ENVIRONMENTAL IMPACT STATEMENT

Waterloo Metro Quarter
Over Station Development
Northern Precinct
Detailed State Significant
Development Application

Prepared for
WL DEVELOPER PTY LTD
26 October 2020

URBIS

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Peter Strudwick
Associate Director	Ashleigh Ryan
Senior Consultant	Andrew Hobbs
Consultant	Jack Kerstens

Reference	Description
Applicable SSD Applications	SSD-10440 – Northern Precinct Detailed SSDA
Author	Urbis Pty Ltd Ashleigh Ryan
Reviewed	Waterloo Developer Pty Ltd MR and PM
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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:

Names:	Peter Strudwick, Bachelor of Town Planning, UNSW Ashleigh Ryan, Bachelor of Planning (Hons 1), University of NSW Andrew Hobbs, Bachelor of Regional and Town Planning (University of Queensland) Jack Kerstens, Bachelor of Regional and Town Planning (Hons), University of Queensland
Address:	Urbis Pty Ltd Level 8, 123 Pitt Street Sydney NSW 2000
In respect of:	SSD-10440 – Waterloo Metro Quarter OSD – Northern Precinct Detailed 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	Detailed State Significant Development Application for the construction and operation of a commercial Over Station Development (OSD) located at the northern precinct of the Waterloo Metro Quarter site.

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**	**Jack Kerstens, Consultant**
Signature:				
Date:	26 October 2020	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
GBCA	Green Building Council of Australia
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

Reference	Description
MGB	1100L bin
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

Reference	Description
The proposal	The proposed development the subject of this detailed SSDA
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 detailed State significant development (SSD) development application (DA) for the construction and operation of a commercial Over Station Development (OSD) located at the northern precinct of the Waterloo Metro Quarter site.

The proposal seeks detailed development consent (previously referred to as 'stage 2' development consent) for the design, construction, and operation of a 17-storey (including plant level) commercial office building with ground floor retail premises.

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

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* (the EP&A Regulation) and contains an assessment of the proposal against the relevant considerations under Section 4.15 of the E*nvironmental Planning and Assessment Act 1979* (EP&A Act).

SYDNEY METRO

Sydney Metro is Australia's biggest public transport project (refer to Figure 1 below). 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.

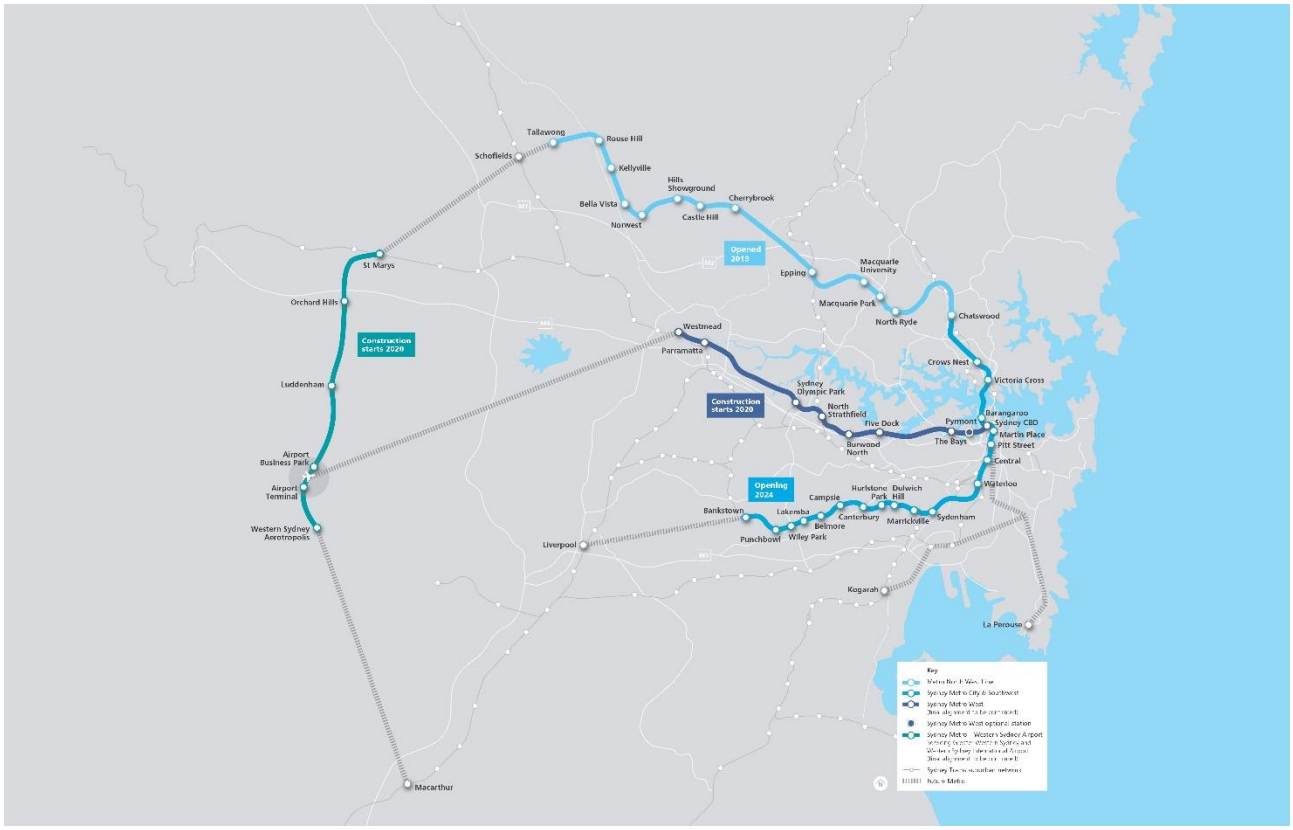
Sydney Metro - Western Sydney Airport

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.

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 Waterloo metro 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 OSD.

Figure 1 Sydney Metro Alignment Map



Source: Sydney Metro

THE SITE

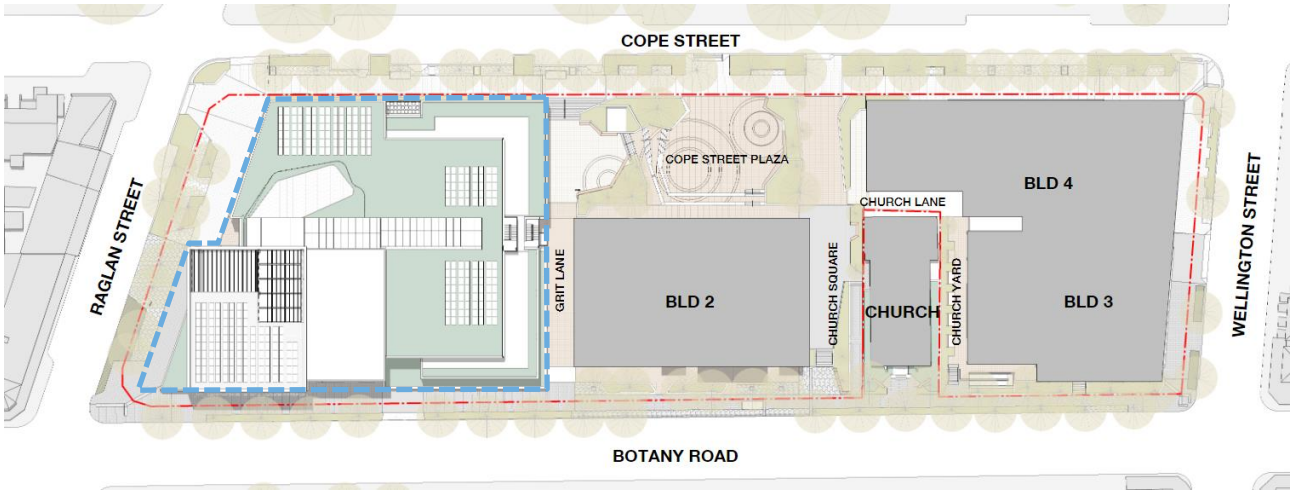
The site is located within the City of Sydney Local Government Area (LGA). The site is situated approximately 3.3 kilometres south of Sydney CBD and approximately 7.5 kilometres northeast of Sydney International Airport within the suburb of Waterloo.

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. 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.

This SSDA boundaries of the northern precinct of the Waterloo Metro Quarter site are illustrated in blue at **Figure 2**. The northern precinct includes the main commercial building on the site (Building 1), through-site link, ground level retail, loading dock, and the metro station box and public domain approved under the CSSI approval.

Separate detailed SSDAs have been prepared for the southern precinct of the site (Buildings 3 and 4 and Cope Street Plaza), central precinct (Building 2), and basement.

Figure 2 Proposed Northern Precinct Boundaries



Source: Woods Bagot

BACKGROUND

CSSI Approval – CSSI 7400

The CSSI approval (CSSI 7400), as it relates to the Waterloo metro 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 the 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.

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.

This subject detailed SSDA seeks development consent for the commercial OSD located within the northern precinct of the site, consistent with the parameters of the concept approval as proposed to be modified by SSD 10441.

Proposed Concurrent Amending Development Application

An amending concept DA has been lodged concurrently with this DA in accordance with Section 4.22 of the EP&A Act. It seeks approval to amend the approved building envelope and description of development approved under SSD 9393 as it relates to the northern precinct and central precinct of the Waterloo Metro Quarter site.

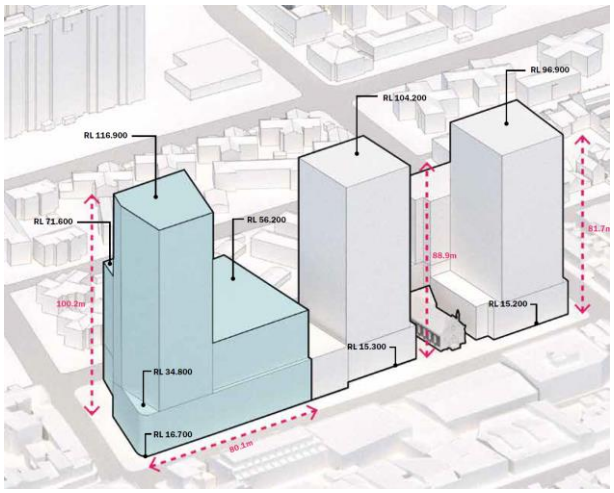
Specifically, the proposal seeks to modify the approved building envelope for the northern precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393), as well as a minor amendment to Building 2 which is located in the central precinct, through:

- 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 building 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 (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 building.
- 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.

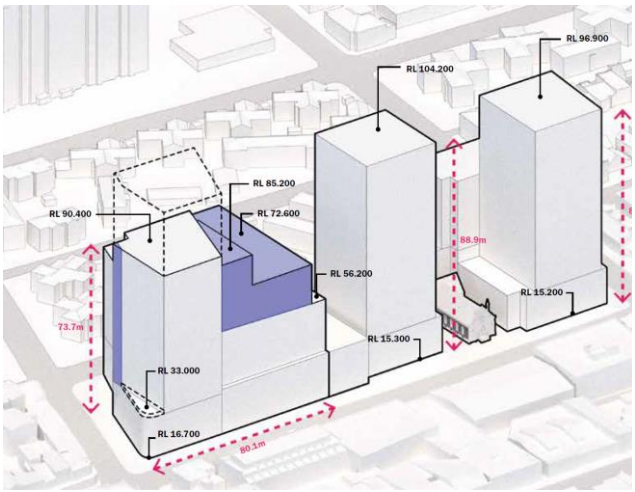
The modification to the approved concept SSDA will enable the detailed design of a new commercial building (comprising office and retail premises) to be pursued on the site, significantly increasing the proportion of employment generating floor space on the Waterloo Metro Quarter site. This new commercial 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.

Figure 3 Proposed Amendments to Concept Approval SSD 9393



Source: Hassell



Source: Hassell

DEVELOPMENT DESCRIPTION

The detailed SSDA seeks development consent for the design, construction, and operation of a 17-storey commercial office building (referred to as Building 1) within the northern precinct of the site comprising ground floor retail tenancies, loading and unloading services and a through-site laneway.

This detailed SSDA specifically seeks consent for the design, construction and operation of Building 1 including:

- Ground level retail premises and commercial premises tenancies.
- Use of the approved loading vehicle entrance and loading dock facilities accessed off Botany Road.
- 14-storeys of commercial office premises.
- Structural integration with approved metro station box.
- Indicative signage zones.
- Through-site laneway from Raglan Street to the Cope Street Plaza.
- Inaccessible landscaped rooftop on level 9.
- Delivery of public domain not currently approved under the CSSI approval.
- Stratum subdivision, to a limited number of horizontal stratums.

The building will be situated along the northern edge of the site oriented towards Raglan Street. It will comprise retail tenancies and loading and waste service facilities at ground level, a commercial lobby and commercial office floor space at Level 1 and a commercial office floor space at Levels 2-14.

The proposed development within the northern precinct is supported by the amending concept DA, lodged concurrently, which seeks to amend the approved building envelopes that apply to the northern precinct. The amendment includes a significant reduction to the maximum proposed building height at Raglan Street (from 29-storeys to 17-storeys), and a minor increase to the building envelope height at the southern portion of the building (from 10-storeys to 13-storeys) to facilitate the delivery of contemporary commercial office floor plates. The amending concept DA establishes building envelopes for the northern precinct that are consistent with the detailed design sought within this detailed SSDA.

Vehicular access will be available from Cope Street and provides access to a two-level common basement situated under the northern precinct and central building. The construction of the basement is the subject of a separate SSDA lodged concurrently to this detailed SSDA. As such, bulk earthworks do not form a part of this application.

Figure 4 Artist's Impression from Cope Street

Source: Woods Bagot

PROJECT NEEDS AND BENEFITS

Waterloo Station is a key new station on the Sydney Metro network, comprising one of five metro stations in 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 the existing Redfern and Green Square train stations.

The OSD will be integrated with the construction of the 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 Sydney Metro by providing a mixture of residential accommodation (both traditional private housing, social housing, affordable housing, and student accommodation), as well as approximately

34,125sqm of commercial office floor space above and adjacent the Sydney Metro network, with connections to the Sydney CBD and strategic centres.

Specific to this proposal, is the objective to deliver a greater amount of employment generating commercial floor space above a new metro station. This will deliver more readily available employment opportunities by integrating new commercial floor space with high frequency public transport network connecting to Sydney CBD and other strategic centres across the city. In achieving this objective, the proposal also seeks to achieve the following:

- Provide a truly integrated development, which delivers a large quantum of PCA A-grade commercial floor space above a metro station.
- Support the growing need for accessible and well service commercial floor space, while enabling the proposal to benefit from the mix of land uses proposed across the entire site.
- Deliver an improved pedestrian experienced through delivery of an activated and legible public realm around the northern precinct of the Waterloo Metro Quarter site.
- Support the renewal of the Waterloo Estate.
- Create an inviting entrance and improve connectivity to the station and improve the interface with Waterloo Estate through the delivery of Raglan Walk and Grit Lane, which will connect to Cope Street Plaza to be delivered under separate consent.

PLANNING FRAMEWORK

As the proposal is for the purposes of commercial premises associated with railway infrastructure that has a capital investment value of more than $30 million, it is classified as State significant development pursuant to Clause 8 (b), Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011*.

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

This application constitutes a detailed staged application subsequent to an approved concept DA (SSD 9393) which granted consent for a maximum building envelope on the site, lodged under Section 4.22 of the EP&A Act. An amending DA to the approved concept DA has been lodged concurrently with this application.

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

- *Environmental Planning and Assessment Act 1979*
- *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*
- Sydney Development Control 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 proposed development include:

- Integration with Waterloo metro station infrastructure.

- Impacts resulting from an amended building envelope within the Northern Precinct, including a reduction in overshadowing resulting from the revised Building 1 envelope and reduced visual 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.
- 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.
- Heritage impacts associate with the proposed built form.
- Initiatives to achieve an ecologically sustainable development.
- Traffic, parking and access considerations for the commercial office building.
- Utilities augmentation where required.
- Economic and social impacts.

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.

Each of these outstanding impacts have been addressed within this EIS.

CONCLUSION

Overall, the proposed development sought within the detailed 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 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 proposal will deliver 34,680.5sqm of commercial office floor space within the northern portion of the site, rather than a third residential building. This ensures employment generating floor space is located above and adjacent to high frequency public transport, enabling the key theme of a 30-minute city.
- 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 *Sydney Local Environmental Plan 2012* (SLEP 2012).
- The proposal will not have any unacceptable environmental impacts, as follows:
  - The proposal will not contribute to any unacceptable traffic impacts.
  - The streetscape interface and design has limited the opportunity for pedestrian and vehicle interactions, will promoting pedestrian legibility via activated through site links.
  - The proposal is sympathetic to the heritage items in the vicinity of the site, including the Cricketers Arms Hotel and the Former CBC Bank which are adjacent to the site.
  - The proposal achieves design excellence as outlined in the Design Excellence Strategy and Design Integrity Report.
  - The proposal complies with the solar requirements of the Waterloo Design and Amenity Guidelines. Specifically, the proposed building envelope will not result in more than 30% of Alexandria Park excluding the oval to be overshadowed as measured at any time after 9am on 21 June.
  - The overall massing of the building complies with the approved envelope (as proposed to be amended). The different heights and broken massing of the building are a direct response to the finer grain of the surroundings.

- The proposed detailed design of the OSD has considered and is integrated with, the detailed design of the Waterloo metro station and its related works including the construction of the development up to the transfer slab and the public domain.
- 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 detailed State significant development (SSD) development application (DA) which seeks consent for the construction and operation of a commercial Over Station Development (OSD) located at the northern precinct of the Waterloo Metro Quarter site.

This report has been prepared by Urbis Pty Ltd on behalf WL Developer Pty Ltd, the applicant of the detailed SSDA (SSD-10440). 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 OSD.

Lodgement of this detailed SSDA (SSD-10440) follows the approval of a concept SSDA (SSD-9393) granted by the Minister for Planning on 10 December 2019.

In order to achieve the project outcomes an amending concept DA has been lodged concurrently with this detailed SSDA. The amending DA seeks consent for a modified building envelope and project description for the northern precinct and specifically Building 1 submitted to facilitate approval of this detailed SSDA.

This EIS is submitted to the NSW Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Minister for Planning and Public Spaces, or their delegate, is the consent authority for the detailed SSDA.

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

1.1. PROJECT OVERVIEW

The detailed SSDA seeks approval for the design, construction, and operation of a maximum height 17-storey (including plant levels) commercial OSD building within the northern precinct of the site comprising ground floor retail tenancies, loading and unloading services and a through-site laneway.

The proposed 17-storey commercial building will provide additional premium office floor space in Sydney's inner suburbs, in addition to retail tenancies to activate the site and surrounds during and outside typical business hours. The proposal leverages off and optimises the NSW Government's significant investment in public transport infrastructure.

Where uses unrelated to the operation of the metro station are located within the metro station box under CSSI approval, approval is being sought in this SSDA for fit-out and use of those spaces only. The actual construction of these spaces is the subject of the CSSI approval and will not form part of this SSDA.

The detailed design of the proposal has been the subject of design development, testing and ongoing review from various government and independent parties such as the Sydney Metro Design Review Panel (DRP) to ensure that it achieves the highest standard in architectural design while providing a functional interface delivered with the Sydney Metro.

In summary, the detailed SSDA (SSD-10440) seeks development consent for:

- The design, construction and operation of a new commercial office building with a maximum building height of 17-storeys (RL 90.4) including ground and plant levels.
- A total GFA of 34,680.5sqm of commercial premises.
- Integration with the approved CSSI proposal, including, though not limited to:
  - Structures, electronic systems and services.
  - Use of the approved loading vehicle entrance and loading dock facilities accessed off Botany Road (shared use with Sydney Metro and for the OSD).
- Ground level retail premises and commercial premises.
- Design and construction of loading dock facilities and entrance accessed off Botany Road.
- Inaccessible landscaped rooftop on level 9.

- Landscaping of level 13 podium roof tops for commercial office tenants.
- Through-site laneway from Raglan Street to the Cope Street Plaza.
- Delivery of public domain elements not currently approved under the CSSI approval.
- Provision of signage zones.
- Stratum subdivision to limit the number of horizontal stratums.

The proposed development within the northern precinct will be supported by an amending concept DA, lodged concurrently, which will seek to amend the approved building envelope as it applies to the northern precinct and central precinct. The amendment includes a significant reduction to the maximum proposed building height at Raglan Street (from 29-storeys to 17-storeys), and a minor increase to the building envelope height at the southern portion of the building (from 10-storeys to 13-storeys) to facilitate the delivery of contemporary commercial office floor plates.

Image of the proposed development are included at Figure 5**.**

Figure 5 Artist's Impression of Proposal

Picture 1 View from Raglan Street

Picture 2 View from Raglan and Cope Streets corner

Source: Woods Bagot

1.2. PROJECT OBJECTIVES

The primary objective of the proposal is to act on 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 within the Sydney City fringe. The project will deliver a greater uptake of commercial office floor space across the site compared to the original concept SSDA, integrating the opportunity for more jobs to Sydney's new high-speed rail network. In achieving this broader objective, the proposal also seeks to achieve the following project-specific objectives:

- Redefine the landmark architectural design of the prominent northern precinct of the Waterloo Metro Quarter development through utilisation of modified building envelopes sought under the amending concept DA.
- Delivering 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 around a central lobby and building core.
- Enable enhanced vertical connections through continued voids and greenspaces, ensuring all levels share a visual and breathable connection.

- Support the NSW Government's planning strategies and objectives, including the Greater Sydney Region Plan (2018) and the Eastern City District Plan (2018).
- 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 which minimises overshadowing to public open space and nearby residential areas.
- Deliver scalable floor plates to provide 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.
- Deliver enhanced vertical connections through continued voids and greenspaces, ensuring all levels share a visual and breathable connection.

1.3. 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 responds to the transport demand that will accompany this growth with its plan to deliver a new standalone railway with 31 stations and more than 66 kilometres of new rail. Once completed, 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 today up to 200 services beyond 2024 – a 60 per cent increase resulting in an extra 100,000 train customers per hour in the peak. 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, connecting to surrounding metropolitan and strategic centres, such as Central Sydney, St Leonards and Macquarie Park.

The proposal capitalises on the introduction of Sydney Metro by providing a large quantum of employment generating commercial floor space directly above a metro station. The proposal directly aligns with key actions in the *Eastern City District Plan* (2018) by delivering employment opportunities and services in conjunction with high frequency public transport.

The detailed SSDA proposal also responds to the need to provide additional employment capacity and sustainable development, renewal and design. 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 whilst contributing to the supply of commercial office floor space and employment in the Sydney CBD City Fringe areas.

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

1.4. 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 E*nvironmental Planning and Assessment Regulation 2000* (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: Retain a mix of residential and commercial land uses.

1.4.1. Do Nothing

The 'do nothing' scenario, involving no OSD above the approved Waterloo metro station, is not a feasible development option for the site. 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.

1.4.2. 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 developed above the Waterloo 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.

1.4.3. 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 additional commercial floor space. This could be delivered in either a singular modulated building design, or 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.

1.5. STRUCTURE OF THE EIS

The EIS provides the following sections:

- **Section 1 – Introduction:** provides an introduction to the proposal and the EIS.
- **Section 2 – Background:** provides background of the proposal and relevant approvals in relation to the site.
- **Section 3 – Site Analysis:** a description of the site and surrounding context, including identification of the site, existing development on the site and surrounding development.
- **Section 4 – Proposed Development:** a detailed description of the proposed development.
- **Section 5 – Strategic Context:** details the strategic context including the planning policies and guidelines relevant to the site and the proposal.

- **Section 6 – Statutory Context:** provides a detailed assessment of the State, regional and local strategic planning policies and the development contributions framework.
- **Section 7 – Consultation:** details the community and stakeholder engagement undertaken by the applicant as part of the preparation of this EIS.
- **Section 8 – Environmental Impact Assessment:** provides a comprehensive assessment of the existing environment, potential impacts, and mitigation measures for each of the key criteria in the SEARs.
- **Section 9 – Environmental Risk Assessment:** provides an assessment of the environmental risk and mitigation measures proposed.
- **Section 10 – Conclusion and Justification:** provides concluding statements and a recommendation for determination of the application.

1.6. 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 Secretary's Environmental Assessment Requirements

Description / Requirement	Reference
GENERAL REQUIREMENTS	
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 EP&A Regulation.	Refer to Statement of Validity and throughout.
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Section 9 – Environmental Risk Assessment
Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include: ▪ 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; and ▪ a health impact assessment of local and regional impacts associated with the development, including those health risks associated with relevant key issues.	Section 9 – Environmental Risk Assessment
The EIS must also be accompanied by a report from a qualified quantity surveyor providing: ▪ 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	A Summary Report provided at Appendix B which includes the estimated cost of works and

Description / Requirement	Reference
prepared on company letterhead and indicate applicable GST component of the CIV; ▪ an estimate of jobs that will be created during the construction and operational phases of the proposed development; and ▪ certification that the information provided is accurate at the date of preparation	jobs that will be created by the development.
KEY ISSUES	
This EIS must address the following specific matters:	
1. Environmental Planning Instruments, Policies and Guidelines	
Address the statutory provisions applying to the development contained in all relevant environmental planning instruments, including: ▪ *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 (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 EIS shall address the provisions, goals and objectives of the relevant policies referred to at **Attachment A**.	Section 6 – Statutory Planning Context
2. Consistency with the Concept Approval	
The EIS shall: ▪ demonstrate the proposal is consistent with the Concept Approval and provide details of consistency with any modification(s) to the concept approval if sought concurrently. ▪ include a staging and delivery plan (or be consistent with an approved plan) for the coordinated delivery of public domain, car parking and other common facilities and any public benefits such as social and affordable housing.	Section 4 – Proposed Development Staging plan at the design report **at Appendix E**
3. Land Use and Gross Floor Area	

Description / Requirement	Reference
The EIS shall: ▪ address the site specific SLEP 2012 provisions (under Part 6, Division 5) in relation to land use mix and floor space requirements. ▪ include a table and plans identifying the proposed GFA, floor space ratio and land uses, including a floor-by-floor breakdown of gross floor area (GFA) and the overall residential GFA and non-residential GFA split proposed for the northern precinct. ▪ include details of the proposed uses and/or operational details for the development, including but not limited to fit-out and operational details and preliminary operational management plan.	Section 4 and Section 6.13
4. Design Excellence and Built Form	
The EIS shall: ▪ demonstrate compliance with the endorsed Design Excellence Strategy and submit a Design Integrity Report in accordance with the requirements of the Concept Approval or as amended. ▪ demonstrate compliance with the endorsed Design and Amenity Guidelines, dated March 2020 or any subsequent endorsed revision of the guidelines. ▪ ensure that the podium building envelopes, as identified by the Concept Approval, must be used for non-residential uses only.	Refer to Design Integrity Report at **Appendix Y**. Refer to Section 6.12.
5. Integration with Sydney Metro Station Infrastructure	
The EIS shall: ▪ identify the extent of the proposal that is State Significant Development (SSD) and how this relates to the approved Critical State Significant Infrastructure (CSSI) applications and any modifications to the CSSI. ▪ address how the development supports the design objectives, principles and standards of the Station Design Precinct Plan and Interchange Access Plan under the CSSI. ▪ show how the SSD will integrate with the CSSI infrastructure such as structural design, detailed architectural approach, access, wayfinding, public domain works and construction management.	Section 4.3 – Relationship between OSD and CSSI Section 4.3.1 – Interface Areas
6. Visual and Amenity Impacts	
The EIS shall: ▪ - provide a detailed visual / view impact analysis of the proposed building when viewed from the public domain and key vantage points surrounding the site. This is to include a written description of the existing view, the likely impact and justification of the proposal and any required mitigation measures. The view locations and methodology for the analysis must be prepared in consultation with the Department and Council.	Refer to view impact assessment at **Appendix HH** and Section 8.2.

Description / Requirement	Reference
▪ - provide a visual impact assessment of the proposed buildings as viewed by a pedestrian from the future Cope Street Plaza and the surrounding public domain surrounding the site. ▪ - provide a solar access and overshadowing analysis, comparing the overshadowing impacts of the proposal to the existing situation and the approved envelopes having regard to the impact of the proposal on solar access to Alexandria Park and Alexandria Heritage Conservation Area. This shall include a statement on the benefits and issues of any alternative design options that was considered with respect to shadow impacts to Alexandria Park. ▪ provide a reflectivity analysis demonstrating that external treatments, materials and finishes of the development do not cause adverse or excessive glare. ▪ include a wind assessment, identifying the impact of the proposal on surrounding wind conditions having regard to the wind study criteria under the Concept Approval and providing any required measures to ameliorate wind impacts at podium level, street level and at the locations of existing and future pedestrian crossings.	Refer to shadow diagrams at **Appendix LL** and Section 8.1.3. Refer to reflectivity analysis at **Appendix GG** and Section 8.11. Refer to wind assessment at **Appendix KK** and Section 8.5.
7. Heritage	
The EIS shall: ▪ include a detailed heritage impact statement (HIS) that identifies, considers and addresses any potential impact of the 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 and the neighbouring heritage listed Cauliflower Hotel. ▪ include a Heritage Interpretation Strategy, providing opportunities for the proposal to reflect on the heritage character and significance of the site and surrounding area. ▪ demonstrate how the impacts are mitigated through selection of external materials and finishes, façade design and treatment, public domain design and landscaping, signage and public art strategy. ▪ Consider any archaeological impacts ▪ Consider the extent of Aboriginal heritage impacts of the proposal on the site	Refer to HIS at **Appendix H** and Section 8.3. Refer to Heritage Interpretation Strategy at **Appendix CC** and Section 8.2. Section 8.3
8. Ecologically Sustainable Development (ESD)	
The EIS shall: ▪ detail how ESD principles (as defined in clause 7(4) Schedule 2 of the EP&A Regulation 2000) will be incorporated in the design, construction and operation of the development ▪ include a framework (or demonstrate consistency with an approved framework) for how the proposed development will reflect national best practice sustainable building principles to improve environmental performance, including energy and	Refer to ESD Statement at **Appendix M** and Section 8.4.

Description / Requirement	Reference
water efficient design and technology, use of renewable energy and best practice in waste management strategy. ▪ demonstrate sufficient waste and recycling management facilities storage and holding areas for servicing.	
9. Traffic, Parking and Access (Construction and Operation)	
The EIS shall include a traffic, parking and access assessment that provides, but is not limited to, the following: ▪ details on the current and likely estimated future mode share for the various land uses (workers, visitors, etc) accessing the proposed development. ▪ details of the current and likely estimated future daily and peak hour vehicle, public transport, point to point transport, pedestrian and bicycle movements to/from the site, including an indication of whether it relates to the station or OSD, and any associated impacts. ▪ measures to mitigate impacts of the proposed development on the operation of existing and future traffic, public transport, pedestrian and bicycle networks, including any required upgrades. ▪ justification for the car parking provision with measures to encourage users of the development to make sustainable travel choices, including a green travel plan, walking, cycling, public transport and car sharing, adequate provision of bicycle parking and end of trip facilities and the minimisation of private car trips. ▪ modelling and analysis of pedestrian and cyclist access to the proposed development in consultation with TfNSW, taking into account the existing and planned Sydney Bike Network ▪ an assessment and details of proposed service vehicle access arrangements, including service vehicle parking, a draft Freight and Servicing Management Plan detailing loading dock and servicing provision, adequacy and management with consideration of precinct wide shared loading docks and/or remote or off-site loading zone hub facilities, ensuring all servicing and loading occurs on-site and does not rely on kerbside controls. ▪ detailed queuing analysis to show that vehicles would not queue onto Botany Road from the loading dock. ▪ details of measures to segregate hostile vehicles from public transport users and areas of people congregation. ▪ demonstrate how pedestrian safety and amenity will be provided along Raglan Street, the shared laneway located between Raglan Street and Cope Street plaza will be designed to prioritise pedestrian movements, including any measures to protect pedestrians entering and exiting the building and retail outlets. ▪ a draft Construction Pedestrian and Traffic Management Plan to demonstrate the proposed management of impact. This Plan needs to include works zone location, vehicle routes, number of trucks, hours of operation, indicative	Refer to Section 8.7 of this EIS for detailed assessment on traffic and transport matters. Additionally, a Traffic Impact Statement has been prepared and is included at **Appendix I**. Refer to the draft Freight and Servicing Management Plan at **Appendix I** Refer to the draft CPTMP at **Appendix J**

Description / Requirement	Reference
construction program, access arrangements and traffic control measures for all demolition/construction activities.	
10. Nosie and Vibration Impacts (Construction and Operation)	
The EIS shall: ▪ include an assessment of construction noise and vibration impacts. The assessment must also outline proposed noise and vibration mitigation and monitoring procedures having particular regard for potential impacts to the adjoining heritage listed 'Waterloo Congregational Church' site. ▪ provide a quantitative assessment of any noise and vibration generating sources and activities during operation and outline mitigation measures (if necessary) to ameliorate and manage impacts ▪ The noise and vibration impact assessment shall have regard to the recommendations of the Concept Acoustic Assessment Report, SLR consulting dated 9 November 2019.	Refer to noise and vibration impact assessment at **Appendix K** and Section 8.6.
11. Construction Impacts	
The EIS shall include a Construction Environmental Management Plan, developed in consultation with TfNSW and Council, providing: ▪ include 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. ▪ assessment of the potential cumulative impacts (noise, vibration, traffic, air quality etc) 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.	Refer to Construction Environmental Management Plan at **Appendix Q** and Section 8.8.
12. Prescribed airspace for Sydney Airport	
The EIS shall: ▪ identify any impacts of the proposal on the prescribed airspace for Sydney Airport.	Refer to comments included at Section 6.11.2.
13. Public Benefits, Contributions and /or Voluntary Planning Agreement Public Benefits	
The EIS shall identify the provision of public benefit, services and contributions that will be delivered as part of the proposal in consultation with key stakeholders, such as the Department, Council and TfNSW, and address voluntary planning agreement (VPA) or other legally binding instrument agreed between a relevant public authority and the Applicant.	Section 6.11
14. Utilities	

Description / Requirement	Reference
The EIS shall: ▪ Identify and address the existing capacity to service the development proposed and any augmentation requirements for utilities in consultation with relevant agencies ▪ identify any potential impacts of the proposed construction and operation on the existing utility infrastructure and service provider assets, and demonstrate how these will be protected, or impacts mitigated.	Refer to the Utilities and Services Report at **Appendix T** and Section 4.10.
15. Contamination and Remediation	
The EIS shall: ▪ address the provisions of SEPP 55 ▪ demonstrate the suitability of the site for the proposed use having regard to contamination and remediation	Site contamination considerations are to be dealt with under the Basement works and CSSI approval, and do not form part of this EIS. Additional commentary is provided at Section 6.5.
16. Stormwater and Flood Impact	
The EIS shall: ▪ include an assessment of flood impact having regard to the requirements of Sydney LEP 2012 and the recommendations of the Concept Water Quality, Flooding and Stormwater Report dated 31 August 2018. ▪ include a stormwater management strategy that considers the relevant local council stormwater management policy, including details of onsite stormwater capture, storage and re-use measures developed for the site.	Refer to Flood Impact Assessment at **Appendix O** and Section 8.10.
17. Biodiversity	
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.	Section 6.2 Biodiversity Conservation Act 2016
18. Pre-submission Consultation Statement	
The EIS shall 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.	A Pre-lodgement Consultation Report has been prepared and

Description / Requirement	Reference
The statement must include evidence of consultation with the adjoining Waterloo Congregational Church on the following matters (but not limited to) car parking during large church events (funerals and weddings), waste servicing, building maintenance, design of the public domain around the curtilage of the church and design of the setback zones and edge interfaces so as to promote passive surveillance.	included at **Appendix U**.
PLANS AND DOCUMENTS	
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. In addition, the EIS must include the following: ▪ site title diagrams and survey plan, showing existing levels, location and height of existing and adjacent structures/buildings ▪ site analysis plan ▪ schedule of proposed gross floor area per land use ▪ social and economic analysis (including social needs, employment and retail studies) ▪ building envelopes showing the relationship with proposed and existing buildings in the locality ▪ architectural and urban design statement, including illustrations and justification showing how the buildings will relate the station entrances and enhance the surrounding public domains ▪ visual and view impact analysis and photomontages ▪ design guidelines and design excellence strategy ▪ staging plan and any associated activation and infrastructure delivery strategy ▪ solar access analysis report and diagrams ▪ wind impact assessment ▪ flood assessment/storm water management plan ▪ public domain plans defining extent of works (if any proposed) ▪ landscape design statement and plans ▪ heritage impact assessment ▪ heritage interpretation strategy ▪ transport, traffic and parking assessment ▪ construction traffic and pedestrian management plan ▪ noise and vibration impact assessment ▪ air quality management plan (where relevant)	Documents required by the SEARs have been prepared to support this application and are included in **Appendix A – Appendix OO**.

Description / Requirement	Reference
▪ access/DDA impact statement ▪ flood impact assessment/storm water management strategy including any geotechnical assessment ▪ physical and 3D digital model (generally in accordance with City of Sydney Council requirements) ▪ services and utilities infrastructure report ▪ ESD statement (incorporating a sustainability framework) ▪ tree removal plan and arborist report (where relevant) ▪ waste management plan ▪ contamination and remediation report (including any site audits, soil specification where relevant) ▪ archaeological statement (where relevant) ▪ reflectivity statement ▪ signage details (if proposed) ▪ public art strategy ▪ operational noise and vibration report ▪ CPTED assessment ▪ security risk assessment (delivered by a suitably qualified and licensed contractor with consideration to the requirements of the NSW Security Industry Act, 1997). ▪ construction management statement addressing how future stages will manage impacts to pedestrians, rail uses, bus services and taxis ▪ acoustic impact assessment ▪ pre-submission consultation report.	
CONSULTATION	
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. In particular, you must consult with: ▪ City of Sydney Council ▪ Transport for NSW ▪ Sydney Trains ▪ Sydney Metro ▪ Transport Coordination Office within Transport for NSW	Refer to pre-consultation report at **Appendix U** and Section 7.

Description / Requirement	Reference
▪ Surrounding residents and businesses including the Waterloo Congregational Church ▪ Relevant community groups The EIS must describe the consultation process and the issues raised, and identify where the design 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.	

1.7. OTHER APPROVALS

In addition to the approvals noted elsewhere in this document, other approvals will be required in the future to permit the construction of the OSD. These approvals may include, but are not limited to, the following:

- Approvals under the *Roads Act 1993* (including Section 138 approvals) may be required. A consent under section 138 of the *Roads Act 1993* cannot be refused if it is necessary for carrying out SSD that is authorised by a development consent and any *Roads Act 1993* consent must be substantially consistent with the SSD consent.
- An environment protection licence under the *Protection of the Environment Operations Act 1997*. An environment protection licence under Chapter 3 of the *Protection of the Environment Operations Act 1997* cannot be refused if it is necessary for carrying out SSD that is authorised by a development consent and any licence must be substantially consistent with the consent.
- A compliance certificate issued under Section 73 of the *Sydney Water Act 1994*.

2. BACKGROUND

2.1. SYDNEY METRO

Sydney Metro is Australia's biggest public transport project (refer to Figure 6 below). 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.

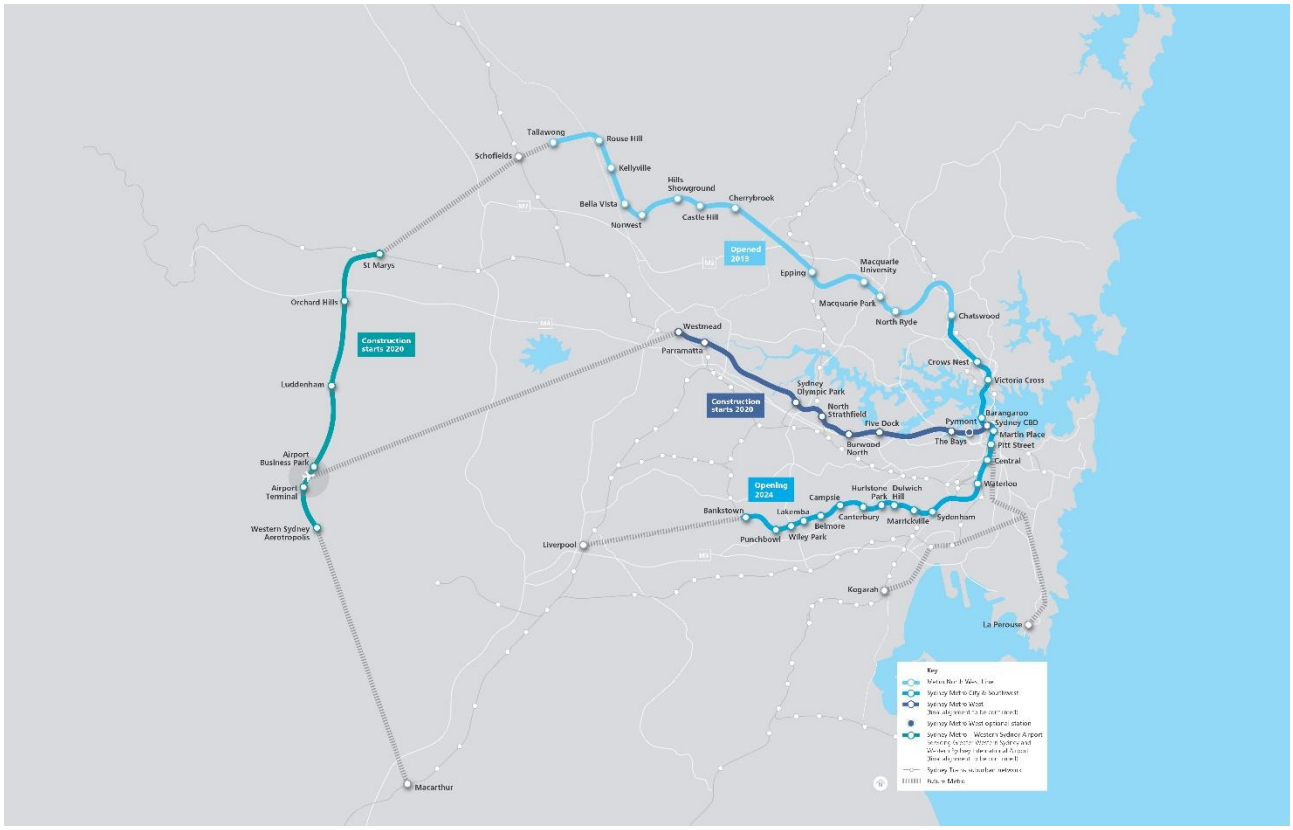
The locations of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays.

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.

Figure 6 Sydney Metro Alignment Map



Source: Sydney Metro

2.2. CSSI APPROVAL SYDNEY METRO CITY & SOUTHWEST (SSI 7400)

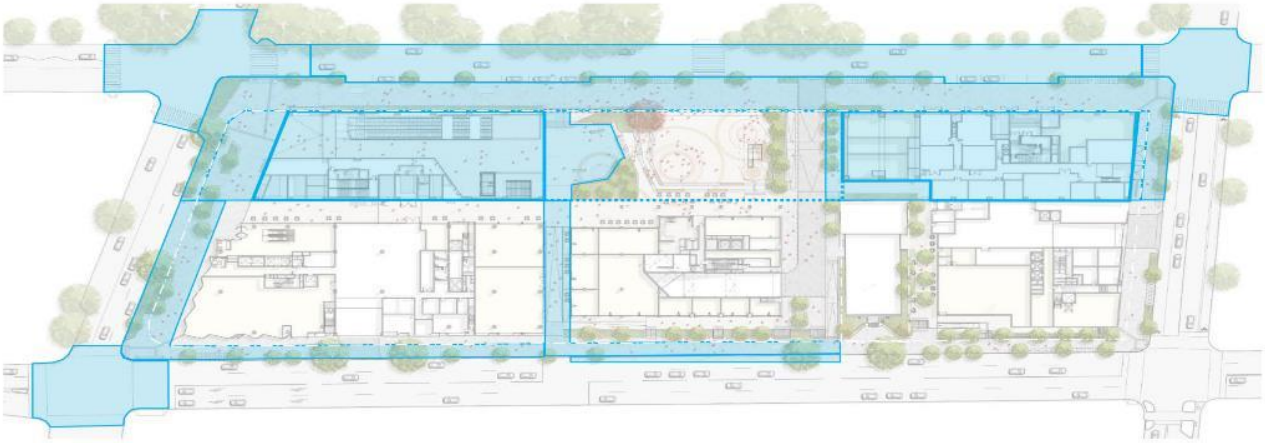
On 9 January 2017, the Minister for Planning approved Stage 2 of the Sydney Metro project, involving the construction and operation of a metro rail line between Chatswood and Sydenham, including the construction of a tunnel under Sydney Harbour, links with the existing rail network, seven metro stations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

The CSSI approval (CSSI 7400), 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 that approval requires that a detailed Station Design and Precinct Plan (SDPP) be approved by the Secretary of DPIE prior to the construction of above ground works.

The building design for the metro station box identified within SSD 9393 is to be coordinated with the SDPP prior to their approval by the Secretary.

2.3. CONCEPT APPROVAL (SSD 9393)

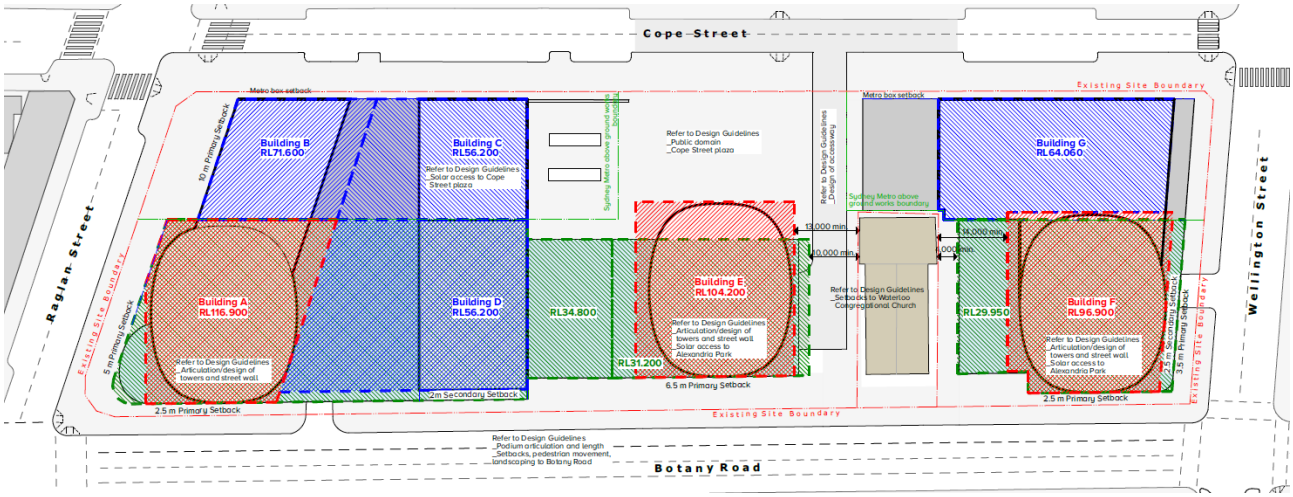
Development consent was granted on 10 December 2019 for the concept SSDA (SSD 9393) for the Waterloo Metro Quarter OSD including:

- 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.

The concept SSDA instrument of approval does not consent to any physical works commencing on site. Separate detailed SSDAs will be prepared concurrently for southern precinct (Buildings 3 and 4 and Cope Street Plaza), central precinct (Building 2), and the basement car park.

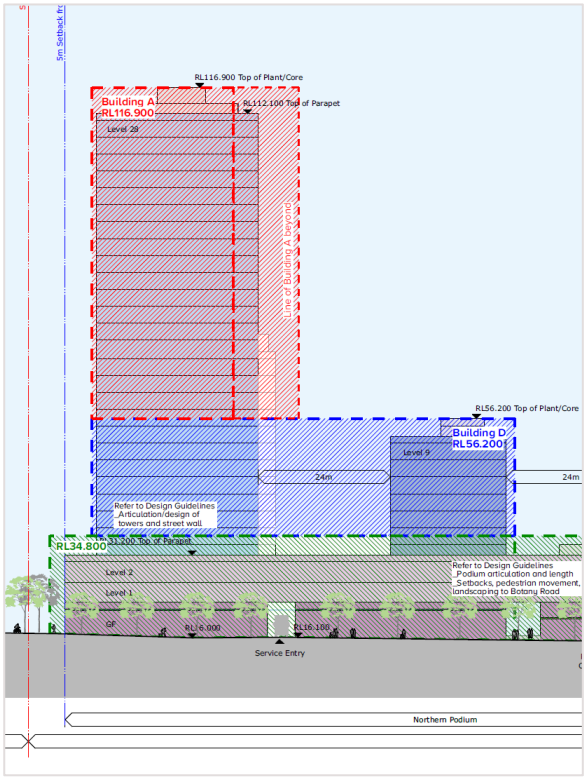
The building envelopes for the northern precinct currently approved by SSD 9393 (as modified by Condition B7) is illustrated in Figure 8 and 9.

