WATERLOO METRO QUARTER OVERSTATION DEVELOPMENT

Environmental Impact Statement
Appendix N – CPTED Report

SSD-10441 Concept DA Modification

State Significant Development,
Development Application

Prepared for **WL Developer Pty Ltd**

30 September 2020

Reference	Description
Applicable SSD Applications	SSD-10441 Amending Concept DA
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1. Glossary and abbreviations

Reference	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
ADG	Apartment Design Guide
AHD	Australian height datum
AQIA	Air Quality Impact Assessment
BC Act	Biodiversity Conservation Act 2016
BCA	Building Code of Australia
BC Reg	Biodiversity Conservation Regulation 2017
BDAR	Biodiversity Development Assessment Report
CEEC	critically endangered ecological community
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.
Council	City of Sydney Council
CPTED	Crime Prevention Through Environmental Design
CSSI approval	critical State significant infrastructure approval
CTMP	Construction Traffic Management Plan
DA	development application
DPIE	NSW Department of Planning, Industry and Environment
DRP	Design Review Panel
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

Reference	Description
ESD	ecologically sustainable design
GANSW	NSW Government Architect's Office
GFA	gross floor area
HIA	Heritage Impact Assessment
IAP	Interchange Access Plan
LGA	Local Government Area
NCC	National Construction Code
OSD	over station development
PIR	Preferred Infrastructure Report
POM	Plan of Management
PSI	Preliminary Site Investigation
RMS	Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SEPP 55	State Environmental Planning Policy No 55—Remediation of Land
SEPP 65	State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2009
SREP Sydney Harbour	State Regional Environmental Plan (Sydney Harbour Catchment) 2005
SSD	State significant development
SSD DA	State significant development application
SLEP	Sydney Local Environmental Plan 2012
Transport for NSW	Transport for New South Wales
TIA	Traffic Impact Assessment

Reference	Description
The proposal	The proposed development which is the subject of the detailed SSD DA
The site	The site which is the subject of the detailed SSD DA
VIA	Visual Impact Assessment
WMQ	Waterloo Metro Quarter
WMP	Waste Management Plan
WSUD	water sensitive urban design

2. Executive summary

This report has been prepared by Connley Walker Pty Ltd to accompany a concept State significant development (SSD) development application (DA) for the Waterloo Metro Quarter over station development (OSD). This concept SSD DA is submitted as an 'amending DA', that modifies the previously approved concept SSD DA issued for the site (SSD 9393). The modifications contained within the amending DA relate to the northern precinct and central building only. No change is proposed to the original concept SSD DA as it relates to the southern precinct of the Waterloo Metro Quarter site.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the amending concept SSD DA (SSD 10441).

This report concludes that the proposed amending concept DA for the Waterloo Metro Quarter OSD is suitable and warrants approval subject to the implementation of the following mitigation measures:

Building 1 – Ground Level

CPTED measures that have been identified include territorial reinforcement in the exit doors by sloping the concrete from the doors to the outside path to discourage use of these areas. Access control has been addressed by restricting access to the external stair from the street to prevent non-residents from using the stairs for unauthorised purposes. Natural surveillance has been addressed through ensuring high visibility of the loading dock by the dock manager, providing the dock loading door as close to the street as possible, removing blind spots and provision of appropriate lighting.

Additional measures include CCTV coverage of all entrances, goods lift, stairs, dock, and public areas and electronic access control or secure key for external entrances and goods lift.

Building 1 – Level 1

CPTED measures recommended for access control and natural surveillance include consideration of a concierge to manage visitor access and to provide natural surveillance of the entry speedstiles.

Additional measures include CCTV surveillance of the lobby and lift lobby.

Building 2 – Ground

CPTED measures include the addition of a sliding door to prevent pedestrian access (refer to plans in the body of the report), territorial reinforcement in the exit doors by sloping the concrete from the doors to the outside path to discourage use of these areas and surveillance via lighting.

Additional measures include CCTV coverage of all entrances, goods lift, and public areas and electronic access control or secure key for external entrances and goods lift.

Building 3 – Ground

CPTED measures recommended include the provision of bollards to the entry into the loading dock and external lighting in pedestrian areas to AS1158.3.1:2005.

Additional measures include CCTV coverage of all entrances, goods lift, and public areas and electronic access control or secure key for external entrances and goods lift.

Building 4 – Level 1

CPTED access control and natural surveillance measures include securing the balcony on this level to prevent occupants stepping onto the roof and securing the door to the roof.

Basement

CPTED access control measures include the provision of roller shutters to separate uses, goods lift and bike shelter and wayfinding signage painted on roadway to direct pedestrians to authorised areas.

Additional measures include CCTV viewing of car spaces, bicycle storage and all entries.

The CPTED mitigation measures are in line with the Crime prevention and the assessment of development applications Guidelines under section 79C of the Environmental Planning and Assessment Act 1979 published by the NSW Department of Urban Affairs and Planning and with the requirements of City of Sydney DCP – Section 3.13.1 Crime prevention through environmental design – 2012.

Following implementation of the above mitigation measures, the remaining impacts are appropriate.

3. Introduction

This report has been prepared to accompany a concept SSD DA for the over station development (OSD) at the Waterloo Metro Quarter site. The concept DA seeks consent for an amended building envelope and description of development for the northern precinct and central building of the Waterloo Quarter site approved under SSD 9393. For clarity, this concept DA (formerly referred to as a 'Stage 1' DA) is made under Section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

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

The concept DA seeks to modify the approved building envelope for the northern precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393) through:

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

The concept DA seeks to modify the central building approved building envelope (previously comprising 'Building E' under SSD 9393) through:

- modifying the eastern extent of the podium envelope.

This proposal will not exceed the permissible building height for the site under the Sydney Local Environmental Plan 2012 (SLEP) or the maximum height approved under SSD 9393. Separate detailed SSD DA (s) will be lodged concurrently for the detailed design, construction and operation of the northern precinct and central building. No changes are proposed to the original concept DA as it relates to the southern precinct.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 9 April 2020 and issued for the detailed SSD DA. Specifically, this report has been prepared to respond to the SEARs requirements summarised below.

Item	Description of requirement	Section reference (this report)
Plans and Documents	In addition, the EIS must include the following: CPTED Report (delivered by a suitably qualified and licensed contractor with contractor with consideration to the requirements of the NSW Security Industry Act 1997)	7. Methodology 10. Assessment and Findings 11. Mitigation Measures

Table 1 - SEARs Requirements

4. The site

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

The Waterloo Metro Quarter site comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street (refer to Figure 1). The heritage listed Waterloo Congregational Church located at 103–105 Botany Road is within this street block but does not form a part of the Waterloo Metro Quarter Site boundaries.

The Waterloo Metro Quarter site (the site) is a rectangular shaped allotment and an overall site area of approximately 1.287 hectares.

The Waterloo Metro Quarter site comprises the following allotments and legal description at the date of this report. Following consolidation by Sydney Metro (the Principal) the land will be set out in deposited plan DP1257150.

- 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).

The boundaries of the site the subject of the amending concept DA is identified at Figure 5.1. The site is reasonably flat with a slight fall to the south.

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 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 in accordance with critical State significant infrastructure approval (CSSI 7400).

