <p>Detailed design of the public domain and Cope Street Plaza. Large scale street trees will be a</p>

Item	New / Consistent	Potential Impact	Mitigation Measure
			requisite to maintain human scale and to reinforce a visual connection with the residential precinct.
Solar Access	Consistent	Potential impacts on adjoining residential dwellings and public open space.	Ensure future detailed DAs achieve compliance with the approved concept DA building envelope as proposed to be amended, and the assessment of the proposed façade features and embellishments ensure no further adverse impacts result.
Privacy	New	Adverse impact on visual and acoustic privacy of surrounding residential properties	Comply with the proposed building envelope and minimum ADG building separation between Building 1 and Building 2 in the detailed SSDA.
Overshadowing	Consistent	Increase in overshadowing to Alexandria Park	No more than 30% of Alexandria Park excluding the oval is overshadowed by the development as measured at any time after 9am on 21 June. No additional mitigation measures are required.
Natural Ventilation	New	The proposed amendments to the building envelope will in some way impact on natural ventilation of future residential apartments within the precinct.	Ensure the changes to the approved building envelope do not prohibit future compliance for residential apartments requiring natural ventilation.
Metro Services Box	New	Adverse amenity impacts from exhaust vents.	The proposed building envelope amendments do not alter or significantly reduce setbacks from station vents. Maintain proposed setback of operable windows and balconies within Building 1 and Building 2 to achieve minimum separation distances from vents, install fixed glazing and glass screen behind sun blades where required.
Environmental Performance / ESD	Consistent	Irreversible increase in energy usage.	Adhere to recommendations within the ESD Report prepared by Cundall Johnston and Partners dated 30 July 2020 attached at Appendix M .
Wind Impact	New	Adverse wind environment to outdoor areas in the OSD, including to private balconies, communal areas	Wind conditions within and around the precinct associated with the amending design scheme are expected to be similar to or better than the noted wind conditions associated with the envelope approved under SSD 9393. Mitigation measures in the form of screening and mature planting to be implemented during detailed design of Building 1 and Building 2.

Item	New / Consistent	Potential Impact	Mitigation Measure
		<p>and Cope Street Plaza.</p> <p>Potential for general and localised wind effects.</p>	
Noise and Vibration	Consistent	Adverse noise conditions within the OSD from Sydney Metro infrastructure.	Further investigation of the impacts from trains on the OSD should be completed during the detailed design stages of Building 1 and Building 2. It is anticipated that the criteria can be met using specialised construction methods and materials.
	Consistent	Adverse external noise conditions to surrounding development (Operation).	<p>Mechanical Plant and Equipment</p> <ul style="list-style-type: none"> ▪ Install acoustic barriers to the Level 24 plantroom to the height shown in the architectural documentation. Acoustic barriers can be solid or can be an acoustic louvre, though the barrier must have a noise reduction of no less than the values shown in Table 50 of the Acoustic and Vibration Assessment. ▪ Generators must be enclosed with an acoustic canopy to ensure the sound pressure level measured at 7 metres in each octave band centre frequency does not exceed the values shown in Table 34 of the Noise Report. ▪ Additional mitigation measures for the mechanical plant should be considered during the design development stage to ensure compliance with the outlined criteria at the nearest sensitive receivers. These amelioration measures could include: <ul style="list-style-type: none"> – Positioning mechanical plant away from nearby receivers – Acoustic attenuators fitted to duct work – Screening around mechanical plan – Acoustic insulation within duct work <p>Loading Dock</p> <p>Conduct loading dock activities when loading dock shutter door is closed.</p> <p>Maintain rubbish trucks and braking materials to minimize or eliminate noise such as squeaky brakes.</p>

Item	New / Consistent	Potential Impact	Mitigation Measure
			Educate drivers and collectors to be careful and to implement quiet work practices.
	Consistent	Adverse external noise conditions to surrounding development (Construction).	<p>Any noise activities proposed outside the nominated site operating hours will require prior written consent from the nominated approval authority.</p> <p>During construction, the Contractor will utilise existing noise impact assessment data to determine noise sources and confirm ambient background levels. Alternatively, baseline noise monitoring will be conducted prior to construction work commencing.</p> <p>The Contractor may engage an acoustic consultant to monitor construction noise level during its activities.</p> <p>Routine inspections of plant and equipment will be conducted to ensure performance relative to compliance requirements.</p> <p>When planning for construction work that includes vibration, all practical efforts to protect vibration sensitive buildings and the amenity of adjoining stakeholders (specifically the church) will be considered.</p>
Airspace	Consistent	Impact on prescribed and protected airspace	Maintaining proposed maximum building height in accordance with concept DA envelope as proposed to be amended.
Traffic and Transport	Consistent	Increased traffic on local roads (Operational).	The provision of limited parking to the commercial and retail uses. Implementation of a loading dock management plan to schedule services and deliveries to mitigate traffic movements from and to the site.
	Consistent	Increased traffic on local roads (Construction).	The provision of zero parking spaces on site during construction for workers. Implementation of a Green Travel Plan.
	Consistent	Additional demand for on-street car parking spaces (Operational and Construction)	Implementation of a Green Travel Plan. A Green Travel Plan has been prepared by ptc. Which is provided and attached to the Traffic Impact Assessment (Appendix I) to encourage a modal shift towards higher active and public transport usage.
Pedestrian Management	New	Conflict with pedestrian and cycle/vehicle operations (Operational).	The provision of minimal commercial and retail tenant car parking spaces on the site. Implementation of a loading dock management plan to schedule services and deliveries to mitigate traffic movements from and to the site.