Figure 8 Approved Concept SSDA Building Envelope – Site Plan

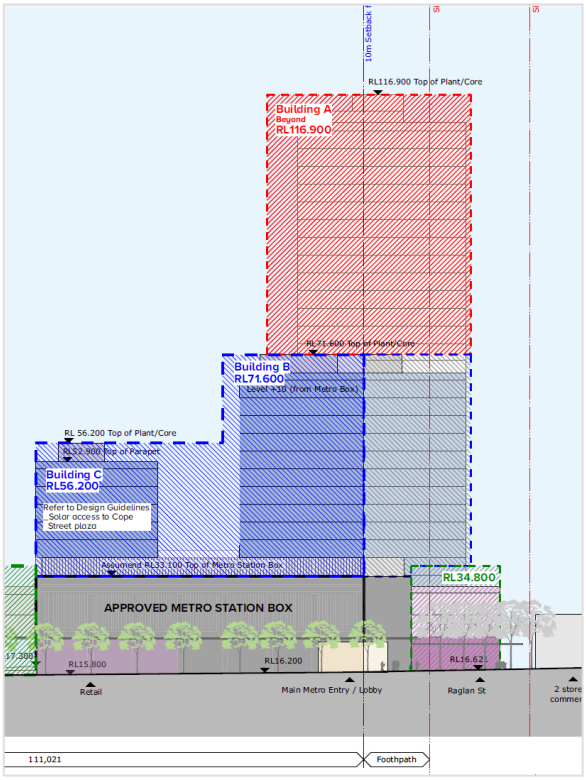


Source: SSD 9393 Approved Plans

Figure 9 Approved Concept SSDA Building Envelope – Western (left) and Eastern (right) Elevations



Source: SSD 9393 – Turner



Source: SSD 9393 – Turner

The development consent for SSD 9393 issued on 10 December 2019 included two components. 'Part A' related to the terms of the consent, whilst 'Part B' included the conditions to be satisfied in future detailed development application(s).

Table 2 below outlines the conditions to be satisfied as identified under Part B of the concept development consent and how they relate to and/or are addressed within this EIS as part of this detailed SSDA.

Table 2 Concept DA SSD 9393 Conditions of Consent to be Satisfied

Condition / Requirement	Document Reference
MAXIMUM BUILDING ENVELOPES	
B1. Future development applications must demonstrate that the buildings are wholly contained within the building envelopes consistent with the plans listed in Condition A2, as modified by the conditions of this consent.	The built form proposed is wholly contained within the building envelopes as proposed to be modified. Refer to architectural drawings at **Appendix D**.
B2. Building height and gross floor area is to be measured in accordance with the definitions under Sydney Local Environmental Plan 2012	Building height and gross floor area has been measured in accordance with the definitions under the SLEP 2012.
B3. The maximum achievable gross floor area (GFA) for the non-station related floor space is 68,750 m' and this amount will only be achieved subject to demonstration of: a. being wholly contained within the approved building envelopes b. compliance with the conditions of this concept approval c. demonstration of design excellence d. consistency with the Design Guidelines (as amended by Condition A14)	The maximum GFA for non-station related floor space across the entire site will not exceed 68,750sqm. Refer to Section 6.11.
B4. The approved podium building envelopes, as identified with green shading in the approved plans in Condition A2, must be used for non-residential uses only.	Noted, these areas as modified do not contain residential land uses.
BUILT FORM AND URBAN DESIGN	
B5. The detailed development applications shall address compliance with: a. the Design Guidelines as endorsed by the Planning Secretary pursuant to Condition A14 b. the Design Excellence Strategy as endorsed by the Planning Secretary pursuant to Condition A15 c. the conditions of this consent.	Refer Section 6.12 Refer Section 2.5 and 8.1.1. Refer Table 2
B6. The following elements are not inconsistent with the consent proposal but are subject to further assessment with the relevant detailed development application:	The proposed land uses are consistent

Condition / Requirement	Document Reference
a. conceptual land uses, except for the approved minimum non-residential GFA, community facilities GFA, affordable housing rate and number of social housing dwellings approved b. indicative signage zones, following preparation of a Signage Strategy c. subdivision.	with the land uses as amended for the site. Refer Section 4.9 Refer Section 4.13
B7. Future development applications shall address the following: a. Botany Road setback of 6.5m is to be extended to the north as identified in Response to Submissions (Figure 10, Page 139). The extended setback is to be incorporated into revised Building Envelope Plans to the satisfaction of the Planning Secretary prior to the lodgement of any future development application. b. Submission of a Design Integrity Report to the satisfaction of the Planning Secretary that demonstrates how design excellence and design integrity will be achieved in accordance with: i. the design objectives of the Concept Development Application ii. consistency with the approved Design Guidelines as amended by Condition A14 iii. the DEEP's Design Excellence Report iv. the advice of the SDRP (or approved alternative under Condition A15) v. the conditions of this consent. c. The Design Integrity Report (DIR) as required by Condition B7(b) must include a summary of feedback provided by the SDRP (or alternative approved in accordance with Condition A15) and responses by the Applicant to this advice. The DIR shall also include how the process will be implemented through to completion of the approved development.	Generous setbacks along Botany Road have been provided to enable an improved pedestrian environment. Refer to architectural design drawings at **Appendix D.** A Design Integrity Report has been prepared and attached within the endorsed Design Excellence Strategy at **Appendix G**. The report demonstrates how the proposal achieves design excellence, and includes feedback provided by the DRP as an alternative to the SDRP.
CAR PARKING AND BICYCLE PARKING	
B8. Future development applications shall reduce total car parking provision to reduce private car ownership and promote use of active and public transport. Future development applications must demonstrate compliance with: a. the maximum number of car spaces to be provided for all residential accommodation within the development is limited to 170 spaces, including residents' spaces and residential car share spaces but excluding visitor spaces and service vehicle spaces. b. the allocation of residential car parking spaces, up to the maximum of 170 spaces must not exceed the following maximum rates: i. 0.1 space per studio dwelling ii. 0.3 parking spaces per 1 bedroom dwelling	**Appendix I** and Section 4.7.

Condition / Requirement	Document Reference
iii. 0.7 parking spaces per2 bedroom dwelling iv. 1 parking space per 3 bedroom or more dwelling v. residential car share parking rate of 1 space per 50 residential car parking spaces provided c. non-residential car parking to be provided in accordance with the following: i. a maximum of 1 space for 435m' of GFA for any commercial uses ii. a maximum of 2 spaces for use of the Waterloo Congregational Church iii. non-residential car share parking at rate of 1 space per 30 non-residential car parking spaces.	
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 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	**Appendix I** and Section 4.7.
B10. Bicycle parking and end-of-trip facilities for the OSD shall be in accordance with the rates specified within the Sydney DCP 2012 for the final land use mix in the future development application.	**Appendix I** and Section 4.7.
CONSULTATION WITH WATERLOO CONGREGATIONAL CHURCH	
B11. Future development applications must demonstrate consultation with the owners and operators of Waterloo Congregational Church and project responses. Consultation is to include consideration of: a. potential for Church gathering space b. wedding and funeral cars c. waste and servicing d. building maintenance e. design of the public domain around and within the Church property including safe access and passive surveillance in the setbacks.	**Appendix U** and Section 7.
HERITAGE IMPACT ASSESSMENT	
B12. Future development applications for aboveground works shall include a detailed Heritage Impact Statement and a Heritage Interpretation Strategy for the proposed works prepared in consultation with the City of Sydney Council.	**Appendix H** and Section 8.3.
WIND IMPACT ASSESSMENT	

Condition / Requirement	Document Reference
B13. Future development applications for aboveground works shall be accompanied by a Wind Impact Assessment including computer modelling of detailed building form and demonstrating compliance with the criteria in Pedestrian Wind Environment Study by Windtech dated 26 September 2019	**Appendix KK** and Section 8.5.
B14. The Wind Impact Assessment must consider the locations of existing and future pedestrian crossings and apply standing criteria zones to match the width of crossings and the waiting zones for crossings, including on the opposite side of streets.	**Appendix KK** and Section 8.5.
TRAFFIC, ACCESS AND PARKING ASSESSMENT	
B15. Future development applications shall be accompanied by a Traffic and Transport Impact Assessment.	**Appendix I** and Section 8.7.
B16. Future development applications shall include a Construction Traffic and Pedestrian Management Plan (CTMP) prepared in consultation with the Sydney Coordination Office and City of Sydney, and to the satisfaction of the relevant road authorities. The CTMP shall include, but not be limited to: a. construction car parking strategy b. haulage movement numbers/ routes including contingency routes c. detailed travel management strategy for construction vehicles including staff movements d. maintaining property accesses e. maintaining bus operations including routes and bus stops f. maintaining pedestrian and cyclist links/ routes g. independent road safety audits on construction related traffic measures h. measures to account for any cumulative activities/ work zones operating simultaneously.	**Appendix J** and Section 8.1.1.
B17. Independent road safety audits are to be undertaken for all stages of further design development involving road operations and traffic issues and cognisant of all road users. Any issues identified by the audits will need to be closed out in consultation with Sydney Coordination Office, RMS and/or City of Sydney to the satisfaction of the relevant roads authorities.	**Appendix I**
ENVIRONMENTAL PERFORMANCE / ESD	
B18. Future development applications must demonstrate how the principles of ecologically sustainable development (ESD) have been incorporated into the design, construction and ongoing operation of the proposal. This shall include preparation and implementation of Environmental Sustainability Strategies that incorporate low-carbon, high efficiency targets aimed at reducing emissions, optimising use of water, reducing waste and optimising parking provision to maximise sustainability and minimise environmental impacts.	An ESD Report has been prepared and attached at **Appendix M** which demonstrates how the proposal has adequately

Condition / Requirement	Document Reference
	incorporated ESD principles.
B19. The minimum performance targets for environmental performance are: (a) Precinct overall: i. 6 star Green Star Communities Rating Tool ii. Endorsed under One Living Planet framework iii. Commercial / office uses: iv. 5 Star Green Star Design and As-Built Rating Tool v. 5.5 Star NABERS Energy vi. 4.5 Star NABERS Water vii. 'Gold Certification: Shell and Core' under WELL Building Standard (c) Residential uses: i. 5 Star Green Star Design and As-Built Rating Tool ii. more than BASIX 40 Water iii. BASIX 30 Energy.	Noted – see above comment.
SECURITY AND CRIME ASSESSMENT	
B20. Future development applications shall be accompanied by a Security and Crime Risk Assessment prepared in consultation with NSW Police having regard to Crime Prevention Through Environmental Design (CPTED) Principles and NSW Police publication "Safe Place: Vehicle Management: A comprehensive guide for owners, operators and designers." The future development is to have regard to the recommendations contained within the submission by NSW Police on the Concept SSD.	**Appendix N** and Section 8.13.
CONSTRUCTION IMPACT ASSESSMENT	
B21. Future development applications shall provide analysis and assessment of the impacts of construction works and include: a. Construction Traffic and Pedestrian Management Plan, as per Condition B9 b. Community Consultation and Engagement Plan(s) c. Noise and Vibration Impact Assessment d. Construction Waste Management Plan e. Air Quality Management Plan.	a. **Appendix J** b. **Appendix U** c. **Appendix K** d. **Appendix Q** e. **Appendix W** and Section 8.8.
B22. The plans above may be prepared as part of a Construction Environmental Management Plan prepared for implementation under the conditions of any consent for future development applications, having regard to the Construction	**Appendix Q** and Section 8.8.

Condition / Requirement	Document Reference
Environmental Management Framework and Construction Noise and Vibration Strategy prepared for the Sydney Metro City & Southwest (CSSI 7400).	
NOSIE AND VIBRATION ASSESSMENT	
B23. Future development applications shall be accompanied by a Noise and Vibration Impact Assessment that demonstrates the following requirements are met: (a) vibration from construction activities does not exceed the vibration limits established in British Standard 8S7385-2:1993 Excavation and measurement for vibration in buildings. A guide to damage levels from groundborne vibration. (b) vibration testing is conducted before and during vibration generating activities that have the potential to impact on heritage items to identify minimum working distances to prevent damage. In the event the vibration testing and monitoring shows that the preferred values for vibration are likely to be exceeded, the Applicant must review the construction methodology and, if necessary, propose additional mitigation measures. (c) advice of a heritage specialist has been incorporated on methods and locations for installed equipment used for vibration movement and noise monitoring of heritage-listed structures.	**Appendix K** and Section 8.6.
B24. The Noise and Vibration Assessment must provide a quantitative assessment of the main noise generating sources and activities during operation. Details are to be included outlining any mitigating measures necessary to ensure the amenity of future sensitive land uses on the site and neighbouring sites is protected during the operation of the development.	**Appendix K** and Section 8.6.
B25. The Noise and Vibration Assessment must address the conclusions and recommendations of the Concept Acoustic Assessment Report, SLR Consulting dated 9 November 2019.	**Appendix K** and Section 8.6.
FLOOD AND STORMWATER ASSESSMENT	
B26. Future development applications shall be accompanied by a Flood and Stormwater Impact Assessment. The Assessment must demonstrate the conclusions and recommendations of the Concept Water Quality, Flooding and Stormwater Report dated 31 October 2018 prepared by AECOM.	**Appendix O** and Section 8.10.
REFLECTIVITY ASSESSMENT	
B27. Future development applications for aboveground works shall include a Reflectivity Assessment demonstrating that external treatments, materials and finishes of the development do not cause adverse or excessive glare.	**Appendix GG** and Section 8.11.
ARCHAEOLOGICAL AND ABORIGINAL CULTURAL HERITAGE ASSESSMENT	

Condition / Requirement	Document Reference
B28. Future development applications shall demonstrate the recommendations and mitigation measures of the following Sydney Metro City & Southwest (CSSI 7400) reports are to be incorporated during the construction of the SSD project: (a) Artefact 2016, Sydney Metro City & Southwest, Chatswood to Sydenham: Aboriginal Cultural Heritage Assessment (b) Artefact 2016, Sydney Metro City & Southwest, Chatswood to Sydenham: Aboriginal Heritage - Archaeological Assessment.	Archaeological and Aboriginal cultural considerations have been covered under the detailed basement SSDA, and do not form a consideration under this proposal.
B29. Future development applications shall include an Archaeological Research Design (ARD) and subsequent Archaeological Method Statement (AMS), or updated/amended CSSI ARD and AMS that clearly applies to the SSD scope of works, informed by the results of the archaeological works undertaken for the CSSI works. This may include consultation with the Registered Aboriginal Parties for the project and may include further field study. The AMS must: (a) provide an assessment of the findings of the eastern clearance works and reporting (i.e. the CSSI works) (b) identify any new research questions, if required (c) make recommendations for any revised archaeological mitigation measures, if required (d) provide an assessment of benefits of completing archaeological testing, clearance and salvage and/or make a recommendation, if appropriate, that these measures are not required.	See above comment.
AIRSPACE PROTECTION	
B30. Future detailed development applications for aboveground works must comply with the following requirements: (a) buildings must not exceed a maximum height of 116.9 metres AHO. This includes all lift over-runs, vents, chimneys, aerials, antennas, lightning rods, and roof top garden plantings, exhaust flues, etc. (b) the tallest building at the site (proposed Building A at the northernmost extent of the site as indicated in the Aeronautical Impact Assessment V2.1 dated 1 November 2018) must be obstacle lit by medium intensity steady red lighting during hours of darkness at the highest point of the building. Obstacle lights are to be arranged to ensure the building can be observed in a 360 degree radius as per subsection 9.4.3 of the Manual of Standards Part 139-Aerodromes (MOS Part 139). Characteristics for medium intensity lights are stated in subsection 9.4.7 of MOS Part 13A. (c) the Proponent must ensure that the obstacle lighting has a built-in alarm system that will provide remote monitoring to notify the person responsible for the maintenance of the building's obstacle lighting. The designated person must be available 24 hours per day, 7 days per week. Immediate action must be taken to repair the obstacle lighting	Noted – the proposal complies with all requirements, noting the built form has been significantly reduced in height to that which was approved under SSD 9393.

Condition / Requirement	Document Reference
and notify Sydney Airport of any outage. Contact details for the person responsible for the obstacle lighting must be provided to Sydney Airport prior to the completion of the building construction and kept up to date. (d) the proponent must advise Airservices Australia at least 3 business days prior to the controlled activity commencing by emailing ifp@airservicesaustralia.com and quoting YSSY-CA-146. (e) as soon as construction commences, the Proponent must complete the Vertical Obstacle Notification Form for tall structures and submit the completed form to AirServices Australia. (f) separate approval must be sought under the Airports (Protection of Airspace) Regulations 1996 for any construction equipment (i.e. cranes) required to construct the building. Construction cranes may be required to operate at a height significantly higher than that of the proposed controlled activity and consequently, may not be approved under the Regulations. Therefore, it is advisable that approval to operate construction equipment (i.e. cranes) be obtained prior to any commitment to construct. (g) within 7 days of completion of each building, the Proponent must provide the airfield design manager at Sydney Airport with a written report from a registered surveyor on the finished height of the building.	

2.4. AMENDING CONCEPT DA (SSD 10441)

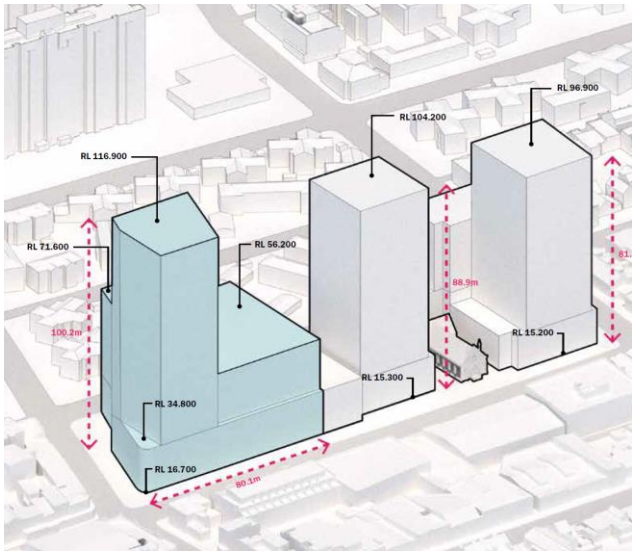
Following Sydney Metro's appointment of WL Developer Pty Ltd as the preferred partner to deliver the Waterloo Metro Quarter OSD, and ongoing design development, minor modifications to the concept approval are now required to accommodate the detailed design.

An amending concept DA has been lodged concurrently with this DA in accordance with Section 4.22 of the EP&A Act. It seeks consent to amend the approved building envelopes and description of development for the northern and central precincts of the Waterloo Metro Quarter site approved under SSD 9393. No changes are proposed to the concept approval as it relates to the southern precinct.

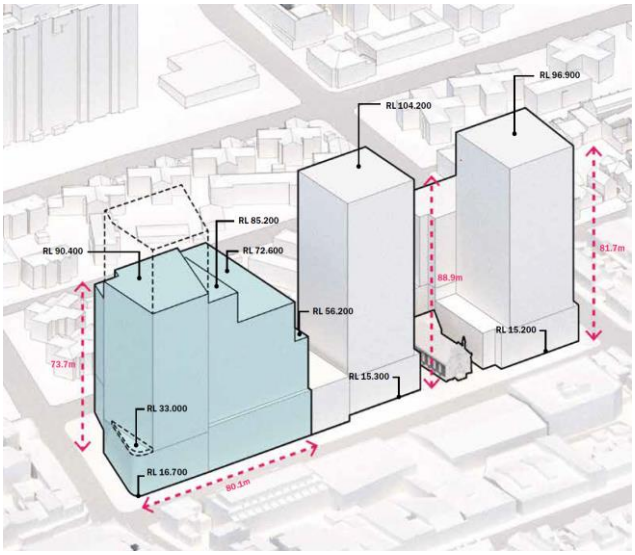
Specifically, the proposal seeks to modify the approved building envelope for the northern precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393) and central building by:

- Increasing the maximum building height for the southern portion of the northern precinct from RL56.2 to RL72.60 (refer figure 9 below)
- Removing the 'tower component' of the northern precinct, reducing the overall height of the building 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 (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 building.
- 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.

Figure 10 Proposed Amendments to Concept Approval SSD 9393



Source: Hassell



Source: Hassell

The modification 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, 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 detailed SSDA is consistent with the concept SSDA, as proposed to be modified by SSD 10441.

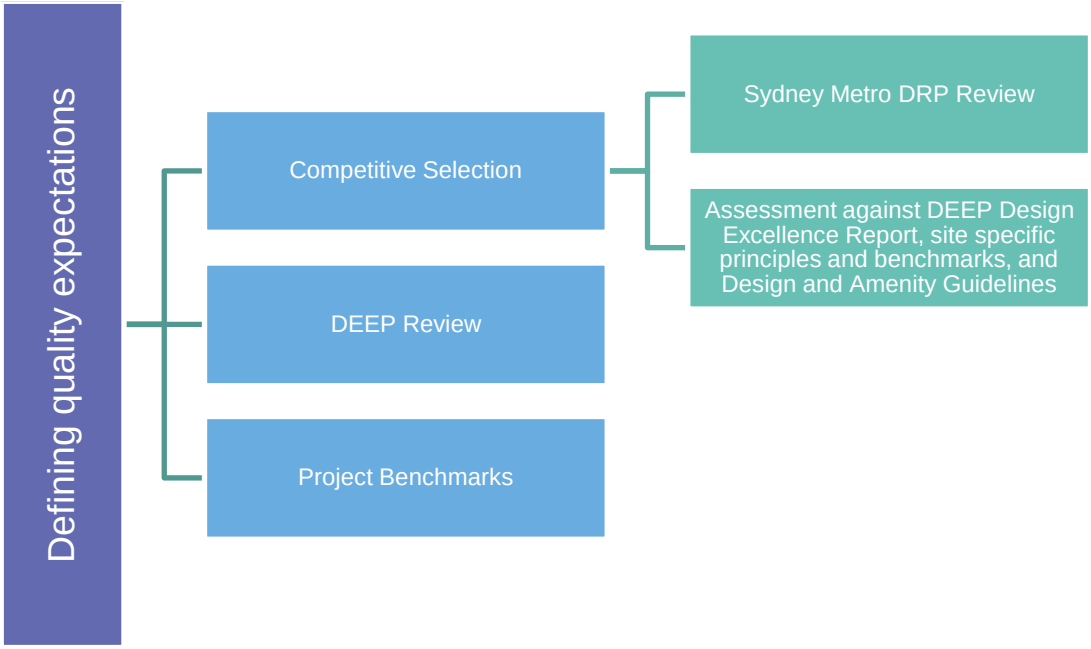
2.5. WATERLOO METRO DESIGN EXCELLENCE STRATEGY

The concept approval exercises the discretion available under clause 6.21(6) o*f* 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.

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.

Endorsement of the Design Excellence Strategy from the Minister for Planning and Public Spaces is included at **Appendix G**. 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 11.

Figure 11 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 design excellence process is outlined within the Design Excellence Strategy (**Appendix G**) and the proposals compliance with the Waterloo Design and Amenity Guidelines are outlined in Section 6.12 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 12). 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 northern precinct is approximately 5,100sqm. The site is reasonably flat with a slight fall to the south.

The boundaries of the Waterloo Metro Quarter site are identified in Figure 12.

Figure 12 Aerial of the Subject Site

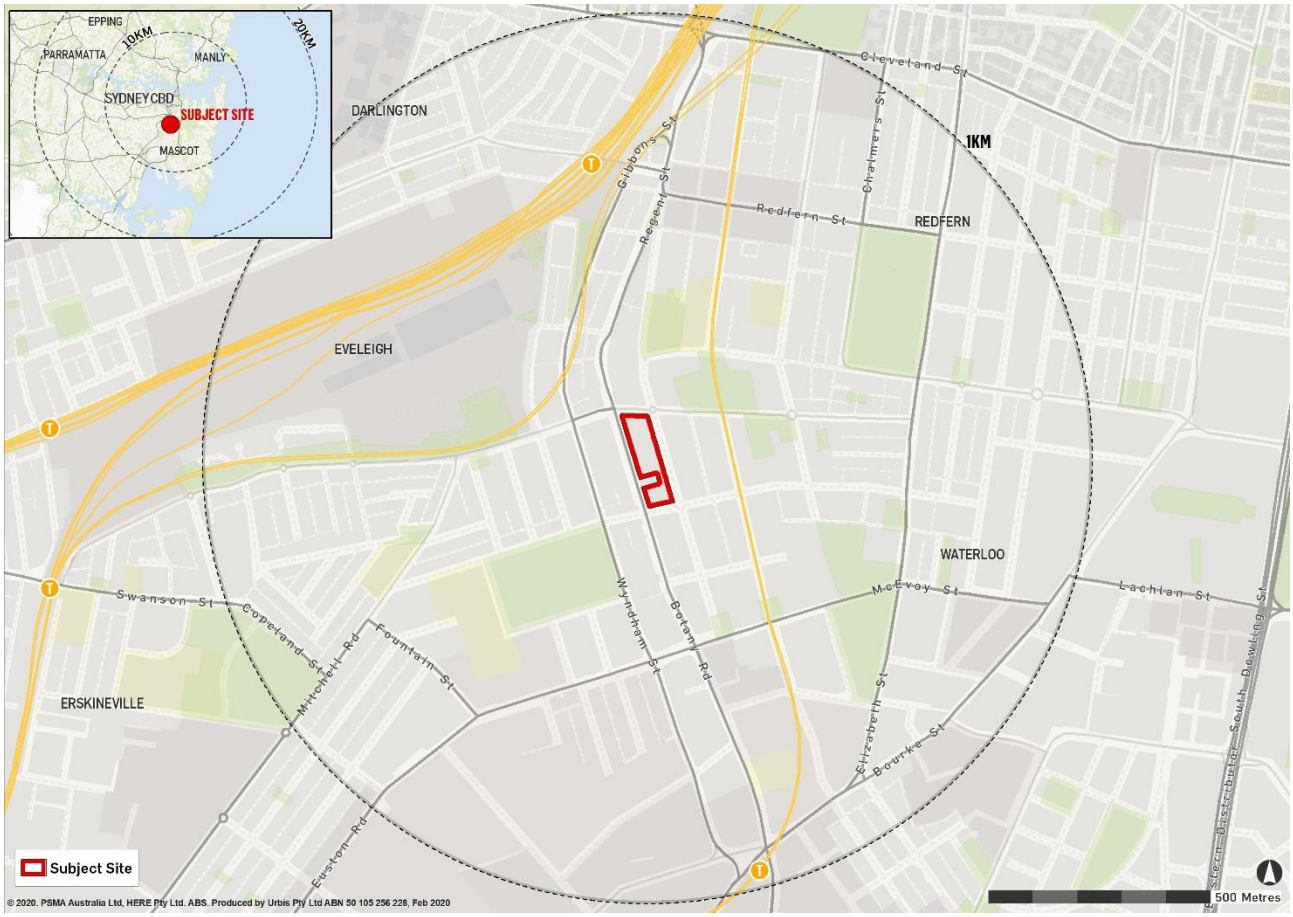
Source: Urbis

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 13 Location Map of Subject Site



Source: Urbis

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 storey 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 under the CSSI approval to facilitate construction of the new Sydney Metro Waterloo 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 (below ground level) in accordance with CSSI approval (CSSI 7400).

Figure 14 Photographs of existing site condition at Waterloo Metro Quarter site (dated 21 July 2020)

Picture 3 South western corner of site, located at the corner Wellington Street and Botany Road

Source: Urbis

Picture 4 Botany Road street frontage, looking north east

Source: Urbis

Picture 5 North western corner of site, looking north east illustrating station construction vehicular entrance

Source: Urbis

Picture 6 Raglan Street frontage, looking east

Source: Urbis

Picture 7 Cope Street frontage, looking north

Source: Urbis

Picture 8 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.

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 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.

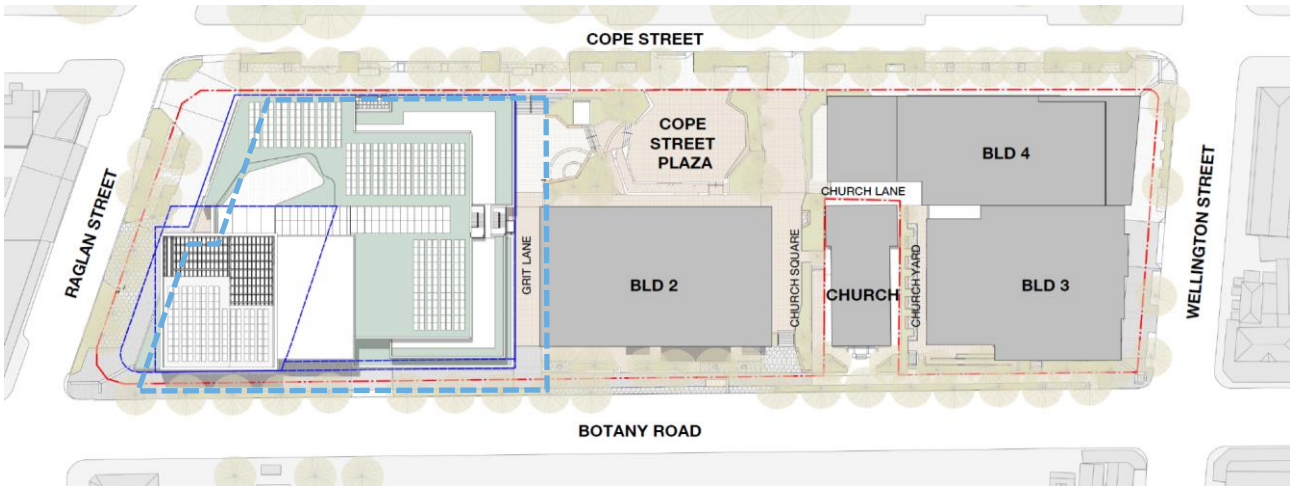
Green Square train station and Green Square town centre are located approximately 800m south of the site. The town centre comprises a mix of mid to high rise buildings containing retail, commercial, civic and residential uses.

3.4.6. Waterloo Metro Quarter Precincts

Immediately to the south of the northern precinct is the central and southern precincts of the Waterloo Metro Quarter site, which is to be developed in accordance with the original Concept SSDA (SSD 9393) for a 24 storey residential building (building 2), for a 25 storey residential building (building 3) and an 9 storey building (building 4) which will accommodate 70 social housing dwellings.

The location of the northern precinct in comparison to the remaining proposed development at the Waterloo Metro Quarter site is illustrated below.

Figure 15 Proposed Northern Precinct Boundaries



Source: Woods Bagot

Figure 16 Photographs of surrounding site context (dated 21 July 2020)

Picture 9 Locally heritage listed Cauliflower Hotel, located at 123 Botany Road

Source: Urbis

Picture 10 Alexandria Park, located to the south west of the site

Source: Urbis

Picture 11 Locally heritage listed Waterloo Congregational Church located at 103-105 Botany Road

Source: Urbis

Picture 12 Locally heritage listed Former CBC Bank, including Interior located at 60 Botany Road

Source: Urbis

Picture 13 Residential flat buildings on Cope Street, east of the site, looking east

Source: Urbis

Picture 14 Terrace housing on Wellington Street, south of the site, looking south

Source: Urbis

Picture 15 Botany Road, looking north from the north western corner of the site

Source: *Urbis*

Picture 16 Botany Road, looking north from south of the site

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 16. The following local and state heritage items of particular significance to the proposal are detailed in **Table 3**.

Table 3 Heritage Items in Proximity to the Site

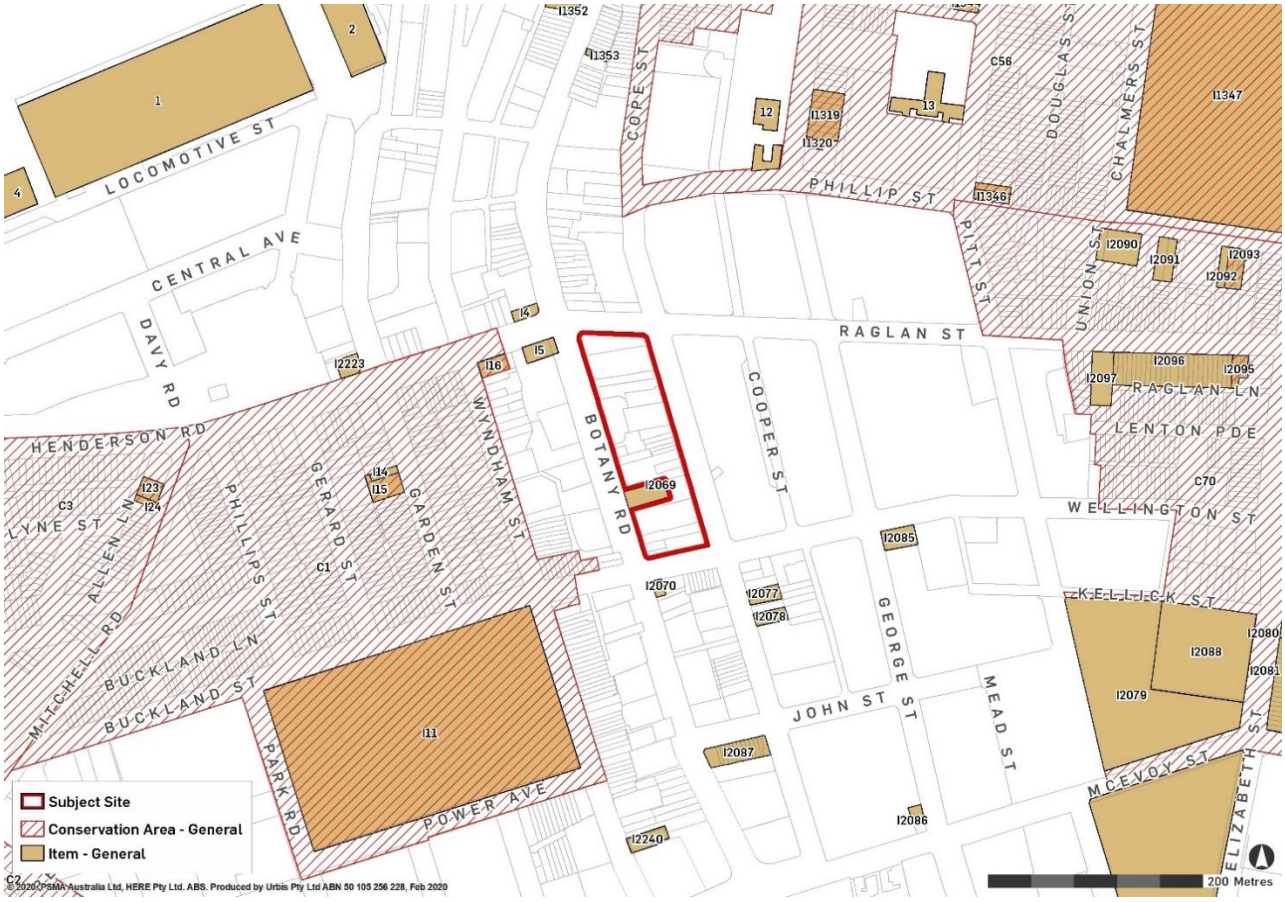
Item	Name and Address	Significance	Statement of Significance
I2069	Waterloo Congregational Church, 103-105 Botany Road	Local	*The Gothic church of rendered brick construction was constructed in 1883 to replace the congregation chapel built in 1865. The symmetrical design of the façade demonstrate high quality architectural traits of the building. It is one of the earliest worship venues in Waterloo.*
I2070	Cauliflower Hotel, 123 Botany Road	Local	*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*

Item	Name and Address	Significance	Statement of Significance
			cauliflower sign is the landmark on Botany Road.
I4	Cricketers Arms Hotel including interior, 56-58 Botany Road	Local	*It represents a good example of its architectural style on a prominent corner site. It makes strong contribution to the streetscape of Botany Rd and Henderson St.*
I5	Former CBC Bank, including Interior, 60 Botany Road	Local	*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.*
C3	Alexandria Park Heritage Conservation Area	Local	*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.*

Potential impacts of the northern precinct 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 Heritage Impact Assessment in **Appendix H**.

Figure 17 Surrounding Heritage Items



Source: Urbis / SLEP 2012

3.6. TRANSPORT AND ACCESSIBILITY

3.6.1. Public Transport

The site is well connected in the context of existing public transport opportunities available within Waterloo and the inner suburbs. Evidently, the site will have access to future transport opportunities as well, being located above the Sydney Metro Waterloo Station currently under construction.

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.

Waterloo metro station will provide alternative access to the rail network, reducing pressure on the existing Redfern and Green Square Stations 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.

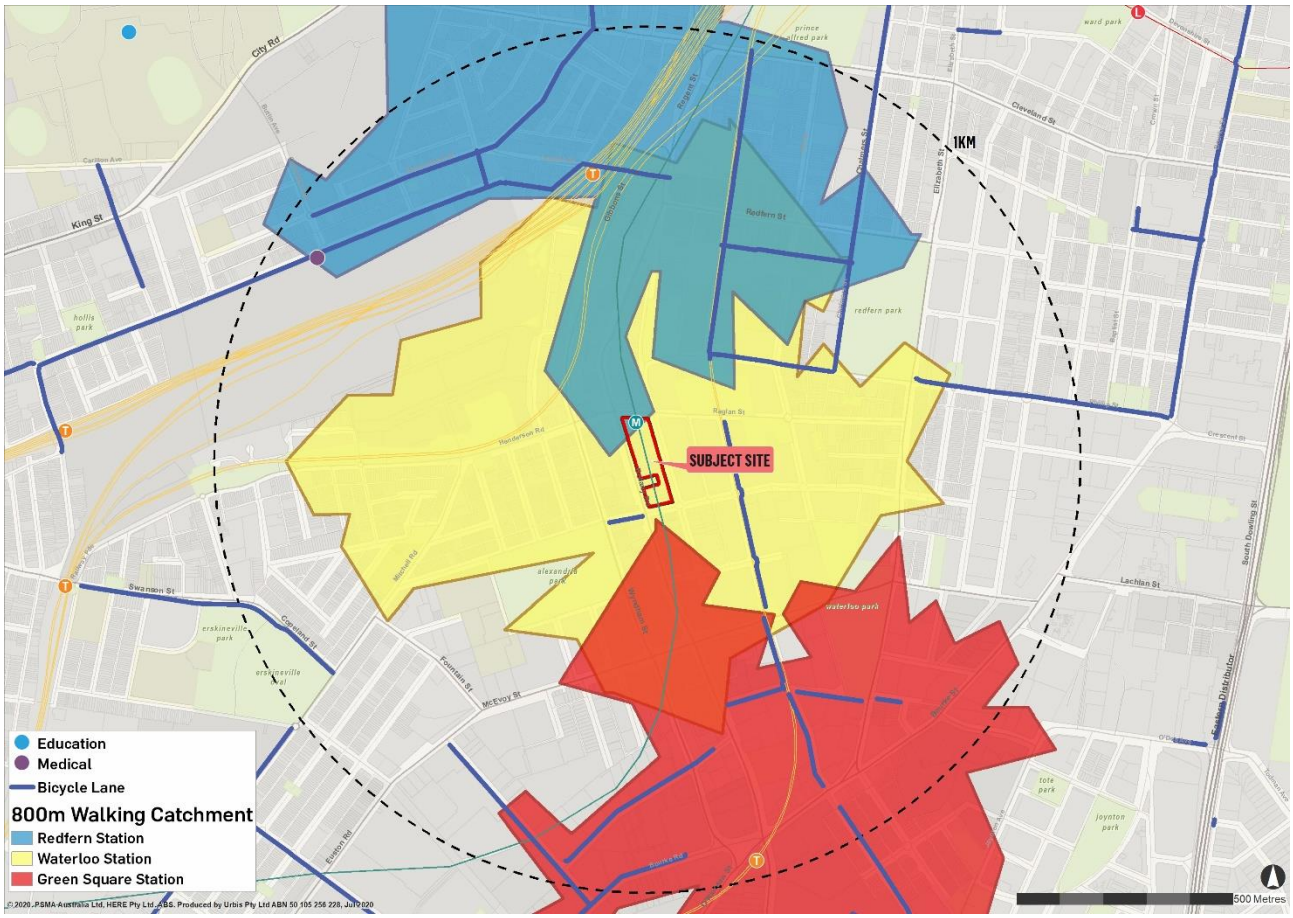
- Wellington Street
  - Route 355 – Marrickville Metro to Bondi Junction via Moore Park and Erksineville.

Sydney Metro:

The site is located directly above the future Waterloo metro station. 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 17 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 18 Walking catchment to high frequency public transport



Source: Urbis

3.6.2. Road Network

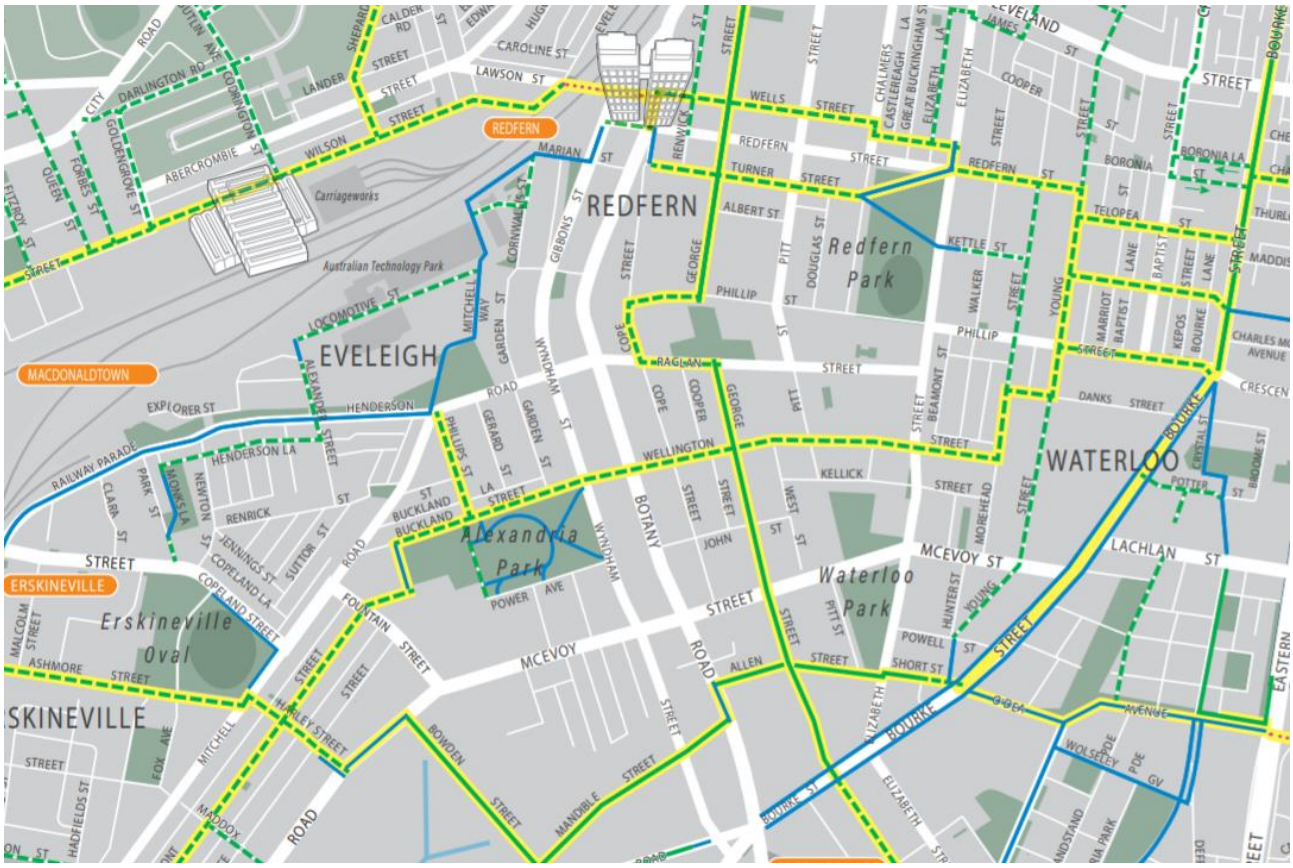
Arterial roads:

The site is well connected by key regional roads. The site has frontage to Botany Road which is identified as a classified State Road. Along the frontage of the Site, Botany Road has a four-lane, two-way undivided cross-section. Botany Road provides 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 19 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 train station and Redfern train station as well as various retail, community facilities and public spaces.

3.7. OPEN SPACE AND SPECIAL AREAS

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.
- **Cope Street Plaza and Raglan Street Plaza** – these two new public domain spaces will be provided within the Waterloo Metro Quarter and will comprise a minimum of 2,200sqm of new public domain. The Cope Street Plaza is located to the east of Building 2, between the metro station and the metro service Box. Raglan Street Plaza is located to the north of the metro station adjacent to Raglan Street.

3.8. TOPOGRAPHY

The site generally slopes to the south from the northern portion of the site from approximately (AHD 17m) to the southern portion of the site (AHD 15m 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.

3.9. 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 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 detailed SSDA seeks approval for the design, construction, and operation of a new 17-storey commercial OSD building within the northern precinct of the site comprising ground floor retail and commercial tenancies, loading and unloading services, and a through-site laneway.

The detailed SSDA specifically seeks development consent for:

- The design, construction and operation of a new commercial office building with a maximum building height of 17-storeys (RL 90.4) including ground and plant levels.
- A total GFA of 34,680.5sqm of commercial premises.
- Integration with the approved CSSI proposal, including, though not limited to:
  - Structures, mechanical and electronic systems and services.
  - Vertical transfers.
  - Use of the approved loading vehicle entrance and loading dock facilities accessed off Botany Road (shared use with Sydney Metro and for the OSD).
- Ground level retail premises and commercial premises.
- Design and construction of loading dock facilities and entrance accessed off Botany Road.
- Inaccessible landscaped rooftop on level 9.
- Landscaping of level 13 podium roof tops for commercial office tenants.
- Through-site laneway from Raglan Street to the Cope Street Plaza.
- Delivery of public domain elements not currently approved under the CSSI approval.
- Provision of signage zones.
- Stratum subdivision to limit the number of horizontal stratums.

The proposed commercial building will provide additional office floor space in Sydney's inner suburbs, in addition to retail tenancies to activate the site and surrounds during and outside typical business hours. The proposal leverages off and optimises the NSW Government's significant investment in public transport infrastructure.

Where uses unrelated to the operation of the metro station are located within the metro station box under CSSI approval, approval is being sought in this SSDA for fit-out and use of those spaces only. The actual construction of these spaces is the subject of the CSSI approval and will not form part of this SSDA.

The proposed development within the northern precinct will be supported by the amending concept DA, lodged concurrently, which seeks consent to amend the approved building envelopes as it applies to the northern precinct. The amendment includes a significant reduction to the maximum proposed building height at Raglan Street (from 29-storeys to 17-storeys), and a minor increase to the building envelope height at the southern portion of the building (from 10-storeys to 13-storeys) to facilitate the delivery of contemporary commercial office floor plates.

Figure 20 Photomontage of the proposed development from Botany Road

Source: Woods Bagot

4.1.1. Numeric Overview

The key numerical aspects of the proposed detailed OSD design are summarised below in **Table 4**.

Table 4 Detailed SSDA Numerical Overview

Component	**Proposal**
Site area	Approximately 5,100sqm
GFA	Commercial – 33,824.5 sqm Retail – 568 sqm Retail premises to be used for future community uses – 270 sqm **Total – 34,680.5sqm**
Building Height	(RL 90.4) including ground and plant levels 17-storeys (including plant levels)
Loading dock (facilities & services)	Medium Rigid Vehicle spaces – 2 Small Rigid Vehicle spaces – 2

Component	Proposal
Setbacks (to building line)	Raglan Street – 7.750 metres Botany Road – 2.635 metres

4.2. LAND USE AND GROSS FLOOR AREA

A combination of commercial and retail uses will be accommodated within the development. The proposal seeks approval for the use of a single building, located adjacent to and above the metro station box. The building will accommodate loading dock and lobby areas, along with retail premises for streetscape activation. Level 1 to Level 14 accommodate commercial floor plates of varying sizes.