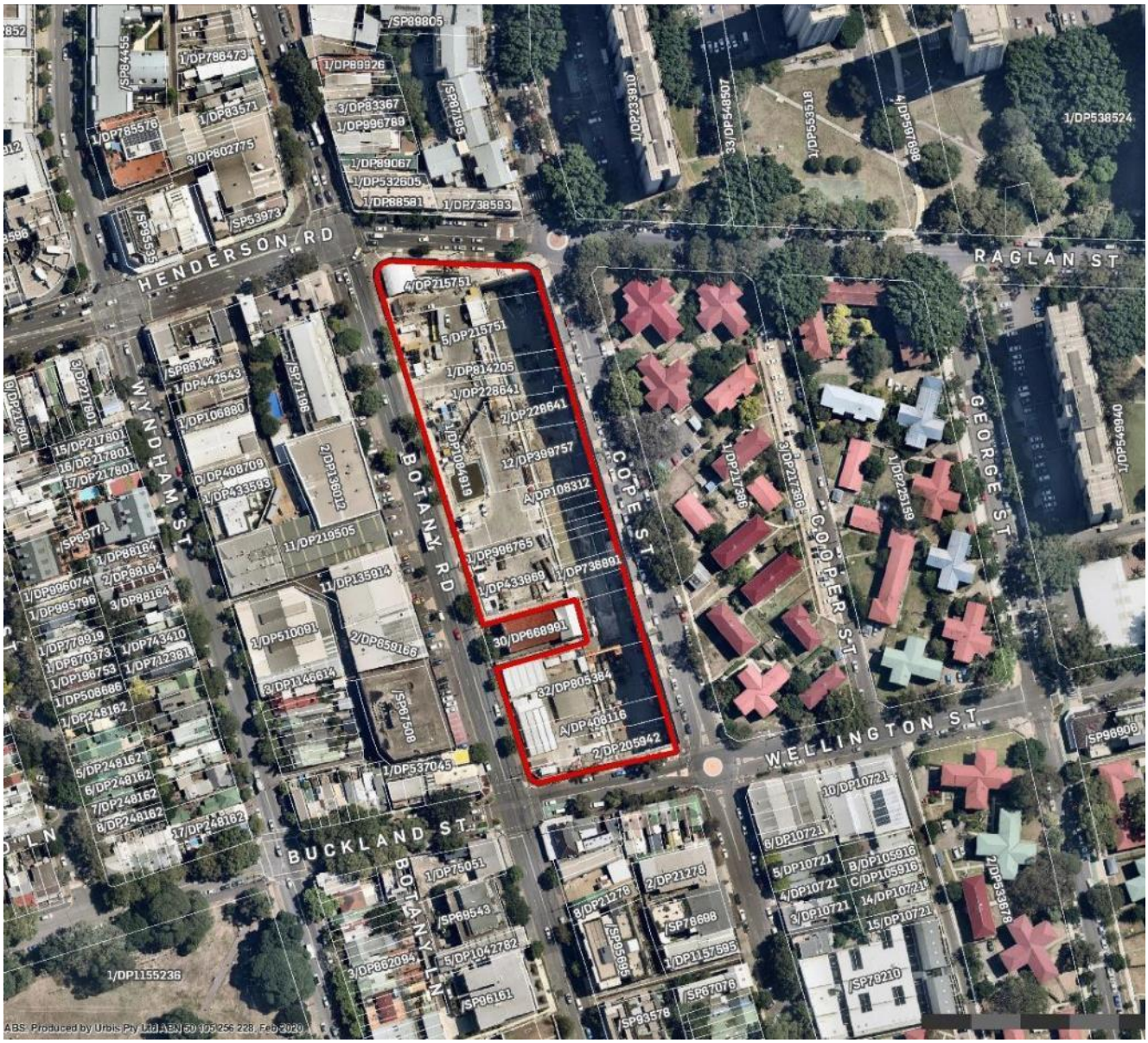

Figure 1 - Aerial of the site
Source: Urbis

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.

5. Background

5.1 About Sydney Metro

Sydney metro is Australia's biggest public transport project. Services started in May 2019 in the city's North-west with a train every four minutes in the peak. A new standalone railway, this 21st century network will revolutionise the way Sydney travels. There are four core components:

5.1.1 Sydney Metro North West

This project is now complete and passenger services commenced in May 2019 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.

5.1.2 Sydney Metro City & Southwest

Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of Metro Northwest 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 Crows Nest, Victoria Cross, Barangaroo, 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.

5.1.3 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.

5.1.4 Sydney Metro Greater West

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. The Australian and NSW governments are equal partners in the delivery of this new railway.

The Sydney Metro project is illustrated in Figure 2.

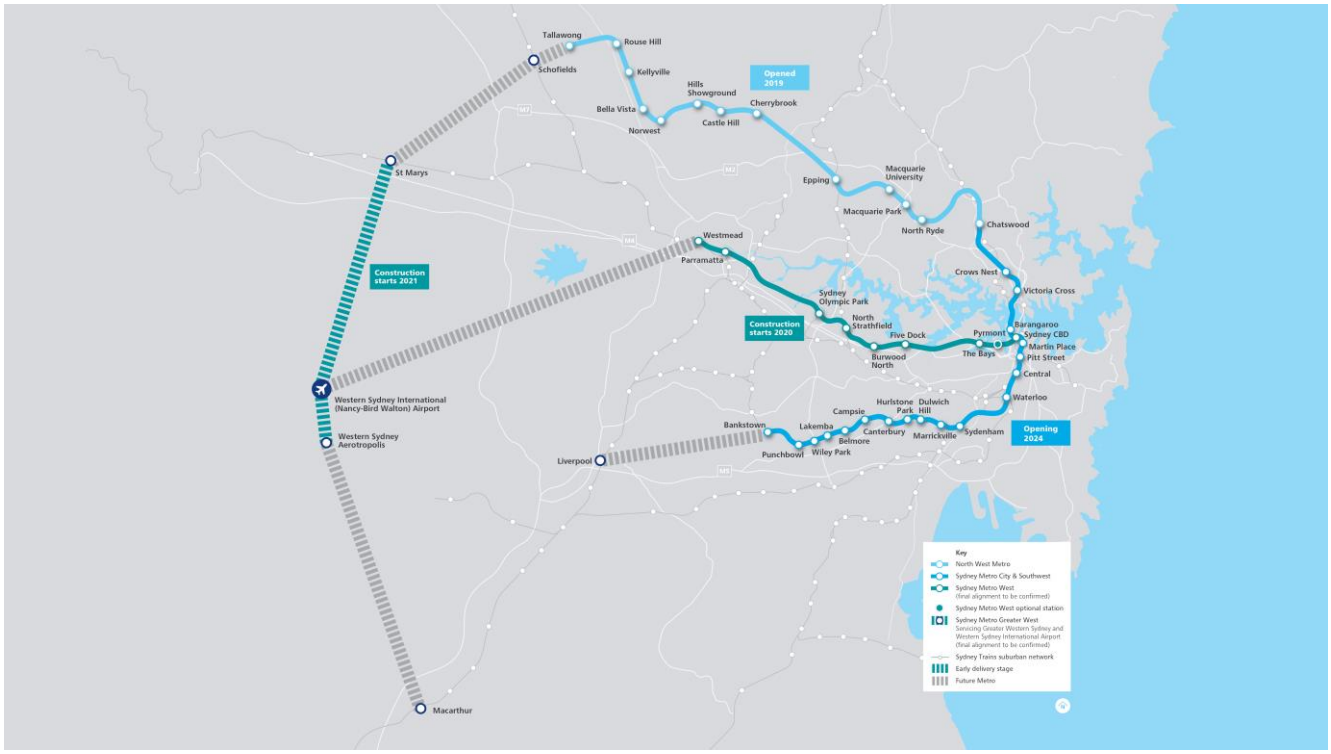

Figure 2 - Sydney Metro alignment map
Source: Sydney Metro

5.2 Sydney Metro CSSI Approval (SSI 7400)

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a critical State significant infrastructure (CSSI) project (reference SSI 7400) (CSSI approval). The terms of the CSSI approval includes all works required to construct the Sydney Metro Waterloo Station. The CSSI approval also includes the construction of below and above ground works within the metro station structure for appropriate integration with the OSD.

