State Significant Development Application
Environmental Impact Statement

Block 1, Central Park
Mixed Use Residential Development

Submitted to Department of Planning and Environment
On Behalf of Central Park JV No 2

August 2014 ■ 14274

JBA Urban Planning Consultants Pty Ltd ABN 84 060 735 104 w jbaurban.com.au
North Sydney t +61 2 9956 6962 ■ Newcastle t +61 2 4927 0980

JBA operates under a Quality Management System that has been certified as complying with ISO 9001:2008. This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

This report has been prepared by:

Stephen Gouge 19/08/2014

This report has been reviewed by:

Gordon Kirkby 19/08/2014

Contents

Contents

Figures

Tables

Contents

Appendices

Contents

Executive Summary

Purpose of This Report

This Environmental Impact Statement (EIS) has been prepared for a State Significant Development Application (SSDA) for a mixed use development known as Block 1 at Central Park, Chippendale. This EIS is submitted to the Minister for Planning and Environment pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD).

Proposed Development

This EIS will accompany a SSDA for the development of a mixed use building known as Block 1 at Central Park, Chippendale. Central Park is located on the southern edge of the Sydney Central Business District (CBD) (see **Figure 1** of this EIS). The Block 1 site is located at the north western corner of the Central Park site (see **Figure 1** of this EIS).

More specifically, this SSDA seeks approval for the following components:

- Construction of an eighteen (18) storey mixed use building comprising a total of 281 residential apartments (52 of which will be adaptable apartments), including:
  - 94 x studio apartments.
  - 91 x 1 bed apartments.
  - 72 x 2 bed apartments.
  - 24 x 3 bed apartments.
- Four levels (4) of basement comprising car parking, bicycle parking, end-of-journey facilities, and services infrastructure to service Block 1 and Block 4N including;
  - 345 car parking space (216 to be allocated for use by Block 1).
  - 7 Motorcycle Spaces
  - Bicycle Parking Spaces to service residential/retail and visitor requirements.
  - Service vehicle loading area consisting of a total of 20 service vehicle bays.
- 1,100m^2 of non-residential/retail floor area at ground level with active street frontages to all four frontages of the building (including the future pedestrian link between Block 1 +4N);
- Resident facilities including a gym and 20m swimming pool located on level 2, outdoor terrace area on level 16, with an accessible Jacuzzi, barbeques and outdoor furniture; and
- Total Gross Floor Area (GFA) of 24,454m^2 including 1,000 m^2 of non-residential, 187m^2 of other GFA, and 23,167m^2 of residential use.

Planning Context

The proposed development has a total Capital Investment Value (CIV) of over $10 million and is classified as State Significant Development (SSD) pursuant to Clause 2 Schedule 2 of the SEPP SRD.

A request to issue Secretary's Environmental Assessment Requirements (SEARs) for environmental assessment of the proposed development was made on 29 May 2014. The SEARs were issued to Central Park JV No 2 on 25 June 2014. A copy of the SEARs is provided at **Appendix A**.

Section 5.0 of the EIS considers all applicable legislation in detail. The proposal complies with all relevant planning controls.

The Block 1 site is located on land that forms part of the Central Park (formerly Carlton United Breweries and then Frasers Broadway) Concept Plan MP 06_0171. A concurrent modification to the Approved Project Application to Block 1 +4N (MP 08_0253) will be made, to excise Block 1 from this approval.

Environmental Impact

The EIS provides an assessment of the environmental impacts of the project in accordance with the DGRs and sets out the undertakings made by the Applicant to manage and minimise potential impacts arising from the development (see **Section 5.0**). Key environmental assessment considerations identified include, amongst others:

- Compliance with the approved Concept Plan MP 06_0171 (as modified) dated 5 February 2009;
- Height, bulk and scale of the proposed development within the local context and approved Concept Plan (as modified) including solar access to the public park;
- Environmental and residential amenity including minimum unit sizes, unit mix, floor to ceiling heights and storage;
- Landscape and public domain management;
- Transport and accessibility including traffic impact, provision for service vehicles and on-site car and bicycle parking;
- Implementation of ESD measures;
- Noise generation during construction and operation; and
- Drainage and flooding including Water Sensitive Urban Design (WSUD).

All identified impacts are addressed in this EIS and are capable of being ameliorated through the implementation of appropriate mitigation measures outlined in **Section 6.0**. It is noted that this SSDA is consistent with the Concept Plan (as modified), approved on 5 February 2009.