The ground level will contain retail tenancies, the commercial building entry / lobby and the loading dock facility which comprises waste storage areas. Level 15 and Level 16 will be wholly taken up by plant associated with the proposed development.

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 seek to increase the diversity and affordability of residential accommodation in accessible locations.

By specifically located retail and outdoor dining opportunities on the ground level, Raglan Walk and Grit Lane will maximise street level activation and pedestrian connectivity. The shopfronts open fully to the footpath creating a permeable and inviting atmosphere where the inside of the retail and the street are in constant engagement. Retail opportunities on all frontages, high quality materiality of the podium façade, awnings and generous planted setbacks provide for a high pedestrian experience around the northern precinct.

The commercial floor plates are designed to be large scale and interconnected that can be tailored to various tenancy scenarios. A contiguous, open floorplate supports connectivity, flexibility and maximises access to natural light and views. The layout into quadrants also allows the large plate to be easily subdivided into multiple zones or tenancies catering for evolving tenant demands.

4.2.1. Commercial Use

The commercial office uses will be accommodated from Level 1 to Level 14, whilst Levels 15 and 16 will be occupied by plant equipment. A total of 34,842.5 sqm of commercial GFA is provided throughout building 1. The commercial floorplates vary in size and shape throughout the levels with the maximum floorplate offering 3,309 sqm of GFA (Levels 5 and 6). The detail internal layout of commercial floorplates will be subject to future separate fit-out applications where required by future tenants.

4.2.2. Retail Use

Retail uses are located on the ground level, and account for 838 sqm of GFA. The specific uses which are sought to occupy these areas may include cafes or shops, along with other retail services which directly support and interact with the commercial floor space in the upper levels of the building 1.

The ground level floor plan denotes a community space in the south-west corner of the building adjacent Grit Lane and Botany Road. This space is defined as ‘commercial premises’ as part of this detailed SSDA. The final use of this space, which is intended to be for the benefit of the community, will be subject to a separate use / fit-out application to enable the specific use of the tenancy to be determined at a time closer to the occupation of the building. For the purposes of assessment of the suitability of the tenancy layout, waste management, traffic generation and so forth, this tenancy is considered to be used for ‘commercial premises’.

4.2.3. Operation and Building Management

The operation and internal fit-out of individual retail and podium office tenancies within the CSSI approval areas will be subject to Complying Development Certificates (CDC) or local minor development applications where appropriate for specific fit-out and outdoor seating associated with retail premises. The internal fit-out of the commercial office building will be determined through a CDC.

The proposal includes building management within the podium of Level 1 facing Botany Road. A body corporate management system will be established by the applicant to enable the comprehensive management of the Waterloo Metro Quarter site through the operational phase.

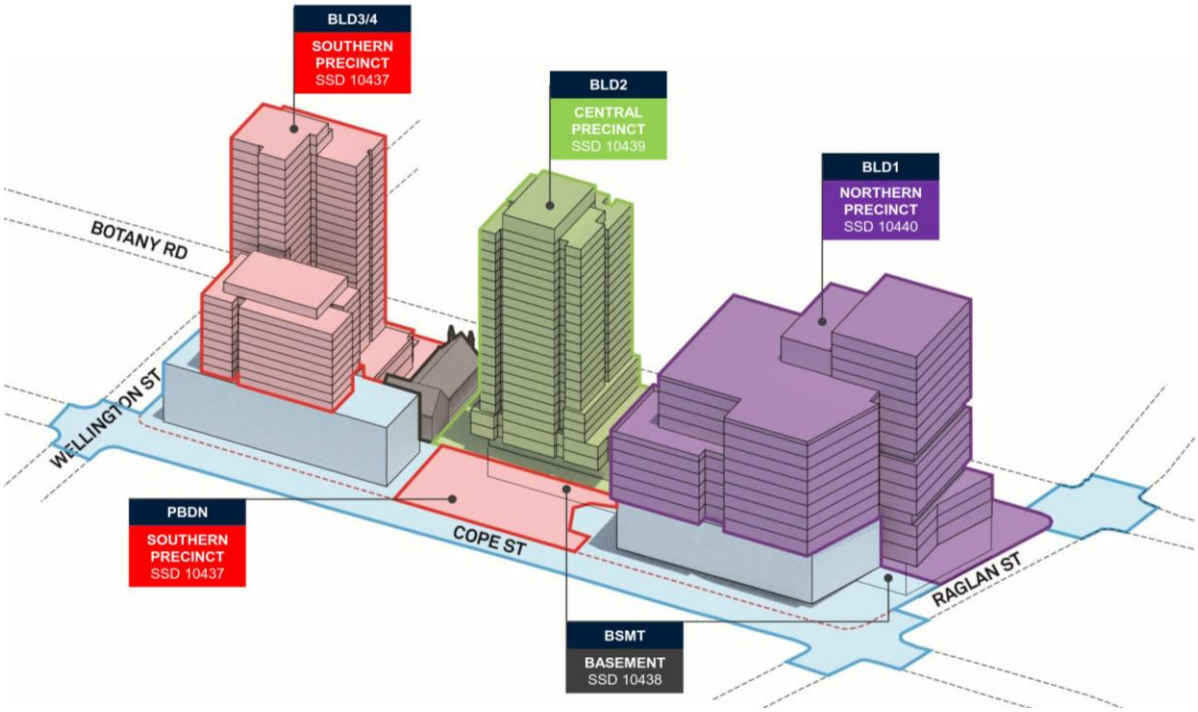
Mirvac will remain the long term owner of the commercial and retail assets, as well as the public domain within Waterloo. To ensure cohesion and alignment within the precinct, Mirvac Asset Management has been appointed to manage the precinct, as well as the commercial and retail assets into the future. Future operational management will be finalised at such a time as the uses of the spaces are finalised.

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 building 1 envelope 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 21 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.
- 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).

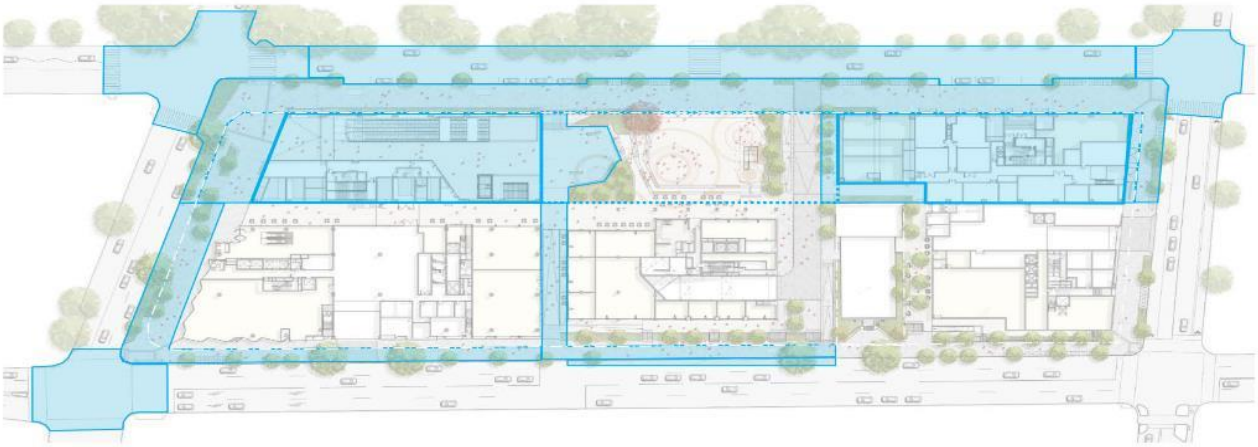
- Design and construction of station services box above existing ground level up to RL 34.7, including primary station works, structural works (base build), retail/commercial tenancies, structural and service provision for the OSD (e.g. structure, lift cores and mechanical services).
- Station structure including the concourse and platforms.
- Retail spaces within the station building.
- Public domain improvements.
- 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.

Detailed SSDA (the subject of this EIS):

- Design, construction, and operation of building 1 (above RL 33.1 on eastern site and ground level on western site).
- Integration with the approved CSSI proposal, including, though not limited to:
  - Structures, electronic systems and services.
  - Use of the approved loading vehicle entrance and loading dock facilities accessed off Botany Road (shared use with Sydney Metro and for the OSD).
- Construction and use of ground level retail premises and commercial premises.
- Design and construction of loading dock facilities and entrance accessed off Botany Road.
- Inaccessible landscaped rooftop podium on level 9.
- Landscaping of level 13 podium roof tops for commercial office tenants.
- Through-site laneway from Raglan Street to the Cope Street Plaza.
- Delivery of public domain elements not currently approved under the CSSI approval, including strips of landscaping along Raglan Street and Botany Road.
- Provision of signage zones.
- Stratum subdivision to limit the number of horizontal stratums.

The majority 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.

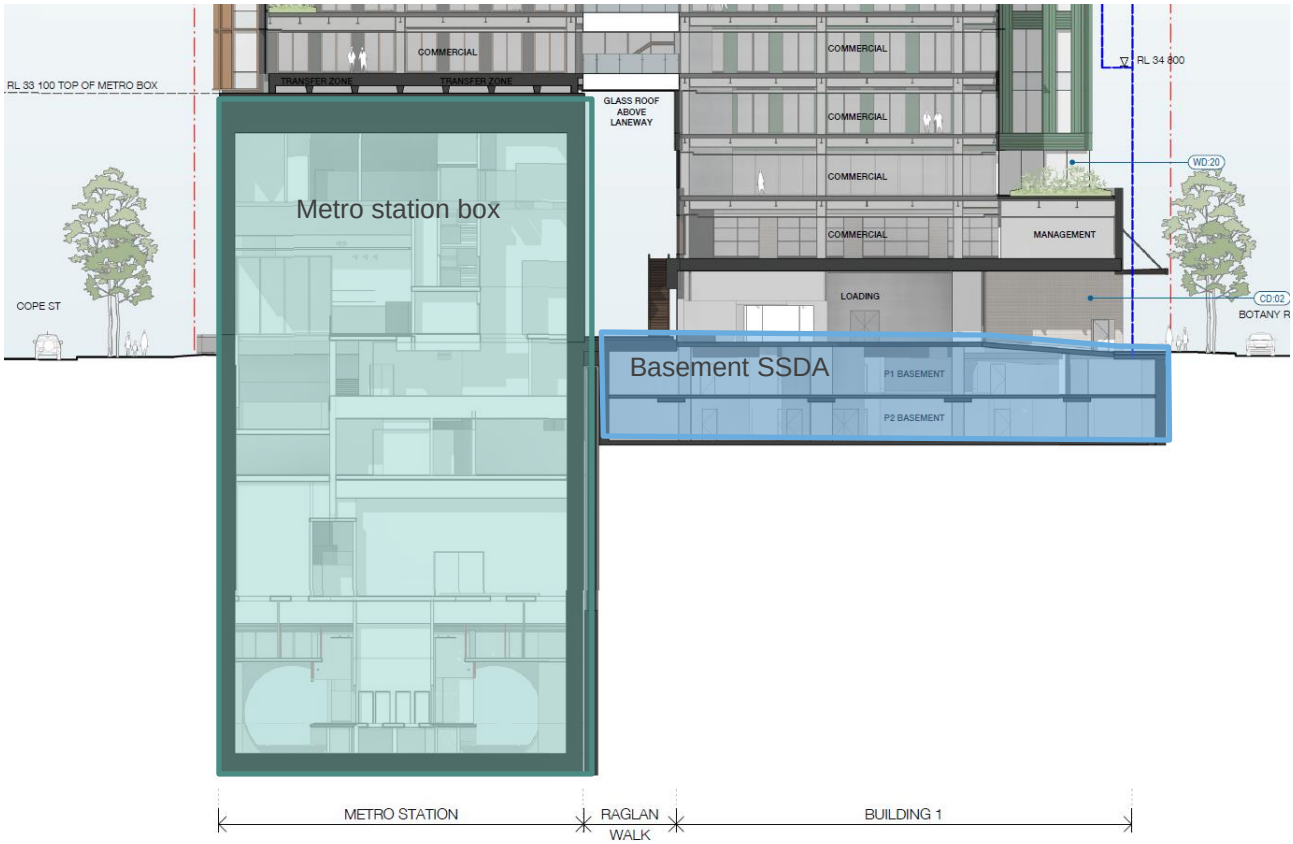
Figure 22 Scope of public domain and ground plane works to be completed under the CSSI approval



Source: Applicant

Further detailed discussion on the relationship between the CSSI public domain works and the public domain works proposed under this detailed SSDA is provided in Sections 4.6 and 4.7. It is noted that the proposed development has been developed concurrently with Sydney Metro and the Waterloo Contractor as well as alongside the evolution of the SDPP and IAP as required under the terms of the CSSI approval. The east-west Building 1 section below illustrates the location of the metro station box subject to the CSSI approval, the basement to be determined under a separate detailed SSDA, and the remaining building 1 massing which is the subject of this detailed SSDA.

Figure 23 Illustrative View of Interface between metro station box and Building 1



4.3.2. Structural Integration

Building 1 and the metro station are divided by Raglan Walk, a 6m wide covered pedestrian laneway that runs the full length of the metro 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 building extends east to fully cover the footprint of the metro station below. This is illustrated in Figure 22 above.

The commercial building will be connected to a two-level basement car park that is to be built adjacent to the west wall of the metro station via a buttress system.

- Building 1 structurally connects with the metro station at one interface point:
  - Top of the station box where Level 4 lands on the metro transfer beam.
- Building 1 abuts, but is not structurally connected to, the metro station at one interface point:
  - Underground basement where buttresses provide support to the west wall of the metro box in the event Building 1 and the Basement Car Park are demolished in the future.

In addition to the above there are close design and operational interfaces between the metro station box and the OSD design, including:

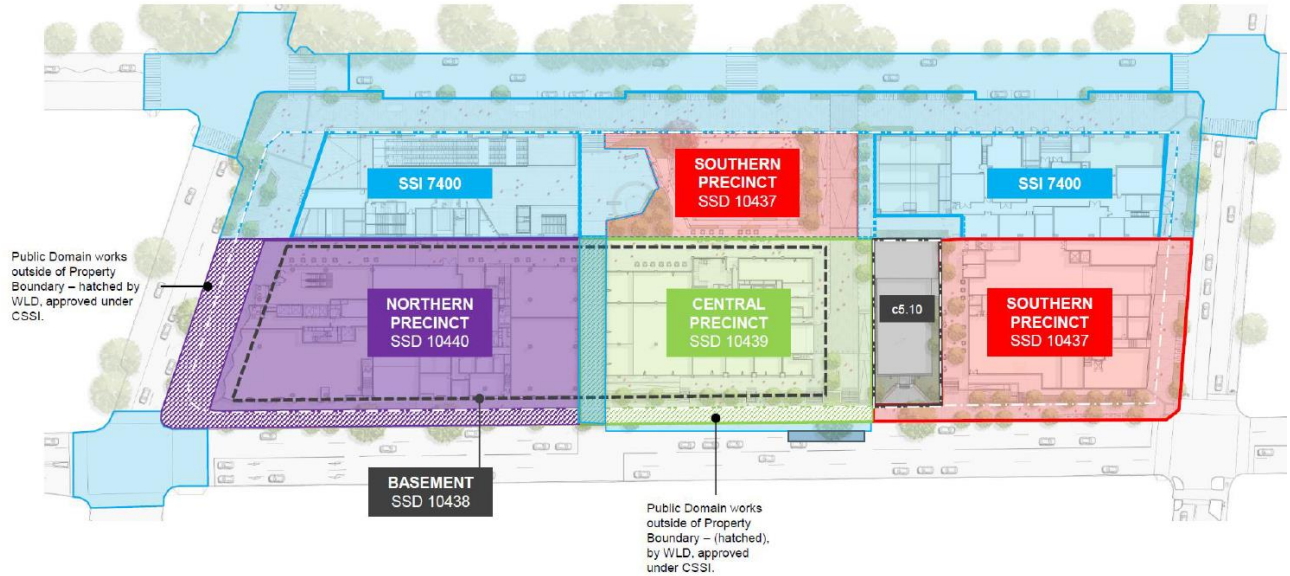
- Façade alignment and detailing around the perimeter of the metro station box.
- Physical and visual connection from the bus stop on Botany Road and along Grit Lane with awning coverage towards the south entrance to metro station box.
- Direct connection between the ground floor shared loading dock in the northern precinct and the metro station back of house area via Raglan Walk for operational purposes (servicing and waste storage).
- Blast and security measures throughout the precinct.
- Services integration to facilitate power, earthing and bonding.

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 Car Parking, 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.

The boundaries of the precincts within the Waterloo Metro Quarter site are illustrated at Figure 24.

Figure 24 Waterloo Metro Quarter Station Site Precinct Identification (SSDA Boundaries)



Source: Applicant

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 development is detailed in the Architectural Plans (**Appendix D**) and Architectural Design Report (**Appendix F**) prepared by Woods Bagot. The following sections of the EIS establish the design principles which underpin the detailed design of the OSD and 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 (concept and amended envelope) and the detailed design of the OSD.

As illustrated within the Urban Design Report included at **Appendix E**, the design strategy for the detailed design of the building 1 OSD, has been driven by the following objectives:

- Contributing to a sense of place and public domain.
- Providing an urban marker above the new Waterloo metro station and create a new transport focus in Waterloo.
- Integrating the new metro station with local improvements.
- Making a positive contribution to the regeneration of this new urban community.
- Celebrating to a layered local character and local design palette.
- Delivering an agile workplace.

4.4.1. Built Form

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, building 1 is a 17 storey commercial building generating 34,680 sqm of GFA, ground floor retail and commercial tenancies, and shared loading dock.

The northern precinct also connects to a two-level basement, new public open space such as Raglan Street Plaza, Raglan Walk and deep planted footpaths along Botany Road, contributing to a greater pedestrian experience.

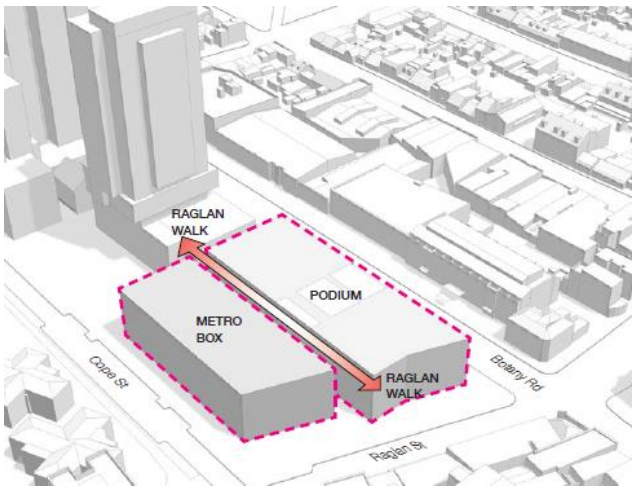
The podium interacts with the height and scale of surrounding built form elements to create a human scale at street level through horizontal recesses which articulate the façade, providing vibrant shopfronts to activate the streetscape and using rich textural materiality.

The building form comprises four distinctive articulated volumes (quadrants) descaling the visual appearance of the commercial building to better integrate with the local context. These quadrants are amalgamated into a single building form with a central massing component. Green roofs and planted recesses to the facade soften the edges of the building providing for greater general amenity within the precinct.

The quadrants feature varying heights with a maximum RL 86.40 located in the north-west quadrant of the building, the height steps down gradually to RL 55.60 at the southern end of the building towards Cope Street Plaza to maximise solar access to this public space.

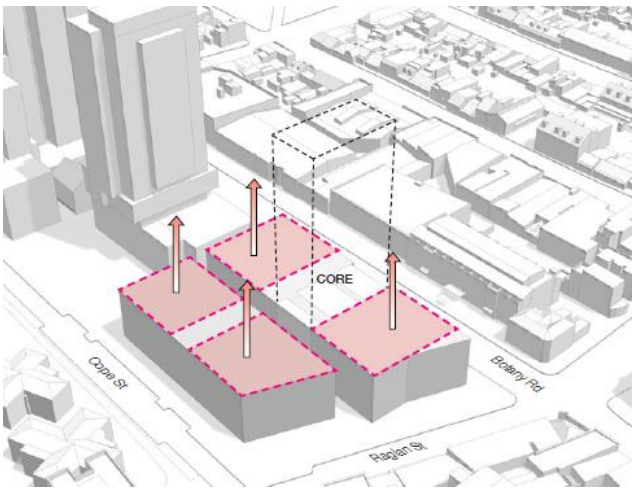
The overall massing approach of the building form is illustrated in the figure below.

Figure 25 Building form massing approach



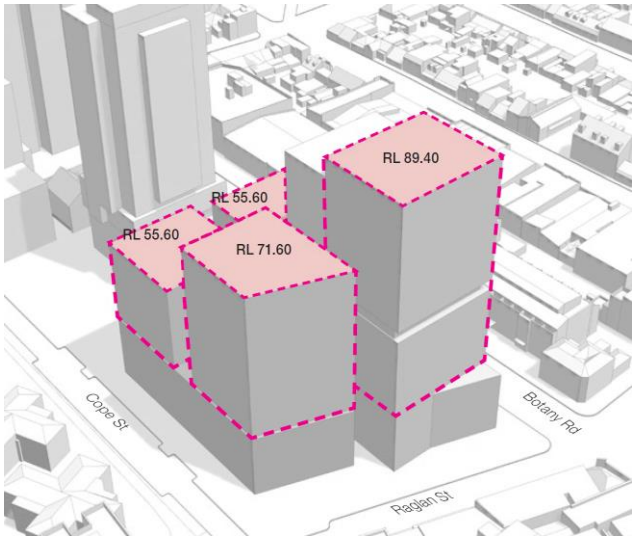
Picture 17 Podium forming the base of the building and creating Raglan Walk

Source: Woods Bagot



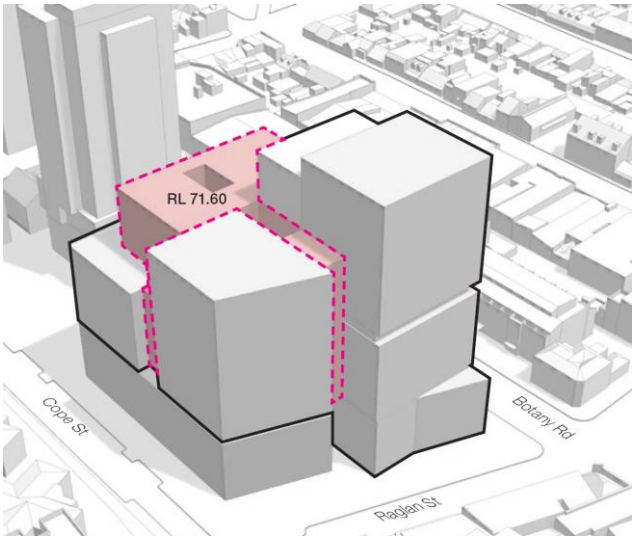
Picture 18 Building quadrants formed by dividing the base, centred on the core

Source: Woods Bagot



Picture 19 Quadrants are extruded to different height in response to surrounding scale / context

Source: Woods Bagot



Picture 20 Amalgamation of quadrants into a single built form via the central massing component

Source: Woods Bagot

The massing approach is translated into an articulated built form which sits harmoniously in the context of the surrounding built form typologies across the Waterloo Metro Quarter site redevelopment and the broader surrounds.

Figure 26 Northern precinct built form outcome

Picture 21 View of building 1 from the north-west

Source: Woods Bagot

Picture 22 View of building 1 from the north-east

Source: Woods Bagot

4.4.2. Podium Design

The podium comprises 3-4 levels (ground to Level 3) generally aligning with the height and volume of the metro box to the east. The podium is a mixed-use multifunctional part of the building that includes the commercial entry and lobby, retail space, functional areas such as the shared loading dock, and building services such as the substation and meters.

Commercial Entry

The commercial entry is located on the corner of Raglan Plaza and Raglan Walk, recessed in from the main building frontage and aligning with the metro entry. The commercial entry includes retail opportunities that are designed to generate greater interaction and informal engagement with Raglan Walk and Raglan Plaza.

This gives the foyer a degree of permeability, activating the commercial space with the public domain. To enhance this experience the ground foyer and Level 1 lobby are designed as a multi-modal space, and part of the strategy includes a feature stair or a set of bleacher steps (subject to tenant fitout) linking the elevated lobby with ground foyer. This architectural element is intended to be used for informal meetings, flexible workspace, scheduled and managed events, generally providing the tenant with opportunities for greater engagement with the community.

Elevated Lobby

The proposed commercial lobby is located on Level 1 accessed via the lobby stairs, escalator or shuttle lift from the ground level. The Level 1 lobby is a generous space enjoying an outlook across a canopy of trees onto the streets and public domain. The spaces are flexible and easily adaptable to suit the future tenant. The space could be fit-out with various work settings allowing small meetings and informal gatherings as well as casual lounge spaces for visitors.

Loading Dock

The loading dock on the ground level is accessed via Botany Road and is a shared facility between the mixed-use commercial building, retail, the metro station and the central precinct. This shared operational component contributes to the integrated development of Waterloo Metro Quarter.

4.4.3. Building Façade Design

The façade design adopts the use of grids to define the architectural character of building 1. The incorporation of this grid concept creates a unique and dynamic external expression which is both rational and fit for purpose to accommodate a commercial building and associated office uses.

A 3m facade grid has been used as the base module for the various facade articulations as this works effectively with the office interior modules and the 9m structural grids.

The building form is a composition of multiple sub-divided volumes which both vertically and horizontally articulate the massing. Each volume is expressed at different scales to one another, modulating the base grid with the application of varying rhythm and density typologies. The facades work on a predominantly vertical grid with deep projections and spandrels infilled with a selection of materials that generates diversity in each of the quadrants.

The differentiated grids produce a diverse and dynamic reading of the building form creating multiple identities within the façade composition. The grid typologies interact with the various quadrants and podium form.

Figure 27 Façade Design Concept

Source: Woods Bagot

Picture 23 Western Street Elevation – Botany Road

Source: Woods Bagot

4.4.4. Façade Materials and Finishes

The façade system enables a simple and rational construction methodology for the various expressions. The curtain wall is composed of four sub elements, including, vertical spandrels, horizontal spandrels, sun shading and vision panels. These elements further increase the variety of the overall façade design and composition as illustrated below.

Figure 28 Elevations illustrating façade type locations

Picture 24 West elevation

Source: Woods Bagot

Picture 25 East elevation

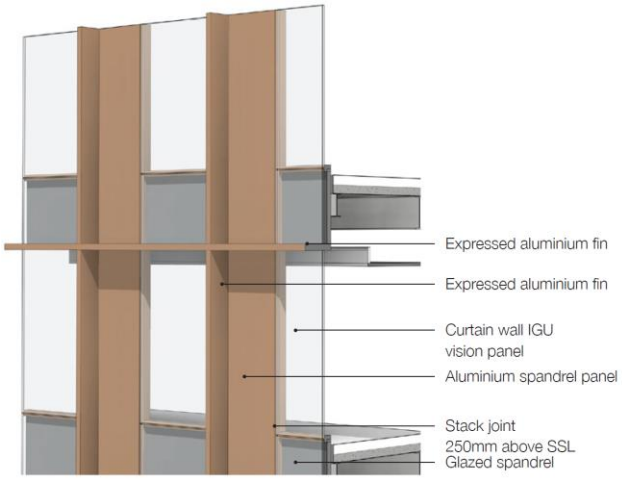
Source: Woods Bagot

The building has six different façade typologies and material types which correspond to the different building portions. These are summarised below:

- CU:01, CU:02 and CU:04 – these three façade types comprise a copper coloured aluminium spandrel, glass spandrel and vision panel, and horizontal and vertical sunshades. These façade types are located on the north-west and south-west quadrants.
- CU:03 – this façade type comprises an oxidised copper coloured folded aluminium cladding and glass spandrels and vision panels. This applies to the south-west building form.
- CU:05 – this façade type comprises a light coloured brick appearance cladding and black coloured aluminium reveal with a glass spandrel and vision panel. This applies to the north-east building form.
- CU:06 – this façade type comprises a black aluminium coloured metal, glass and aluminium spandrels and a horizontal sunshade. This applies to the south-east building form.

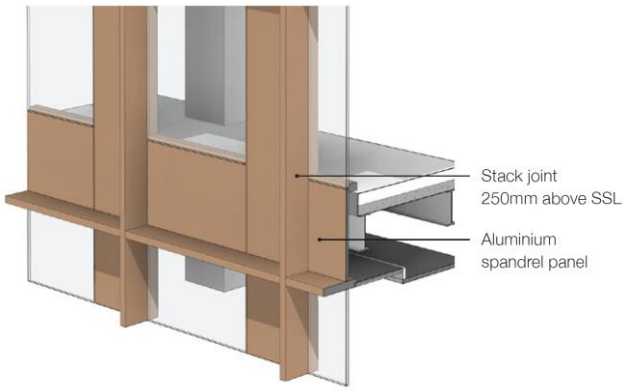
The façade details, materials and finishes are illustrated in the figures below.

Figure 29 Building form façade types and details



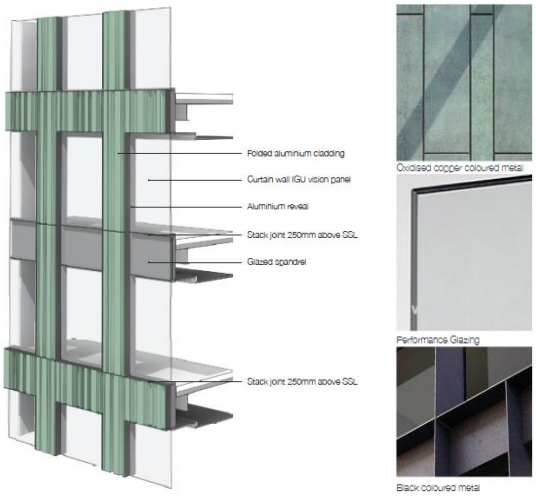
Picture 26 Material CU:01 and CU:04

Source: Woods Bagot



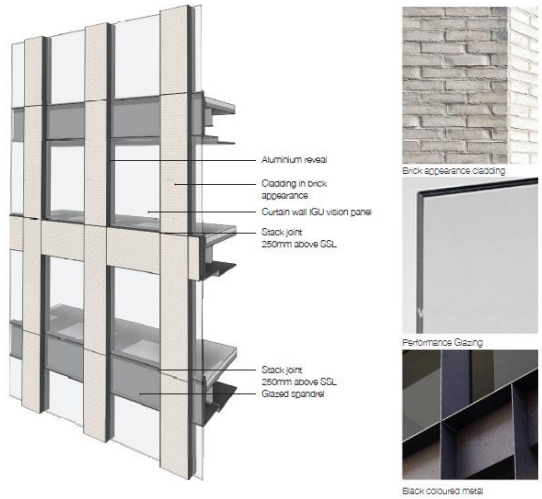
Picture 27 Material CU:02 (north-west building)

Source: Woods Bagot



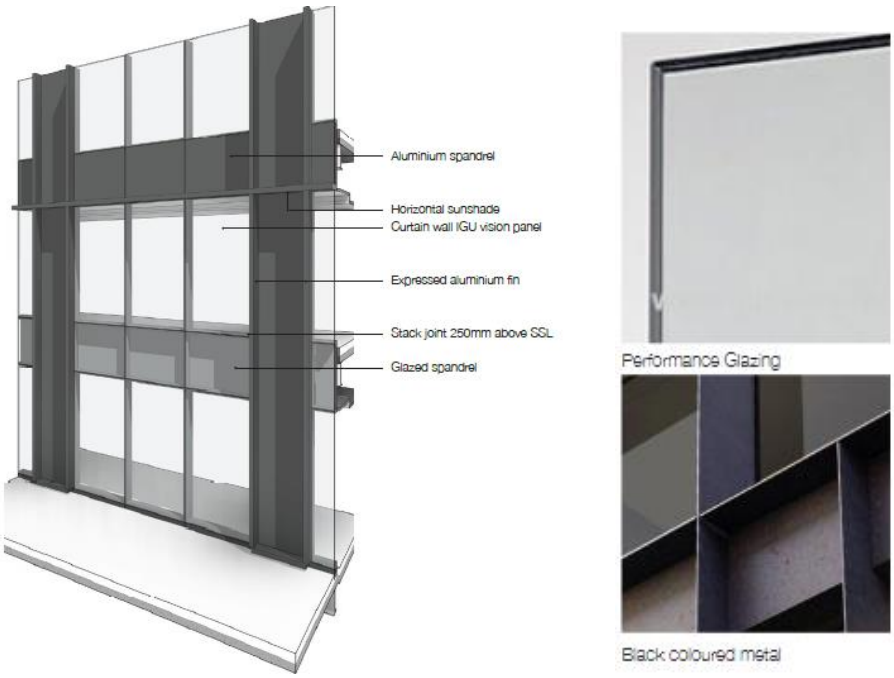
Picture 28 Material CU:03

Source: Woods Bagot



Picture 29 Material CU:05

Source: Woods Bagot



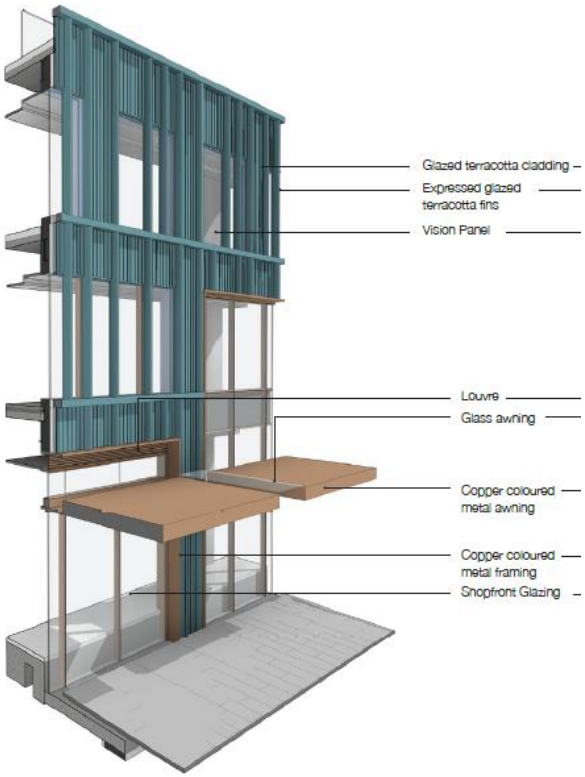
Picture 30 Material CU:06

Source: Woods Bagot

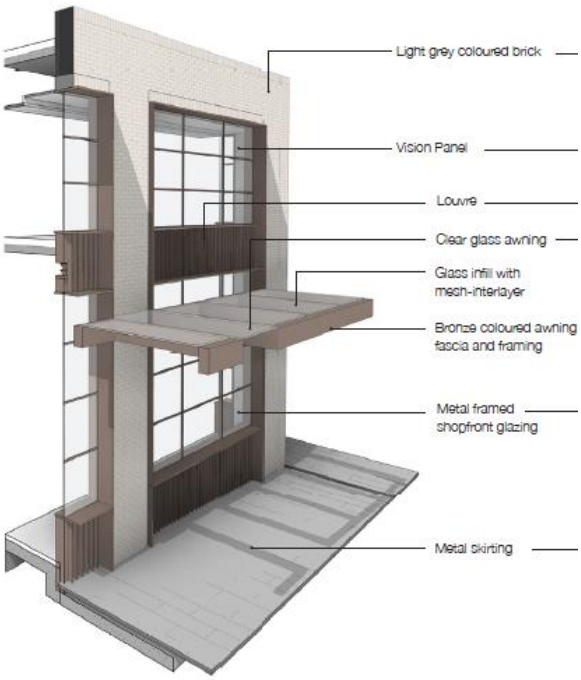
The podium form has two different façade typologies and material types, including:

- CD:01 – this podium façade type comprises a glazed terracotta cladding, copper coloured metal awning, glass awning shopfront glazing and vision panels. This applies to the north-western podium form.
- CD:02 – this podium façade type comprises a light grey coloured brick with a bronze coloured awning fascia and framing, metal framed shopfront glazing, louvre and vision panel. This applies to the south-western podium form.

Figure 30 Podium form façade types and details



Picture 31 Material CD:01 (north-west podium)



Picture 32 Material CD:02 (south-west podium)

Source: Woods Bagot

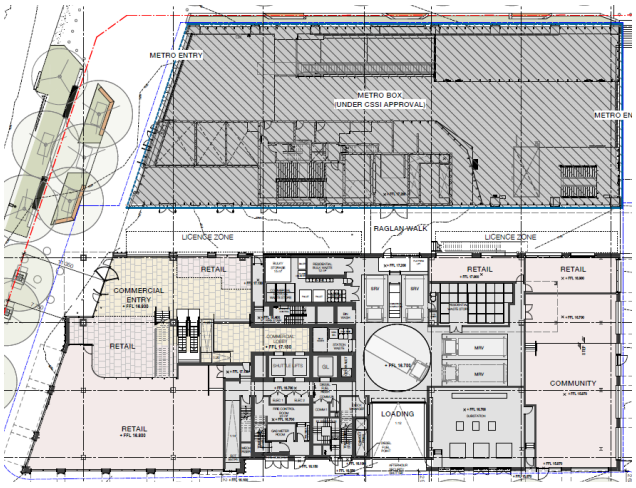
4.4.5. Commercial Office Floor Plates

The proposal delivers 34,680.5 sqm of commercial GFA across Levels 2 to 14. The proposed commercial floor plates have been carefully designed to deliver flexible yet integrated space for future tenants. As outlined in the Urban Design Report, 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.

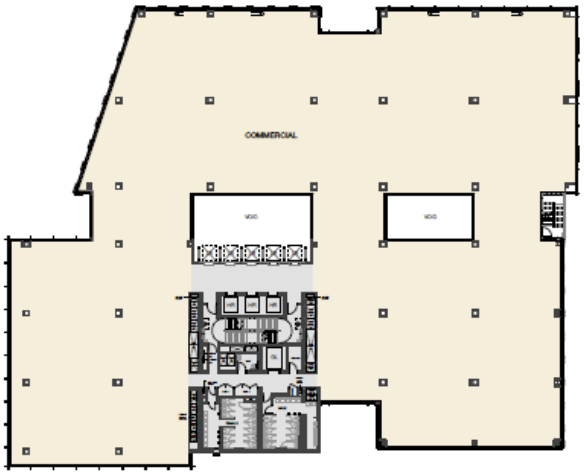
The floor plates are able to evolve to suit the space and needs requirements of future tenants, while remaining connected via a central hub.

The commercial building is designed with large scale interconnected floor plates, typically just over 3,000 sqm. The contiguous floor plates facilitate connectivity and flexibility, whilst maximising access to natural light and enabling view outlook.

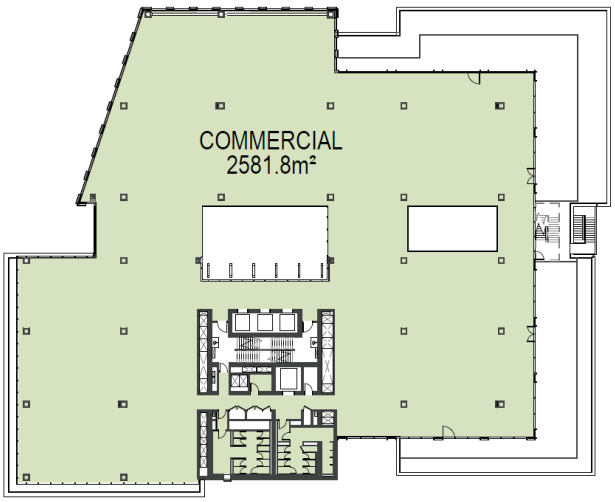
Figure 31 Typical Floor Plates



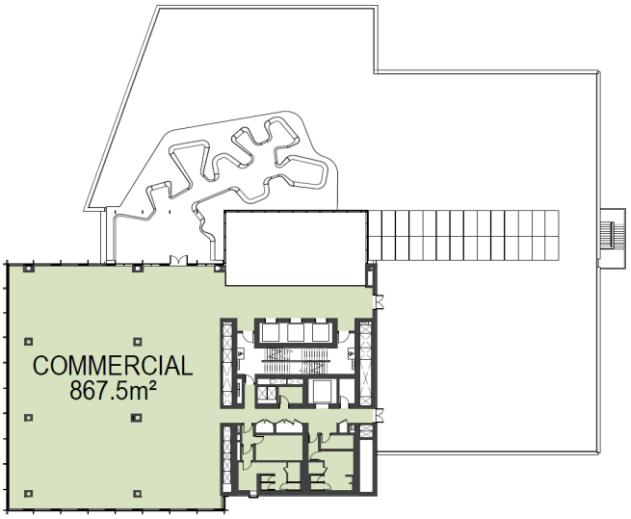
Picture 33 Ground Level



Picture 34 Typical low-rise



Picture 35 Typical mid-rise

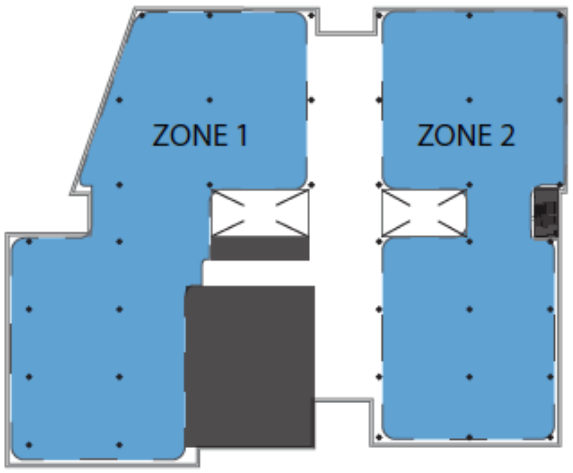


Picture 36 Level 13-14

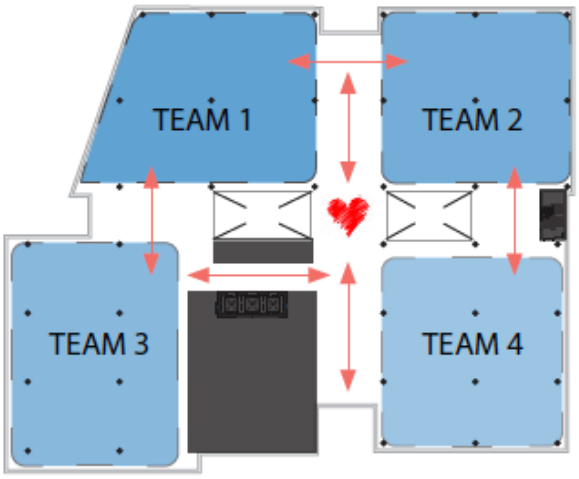
Source: Woods Bagot

The large floor plate can be easily subdivided to support multiple zones or tenancies to cater for future demands. The benefits afforded by the flexibility of the typical low-rise floor plate is demonstrated in the following images.

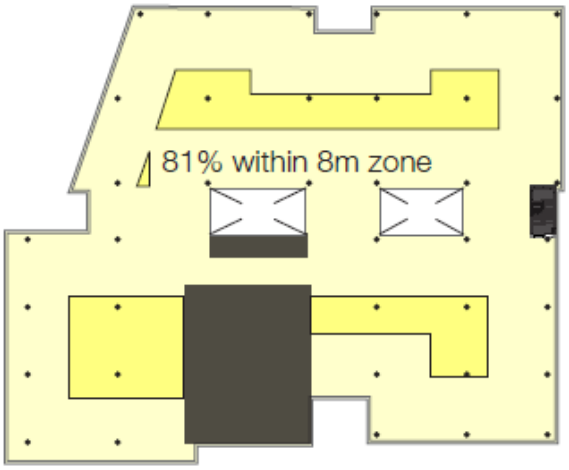
Figure 32 Typical low-rise floor plate contiguity and benefits



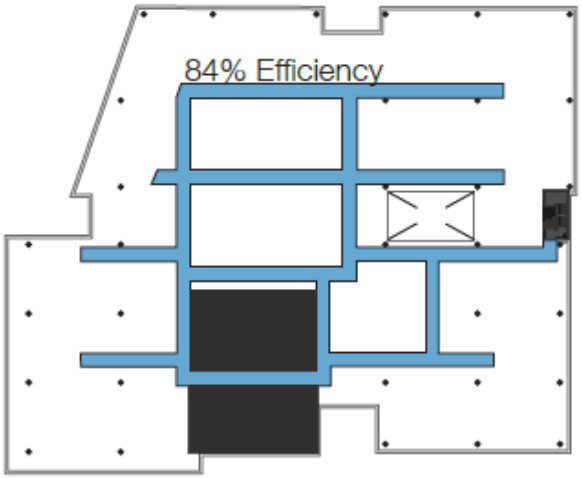
Picture 37 Zoning flexibility



Picture 38 Neighbourhood quadrants



Picture 39 Daylight access



Picture 40 Circulation efficiency

Source: Woods Bagot

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. It is noted that the following areas of the northern precinct public domain will be delivered under the CSSI approval:

- Widened pedestrian footpaths that facilitate pedestrian connection from the relocated bus stop on Botany Road and the intersection of Botany Road and Raglan Street to the Sydney Metro entrance on Raglan Street. This extent of public domain is required to service the Sydney Metro and is to be designed in accordance with the SDPP and Interchange Access Plan under the terms of the CSSI approval.
- The same can be said for the central precinct located immediately to the south of the site, where the east west through-site link described as 'Grit Lane' is required to facilitate pedestrian movements from the relocated bus stop, through Grit Lane, to the southern entrance of the metro station.

The remainder of the public domain to be delivered within the northern precinct under this SSDA is described in the following sections.

4.5.1. Awning Strategy

As part of a coordinated precinct wide strategy, awnings are provided along all street frontages for wind and weather protection, except along Raglan Walk which is undercover. The intent of the strategy is also to generate greater visual interest and pedestrian amenity, particularly along Botany Road. The awnings provide intuitive wayfinding for pedestrians to and from the metro station and around the northern precinct and are designed to work with the rhythm of shopfronts and façade materials at podium.

The awnings and canopies over the Waterloo metro station entries have been designed to align with surrounding buildings to contribute to the design objective for an integrated development. In order to break the long continuous banks of awnings, the design includes clear glass panels that will also provide opportunities to look up at the sky and have a perception of the building above, maintaining a visual connection between the pedestrian plane and the commercial floors.

Typically, the awnings are constructed from a combination of steel and glass and the framing will match the respective shopfront and façade typologies depending on where they are located. This will bring textural refinement at street level in keeping with the local context and interact with the built form above.

The awnings to be delivered as part of the proposed development are illustrated below.

Figure 33 Awning strategy proposed locations

Source: Woods Bagot

4.5.2. Raglan Walk

Raglan Walk is a 6m wide covered and fully activated pedestrian laneway running between the metro station and the commercial podium connecting Raglan Plaza and Cope Street Plaza. Raglan Walk is designed to be a vibrant urban laneway populated with food and beverage retail tenancies spilling out on licensed areas with outdoor seating along the full length.

The architectural language of the lane is consistent with the rest of the podium design. The overall massing is broken into smaller scale forms each characterised by the use of selected materials, adding a rich palette and visual interest to the lane experience Portion of the walls along the length of Raglan Walk, as well as the soffit over, are flagged as interesting canvas for integrated public art opportunities.

The glazed roof over the central portion of Raglan Walk provides solar penetration and direct visual connections from the laneway to the commercial floor plates to increase activation and improve usability.

Raglan Walk is capped at Level 4 where the commercial floor of the building spans over the laneway. The soffit of Raglan Walk is punctuated by two large atria that visually connect the ground plane with the sky improving natural light intake at pedestrian level.

The overall design of Raglan Walk, with the glazed atria and lift shafts, play a key role in the integration process of the northern precinct with the metro station, public domain, and local community.

Figure 34 Artist's impression of Raglan Walk through-site link

Source: Woods Bagot

4.5.3. Grit Lane

Grit Lane is a 6m wide open-air pedestrian laneway connecting Botany Road with the metro station, Cope Street Plaza and Raglan Walk. It is an essential pedestrian through-site link providing a direct connection to the bus stop on Botany Road. Grit Lane itself will be constructed and delivered as part of the CSSI approval as it provides necessary access to the southern access point to the north-west metro entrance.

The retail spaces along Grit Lane are proposed to have licensed seating and are located on the south of the lane. These will be delivered as part of the detailed central precinct SSD 10439.