With regards to CSSI related works, any changes to the 'metro station box' envelope and public domain will be pursued in satisfaction of the CSSI conditions of approval and do not form part of the scope of the concept SSD DA or detailed SSD DA for the OSD.

Except to the extent described in the EIS or Preferred Infrastructure Report (PIR) submitted with the CSSI application, any OSD buildings and uses do not form part of the CSSI approval and will be subject to the relevant assessment pathway prescribed by the EP&A Act.

The delineation between the approved Sydney metro works, generally described as within the two 'metro station boxes' and surrounding public domain works, and the OSD elements are illustrated in Figure 3.

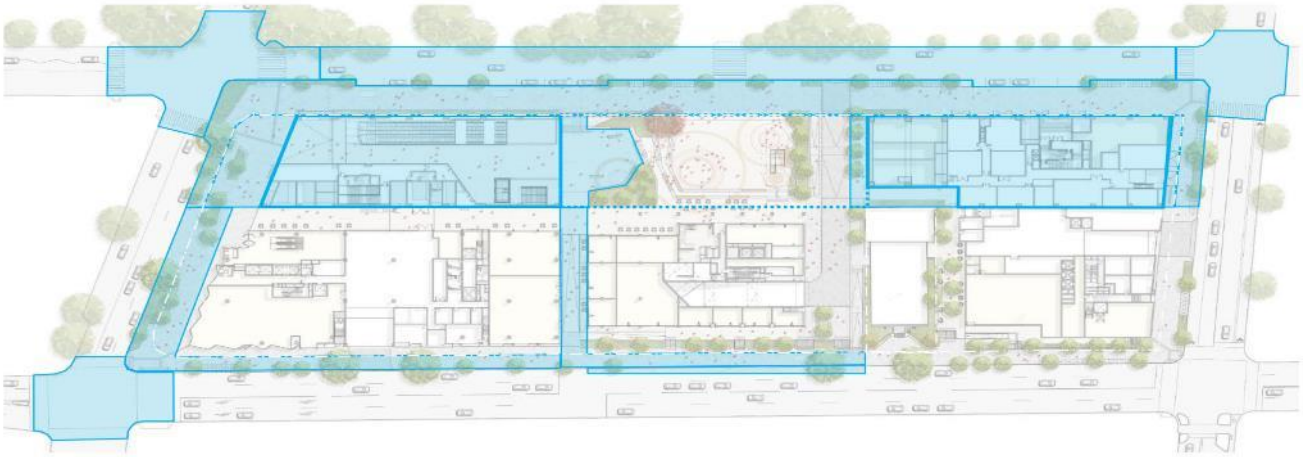

Figure 3 - CSSI Approval scope of works
Source: WL Developer Pty Ltd

5.3 Concept Approval (SSD 9393)

As per the requirements of clause 7.20 of the *Sydney Local Environmental Plan 2012* (SLEP), as the OSD exceeds a height of 25 metres above ground level (among other triggers), development consent is first required to be issued in a concept DA (formerly known as Stage 1 DA).

Development consent was granted on 10 December 2019 for the concept SSD DA (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 concept DA has been prepared and submitted to the DPIE and proposes to make modifications to the approved building envelopes at the northern precinct and central building. This amending concept SSD DA does not impact the proposed development within the southern precinct.

A concurrent detailed SSD DA will seek development consent for the OSD located within the southern precinct of the site, consistent with the parameters of the original concept approval. Separate SSD DAs have been prepared and will be submitted for the northern precinct, central building, and basement proposed across the Waterloo Metro Quarter site consistent with the amending concept DA.

6. Proposed development

The amending concept DA seeks consent for an amended building envelope and description of development for the northern precinct of the Waterloo Metro Quarter site approved under SSD 9393. Specifically, the proposal seeks to modify the approved building envelope for the northern precinct (previously comprising 'Building A', 'Building B', 'Building C' and 'Building D' under SSD 9393) through:

- increasing the maximum building height for the southern portion of the Northern Precinct from RL56.2 to RL72.60
- removing the 'tower component' of the Northern Precinct, reducing the overall height of the tower envelope from RL116.9 to RL90.40, to enable the redistribution of floor space to commercial office floor plates
- amending the description of development to refer to a mid-rise (approximately 17 storey) commercial office building, comprising approximately 34,125sqm of commercial office floor space within the northern portion of the site, rather than a third residential tower.

The concept DA seeks to modify the central building approved building envelope (previously comprising 'Building E' under SSD 9393) through:

- modifying the eastern extent of the podium envelope.

The modification of the approved concept SSD DA 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 or the maximum height approved under SSD 9393. As noted above, separate detailed SSD DA(s) will be lodged concurrently for the detailed design, construction and operation of the northern precinct, and central building.

This amending concept DA does not propose to the amend the original concept approval as it relates to the southern precinct.

7. Methodology

Connley Walker Pty Ltd has been engaged to conduct a CPTED review of the Waterloo Metro Quarter site. A separate Security Risk Assessment report has been documented. The report has been developed by professionally qualified security consultants. Connley Walker Pty Ltd holds a NSW Security Master Licence and the security consultants that prepared the review hold the required NSW Class 2A Security Consultant Licence.

This Crime Prevention Through Environmental Design (CPTED) report has been developed with reference to the Crime prevention and the assessment of development applications Guidelines under section 4.15 of the Environmental Planning and Assessment Act 1979 published by the NSW Department of Urban Affairs and Planning and reference to City of Sydney DCP – Section 3.13.1 Crime prevention through environmental design – 2012.

Consultation with South Sydney Police was conducted to gain an understanding of the operational context and specific security threats.

The items that they have raised are:

- The more CCTV the better as it is a significant deterrent.
- Provide signage for the CCTV.
- Extensive lighting is needed.
- Youths are at higher risk of robbery as they may not have sufficient situational awareness (e.g. looking down into an expensive phone). Signage may help.
- Police and emergency services need access to the building.
- Police and emergency services need to be given information about access points.
- A site visit by police and emergency services is recommended prior to opening.

In summary, these guidelines explain how CPTED can be used to influence the design of buildings and places by:

- Increasing the perception of risk to criminals by increasing the possibility of detection, challenge, and capture.
- Increasing the effort required to commit crime by increasing the time, energy or resources which need to be expended.
- Reducing the potential rewards of crime by minimising, removing or concealing ‘crime benefits.
- Removing conditions that create confusion about required norms of behaviour.

Specific provisions of the City of Sydney DCP – Section 3.13.1 Crime prevention through environmental design – 2012 guide are to incorporate:

> *(1) Active spaces and windows of habitable rooms within buildings are to be located to maximise casual surveillance of streets, laneways, parking areas, public spaces and communal courtyard space.*

(2) In commercial, retail or public buildings, facilities such as toilets and parents rooms are to be conveniently located and designed to maximise casual surveillance to facility entries.

(3) Minimise blind-corners, recesses and other external areas that have the potential for concealment or entrapment.

(4) Building entries are to be clearly visible, unobstructed and easily identifiable from the street, other public areas and other development. Where practicable lift lobbies, stairwells, hallways and corridors should be visible from the public domain.

(5) Ground floors of non-residential buildings, the non-residential component of mixed use developments, and the foyers of residential buildings, are to be designed to enable surveillance from the public domain to the inside of the building at night.