Item	New / Consistent	Potential Impact	Mitigation Measure
	New	Conflict with pedestrian and cycle/vehicle operations (Construction).	Consistency with the Construction Traffic and Pedestrian Management Plan.
Pedestrian amenity	New	Adverse impact on the pedestrian wind environment of surrounding streets.	Implementation of screening and mature planting, particularly through the Ragland Walk and Gritt Lane to reduce discomfort to pedestrians.
	New	Pedestrian volumes and footpath/public domain capacity.	Provide legible and open spaces to enable ease of pedestrian traffic flow.
Waste	Consistent	Waste production (Operation).	Implementation of the detailed Operational Waste Management Plan to accompany the future Northern and Central Precincts.
	Consistent	Waste production (Construction).	Preparation and implementation of a detailed Construction Waste Management Plan.
Air Quality, Odour and Dust	Consistent	Air quality, odour and dust emissions (construction)	Maintain compliance with AS1668.2.
Construction	Consistent	Impacts associated with public safety, visual amenity, noise, waste and traffic management in the locality during construction	A Construction Environmental Management Plan (CEMP) has been prepared by John Holland (Appendix Q) which details the procedures and processes associated with the construction methodology for the proposed development.
Soil and Water	Consistent		Adhere to erosion and sediment control measures identified in the Construction Environmental Management Plan prepared by John Holland attached at Appendix Q .
Infrastructure provision	Consistent	Adequate connection to infrastructure and utilities and adequate infrastructure capacity	Adhere to mitigation measures identified in the Services and Utilities Infrastructure Report at Appendix T .
Structure	New		Comply with:

Item	New / Consistent	Potential Impact	Mitigation Measure
			<ul style="list-style-type: none"> ▪ AS 1170.0 Structural Design Actions Part 0: General Principles 2002 ▪ AS 1170.1 Structural Design Actions Part 1: Permanent, Imposed and other 2002 ▪ AS1170.2 Structural Design Actions Part 2: Wind Actions 2009 ▪ AS1170.4 Structural Design Actions Part 4: Earthquake Loads 2007 ▪ AS 3600 Concrete Structures 2018 ▪ AS 3700 Masonry Structures 2001 ▪ AS 4100 Steel Structures 1998.
Flooding	Consistent	Potential flooding of the OSD.	The detailed design of the OSD should be developed having regard to the flooding requirements in Conditions of Approval E8 and E9 of the CSSI Approval.
	Consistent	Potential flooding of aspects of the CSSI 'Sydney Metro box' including the public domain.	
Stormwater	Consistent	Adverse impact on the quality of stormwater runoff (Operation).	Compliance with the recommendations in the Stormwater Management Plan and Flood Impact Assessment and the design criteria recommended by Sydney Water as referenced in the Concept Approval Stormwater report.
	Consistent	Adverse impact on the quality of stormwater runoff (Construction).	Compliance with the recommendations made in the CEMP regarding sediment and erosion control during construction.
Contamination	New	Exposure of contamination or hazardous materials during construction and operation.	Risks associated with exposure to contaminated or hazardous materials are to be dealt with in accordance with the Contaminated Sites Strategy prepared by Douglas Partners (submitted as part of the basement SSD-10438). Contamination or hazardous materials presents little to no risk to this Amending Concept DA.
Reflectivity	Consistent	Adverse impact on reflectivity of the proposed buildings on public domain, pedestrians, and motorists.	All glazing and other reflective materials used on the façade shall have a maximum normal specular reflectivity of visible light of 20%.