Retail spaces are also provided on the northern edge of the lane as part of the development of the northern precinct and will incorporate commercial ground floor activation and retail spaces. The facade is a continuation of the southern podium expression with brick and metal framing of the shopfronts. The height of the podium, material texture, shopfronts and awning over Grit Lane will contribute to maintaining a human scale along this busy pedestrian connection.

Figure 35 Grit Lane interface with the northern precinct development

Source: Woods Bagot

4.6. LANDSCAPING

The Landscape Design Report and Plans prepared by Aspect Studios included at **Appendix JJ**, illustrates four primary landscaped areas for use by the office workers and retail tenants in addition to the Cope Street Plaza (delivered under the southern precinct SSDA). An overview of each landscaping component is provided in **Table 5**.

The landscaping on the ground plane situated outside of the northern precinct boundary will be delivered under the CSSI approval. However, it is noted that the landscaping strategy will be delivered as an integrated design. The general arrangement of the ground plane landscaping is illustrated in the figure below where the northern precinct boundary is denoted in the dark blue dashed outline. The northern precinct OSD landscaping consists of all the above ground communal terraces and green roofs located on Levels 2, 3, 9 and 13, however it is noted level 9 is inaccessible.

Figure 36 Northern precinct landscaping general arrangement

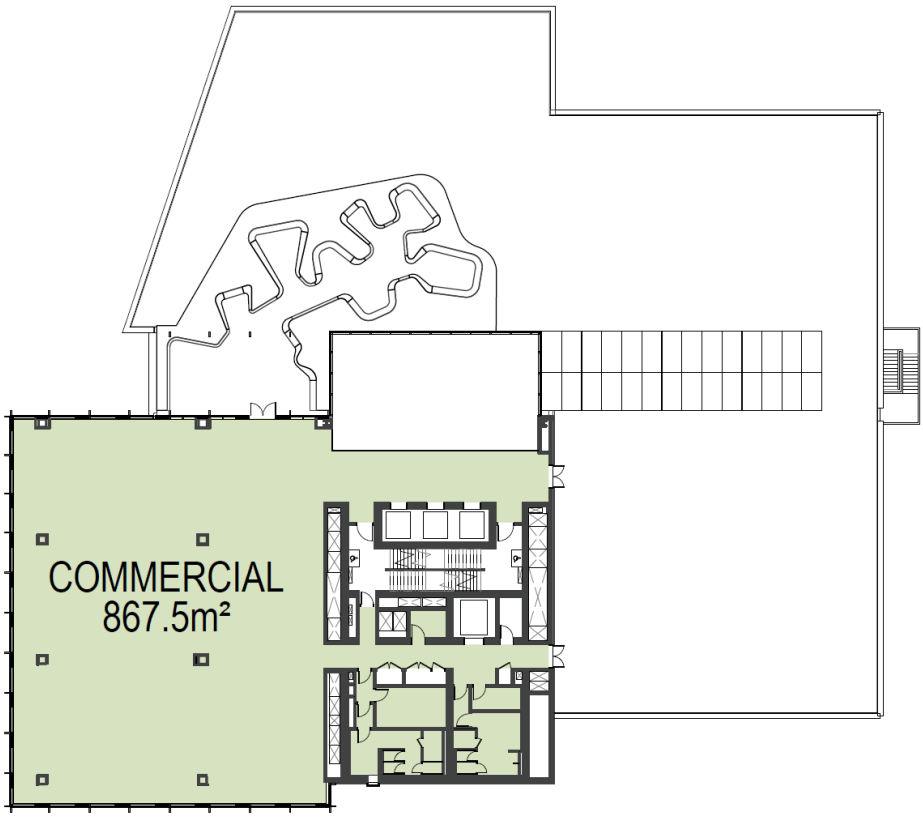
Source: ASPECT Studios

Table 5 Landscape areas and functions

Level	Description	Purpose
Ground Level (public domain)	Southern End of Raglan Plaza (near to the commercial building entrance) and north-west corner of the site adjacent Botany Road.	The surrounding public domain areas include provisions of generous circulation space around the metro and building entries to accommodate future pedestrian flows. The space comprises a microclimate with shade trees, new street tree planting with deep soil and permeable paving, native understorey planting, visitor bike parking and street furniture to provide informal rest spaces to foster social interaction. The ground level also includes Raglan Walk which has been discussed previously in **Section 4.5.2**. It is noted that this area will be primarily delivered under the CSSI approval as previously indicated (refer **Section 0**).
Level 2, Level 3 and Level 4	Non-accessible green roof	These areas provide low maintenance inaccessible green roofs to provide a greener outlook from the adjacent commercial floor plates and break up the podium / building form. The space will prove a mix of low groundcovers and grasses than can thrive on minimal sunlight and soil volume.
Level 9	Non-accessible green roof	One of the two primary landscape areas, the landscaping wraps around the southern edge of building 1 to create visual appeal while softening of edges of the transition in height. The landscape design facilitates a verdant edge along the outskirts which provide a vegetated outlook. This area will include small trees and shrubs to create structure, as well as low groundcovers, grasses and flowering perennials.
Level 13	Open roof terrace	This space provides a large open roof terrace which maximises the vast area by maintaining an inaccessible green roof “field” that surrounds the commercial garden terrace. The commercial levels above as well as the residential levels of building 2 will be afforded an expansive green outlook with a topography which features shrubs and grasses below native canopy trees. Additional PV panel banks are also located on level 13. The terrace has the potential to incorporate (subject to tenant fitout) informal seating and eating “nooks” which allow for varying groups to congregate and socialise on lunch breaks and after work drinks.

The primary communal terrace on level 13 is illustrated in the figure below.

Figure 37 Level 13 Communal Rooftop Terrace



Source: Woods Bagot

4.7. TRAFFIC AND TRANSPORT

4.7.1. Parking and Access

This detailed SSDA seeks to utilise an amended building envelope and mix of land uses proposed under SSD 10441. While not sought for approval under this application, the requirements for precinct wide parking rates has been included for completeness. The physical delivery of these parking spaces will be by way of SSD 10438 to be lodged concurrently with this detailed SSDA.

A summary of the proposed 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 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 of Wellington Street.
- In compliance with SLEP 2012, Sydney Development Control Plan 2012 (SDCP 2012), RMS Guide to Traffic Generating Developments and SSD 9393 Conditions of Consent, issued by the DPIE on 10th December 2019, the following parking provisions are proposed for the development:

Table 6 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
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	24 spaces for the commercial office premises provided at-grade.

4.7.2. Pedestrian Access

The proposal focuses on delivering a pedestrian focused public domain that integrates with the broader Waterloo Metro Quarter. As discussed in Section 4.5, the delivery of the public domain is subject multiple consents, however the following key elements are provided as part of the northern precinct to which this detailed SSDA relates:

- Pedestrian through-site links from Raglan Street to the Cope Street Plaza.
- 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 along Raglan Street and from the through site link connecting Raglan Street and the Cope Street Plaza.

4.7.3. Bicycle Parking

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.

24 commercial visitor bicycle parking to service building 1 is provided at-grade throughout the public domain areas. It is noted that in addition to these visitor bicycle spaces:

- There are a large number of visitor bicycle spaces provided in the precinct under the CSSI approval including 220 visitor bicycle spaces in metro EOTF plus 48 visitor bicycle spaces in public domain. The OSD provides a further 66 visitor bicycle parking spaces in the public domain in Northern, Central and Southern precincts.
- The project has adopted GreenStar guidelines for visitor bicycle parking spaces as they are based on actual and anticipated usage for commercial offices. The project provides commercial EOTF showers and lockers in excess of the DCP requirement. Green Star recommends provision of visitor bicycle spaces to commercial office on the basis that as 5% of visitors to the office will use bicycles for travel.
- The Green Building Council of Australia (GBCA) has worked with industry to ensure Green Star credits provide realistic requirements to incentivise and encourage ESD change to be incorporated in commercial office building, without prohibitively penalising the project.
- Provision of additional visitor bicycles in the basement car parking was considered however rejected on advice of the security consultant given the strong recommendation for maintaining a secure basement accessible only by authorised persons.
- Provision of any more visitor bicycle parking in the public domain is considered detrimental to the overall urban design, as it would result in a reduction in landscape and narrowing of pedestrian thoroughfares, particularly in the highly pedestrianised Raglan Street near the commercial building entry.
- The ISD provides 358 visitor bicycle parking spaces throughout the precinct; and this is considered more than adequate to cater for the anticipated demand.

4.7.4. Motorcycle Parking

Consent for the delivery of motorcycle parking 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 one 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.

4.7.5. 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 space for every 20 car parking spaces or part thereof is to be allocated as accessible visitor parking.

In accordance with the concept approval (SSD 9393) conditions of consent and the SDCP 2012, the basement accommodates 63 commercial car parking spaces inclusive of two accessible parking spaces.

Further assessment will be provided as part of the detailed SSDA for the Basement Carpark to be lodged concurrently with this northern precinct SSDA.

4.7.6. Loading, Unloading and Servicing

Consent is sought for the construction of a loading dock to be delivered within building 1 in the north precinct. A summary of the proposal is included 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 southern loading dock will consist of one MRV service bay, which has been designed to be suitable for 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.

4.8. SUSTAINABILITY INITIATIVES

The proposal includes a key objective to realise a development which achieves the high ecologically sustainable development (ESD) targets as set out in development consent SSD 9393. The project's commitment to sustainability is demonstrated by targeting the ratings outlined below.

The northern precinct 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 (WELL Building Standard v2)

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

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

A sustainability framework has been developed on the basis of the One Planet Living principles and incorporating the requirements of the various rating tools outlined above. This framework will be implemented to deliver national best practice sustainability outcomes for a range of environmental and social issues.

An ESD Straetgy 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 of the building has incorporated ESD principles as defined in clause 7(4) Schedule 2 of the Regulations.

A broad range of initiatives are proposed in order to minimise the consumption of resources, especially energy, water and waste, and ensure delivery of a sustainable development.

Section 8.4 of this EIS also provides further discussion of the specific sustainability initiatives that will be implemented as part of the northern precinct detailed SSDA.

4.9. SIGNAGE ZONES

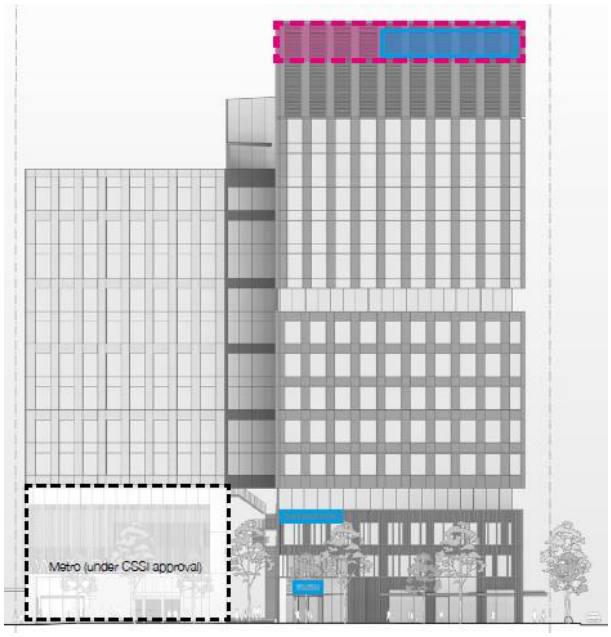
4.9.1. Sky and Podium Signage

The detailed SSDA seeks consent for building signage zones including sky signage and podium signage. The proposed signage zones are for the purposes of business and building identification. The signage zones will be integrated into the overall building design and are an appropriate size and scale in the context of the built form.

Three signage zones have been nominated on the northern, eastern and western elevations at the plant levels of the building. These signs will provide building and business identification for key anchor tenants of the commercial office building. In addition, three signage zones have also been nominated at the podium level on the northern and western elevations to accommodate business and building identification at the street level.

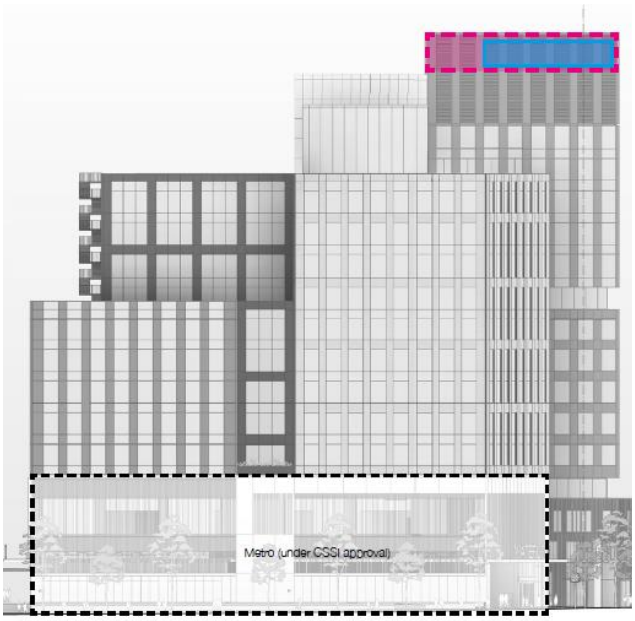
The figure below illustrates the proposed signage zones as part of this detailed SSDA. The pink outlined area denotes the indicative signage zone, whereas, the blue denotes the indicative maximum signage dimensions.

Figure 38 Signage Zones



Picture 41 Northern Elevation (Raglan Street)

Source: Woods Bagot



Picture 42 Eastern Elevation (Cope Street)

Source: Woods Bagot

Picture 43 Western Elevation (Botany Road)

Source: Woods Bagot

The content and detailed design will be subject to future applications that will be submitted by future prospective tenants. The key expected design details of future signage are as follows:

- Sky signage – maximum size of 50 sqm (e.g. 16.5 x 3m per sign)
- Podium signage – maximum 10 sqm (e.g. 7.3 x 1.4m per sign)
- Signage will be illuminated
- Signage is to be integrated with the overall architectural building design and building details.

The detailed design of future signage will be confined to and in accordance with the nominated signage zones.

4.10. SERVICES AND UTILITIES

The detailed SSDA design further develops the concept design to establish the capacity and augmentation requirements of the utility provisions for the development. Generally, to support the development, the approach has included measures to avoid, protect, augment or relocate/remove utilities within the surrounding area. Connections to support the OSD include electrical, communications, fire, gas, potable water and sewer services, utilising existing connections where possible. It is noted that the station services are completely separated from the OSD in principle.

The assessment of the existing infrastructure capabilities and identification of new connections required to be provided as part of the development is provided in the services and infrastructure report prepared by WSP Pty Ltd is provided at **Appendix T**.

4.11. WASTE MANAGEMENT

The storage, management and disposal of waste generated by the operation of the proposed development have been appropriately considered in the Operational Waste Management Plan (OWMP) prepared by Elephants Foot at **Appendix L**.

The primary waste streams and volume expected to be generated by the ongoing operation of the development are summarised in Table 6 below. These include the general waste, food waste and recycling generated by the commercial and retail components of the proposed development in the northern precinct. This assume that a seven-day operating week for retail tenancies and a five-day week for the commercial building.

The specific retail uses indicated in the table below are indicative only to provide a more accurate representation of the waste streams likely to be generated (as opposed to standard retail).

Table 7 Northern precinct waste and recycling generation

Building Component / Use	**Food Waste Generated (L/wk)**	**General Waste Generated (L/wk)**	**Recycling Generated (L/wk)**
Bakery	122.5	367.5	735
Small grocer	1575	4725	9450
Restaurant(s)	1225	1225	6125
Café(s)	350	350	1750
Office (commercial)	7875	23625	3975
Total	**11,147.5**	**30292.5**	**57435**

The waste facilities will be provided in the ground floor loading dock along with those required for the central precinct, which incorporates a community centre based childcare facility (2,200m2) and additional retail tenancies (632sqm). The loading dock will also store residential waste and recycling from Building 2, however, these will be stored in separate areas. Waterloo metro station waste and recycling will also be stored in a separate room within ground level of building 1.

A summary of the bin and equipment required for the northern precinct as well as the central precinct (subject to a separate SSDA) is provided as follows:

- General waste – 1 x 12sqm or 14 cubic metre portable compactor
- 15 x 120L MGBs (collected daily)
- Recycling (paper / cardboard) – 1 x cardboard baler producing bales stored on pallets (collected when a minimum of 4 bales are produced)
- Recycling (glass) – 1 x glass crusher and 8 x 60L crushed glass MGBs (collected as required)

- Recycling (mixed / other) – 6 x 1100L MGBs (collected 5 x weekly)

The spatial allocation for the bins and circulation space required to service the development is outlined in **Appendix L**. This area is accommodated within the loading dock and the waste and recycling rooms for the development and located at ground level. Waste is to be collected on site within the loading dock, accessed from Botany Road.

4.12. CONSTRUCTION MANAGEMENT AND STAGING

4.12.1. Site Establishment

A Construction Environmental Management Plan (CEMP) has been prepared by WL Developer and provided at **Appendix Q**. Demolition and excavation work 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.

4.12.2. Construction Hours

Construction hours for the site have been established in accordance with the concept DA approval and Concept Acoustic Assessment Report prepared by SLR Consulting dated 9 November 2019.

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.

4.12.3. Construction Staging

The various construction stages for the northern precinct can generally be summarised as per the below:

- Structure – consists of horizontal and vertical structural steel members with horizontal suspended concrete slabs and reinforced concrete lift and service core.
- Scaffold and screens – a combination of scaffold and formwork/façade screens will be utilised to provide both a working platform and fall protection during construction of the building structure and façade.
- Façade – a conventional curtain wall type facade will be installed behind / below the formwork/façade screens trailing the building structure construction.
- Services and finishes – the services & finishes to the Northern Precinct will sequentially follow completion of the building façade.
- Commissioning and testing – this will detail the guidelines to be followed for commission of the building and will typically involve individual systems testing and an overall integrated system testing.
- External works – such as landscaping and paving will be completed by the OSD Contractor.

The construction of each of these zones is described in the CEMP provided at **Appendix Q**. The southern precinct will be delivered in conjunction with the basement as the first stage of construction and is anticipated to be completed prior to the northern and central precinct buildings.

4.13. SUBDIVISION

The SSDA seeks for the staged stratum subdivision of the OSD pertaining to the Northern Precinct. Preliminary subdivision plans for the Northern Precinct Subdivision Stage are included in **Appendix Z.**

The CSSI Approval provided consent for the subdivision and creation of the Station allotment (Lot 1) while also creating the amalgamated development (Lot 2). Further subdivision of Lot 2 is to take place through subsequent SSDA stages set out below:

- Southern Subdivision Stage
- Central Subdivision Stage
- Northern Subdivision Stage

It is proposed that the stratum lots be created in a staged manner. The staged subdivision consent is to allow for the sequential creation and registration of allotments to occur as is required to coincide with the construction and occupation program for the Waterloo ISD without the need for separate ongoing subdivision applications.

The Northern Subdivision Stage once complete will be subdivided into the following stratum lots:

- Lot 7 – Building 1 retail lot
- Lot 8 – Building 1 commercial lot

The sequencing of lot numbers will need to comply with the requirements of the NSW Land Registry Services (LRS) and as such the final sequencing may vary subject to the staging of subdivisions.

The anticipated subsequent titling relates to everything associated with the commercial and retail building, as well as the air space around the building.

5. STRATEGIC CONTEXT

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

5.1. NSW STATE AND PREMIER PRIORITIES

The proposed development is consistent with the relevant key objectives contained within the plan. Particularly, 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 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 a new 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 City & Southwest, planned to open in 2024.
  - The proposal provides a significant development opportunity for the State in conjunction with the new Sydney Metro project. The detailed SSDA supports 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 Sydney Metro Waterloo Station entrance from Raglan Street and the through-site link.
  - 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.

5.2. GREATER SYDNEY REGION PLAN – 'A METROPOLIS OF THREE CITIES'

A Metropolis of Three Cities 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. Setting a 40-year vision (to 2056) and establishing a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters.

The vision for the plan is built on these 30-minute cities within Greater Sydney, the Western Parkland City, Central River City and Eastern Harbour City, providing improved access through different modes of transport to various job opportunities, services, entertainment and cultural facilities across the metropolitan area. The Eastern Harbour City is well-established, well-serviced and highly accessibly by its radial rail network, with half a million jobs and the largest office market in the region.

The proposed northern precinct OSD 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. In accordance with Objective 18, the proposal aligns explicitly with the regional plan by:

- *"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 a significant amount of office and retail floor space (34,680.5 sqm of commercial floor space with an additional 838 sqm of retail and community uses floor space) which strengthens the Harbour CBD's economy globally and nationally.
- Comprises a commercial building and activated podium which supports a diversity of uses for competitive services and entertainment opportunities, ensuring activity throughout the day and night.
- Maximises opportunities presented by the Sydney Metro Waterloo Station to improve business to business connections and support the 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 northern precinct SSDA include:

E1 – Planning for a city supported by infrastructure

The proposal aligns land use and infrastructure planning ensuring that infrastructure use is maximised by locating 34,680.5 sqm of commercial floor space on the northern precinct above the Sydney Metro Waterloo Station. The development facilitated by the detailed SSDA aligns with the place-based infrastructure service which encourages active transit methods such as walking and cycling and the Waterloo metro station.

E6 – Creating and renewing great places and local centres and respecting the District's heritage

The northern precinct OSD facilitates the creation and of a vibrant and active integrated station development that delivers retail and office space in a highly accessible location. The site is located in close proximity to significant public areas such as Alexandria park, Redfern Park and Waterloo Park.

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

By providing commercial floor space over the Sydney Metro Waterloo Station and thereby improves access to jobs, the proposal contributes to the vision for a 30-minute city. The proposal will facilitate employment growth that is coordinated with and will be deliver concurrently to the new metro station to improve access to jobs and public transport.

E11 – Growing investment, business opportunities and jobs in strategic centres

The proposal will deliver a new commercial OSD building in Sydney's inner suburbs that has the potential to accommodate up to 3,384 jobs once operational and will generate approximately 466 jobs during the construction phase. The site is in a highly accessible location with direct connection to Sydney CBD via the Sydney Metro. Significant development has also occurred within the surrounding area and the proposal strengthens opportunities for business growth in the Green Square-Mascot strategic centre.

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 detailed SSDA 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 range of jobs and services and other opportunities that people can get to within 30 minutes.
- Increase the proportion of people with good access to jobs and prioritise socially disadvantaged areas.
- Improve accessibility to jobs across all districts.
- Improve the ability to walk to local services and amenities.

The northern precinct SSDA is consistent with the above-mentioned priorities for the following reasons:

- The proposal will deliver 33,824 sqm 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.
- The through-site link from Raglan Street to the Cope Street plaza improves the ability for people to access local services and amenities across the Waterloo Metro Quarter site and links to the surrounding road network.

5.5. FUTURE TRANSPORT STRATEGY 2056

The NSW Government's *Future Transport Strategy 2056* 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. It will guide transport investment over the longer term delivered through a series of services and infrastructure plans and other supporting plans.

The site benefits from being located directly above the future Waterloo metro station which forms an important cog in the Sydney Metro City & Southwest project. The strategic location of high grade commercial floorspace delivers economic benefits for Sydney by enhancing connectivity between businesses, housing and people. The proposal provides an opportunity to boost the city's productivity by allowing residents to access jobs faster and more reliably, thus, contributing to a 30-minute city.

Waterloo Metro Quarter northern precinct OSD boasts proximity to future public transport opportunities for site users/visitors, which supports public transport patronage and active modes of transport. The proposal also achieves compliant ESD targets.

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 the 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 State Infrastructure Strategy sets out six cross-sectoral strategic directions for infrastructure in NSW, of which, the following are relevant:

Better integrating land use and infrastructure planning

The proposal will deliver additional jobs in coordination with the new Waterloo metro station beneath, so that capital investment keeps pace and aligns with new jobs.

Delivering infrastructure to maximise investment and use of public funds

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.

Optimising asset management

The proposal has been designed with consideration of the life cycle of the asset so that the integrated station and OSD solution is 'futureproofed', and that the life, availability and use of railway infrastructure on the site are appropriately safeguarded.

Making our infrastructure more resilient

The proposal has been designed with regard to flooding and other environmental considerations, thus, ensuring that the development is not vulnerable to natural hazards and human-related threats.

Using innovative service delivery models

The proposal brings together the best skills of the private sector in delivering the Waterloo metro station. It represents an innovative approach that supports the NSW Government in funding the cost of this step-change piece of public transport infrastructure and delivering a range of public benefits, integrated within the northern precinct OSD.

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 focuses on ten strategic directions, of which the following are relevant and will be by the proposal:

- A globally competitive and innovative city
- Integrated transport for a connected city
- A city for pedestrians and cycling
- Vibrant local communities and economies
- Sustainable development, renewal and design

The proposal will facilitate the delivery of Sydney Metro infrastructure and additional jobs in a highly accessible location in proximity to the Green Square-Mascot strategic supporting centre, encouraging walking and cycling. In particular, the proposal will address the three key pillars of Sustainable Sydney 2030, as follows:

Green

- *The city's places and spaces will support the community's resilience to social, economic and environmental changes, including changing climate.*
- *Excellence in the design of the city's places, spaces and buildings will attract people, encourage them to stay and make high density places healthy and enjoyable.*

Proposal response: The detailed SSDA will help to realise the vision for a greener global city that will improve the places, spaces and buildings serving the greater community and the residents that it serves by providing an energy-efficient building, providing additional employment with access to public transport. The location allows employees to walk and cycle to places of interest including Alexandria Park and nearby cultural and entertainment hubs.

Global

- *The Council seeks to ensure that "Sydney will remain Australia's most significant global city, home to globally aware people, jobs and businesses and an international gateway with world-class tourism attractions and sustained investment in cultural infrastructure, icons, amenities and public spaces."*
- *In economic orientation and partnerships, an open-minded outlook, and a diverse community.*

Proposal response: The delivery of the Sydney Metro and the northern precinct OSD development as proposed in the detailed SSDA and supported by the amending concept DA will help to realise the Council vision, in which the partnership between the NSW Government and private developers, such as Sydney Metro and the WL Developer Pty Ltd in collaboration, will help to deliver infrastructure and jobs to serve a diverse and growing community.

Connected

The Council vision for connectedness includes:

- *physically by walking, cycling and high-quality public transport, through culture, place and social wellbeing, and to those with interest in the city.*

Proposal response: The detailed SSDA will help to realise the Council vision for a more connected city with the delivery of high-quality public transport and jobs within one development that will promote the place, social well-being and opportunities to access services, and places by walking or cycling.

5.8. DEVELOPMENT NEAR RAIL CORRIDORS & BUSY ROADS – INTERIM GUIDELINE (TFNSW)

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), supporting specific rail and road provisions contained within.

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

The Waterloo northern precinct OSD proposal capitalises on concentrating jobs within easy walking distance above the future Sydney Metro Waterloo Station, thus improving access and opportunities for increased rail patronage.

With regards to noise and vibration impacts by rail corridors on development and vice versa, this detailed SSDA is accompanied by an Acoustic and Vibration Impact Assessment, prepared by Stantec (**Appendix K**), which demonstrates that the proposed design is capable of meeting the requirements of the Guideline.

5.9. GUIDE TO TRAFFIC GENERATING DEVELOPMENT (RMS)

The RMS' *Guide to Traffic Generating Developments* 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 commercial land uses (office and retail).

This detailed SSDA is accompanied by a Traffic and Transport Impact Assessment (**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 further detail in Section 7.7.2.

5.10. HERITAGE COUNCIL GUIDELINES ON HERITAGE CURTILAGES 1996

The Heritage Impact Assessment (HIA) (**Appendix H**) and Heritage Interpretation Strategy (HIS) (**Appendix CC**), prepared by Urbis, 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. Heritage impacts with regards to the proposal are discussed further in Section 8.3.

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

The assessment of heritage impacts within the Heritage Impact Statement prepared by Urbis in **Appendix H** and Heritage Interpretation Strategy in **Appendix CC** provides a comprehensive assessment of key heritage impacts and establishes the heritage management framework for the development of the site. Heritage impacts are further discussed in Section 8.3.

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 ESD Strategy has been prepared by Cundall and included at **Appendix M**. The report details how ESD principles will be incorporated in the design, construction and operation of the development and includes a framework for how the proposed development will reflect national best practice sustainable building principles.

5.13. NSW GOVERNMENT CLIMATE CHANGE POLICY FRAMEWORK

The ESD Strategy provided at **Appendix M** includes a Sustainability Framework that will inform design, construction and operational stages of the project. The framework includes specific goals, targets and practical actions to manage risks from climate impacts, protect communities and strengthen the resilience of the local economy. These include:

Goals / Targets

- A Climate Adaptation Plan will inform the design of the project in accordance with international guidelines.

Initiatives

- Prepare and implement a Climate Adaptation Plan (plan to be prepared during design development) including agreeing on the climate change scenario to be adopted (2°C and/or 4°C).
- Reduce heat island effect – green roofs, street tree planting, PV panels, hard surfaces with high Solar Reflective Index (SRI).
- Passive design of facades to improve thermal performance and reduce impact of extreme weather days.
- Design cooling system capacity for higher design temperatures to allow for increasing peak temperatures. Stormwater systems designed for increased storm frequency and intensity.

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 Strategy included at **Appendix M** includes specific goals, targets and initiatives regarding climate change that will inform the design, construction and operational stages of the project

5.15. BETTER PLACED

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). The policy includes seven applicable objectives:

- Better fit – contextual, local and of its place
- Better performance – sustainable, adaptable and durable

- Better for the community – inclusive, connected and diverse
- Better for people – safe, comfortable and liveable
- Better working – functional, efficient and fit for purpose
- Better value-creating and adding value
- Better look and feel – engaging, inviting and attractive.

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 amending concept DA lodged concurrently.

5.16. DRAFT CONTAMINATED LAND PLANNING GUIDELINES

The Draft Contaminated Land Planning Guidelines (Planning Guidelines) have been prepared by the DPIE and Environment Protection Authority (EPA) to assist planning authorities 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.

As all demolition and excavation will be completed as part of the CSSI approval and under the detailed basement SSDA works. Therefore, the provisions of SEPP 55 and the Planning Guidelines have been wholly addressed through separate approvals and are not relevant to the SSDA.

5.17. CITY OF SYDNEY DEVELOPMENT CONTRIBUTIONS PLAN 2015

The proposed OSD is subject to the City of Sydney Council's contributions requirements under the City of Sydney Development Contributions Plan 2015. The levy aims to assist the funding of public facilities such as facilities, amenities and services required to meet the needs of an increasing workforce and residential population.

The proposed development will be the subject of development contributions payable by either monetary contribution or works provided in kind. In accordance with the Concept Conditions of Consent and SLEP 2012, public benefits will be delivered to the satisfaction of the Secretary.

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 heath.

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 location of the site within the City Fringe, Innovation Corridor, and notably within the Botany Road Corridor is illustrated in Figure 39.

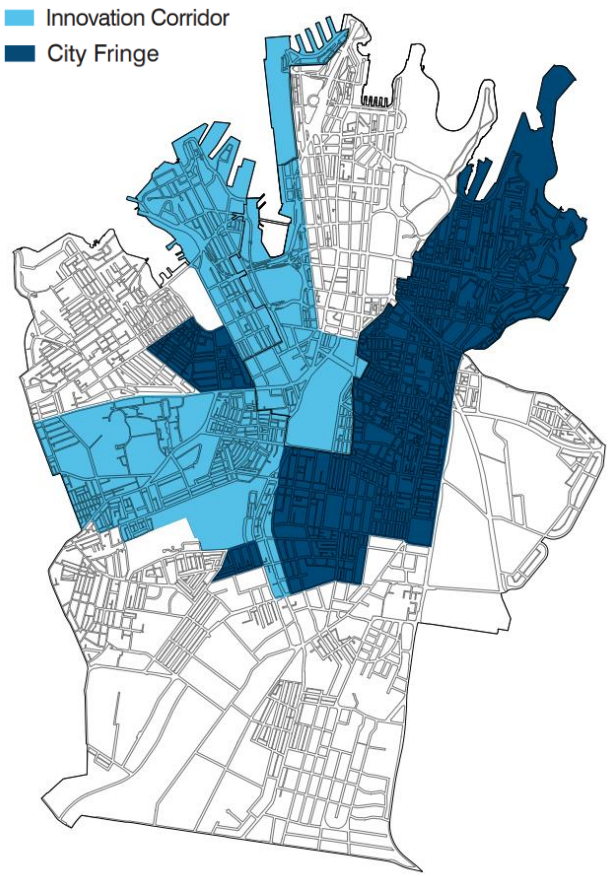
City Plan 2036 notes that the Botany Road Corridor has the potential for private sector business and investment to leverage off and support the offering of Australian Technology Park. The proposed increase in commercial office floor space directly supports the achievement of this objective with the provision 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.

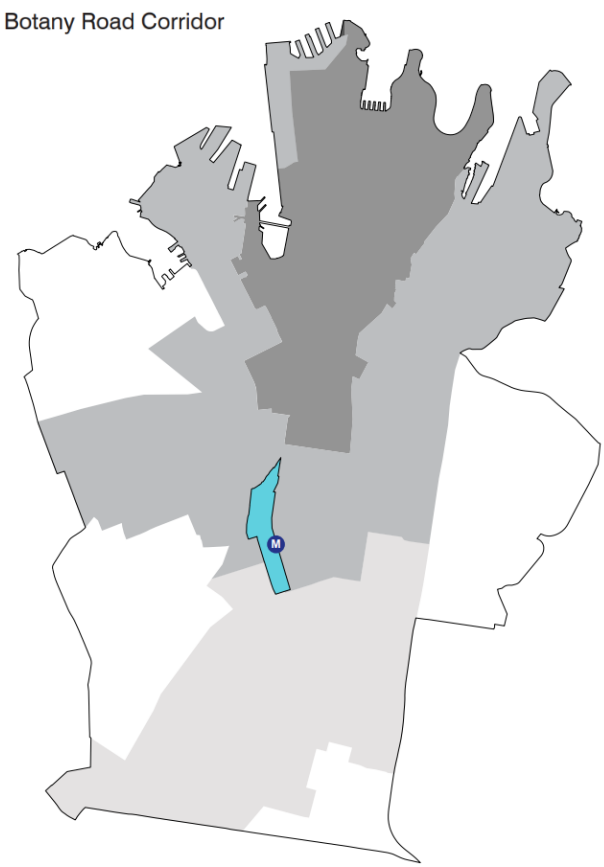
The proposed amendment to the land use mix across the Waterloo Metro Quarter also aligns with the City's intended future action to investigate opportunities to increase non-residential capacity in the Botany Road Corridor.

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.

Figure 39 Extracts from the City Plan 2036





Source: City Plan 2036

Source: City Plan 2036

5.19. NSW PLANNING GUIDELINES FOR WALKING AND CYCLING

These guidelines function to improve the consideration of walking and cycling and their role in the creation of sustainable neighbourhoods and cities. The proposed development aligns with these guidelines by improving walkability and cycle access across Waterloo Metro Quarter site through the provision of new pedestrian routes, end-of-trip facilities and wayfinding signage. This will contribute to a high-quality pedestrian and cycling environment, which is conducive to use of active transport options by future OSD employees, residents and visitors.

5.20. SYDNEY'S BUS FUTURE 2013

Sydney's Bus Future 2013 outlines the NSW Government's long-term plan to deliver an integrated bus network which is simpler, faster and better within Sydney to meet current and future customer needs. The overarching aim is to provide an integrated bus network which seamlessly connects to other transport services and opportunities.

The proposal will align with these objectives by locating additional employment floor space within walking distance of key bus routes along Botany Road and Raglan Street.

5.21. SYDNEY'S CYCLING FUTURE 2013

Sydney's Cycling Future 2013 provides a framework for the way cycling is planned and prioritised in Sydney. It aims to grow the number of people cycling for transport by investing in safe, connected networks, making better use of existing infrastructure and fostering the formation of partnerships to develop cycling infrastructure.

Whilst the proposal does not itself alter the existing bicycle network or public domain areas, which are being designed and delivered separately along with the station entries, it supports the use of cycling as a mode of

transport through providing high quality bicycle parking areas and end of trip facilities within the basement located under the northern precinct and central building (delivered as part of the basement SSDA).

5.22. SYDNEY'S WALKING FUTURE 2013

Sydney's Walking Future 2013 aims to promote walking as a means of effective transport within Sydney by encouraging investment in safe, permeable walking networks.

The surrounding road network provides the site and OSD with pedestrian access. Public domain improvements will be included as part of the CSSI Approval and will be designed to meet any relevant requirements of that consent and the Waterloo Station Design Guidelines. This will be outlined in the Interchange Access Plan (IAP) and Station Design Precinct Plan (SDPP).

5.23. OTHER RELEVANT STRATEGIC POLICIES AND GUIDELINES

Other relevant State and local strategies, policies and guidelines are discussed in **Table 8** below.

Table 8 Consistency with other strategies, policies and guidelines

Strategy, Policy or Guideline	**Consistency**
NSW Aquifer Interference Policy (2012)	This DA does not seek consent for any basement or any works likely to impact an Aquifer.
City of Sydney: Alternative natural ventilation of apartments in noisy environments- Performance Pathway Guideline	Not relevant to the proposal as building 1 is proposed as a commercial office building and does not contain any residential accommodation.
City of Sydney Guidelines for Waste Management in New Developments	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.
City of Sydney Interim Guidelines for Public Art in Private Developments	A Public Art Strategy has been prepared by Aileen Sage Architects (**Appendix MM**) in accordance with the City of Sydney Interim Guidelines for Public Art in Private Developments.
City of Sydney Landscape Code Volume 2	The Landscape Strategy prepared by Aspect Studio (**Appendix JJ**) has considered the City of Sydney Landscape Code..
City of Sydney Public Domain Manual	While street trees and the public domain landscaping proposed for the northern precinct is predominantly to be delivered under the CSSI approval for the metro station, it is noted that the Landscape Plans prepared by Aspect Studio at **Appendix II** have been informed by the detailed provisions contained within these City of Sydney guidelines.
City of Sydney Light Design Code	
City of Sydney Street Tree Masterplan	
City of Sydney Technical Streets Specification and Street Design Code	

6. STATUTORY CONTEXT

As outlined in the SEARs, the statutory provisions contained in the planning instruments listed below have been addressed for the detailed SSDA:

- *Environmental Planning and Assessment Act 1979 (EP&A Act)*
- *Biodiversity Conservation Act 2016*
- *State Environmental Planning Policy (State and Regional Development) 2011*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy No 55—Remediation of Land (SEPP 55)*
- *Stat Environmental Planning Policy No.64 – Advertising and Signage (SEPP 64)*
- *State Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SREP Sydney Harbour)*
- *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 (SLEP)*
- Sydney Development Control Plan 2012 (SDCP)
- 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 6.2, 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 detailed SSDA (refer clause 8A of the SRD SEPP).

Table 9 below provides an assessment of the proposal against the objectives contained within Section 1.3 of the EP&A Act.

Table 9 Objectives of the EP&A Act

Objectives	**Comment / Response**
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.	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.
To facilitate ecologically sustainable development by integrating relevant economic, environmental	The ESD commitments are consistent with those included within the concept SSDA for commercial

Objectives	Comment / Response
and social considerations in decision-making about the environmental planning and assessment.	uses. This detailed proposal is committed to achieving high standards of ecologically sustainable development as outlined in the ESD Report in **Appendix M**. In summary, these include: ▪ 5 Star rating – Green Star Design and As-Built rating tool ▪ 5.5 Star rating – NABERS Energy (Base Building) ▪ 4.5 Star rating – NABERS Water
To promote the orderly and economic use and development of land.	The proposal promotes the orderly and economic use and development of land through a staged planning process which delivers an integrated design response that responds to the site constraints and complexity of the development. The proposed OSD maximises commercial floor space to be delivered on the site within the overall bulk and massing of the approved building envelope (as modified).
To promote the delivery and maintenance of affordable housing.	N/A
To protect the environment, including the conservation of threatened and other species of native animals and plants, ecologically communities and their habitats.	The OSD is located within an established urban environment. A Biodiversity Development Assessment Report waiver has been granted by DPIE, which concludes the proposal will have no impact on threatened species or their habitats (**Appendix V**).
To promote sustainable management of built and cultural heritage (including Aboriginal cultural heritage).	The proposal respects the significance of surrounding built heritage as outlined in the Heritage Impact Assessment (**Appendix H**).
To promote good design and amenity of the built environment.	The detailed design of the OSD exhibits design excellence and mitigates adverse amenity impacts. The endorsed Design Excellence Strategy to which the building responds is attached at **Appendix G** and discussed in further detail in Section 8.1.1.
To promote proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.	Construction staging and impact management are discussed in **Section 8.8**. A Construction Environmental Management Plan is attached at **Appendix Q**.
To promote the sharing of responsibility for environmental planning and assessment between different levels of government in the State.	Relevant Government agencies have been consulted throughout the concept and detailed design processes. It is noted that the Minister for

Objectives	Comment / Response
	Planning and Public Spaces is the consent authority as the development is SSD.
To provide increased opportunity for community participation in environmental planning and assessment.	An inclusive public consultation strategy has been implemented throughout the project design process (refer to **Section 7** 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 OEH, and it was on determined 24 July 2020 that a BDAR is not required as part of this detailed SSDA. Based on this assessment by NSW DPIE and OEH, 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 or commercial premises associated with railway infrastructure under clause 8(1)(b) of S*tate Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

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 OSD are considered SSD. For clarity this includes applications for the following:

1. Concept amending DA – modified building envelope for the northern precinct.
2. Southern precinct – Cope Street Plaza; social housing; student accommodation; gym; retail premises, commercial premises for future community uses.
3. Central building – Community facilities; affordable housing; market housing; retail premises, commercial premises for future community uses.
4. Basement – To support the northern precinct, central building, and car spaces for the broader Waterloo Metro Quarter development.
5. Northern precinct – Commercial office; retail premises, and commercial premises for future community uses (**this application**).

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 TfNSW (Roads Division) as the proposed development has more than 2,500sqm commercial floor space and has access to a road that is less than 90m from a classified road. 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 AND DRAFT REMEDIATION OF LAND SEPP

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.

A Contaminated Sites Strategy has been prepared by Douglas Partners and is included at *Appendix HH* of the basement SSDA which documents how contamination and remediation across the Waterloo Metro Quarter site, related to both the station works and the OSD will be managed through the construction period.

As all demolition work, and a substantial component of excavation across the Waterloo Metro Quarter site will be completed as part of the Sydney Metro Waterloo Station works, and noting that exposed material may impact the construction of the metro station, remediation across the site will be managed in accordance with the relevant conditions of the CSSI approval most notably conditions E66-E70.

In satisfying conditions E66-E70, a series of site investigations and reporting has been completed for the Waterloo Metro Quarter site. These findings and recommendations are contained within:

- A Site Contamination Report has been prepared for the western portion of the site (GDP, 2019); and
- A Site Audit Report has been prepared for the station box excavation (eastern portion of the site) (Ramboll, 2020).

The above reports confirmed that management and remediation of contamination in the western portion of the Waterloo Metro Quarter is required. This management and remediation of contaminated material within the western portion of the Waterloo Metro Quarter site is to be completed as stated above under the terms of the CSSI approval to enable the satisfaction of conditions E66-E70 of CSSI 7400.

The Contaminated Sites Strategy details how the scope of works and remediation process to be completed under the CSSI approval will enable the western portion of the site to be suitable for the proposed basement associated with the northern precinct. The Contaminated Sites Strategy also critically notes that a Site Audit Statement/Site Audit Report stating that the site (or nominated portion of the site) is suitable for the proposed development will be issued prior to use of the site.

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

The *State Environmental Planning Policy No.64 – Advertising and Signage* (SEPP 64) aims to ensure that signage is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations, and is of high-quality design and finish.

The scope of the detailed SSDA seeks consent for indicative signage zones. Clause 13 of SEPP 64 indicates that a consent authority must not grant consent to display signage unless it is consistent with the objectives of the policy and complies with the assessment criteria contained within Schedule 1. An assessment of the indicative signage zones included as part of the SSDA against the beforementioned provisions is provided in **Table 10**.

Table 10 SEPP 64 Compliance Table

Control	Proposal	Compliance
3 – POLICY AIMS AND OBJECTIVES		
Clause 3(1)(a) – to ensure that signage: • Is compatible with the desired amenity and visual character of an area; • Provides effective communication in suitable locations; and • Is of high-quality design and finish	The proposed signage is positioned on the commercial building located on the site and will enable a building marker above the metro station, signalling a key location with the Waterloo locality. The detailed design of the signage will be subject of a future application.	YES
SCHEDULE 1 – ASSESSMENT CRITERIA		
1 – Character of the Area		
Is the proposal compatible with the existing or desired future character of the	Botany Road is a predominantly commercial corridor within the Innovation Corridor and	YES

Control	Proposal	Compliance
area or locality in which it is proposed to be located?	City Fringe employment areas. The proposed signage for commercial office tenants is appropriate within this site context.	
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed signage zone is not proposed for advertising. There is no prevailing theme for advertising signage within the locality.	YES
2 – Special Areas		
• Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed signage is not located within a heritage conservation or nor an area with any environmental sensitivity. The proposed signage is located within a B4 mixed use land zoning and is orientated towards the commercial corridor of Botany Road to the north of the site.	YES
3 – Views and Vistas		
Does the proposal obscure or compromise important views?	The proposed signage zones are contained within the face of the building elevation and will not impact any view corridors.	YES
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signage is contained wholly on the building façade and therefore will not dominate the skyline or reduce the quality of vistas.	YES
Does the proposal respect the viewing rights of other advertisers?	The proposed signage zones do not interfere with any views towards existing signage.	YES
4 – Streetscape, Setting or Landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the proposal is considered appropriate as, it responds to the overall size of the building and broader Waterloo Metro Quarter Precinct.	YES
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposal will improve the visual interest of the streetscape, by incorporating high quality signage that integrates with the architectural built form of the building at the podium level and top of building.	YES
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The proposed signage zones are to a new building.	N/A
Does the proposal screen unsightliness?	The proposed signage zones are to a new building.	N/A

Control	Proposal	Compliance
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed signage does not protrude above the maximum height of the building or podium parapet.	YES
Does the proposal require ongoing vegetation management?	No vegetation management is required for the proposed signage zones.	YES
5 – Site and Building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage zones have been designed to be compatible with the scale and proportions of the building. The scale of the proposed signage zones is considered to be appropriate for the context of the site and future character of Waterloo.	YES
Does the proposal respect important features of the site or building, or both?	The proposed signage zones align with the height of façade articulation and are respectful of the architectural built form. They will not dominate the surrounding locality or detract from any of the important features of the building.	YES
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed signage zones have been considered in the context of the building achieving design excellence and its role in identifying the commercial building and key anchor tenants.	YES
7 – Illumination		
Would illumination result in unacceptable glare? Would illumination affect safety for pedestrians, vehicles or aircraft? Would illumination detract from the amenity of any residence or other form of accommodation? Can the intensity of the illumination be adjusted, if necessary? Is the illumination subject to a curfew?	The detailed design of the signage will be subject to future separate applications, including details of illumination.	YES
8 – Safety		
Would the proposal reduce the safety for any public road?	The proposed signage zones are located at the top of building and podium levels. They are considered to have limited impact on the safety of Botany Road and Raglan street given their locations.	YES

Control	Proposal	Compliance
Would the proposal reduce the safety for pedestrians or bicyclists?	The proposed signage is above the natural eyeline of pedestrians and cyclists and will not adversely impact their safety.	YES
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed signage is above the natural eyeline of pedestrians and cyclists and will not adversely impact their safety and will not obscure sightlines from public areas.	YES

6.7. 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 site is located within the Sydney Harbour Catchment area but not within the Foreshores and Waterways area. Therefore, clause and 26 of the SREP is relevant to the consideration of the proposed development with regards to the maintenance, protection and enhancement of views. Matters to be taken into consideration in relation to clause 26 include:

- Development should maintain, protect and enhance views (including night views) to and from Sydney Harbour.
- Development should minimise any adverse impacts on views and vistas to and from public places, landmarks and heritage items.
- The cumulative impact of development on views should be minimised.

A View and Visual Impact Analysis has been prepared by Cardno and is included at **Appendix HH**. The report assesses the proposal's impact from key viewpoints, consistent with those used during the assessment of SSD 9393. Visual and view impacts are discussed in further detail in Section 8.2 of this EIS. In summary, the proposal does not pose additional view and visual impacts above what has been considered as part of the concept SSDA approval and the accompanying amended concept DA. Additionally, the proposal does not pose any impacts to the views from Sydney Harbour and other considerations noted in the SREP Sydney Harbour.