(6) Pedestrian routes from car parking spaces to lift lobbies are to be as direct as possible with clear lines of sight along the route.

(7) Where dwelling units have individual main entries directly from a public space, the entry is to include a clearly defined transitional space between public and private areas. (It is noted that no apartments have direct street / ground floor access).

(8) Building details such as fencing, drainpipes and landscaping are to be designed so that illegitimate access is not facilitated by the opportunity for foot or hand-holds, concealment and the like.

CPTED is based on the following four elements:

- Surveillance
- Access control
- Territorial reinforcement
- Maintenance

Surveillance

Surveillance, both natural and through technology, increases the perceived opportunity to commit an offence by improving the visibility of potential offenders to the general public. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility of the space and its users, fostering positive social interaction among legitimate users of private and public space. Potential offenders feel increased scrutiny, and thus inherently perceive an increase in risk. This perceived increase in risk extends to the perceived lack of viable and covert escape routes.

Examples of natural surveillance include:

- Clear vision of areas without hidden spaces.
- Landscaping or architecture that does not provide any hidden spaces or places where a person may become entrapped.
- Provision of clear rubbish bins in public spaces such that an explosive device could not be hidden.

- Avoidance of concealed or isolated pedestrian routes.
- Architectural design that encourages pedestrians to use high visibility pathways.
- Provision of glazing instead of solid walls.
- Natural lighting.
- Avoidance of entrapment areas such as recessed doorways.
- If entrapment areas cannot be removed, then closing them afterhours.
- Incorporation of escape routes in a design.

Examples of technical surveillance measures include:

- Closed Circuit Television (CCTV).
- Lighting that is suitable for CCTV.
- Lighting to AS1158.3.1:2005.
- Lighting of building entrances.
- Lighting directed onto areas accessed by people.

Access control

Access control, both natural and through technology, limits the opportunity for crime by taking steps to clearly differentiate between public space and private space. By selectively placing entrances and exits, fencing, lighting and landscape to limit access or control flow, natural access control occurs.

Examples of natural access control include:

- Physical elements (doors, walls, windows etc.) selected to prevent unauthorised access to an area.
- Locating pedestrian pathways to direct movement to authorised spaces only.
- Physical barriers to prevent unauthorised entry to areas such as carparks.
- Effective keying system (e.g. minimal number of levels in the master key system).

Examples of technical access control include:

- An Electronic Access Control System (EACS).
- Boom gates.
- Biometric systems.
- Vehicle numberplate recognition systems.
- Electronic keying systems.
- Skateboard deterrent devices.
- Outdoor benches with multiple armrests to prevent lying down.

Territorial reinforcement

Territorial reinforcement promotes social control through increased definition of space and improved proprietary concern. An environment designed to clearly delineate private space does two things. First, it creates a sense of ownership. Owners have a vested interest and are more likely to challenge intruders or report them to the police. Second, the sense of owned space creates an environment where "strangers" or "intruders" stand out and are more easily identified.

Examples of territorial reinforcement include:

- Fences.
- Signage.
- Landscaping that clearly shows public, semi-public, and private space.

Maintenance

Maintenance is an expression of ownership of property. Deterioration indicates less control by the intended users of a site and indicate a greater tolerance of disorder. The Broken Windows Theory is a valuable tool in understanding the importance of maintenance in deterring crime. Broken Windows theory proponents support a zero-tolerance approach to property maintenance, observing that the presence of a broken window will entice vandals to break more windows in the vicinity. The sooner broken windows are fixed, the less likely it is that such vandalism will occur in the future. Vandalism falls into the broken windows category as well. The faster the graffiti is painted over, the less likely one is to repeat because no one saw what has been done. Having a positive image in the community shows a sense of pride and self-worth that no one can take away from the owner of the property.

To assist in the maintenance of graffiti damage, a number of anti-graffiti coatings are available to the designers. These coatings are available for surfaces such as concrete, brick and masonry surfaces, painted surfaces, metals and bluestone, sandstone, granite etc.

8. Assessment and findings

The following provides a review and analysis of relevant crime mapping based on statistics for the relevant local Government area in order to identify the key crime related risks that the Project Works are exposed to.

The following map shows the current hot spots for crime in Sydney. The Metro Quarter Site is shown to be within a high-density crime area.

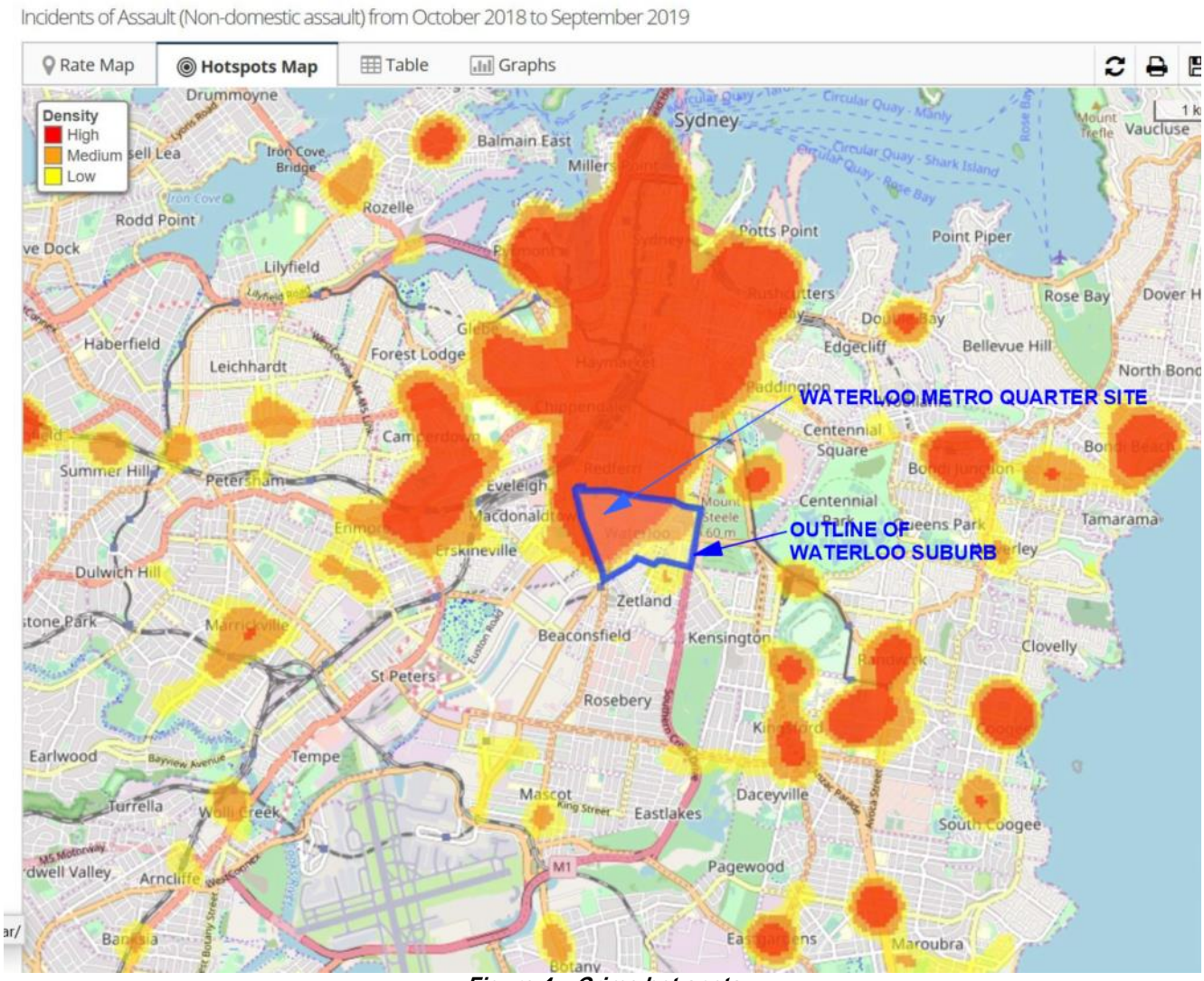

Figure 4 – Crime hot spots
Source: Boscar

The Waterloo Metro Quarter site is located between a significant level of public housing and retail commercial premises which includes two pubs. This demographic may increase the level of risk at the development within this crime hotspot. Contributors to the increased level of risk include drug dealing at public housing estates (Audit Office of NSW report "Managing Antisocial behaviour in public housing - 2018) and potential late-night alcohol related incidents in the vicinity of the two pubs.