Benefits of the Proposal

Block 1, a residential/mixed use development located at Central Park, Chippendale, will provide a mix of much needed residential accommodation in an area well serviced by public transport, and in close proximity to the retail, work and education opportunities offered by the Sydney CBD and surrounds.

Conclusion

The mitigation measures are detailed in **Section 6.0** and have been prepared to inform the ongoing management of the Block 1 site throughout the construction and operational phase of the proposed development. This EIS fulfils the requirements of the EP&A Act and addresses the Secretary's Environmental Assessment Requirements, demonstrating that the impacts of the proposal can be satisfactorily managed or mitigated. In light of the above, and the benefits of the proposal, we recommend that the proposed development be approved.

Statement of Validity

Development Application Details	
Applicant name	Central Park JV No 2
Applicant address	Suite 11, Lumiere Commercial Level 12, 101 Bathurst Street Sydney NSW 2000
Land to be developed	Lot 1 DP1142053
Proposed development	Development of a mixed use building known as Block 1 at Central Park, Chippendale
Prepared by	
Name	Gordon Kirkby / Stephen Gouge
Qualifications	BEc Dip URP MPIA / BPlan (Hons)
Address	Level 7, 77 Berry Street, North Sydney, NSW 2060
In respect of	State Significant Development Application for a mixed use development known as Block 1 at Central Park, Chippendale

Certification

I certify that I have prepared the content of this EIS and to the best of my knowledge:

- it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*;
- all available information that is relevant to the environmental assessment of the development to which the statement relates; and
- the information contained in the statement is neither false nor misleading.

Signature

Name

Gordon Kirkby

Stephen Gouge

Date

August 2014

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment (DPE) in support of an application for State Significant Development (SSD) for a residential building with ground floor retail known as Block 1, Central Park.

State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) identifies development which is declared to be SSD. Under Clause 2 of Schedule 2 of the SEPP SRD, development on the 'Broadway (CUB) Site' (Central Park) with a capital investment value (CIV) of more than $10 million is identified as SSD. Given the development of Block 1 will have a CIV of approximately $101,871,050 the proposal is declared to be SSD for the purposes of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This EIS has been prepared by JBA Planning on behalf of Central Park JV No 2 and is based on the Architectural Drawings provided by Foster +Partners and PTW Architects (see **Appendix B**) and Architectural Design Statement prepared by Foster +Partners (**Appendix C**), and other supporting technical information appended to the report (see Table of Contents).

This report describes the subject site, its environs and the proposed development, and provides an assessment of the proposal in terms of the matters for consideration under Section 79C(1) of the EP&A Act.

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Requirements of the Secretary of the Department for the preparation of the EIS (see **Appendix B**). In accordance with Clause 11 of the SEPP SRD, the requirements of Development Control Plans (DCPs) do not apply. However, the relevant DCPs (Namely, City of Sydney DCP 2012) have been considered in the design of the proposed development. This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

1.1 Overview of Proposed Development

The proposal relates to a detailed SSDA for the development of a mixed use building known as Block 1 at Central Park, Chippendale. Central Park is located on the southern edge of the Sydney Central Business District (CBD). The Block 1 site is located at the north western corner of the Central Park site (see **Figure 2** of this EIS).

More specifically, this SSDA seeks approval for the following components:

- Construction of an eighteen (18) storey mixed use building comprising a total of 281 residential apartments (52 of which will be adaptable apartments), including:
  - 94 x studio apartments.
  - 91 x 1 bed apartments.
  - 72 x 2 bed apartments.
  - 24 x 3 bed apartments.
- Four levels (4) of basement comprising car parking, bicycle parking, end-of-journey facilities, and services infrastructure to service Block 1 and Block 4N including;
  - 345 car parking space (216 to be allocated for use by Block 1).
  - 7 Motorcycle Space.

  - Bicycle Parking Spaces to service residential/retail and visitor requirements.
  - Service vehicle loading area consisting of a total of 20 service vehicle bays.
- 1,100m^2 of non-residential/retail floor area at ground level with active street frontages to all four frontages of the building (including the future pedestrian link between Block 1 +4N);
- Resident facilities including a gym and 20m swimming pool located on level 2, outdoor terrace area on level 16, with an accessible Jacuzzi, barbeques and outdoor furniture;
- Total Gross Floor Area (GFA) of 24,454m^2 including 1,000 m^2 of non-residential, 187m^2 of other GFA, and 23,167m^2 of residential use; and
- Stratum subdivision of the site.