6.8. 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.

6.9. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (ENVIRONMENTAL)

Draft State Environmental Planning Policy (Environment) 2017 was exhibited in December 2017 and seeks to consolidate and update the key elements of seven current SEPPs. One of these SEPPs is the Sydney Harbour REP.

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 SREP. On this basis, the previous assessment of the general principles of the SREP remain relevant.

6.10. DRAFT REMEDIATION OF LAND STATE ENVIRONMENTAL PLANNING POLICY

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.

As all demolition and excavation will be completed as part of the CSSI approval and under the detailed basement SSDA works. SEPP 55 considerations and potential site contaminants will be addressed in accordance with the relevant conditions of the CSSI approval. Therefore, the provisions of SEPP 55 have been wholly addressed through that approval and are not relevant to the SSDA.

6.11. 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.

6.11.1. Zoning and Permissibility

The site is zoned as B4 Mixed Use under SLEP 2012. The proposed land use proposed in this SSDA is best defined as commercial premises, which is defined in SLEP 2012 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 use of 'office premises' and 'retail premises', noting both are a kind of 'commercial premises', are permissible with consent in the B4 Mixed Use zone. 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 proposed development 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.

6.11.2. Key Development Standards

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

Table 11 SLEP 2012 Compliance of Development Standards

Clause	Control	Proposal/Compliance
4.3 Height of buildings	The finalised Waterloo SSP increased the height controls on the site to take advantage of the new Metro Station. The height control for the site is RL 90.4.	**Complies** The proposed development has a maximum building height of 17-storeys (RL 90.4) including ground and plant levels.
4.4 Floor space ratio	6:1 (across the site)	**Complies** The proposed FSR for the Waterloo Metro Quarter OSD is 5.34:1, including the proposed 306.4sqm GFA within the basement (EOTF and security office).
5.6 Architectural roof features	Development that includes an architectural roof feature that exceeds or causes a building to exceed the height limits set by the LEP may be carried out, but only with development consent.	**Complies** 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.
5.10 Heritage Conservation	A heritage management document may be required to be prepared for land that is within the vicinity of a heritage item. The document is to assess the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item.	**Complies** A Heritage Impact Statement (HIS) has been prepared by Urbis and is submitted at **Appendix H**. The HIS outlines that the proposed development will not have any adverse impacts on any significant fabric of the Waterloo Congregational Church given it is substantially distanced from this heritage item and the central precinct provides a visual and physical barrier. The proposed development will not physically impact upon the nearby Cricketers Arms Hotel and Former CBC Bank local heritage items. Despite being substantially larger, the proposed podium design, materiality, façade articulation and setback to the upper levels responds to and respects the low scale surrounding development, referencing the datum with a three-storey podium. Further, the proposed northern precinct building will have a reduced visual impact on the Alexandria Park Heritage Conservation Area compared with the approved concept envelope under SSD-9393, and therefore an improved heritage outcome for external views is delivered. Overall, the proposed northern building works are considered acceptable from a heritage

Clause	Control	Proposal/Compliance
		perspective and are recommended for approval, subject to adoption of the following key recommendations: ▪ Recommendations for test excavation, investigations, reporting, monitoring and obtaining permits in relation to archaeological potential of the place, should be adopted as outlined in the respective technical reports that apply to the subject site.
6.21 Design excellence	Deliver the highest standard of architectural, urban and landscape design. Development consent must not be granted to the following development to which this clause applies unless a competitive design process has been held in relation to the proposed development— (a) development in respect of a building that has, or will have, a height above ground level (existing) greater than— (i) 55 metres on land in Central Sydney, or (ii) 25 metres on any other land, (b) development having a capital investment value of more than $100,000,000, (c) development in respect of which a development control plan is required to be prepared under clause 7.20, (d) development for which the applicant has chosen such a process	The concept DA exercises the discretion available under clause 6.21(6) of SLEP 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. The Design Integrity Report at **Appendix Y** confirms that the detailed SSDA meets 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. Further discussion of design excellence has been addressed in Section 8.1.1.
6.45 Waterloo Metro Quarter - General	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: ▪ There must be at least 12,000 sqm of GFA at or below podium level for land uses other than	**Complies** The proposed Building 1 includes the following uses: – Retail premises and commercial premises. In accordance with clause 6.45, the following precinct wide conclusions have been made:

Clause	Control	Proposal/Compliance
	residential accommodation or passenger transport facilities. ▪ At least 2,000 sqm of GFA for the purpose of community facilities. ▪ At least 2,200 sqm of land for publicly accessible open space. Further, the consent authority must not consent to the construction of one or more dwellings on land at the Waterloo Metro Quarter unless: ▪ It is satisfied that at least 5% of the 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 It is satisfied that land uses other than residential accommodation or passenger transport facilities will be evenly distributed throughout the Waterloo Metro Quarter	– A total of 11,347.6sqm GFA is proposed within the indicative scheme to be located at or below the podium (3-storeys for Buildings 2 and 3, and 4-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 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. – 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 *additional* 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.

Clause	Control	Proposal/Compliance
		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. The proposed affordable housing dwellings within Building 2 have a minimum area 50sqm (GFA).
6.46 Waterloo Metro Quarter - State public infrastructure	Development consent must not be granted for development for the purposes of residential accommodation on land at the Waterloo Metro Quarter that results in an increase in the 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.	The proposal does not seek consent for the purposes of residential land uses.
Clause 7.20 Development requiring or authorising preparation of a development control plan	A DCP is required 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.	A staged development application has been approved for the site (SSD 9393), therefore clause 7.20 has been satisfied.
7.3 Car parking not to exceed maximum set out in this Division	The LEP sets a maximum provision of car parking based on site area. The site is located on Category A land.	The concurrent basement SSDA does not exceed the maximum car parking provisions contained within the SLEP 2012 or SSD 9393. To the contrary, the basement proposal has sought to minimise on-site car parking provision to reduce reliance on private vehicle ownership. Furthermore, the student accommodation use proposed for Building 3 reduces the overall car parking demand on the site.
7.14 Acid Sulfate Soils	Ensure development does not disturb, expose or drain acid sulfate	The proposal is wholly contained above the detailed SSDA for the basement works.

Clause	Control	Proposal/Compliance
	soils and cause environmental damage.	Therefore, this is not a consideration for this application.
7.15 Flood Planning	Minimise flood risk to life and property associated with the use of land and significant adverse impacts on flood behaviour and the environment.	A Stormwater Management and Flood Impact Assessment Report has been prepared by WSP and submitted at **Appendix O**. The assessment concludes the proposed development has a negligible impact on the existing flood regime. This is discussed further in Section 8.10.
7.16 Airspace Operations	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.	The proposal will not compromise the operation of the Sydney airport, noting the proposed built form is well below the previously approved airspace approval.
7.17 Development in areas subject to aircraft noise	Applies to development that is on land that— (i) is near the Sydney (Kingsford-Smith) Airport, and (ii) is in an ANEF contour of 20 or greater, and (b) the consent authority considers is likely to be adversely affected by aircraft noise.	The Waterloo Metro Quarter is not located directly under the flight path and is not directly impacted by aircraft noise.
7.23 Large retail development outside of Green Square Town Centre and other planned centres	Consent must not be granted to development on land to which this clause applies for the purposes of shops or markets with a gross floor area greater than 1,000sqm.	This clause does not apply to the site.
7.26 Public Art	Consent must not be granted for public art unless the consent authority is satisfied that the development— (a) will not involve the display of an advertisement, and (b) will not increase the gross floor area of any building, and (c) will not have a significant adverse impact on any heritage conservation area, heritage item or	A Public Artwork Strategy has been prepared for the whole Waterloo Metro Quarter site by Aileen Sage Architects with Tess Allas & Sebastian Goldspink. The strategy has identified opportunities across the site for which selected artists will prepare artworks. The strategy will set criteria consistent with this clause to ensure that the works are managed in their delivery.

Clause	Control	Proposal/Compliance
	other object or place of heritage significance, and (d) will not have a significant adverse impact on the amenity of the public domain, including by overshadowing, wind or noise impacts, and (e) if it is to be carried out on land to which a plan of management (within the meaning of the Local Government Act 1993) applies, will be in accordance with the plan of management.	
7.27 Active Street frontages	Development consent must not be granted to the erection of a building, or a change of 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— (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 (b) those premises will have active street frontages	Botany Road, Wellington Street and Cope Street are identified as active street frontages. The proposed design of the OSD will promote active street frontages to Botany Road, Wellington Street and Cope Street and will provide lobby and entrance spaces to the commercial areas within the OSD. Refer to Section 8.1.4 for further discussion.

6.12. 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.

An assessment of how the proposed development is consistent with the Waterloo Metro Quarter Design and Amenity Guideline is set out in the following table.

Table 12 Waterloo Metro Quarter Design and Amenity Guidelines

Design Criteria	Detailed SSDA design response
3C Public Domain	
1. Provide 2,200m2 of publicly accessible open space within the precinct comprising the Cope Street Plaza and the Raglan Street Plaza. Space beneath cantilevered buildings can be included in the calculation of publicly accessible open space.	This detailed SSDA only seeks consent for public domain works situated within the northern precinct scope of works boundary (part of Raglan Plaza equating to 688 sqm). Overall, the Waterloo Metro Quarter development will deliver a total of 2,680

Design Criteria	Detailed SSDA design response
	sqm of public open space, comprising 1,341sqm in Cope Street Plaza and 1,155sqm in Raglan Plaza.
2. Design of all buildings which overhang Cope Street Plaza are to include treatment to the soffit to provide interest and reduce visual bulk.	Not applicable to this application.
3. Design of the Cope Street Plaza space underneath any building overhang is to incorporate wind mitigation.	Not applicable to this application.
4. 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.	The Overshadowing Analysis prepared by RWDI (**Appendix LL**) indicates that 57.3% of Cope Street Plaza will achieve 2 hours of sunlight from 9.15am to 11.15am.
5. The public domain and landscaping design should meet the requirements of City of Sydney Urban Forest Strategy 2013 (adopted February 2013).	The Landscape Design Report provides a planting schedule for the communal terraces and roof top gardens which is consistent with the City of Sydney Urban Forest Strategy 2013.
6. The Cope Street plaza, Raglan Street plaza and through-site links are to be publicly accessible 24 hours a day.	Cope Street Plaza, Raglan Street Plaza and through-site links (Raglan Walk) will be publicly accessible 24 hours a day.
7. Publicly accessible areas are to be designed to allow access as required by DDA requirements with consideration of use for people of all abilities.	Morris Goding Access Consulting (MGAC) has assessed the proposed development with regards to the DDA requirements and confirmed that accessibility requirements, pertaining to external site linkages, building access, common area access and sanitary facilities can be readily achieved. Refer to **Appendix S** for further detail. MGAC will continue to work with the project team as the scheme progresses to ensure appropriate outcomes are achieved in building design and external domain design.
8. Awnings are provided along all street frontages for wind and weather protection.	With regards to the northern precinct, awnings are provided along the Botany Road and Raglan Street frontages to provide weather / wind protection and to enable intuitive wayfinding. As part of this SSDA, awnings are also proposed above Grit Lane (it is noted that Grit Lane is to be delivered under the CSSI approval).
9. Awnings located above Council footpaths are to be designed in accordance with Section 3.2.4 of Sydney DCP 2012.	The Architectural Design Report outlines awning strategy and the design details of the proposed awnings in accordance with Section 3.2.4 of the SDCP 2012.

Design Criteria	Detailed SSDA design response
10. Public domain lighting in areas under Council's control shall be in accordance with City of Sydney's Sydney Lights Code (March 2015).	City of Sydney "smart pole lighting" is proposed within the Botany Road and Raglan Street frontages in accordance with Council's guidelines. Refer to the Lighting Strategy included in the Landscape and Public Domain Report provided at **Appendix JJ**.
11. Lighting provided to the plazas and publicly accessible spaces within the development should comply with AS4282-1997.	All lighting provided in Raglan Plaza, Raglan Walk and Cope Street Plaza (pole lighting, pole mounted luminaires and building mounted luminaires) will comply with relevant Australian Standards as outlined in the lighting strategy provided within the Landscape Design and Public Report (refer **Appendix JJ**).
3D Streets, lanes and footpaths	
1. Provide a through-site pedestrian link from Cope Street to Botany Road that provides a clear, safe, direct and convenient connection from the metro station to the bus interchange.	Grit Lane is a 6m wide open-air pedestrian laneway connecting Botany Rd (bus stop) with the southern metro station entrance (northern metro station box), Cope St Plaza and Raglan Walk. This will be delivered as part of the CSSI approval. It is also noted that the northern precinct includes the provision of Raglan Walk which provides a through-site connection from Raglan Street to the Cope Street Plaza and Grit Lane.
2. The through-site link should: ▪ Have a minimum width of 6m and have a clear height of at least 6m. ▪ Align with breaks between buildings so that views are extended and there are is less sense of enclosure. ▪ Be clearly distinguished from vehicle access ways. ▪ Include materials and finishes such as paving materials, tree planting and furniture generally consistent with adjoining streets and public spaces and be graffiti and vandalism resistant. ▪ Be clear of obstructions or structures, such as service vents etc. ▪ Be fully accessible 24 hours a day. ▪ Be at ground level and lined with active uses. ▪ Be open at each end.	The through-site link has been designed as follows: ▪ Grit Lane is 6 metres wide and open to the air. It is noted that an awning is proposed above (partially) to provide wind and weather protection for pedestrians. ▪ Grit Lane is provided between buildings 1 and 2 to maintain view corridors from Botany Road and reduce the sense enclosure. ▪ Grit Lane features activated shopfronts on either side which open and incorporates paving as part of landscaping strategy which is typical for a pedestrian laneway. ▪ The landscaping strategy for Grit Lane is consistent with other laneways and public domain areas throughout the Waterloo Metro Quarter site. ▪ Grit Lane is unobstructed and publicly accessible 24 hours a day.

Design Criteria	Detailed SSDA design response
	▪ Grit Lane is open at both ends and lined with retail shopfronts.
3. Provide wide footpaths and a 5m minimum building setback on the southern side of Raglan Street between the metro station and the Botany Road intersection.	A minimum 7.75 metre wide footpath is maintained along Raglan Street from the building line.
4. Provide adequate footpath widths and building setbacks between 2.5m and 6.5m along Botany Road in the vicinity of the bus interchange to provide capacity for pedestrians (refer to Figures 17 and 18).	The proposed development has been setback in excess of 3-metres along the north and south building interfaces with Botany Road.
5. Construct footpaths in accordance with the Sydney Streets Design Code. Design footpaths so that pedestrians, regardless of mobility impairments, are able to move comfortably and safely.	While the landscaping and public domain design for the northern precinct will predominantly be delivered under the CSSI approval, the Landscape Design Report prepared by Aspect Studios (**Appendix JJ**) is consistent with this design code. It is noted that the footpaths have been designed to be DDA compliant as identified in **Appendix S**.
6. Provide a new laneway along the southern edge of the Cope Street Plaza that: ▪ Prioritises pedestrian movement but also provides access to bicycle parking and resident car parking. ▪ Uses brick paving or other materials that integrate with the public domain and differentiate it from public roads.	Not applicable to this application.
7. The new laneway prioritises walking and cycling and is designed to accommodate a low volume of car vehicles and low traffic speed - 10kph.	Not applicable to this application.
8. Development adjacent to the lane is to: (…)	Not applicable to this application.
9. The buildings are setback from the property boundary in accordance with Figures 12 to 18.	The proposed development achieves setbacks in excess of those required. Notably, a minimum 2.8 metre setback is proposed to the northern interface with Botany Road and a 7.75metre setback is propose to Raglan Street.
10. Respond to and complement the City of Sydney's public domain requirements for works on Council land.	Public domain works outside of the private property boundaries are to be delivered as part of the CSSI approval.
11. Consultation is to be undertaken with the City of Sydney for any works in, under or over the public footpaths.	Consultation with the City of Sydney regarding public domain works have commenced and are ongoing.

Design Criteria	Detailed SSDA design response
12. Street furniture is to be consistent with the Sydney Streets Design Code.	Street furniture proposed is consistent with the Sydney Streets Design Code as outlined in the Landscape Design Report (**Appendix JJ**).
13. Integrate new and relocated utilities underground within the street reservation, with services located underground and in a manner that facilitates tree planting.	As outlined in the Services and Utilities Report attached at **Appendix T**, all new and augmented service and utility provisions for potable water, wastewater, natural gas, stormwater, electrical and communications are proposed to be integrated underground with minimal impacts on the landscaping strategy. In particular, the proposed services and utility connections will not impact upon the provision of deep soil and street tree planting along the Botany Road and Raglan Street frontages.
14. Where feasible, incorporate water sensitive urban design techniques such as landscaped swales to improve the quality of groundwater and water entering the waterways and tree bays	A key initiative of the ESD Strategy submitted at **Appendix M** is to use water efficiently, protecting local water resources and reducing flooding, drought and water pollution. Water Sensitive Urban Design (WSUD) to reduce stormwater run-off and water pollution will be implemented in accordance with the City of Sydney Development Control Plans.
15. In designing that portion of the cycleway adjacent to the site, consider its relationship with the design (if available) of the regional cycleway on Wellington Street from Botany Road to George Street, including how it would integrate with these other elements.	Not applicable to this application.
3E Tree canopy cover	
3E Tree canopy cover design criteria 1. New street tree planting must be consistent with the City of Sydney's Street Tree Master Plan 2011 (updated 2015), Park Tree Management Plans and the Landscape Code	Street tree planting is to be delivered under the CSSI approval and is outside the scope of this detailed SSDA. Notwithstanding, all street tree planting will be provided in accordance with Council's guidelines.
2. The development must achieve the following minimum tree canopy cover targets: ▪ 23% overall canopy cover ▪ 50% street canopy cover	The broader Waterloo Metro Quarter development as a whole will deliver 25.7% overall canopy cover across the site and 54.8% street canopy cover in accordance with the guidelines.
3. A secondary alignment of trees are to be provided set further back from Botany Road in front of the central podium near the bus stop.	Not applicable to this application.
4. New habitat features including trees, shrub and ground cover vegetation, waterbodies,	New habitat features including trees, shrub and ground cover vegetation, and green roofs and walls

Design Criteria	Detailed SSDA design response
rockeries and green roofs and walls are to be included, wherever possible.	have been incorporated into the proposed development.
5. Landscaping is to comprise a mix of locally indigenous tree, shrub and groundcover species as outlined in City's Landscape Code. Where this is not possible, it is preferred that plants native to Australia are used.	The Landscape Design Report prepared by Aspect Studio at **Appendix JJ** outlines the planting schedule which adopts a mix of trees, shrubs and grasses that has considered the landscape code and the provision of native Australian planting.
6. Shrubs are densely planted and trees are to be well spaced, as outlined in the City's Landscape Code.	The planting strategy adopts dense shrubbery and appropriately spaced tree vegetation informed by the landscape code.
7. Awnings and canopies are to be located and designed to maximise tree canopy.	The awning strategy adopted as part of the northern precinct has been designed with consideration of street tree planting on the respective frontages to Botany Road and Raglan Street so as to maximise tree canopy where possible.
8. Tree planting details are to specify horizontal clearance to awnings and buildings and tree spacing.	The sections and landscaping plans provided within the Landscape Design Report prepared by Aspect Studios detail the planting strategy with consideration of vertical and horizontal clearances to awnings and built form elements (refer **Appendix JJ**).
9. Centreline of new trees along Botany Road should be a minimum of 1m back from the front of the kerb and up to 1.5m from the front of the kerb subject to services investigations.	Following coordination with the services and utility provisions, new street trees proposed along the Botany Road frontage will be setback from the kerb accordingly.
3F Tree planting specifications	
3F Tree planting specifications design criteria 1. Any existing trees proposed to be retained are to be assessed and then protected as per the requirements outlined in the Australian Standard 4970 – Protection of Trees on Development Sites.	No existing street trees along the respective site frontages are to be retained.
2. Overhead power lines and communication cables are to be under-grounded within all streets adjacent to the Waterloo Metro Quarter.	The high voltage electrical supply will be via an underground route and will connect to the existing substation
3. If existing trees occur within the planned under grounding routes then the routes shall be modified to avoid incursions into the tree(s) calculated Tree Protection Zones, as defined under Australian Standard 4970 – Protection of Trees on Development Sites. Where this cannot be reasonably accommodated, alternative methods of construction must be	All existing street trees along Botany Road and Raglan Street adjacent the northern precinct development are to be removed under the CSSI approval (outside the scope of this detailed SSDA). New street tree planting will be coordinated with new electrical cabling.

Design Criteria	Detailed SSDA design response
used such as under-boring, directional drilling or non-destructive trenching to install the cabling without impact to the trees' health or stability.	
4. All new trees shall be installed in accordance with new tree planting requirements contained in Appendix A.	All new street tree planting adjacent the northern precinct will be delivered as part of the CSSI approval outside the scope of this proposal.
5. Where trees are planted within a potentially constrained soil environment (on-structure), appropriate soil volumes are to be provided.	The Landscape Design Report prepared by Aspect Studios (**Appendix JJ**) details appropriate deep soil areas with planting or permeable paving to enable mature canopy trees to grow.
6. Consult with the City of Sydney in relation to tree planting in the public domain, comprising the public footpaths around the Metro Quarter	Consultation with the City of Sydney with regards to street tree planting has commenced and is ongoing.
7. The following design criteria apply for tree planting around the Metro Quarter: ▪ All new street tree planting shall be a minimum of 200L container sizes with this increased to 400L for the key feature trees being preferred. Sizes of >800L should be considered where suitable and quality advanced stock is available. ▪ All trees shall be grown to the minimum standards of AS2303 – 2015 Tree Stock For Landscape Use with certification provided by the supplying nurseries. Trees shall be true to type and the species and cultivars specified. ▪ Tree planting ideally should be undertaken in either autumn or winter. ▪ Surrounding pavements and tree grates shall allow for proper expansion of the trees base over time. ▪ Trees shall be planted a minimum of 675mm from the back of adjoining kerbs. Distances greater than are 1000mm preferred. ▪ Trees shall be transported, lifted and planted in a manner that limits any possibility of physical damage. ▪ Trees shall be regularly maintained for a minimum of 12 months from the date of planting. This is to include pest and disease monitoring and control, watering and timely replacement if required.	While the street tree planting in public domain areas will be delivered as part of the CSSI approval, the Landscape Design Report and plans prepared by Aspect Studios (**Appendix JJ** and **Appendix II**) have been coordinated with these requirements.

Design Criteria	Detailed SSDA design response
3G Wind	
1. Mitigate wind impacts on the public domain and achieve the following targets: ▪ At least 50% of the publicly accessible open space meets the wind comfort standard for sitting. Outdoor dining and casual seating areas should correspond with these areas. ▪ Waiting areas at bus stops and pedestrian crossings is to meet the wind comfort standard for standing. ▪ Development must not exceed the wind safety standard of 24m/s (gust - 0.1% exceedance).	The Pedestrian Wind Environment Study prepared by RWDI (**Appendix KK**) identified that the majority of the Waterloo Metro Quarter will satisfy the required wind comfort criteria, noting that wind conditions will improve as landscaping matures. For the northern precinct, the implementation of localised screening to the terraces of level 9 was previously required to ensure the trafficable terrace would satisfy the relevant wind comfort criteria. This terrace is however no longer proposed to be trafficable and therefore these measures are no longer required.
3H Building uses	
1. Provide 70 social housing dwellings and 5% of the residential floor space as affordable housing.	Not applicable to this application. This is provided within Building 2 and Building 4 of the Waterloo Metro Quarter site.
2. The social housing and affordable housing is to be not readily distinguishable from the market housing.	Not applicable to this application. This is provided within Building 2 and Building 4 of the Waterloo Metro Quarter site.
3. Provide a minimum of 2,000m2 of floor space for community facilities in accordance with LEP 2012.	Not applicable to this application. This is provided within Building 2 of the Waterloo Metro Quarter site.
4. The community facilities can be located within the podium and should have an identity, connection and presence to Cope Street Plaza.	Not applicable to this application. This is provided within Building 2 of the Waterloo Metro Quarter site.
5. The entrance to the community facilities should be easily identifiable and accessible from the plaza.	Not applicable to this application. This is provided within Building 2 of the Waterloo Metro Quarter site.
6. A Noise Management Plan is required to ensure compatibility of late night premises uses and residential uses.	Late night premises are not proposed within this application.
3I Street activation	
1. Provide fine grain activation at ground level along all street frontages including Botany Road.	The proposed tenancy designated for future community uses will support the activation of Botany Road and the broader precinct by facilitating community interaction adjacent to the key corridor between the bus stop and metro entrance. Open shopfronts are also proposed to provide activation to the various frontages.

Design Criteria	Detailed SSDA design response
2. Provide fine grain retail surrounding the Cope Street Plaza and along through site links.	Retail tenancies are proposed on the south eastern corner of Building 1 to provide further activation to the Cope Street Plaza.
3. Provide frequent building entries that face and open towards the street.	The commercial lobby entrance has been designed to face Raglan Street with high connectivity to the adjacent public domain area and metro entrance.
4. Building and ground floor entries are to be located and spaced to maximise street level activation.	As discussed, the commercial building entrances is provided on Raglan Street. This enables the provision of retail tenancies to facilitate street level activation along Raglan Walk and Grit Lane.
5. Provide wider footpaths along Botany Road adjacent to the bus stops that accommodate pedestrians and encourage retail activation.	While outside the scope of the northern precinct, the basement and central precinct developments have been further setback to enable wider footpaths adjacent the bust stop, thus improving pedestrian connectivity.
3J Podium and street wall	
1. Articulate the podiums as a separate element from the towers above and use accessways or building cut-outs to break up the overall length of the podium.	The podium is clearly separated from the building forms above through horizontal recession which articulate the built form, providing a more human scale at the ground plane.
2. Materials and finishes are to be used in the podium that respond to the local character and the surrounding built environment with articulation that expresses a fine vertical grain.	The podium facade is overlaid with the architectural interpretation of the rich and eclectic material palette typically found in Waterloo. The material choice and contemporary architectural expression reference the context of surrounding built form elements.
3. The height, proportion, scale and architectural articulation of the Botany Road podium must consider the proportion, scale and architecture of the Church.	The southern portion of the podium façade design incorporates a built form with a scale and proportion which interacts with surrounding built form typologies. It is noted that the northern precinct is suitable distanced from the Church by the central precinct both physically and visually.
4. The following setbacks apply to the podium to increase the church's visual presence within the streetscape: ▪ A minimum of 10 metres from the Botany Road street alignment on either side of the church. ▪ A minimum of 6.5 metres from the northern face of the church at ground level. ▪ A minimum of 4 metres from the southern face of the church at ground level.	Not applicable to this application.

Design Criteria	Detailed SSDA design response
▪ A minimum of 10 metres from northern face of the church at the tower level. ▪ A minimum of 14 metres from the southern face of the church at the tower level. ▪ A minimum of 3 metres at the tower level from the street wall on Wellington Street.	
5. Encourage active uses at the southern setback of the church and opportunities for Church users to meet.	Not applicable to this application.
6. Promote safe access and passive surveillance in and around the setback areas between the Metro Quarter and the Church consistent with crime prevention through environmental design (CPTED) principles.	Not applicable to this application.
3K Built form above the podium	
1. The three tower buildings must not be identical in appearance and architectural diversity is encouraged through the design excellence process.	The three towers located on the site (including Building 1) have been designed by three different Architect's and each have been designed to have a unique character.
2. The residential towers must have a maximum floorplate size of 900m2 (gross building area).	Not applicable to this application.
3. The built form of the towers, including any articulation, must be in accordance with any building envelopes approved by SSD-9393.	The detailed design of the northern precinct is in accordance with the approved building envelope under SSD 9393, as proposed to be concurrently modified.
4. Design of residential mid-rise buildings and towers will need to be in accordance with the NSW Apartment Design Guide.	Not applicable to this application.
5. Wind mitigation is to be achieved through building form with reliance on devices such as impermeable canopies, awnings, pergolas and trees as secondary measures.	The built form of the northern precinct achieves the required wind conditions at ground level. As outlined in the Pedestrian Wind Environment Study (**Appendix KK**).
6. Identify opportunities to improve solar access to Alexandria Park through redistribution of floorspace and building bulk and scale between the hours of 9am and 10am in midwinter (21 June) when compared to the shadow cast by the indicative scheme lodged with the Response to Submissions.	As outlined in the concurrent amending SSDA to the concept approval, the overall height of the northern precinct has been reduced by 26.5 metres by redistributing building massing to accommodate contemporary office floor plates. This has resulted in significant reduction in overshadowing to Alexandria Park compared to the approved building envelope. Refer to **Section 8.1.3** and **Appendix LL** for further detailed discussion.

Design Criteria	Detailed SSDA design response
3L Residential amenity	Not applicable to this application.
3M Solar access and amenity	
1. Development does not result in any additional overshadowing of Alexandria Park after 10am on 21 June.	The proposed development and adjoining buildings within the Waterloo Metro Quarter do not result in any additional overshadowing of Alexandria Park after 10am on 21 June. Refer to Overshadowing Analysis at **Appendix LL**.
2. No more than 30% of Alexandria Park excluding the oval (as shown in Figure 21) is overshadowed by the development as measured at any time after 9am 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.
3. Proposed apartments in a development and neighbouring developments 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.	70% of apartments within Building 4 achieve 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. 58% of apartments within Building 2 receive more than two hours of direct sunlight to living room and balconies between 9am and 3pm. Due to the orientation of the site, another 18% of the northwest balconies and southwest living area and balconies receives 2 hours of direct sunlight from 1:15pm to 3:15pm mid-winter. Overall, 76% of apartments receives more than two hours of direct sunlight to living room and balcony between 9am and 3.15pm mid-winter. Due to the orientation of the site, the proposal is unable to comply with solar access within the prescribed hours of the ADG requirement. However, apartments have been designed to receive 2 hours of direct sunlight 15min outside the ADG requirement (afternoon sun), which demonstrates a good amenity and design outcome despite the technical non-compliance. Therefore it is deemed acceptable.
4. 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.	An Overshadowing Analysis has been prepared and submitted at **Appendix MM**. An assessment of the grade level conditions in the surrounding neighbourhood and Waterloo Heritage Precinct indicated that the proposed development would have a minimal impact on solar access to the residences in the Heritage Precinct and other neighbouring buildings.
3N Pedestrian and cycle network	

Design Criteria	Detailed SSDA design response
1. Provide generous footpath widths that can accommodate the forecast pedestrian flows from the metro station.	While the public domain works will predominantly be delivered as part of the CSSI approval and outside the scope of this SSDA, it is noted that the surrounding footpaths on Botany Road and Raglan Street enable improved pedestrian connectivity and movement.
2. Provide marked pedestrian crossings at the Raglan Street and Cope Street intersection and at the Wellington Street and Cope Street intersection in accordance with the Interchange Access Plan.	Not applicable to this application as these crossings will be delivered as part of the CSSI approval. The Raglan/Cope Street crossing will be a signalised intersection, whereas the Wellington/Cope Street crossing will be a raised pedestrian crossing.
3. Provide on-site bicycle parking for residents at a minimum rate of 1 space per dwelling and 1 visitor space per 10 dwellings.	The northern precinct does not include any residential uses. It is noted that bicycle parking for the central precinct (residential building 2) is provided in the public domain for visitors and within the basement for occupants in accordance with these requirements.
4. Provide bike parking spaces within the precinct for Metro customers in accordance the CSSI Approval.	Not applicable to this application.
3O Carparking and access	
1. The maximum number of residential carparking spaces is in accordance with the Category A rate for residential flat buildings under the City of Sydney LEP 2012 as follows: ▪ 0.1 spaces for each studio dwelling ▪ 0.3 spaces for each 1 bedroom dwelling ▪ 0.7 spaces for each 2 bedroom dwelling ▪ 1 space for each 3 or more bedroom dwelling	Not applicable to this application.
2. Design basement car parking including depth and setback form property boundaries to ensure adequate soil volume and depth for street tree planting.	Not applicable to this application.
3. Vehicular access to the site should be located and designed to minimise potential conflicts with metro customers and pedestrians and disruption to the active frontages.	It is noted that vehicular access to the basement is provided off Cope Street via the shared zone (as part of the southern precinct SSDA). Consolidating basement services in the one basement with a single accessway minimises potential vehicle and pedestrian conflicts and minimises street frontage disruption to maximise active ground floor uses. The shared way off Cope Street has been

Design Criteria	Detailed SSDA design response
	specifically situated away from the northern and southern metro entrances.
4. Car share parking spaces are to be provided in addition to the maximum number of car parking spaces permitted in the development and be in accordance with the following rates: ▪ 1 per 50 car spaces provided for residential development (i.e. Category A rate). ▪ 1 per 30 car spaces provided for office premises, business premises or retail premises (i.e. Category D rate).	Two car share spaces are proposed in the basement for the commercial tenants which complies with the maximum rates.
3P Service vehicles and waste collection	
Service vehicles and waste collection design guideline. 1. Service vehicles and garbage trucks must access and egress the site in a forward direction. Mechanical turntables can be provided in the loading areas.	The Traffic Impact Assessment attached at **Appendix I** outlines in detail the consistency of the proposal with the 3P design criteria. It is noted that the primary loading area for the site is provided within the ground floor of the northern precinct. This area facilitates a mechanical turntable to ensure access and egress is in a forward direction. This also accommodates parking for 2 x SRV and 2 x MRV service vehicles.
2. Separate parking spaces are to be provided for service vehicles and are not to be shared with parking provided for any other purpose.	The loading dock is to be used solely for the purposes of waste collection and servicing. It is noted that five dedicated service vehicle bays are provided separately within the basement to facilitate general servicing. These accommodate B99 standard vehicles such as vans and utes.
3. Waste collection and loading are to be in accordance with the City of Sydney's Guidelines for Waste Management in New Developments.	The loading and servicing area (including waste collection) as outlined in the Traffic Impact Assessment (**Appendix I**) has been designed in accordance with these guidelines.
4. Waste collection and loading areas are to be accommodated wholly within the development in the following order of preference: ▪ In the building's basement. ▪ At grade within the building in a dedicated collection or loading bay. ▪ At grade and off street within a safe vehicular circulation system where in all cases vehicles will enter and exit the premises in a forward direction.	The dedicated loading and waste collection area is accessed off Botany Road and is provided at-grade and off street within the ground floor of building 1. The loading dock will be management in accordance with the Freight and Servicing Management Plan provided within the Traffic Impact Assessment (**Appendix I**).

Design Criteria	Detailed SSDA design response
5. The waste collection and loading points are to be designed to: ▪ Allow waste collection and loading operations to occur on a level surface away from vehicle ramps. ▪ Provide sufficient side and vertical clearance to allow the lifting arc for automated bin lifters to remain clear of any walls or ceilings and all ducts, pipes and other services.	The loading and waste collection area is provided at-grade on level surface within the ground floor of building 1. This is separated and suitably distance from the basement area and access. It is noted that the loading area has been designed and assessed to ensure compliance with the relevant policies.
3Q Integration with the metro station	
1. OSD structural elements, building grids, column loadings, building infrastructure and services to coordinate/interface with the metro station.	The OSD is integrated with the CSSI approval including structures, mechanical and electronic systems and services and vertical transfers. A portion of the commercial building sits directly on top of Waterloo Station providing a continuous built form on the vertical plane, with coordinated façade grids between the metro station and the building. Despite the physical separation up to level 4, integration of services and activities are not impacted as Raglan Walk is a fully activated retail spine which directly links to the mentor station entries and retail offerings. Raglan Walk also provides a direct connection between the ground floor shared loading dock and the metro station back of house area for operational purposes.
2. Coordinate OSD future lift cores, access, parking and building services with the metro station.	The design of the OSD lift cores and access (from ground level loading dock and Raglan Walk) have been coordinated with the metro station box so as not to compromise the operation of either component. In addition, the loading dock facilities accessed off Botany Road are shared with Sydney Metro and the OSD. The shared parking and building services are accommodated within the basement SSDA, including the provision of two parking spaces for Sydney Metro uses.
3. The station and over station development must have functional autonomy and be designed to ensure that: ▪ All building services required for the OSD's use, operation and maintenance are located entirely within the OSD and must not pass through the station unless specifically required by relevant authorities.	The building structure lands on a suitably engineered transfer level. All OSD services dropping from the building down to the transfer level cut across to the western part of the commercial building via an interstitial space at level 4, enabling two fully independent buildings.

Design Criteria	Detailed SSDA design response
▪ All pathways required for emergency egress and access for the station are located within the station and independent of the development. ▪ All pathways required for maintenance access of the station are located within the station are independent of the development with the exception of shared loading docks. ▪ The utility services for the station must not pass through the OSD.	
4. Provide adequate clearance zones to ensure that the location of air intakes and exhaust outlets, including cooling tower discharges, eliminates the potential for cross contamination of air flows for exhaust and smoke discharge (in event of fire).	The proposed development provides adequate clearance to exhaust outlet which fronts Botany Road within the loading dock facilities. It is also noted that the majority of services are located within two levels of plant at the top of the building (levels 16 and 17). This is substantially distance from the metro station box.
3R Sustainability	
1. Comply with the performance targets specified in development consent SSD-9393	An ESD Strategy and Sustainability Framework is included at **Appendix M**. The proposal complies with the performance targets specified in development consent SSD-9393. Refer to Section 8.4 for further discussion.
2. Water sensitive urban design measures are incorporated to improve stormwater quality flowing into waterways.	WSUD to reduce stormwater run-off and water pollution will be implemented in accordance with the City of Sydney Development Control Plans – refer to **Appendix O**. WSUD measures include Stormfilters to treat the runoff, a rainwater tank and EnviroPod filters.
3S Stormwater and flooding	
1. Provide a total on-site detention volume of approximately 480m³. On-site detention should be situated above the 100 year ARI flood level to facilitate discharge into potentially fully charged stormwater pipes.	As discussed in Section 8.10, the Sydney Water requirements for the Waterloo Metro Quarter and Northern Precinct are referenced in the Water Quality, Flooding and Stormwater Report prepared by Aecom dated October 2018. The report recommended the development provide a combined OSD tank volume of 480m³ however did not clarify why the OSD tank volume increased from the Sydney Water requirement of 208 m³ to 480m³. 208m³ of On-Site Detention have been provided in the stormwater management plan. For further discussion, refer to **Appendix O**.
2. The development should implement measures to achieve the following water quality targets:	These requirements have been adopted as they provide the highest level of water quality treatment

Design Criteria	Detailed SSDA design response
▪ Reduction of baseline annual pollutant load for litter and vegetation larger than 5mm by 90%. ▪ Reduction of baseline annual pollutant load for total suspended solids by 85%. ▪ Reduction of baseline annual pollutant load for total phosphorous by 65%. ▪ Reduction of baseline annual pollutant load nitrogen by 45%.	and are consistent with the City of Sydney requirements.
3. The building floor levels are to be generally consistent with the flood planning levels below: ▪ Residential habitable rooms: 100 year ARI flood level + 0.5m of the PMF (whichever is the higher). ▪ Residential non-habitable rooms: 100 year ARI flood level. ▪ Retail floor levels: 100 year ARI flood level with stepped up zone inside property for shelter in place evacuation for emergency response. ▪ Below ground car parking: 100 year ARI flood level + 0.5m of the PMF (whichever is the higher). ▪ Areas contiguous with the metro station (including station entrances) are to be compliant with the CSSI approval.	The Stormwater and Flooding Report provided at **Appendix O**, demonstrates that the flood planning levels at ground floor are set above the PMF water level except for Area 5. Occupants of Area 1 can remain safe within the building during the unlikely situation of an extreme flood event as floor level is designed to be at PMF flood levels. In case of emergency Area 2 that is designed above PMF and 1 in 100 year ARI + 500mm flood level can be accessed from Area 1 and used as shelter. Occupants of Area 1 and Area 2 can also access upper floors (i.e. commercial floor) through the escalator located in the commercial lobby within Area 1.
3T Waste management	
3T Waste management design criteria. 1. Comply with the City of Sydney's Guidelines for Waste Management in New Developments.	The Waste Management Plan attached at **Appendix L** outlines in detail the consistency of the proposal with the 3T design criteria. In summary, proposed waste management measures for the commercial and residential uses (including station uses) have been designed to comply with the City of Sydney's Guidelines for Waste Management in New Developments.
2. Provide space inside each dwelling for separate storage of at least two days' volume of general waste, recyclables and compostable material.	Not applicable to this application.
3. Provide a centralised waste and storage area(s) near the collection point with capacity to store all waste and recycling likely to be generated in	A centralised waste storage and collection area for buildings 1 and 2 is provided within the ground floor loading dock of the northern precinct, accessed off Botany Road. This area provides adequate space

Design Criteria	Detailed SSDA design response
the building(s) in the period between normal collection time.	provisions to store the waste and recycling required to service buildings 1 and 2. Please refer to the Operational Waste Management Plan for further details (**Appendix L**).
4. Provide a separate space (attached to the waste and storage area) for the storage and recycling of bulky waste, textile waste and problem waste for collection.	The ground level loading and waste collection area provides adequate space for commercial and residential waste storage and a bulky storage area to service buildings 1 and 2.
5. If a chute system is used, a dual chute system (i.e. one chute for waste and one for recycling) is to be provided for buildings with more than nine storeys.	Not applicable to this application.
6. A chute room is required on each habitable floor that has a chute system. The chute room is to be designed in accordance with the City of Sydney's Guidelines for Waste Management in New Developments.	Not applicable to this application.
3U Culture	
1. Develop measures in response to Transport for NSW's Reconciliation Action Plan 2019-2021 to improve employment, empowerment and economic development opportunities for Aboriginal and Torres Strait Islander peoples.	A Place Story has been developed for the site, to provide strategic guidance to the project team and inform strategies for public art, wayfinding, retail, place naming and activation. The Place Story is summarised by a concise value proposition that is both memorable, and easily communicated.
1. Participation of Aboriginal artists, designers and landscapers is encouraged as part of the creative development of place-making and built form to incorporate and reflect Aboriginal cultural values.	The Place Story describes Waterloo Metro Quarter as a place of 'unconventional potential', an opportunity to bring diverse mindsets together, celebrate difference, and explore a new economic tomorrow. Four "place pillars" describe the unique attributes that the Waterloo ISD can 'own' - defined by their evolving stories. These pillars are drawn from an understanding that starts with 'the First Story, first'. The Waterloo-Redfern area is culturally and historically significant for the Aboriginal people of Sydney, New South Wales and the country. These, and the contemporary narratives that follow, provides a foundation for the place story we are writing today Ongoing collaborations will generate a meaningful sense of ownership and belonging, whilst unlocking community potential.
3V Public art	

Design Criteria	Detailed SSDA design response
1. The Sydney Metro Public Art Strategy will be used to deliver public art for the station.	Noted.
2. Deliver public art that is coordinated with the design and considers opportunities to: ▪ Connect and orientate the Metro Quarter to its neighbouring villages, supporting pedestrian movement and experience. ▪ Support an active street life, public access and personal safety. ▪ Integrate public art with the planning and delivery of landscaping and way finding. ▪ Provide art works within the station entrance that are publicly visible and enhance the entry experience. ▪ Deliver public art in locations that correspond with high movement corridors, sight lines, key entry and activation areas. ▪ Allow artists to respond to the site and be embedded into the early stages of the design process.	A detailed Public Art Strategy has been prepared by Aileen Sage Architects and submitted at **Appendix MM**.
3. Any artworks proposed on Council owned land will require consultation and approval from the City of Sydney.	Noted. No public art is proposed on land owned by the City of Sydney.

It is noted that the amending concept DA proposes to amend the Waterloo Metro Quarter Design and Amenity Guidelines to introduce additional objectives and criteria relating to the proposed amendment to the mix of land uses proposed across the precinct. The proposed design of Building 1 is assessed against the proposed new Design and Amenity Guidelines as follows:

Table 13 Additional Design and Amenity Guideline Criteria

Design Criteria	Detailed SSDA design response
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.	Retail tenancies are positioned fronting each street and through-site link frontage across the precinct to ensure activation adjacent to public open space. The proposed development includes an awning strategy designed by Woods Bagot to ensure that a diversity of awning expressions are provided across the precinct.
3D Streets, lanes and footpaths ▪ East-west laneways open to the sky	The proposed development enables Grit Lane to be open to the sky.

Design Criteria	Detailed SSDA design response
▪ Create a 6m wide north-south public link between Raglan Street and Cope Street Plaza	A 6m wide north-south through-site link is proposed within Building 1. The link is activated by retail and articulated architecturally to encourage north-south pedestrian movement through the site.
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	The podium of Building 1 has been articulated to reflect the scale and materiality of buildings within the locality. As outlined within the Architectural Design Report at **Appendix F** the proposal includes a diversity of materiality and a fine grain at the street level. The detailed SSDA for the Southern Precinct includes 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 detailed design of Building 1 includes an articulated building form that includes a different architectural expression for the upper levels of the building to break down the building form. Further articulation is proposed at the podium and mid-rise levels of the building to reflect differing scales of buildings within the locality. The proposed floor plates, as descried in Section 4 allows for subdivision and flexibility for multiple tenant sizes and will suit different tenant needs.

6.13. 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 this, the SDCP 2012 has been considered as a reference point for the detailed design of the proposed development. A summary of key SDCP 2012 provisions relevant to the site are discussed in Table 14.

Table 14 Consistency of the Proposed Development with Key Provisions of the SDCP 2012

Section	Response
2. Locality Statements	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. The development will enable the delivery of a mixed-use building comprising commercial, retail uses and community facilities. The concept building design has redistributed floor space to reduce the overall building height of the northern precinct. The proposal has been designed to ensure building will promote visually appealing building materiality and activation of the street edge along Botany Road. The commercial uses also create an appropriate transition between the adjacent residential uses within the central building to the south.

Section	Response
3.1.1 Streets, lanes and footpaths	The proposed shared way prioritises pedestrians, cycling and transit use.
3.1.5 Public Art	A Public Artwork 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 and is included in support of this DA at **Appendix MM**.
3.2.1.1 Sunlight to publicly accessible spaces	Overshadowing effects of the new building envelope on publicly accessible open space are minimised between the hours of 9am to 3pm on 21 June. Shadow diagrams which have been prepared and included at **Appendix LL**. The results demonstrate that the publicly accessible open space being Cope Street Plaza forming part of the Waterloo Metro Quarter precinct and the Alexandria Park are minimised.
3.2.1.2 Public Views	A View and Visual Impact Analysis has been prepared and provides an assessment of impacts on public views resulting from the proposed OSD, as discussed in Section 8.2.
3.2.2 Addressing the street and public domain	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**.
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 KK** as is discussed further at Section 8.5
3.2.7 Reflectivity	A revised reflectivity report has been prepared and provides an assessment of the impacts of reflectivity from amended envelope of the north precinct, as discussed in Section 8.11 and **Appendix GG**.
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 is addressed in Section 8.13.

Section	Response
3.5 Urban Ecology	Indicative landscape designs have been prepared and included at **Appendix II**.
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	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. Section 8.10 of the EIS provides a detailed assessment of the stormwater and flooding management proposed for the site.
3.8 Subdivision, Strata Subdivision and Consolidation	This section to be completed once subdivision strategy / site-wide stratum plans have been prepared.
3.9.1 Heritage Impact Statements	The site adjoins Waterloo Congregational Church, a locally listed heritage item. A 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 8.3 of the EIS provides a detailed assessment of the heritage impacts of the OSD.
3.11 Transport and Parking	A transport, traffic and parking assessment is discussed in Section 8.7 ad is provided at **Appendix I**.
3.11.2 Car share scheme parking spaces	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. Accordingly, 2 commercial car share spaces are provided as part of the basement SSDA.

Section	Response
3.11.3 Bike parking and associated facilities	As outlined in the Traffic Impact Assessment (**Appendix I**) and illustrated on the Architectural Drawings (**Appendix D**), the basement design accommodates a total of 236 commercial bicycle spaces to service the northern precinct in accordance with the SDCP 2012 bicycle parking rates. Commercial visitor bicycle parking is provided at-grade or within the Sydney Metro EOTF outside the scope of this detailed SSDA. The basement design accommodates 14 retail bicycle spaces (including childcare) to service the uses proposed in buildings 1, 2 and 3. Retail visitor parking is provided at-grade. The basement design accommodates the following provisions for EOTF in accordance with the SDCP 2012: ▪ Commercial EOTF: – Showers – 31 (incl. 1 accessible) – Lockers – 286 (incl. 2 accessible) ▪ Retail EOTF: – Showers – 3 (incl. 1 accessible) – Lockers – 14 The commercial EOTF have been provided in level P1 adjacent the commercial bike storage area and building 1 lift core. The retail EOTF have been provided in level P1 in proximity to the retail bike storage area and building 2 lift core. All EOTF are secured and the basement will include CCTV surveillance as recommended in the CPTED Report (refer **Appendix N**).
3.12 Accessible design	Each of the subsequent details DAs which will result from this amending DA have been assessed against the relevant accessibility requirements of the *Building Code of Australia access requirements; and Disability Discrimination Act 1992*. 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.
3.13.1 Crime Prevention Through Environmental Design	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 Section 8.13.1 of this EIS.
3.14 Waste	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.