Item	New / Consistent	Potential Impact	Mitigation Measure
Biodiversity		Loss of significant vegetation.	The proposal is supported by a BDAR waiver. Subsequently no mitigation measures are required.
Building Standards	Consistent	Adequate access for people with a disability.	Provide accessible ingress and egress and facilities designed in accordance with relevant Australian Standards and provide egress / paths of travel in accordance with the Accessibility Report (Appendix S). It is noted that the detailed design of such building elements will be dealt with under the detailed SSDAs for each precinct to proceed this Amending Concept DA.
Safety and Security	New	Adverse impact on the safety and security of local community.	Detailed design to include additional surveillance devices, mechanised access controls, and clear way-finding signage. Design consideration should be given to preventing hostile vehicle penetration. Implementation of camera surveillance, public domain furniture design, anti-graffiti façade protections and the location of a high visibility security room.
Social Impact	New	General disruption to community associated with large scale construction.	Consistency with the recommendations of the Construction Environmental Management Plan including notably ongoing engagement and consultation with the surrounding landowners and occupants during the construction period, including a complaints register.
	New	Antisocial and criminal behaviour.	Adoption of the recommendations of the CPTED assessment prepared by Connley Walker included at Appendix N .
Signage	New	Detracts from the architectural integrity of the building.	Ensure future detailed SSDAs for the site clearly articulate signage zones to ensure they do not detract from the architectural integrity of the building.
Cumulative Impacts	New	Cumulative impacts (traffic, noise, dust, etc.) associated with concurrent construction and operation of the station OSD, and other development in the area.	Implementation and finalisation of the Draft Construction Pedestrian and Traffic Management Plan and the Construction Environmental Management Plan. A detailed Construction Management Plan to be prepared at CC stage, which should detail how screening, hoarding and construction zones should be coordinated to ensure public safety and amenity.

11. CONCLUSION AND JUSTIFICATION

This EIS has been prepared to accompany a concept SSDA which seeks consent to amend the concept SSDA (SSD 9393) approved for the OSD at the Waterloo Metro Quarter site. The subject amending DA is a new concept SSDA made under Section 4.22 of the EP&A Act.

This EIS has comprehensively addressed the general and key issues relating to the proposed development and has included the plan and document requirements identified in the SEARs and in Schedule 2 of the EP&A Regulation. This EIS is submitted to the NSW DPIE pursuant to Part 4 of the EP&A Act. The Minister for Planning and Public Spaces, or their delegate, is the consent authority for the DA.

The detailed design of the proposed building envelopes has been the subject of design development and testing and ongoing review from various government and independent parties to ensure that it achieves the highest standard in architectural design, while ensuring a functional interface is delivered with the Sydney metro.

The proposed building envelope amendments are considered an improvement upon the approved building envelopes within SSD 9393, and the revised land use mix better reflects the strategic priorities identified for the City Fringe and the Botany Road corridors. The proposed amendments to the concept SSDA are considered appropriate further as follows:

- The proposal supports the objectives for development within the Eastern City District as outlined within the District Plan. The proposal provides a place for investment and innovation at a suitable scale that can contribute to the Waterloo and Redfern locality to develop as a knowledge intensive cluster, while enhancing urban amenity and local character.
- The proposal results in an orderly and economic use of the land that leverages significant NSW Government investment in public transport to the site, specifically Sydney metro. The mix of uses provides activation through various times of the day, optimising use of the new metro infrastructure throughout the day.
- The proposal will deliver approximately 34,125sqm of commercial office floor space, rather than a third residential tower. This ensures employment generating floor space is located above and adjacent to high frequency public transport, supporting the ambition for a 30-minute city.
- The remaining residential accommodation proposed across the site meets the diverse housing needs of the community through the provision of social housing, affordable housing, traditional market housing, and student accommodation. A mix of dwellings typologies and unit mix is also facilitated through the building envelopes.
- The proposal satisfies the applicable State planning policies and relevant environmental planning instruments that apply to the site. The proposed uses are permitted with consent and meet the objectives of the B4 Mixed Use zone in SLEP 2012.
- The proposed envelopes facilitate the delivery of through-site links to improve the walkability and amenity of the precinct and provide connected places within the precinct to support knowledge sharing and collaboration between diverse businesses, institutions, and talent.
- The proposal delivers a genuine mixed-use precinct that celebrates distinct economic, social, heritage and cultural characteristics of Waterloo.
- The proposed building envelope amendments enhance the ability of future development on the Waterloo Metro Quarter site to achieve consistency with SEPP 65 and the Apartment Design Guide.
- The proposed building envelope amendments reducing the maximum height of buildings within the northern precinct by 26.5m and removes overshadowing from the building to the Alexandria Park Heritage Conservation Area compared to the original approved envelope.
- The proposed amendments reduce the total provision of car parking spaces on the site, supporting sustainability initiatives and reducing the reliance of private vehicle ownership within the precinct.

As has been demonstrated in this report, this proposal will on balance contribute positively to the built environment, and the future social and economic life of the precinct, without adversely impacting local amenity. In view of the above, we submit that the proposal is in the public interest and that the amending concept SSDA should be approved subject to appropriate conditions.

12. DISCLAIMER

This report is dated 26 October 2020 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of WL DEVELOPER PTY LTD (**Instructing Party**) for the purpose of EIS (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.