The incidents of crime within the Sydney Local Government Area (which includes Waterloo) to premises that are relevant to the development for 2019 were as follows:

Premises type	*Domestic violence related assault*	*Non-domestic violence related assault*	*Sexual offences*	*Robbery*	*Break and enter non-dwelling*	*Motor vehicle theft*	*Steal from motor vehicle*	*Steal from person*	*Malicious damage to property*
Office	2	31	5	0	61	4	10	2	68
Retail/wholesale	17	409	44	20	185	16	20	152	197
Carpark	3	16	4	0	28	31	232	0	168
Outdoor/public place	211	1,214	145	178	7	214	764	344	693
Residential	756	416	285	39	34	51	137	47	923
Total	989	2,086	483	237	315	316	1,163	545	2,049

Table 1 – Local relevant crime incidents
Source: Boscar

From these figures, it may be concluded that the residential areas within the precinct (Central and Southern Precincts - Buildings 2, 3 and 4 – Refer to plans in the following section for the building numbers) and the surrounding public areas are statistically at the highest risk of crime, however this risk is reduced given that no apartment is on ground level. The apartments have three levels of security (i.e. lobby entrance door, lift access and apartment entry door), and unauthorised access to an apartment would need to be facilitated via tailgating a resident or theft of an access card or key.

No local crime statistics are available for the Child Care Centre as this is not a classification referenced by BOSCAR.

The highest incidents being:

- Assault in an outdoor/public place or retail area.
- Steal from person in an outdoor/public place.
- Malicious property damage in an outdoor/public place.
- Break and enter in a retail space.

Expected incidents for Building 1 are low due to being commercial offices. Theft from a motor vehicle in public spaces has not been considered as it is outside the development.

The following provides an assessment of each precinct against the CPTED Principles. Any weaknesses or potential improvements are addressed in Section 10 – Mitigation Measures. The CPTED principle of Maintenance is an operational management responsibility.

Building 1 (North Precinct)
Surveillance
Good natural surveillance of the ground floor commercial entry lobby and retail spaces is provided via windows to Botany Rd., Raglan St. and Raglan Walk. It is expected that CCTV surveillance will be installed to provide additional surveillance especially in areas accessible to the public, the loading dock, all external entries, lift lobbies and the goods lift. Additional CCTV surveillance of the passenger lifts would be desirable. It is also expected that concierge desks will be provided on Level 1.

Access control

It is expected that an electronic access control system and a suitable keying system will be installed throughout the building to ensure that no person has access to an area that they are not authorised to enter and that no unauthorised person has access to the building afterhours.

Territorial reinforcement
The only areas where territorial reinforcement may be an issue is along Raglan Walk and Grit Lane. These are areas where people may loiter.

Building 2 (Central Precinct)
Surveillance
Natural surveillance of the Community / Child Care Entrance is available from Cope Street and Waterloo Plaza. Natural surveillance of the Residential Entrance and retail spaces is provided from Botany Rd., Church Square, Raglan Walk, Cope Street Plaza and Grit Lane.

Access control
It is expected that an electronic access control system and a suitable keying system will be installed throughout the building to ensure that no person has access to an area that they are not authorised to enter and that no unauthorised person has access to the building afterhours.

Territorial reinforcement
The only areas where territorial reinforcement may be an issue is along Raglan Walk and Church Square. These are areas where people may loiter.

Building 3 (Southern Precinct)
Surveillance
Natural surveillance of the Community space is provided via windows to Church Square and Botany Rd. The Student Accommodation Lobby and Gym Lobby have surveillance from Botany Rd. The Social Housing Lobby has very limited natural surveillance which will need to be supplemented by CCTV.

Access control
It is expected that an electronic access control system and a suitable keying system will be installed throughout the building to ensure that no person has access to an area that they are not authorised to enter and that no unauthorised person has access to the building afterhours.

Territorial reinforcement
The only area where territorial reinforcement may be an issue is along the Church Yard outside the Community Centre.

Building 4 (Southern Precinct)
Surveillance
It is expected that CCTV surveillance of the lift lobby will be provided.

Access control
Access to Building 4 is via the lifts in Building 3. It is expected that an electronic access control system and a suitable keying system will be installed throughout the building to ensure that no person has access to an area that they are not authorised to enter and that no unauthorised person has access to the building afterhours. The apartments have three levels of security (i.e. lobby entrance

door, lift access and apartment entry door), and unauthorised access to an apartment would need to be facilitated via tailgating a resident or theft of an access card or key.

Several apartments have direct access to the roof. This is undesirable and has been addressed in Section 10 – Mitigation Measures.

Territorial reinforcement
There are no significant territorial reinforcement issues for Building 4. It is expected that suitable signage will be provided.

Basement

Surveillance

Natural surveillance within the carpark and its entry ramp is provided by a security office at the base of the ramp that is staffed 24/7. It is expected that CCTV surveillance will be provided throughout.

Access control
A number of measures are provided in Section 10 – Mitigation Measures.

Territorial reinforcement
It is expected that wayfinding signage will be provided to ensure persons in the basement know where to travel to.

9. Mitigation measures

The following CPTED Risk mitigation measures are recommended.
Building 1 – Ground Level (Northern Precinct)

The notes referenced on the following plan provide CPTED recommendations.