Section	Response
3.16 Signs and Advertisements	The proposal includes the provision of retail, business and building identification signage zones to the top of building and podium levels. The signage zones are generally consistent with the SDCP 2012; however, the detailed design and content of the signage zones are subject to future separate DA's which would need to demonstrate further consistency with the SDCP 2012.
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 proposal, while only concept, complies with these requirements as demonstrated in the architectural plans prepared by Woods Bagot and included at **Appendix D**.
4.2.3.1 Solar access	An Overshadowing Analysis has been prepared and submitted at **Appendix MM**. An assessment of the grade level conditions in the surrounding neighbourhood and Waterloo Heritage Precinct indicated that the proposed development would have a minimal impact on solar access to the residences in the Heritage Precinct and other neighbouring buildings
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 Required parking spaces and design	The proposed loading dock and service area has been designed in accordance with AS2890.2, Councils 'Policy for Waste Minimisation in New Developments' and performance tested through swept path analysis. The loading dock accommodates two 8.8 metre Medium Rigid Vehicles (MRV) and two 6.4 metres Small Rigid Vehicles (SRV) spaces. It is noted that the MRV spaces are sized to accommodate the City of Sydney 9.25m waste collection vehicle. The loading dock includes the provision of a 9 metre turntable (30 tonne capacity) with a 600mm clearance zone. The provision of the turntable ensures that all vehicles can access and egress the loading docks in a forward movement. The access way to the loading dock is 6.9 metres wide. The service area is at a level grade, with a minimum 4.3 metre height clearance, in accordance with Councils 'Policy for Waste Minimisation in New

Section	Response
	Developments', is maintained throughout the areas in the loading dock accessed by trucks.

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 subject detailed SSDA.

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 over-station development.

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 Integrated Development Site 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 15.**

Table 15 Summary of 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: ▪ 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: ▪ 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.
One on one stakeholder meeting	Ethics Communities Council – Cope Street.	1 July 2020

Activity	Content	Date
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.

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 SSDA and the proposal's response is included in **Table 16.**

Table 16 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.
Encouraged a strategic approach to planning for pedestrian movement including the need to: ▪ 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.	▪ 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 WMQ 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.
▪ Congestion of surrounding streets particularly Botany Road.	▪ 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 service or at a level of service less than the approved concept DA and therefore, the development should not have a detrimental effect on the network operation.
Feedback about buses noted that more consideration should be given to planning for:	▪ Suggestions for improvements to Botany Rd and bus operations will be passed onto TfNSW.

Matters Raised	Proposals Response / Document Reference
▪ 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.	▪ 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.
▪ More parking should be provided on site. Others felt parking within the new development should be limited.	▪ Carparking is in accordance with City of Sydney 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.
▪ 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.	▪ 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.
▪ When the precinct is operational, implement measures to ensure no commuter, workers or residents park in surrounding streets.	▪ 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.
▪ Requested additional detail regarding how parking for construction workers would be managed.	▪ Refer to Constructional Environmental Management Plan at **Appendix Q.**
Precinct Level Design Considerations	
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.	▪ Building heights are lower than what is permitted in the approved concept DA.
Some of the responses that were more frequently heard included: ▪ 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. ▪ 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.	▪ 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. ▪ 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.

Matters Raised	Proposals Response / Document Reference
	▪ 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 **Appendix MM.**
Concerns about amenity impacts arising from the development included: ▪ 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.	▪ Balconies in the Southern Precinct are an ADG requirement. Potential amenity impacts from the use of these balconies have been addressed by setting the social housing building 9 metres back form the approved building line. ▪ Deep balconies and use of solid concrete balustrades will also reduce noise transmission. ▪ Refer to Wind Impact Assessment at **Appendix KK** and **Section 8.5.** ▪ Refer to Overshadowing Analysis at **Appendix LL** and **Section 8.1.3.**
Social, Student and Affordable Housing	
Mixed views on location and amount of student and social housing.	The delivery of social housing was a requirement of the bid and is permitted under the approved concept plan. Student housing is also a permitted use under the concept plan.
Consideration of ensuring some social and affordable housing be targeted to Aboriginal people who are being forced out of this area by the high cost of dwelling ownership.	To be addressed in Consultation Strategy.
The current proposal concentrates too many people in the southern portion of the site and could create amenity issues for this area. Suggested student and social housing be more equitably distributed.	The population density across the precinct is concentrated to the north, directly above the Waterloo Station entry. The commercial building will accommodate about 4000 workers.
Sufficient student and social housing in this area.	To be addressed in Consultation Strategy.
Community Uses and Facilities	
Suggested a Health One centre, new school facilities, community library or learning centre, small movie theatre or farmer's market.	▪ Facilities are provided to cater for local community needs and interests including a childcare centre and Maker space, subject to a separate SSDA.
Officers of the City of Sydney noted consideration should be given to providing a medical hub or a Health One facility on site.	▪ Preliminary discussions are underway with Sydney Local Health District to explore opportunities for providing health services from the precinct.
Officers of the City of Sydney noted the importance of working with local organisations to explore: ▪ 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.	▪ 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.

Matters Raised	Proposals Response / Document Reference
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.	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.
Retail and Services	
Consideration whether a supermarket is needed or desirable. Other suggestions included: ▪ Smaller local offers with no chains. ▪ Good quality cafes and food. ▪ 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.	The feedback is noted and will inform the retail and procurement strategy that will be implemented closer to the time when the station and precinct is ready to operate. The intention is for retail to support the varied needs of: ▪ Metro customers ▪ Workers and residents within the precinct ▪ The surrounding community. Activation of the frontages along Cope Street and Botany Road is a key feature of the proposal.
The Plaza and Public Domain	
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.	Provision of open space was addressed in the CSSI and concept DA approval. The plaza is consistent with these approvals. The community facility proposed for the plaza has been removed to increase open space and secure unobstructed access to and from the station.
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.	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.
Other suggestions were: ▪ 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.	▪ 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 has been incorporated into planter boxes and within the plaza. It is required to be provided around all street frontages.

Matters Raised	Proposals Response / Document Reference
	▪ CCTV and the utilisation of CPTED principles will assist to address concerns around safety and antisocial behaviour.
Southern Building	
The Southern Precinct attracted the most commentary due to height and a view that the design of these two buildings was not as resolved as other buildings. It was noted by some residents these buildings concentrated a lot of residential in the south of the site and there would be an increase in noise and movement at all hours of the day. Requests were made to: ▪ Orient the entrance of the social housing building to the plaza. ▪ Remove balconies from south facing building façades. ▪ Set back the social housing building further from Wellington Street. ▪ Improve the design and visual interest of these buildings to the level of others within the precinct	▪ The delivery of social housing was a requirement of the bid and is permitted under the approved concept DA. Student housing is also a permitted use under the concept DA. ▪ Both buildings need to be single tenure making and this is best achieved in the two southern buildings. ▪ Balconies in the southern building are an ADG requirement. Potential amenity impacts have been addressed by setting the social housing building 9 metres back form the approved building line. Deep balconies and use of solid concrete balustrades will reduce noise transmission. ▪ Both buildings have been subject to an extensive Design Review Panel process.
Public Art	
The commitment to public art was considered to add a distinctive dimension to the precinct. Suggestions included: ▪ 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.	The Public Art Strategy (**Appendix MM**) 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. A key focus of the strategy is responding to the links Aboriginal people have, and continue to have, with Country as well as the contemporary stories of Waterloo. One theme that will be explored will be the diversity people who have come to Waterloo from other countries and the areas multicultural history. One of the selection criteria for public artists involves their capacity and willingness to engage with the community in development of works. This will create further connections between the community and the precinct and ensure the work is reflective of the character and stories of this very diverse community. Sydney Metro is also commissioning a large-scale public artwork which will be located within the station. A placemaking fund will be established to run events and activations. A

Matters Raised	Proposals Response / Document Reference
	Place Manager will also be employed to coordinate activities on site. As the site is being constructed, the applicant will be working with local organizations to explore: ▪ The nature of this program; ▪ How it would be curated; and, ▪ Opportunities for local creatives.
Precinct Operation and Governance	
▪ 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.	▪ 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 residential balconies will provide passive surveillance throughout the day. ▪ The plaza area is publicly accessible private open space and managed by the commercial lot owner. The plaza is intended to be 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: Commercial lot owner **Footpaths and local streets**: the City of Sydney. ▪ A structure will be developed for these different parties to liaise with each other, share information and where required, coordinate response.
Precinct Activation	

Matters Raised	Proposals Response / Document Reference
▪ 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.	The Plaza has been designed: ▪ 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.
Cultural Heritage	
▪ 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.	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 **Appendix MM.**
Construction Management	
Community members in proximity to the site noted that: ▪ 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.	These comments are noted. For further detail of how impacts will be managed please refer to the CTMP at **Appendix J.** 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.
Aboriginal Perspectives	
Aboriginal stakeholders raised the following concerns: ▪ 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.	These points are noted. The Public Art Strategy and Placemaking Strategy (**Appendix MM**) have a strong emphasis on recognition and celebration of Aboriginal culture, as well as the multicultural and social diversity of the area.

Matters Raised	Proposals Response / Document Reference
Other points included: ▪ 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. It was also noted that Sydney Metro needs to: ▪ 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.	
Waterloo Congregational Church	
Given their proximity within the precinct the Church was a key stakeholder. Discussions with the Church focused upon: ▪ 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.	An initial meeting was held on the 17 June 2020 with the church custodian. 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. 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. 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. The public domain has been designed to integrate the church seamlessly into the Waterloo Metro Quarter precinct. Bollards, vehicle mitigation devices and planting is proposed to control movement of vehicles and pedestrians in the vicinity of the church. The landscape design has been integrated with the existing church levels to ensure access via the side doors is retained. The custodian of the Church and the developer have agreed to meet regularly throughout planning and construction.

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 detailed SSDA, as outlined in **Table 17** below.

Table 17 Summary of Feedback from Government Agencies and other Stakeholders

Agency / Meeting Details	Matters Raised	Response / Reference
Department of Planning, Industry and Environment 3 February 2020 4 June 2020 23 June 2020 29 July 2020	**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: Splitting the WMQ Precinct into separate multiple detailed applications. Appropriate planning pathway to amend the concept envelope (i.e. either a Section 4.55 (2) Modification or an Amending DA). The DPIE confirmed an Amending DA would be required.	Separate detailed SSDA's have been lodged for each precinct. An Amending DA has been prepared and is submitted separately, as per the DPIE's recommendation.
	4 June 2020 – The indicative agenda for this meeting was as follows: Demarcation between the CSSI approval and scope of each detailed SSDA. The Waterloo Metro Quarter Amenity and Design Guidelines and specifically questions and comments regarding: 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.	An assessment of the proposal against the Waterloo Metro Quarter Amenity and Design Guidelines is provided in Section 6.12. An Overshadowing Report has been prepared by RWDI and is included at **Appendix LL**. The assessment concludes the proposed development complies with the design criteria in the Waterloo Metro Quarter Design and Amenity Guidelines. Refer to Section 8.1.3. A Transport, Traffic and Parking Assessment has been prepared by ptc and included at **Appendix I**. Refer to Section 8.7. 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

Agency / Meeting Details	Matters Raised	Response / Reference
		a detrimental effect on the network operation.
	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.	A Contamination Strategy has been prepared by Douglas Partners (submitted at *Appendix HH* of the Basement SSDA). Douglas Partners consider that the proposed Contamination Strategy is suitable to address the requirements of SEPP 55 for the western portion of the site and upon completion of all remediation works, the site will be suitable for the proposed development. The 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.
	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.	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.
City of Sydney Council 4 March 2020 8 April 2020 28 April 2020 28 April 2020 6 May 2020 19 May 2020	**Sustainability** - Matters raised included: Opportunity with the precinct-wide renewal to achieve carbon neutrality. BASIX would apply to student housing. City of Sydney would like to see: Separation of organics and use of City of Sydney Guidelines for Waste Management in New Developments.	The sustainability strategy was developed over several sessions with City of Sydney. Refer to **Appendix F** - Architectural Design Report, **Appendix L** - Waste Management and **Appendix M** – Ecologically Sustainable Development Report.

Agency / Meeting Details	Matters Raised	Response / Reference
26 May 2020 22 July 2020	Initiatives that support the circular economy and local community needs. Five per cent development energy targets for use of renewables. Measures to optimise thermal performance and comfort of the student housing building through use of natural ventilation strategies. Glazing and insulation use. NABERS for apartments rating and the incorporation of energy metering to facilitate these assessments.	
	Community Facilities - Requested consideration be given to health services or a Health One facility on site. Cited study saying limited demand for childcare in the area. They also noted the importance of working with local organisations to explore: Nature of activities provided within the Makerspace to complement what is already occurring within the area. An ongoing program of community, recreational and cultural events. Works that reference the rich and diverse multicultural nature of the area. Ongoing arts events and productions not just large fixed public artworks. Providing services and amenities that respond to changing demographics and community needs, including affordable retail and particularly fresh food. Engaging with LAHC to work on the specific needs of the social residents. Provide opportunities for social and local procurement beyond Aboriginal Participation in Construction. Any social enterprises should also have a strong local connection. Sought clarification on how the Makerspace for artist studios would provide any extended community benefit.	There will be flexibility within the retail strategy 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. 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: The nature of this program. How it would be curated. 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. 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.

Agency / Meeting Details	Matters Raised	Response / Reference
	Traffic and Transport - The 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 - The City 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 **Appendix JJ**– Landscape and Public Domain Report. No actions or follow-up sessions for public domain were requested.
	Urban Design and Built Form – The urban design and built form components presented on 28 April 2020. City of Sydney supported the southern precinct scheme and encouraged additional rationale be demonstrated in the Architectural Design Report, with respect to the objectives of building separation. City of Sydney acknowledged the voluntary setback alignment with the church and desire to maximise sunlight access to Alexandria Park.	Refer to the Architectural Design Report at **Appendix F.**
	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. Refer to Noise and Vibration Assessment at **Appendix K.**
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 WISD place manager has committed to regularly updating and liaising with Sydney Trains. Attendees invited to opt in to receive email correspondence,

Agency / Meeting Details	Matters Raised	Response / Reference
		including notifications and newsletters.
Transport Coordination Office (TCO) - TfNSW 17 June 2020 25 June 2020 5 August 2020	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.	Issues surrounding the loading dock were resolved to the satisfaction of the TCO at the meeting on 25 June 2020. Additional detail can be found in the relevant section of SSD-10438 Basement Car Park. The Botany Road bus stop has been designed to accommodate a number of buses at any one time with ample room for customers to queue without blocking pedestrian access along Botany Road. 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.
NSW Fire 16 April 2020 20 April 2020 13 May 2020	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 WMQ. Fire Rescue NSW provided general positive feedback.	Refer to the Fire Strategy Report at **Appendix EE.**

Agency / Meeting Details	Matters Raised	Response / Reference
Sydney Water 28 May 2020 29 June 2020	Correspondence and meetings with Sydney Water occurred as follows: 8 May 2020 - Sydney Water Statements of Flow and Pressure issued and received for WMQ water mains 22 May 2020 - submission of application for Feasibility Notice of Requirements for WMQ 28 May 2020 - emails and phone calls to confirm acceptance of application for Feasibility Notice of Requirements for WMQ 29 June 2020 - virtual meeting to discuss options and status on the Feasibility Notice of Requirements for WMQ 8 July 2020 - emails to follow up on agreements and actions from virtual meeting 21 July 2020 - emails from Sydney Water providing status on Feasibility Notice of Requirements for WMQ 31 July 2020 - Feasibility Notice of Requirements issued for WMQ	Refer to Services and Utilities Infrastructure Report at **Appendix T.**
Ausgrid 22 May 2020 25 May 2020 22 June 2020 8 July 2020 6 July 2020 6 July 2020 9 July 2020	Correspondence and meetings with Ausgrid occurred as follows: 22 May 2020 - email, confirm and accept application for power for Buildings 3 and 4 mini chambers 25 May 2020 - email, confirm and accept application for power for Building 1 chamber 22 June 2020 - virtual meeting, confirm appointment of Ausgrid contestable project coordinator 8 July 2020 - virtual meeting, discuss AN21263 Building 3 mini substation flood planning and position 6 July 2020 - email and virtual meeting, AN21263 PDS received 6 July 2020 - email and virtual meeting, AN21264 PDS received 9 July 2020 - virtual meeting, Buildings 3 and 4 substation flood planning levels.	Refer to Services and Utilities Infrastructure Report at **Appendix T.**
NSW Police 13 July 2020	Correspondence and meetings with NSW Police (South Sydney Police Area Command) occurred as follows: 13 July 2020 - present the scheme, discuss local crime issues and items of consideration for the Waterloo precinct.	Refer to the CPTED Assessment at **Appendix N** and Security Risk Assessment at **Appendix FF.**

Agency / Meeting Details	Matters Raised	Response / Reference
	4 August 2020 - further consultation to understand the operational context and specific security threats. Items raised have been incorporated into the Security Risk Assessments.	
Jemena 17 June 2020 18 June 2020 1 July 2020	Correspondence and meetings with Jemena occurred as follows: 17 June 2020 - email to confirm contact details in Jemena's Network Development Team 18 June 2020 - email, response to WMQ gas connection assessment and request for estimated design load for assessment from the design team 1 July 2020 - email to confirm WMQ gas connection capacity based on the information provided to Jemena as per its previous request.	Refer to Services and Utilities Infrastructure Report at **Appendix T.**
Land and Housing Corporation (LAHC) 19 June 2020 11 August 2020	Virtual meeting with LAHC development managers and communications manager. There have been regular discussions with LAHC department staff and these will continue about the over-station development. During consultation the following was noted: Significant reduction in basement car parking. Clarification of height of the commercial building. Purpose of the pre-DA consultation and what it would achieve. Interest in the plaza facing the housing estate. Delivery date of the social housing.	Car parking is provided in line with City of Sydney requirements. 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.
Department of Communities and Justice – Family and Community Services 19 June 2020	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: Disability access to the station. Interest in social housing finishes and external elements. Concerns about the impact to McEvoy Street and surrounding areas from development of the site.	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

Agency / Meeting Details	Matters Raised	Response / Reference
	Interest in over-station building design and future community facilities.	the station precinct. This will reduce vehicular traffic on local roads, including McEvoy Street. Community facilities are in the Southern and Central Precinct, including a Makerspace, community hub and childcare centre.
Sydney Local Health District 8 July 2020	Preliminary discussions have been had with the Sydney Local Health District to explore opportunities for providing health services from the precinct.	Preliminary discussions are still underway.

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 detailed 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 detailed SSDA, 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.

The matters raised by the DEEP and DRP that relate to the detailed architecture of the building are outlined below:

Table 18 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.	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.

Agency / Meeting Details	Matters Raised	Response Reference
	More considered response to the local context in the design of the podiums, laneways and facades (e.g. grain, materials and character). Additional technical testing and studies on the resulting wind impact and noise mitigation strategies for all buildings. Any opportunities to improve solar access to public spaces and increase deep soil planting.	The proposed maximum height of the towers has been reduced to improve solar access to Alexandria Park and the Alexandria Park Heritage Conservation Area. 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.
Design Review Panel 18 February 2020 17 March 2020 31 March 2020 9 April 2020 21 May 2020 4 May 2020 19 May 2020 1 June 2020 12 June 2020 30 July 2020	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.	Details of this process and responses to issues raised by the DRP are contained in the Design Integrity Report at **Appendix Y.**

8. ENVIRONMENTAL IMPACT ASSESSMENT

The EIS accompanying this detailed 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.

The consent authority may therefore be satisfied that the proposal demonstrates design excellence in accordance with the design Excellence Strategy as endorsed by the Secretary of the DPIE pursuant to conditions A14 and A15 of the concept SSDA.

8.1.2. Built form

The Northern Precinct marks the prominent corner of the Waterloo Metro Quarter which is highly visible from many parts of the neighbourhood and provides a distinct marker for the entrance to the metro station. Accordingly, Building 1 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, and the future character of the locality. Additionally, the building massing has considered the role that the northern building plays in the context of Waterloo, with its diverse community and neighbouring residential forms.

The built form of Building 1 comprises of 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 buildings is reduced when viewed from the public realm, and to ensure the north precinct integrates with the central and southern precincts.

The overall massing of the building complies with the approved envelope (as proposed to be amended). The different heights and broken massing of the building are a direct response to the finer grain of the surroundings. The building is designed to be read as a cluster of smaller buildings mitigating the sudden shift in scale from low rise surroundings to high rise of the proposed development.

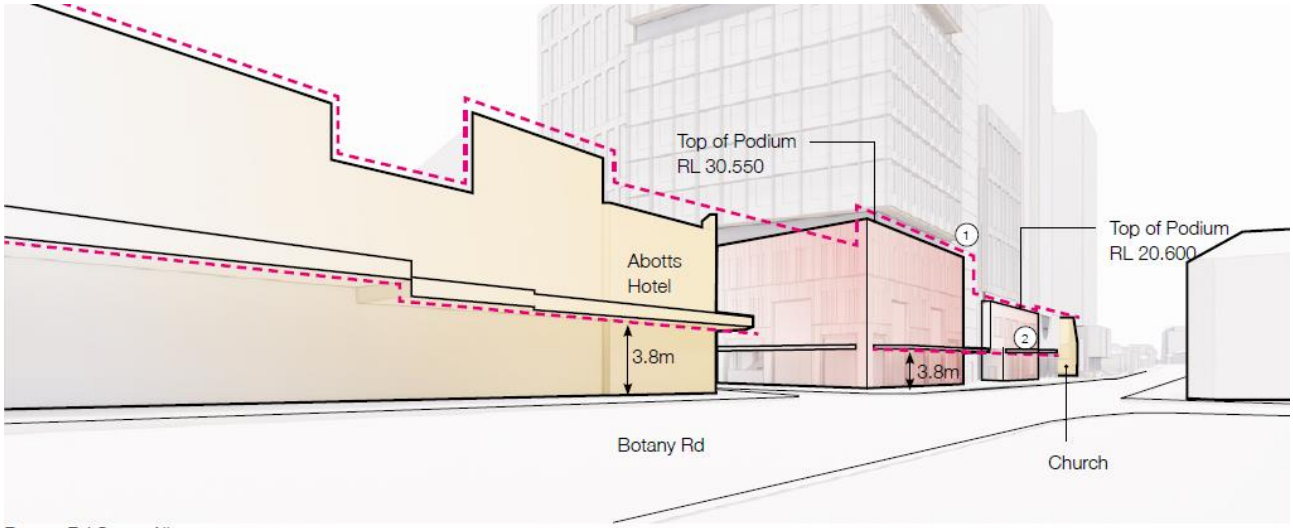
Podium

The overall massing of the podium is generally informed by the existing building stock along Botany Road, which is characterised by two-storey mixed-use buildings between 4-6m in height. The podium facade is however further articulated by making reference to neighbouring residential streets, characterised by rows of terraces and buildings of varying heights, generating a different and finer building grain that is reflected in the rhythm and articulation of the podium openings and shopfronts.

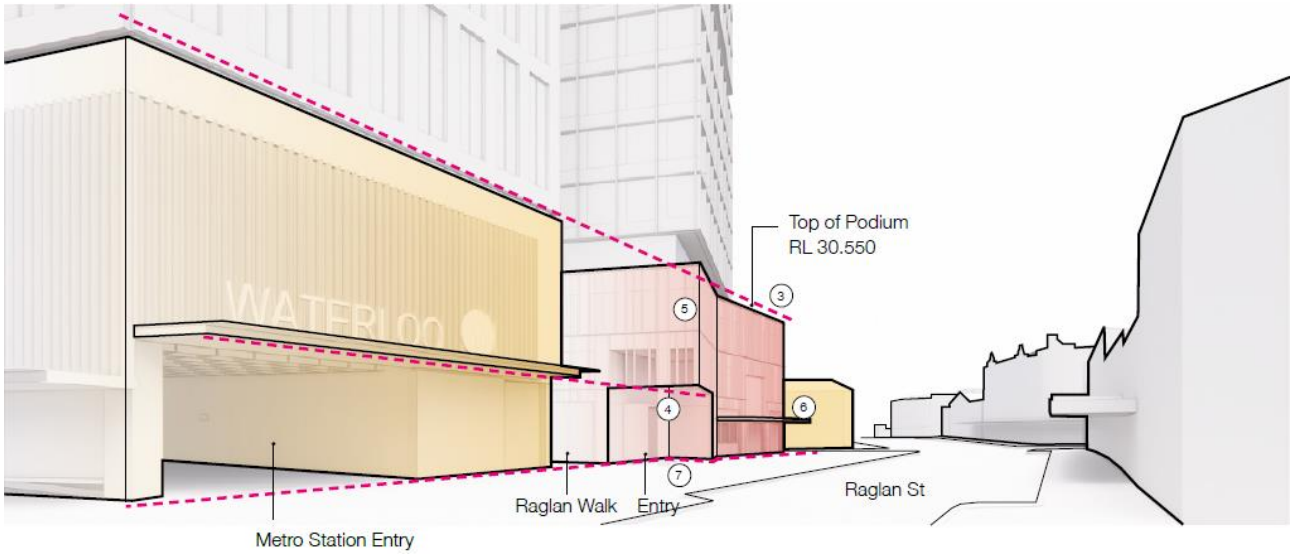
The podium comprises 4 levels (ground to level 3) integrating with the height and volume of the Metro Box to the east. Separation from the building levels above is accentuated by deep horizontal recesses in the facade making the podium very legible.

The Botany Road podium responds to the adjoining context with careful consideration of its scale and the architectural character. The elevation is broken into two volumes, separated by the core. The two podium volumes are treated with distinctive architectural features, and the different datums create visual interest and greater level of amenity at the pedestrian level on footpaths and street. The Raglan Street podium is generally set parallel to the street and aligned with the metro entry, the commercial entry on the north-east corner of the podium is oriented to be on the same plane of the building above. This generates a clear visual marker and an easily identifiable civic address for the Northern Precinct. The skewing of the planes and deep overhang of the facade over the commercial entry emphasise the start of Raglan Walk and journey to the core of the precinct. Both podium alignments are reflected in the figure below.

Figure 40 Botany Road and Ragland Street Alignment



Botany Rd Street Alignment



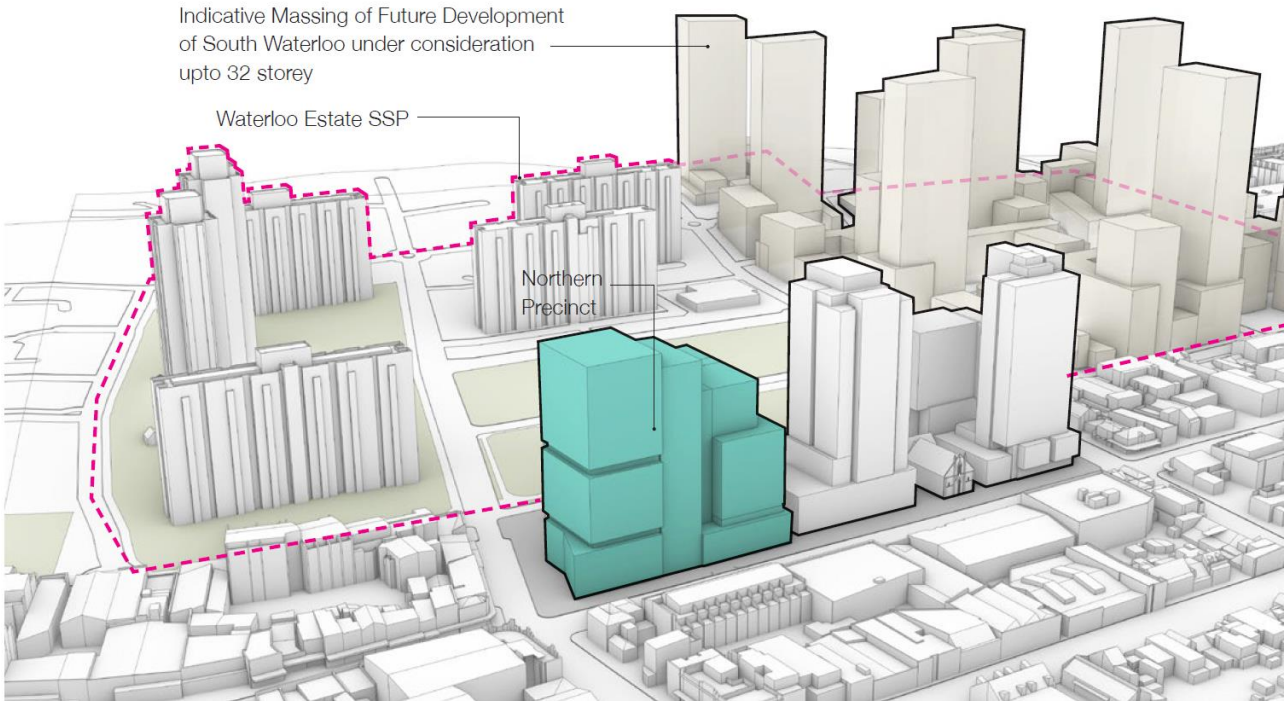
Source: Woods Bagot

Relationship with future site context

The scale of Building 1 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 41 Proposed building massing within the context of the future Waterloo Estate redevelopment



Source: Woods Bagot

8.1.3. Overshadowing

An Overshadowing Report has been prepared by RWDI Anemos Ltd and submitted at **Appendix LL** 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.

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 42).

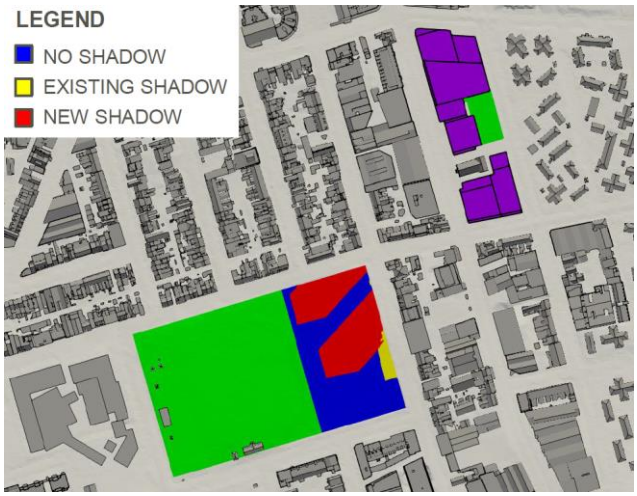
No more than 30% of Alexandria Park excluding the oval is overshadowed by the development as measured at any time after 9am on 21 June.

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 19 Shadow percentage of Alexandria Park (excluding the oval)

Time	Approved envelope (21 June)	Proposed 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 42 Comparison of 21 June 9:00am overshadowing on Alexandria Park (Concept and Proposed)

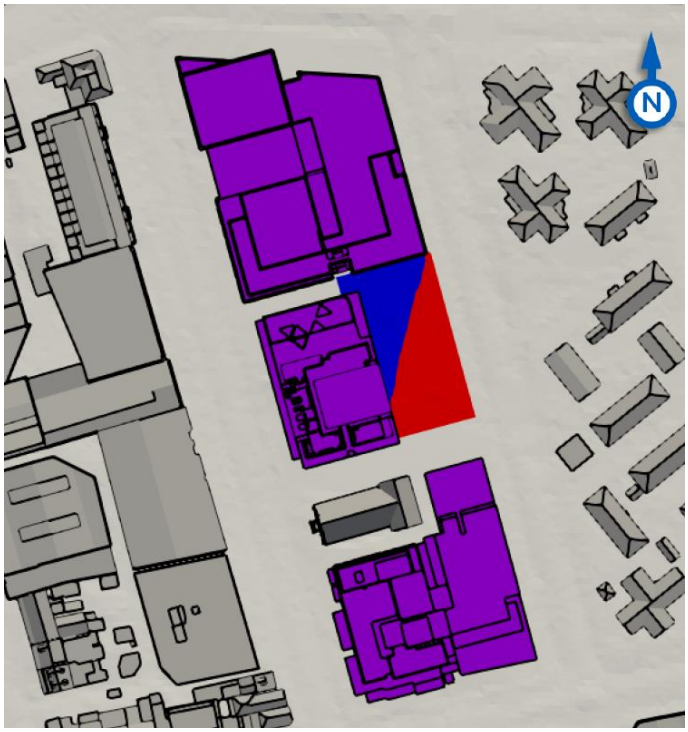


Source: RDWI

Source: RDWI

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 45).

Figure 43 Area of Cope Street Plaza where direct solar access is 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 32).

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 envelope was predicted to create areas within the Heritage Conservation Area that see reductions below 2 hours. The proposed development reduces the total impacted area by approximately 1,330 m², or 12% which is a significant improvement.

Figure 44 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: RWDI

Source: RWDI

Mitigation Measures

No mitigation measures are required.

Conclusion

In conclusion, the overshadowing caused by the proposed development complies with the design criteria in the Waterloo Metro Quarter Design and Amenity Guidelines.

8.2. VIEW AND VISUAL IMPACT

Assessment

A Visual Impact Assessment Report has been prepared by Cardno and is provided at **Appendix HH**. 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 consistent with the previously viewpoints used to assess the concept approval SSD 9393. 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.

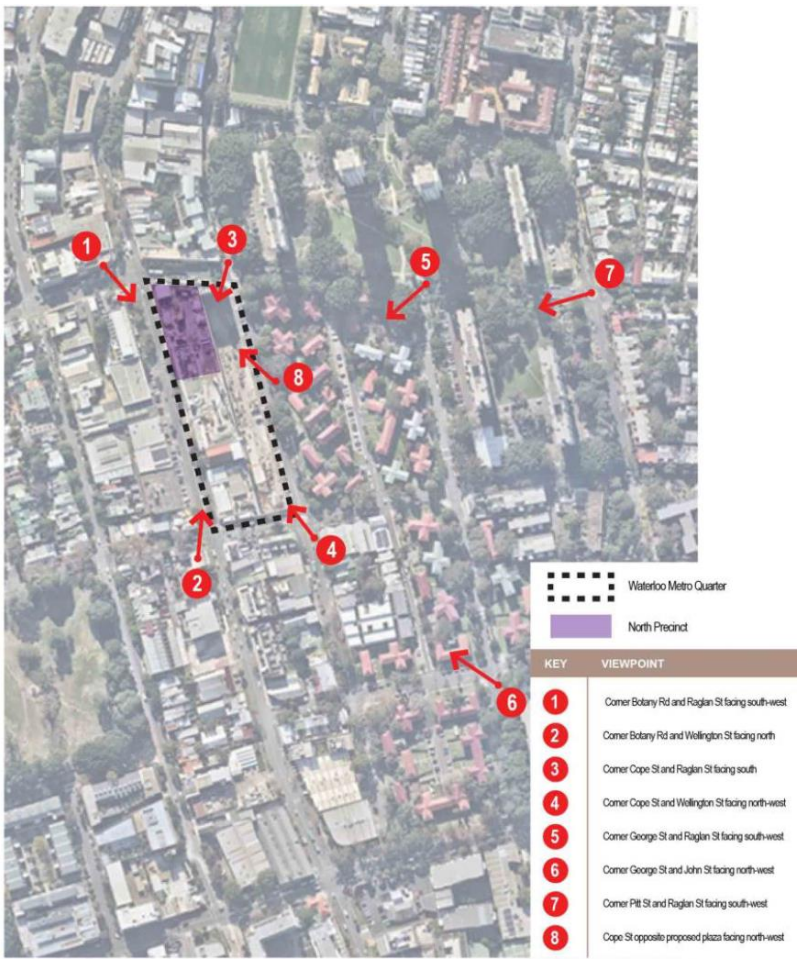
The assessment of impacts on views from the public domain has been informed by relevant planning principles for assessment of such impacts set by the Land and Environment Court of NSW, specifically in *Rose Bay Marina Pty Ltd v Woollahra Council and Anor [2013] NSWLEC 1046.*

Selected regional viewpoints are provided in the below figure.

Figure 45 Regional View Points

Source: Cardno

Figure 46 Local Viewpoints



Source: Cardno

Heritage Conservation Areas

Selected viewpoints from surrounding Heritage Conservation Areas. Conservation Areas within the vicinity of the site include:

- The Redfern Estate
- The Alexandria Park Conservation Area
- The Waterloo Conservation Area

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 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 comprise traditional residential and 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 amount of likely change for close views was assessed via preparation of amended concept montages from viewpoints 1, 2, 3, and 4. These were then compared against the approved concept envelope montages. Anticipated change to the existing visual environment is assessed below with reference to each of these viewpoints.

When compared to the approved concept envelope montage, the montages for the detailed proposal indicate a further improvement in visual quality in direct views from the north at Raglan Street, Cope Street and Botany Road (viewpoints 1, 3 & 8) resulting from a significant reduction in height of the proposed building in the north-west corner of the site and the lowering in height of the podium. As illustrated in the amended concept montages the Northern Building is wholly contained within the approved concept envelope. Improved articulation in façade design and the implementation of good urban design practices including clear delineation between base, middle and top in the building form also contribute to the improvement in visual quality.

Figure 47 Viewpoint 1 – Corner of Raglan Street and Botany Road

Picture 44 Approved Concept Envelope Viewpoint

Source: Cardno

Picture 45 Proposed viewpoint

Source: Cardno

Medium distant views – within the estate

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 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.

Changes to medium distant views within Waterloo Estate

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 Northern 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 Southern Precinct.

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, 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, the proposed development is less visible due to the screening properties of the local topography and existing trees within the southern section of the Waterloo Precinct.

From the west, the Waterloo tall towers are isolated but significant skyline elements appearing above a foreground of large trees. From some closer locations to the west, 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 several viewpoints. Anticipated change to the existing visual environment is assessed below with reference to each of these viewpoints.

Views from the north

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 developed Northern Precinct would be screened by the existing large apartment blocks in Waterloo in views from the western side of Redfern Oval and would not be visible.

At the southern edge of Redfern Oval and the northern eastern edge of the adjoining Redfern Park (Viewpoints B & I) accurately located wire diagram outlines of the Metro electronic model also indicate that the Northern Precinct and the entire developed site would sit below the line of sight and would not be visible.

In other areas within the Redfern Estate, the developed site resulting from implementation of the amended concept would be similarly screened by existing buildings on the Waterloo site and / or within the Estate.

The visual impacts of the Northern Precinct on this Conservation Area would minimal.

Views from the south

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

The Alexandria Park Conservation Area includes land to the west of the Metro Quarter site, one block west of Botany Road. It incorporates Alexandria Park and several blocks of traditional medium density housing, largely as terrace housing. The impacts of the proposal on views from this area have been assessed via selected viewing points 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 developed Metro site would read as three new tower elements on the skyline above a foreground of large established trees. In this context, the Northern Precinct appears as a consolidated building group substantially screened by existing large trees on the park boundary.

From the north eastern point of the Park (Viewpoint H) only a portion of the developed Northern Precinct would be visible behind the substantial stock of existing tall, forest scale trees and buildings.

The impact of the proposed Northern Precinct on views from Alexandria Park and the Alexandria Park Conservation Area is considered acceptable, contingent on achievement of design excellence in the proposed building elements.

In views towards the site from nearby roads (Viewpoint G), the montage illustrates that the taller buildings of the overall Metro Precinct would again be the only element of the proposal visible above existing foreground buildings. The Northern Precinct building group appears as a consolidated building group in the north in the context of the other components of the overall Metro Precinct proposal.

Views from the east

Views towards the Metro Quarter, including the Northern Precinct, 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 Northern Precinct site available from the parks and streets in this location. As a result, development of the Northern Precinct will have no impact on views from these locations to the east.

Figure 48 Medium distant views

Picture 46 Viewpoint D – Alexandria Park (Approved Concept Envelope Viewpoint)

Source: Cardno

Picture 47 Viewpoint 6 – Alexandria Park (Proposed)

Source: Cardno

Picture 48 Viewpoint G Henderson Road / Gerard St (Approved Concept Envelope Viewpoint)

Source: Cardno

Picture 49 Viewpoint G Henderson Road / Gerard St (Proposed)

Source: Cardno

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. 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 tall buildings within the Waterloo Estate are distinctive and prominent elements in the landscape. The building group, including the towers and the other large building blocks in combination with other residential blocks of similar form off the site, presents as skyline element and an almost continuous line of buildings in this view. The uniformity and lack of relief of this built element is considered to be a negative element in this view.

The view also illustrates the critical role played by the mature trees on and adjacent to the Study Area as elements that mitigate the impacts of built form in regional views such as this.

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 the only new elements in this view post construction of the Waterloo Metro Quarter.

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 will also soften the impact of the proposed development and 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 City of Sydney Council, 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 and this screens all skyline views in those directions. The entire development would not be visible in views from the Park.

Assessment

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

- In comparison to the approved concept the proposal for the Northern Precinct will have a substantially lesser impact on the local visual environment, due principally to the inclusion of detailing and articulation in the building form and façade.
- The proposal will impact on views from streets immediately surrounding the Northern Precinct site and from street blocks to the east of the site within the Waterloo Estate. A healthy growth of forest scale trees in the street and other proposed public places will be an important mitigation measure to address the visual impacts the proposal will have on views from streets immediately surrounding the site and from street blocks to the east of the site within the Waterloo Estate.
- The proposal will be only moderately visible from other parts of the Waterloo Precinct and from the west. Its success as a new element in views from these locations will be contingent on achievement of design excellence in the completed development, with particular regard to the architectural design of the proposed building group.
- From the north and south, at locations outside of the Waterloo Precinct, the proposal will be almost completely screened from view by vegetation and existing buildings in the line of view.
- In distant regional views, the proposal will appear in the context of the existing tall and visually bulky buildings and the substantial tree canopy within and adjacent to the Waterloo Precinct. If designed against principles of design excellence, the Northern Precinct building group has the potential to improve the quality of these distant regional outlooks by creating architectural relief to the continuous building walls in these views.
- The Northern Precinct 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.
- The Northern Precinct proposal has been found to be consistent with the visual quality Planning Principles for development of the Waterloo Precinct and the Metro Quarter

Mitigation Measures

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.
- Implement principles of design excellence as articulated in “Better Placed – an integrated policy for the built environment in NSW” (Government Architect NSW, September 2017).
- 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.
- Break up continuous built form and provide human scale with tree planting. Trees with mature heights between 10m and 20m would be expected to achieve this objective. The proposed alternating Robinia and Brush Box trees on Botany Road, Lilly Pillies on Wellington Street and Yellow Bloodwoods on Cope Street are considered suitable to achieve this objective.
- Detailed design of the public domain and Cope Street Plaza. Large scale street trees will be a requisite to maintain human scale and to reinforce a visual connection with the residential precinct.

Conclusion

In summary, it is considered the development will contribute positively to the local and regional visual environment. The proposal is considered suitable for its locality with respect to changes to the local and regional visual environment. The design of the Building 1 has adopted the mitigation measures to ensure that the proposal will have an acceptable impact on the visual character of the site when viewed from a range of vantage points from close, medium and distant locations around the site.

8.3. HERITAGE IMPACT

A Heritage Impact Statement (HIS) has been prepared by Urbis and is provided at **Appendix H**. The HIS identifies and assesses the potential impacts associated with the detail design of the northern precinct OSD on the significant characteristics and fabric of vicinity 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 B12 of the concept SSDA, the SEARs and the relevant provisions of the applicable planning instruments and Waterloo Metro Quarter Design Amenity Guidelines (March 2020).

In particular, the assessment provides an analysis of the potential impacts of the development on the two oppose listed heritage items of local significance, being:

- Item 4 under the SLEP 2012, "Cricketers Arms Hotel including interior", at 56-58 Botany Road, Alexandria; and,
- Item 5 under the SLEP 2012, "Former CBC Bank, including interior", at 60 Botany Road, Alexandria.

The report also addresses potential impacts on the Waterloo Congregational Church and Cauliflower Hotel.

Assessment

As discussed previously in Section 3.5, the site is located within the vicinity of a number of locally heritage listed 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).

In addition, site constraints and opportunities have been considered with reference to the Waterloo Metro Quarter Design and Amenity Guideline (March 2020).

Waterloo Congregational Church

The Waterloo Congregational Church (hereafter referred to as the Church) located adjacent to the southern precinct is identified as a local heritage item under SLEP 2012. The proposal does not include any physical works to the Church and there are no adverse impacts on any significant fabric, landscaping or other elements of the Church site. It is noted that the heritage item will be wholly retained and conserved as part of the DA.

The proposed northern precinct commercial building is substantially distanced from the Church and does not have any critical interfaces with this heritage item. The proposed central precinct building on Botany Road (subject to a separate DA) is located between the commercial building and the Church heritage item, providing a physical and visual barrier.

The detailed design and articulation of the building does not result in any additional impacts on the Church above those previously considered and addressed as part of the concept approval (SSD 9393). The substantial physical distance between the northern building and the church mean that the proposed northern building is able to respond to its immediate corner setting and to the adjacent development along the western alignment of Botany Road, instead of having to respond sympathetically to the church building.

As outlined in the HIS, views towards the Church will inevitably be altered as a result of the proposed development, along with the proposed central and southern precinct buildings. Generally, the visual impact will alter the general setting of the Church and immediate locality given the increased scale across the Waterloo Metro Quarter site. However, the detailed design of the proposed development includes a low scale podium form (two storeys) and adopts substantial setbacks that enable view corridors. In summary, the proposed development will not obscure existing direct significant views towards the Church and the impacts on this heritage item are considered acceptable.

Cricketers Arms Hotel and Former CBC Bank

The proposed development is located at the north west corner of the Waterloo Metro Quarter site and is located opposite the two listed heritage items of local significance, including:

- Item 4 under the SLEP 2012, "Cricketers Arms Hotel including interior", at 56-58 Botany Road, Alexandria; and,
- Item 5 under the SLEP 2012, "Former CBC Bank, including interior", at 60 Botany Road, Alexandria.

Both these heritage items will not be physically impacted given they are located outside the boundary of the proposed development.

As outlined in the HIS, the proposed development will be of significantly larger scale than the traditional lower scale of the nearby heritage items and will alter the outward view towards the Waterloo Metro Quarter site. Despite this however, the proposed development will not obscure significant views or view corridors towards the Cricketers Arms Hotel or Former CBC Bank.

The detailed design adopts specific materiality and façade articulation which directly responds to the low-scale built form of the surrounding development through a lower scale two storey podium form which incorporates traditional vertical and horizontal detailing and solid-to-void ratios. This finely grained podium form respects the datum of nearby heritage items.

In addition, the upper levels of the proposed development along the Raglan Street frontage have been setback from the street and podium levels to separate the upper level density of the commercial building away from the respective frontage and to ensure the podium scale references the two heritage items located at the intersection of Raglan Street and Botany Road.

Alexandria 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 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 site 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 northern building would have a negligible, if any, visual impact on the conservation area.

In fact, the amended concept envelope for building 1 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 design for building 1 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.

8.4. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

An ESD Strategy has been prepared by Cundall Johnston and Partners in accordance with SEARs Item 8 and is provided at **Appendix M**. The report demonstrates that the proposed commercial development within the northern precinct is committed to achieving the following ESD targets (as required by Condition B19 of the Concept SSD 9393):

- 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 (WELL Building Standard v2)

In addition, the proposal forms part of the Waterloo Metro Quarter site which will obtain site-wide certifications through the detailed design of the development, including, a 6 star Green Star Communities rating tool v1.1 and recognition under the One Planet Community framework (recognition by BioRegional Australia).

In accordance with the SEARs, the report provides an analysis of the proposal against the principles of ecologically sustainable development as set out in clause 7(4), Schedule 2 of the EP&A Regulation and how these will be incorporated into the design, construction and operation of the development. Furthermore, the ESD Report addresses the objectives and design criteria as set out in Section 3R of the Waterloo Metro Quarter Design and Amenity Guidelines (refer **Appendix X**).

The proposal adopts a modified version of the standard One Planet Living categories as the sustainability framework for the project. The framework will inform the 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 various sustainability framework impact categories are outlined in the table below.

The sustainability framework also aligns with the following various policies, strategies and rating tools:

- 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 9 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

A broad range of initiatives are proposed in order to minimise the consumption of resources, especially energy, water and waste, and ensure delivery of a sustainable development. The table below summarises the sustainability framework categories and associated sustainability initiatives which are being considered during design development to achieve the objectives and targets.

Table 20 Sustainability framework initiatives

Objective	Goals / Targets	Initiatives
Zero Carbon Energy		

Objective	Goals / Targets	Initiatives
Make buildings and infrastructure energy efficient, reduce use of fossil fuels and maximise renewable energy.	▪ 5.5 star NABERS Energy Office Base Building ▪ Minimise use of on-site fossil fuels	Minimise on-site fossil fuels (limited to retail gas), passive design features, energy efficient HVAC, energy efficient lighting, energy efficient lifts, renewable energy.
Sustainable Water		
Use water efficiently, protecting local water resources and reducing flooding, drought and water pollution.	▪ 4.5 star NABERS Water	4 star WELS rated taps, toilets and showers in the EOTF, landscaping design and plant selection to minimise irrigation demand, rainwater collection, best practice cooling tower water treatment and management systems, water sub-metering of major water uses and Water Sensitive Urban Design.
Waste Minimisation		
Reduce consumption and re-use and recycle to work towards minimising waste to landfill.	▪ > 90% of construction & demolition waste diverted from landfill ▪ Facilities to enable > 60% of operational waste to be diverted from landfill	Demolition and Construction Waste Minimisation Plan to Best Practice Green Star standards and achieve waste credit. Prefabrication of façade components and service risers to reduce on-site waste generation during construction. Waste recycling facilities to minimise waste to landfill including food waste, cardboard/paper recycling, other recycling and used cooking oils.
Materials and Supply Chain		
Use materials from sustainable sources, apply life cycle principles, and prioritise products with transparent, ethical supply chains.	▪ Selection of materials and products that are certified, reused or contain recycled content (> 3% by cost) ▪ Life Cycle Assessment to achieve >50% of Green Star LCA credits and reduce embodied carbon by minimum 10%	Conduct life cycle assessment to identify material selection / specification improvements during design development. Concrete mix to reduce embodied carbon. All timber is FSC certified or equivalent. Hazardous material risk assessment to reduce use of toxic materials. Low-off gassing materials to be selected – floor finishes, joinery and painting. Best practice PVC compliance for formworks, pipes, flooring, blinds & cables. Encourage key sub-contractors become members of the Australian Supply Chain Sustainability School (The applicant is partners with the school).

Objective	Goals / Targets	Initiatives
		Preference materials and suppliers with third party accreditation (social and/or environmental sustainability).
Land and Nature		
Restore, preserve and protect land, biodiversity and natural capital for the benefit of people and wildlife.	▪ Maximise roof area as green roof ▪ Tree canopy coverage to streets greater than 50%	Street tree planting, deep soil zones, green roof, edible / usable landscaping which may provide habitat or food sources for native birds, bees and insects, external lighting to minimise night sky pollution.
Travel and Transport		
Reduce the need to travel and encourage walking, cycling and low carbon transport.	▪ Encourage cycling by residents, workers and visitors ▪ 9 EV Chargers in the basement to serve the Northern and Central Precincts	Safe and quick access to the Waterloo metro station, end-of-trip facilities with secure cycle storage, showers and lockers, 9 electric vehicle chargers, design vehicle intersections to prioritise pedestrian and cyclist safety
Sustainable Food		
Promote sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein.	▪ Encourage retailers to provide healthy food options. ▪ Urban food production Initiatives.	Incorporate edible planting as part of landscaping, food & beverage to prioritise healthy, organic and affordable food outlets, investigate partnership with food rescue charity during operational stages.
Climate Risk & Adaptation		
Apply practical actions to manage risks from climate impacts, protect communities and strengthen the resilience of the local economy.	▪ A Climate Adaptation Plan will inform the design of the project in accordance with international guidelines.	Prepare and implement a Climate Adaptation Plan, reduce heat island effect – green roofs, street tree planting, PV panels, passive design of facades to improve thermal performance and reduce impact of extreme weather days, design cooling system capacity for higher design temperatures to allow for increasing peak temperatures, stormwater systems designed for increased storm frequency and intensity.
Health and Wellbeing		
Encourage active, social, meaningful lives and provide the	▪ Gold WELL Core rating	Implement over 60 initiatives in the WELL Core rating tool, end-of-trip facilities to encourage active lifestyles, cycle storage to encourage healthy

Objective	Goals / Targets	Initiatives
buildings, infrastructure and spaces to support good health and wellbeing for all ages.	▪ Fitness facilities accessible to all residents and guests	transport options, physical and mental health programs for works during construction, access to gym on site (Southern Precinct), accessible green roofs and community spaces, low-off gassing materials to be selected to improve indoor air quality (floor finishes, joinery, painting).
Ethics and Equity		
Create safe, just and equitable places to live, work, learn & trade, and support local prosperity and fair trade.	▪ Responsible procurement policies ▪ Targets for employment during construction	Implement a sustainable procurement policy addressing modern slavery, child labour and other social equity and ethics issues in the project supply chain, set targets for employment of disadvantaged groups during construction, support local SMEs and disadvantaged local residents including Aboriginal enterprise and employment, implement affordable retail and food strategies and design for best practice sustainability.
Community and Culture		
Nurture local identity and heritage, empower communities and promote a culture of sustainable living.	▪ Public Art Program ▪ > 2600m² of community facilities to be provided on whole precinct (shared between northern, central and southern precincts) ▪ Precinct Activation Fund and Committee to curate activation	270sqm of future community use is proposed to be positioned within the ground level of building 1 to service the needs of the community. Public art program including Aboriginal curators, public art competitions and co-evolved works with community. Creative hoardings program as part of public art strategy during construction. Place naming and wayfinding programs to engage with local community. Community Place Manager will be engaged.

Conclusion

Overall, the development will reflect leading industry practice for commercial development by incorporating the measures documented above. Performance against all the relevant requirements will be tracked and implemented throughout construction and delivery of the northern precinct. The proposed development addresses the ESD requirements set out in the SEARs and will achieve the performance targets outlined in the conditions of the concept SSDA (SSD 9393) and Waterloo Metro Quarter Design and Amenity Guidelines.

8.5. WIND IMPACTS

A Wind Impact Assessment has been prepared by RWDI Anemos and is included at **Appendix KK**. The assessment included wind tunnel testing to identify the impact of the proposed development on surrounding wind conditions. 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.

Consistent with the wind study criteria under the concept approval, the pedestrian wind comfort and safety conditions have been assessed based on the Lawson Criteria and relate to a comfort category for pedestrians “sitting”, “standing” and “walking”. In general, the combined effect of mean and gust speeds on pedestrian comfort can be quantified by a Gust Equivalent Mean (GEM).

All initial wind tunnel testing was carried out for the built form design only, without consideration of landscaping or wind mitigation elements such as awnings. This is to gain an initial understanding of the wind flow patterns and comfort conditions for the built form only.

The wind comfort conditions for each area relative to the proposed northern precinct development are outlined below.

Northern Precinct (building 1):

- The rooftop terrace located on Level 13 of building 1 is generally exposed to the prevailing winds given the elevated location of these terraces. As the terrace is somewhat exposed to the north-easterly and southerly winds, however benefited from shielding of the westerly winds, the expected localised screening around the perimeter of the terrace space will help to ensure that standing conditions are provided throughout the year.

Surrounding Streets:

- Wind conditions for all of the ground level areas within and around the Waterloo Metro Precinct were noted to satisfy the safety limit criteria of 24 m/s.
- The wind conditions along Raglan Street generally satisfy the standing comfort criteria throughout the year. Localised areas at the eastern and western ends of Raglan Street are exposed to the north-easterlies and westerly winds respectively, which interact with the built form resulting in conditions which satisfy the walking criteria. The eastern end of Raglan Street is noted to marginally exceed the standing criteria (i.e., achieves comfort conditions 94% of the time during the summer months as compared to a target of 95%). This is expected to be further improved as the street trees mature and is considered acceptable.
- Conditions are generally found to satisfy the standing criteria along the length of Cope Street with localised areas at the northern and southern ends satisfying walking conditions. The inclusion of the street trees along Cope Street was found to further enhance conditions and provide areas adjacent to Cope Street Plaza which satisfy the sitting criteria.
- Wind Conditions along Botany Road will generally satisfy the standing comfort criteria, in line with the wind comfort targets. Localised uncomfortable conditions were observed at the corner of Botany Road and Raglan Street due to downwash and side-stream effects. It is noted that the inclusion of the awnings along Botany Road and Raglan Street will enhance conditions such that they will satisfy the walking comfort criteria.

Raglan Walk:

- Wind conditions within Raglan Walk (linking Raglan Street to Cope Street Plaza) are able to benefit from the alignment of the laneway in the north-south direction and self-shielding by the development.
- Conditions within the laneway are more favourable during the winter period, with shielding from the westerly winds. As such conditions equivalent to standing and sitting will be provided for patrons.

Metro Station Entrances:

- The results indicate that conditions at the Raglan Street entrance will satisfy the standing criteria throughout the year. However, with the inclusion of the street trees along Raglan Street there will be some redirection of the north-easterly winds resulting in conditions which satisfy the walking criteria.
- The southern entrance to Cope Street Plaza will satisfy the standing criteria for patron comfort. The noted street trees on Cope Street will provide further improvement for the conditions associated with the ramp and stair access to Cope Street.

In summary, the wind assessment identified that the ground conditions would be acceptable for walking and standing around the development. Furthermore, the wind conditions within Raglan Walk will be suitable for future patrons standing and sitting.

Mitigation Measures

The wind tunnel study found that the inclusion of the awnings detailed on the architectural drawings and inclusion of the tree planting outlined in the landscape design enable the majority of the areas to satisfy the required wind comfort conditions for the Waterloo Metro Quarter site. It is also noted that the tree planting considered as part of the study is the form expected at the time of planting and not a mature tree, indicating that the wind conditions, particularly those at surrounding streets, will only improve as the trees mature.

Conclusion

In summary, the wind assessment found that the majority of the Waterloo Metro Quarter will satisfy the required wind comfort criteria, noting that wind conditions will improve as landscaping matures. As tree planting grows to full maturity, localised wind conditions will be mitigated. Mitigation measures have been provided for areas that are exposed to prevailing wind conditions which include some areas of the Level 9 and 13 terraces. The implementation of localised screening to a height of 2.5 metres on the south-west aspect of the terrace on Level 9 will ensure the proposed development will satisfy the relevant wind comfort criteria.

8.6. NOISE AND VIBRATION

Stantec have prepared a Noise and Vibration Impact Assessment which is included at **Appendix K**. The report assesses the impacts of operational noise and vibration (mechanical and electrical plant / equipment) and construction noise and vibration on surrounding sensitive receivers. It also addresses the intrusion of ambient noise and vibration such as traffic and the future rail corridor noise, to and from the development, particularly with regard to the Waterloo Congregational Church. Consideration has also been given to the recommendations of the Concept Acoustic Assessment Report prepared by SLR Consulting dated 9 November 2019 as it relates to the concept SSD 9393.

Methodology

To assess the noise and vibration impacts to and from the proposal, the assessment adopted the following methodology:

- *Identify and classify the surrounding noise and vibration sensitive receivers surrounding the proposed development;*
- *Identify and classify the noise and vibration sources generated by the proposed development, together with external noise and vibration sources impacting on the proposed development;*
- *Review historical site noise investigations and carry out additional site noise investigations to quantify the background noise levels local to the proposed development;*
- *Determine the project noise and vibration criteria applicable to the proposed development in accordance with the requirements listed in the Secretary's Environmental Assessment Requirements (SEARs), together with 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;*
- *Assess the operational and construction noise and vibration impacts of the noise and vibration sources generated by the proposed development to the surrounding noise-sensitive receivers, together with any impacts on the occupants of the proposed development;* and
- *Provide details of mitigation measures required to alleviate noise and vibration impacts to achieve the project noise and vibration criteria.*

Site noise investigations were conducted to obtain background noise levels at the surrounding noise sensitive receivers together with characteristic noise emissions 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 and presented in their report for the Waterloo Station Development EIS (Appendix N) dated 9

November 2019, as these results were obtained prior to the COVID-19 pandemic and are a better representation of the traffic noise and typical background levels under typical conditions.

The figure below identifies the site location, measurement positions and surrounding noise and vibration sensitive receivers surrounding the northern precinct. The summary of receivers within the identified Noise Catchment Areas (NCAs) include:

- NCA01 - Mix of commercial and retail receivers
- NCA02 - Residential receivers
- NCA03 - Residential receivers
- SSD-10439 – Central Precinct
- SSD-10437 – Southern Precinct
- SSI-7400 – Integrated Station Development

Figure 49 Surrounding noise sensitive receivers and measurement locations

Source: Stantec Pty Ltd

The assessment outlines the various external and internal technical noise and vibration criteria in accordance with Concept Approval (SSD 9393) conditions of consent. In particular, this relates to the following:

- Operational noise and vibration criteria – external noise emissions to surrounding receivers (intrusiveness and amenity criteria), traffic noise generation and exposure to vibration levels (human comfort, intermittent vibration, cosmetic damage and structural damage).

- Construction noise and vibration criteria – potential noise intrusion from construction sites (based on standard construction hours) and exposure to vibration levels (human comfort, intermittent vibration, cosmetic damage, structural damage and vibration limits).

The noise and vibration generated by each of the precincts within the Waterloo Metro Quarter has been assessed to the cumulative noise budgets proposed by the design teams conducting assessments for the OSD (SSDs) and CSSI components (ISD and line-wide designs). As such, the respective assessments for each precinct in the Waterloo Metro Quarter have considered the cumulative noise and vibration impacts.

8.6.1. Operational Noise and Vibration

Mechanical and Generator Plant and Equipment

The noise generated by the mechanical plant and equipment within the rooftop plantroom has been assessed to the noise-sensitive receivers surrounding the proposed development within the noise catchment areas (and specifically the rooftop plantroom). The assessment assumes the mechanical plant and equipment will be operating between the hours of 7am to 6pm only (daytime period).

An assessment of the noise emissions of the generators has also been conducted to investigate the noise impacts on the surrounding noise-sensitive receivers. The assessment conducted assumed three generators were running under emergency operation during the night-time period (i.e. worst-case scenario).

The predicted noise levels at the surrounding noise-sensitive receivers are expected to comply with the project noise criteria subject to the implementation of the following mitigation measures:

- Install acoustic barriers to the Level 15 and 16 plantrooms to the heights 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 outlined in Table 39 of the Report.
- 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 outlined in Table 30 of the 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 but not limited to the following:
  - Positioning mechanical plant away from nearby receivers.
  - Acoustic attenuators fitted to duct work.
  - Screening around mechanical plant.
  - Acoustic insulation within duct work.

Generator Noise Emissions

An assessment of the noise emissions of the generators has been conducted to investigate the noise impacts on the surrounding noise-sensitive receivers.

The assessment has been conducted under the following assumptions:

- Three generators running under emergency operation (worst-case scenario).
- Generators operating during the night-time period (worst-case scenario).
- Each generator is housed in an acoustic canopy (see Section 13.1), where the sound pressure level measured at 7 metres under 100% load is 73dB(A).

Based on the results of the assessment of the noise generated by the generators, the predicted noise levels at the surrounding noise-sensitive receivers are expected to comply with the project noise trigger levels established in Section 10.2.2 upon implementation of the mitigation measures.

Loading Dock and Waste Collection

An assessment of the noise generated by activities within the Ground Level loading dock (such as garbage collections and deliveries) has been conducted to determine the impacts on the surrounding noise-sensitive receivers. The following assumptions were made for the assessment:

- Service vehicles are assumed to be either medium rigid trucks or garbage trucks.
- One service vehicle within a 15-minute period.
- All medium rigid and garbage trucks will be entering and exiting and operating at any time in a 24 hour period.

Based on the assessment, the noise generated by activities within the ground level loading dock (predominantly waste collection) are expected comply with the project noise criteria subject to the implementation of the following mitigation measures:

- Maintaining garbage trucks and braking materials to minimise or eliminate noise such as squeaky brakes.
- Educating drivers and collectors to be careful and to implement quiet work practices.

Traffic Noise Generation

For the road traffic noise assessment, existing peak hour traffic count and traffic generation for the site was based on the Transport, Traffic and Parking Assessment prepared by ptc. and submitted at **Appendix I**. This data has been used to calculate the expected noise increase due to traffic associated with the development on Botany Road, Wellington Street, Raglan Road and Cope Street.

The results indicate there is predicted to be less than a 1.3 dB increase in traffic noise levels. The predicted increase is less than 2dB and therefore the proposed development is expected to comply with the requirements of the NSW Road Noise Policy.

Metro Impact(s)

A vibration impact assessment to the Human Comfort and Structural Damage criteria, to the nearest affected structure of the development as a result of a train pass-by within the subterranean corridor has been conducted. The predicted values were implemented into the assessment to determine whether there will be any adverse effect on occupants of the development with regards to human comfort, or any potential structural damage to the building.

Based on the results of the vibration dose value predictions, the vibration impact on the occupants of the proposed development is predicted to comply with the Human Comfort requirements of the ISEPP.

Based on the predicted vibration levels at the nearest affected structure within the proposed development, it is not expected that there will be any exceedance of the criteria established for structural damage. Therefore, the vibration impact on the structure of the proposed development is predicted to comply with the requirements of the ISEPP.

8.6.2. Construction Noise and Vibration

The Noise and Vibration Impact Assessment also considered and assessed the noise and vibration impacts of the proposed development during construction.

Construction Noise

The assessment considered the noise impacts associated with the following proposed construction works:

- Structure (ground level to rooftop)
- Façade
- Fit-out, finishes and services

The hours of work (standard) are expected to occur as follows:

- Monday to Friday: 7am to 7pm
- Saturday: 7.30am to 3:30pm
- Sunday and public holidays: no work

The equipment noise sources likely to be associated with the abovementioned works have been extracted from relevant Australian Standards to establish the equipment noise levels and sound power levels.

A qualitative construction noise impact assessment has been conducted to identify the most-affected surrounding noise-sensitive receivers. The noise modelling represents the 'reasonable' worst case periods of construction activities, meaning that all the equipment of each stage is operating simultaneously during a 15-minute observation period.

The prediction modelling was conducted for each of the following construction scenarios:

- Scenario 1: Structure (Ground – L5).
- Scenario 2: Structure (L6 – L10) and Façade (Ground – L5).
- Scenario 3: Structure (L11 – L16) and Façade (L6 – L10).

The assessment indicates that the predicted noise levels during all phases / scenarios will not exceed the noise criteria established for construction noise on any sensitive receivers aside from the Waterloo Congregational Church, where a potential noise management level exceedance of 0-2 dB may be experienced. To ameliorate potential exceedances, the following mitigation measures have been proposed:

- A solid acoustic barrier (made from plywood or similar) 2.4 metres above ground level is recommended to be erected around the perimeter of the site. The acoustic barrier could be either Class A or Class B type hoarding.
- Where it proves reasonable and feasible, heavy truck movements are recommended to travel along Botany Road to enter the construction site. This will not be possible for significant durations of construction due to other site constraints that must be addressed by travelling along Cope Street and Raglan Street.
- Noise monitoring is recommended to be conducted at the most-affected noise-sensitive receivers in accordance with the monitoring programme outlined in the report.

General noise control measures in accordance with AS 2436 – *2010 "Guide to noise and vibration control on construction, demolition and maintenance sites"* are also proposed to reduce the spread of noise and vibrations to the potential receivers.

Construction Vibration

The vibration associated with construction is dependent on a number of variables including the types of machinery, the proximity to the nearby receivers as well as the ground type. Consideration has been given to the safe working distances for vibration impacts associated with various types of machinery contained within the TfNSW *'Construction Noise Strategy'*. This document presents the safe construction working limits for Cosmetic Damage to adjacent structures (in accordance with BS 7385) and Human Comfort (occupational health and safety).

Concrete vibrators are expected be used in close proximity to the top of the northern portion of the metro station box when pouring the CM Level 04 slab. Mitigation measures to ensure vibration generated on the metro station box structure does not exceed the project vibration requirements are provided below:

- When pouring the CM Level 04 slab above the ISD north metro box, attended vibration measurements should be conducted to ensure the vibration generated on the ISD north metro box structure does not exceed the values for cosmetic damage and structural damage outlined in BS 7385 and DIN 4150. The vibration will primarily be generated by the concrete vibrators used during the concrete pour.

8.6.3. Conclusion

Overall, the operational noise and vibration generation from the proposed development with regards to mechanical, generator and plant equipment, loading dock use and waste collection, traffic noise and the impacts of the Sydney metro operation have been predicted and are expected to comply with the project noise criteria subject to the implementation of the before mentioned mitigation measures.

Similarly, noise and vibration impacts generated during the construction stages of the proposed development will comply with the relevant criteria subject to the implementation of the mitigation measures which have been previously outlined. In particular, the construction works will be monitored in accordance with the proposed noise and vibration monitoring program.

8.7. TRAFFIC, ACCESS AND CAR PARKING

A Traffic Impact Assessment (TIA) has been prepared by ptc and is submitted at **Appendix I**. The report addresses the traffic and transport impacts associated with the proposed basement as it supports the parking associated with the northern, central and southern precincts. It also specifically responds to the SEARs requirements and the conditions of consent for the concept SSDA (SSD 9393). The report is accompanied by traffic and pedestrian modelling, swept path analysis, a green travel plan (GTP), loading dock management plan and car park management plan.

8.7.1. Mode Share

An assessment of the existing travel to work behaviour within the suburb of Waterloo has been undertaken in relation to Waterloo 'as a place of work' and 'as a place of residence'. The assessment has used 2016 Census Journey to Work data.

Currently, when travelling to Waterloo as a place of work, approximately 59% travel by car and approximately 23% travel via public transport, including train (17.81%), %), bus (5.96%), ferry (0.05%) and tram (0.02%). Active transit modes (cycling and walking) consist of 7.04%.

When travelling to work from Waterloo, approximately 36% travelled by car, 41% travel to work via public transport and 12% travel by an active mode of transport.

An assessment of the potential future mode shares has been undertaken in consultation with TfNSW and City of Sydney and is based on existing data and the strategic opportunities associated with the Waterloo Metro Quarter development. The future mode share targets agreed for the AM peak for all trip purposes are:

- Train – 40%
- Walk only – 25%
- Car – 20%
- Bus – 10%
- Cycle – 5%

The above targets indicate a significant increase in public transport (metro) and active transit mode shares. This is based on a number of factors, including:

- Proximity to Sydney Metro's Waterloo 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.

A GTP has also been prepared to encourage a modal shift away from private car usage and to encourage active and public transport. The proposed targets for the Waterloo Metro Quarter project are detailed further in **Section 8.7.7** of this EIS. In summary, mode share to and from the site post development is anticipated to result in a significant increase of active and public transport modes.

8.7.2. Traffic Generation and Road Network Impact

Existing Development – Network Operation

The proposed development is situated on land which is currently vacant given the previous demolition which has occurred as part of the CSSI approval. Therefore, it does not generate any traffic activity. The current traffic volumes were determined based on intersection surveys conducted on 12 March 2020, between 7.30am to 9.30am and 4pm to 7pm. It is noted that the traffic surveys were undertaken prior to any restrictions placed on movement (22 March 2020) by the Covid-19 pandemic.

Utilising SIDRA modelling software, the existing peak hour traffic volumes at the subject intersections were determined and are outlined below.

- Henderson Road and Wyndham Street (4 arm signalised intersection)
  - 7.45am to 8.45 am - 2812 vehicles
  - 5.15pm to 6.15pm - 2995 vehicles
- Botany Road, Henderson Road and Raglan Street (4 arm signalised intersection)
  - 7.45am to 8.45am - 3162 vehicles
  - 5.45pm to 6.45pm - 3272 vehicles
- Raglan Street and Cope Street (4 arm roundabout)
  - 8.15am to 9.15am - 732 vehicles
  - 5.30pm to 6.30pm - 806 vehicles
- Cope Street and Wellington Street (4 arm roundabout)
  - 8.30am to 9.30am - 487 vehicles
  - 5.15pm to 6.15pm - 510 vehicles
- Botany Road, Buckland Street and Wellington Street (4 arm signalised intersection)
  - 7.45am to 8.45am - 2376 vehicles
  - 5.15pm to 6.15pm - 2303 vehicles

Existing network operation was modelled to determine the Level of Service (LoS). LoS is a good indicator of overall performance for individual intersections. The assessment of the existing development (i.e. current situation) indicated that all the intersections will operate at a LoS of D or above during both the AM and PM peak periods.

Proposed Development – Network Operation

The proposed developments traffic generation has been projected with reference to the RMS *Guide to Traffic Generating Developments* and the rates utilised in the concept approval (SSD 9393), as well as taking into account the proposed parking provisions for the proposal as required in accordance with the relevant planning controls.

The total peak hour trip generation for the proposed development was identified as follows:

- Commercial uses (33,834 sqm of GFA) – 47.38

The proposed development is estimated to generate approximately 47.38 (approximately 48) vehicle trips per hour during the road network peak periods.

The traffic generation assessment for the proposed development utilised SIDRA modelling software for the two following scenarios:

- 2019 Base
- 2036 Proposed Development (taking into account the Metro operation and the proposed developments parking)

The assessment indicated that when taking into account the proposed development, including growth to 2036, the external road network should operate at an acceptable LoS and experience no change in the LoS associated with the traffic generated solely by the development. Therefore, the proposed development should not have a detrimental effect on the network operation.

Proposed Network Operation – Considering Metro Upgrades

As part of the as part of the construction of metro station and associated works under the CSSI, upgrades are proposed to both the Raglan Street / Cope Street and the Wellington Street / Cope Street intersections.

In order to complete the traffic modelling assessment, analysis is required of the new intersection configurations as part of the network modelling. The modelling and specific details of the road intersections required to be upgraded under the CSSI works will be detailed through the satisfaction of conditions under

than approval, and the works would be required to be completed prior to the operation of the Waterloo OSD components.

Conclusion

The traffic modelling undertaken demonstrated 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 surrounding road network operation.

8.7.3. Parking and Access

As indicated in Section 4.7, the proposed development across the northern precinct provides the following parking provisions which are facilitated under the basement SSDA (SSD 10438):

- Commercial – 63 car parking spaces (inclusive of 2 accessible spaces)
- Retail – nil
- Commercial car share – 2 car parking spaces
- Commercial motorcycle – 5 parking spaces

The above on-site parking provisions have been provided in accordance with the maximum rates stipulated in the concept conditions of consent (SSD 9393) and Waterloo Design Amenity Guidelines (March 2020). In fact, the basement proposal only accommodates 63 commercial car parking spaces which is considerably lower than the 78 parking spaces permitted under the SDCP 2012 controls.

The site is highly accessible to high frequency public transport services including buses, trains, light rail and the future Waterloo metro station. As such, the proposed parking provision is considered appropriate and a positive inclusion in the development to support the initiatives of the GTP and the encouragement of sustainable transport modes.

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

Conclusion

The proposed parking does not exceed the maximum parking rates stipulated in the concept conditions of consent (SSD 9393), SLEP 2012 or Waterloo Design Amenity Guidelines and is considered appropriate for the reasons outlined above.

8.7.4. Loading and Servicing

Assessment

The proposed development for the northern precinct includes the provision of a loading dock facility which is accessed from Botany Road and integrated with the ground level arrangement. The loading dock has been designed in accordance with AS2890.2, Councils '*Policy for Waste Minimisation in New Developments'* and tested through swept path analysis to ensure adequate service vehicle manoeuvrability.

The loading dock can independently accommodate the following vehicles:

- 2 x 8.8m Medium Rigid Vehicles (MRV); and
- 2 x 6.4m Small Rigid Vehicles (SRV).

The MRV spaces have been designed to accommodate the City of Sydney Council 9.25 metre waste collection vehicles.

The dock includes the provision of a 9-metre turntable (30 tonne capacity) with a 600mm clearance zone. The turntable has been designed to ensure that all vehicles can access and egress the loading dock in a forward movement, whilst limiting the access to the dock to one vehicle at a time.

The accessway leading the building 1 dock is 6.9 metres wide in accordance with relevant Australian Standards and the service area is at a level grade with a minimum 4 metre height clearance, in accordance with City of Sydney's 'Policy for Waste Minimisation in New Developments'.

To appropriately manage access to the loading dock, a Freight and Servicing Management Plan (FSMP) has been prepared by PTC and is included at **Appendix I**. In accordance with the SEARs, the Freight and Servicing Management Plan (FSMP) details loading dock and servicing provision, adequacy and management with consideration of precinct wide shared loading docks and provides a detailed queuing analysis to show that vehicles will not queue onto Botany Road from the loading dock.

As access to the loading dock and service bays will be managed through this online booking system, which will allocate the times and durations vehicles will be allowed to access the site, any potential queuing onto the external road network will be minimised.

The loading dock will be utilised by future commercial / retail tenants (building 1) and residential / retail tenants (building 2) for the purposes of maintenance, deliveries and waste collection. The loading dock will operate 24/7 but will primarily only be used during the operating hours which are anticipated to be from 6am to 10pm seven days a week. As outlined in the FSMP, the peak period is expected to occur between 9am and 12pm and the average vehicle movements during this period is expected to a total of 12 vehicles.

The loading dock will be available for use by appointment only. 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 loading dock management office will be located within the loading dock. It is anticipated that the loading dock attendant and / or security guard will be available from 7am to 10pm seven days a week.

8.7.5. Pedestrian Access and Movements

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, with regards to the existing and future pedestrian movement, connectivity and circulation within the site and surrounding areas.

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

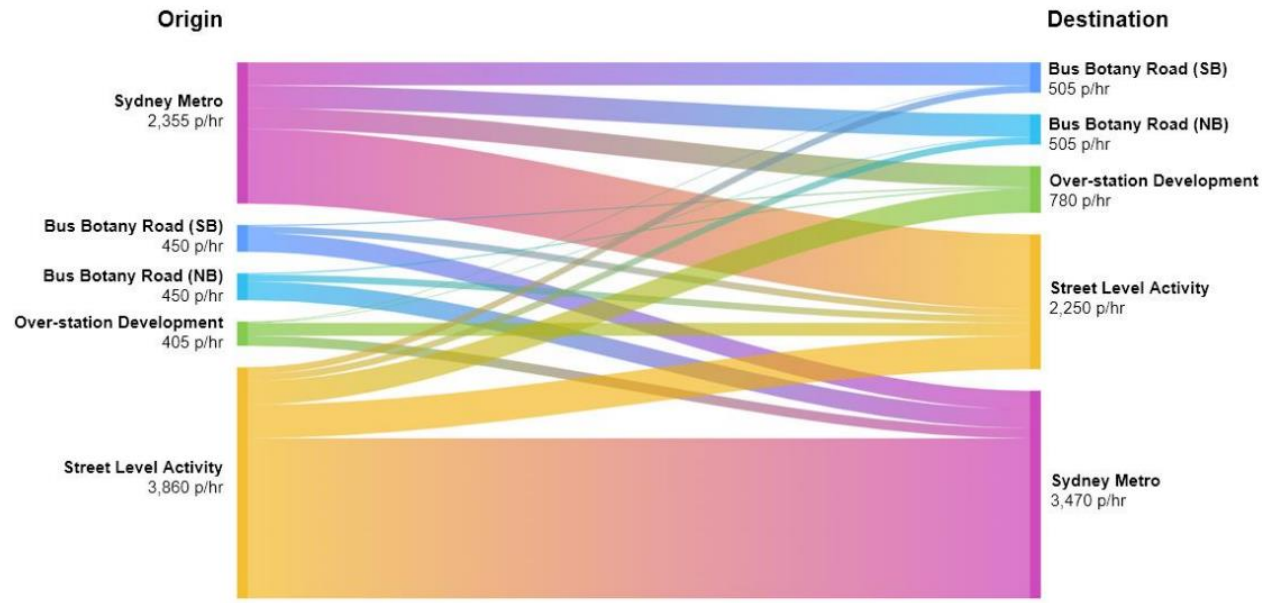
In addition to the metro station, customers can access bus services from Botany Road. Bus demand was consolidated to the two Botany Road stops, which represents the worst-case scenario for the Botany Road stops. If in the future, the bus stops are installed at Raglan Street, it is envisaged some bus 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 in the figures below.

Figure 50 2026 AM and 2056 AM Waterloo Metro Quarter precinct demand – total



Source: WSP

Figure 51 2026 AM Waterloo Metro Quarter precinct 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 21 Waterloo Metro Quarter streetscape performance summary

Location	**Assessment scenarios**	
	2056 AM	**2056 AM Resilience**
Precinct connectivity		
Internal walkways	✓	✓

Location	Assessment scenarios	
	2056 AM	2056 AM Resilience
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		

8.7.6. Cycle Access and Parking

Assessment

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:

- Commercial – 236 (Class 2)
- Commercial visitor – 24 (Class 3)
- Retail staff – 3 (Class 2)
- Retail visitors – 9 (Class 3)

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.

Ptc have acknowledged that there is a shortfall in the required number of commercial visitor bicycle parking spaces required under the concept approval (SSD 9393). However, it is noted that there is a substantial amount of visitor bicycle parking available throughout the wider Waterloo Metro Quarter site at ground level in the public domain areas. In addition, a total of 220 visitor bicycle spaces will be provided as part of the CSSI within the Metro EOTF as well as an additional 80 visitor bicycle spaces within the public domain. Further, the OSD's across the Waterloo Metro Quarter site provide a further 66 visitor bicycle spaces within the public domain to serve the northern, central and southern precincts.

It is considered that the provision of additional visitor bicycle parking within the public domain is considered to be detrimental to the overall urban design of the precinct as the space requirements would require a reduction in landscaping and narrowing of pedestrian footpaths / walkways. Particularly, highly pedestrianised areas such as Raglan Walk near the commercial building entrance.

Overall, considering that a total of 390 visitor bicycle parking spaces are provided through the precinct as part of the various OSD's and CSSI station works, the bicycle provisions are considered adequate to cater for the future 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.

Cyclists Access and Demand

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

The requirement for a GTP was requested in the SEARs for the proposed development. The GTP prepared by ptc. included at **Appendix I** provides an assessment of the existing methods of public and active transport links to the site and outlines how the development intends to make travel to and from the site safer and more sustainable.

It is clear that public and active transit modes are currently underutilised. As such, future mode share targets for the AM peak for all trip purposes were developed and are as follows:

- Train – 40%
- Walk only – 25%
- Car – 20%
- Bus – 10%
- Cycle – 5%

Accordingly, a GTP has been developed seeking to achieve the above targets, thus, promoting and reducing the reliance of private car usage and encouraging and supporting active and public transport.

The GTP focuses on promoting four sustainable travel modes, including walking, cycling public transport and carpooling / sharing.

Walking

The existing pedestrian connectivity is generally good in all directions. Opportunities to promote walking include:

- Encourage residents to utilise the numerous public transport options available through promotional material to raise awareness of these transport options.
- Establish a working partnership with City of Sydney to determine whether there are opportunities to improve the pedestrian connectivity to the site.
- Encourage staff to implement the ‘10,000 steps per day initiative.’
- Staff could be encouraged to celebrate ‘Walk to Work’ day on an annual basis.

Cycling

To improve the future bike usage by employees, tenants and visitors, the proposed development provides 236 commercial bicycle parking spaces, 284 lockers and 30 shower / change cubicles which are accommodated within the basement SSDA (SSD 10438). As required by condition B10 of the concept approval (SSD 9393), the proposed bicycle and EOTF provisions comply with the SDCP 2012.

Public Transport

The site is highly accessible to high frequency public transport services including buses and trains. The Waterloo metro station beneath the site will significantly shorten the travel distance to public transport services for tenants and visitors. To increase the public transport usage, the following measures should be considered:

- Create a map identifying the location of bus stops and routes and make this available to all users;
- Improved wayfinding signage between the site and nearby public transport interchanges;
- Promote the use of apps for public transport connectivity.

Carpooling

Carpooling forum could be developed to encourage employees to travel in groups. This would provide a platform for employees travelling on the same route to the site to travel together. Existence of the platform could be provided through brochures, noticeboards and social media.

Conclusion

The GTP includes a list of strategies (such as the Transport Access Guide) to encourage employees and visitors to adopt alternative sustainable transport options and contribute towards achieving the future mode share targets. Given the GTP is a live document, the GTP should be monitored and reviewed to understand whether and how the travel plan is having an impact on the mode share. An annual review of the GTP is recommended to identify how mode share has changed over time.

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.

Station Works Interface

The 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.

The 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

Hoardings will be adjusted and installed following handover of the northern precinct work areas by the Station Contractor. The site perimeter will be surrounded by both A-Class and B-Class hoardings. These hoardings will be erected along Raglan Street, Cope Street, Wellington Street and Botany Road in the stages handed over by the Station Contractor.

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 Preliminary Construction Pedestrian and Traffic Management Plan prepared by ptc. included at **Appendix J** outlines the construction process associated with the Southern precinct and preliminary construction traffic management measures to improve and regulate the safety of pedestrians, motorists and workers within the vicinity of the construction site. The following section has been structured in accordance with Condition B16 of the concept consent (SSD 9393).

Through the preparation of the EIS and the detailed design resolution of the proposed development, the applicant has consulted with the City of Sydney and TfNSW. It is further noted that details of the preliminary CPTMP will forwarded to the Transport Coordination Office (TCO), City of Sydney and TfNSW as a part of the exhibition of the detailed SSDA.

Construction Car Parking Strategy

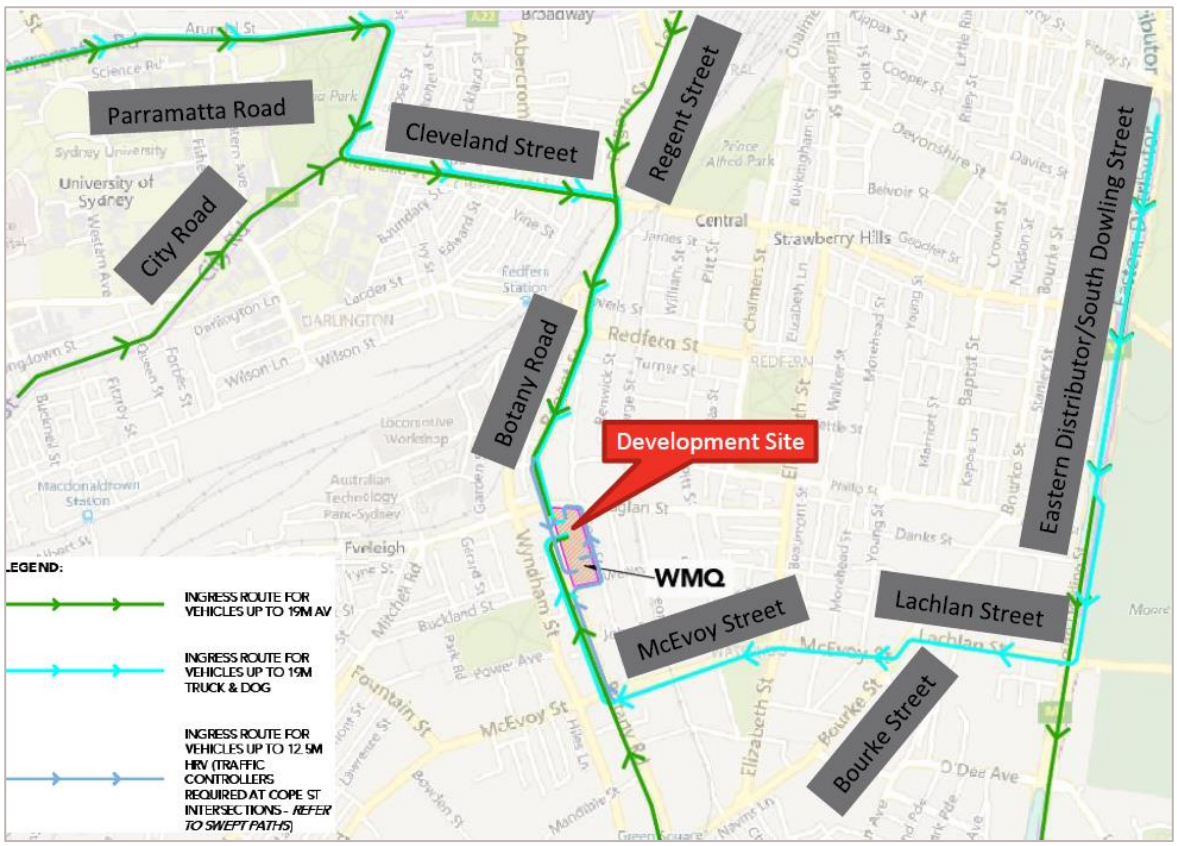
On street parking on roads immediately adjoining the Waterloo Metro Quarter site will need to be temporarily removed to facilitate some access or egress manoeuvres (driveway locations and Works Zones). These spaces will need to be converted to ‘No Stopping’ zones to provide adequate manoeuvring area for construction vehicles.

Due to site constraints, there will be limited parking available for construction staff. All site personnel are advised to not park on streets within the vicinity of the site. To minimise parking demand, all construction workers and contractors are encouraged to carpool or utilise public transport. Construction works and contractors will be informed of the bus and train services readily available.

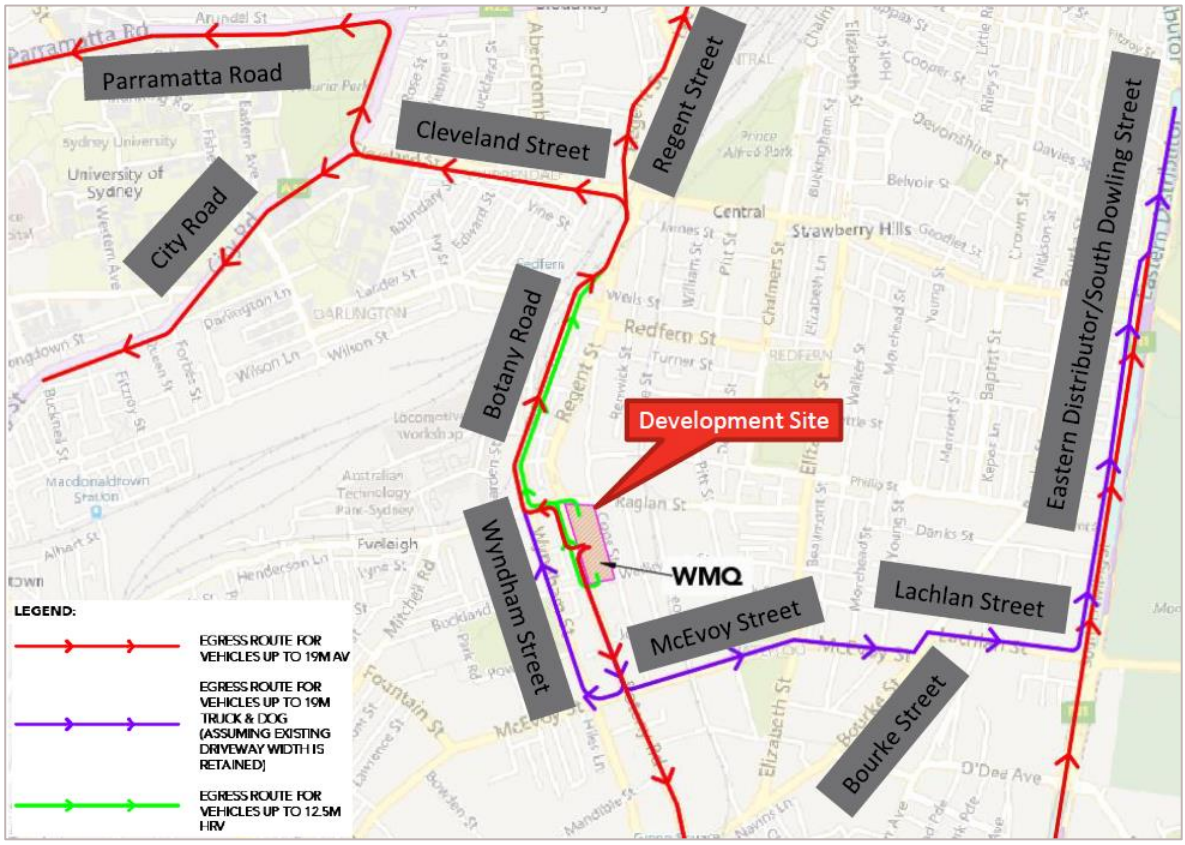
Haulage Movement Numbers and Routes

The construction vehicle access and egress routes are illustrated below. Construction vehicles will access the site via gates situated within the frontages to Botany Road, Raglan Street, Cope Street and Wellington Street as shown in Figure 41. Ingress/egress driveways are provided on the four frontages on Raglan Street, Botany Road, Cope Street and Wellington Street.

Figure 52 Vehicle access and egress routes



Source: ptc.



Source: ptc.

The delivery of materials to and from the site will result in some generated traffic activity. During the construction stage of the Southern Precinct, an average of 33 trucks are expected per day (132 across the entire Waterloo Metro Quarter precinct). During the services and finishes stage, an average of 20 trucks to the Southern Precinct are expected each day (average of 80 across the entire Waterloo Metro Quarter precinct).

Detailed Travel Management Strategy for Construction vehicles including staff movements

A GTP has been prepared by ptc. to outline the transport options and arrangements associated with construction workers. It seeks to reduce the use of vehicles travelling to and from the site. The Green Travel Plan indicates that public transport for construction workers is encouraged and details the measures in place to monitor and manage the uptake of sustainable travel options. It is envisaged that this Plan will be reviewed and amended accordingly in the detailed CPTMP to address comments raised during this consultation process.

Maintaining Property Access

Any proposed road closures will require approval from Council and will retain access for emergency vehicles. Appropriate traffic management measures (such as traffic controllers) will be implemented to ensure access is maintained to closed roads in the event of an emergency.

Access to all adjoining properties will be maintained throughout the works. The adjacent landowners will be notified of works via letter box distribution and road signage to advise of anticipated truck movements.

Maintaining bus operations including routes and bus stops

The existing bus stop 'Botany Road at Wellington Street' (Stop ID: 201712) will be removed to facilitate signal works for the development of the Waterloo Integrated Station Development. A temporary bus stop replacement will be utilised.

A new permanent bus stop location will follow post OSD construction works. Details will be provided in the detailed CPTMP for the construction stage post consultation with TfNSW and STA and will address timing and identify the temporary bus stop location. No other bus stops will be affected by the proposed works. The CPTMP has assumed this area can be accessible by vehicles during construction.

Maintaining pedestrian and cyclist links / routes

Pedestrian Management

Works Zones are required on Botany Road, Raglan Street and Wellington Street frontages to facilitate loading and unloading of materials for construction vehicles. Partial closures of the footpath and/or diversion of pedestrians will be required.

Traffic control plans will be prepared as part of the detailed CPTMP detailing mitigation measures and signage to support pedestrian access arrangements. A summary of the proposed works zones and impacts on pedestrians is provided below.

Table 22 Impacts of proposed Works Zones on pedestrians

Impact	Mitigation measure
Botany Road	
Due to the required Works Zones and multiple vehicular access and egress gates, it is proposed to close the footpath between Raglan Street and the Waterloo Congregational Church to eliminate the interaction between heavy vehicles and pedestrians. This will require partial closure of the footpath along the western frontage of the site between Raglan Street and the Waterloo Congregational Church.	Appropriate pedestrian diversion measures will be implemented to safely guide pedestrians across Botany Road to maintain pedestrian safety. Pedestrians will require guidance (via appropriate signage) to the nearest pedestrian crossings. Pedestrians are able to be safely redirected to the footpath on the western side of Botany Road by using the signalised pedestrian crossings. Pedestrians can also utilise the pedestrian facilities on Cope Street.