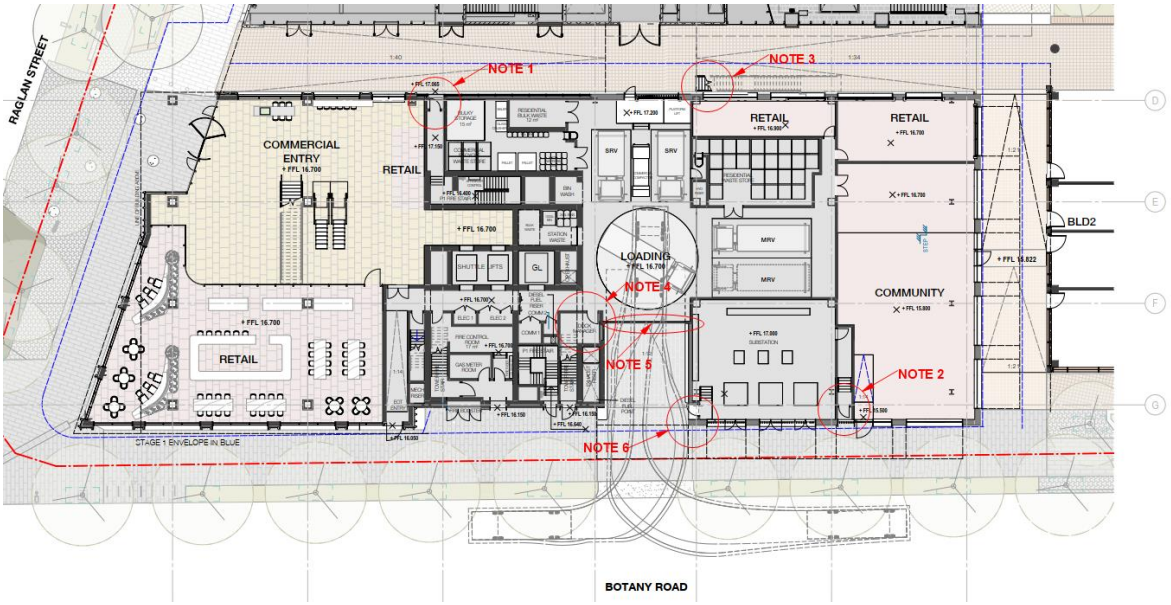

Figure 5 – Building 1 – Ground Level
Source: Waterloo Developer Pty Ltd

Notes 1 & 2	**Territorial Enforcement:** It is recommended that the concrete be sloped 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.
Note 3	**Access Control:** It is recommended that access to the external stair from the street be restricted to prevent non-residents from using the stairs for unauthorised purposes. CCTV of the stairs is recommended.
Note 4	**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.
Note 6	**Natural Surveillance:** Treatment is recommended of the corner 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 (Northern Precinct)

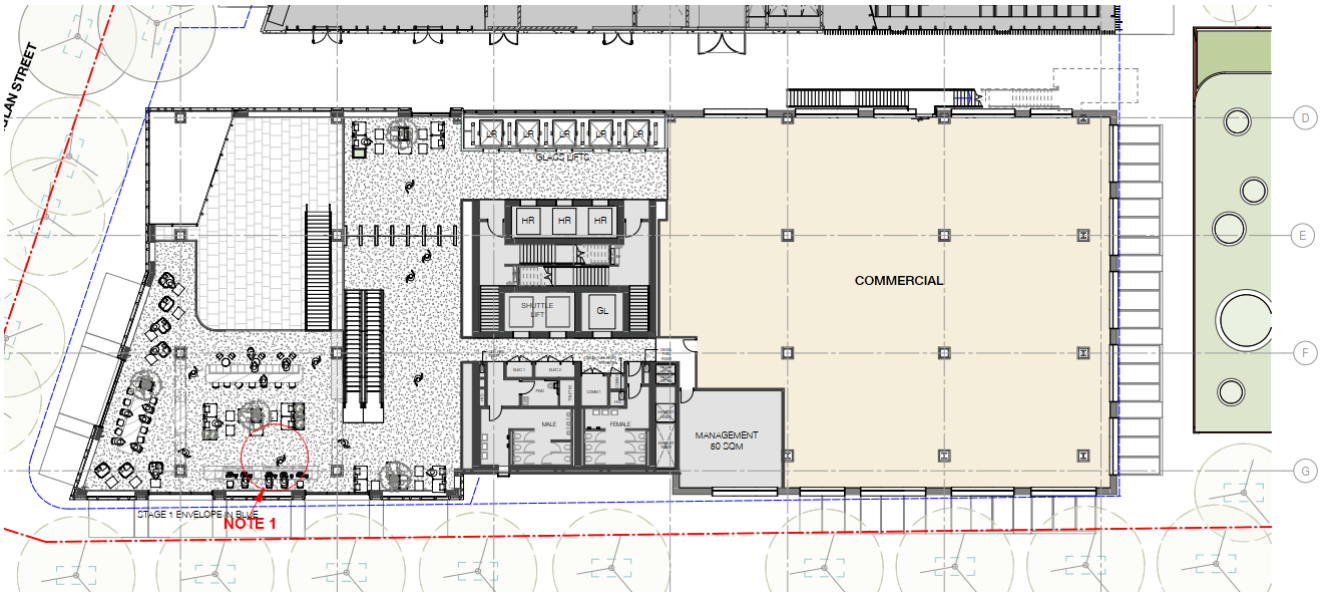

Figure 6 – Building 1 – Level 1
Source: Waterloo Developer Pty Ltd

Note 1 **Access Control & Natural Surveillance:**
A concierge is to be provided to manage visitor access and provide natural surveillance of the entry speedstiles.

Building 2 – Ground (Central Precinct)

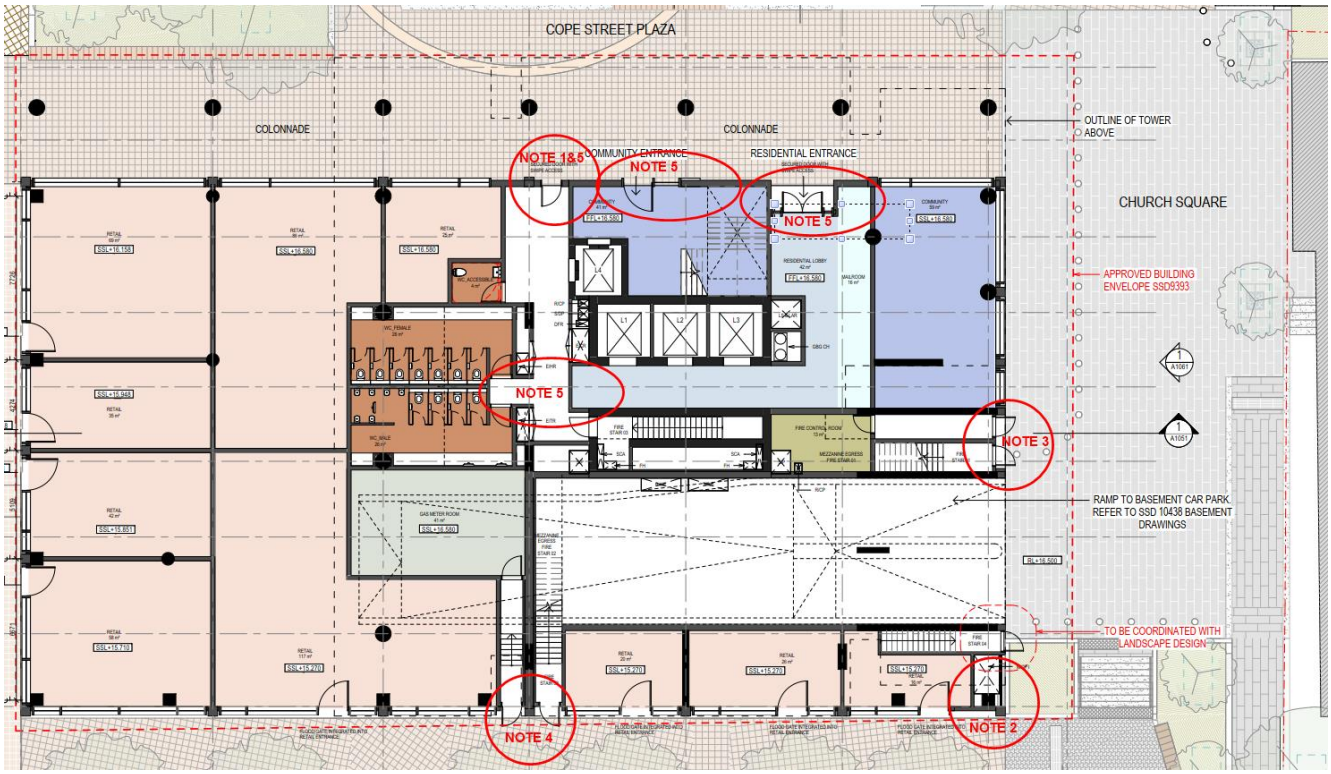

Figure 7 – Building 2 – Ground Level
Source: Waterloo Developer Pty Ltd

Note 1	**Access Control:** Consider sliding door to prevent member of the public having access to precinct amenities.
Notes 2, 3 &4	**Territorial Enforcement:** It is recommended that the concrete be sloped 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.
Note 5	**Surveillance:** It is recommended that CCTV surveillance of the Community Entrance, Residential Lobby and entrance and corridor to the toilets be provided.
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 3 – Ground - Southern Precinct)

Figure 8 – Building 3 – Ground Level
Source: Waterloo Developer Pty Ltd

Note 1	**Access Control:** Consider bollards to the entry into the loading dock to prevent forced vehicle entry.
Notes 2 & 3	**Surveillance:** Lighting to AS1158.3.1:2005 and CCTV surveillance is recommended around the church.
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 all external entrances and goods lift.