Impact	Mitigation measure
Pedestrian access to the Church and the bus stop will be maintained. The footpath between the Church and Wellington Street will remain open or locally diverted. As such, no Works Zone will occupy the Botany Road frontage directly outside the Church.	A works zone (approximately 23m long, accommodating up to 12.5m HRVs) is required on Botany Road between Gate 6 and Wellington Street. This will either occupy the kerbside (option 1) or kerbside lane, whilst ensuring pedestrian access to the church is retained and facilitated safely.
Raglan Street	
Due to the required Works Zones occupying the footpath and vehicle access/egress gate on the southern side of Raglan Street, it is proposed to close the footpath between Cope Street and Botany Road to eliminate the interaction between heavy vehicle movements, vehicle unloading activities and pedestrians. The proposed Works Zone on Wellington Street will occupy the footpath on the northern side of the carriageway.	Pedestrians will require guidance (via appropriate signage) to the nearest pedestrian crossings. Pedestrians are able to be safely redirected to the footpath on the northern side of Raglan Street by using the signalised pedestrian crossings. The proposed Works Zone on Wellington Street will require the closure of the northern footpath on Wellington Street and pedestrian diversion measures will need to be implemented (to be further detailed in the Construction CTMP) to guide pedestrians to use the alternate footpath on the southern side of Wellington Street.
Wellington Street	
The proposed Works Zone on Wellington Street will occupy the footpath on the northern side of the carriageway. As such, this will require the closure of the northern footpath on Wellington Street.	Pedestrian diversion measures will need to be implemented (to be further detailed in the Construction CTMP) to guide pedestrians to use the alternate footpath on the southern side of Wellington Street. Pedestrians will require guidance (via appropriate signage) to the nearest pedestrian crossings. The nearest pedestrian crossing facilities are located at the signalised intersection of Botany Road/Wellington Street and the priority intersection of Wellington Street/Cope Street. As such, pedestrians are able to be safely redirected to the footpath on the southern side of Wellington Street.
Cope Street	
The proposed Works Zone on Cope Street will occupy the footpath on the western side of the carriageway. As such, this will require the closure of the western footpath on Cope Street to separate pedestrian movements from the Cope Street frontage of the construction site as a method of eliminating the pedestrian and heavy vehicle interaction at Gate 8.	Pedestrians will be diverted to the eastern side of Cope Street via the pedestrian crossings provided at the intersections of Raglan Street/Cope Street and Wellington Street/Cope Street.

Cyclist links

The existing cycling infrastructure in the vicinity of the site is predominantly in the form of on-road environments (shared with other users) with a partial cycle lane commencing on the southern side of Wellington Street connecting to Buckland Street. A Works Zone is proposed on the northern side of Wellington Street which will occupy the footpath.

As there are no existing cycleways on the northern side, it is anticipated there will be minimal impacts to the existing cycle network in the site vicinity. As such, no closures of any existing cyclist links for the proposed OSD construction works is required.

In the event any closures are required, temporary replacement/diversion facilities will be provided to provide comparable levels of safety and convenience. All staff and subcontractors engaged on site will be required to undergo a site induction, which will include the need to exercise due care with regard for pedestrian and cyclist safety in the site vicinity during site access/egress manoeuvres.

Independent road safety audits

Independent road safety audits will be conducted by a suitably qualified consultant in due course when required in further design development involving road operations and traffic issues, cognisant of all road users.

Cumulative activities and work zones

Cumulative construction activities or Works Zones operating simultaneously between the Southern Precinct and broader Waterloo Metro Quarter development have been considered. Construction for all four precincts will occur simultaneously at one point (i.e. November 2022) despite differing commencement times. Construction of the basement and southern precinct will commence first, followed by the northern and central precinct construction works.

To mitigate any potential cumulative construction impacts, coordination will be undertaken between the concurrent construction of the northern and central precinct developments to ensure that high construction traffic volume activities (e.g. concrete pours) are undertaken on separate days to reduce the impact on the external road network.

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 Construction Waste Management Plan will be prepared by a separate party appointed by the developer.

Mitigation Measures

The following waste management initiatives are 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 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 maintained to ensure any applicable recycling targets can be achieved. This information will be collected and reported 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 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

Assessment

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 Waterloo Congregational Church located to the south of the site.

All noise generating activities are proposed to occur during the approved Standard Construction Hours. It is proposed to extend Saturday hours 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.

Mitigation Measures

- Seek written consent from the nominated approval authority prior to carrying out noise activities outside the nominated site operating hours.
- Monitor noise limits during construction works to ensure they meet the maximum allowable noise contribution.
- OSD Contractor to utilise existing noise impact assessment data, where required, to determine noise sources and confirm ambient background levels. Alternatively, baseline noise monitoring to be conducted prior to construction work commencing.
- OSD Contractor may engage an acoustic consultant to monitor construction noise level during its activities.
- Undertake routine inspections of plant and equipment 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 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
- Adhere to the recommendations contained within the Noise and Vibration Impact Assessment (Operational and Construction) prepared by Stantec.

8.8.4. Air Quality

Sources of air emissions from the proposed construction works are deemed to be minimal as the northern precinct does not have any basement levels and therefore no bulk excavation. The site impacts are primarily associated with traffic movements as a result of deliveries.

Management strategies to minimise air borne pollution will be incorporated into the detailed Construction Phase CEMP for the site. Air quality impacts will be minimised or avoided by incorporating appropriate dust and air suppression measures 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

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 to be installed in accordance with *NSW Blue Book Volumes 1 and 2D (Landcom, 2004 and DECC, 2008).*
- Minimise soil erosion and mobilisation of sediment during rain events.
- Use 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.
- Undertake regular inspections 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.
- Implement site exit controls such as wheel wash facilities to mitigate the risk of any loss of fuels, lubricants, load or other substances.
- Clean any spillage or build-up of such material or debris as soon as practicable.
- Develop an erosion and sediment control plan prior to the commencement of construction. This will be prepared in accordance with the NSW Blue Book requirements. All stormwater will be managed to prevent off site pollution.

Groundwater Seepage

Groundwater seepage is not expected to occur as the northern precinct is constructed above the basement (SSDA 10438) and therefore above the groundwater table.

Soil

Potential impacts to soil will be limited to areas of landscaping within the northern precinct. Where soil pollution occurs due to spills or leaks, the impacted soil is to be removed and disposed at an appropriately licenced facility. All known areas of contamination will be managed prior to commencement of the northern precinct and is subject to a separate approval process in accordance with CSSI approved station works.

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 social housing 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 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. Community members/stakeholders will be engaged to address the implementation of project specific mitigation and management strategies to minimise the potential for negative impacts on the community in and around the construction site.

The WL Developer is committed to respecting and valuing all stakeholders and engaging positively with the community, government, and non-government stakeholders. To achieve this, the following strategies are proposed:

- Establish and maintain effective and open communication with community members, stakeholders' groups and the WL Developer project partners.
- Be open and accessible to the community and stakeholders.
- 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.
- Ensure there are "no surprises" for stakeholders, the community and WL Developer partners.
- Conduct ourselves professionally in all that we do.
- 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 storage, management and disposal of waste generated by the operation of the commercial and retail component of the Northern Precinct has been considered in the Operational Waste Management Plan prepared by Elephants Foot at **Appendix L**.

Assessment

The primary waste streams expected to be generated by the ongoing operation of the total development are summarised below.

Table 23 Proposed Waste Generation

Building component	Type of Waste	Waste Generated (L/wk)
Retail	Food	2,289
	General	5,632
	Recycling	14,707
Commercial	Food	8,460
	General	42,302
	Recycling	42,302
Bin Equipment Summary		
General Waste	1 x 12m3 or 14m3 portable compactor (collected as required)	
Food Waste	15 x 120L MGBs (collected daily)	

Building component	Type of Waste	Waste Generated (L/wk)
Recycling (Paper/cardboard)	1 x Cardboard baler producing bales stored on pallets (collected when a minimum of 4 bales are produced)	
Recycling (Glass)	1 x Glass crusher and 8 x 60L crushed glass MGBs (collected as required)	
Recycling (Mixed/other)	6 x 1100L MGBs (collected 5 x weekly)	

Collection of Waste

The spatial allocation for the bins required to service the development is outlined in Appendix L. This area is accommodated within the waste and recycling room located at ground level as shown in Figure 33. Waste is to be collected on site within the loading dock, accessed from Wellington Street.

Council will service the social housing waste. The Council collection vehicle will park in the designated vehicle loading area and service all MGBs directly from the social housing waste room at ground level.

Private waste contractors will be engaged to service the separate waste streams of the student housing, gym and Makerspace to an agreed collection schedule. Collection will occur directly from the boarding house waste room via the designated vehicle loading bay.

The collection areas have been reviewed by ptc. to confirm the swept paths, load requirements and clearances for waste collection. Collection vehicles can enter and exit the site in a forward direction from Botany Road.

In accordance with the Waterloo Design Amenity Guidelines, the following design criteria has been met:

- All service vehicles and garbage trucks can enter and exit the site in a forward direction.
- Waste collection and loading has been designed in accordance with the City of Sydney Guidelines for Waste Management in New Developments.
- Waste collection and loading areas are located at-grade and wholly within the development.
- Sufficient side and vertical clearance have been provided for to allow the lifting arc for automated bins to remain clear of walls, ceilings, ducts, pipes and other services.

8.10. FLOODING & STORMWATER

8.10.1. Stormwater

WSP have prepared a Stormwater Management and Flood Impact Assessment Report (**Appendix O**) which considers the flood and risks and establishes the proposed stormwater management strategy associated with the detailed design of the northern precinct.

The Waterloo Metro Quarter site (of which the northern precinct is part of) drains to four frontages including 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. Cope Street is serviced by a Council stormwater main located and a Sydney Water owned box culvert. Raglan Street and Wellington Street is provided with surface drainage infrastructure. The site drains to Sheas Creek via Sydney Water trunk drainage and ultimately to Alexandra Canal and Botany Bay. It is subject to Sydney Water and City of Sydney stormwater requirements.

Assessment

The Sydney Water requirements for the overall Waterloo Metro Quarter site were confirmed as part of the concept approval (SSD 9393) and were referenced in the Water Quality, Flooding and Stormwater Report (WQFSR)(dated October 2018) prepared by Aecom. The Permissible Site Discharge requirements (PSD) were based on the overall Waterloo Metro Quarter site area of 13,500sqm and are as follows:

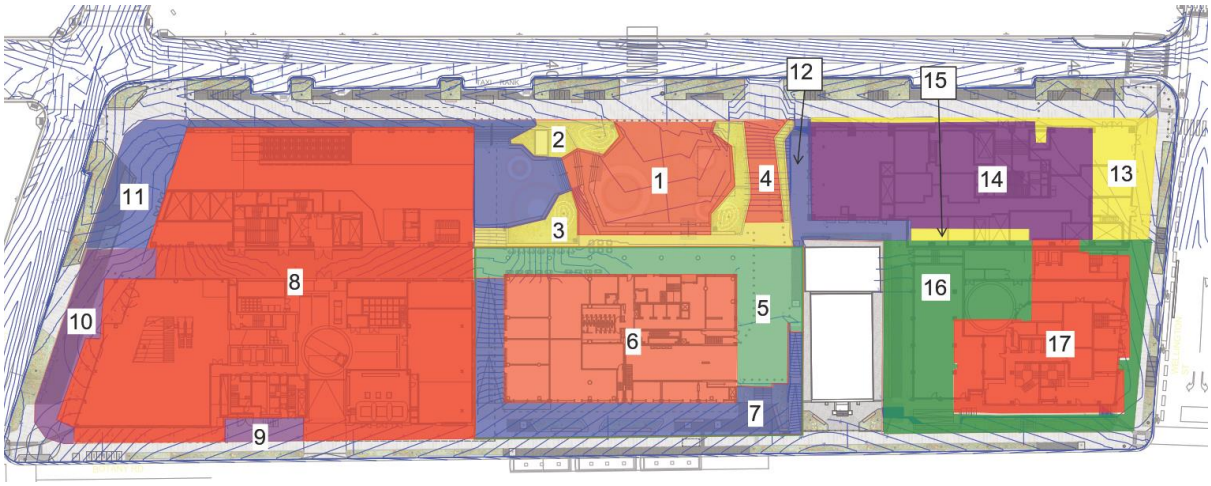
- On Site Detention (OSD): 208 cubic metres

- Permissible Site Discharge: 503 L/s

The Aecom report recommended the development provides a combined OSD tank volume of 480m3 despite Sydney Water's requirement of 208m3. The Aecom report did not clarify why the OSD tank volume increased from the Sydney Water requirement of 208m3 to 480m3.

The catchment areas assumed for the overall Waterloo Metro Quarter are shown in the figure below.

Figure 53 Overall Waterloo Metro Quarter Site Catchment Areas



Source: WSP

The site areas assumed for the northern precinct are detailed below.

Table 24 Stormwater drainage catchment areas

	Catchment Number	Bypass Area (SQM)	Captured Area (SQM)	Total Site Area (SQM)
Building 1 (northern precinct)	**8**		**4328**	
Botany Road (portion)	9	76		
Raglan Street (portion)	10	308		
Total		**384**	**4328**	**4712**

The hydrology and hydraulic analysis for the site was established using a DRAINS model. The hydrological parameters used in DRAINS are in accordance with the SDCP 2012. The DRAINS model was used to ensure that the northern precinct and broader Waterloo Metro Quarter site meets the required pro-rata PSD rate and OSD volume.

Table 25 On-site detention and permissible site discharge

	Permissible Site Discharge (L/S)	On Site Detention Volume (CU.M)	Bypass Flow Discharge (L/S)	Captured Flow Discharge (L/S)
Building 1 (Northern Precinct)	186	74	26	152

The stormwater drainage point of discharge for the Northern Precinct is proposed to be located to the west of building 1, connecting to the existing 900mm diameter pipe in Botany Road.

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 relevant water quality targets and WSUD requirements from this report are:

- Reduction of baseline annual pollutant load for litter and vegetation larger than 5mm by 90%;
- Reduction of baseline annual pollutant load for total suspended solids by 85%;
- Reduction of baseline annual pollutant load for total phosphorous by 65%; and
- Reduction of baseline annual pollutant load for total nitrogen by 45%.

These requirements have been adopted as they provide the highest level of water quality treatment and are consistent with the City of Sydney requirements.

Whilst the Aecom report recommended the development provide a combined OSD tank volume of 480m3, the report did not clarify why the OSD tank volume increased from the Sydney Water requirement of 208 m3 to 480m3. 208m3 of On-Site Detention have been provided in the stormwater management plan.

The stormwater strategy outlined below is supported by DRAINS calculations which demonstrate that the stormwater management strategy meets the Sydney Water requirements for stormwater discharge from the site and On-Site Detention. Key components of the proposed Stormwater Management Strategy are outlined below:

- The roof and pavement runoff is directed to a Stormfilter chamber prior to discharge to Council's stormwater system.
- The main method of treatment within the Northern Precinct is as follows:
  - 8 Stormfilter cartridges for Building 1.
- Additional water quality treatment methods to be provided are as follows:
  - A 10kL rainwater tank is to be installed within Building 1; and,
  - EnviroPod filters (or similar approved equivalent products) are to be installed within every stormwater inlet pit on the site.

As concluded in the Stormwater Management Plan and Flood Impact Assessment (**Appendix O**), 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 concept DA Water Quality, Flooding and Stormwater Report prepared by AECOM.

8.10.2. Flooding

Hydraulic modelling has been undertaken by upgrading the Alexandra Canal catchment flood model provided by City of Sydney Council in April 2020. Two model scenarios were analysed for assessing the flood conditions at the site and surrounding area. The model scenarios included:

- Baseline scenario which represents the pre-development site conditions; and,
- Proposed scenario which represents the post construction.

The flood impact has been assessed by comparing the baseline and proposed scenario model results (i.e. water level, velocity and flood hazard). The City of Sydney confirmed that the proposed flood impact must demonstrate no increase in water depth to adjacent land. The City of Sydney considered 10mm as acceptable tolerance for the flood impact.

The results of the hydraulic model have been used to inform the flood planning levels (FPLs). The FPLs have been defined in accordance with the minimum building floor levels and below ground development flood planning levels for the development as defined within the Aecom report.

Points of ingresses to the underground car park / basement (Area 10, Area 8 (stairs) and Shuttle Lifts in Area 3) have been designed to be above the PMF or the 100 years ARI + 500 mm (whichever is higher). These points include any service penetrations and lifts.

Development on floors above ground level are not discussed in the flood study as flood risk becomes not relevant due to the floor elevation. The first floor level is 22m AHD which is approximately 6m higher than the PMF flood level.

The report demonstrates that the flood planning levels at ground floor are set above the PMF water level 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.

Flood compatible material will be used for the building at ground floor to avoid water infiltration to underground levels or lower areas.

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.

The assessment confirms that all occupants of the ground floor are safe from flood risk. Occupants of Area 1 can remain safe within the building during the unlikely situation of an extreme flood event as the floor level is designed to be at PMF flood levels.

In case of an emergency, Area 2 is designed above PMF and 1 in 100 year ARI + 500 mm flood level and can be accessed from Area 1 and used as shelter. Occupants of Area 1 and Area 2 can also access upper floors (i.e. commercial floor) through the escalator located in the commercial lobby within Area 1.

Mitigation Measures

- Comply with the minimum flood planning levels.
- Use flood compatible (waterproof) materials for the building at ground floor to avoid water infiltration to underground levels or lower areas.
- Prepare and implement a flood warning and evacuation plan to inform the residents and managers of the building on the procedures to adopt to in case of an emergency associated to flood risk.

Conclusion

The Stormwater Management Plan and Flood Impact Assessment submitted at **Appendix O** demonstrates that the strategy meets the objectives of complying with relevant local council stormwater management policy, meets the design criteria of the original concept DA Water Quality, Flooding and Stormwater report prepared by AECOM and meets the critical objective of the Waterloo Design and Amenity Guidelines by improving quality and reducing the peak stormwater runoff.

While the proposal includes an OSD tank volume less than recommended in the AECOM report, the proposed OSD meets the Sydney Water requirements and will provide sufficient OSD capacity for the proposed Southern Precinct development.

8.11. REFLECTIVITY

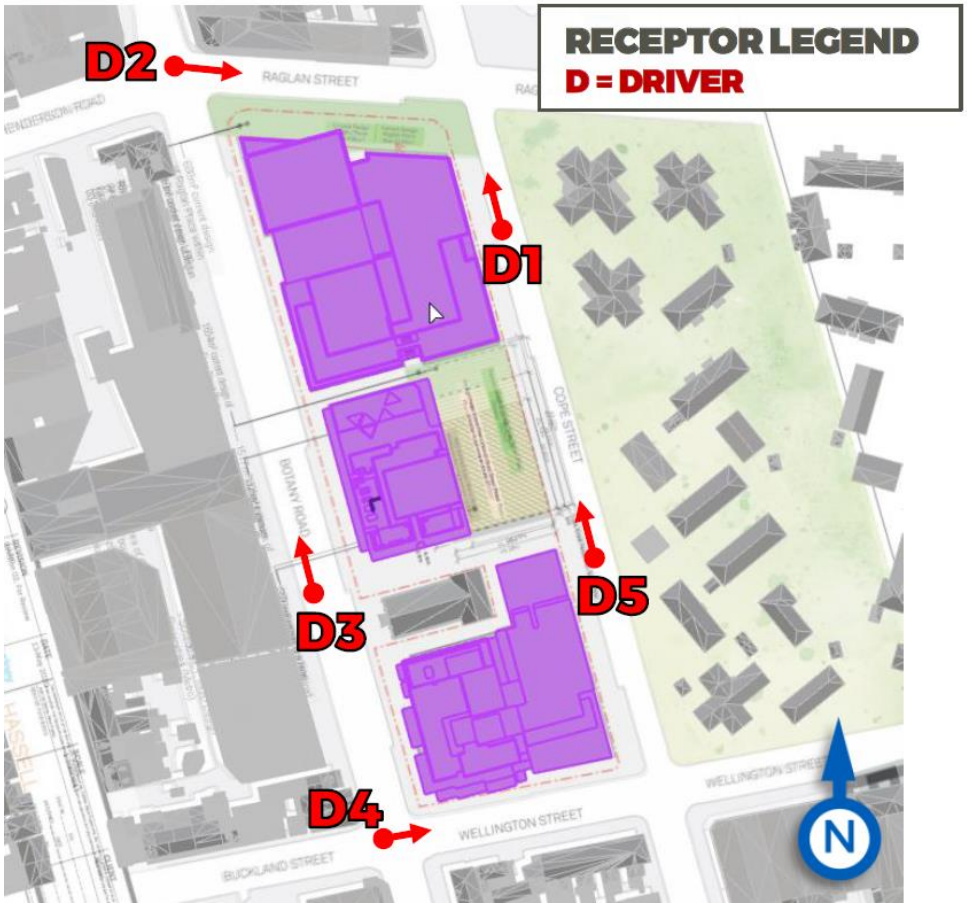
Assessment

RWDI have prepared a Solar Reflectivity Report (**Appendix GG**) to assess the potential for hazardous glare from the façade of the proposed development affecting motorists, pedestrians and occupants of neighbouring buildings. A summary of the methodology, assessment and recommended mitigation measures are provided below.

A reflectivity analysis to demonstrate that the external treatments, materials and finishes of the development do not cause adverse or excessive glare was undertaken. The analysis was conducted in two parts. First a ‘screening’ simulation estimated peak reflection intensities and the frequency of occurrence of reflections which may cause glare for a broad area around the development. In the event that reflections are predicted on roadways, a second ‘detailed’ analysis was undertaken.

Five representative points were selected for the detailed analysis. These receptor locations are illustrated in the figure below.

Figure 54 Key receptors of solar reflectivity



Source: RWDI

The assessment found that none of the reflections were predicted to have a veiling luminance that exceeded 500 cd/m². In summary:

- The reflective surfaces of the proposed development are naturally causing solar reflections.
- The maximum intensities of the reflected solar energy are predicted to be moderate, with the majority of reflections having a maximum intensity below 650 W/m².
- RWDI does not anticipate any significant heat gain issues on people or property, nor expect the reflections to create significant additional heat loads in adjacent buildings.
- The screening analysis predicted low potential for glare. Most locations had the potential for glare less than 5% of daylight hours, even with the conservative assumption that the viewer would be looking horizontally towards the source of the reflection.
- The detailed analysis predicted that driver receptor points travelling on roads in the vicinity of the site have the potential to be exposed to reflections. However, assuming that drivers are maintaining forward eye contact, the predicted veiling luminance of all reflections is below the 500 cd/m² limit.
- Given the safety risks associated with glare impacts to drivers, RWDI's analysis is intentionally conservative. The analysis assumed clear skies and ignored the effects of any landscaping, the use of sunglasses as well as obstructions to reflected light due to the car body.

In summary, the solar reflectivity assessment confirms there is negligible risk for the proposed development to cause due discomfort and glare to pedestrians and vehicle drivers.

8.12. BUILDING CODE OF AUSTRALIA (BCA)

McKenzie Group have undertaken an assessment of the proposed basement design against the Deemed-to-Satisfy (**DTS**) provisions of the relevant sections of the Building Code of Australia 2019 (**BCA**) and other applicable building regulations for the purposes of a DA submission (**Appendix R**).

The assessment of the architectural design documentation prepared by Woods Bagot (**Appendix D**) identified a number of matters which depart from the DTS provisions, but are considered capable of achieving compliance through the recommended solutions. The alternative solutions will be assessed against the performance requirements of the BCA at the relevant subsequent Construction Certificate stages of the project.

Overall, the detailed design of the basement is capable of complying with the relevant requirements through a combination of DTS provisions and performance-based solutions. Detailed drawings and associated review will be required as the final design is developed.

Compliance is subject to resolution with the recommendations provided by McKenzie Group and further detailed regulatory reviews, which will be undertaken throughout the design development stage. These matters do not preclude issuing of Construction Certificate as they will be resolved prior to construction.

8.12.1. Accessibility (DDA Compliance)

Morris Goding Access Consulting (MGAC) have assessed the proposed development with regards to the *Disability Discrimination Act 1992 (Cth)* (DDA), BCA (part D3, E3 and F2), *Disability (Access to Premises) Standards 2010*, relevant Australian Standards (AS 1428 series, AS 1735 and AS 2890) and the *Sydney Development Control Plan 2012* (SDCP 2012) (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 detailed design phase. In many instances, the report provides recommendations, indicating the current design is readily available to provide compliance with the relevant DDA requirements subject to ongoing refinement through detailed design development.

Specifically, the assessment ensures that the ingress and egress, paths of travel, circulation areas, sanitary facilities and accessible parking provisions comply with the relevant statutory guidelines, and in addition, compliance with a higher level of accessibility and inclusiveness benchmarks set by the project.

The assessment identifies the relevant requirements to ensure the assessment criteria above are met, and to maximise reasonable provisions of access for people with disabilities. Following their review of the architectural design documentation, MGAC have indicated that the current design can achieve compliance with the relevant DDA requirements subject to further refinement throughout the design development stages.

- Ingress and Egress – all access requirements appear capable of achieving compliance.
- Entrances – all access requirements appear capable of achieving compliance subject to resolution of some minor issues in regard to door circulation spaces identified on the attached marked-up drawings in the Report.
- Emergency Egress – the drawings and documentation review illustrates waiting spaces within the fire stair that will satisfy the relevant spatial requirements.
- Paths of Travel – all access requirements appear capable of achieving compliance subject to resolution of some minor issues in regard to door circulation spaces identified on the attached marked-up drawings in the Report.
- Passenger Lifts – all access requirements appear capable of achieving compliance.
- Stairs and Ramps – all access requirements appear capable of achieving compliance.
- Sanitary facilities – all access requirements appear capable of achieving compliance subject to resolution of some issues in regard to provision of an AWC and sanitary facility doors identified on the attached marked-up drawings in the report.
- Common Areas – all access requirements appear capable of achieving compliance.
- Accessible car parking – all access requirements appear capable of achieving compliance subject to resolution of some minor issues in regard to parking spaces internal dimensions identified on the attached marked-up drawings in the report.

As concluded within the Accessibility Report, the detailed design of the proposal will be capable of complying with the applicable requirements of the DDA Access to Premises Standards 2010, relevant Australian

Standards and the requirements of the BCA pertaining to external site linkages, building access, common area access, sanitary facilities and accessible parking.

8.12.2. Fire safety

OMNII (NSW) Pty Ltd have undertaken fire engineering assessment to address the relevant Performance Requirements of the National Construction Code 2019 Volume One, (NCC), where a Performance Solution is proposed (**Appendix EE**).

The Fire Engineering Review outlines an extensive list of fire safety measures for the Central Building to achieve compliance with the relevant performance requirements. Utilising the NCC, an acceptable Compliance Solution is to be achieved by a combination of compliance with the NCC Deemed-to-Satisfy (DTS) provisions and formulating an acceptable Performance Solution.

The requirements of the fire safety measures will be further reviewed and developed following the completion of a detailed fire safety engineering assessment and further consultation with NSW Fire Brigade to determine whether additional measures are required.

Where relevant deemed-to-satisfy provisions of the NCC are not suitable, and compliance cannot be satisfied, alternative performance solutions have been developed to demonstrate an acceptable level of fire safety can be achieved.

As concluded within the Fire Engineering Review, it is possible to develop performance solutions for the issues identified to demonstrate compliance with the relevant performance requirements of the NCC without significant changes to the proposed OSD design. This approach is intended to allow the development of an effective performance-based building design, whilst maintaining an acceptable level of Fire and Occupant Life Safety.

8.13. SOCIAL & ECONOMIC IMPACTS

8.13.1. Crime, Safety and Security

A 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 focus and strategy include assessing and mitigating crime risks by applying CPTED principles.

Table 26 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: ▪ 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
	Treatment is recommended of the southern corner of the entry to the loading dock to remove the blind spot.
General Note	External lighting in pedestrian areas to AS1158.3.1:2005. CCTV coverage of all entrances, goods lift, and public areas. Electronic access control or secure key for external entrances and goods lift.
Building 1 – Level 1	
Access Control and Natural Surveillance	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.

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. Security Risk Assessment

In addition to the above, a Security Risk Assessment has been prepared by Connley Walker and is provided at **Appendix FF**. The assessment has been carried out in accordance with the requirements of the Australian Standard for Risk Management AS/NZS ISO 31000. The AS/NZS ISO 3100 methodology is based on assessing risks and mitigating them based on the level of risk. Specifically, it involves the following:

- Establish the context
- Risk assessment
  - Risk identification
  - Risk analysis
  - Risk evaluation
- Risk treatment.

To ensure consistency with the adjoining Waterloo Station Development, the Security Risk Assessment has used the methodology for analysing and assessing the risks that is used by Sydney Metro. Consultation with South Sydney Police was conducted to gain an understanding of the operational context and specific security threats.

In addition to the CPTED measures, the following security risk mitigation measures are recommended in conjunction with the South Sydney Police, including, CCTV surveillance of all public spaces, all building entries, lift lobbies, car park, bicycle storage, within all lifts, concierge points, roof access points and plant room entries. Electronic access control is also recommended at all residential lobby entries, lifts, entries to building management areas and non-public entries

The recommendations of the assessment are provided to mitigate against potential security risks and to ensure an appropriate level of security is applied, through sound security principles and standards, for the operation of the basement. The proponent is committed to implementing the recommended mitigation measures to aid the ongoing safe operation.

Further, a separate Blast Vulnerability Assessment (BVA) and Hostile Vehicle Mitigation (HVM) has been prepared to support the proposed development for the Northern Precinct.

The BVA provides an overview of the threat context to the northern and central precincts and identifies protective design recommendations. It outlines the overall HVM Strategy developed to provide protection to public transport users and areas of mass pedestrian and community congregation.

8.13.3. Employment Generation

A Social and Economic Assessment has been prepared by Urbis and is submitted at **Appendix AA**. The assessment estimates the number of jobs to be created by the broader Waterloo Metro Quarter development of the site as outlined in the table below.

Table 27 Job Creation

Stage	Timing	No. and Type of Jobs
During construction	Over 4.5 years	196 direct jobs 270 indirect jobs **Total – 466 jobs**
After construction (operation)	Ongoing	Commercial – 3,384 Child Care – 31 Retail – 137 Gym – 15 Student accommodation – 24 **Total – 3,591 jobs**

Job targets have been projected for the Harbour CBD in the Eastern City District Plan. These targets seek to inform planning authorities and infrastructure agencies of anticipated growth. The lower end of the range of these job targets reflects the baseline of projected job growth, while the upper end is an aspirational higher growth scenario to reflect outcomes in the case of future investment and land use planning. Overall, the Greater Sydney Commission is targeting an additional 165,100 – 235,100 jobs from 2016 to 2036. The proposed Waterloo Metro Quarter OSD is projected to generate around 3,591 jobs, which will help achieve the growth targets.

Overall, the proposed development is supported as it is anticipated to create a vibrant mixed-use precinct on the fringe of the Sydney CBD. The mix of commercial uses from office, housing (diverse mix of market, affordable, social and student housing), retail, food and beverage and gym are supported with the market assessment identifying demand for these uses.

In summary, the development will contribute to the ongoing economic activity of the New South Wales workforce and support employment generation in the local area consistent with the objectives of the Sydney Region Plan and the Eastern District Plan.

8.14. HEALTH IMPACTS

The following key environmental and health issues have been addressed in detail through this EIS:

- Built Form
- Heritage Impact
- View and Visual Impact
- Overshadowing
- Wind Impacts
- Noise and Vibration
- Transportation Air Quality
- Airspace
- Traffic, Access and Car Parking
- Construction Impact(s)
- Utilities and infrastructure
- Flooding and Stormwater
- Reflectivity
- Accessibility
- Fire safety
- Social and Economic Impacts
- Crime and Safety
- Security Risk Assessment

The ESD Report for the proposal includes health and well-being objectives to encourage active, social and meaningful lives. The Waterloo Metro Quarter proposal also seeks to provide buildings, infrastructure and spaces to support good health and wellbeing outcomes for all ages. Notably, the basement supports commercial and retail EOTF to encourage healthy active transport options, whilst reducing automobile dependence and minimising carbon emissions. This is further reinforced through the provision of car parking below the maximum permissible rates and providing maximised bicycle parking.

Construction impacts relating to waste, noise and vibration, air quality and soil and water quality will be managed accordingly throughout the construction phase in line with the CEMP (refer **Appendix Q**). a Stormwater Management Strategy and Flood Impact Assessment has been prepared to ensure appropriate treatment of stormwater runoff to surrounding water catchments and mitigate potential flood impacts (**Appendix O**).

The proposal is accompanied by a Transportation Air Quality Management Plan which indicates that compliance is achieved at the kerb of Botany Road for carbon monoxide (CO), nitrogen dioxide (NO2), and inhalable particulate matter (PM10) under the proposed peak hour traffic volume at mid-block on Botany Road. The design has considered CPTED principles and security risks to mitigate potential health risks associated with anti-social and criminal behaviour.

Overall, the proposal will not result in any unacceptable local and regional health impacts. The following Chapter 9 undertakes risk assessment and provide a summary list of mitigation measures to further mitigate environmental impact and ensure that health risks of the proposal are at acceptable levels.

8.15. SUITABILITY OF THE SITE

Suitability of the site for the development of a commercial office building was primarily established as part of the concept SSDA as amended. Overall, the detailed SSDA proposal is considered suitable for the site for the following reasons:

- The project is consistent with the NSW Government and City of Sydney Council policies for the site and surrounding area including the Greater Sydney Region Plan, the East District Plan and site-specific development controls for the height of buildings and density (FSR controls).
- The proposal will realise the opportunity to efficiently utilise the site's location and connection to greater Sydney through the placement of employment generating floor space above a metro station.
- The proposal, forming part of the wider Waterloo Metro Quarter development, will combine with public open space and lane ways to deliver a truly activated precinct with clear wayfinding and walkability.
- The proposal is permissible in the B4 Mixed Use zone pursuant to the SLEP 2012 and delivers high grade commercial floor space and ground floor retail within the Sydney CBD to encourage activation of the southern CBD and to maximise the use of future transport infrastructure.
- The detailed design of the proposal supports an activated public domain at both day and night with separated pedestrian entrances for commercial and retail land uses which will connect with the precinct wide mix of land uses which include a range of residential.
- The proposal contributes to the vibrancy of the Sydney CBD by providing a critical element of a landmark development which provides complementary land uses to support the commercial core.
- The reduced height of building 1 is compatible with the scale of the surrounding existing and future built form typology and character which currently comprises a mix of low to medium commercial and residential land uses.
- The proposal adheres to the Waterloo Metro Quarter Design and Amenity Guidelines, specifically in relation to control 3M as it relates to solar access to the public domain in Cope Street Plaza and Alexandria Park. The reduced building height has improved openness of the sky improving both locations solar impact from the proposal.
- The proposed façade and exterior colour scheme have been designed to be sympathetic to the surrounding context, including heritage items and conservation areas in the vicinity of the site which feature significant brickwork and masonry elements.
- The proposed built form can be successfully integrated with the station below to allow optimal use of the public domain, increased pedestrian capacity and not impeding future station uses or operations.

The proposal is considered suitable for the site as it delivers a world-class integrated public transport and commercial development that which aligns with relevant strategic and statutory planning policies and significant NSW Government investment in public infrastructure.

8.16. 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 commercial premise proximate to public transport infrastructure.
- The proposal maintains solar access to Alexandria Park, Cope Street Plaza and the surrounding significant public domain.
- The detailed design respectfully integrates with adjacent significant local heritage items such as the Waterloo Congregational Church, the Cricketers Arms hotel, Former CBC Bank and Alexandria Park Heritage Conservation Area.
- The proposal provides a large quantum of high-quality employment generating floor space above a metro station, encouraging public transport patronage and usability.
- The proposed envelope which was reduced in height by way of amending concept DA (SSD 10441) will deliver a revised land use being commercial. This will reduce reverse amenity impacts of the building on other buildings within the precinct and help deliver a more integrated development.
- The detailed design provides an activated podium which integrates into the public domain to be delivered under the CSSI approval. This will result in increased natural surveillance to ensure minimised anti-social and criminal behaviour within the locality.

- The proposal includes high sustainability initiatives, including the provision of highly limited car parking spaces, and exceeding the mandatory requirements of ESD principles.
- 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 creating an exceptional experience for future site users and a landmark destination for public transport patrons.

9. ENVIRONMENTAL RISK ASSESSMENT

9.1. 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 SSDA 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.

Table 28 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 29.

Following the application of each of the mitigation measures, only 3 residual risks are identified that have a risk profile of ‘medium’ or greater including:

- Wind Impact
- Pedestrian Amenity
- Structural Interface

These risks can be appropriately managed through the minimisation and mitigation measures which are proposed as part of this application.

Table 29 Risk Assessment

Aspect	Potential Impact	Significance	Manageability	Risk Level
Design Excellence	The development does not achieve design excellence	3	D	Low
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 Waterloo Congregational Church.	2	D	Low
View and Visual Impact	Adverse view impacts to surrounding developments	2	D	Low
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
Environmental Performance / ESD	Irreversible increase in energy usage.	2	C	Low
Wind Impact	Adverse wind environment to outdoor areas in the OSD, including the private communal terrace on level 13. Potential for general and localised wind effects.	3	C	Medium
Noise and Vibration	Adverse noise conditions within the OSD from Sydney Metro infrastructure.	2	D	Low
	Adverse noise conditions within the OSD from surrounding development and road network	3	D	Low
	Adverse external noise conditions to surrounding development (Operation).	2	D	Low
	Adverse external noise conditions to surrounding development (Construction).	3	D	Low

Aspect	Potential Impact	Significance	Manageability	Risk Level
Airspace	Impact on prescribed and protected airspace	2	D	Low
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 water table	2	D	Low
Infrastructure provision	Adequate connection to infrastructure and utilities and adequate infrastructure capacity	2	D	Low
Structure	Structural interface with metro station and Infrastructure	3	C	Medium
	Structural impact on Waterloo Congregational Church	3	D	Low
Flooding	Potential flooding of the OSD.	2	B	Low

Aspect	Potential Impact	Significance	Manageability	Risk Level
	Potential flooding of aspects of the CSSI 'Sydney metro box' including the public domain.f	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
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	Adequate access for people with a disability.	2	C	Low
	Adherence to Building Code of Australia	2	D	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

9.2. MITIGATION MEASURES

The measures identified to mitigate the potential environmental impacts of the proposed development are described in detail within Section 8 of the EIS.

A consolidated set of mitigation measures required for each of the environmental and social impacts is summarised in the table below.

Table 30 Proposed Mitigation Measures

Item	Potential Impact	Mitigation Measure
Design Excellence	The development does not achieve design excellence	Comply with the requirements of the endorsed Design Excellence Strategy dated 1 July 2020. Maintain engagement with the 'design Architect' through the detailed design of the proposed development.
Aboriginal Heritage	Potential impacts on Aboriginal places of significance (Construction).	The potential impact upon aboriginal heritage will be considered under the construction of the Basement Precinct. 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.
Non-Aboriginal Heritage	Impact on the significance of heritage items in the vicinity notably Waterloo Congregational Church.	Adopt the recommendations of the Heritage Impact Statement prepared by Urbis, dated 7 August 2020, with regard to maintaining the proposed building setbacks, materiality and finishes.
View and Visual Impact	Adverse view impacts to surrounding developments	Compliance with the approved concept DA building envelope, and the assessment of the proposed façade features and embellishments to ensure no further adverse impacts result. Further design development to result in a high-quality ground plane. Implementation of principles of design excellence as articulated in "Better Placed – an integrated policy for the built environment in NSW" (Government Architect NSW, September 2017). Preparation and implementation of 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. Detailed design of the public domain and Cope Street Plaza. Large scale street trees will be a

Item	Potential Impact	Mitigation Measure
		requisite to maintain human scale and to reinforce a visual connection with the residential precinct.
Solar Access	The residential apartments and student rooms do not achieve adequate sunlight.	Maintain approved concept envelope and proposed building orientation and floor layout.
	Potential impacts on adjoining residential dwellings and public open space.	Compliance with the approved concept DA building envelope (SSD 9393), and the assessment of the proposed façade features and embellishments to ensure no further adverse impacts result.
Privacy	Adverse impact on visual and acoustic privacy of surrounding residential properties	Maintain the current building orientation, floor layout and separation distances to surrounding built form elements.
Overshadowing	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.
Metro Services Box	Adverse amenity impacts from exhaust vents.	Maintain proposed floorplate which has been designed to respond to the required setbacks from these station vents. Maintain proposed setback of operable windows and balconies to achieve minimum separation from vent, install fixed glazing and glass screen behind sun blades.
Environmental Performance / ESD	Irreversible increase in energy usage.	Adhere to recommendations within the ESD Report prepared by Cundall Johnston and Partners dated 30 July 2020.
Wind Impact	Adverse wind environment to outdoor areas in the OSD, including to private balconies, communal area and Cope Street Plaza. Potential for general and localised wind effects.	Recommendation has therefore been made for the screening along the western and southern aspects of this terrace space to be increased in height to 2.5m above the terrace floor level. The inclusion of landscaping in the form of dense hedges adjacent to the glass line at this corner location will further enhance conditions for patrons. Installation of screening through the through site links to mitigate wind tunnel effects.
Noise and Vibration	Adverse noise and vibration conditions within the OSD from Sydney Metro infrastructure.	Adhere to the recommendations provided within the Noise and Vibration Impact Assessment prepared by Stantec, dated 30 July 2020 Monitor the nearest affected structures within the proposed development to ensure vibration does not exceed criteria established for potential structural damage.

Item	Potential Impact	Mitigation Measure
	Adverse external noise conditions to surrounding development (Operation).	**Mechanical Plant and Equipment** Install acoustic barriers to the Level 16 and 17 plantrooms to the height shown in the architectural documentation. Enclose generators with an acoustic canopy. Position mechanical plant away from nearby receivers. Fit acoustic attenuators to duct work. Install screening around mechanical plant. Acoustic insulation within duct work. **Loading Dock** Conduct loading dock activities when loading dock shutter door is closed. Maintain rubbish trucks and braking materials to minimize or eliminate noise such as squeaky brakes. Educate drivers and collectors to be careful and to implement quiet work practices.
	Adverse external noise conditions to surrounding development (Construction).	Adhere to the recommendations contained within the Noise and Vibration Impact Assessment (Operational and Construction) prepared by Stantec.
Airspace	Impact on prescribed and protected airspace	Maintaining proposed maximum building height in accordance with concept DA envelope, as proposed to be modified (SSD 9393).
Traffic and Transport	Increased traffic on local roads (Operational).	The provision of nil parking to the student accommodation building and limited (8 car spaces) for social residents. Implementation of a loading dock management plan to schedule services and deliveries to mitigate traffic movements from and to the site.
	Increased traffic on local roads (Construction).	The provision of zero parking spaces on site during construction for workers. Implementation of a Green Travel Plan.
	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.

Item	Potential Impact	Mitigation Measure
Pedestrian Management	Conflict with pedestrian and cycle/vehicle operations (Operational).	The provision of minimal resident 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.
	Conflict with pedestrian and cycle/vehicle operations (Construction).	Consistency with the Construction Traffic and Pedestrian Management Plan prepared by ptc dated 31 July 2020.
Pedestrian amenity	Adverse impact on the pedestrian wind environment of surrounding streets.	Installation and management of mitigation measures through Raglan Walk and Grit Lane to reduce the impact on pedestrians.
	Pedestrian volumes and footpath/public domain capacity.	Maintain safe and legible footpaths design and delivered in accordance with the Waterloo Metro Quarter Design and Amenity Guidelines and supporting architectural documentation.
Waste	Waste production (Operation).	Implementation of the Operational Waste Management Plan prepared by Elephants Foot, dated 28 July 2020.
	Waste production (Construction).	Preparation and implementation of a detailed Construction Waste Management Plan.
Air Quality, Odour and Dust	Air quality, odour and dust emissions (construction)	Maintain compliance with AS1668.2.
Construction	Impacts associated with public safety, visual amenity, noise, waste, and traffic management in the locality during construction	The CEMP development by John Holland and included at **Appendix Q** 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 precinct
Soil and Water		Installation, use and maintenance of a number of temporary erosion and sediment control measures as detailed within the CEMP included at **Appendix Q**.
Infrastructure provision	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		**Comply with:** AS 1170.0 Structural Design Actions Part 0: General Principles 2002 AS 1170.1 Structural Design Actions Part 1: Permanent, Imposed and other 2002

Item	Potential Impact	Mitigation Measure
		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	Potential flooding of the OSD.	▪ Comply with the minimum flood planning levels (i.e. above the PMF and 100 year + 500 mm flood event). ▪ Use flood compatible (waterproof) materials for the building at ground floor to avoid water infiltration to underground levels or lower areas. ▪ Prepare and implement a flood warning and evacuation plan to inform the residents and managers of the building on the procedures to adopt to in case of an emergency associated to flood risk.
Stormwater	Adverse impact on the quality of stormwater runoff (Operation).	▪ Provide 8 Stormfilter cartridges. ▪ A 10kL rainwater tank is to be installed within Central Precinct. ▪ EnviroPod filters (or similar approved equivalent products) are to be installed within every stormwater inlet pit on the site.
	Adverse impact on the quality of stormwater runoff (Construction).	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 a range of principles detailed in the CEMP. An erosion and sediment control plan will be developed prior to the commencement of construction. This will be prepared in accordance with the NSW Blue Book requirements. All stormwater will be managed to prevent off site pollution.
Contamination	Exposure of contamination or hazardous materials during construction and operation.	Adopt the recommendations of the Contamination Strategy prepared by Douglas Partners (submitted as part of the basement SSD-10438).

Item	Potential Impact	Mitigation Measure
Reflectivity	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%.
Biodiversity	Loss of significant vegetation.	A BDAR waiver (**Appendix V**) was issued by the NSW DPIE and OEH, and it was on determined 24 July 2020 that a BDAR is not required as part of this detailed SSDA.
Building Standards	Adequate access for people with a disability.	Maintaining proposed maximum building height in accordance with concept DA envelope.
Fire	Risk of inadequate fire safety procedures as part of the proposed development.	Compliance with the requirements of the Fire Safety Strategy Report prepared by Omnii and included at Appendix EE. Utilising the NCC, an acceptable Compliance Solution is to be achieved by a combination of compliance with the NCC Deemed-to-Satisfy (DTS) provisions and formulating an acceptable Performance Solution.
Safety and Security	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	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 land owners and occupants during the construction period, including a complaints register.
	Antisocial and criminal behaviour.	Adoption of the recommendations of the CPTED assessment prepared by Connley Walker, included at **Appendix N**.
Signage	Detracts from the architectural integrity of the building.	Future signage to be located within the proposed signage zone. The detailed design and location of the sign within the signage zone are subject to future applications.
	Adverse impact on public domain, pedestrians and motorists.	Future signage to be located within the proposed signage zone.

Item	Potential Impact	Mitigation Measure
		The detailed design and location of the sign within the signage zone are subject to future applications.
Cumulative Impacts	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 prepared by John Holland, dated 23 July 2020. 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.

10. CONCLUSION & JUSTIFICATION

This EIS has been prepared to accompany a detailed SSDA for the construction and operation of a commercial OSD located at the northern precinct of the Waterloo Metro Quarter site. 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 detailed SSDA.

The lodgement of the detailed SSDA (SSD-10440) follows the approval of a concept SSDA (SSD 9393) granted by the Minister for Planning on 10 December 2019. An amending concept DA has been lodged concurrently (SSD-10441) which seeks amendments to the approved building envelopes for the northern precinct and central precinct. This detailed SSDA is consistent with the concept approval, as proposed to be modified.

The detailed SSDA seeks approval for the detailed design, construction, and operation of a commercial office building within the northern precinct with ground floor retail tenancies and a through-site link between the Raglan Street frontage and Cope Street plaza.

The detailed design of the proposed northern precinct OSD has been the subject of design development and testing, as well as 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 development sought within the detailed SSDA is considered appropriate for the site and warrants approval from the Minister for Planning and Public Spaces for the following reasons:

- The proposal supports the objectives for development within the Eastern City District as outlined within the District Plan. The proposal will incentivise investment and innovation at a suitable scale that will 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 from significant NSW Government investment in public transport, specifically Sydney metro. The mix of uses provides activation through various times of the day, optimising holistic take up of the new metro infrastructure.
- The proposal will utilise the amended built form and use of the site, through the delivery of approximately 34,000sqm of commercial office floor space, rather than a third residential building. 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 at the site meets the diverse housing needs of the community through the provision of social housing, affordable housing, traditional market housing, and student accommodation.
- 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 amended building envelopes have facilitated through-site links. This detailed DA will deliver these links to improve the walkability and amenity of the precinct and provide connected places within the precinct to support permeability and walkability of the site. Further, these links will ensure ease of movement when walking between the metro stop and the bus stop on Botany Road.
- The proposal delivers a key element within a genuine mixed-use precinct that celebrates distinct economic, social, heritage and cultural characteristics of Waterloo.
- While on-site parking has been proposed in conjunction with the detailed design of building 1, the parking has been limited in line with the approved concept conditions. The precinct will support sustainability initiatives and reduce 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.

In view of the above, we submit that the proposal is in the public interest and that the detailed SSDA should be approved subject to appropriate conditions.

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 State Significant Development Development Application **(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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