Building 4 – Level 1 (Southern Precinct)

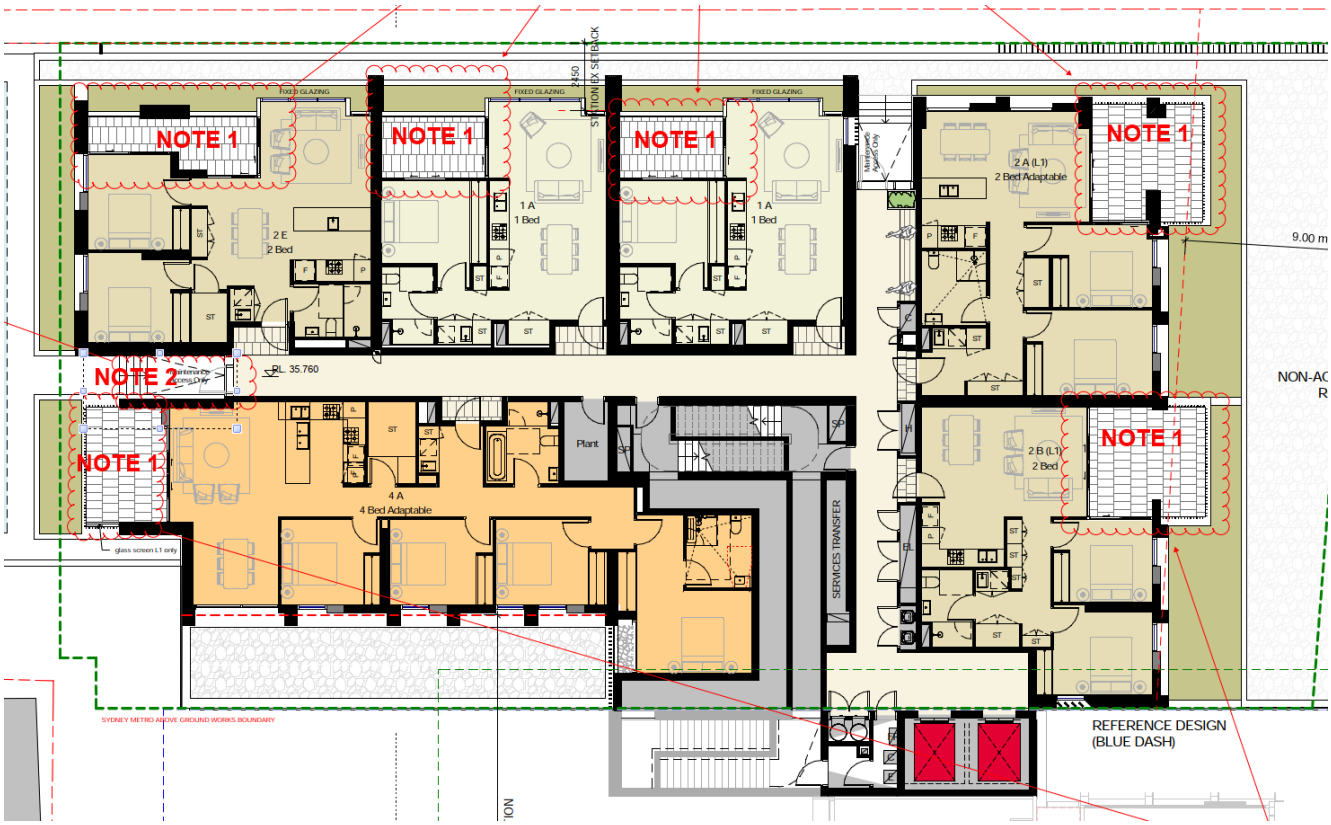

Figure 9 – Building 4 – Level 1
Source: Waterloo Developer Pty Ltd

Note 1	**Access Control:** Consider securing the balcony on this level with architectural barriers to prevent occupants stepping onto the roof.
Notes 2	**Access Control and surveillance** Consider securing the door to the roof. Consider CCTV viewing of the door to the roof.

Basement

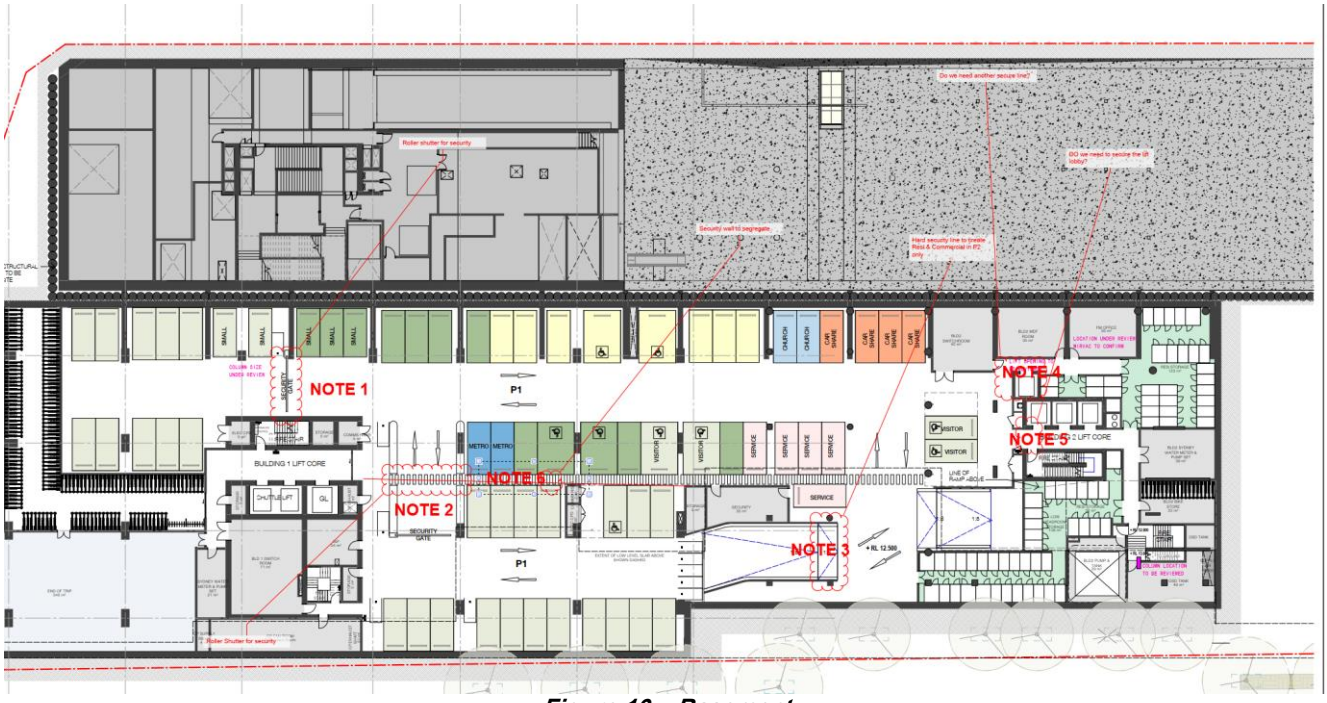

Figure 10 – Basement
Source: Waterloo Developer Pty Ltd

Note 1	**Access Control:** Consider roller shutter.
Note 2	**Access Control:** Consider roller shutter.
Note 3	**Access Control:** Consider roller shutter to separate residential from commercial.
Note 4	**Access Control:** Consider securing access to the goods lift and bike storage.
Note 5	**Access Control:** Consider securing access to the goods lift and bike storage.
Note 6	**Access Control:** Consider fencing to provide barrier.
General Note	Provide wayfinding signage painted on roadway to direct pedestrians to authorised areas. Provide CCTV throughout.

10. Conclusion

The implementation of the CPTED mitigation measures outlined in this report will result in the residual impacts associated with the proposed development to be appropriate and acceptable.

The CPTED mitigation measures are in line with the Crime prevention and the assessment of development applications Guidelines under section 4.15 of the Environmental Planning and Assessment Act 1979 published by the NSW Department of Urban Affairs and Planning and with the requirements of City of Sydney DCP – Section 3.13.1 Crime prevention through environmental design – 2012.

The design has demonstrated consideration and implementation of CPTED principles through:

- 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.

The fundamental four elements of CPTED of Surveillance, Access control and Territorial reinforcement have been detailed for each precinct.

The CPTED Maintenance requirement is to be addressed as part of the day to day operational management of the site. This will include removal of graffiti and repairs to building damage. Maintenance may also be assisted through the use of anti-graffiti coatings applied to the lower levels of the building exterior.

In addition to CPTED measures, the following security risk mitigation measures are considered appropriate:

- CCTV surveillance of:
    - All public spaces.
    - All building entries.
    - Lift lobbies.
    - Carpark.
    - Bicycle storage.
    - Within all lifts.
    - Concierge points.

  - Roof access points.
  - Plant room entries.
- Electronic access control located at:
  - Residential lobby entries.
  - Lifts.
  - Entries to building management areas.
  - Non-public entries.

A Security Risk Assessment has been provided (Reference: WMQ-SITE-CNW-SC-RPT-008 Security Risk Assessment – North Precinct, WMQ-SITE-CNW-SC-RPT-009, Security Risk Assessment – Central Precinct, WMQ-SITE-CNW-SC-RPT-010, Security Risk Assessment – Southern Precinct, WMQ-SITE-CNW-SC-RPT-011, Security Risk Assessment – Basement Precinct

The security risk 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, i.e.:

- 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.

Blast Vulnerability Assessment (BVA) and Hostile Vehicle Mitigation (HVM) has been addressed in the K&C reports:

WMQ-BLD1-KCSE-SC-RPT-0001
WMQ-BLD2-KCSE-SC-RPT-0001
WMQ-BLD3-KCSE-SC-RPT-0001

The BVA report provides an overview of the threat context to the WMQ Northern Precinct and identifies specific structural and façade vulnerabilities and key protective design recommendations.

- The BVA outlines the overall Hostile Vehicle Mitigation Strategy developed to provide protection to public transport users and areas of mass pedestrian and community congregation.

- The BVA provides an overview of the methodology and results from the Blast Effects Analysis undertaken to determine the vulnerability of the WMQ Buildings 1, 2 and 3 structures and façades from the identified credible threat scenarios in order to demonstrate their performance relative to protection aims of controlling disproportionate structural collapse and understanding the predicted extent of widespread debris hazard. The damage to the structure and façade from the critical

external vehicle borne threat scenarios are predicted and visually summarised in a series of damage contour plots.

- Various Structural and non-structural mitigation recommendations are provided for consideration and adoption into the design documentation.

The BVA considers that the WMQ is a higher risk category (relative to other similar commercial developments) due to its interface with adjacent station. The BVA demonstrates the development adopts a balanced risk mitigation strategy combining strategic operational and physical security treatments (as outlined within the CPTED report and Security Risk Assessment), in addition to reducing the consequence of the potential hazard through addressing the structural response to reduce the risk and extent of collapse in addition to predicting the hazardous fragmentation exposure to aid in improving post event evacuation, and emergency services response.

The BVA demonstrates that following the implementation of the recommended mitigation measures, the terrorism risk to the proposed Northern Precinct associated with blast and hostile vehicle threats is appropriately mitigated by providing a design that achieves a level of protection consistent with the established project performance criteria and therefore suitably addresses the Environmental Impact Statement (EIS) key requirements and warrants approval.

11. Appendices

11.1 Appendix 1 – CONNLEY WALKER CREDENTIALS

Consultant that prepared this report – Simon Walker

Qualifications

Communications Engineering, RMIT University
Diploma of Security and Risk Management
Certificate IV in Security (Risk Management)
Certificate IV in Assessment and Training

Registrations and memberships

Fellow of Engineers Australia (FIE Aust.) (Member Number 960247)
Chartered Professional Engineer (CPEng)
Member of the College of Electrical Engineers (Aust.)
Member to the Australian Institute of Project Management (Member Number 47546)
Registered APEC Engineer (Registration Number 960247)
Registered Building Practitioner (Registration Number EE 21166)
Registered Professional Engineer QLD (Registration Number 21615)
Registered in the National Engineers Register (NER)
Registered International Professional Engineer (Australia)
SCEC Endorsed Security Zone Consultant (Registration Number: C0075)

Licences

ACT – Licensed security consultant (Licence Number 17722180 – Class 2A, C and D)
NSW – Licensed security consultant (Licence Number: 408837470 Class 2A)
QLD – Licensed security consultant (Licence Number: 32521139 Class 2)
SA – Exempt from a licence as an Engineer (Security and Investigation Industry Regulations Part 2, 5 (1) (b)).
TAS - Licensed Engineer (Building Services) – Tasmania (Licence number 363589169)
VIC – Registered security advisor (Registration No. 719-997-80S)
WA – Licensed security consultant (Licence Number: SG56167 Class 2 and 4)
(Note: No security licence is required for security consultants in TAS or NT).

Affiliations

Australian Standards – Represents Engineers Australia on Australian Standards for electronic security.

Publications

Operational risk management: Controlling opportunities and threats, 2001 ISBN 0957907400.
Hospital and Health Care Security in Australia, 2009 ISBN 978-0-9579074-1-6.
"Fortress or Sanctuary? Enhancing Court Safety by Managing People, Places and Processes" - Connley Walker partnered with the University of Western Sydney, WA Dept of the Attorney General, Family Court of Australia, Magistrates Court of Victoria, South Australia Court Administration Authority, MyriaD Consultants, PTW Architects, Lyons Architects, and NZ Ministry of Justice on the publication.

Papers

Security of multi-tenanted commercial buildings – BOMA, Perth, 1989.
Perimeter security technology, 1998.
Legal risks associated with CCTV use, 2000.
Biometric systems for correctional facilities, 2001.
Operational Risk Management – South Africa – 2003.
Computer Security – AIPS – 2005
Security Technology – Victoria Police - 2005
An enterprise wide operational risk management approach – CPA Australia, Melbourne 2005.
Prison perimeter security technology, 2006.

Security Clearance

NV1 (Secret Level)

Experience

Simon established Connley Walker Pty Ltd in 1996. Prior to Connley Walker, Simon worked in engineering and management roles with organisations in the business of electronic security, fire detection, government, and security consultancy.