Concurrent to the SSDA, a separate modification to the approved Project Application for Block 1 +4N (MP 08_0253 Mod 5) will be submitted to excise Block 1 from the approval, in order to enable Block 1 to be developed independent of Block 4N. The Modification to MP 08_0253 involves the removal of the upper level link bridge between Blocks 1 and 4N, resulting in amendments to the floor plates and the eastern facade of Block 4N. No proposed amendments to the approved basement car park are proposed to the Project Application, however, a new basement car park is proposed as part of the SSD application.

It is anticipated that this modification (MP 08_025 MOD5) is assessed and determined concurrently to the Block 1 SSDA.

1.2 Background to the Development

1.2.1 Concept Plan

MP06_0171 is a Concept Plan approval applying to the Carlton United Breweries (then Frasers Broadway, now Central Park) site which permits the construction of a mixed use precinct comprising:

- 11 development blocks;
- A maximum GFA of 255,500m^2,of which a minimum of 30% must be commercial floor space;
- Combined basement car parks, providing car parking for Blocks 1, 4 and 8 and Blocks 2, 5, 9 and the Kensington Precinct;
- A new public park;
- Tri-generation and re-cycle water treatment plants;
- Retention of heritage items;
- Public domain works; and
- Contributions.

In July 2008, Frasers Broadway Pty Ltd submitted an application to the Minister proposing the following modifications to the approved Concept Plan:

- Reconfiguration of the development blocks on the site;
- An increase in the amount of public domain on the site;
- Alterations to the building massing across the site;
- A 22,500m^2 increase in floor space across the site;

- A change in the mix of uses on the site (increase in commercial floor space and decrease in residential floor space);
- Installation of sustainable infrastructure including a tri-generation plant and a black water treatment plant; and
- Combined basements.

The modification application was approved by the Minister in February 2009. Since February 2009 there have been a total of eight (8) modifications and a further modification (Mod 9), pertaining to GFA reallocation, was lodged to the Department of Planning and Infrastructure (as previously referred at the time) in January 2014. The modifications to the approved Concept Plan for the Central Park site are outlined in **Table 1**.

Importantly, MOD 8 of the Concept Plan approved a variation to the maximum/minimum land use split on the Central Park site, permitting a maximum of 77% residential and minimum 23% non-residential. This variation to the land use split, allowed for Block 1 to be delivered as residential.

Table 1 – Modifications to approved Concept Plan MP06_0171

Mod No	Description of Modification	Status
Mod 1	Correction of reference error in approval	Approved: 18 July 2007
Mod 2	Major amendment to Concept Plan (see above)	Approved: 5 February 2009
Mod 3	Amendment to timing of execution of Voluntary Planning Agreements	Approved: 16 May 2010
Mod 4	Modification to lapsing clause	Approved: 30August 2011
Mod 5	Modification of future assessment requirement B12 'ESD and Sustainable Design'	Approved: 31 July 2012
Mod 6	Modification to GFA within the Kensington Precinct; modification to Block 6 and Block 10 envelopes; and corrections to property references	Approved: 24 July 2012
Mod 7	Amendment to the allocation of GFA of Block 3 within the Kensington Precinct	Approved: 17 January 2013
Mod 8	Amendment to the allocation of GFA and the mix of residential and non-residential GFA on the site to enable the redevelopment of Block 4S for student accommodation, and the potential for Block 1 as residential if the approved commercial development proves unviable. Reconfiguration of building envelopes to facilitate the separation of Blocks 1 and 4N from Block 4S, and minor modifications to the envelopes of Blocks 1 and 4N. The modification approved a revisions to the residential/non-residential land use split to a maximum 77% residential and minimum 23% non-residential.	Approved: 23 December 2013
Mod 9	Reallocation of GFA to Block 8 and other minor amendments to the Concept Plan	Pending determination

1.2.2 Other Applications

Other applications relating to the development of the Central Park site, and relevant to Block 1, are outlined in **Table 2**.

Table 2 – Other applications relating to the Central Park site

Application No	Description of Application	Status
MP07_0120	Demolition and site preparation works to enable development in accordance with the approved Concept Plan	Approved: 12 March 2008
MP07_0163	Remediation / transitional works including demolition of basements and other structures, stabilisation and protection of heritage buildings, archaeological investigation and remediation of contaminated soil and groundwater	Approved: 15 August 2008
MP08_0210	Main Park and Stage 1 infrastructure services under Irving and O'Connor Streets, construction of temporary road and public domain services and permanent protection of the Ovoid Drain	Approved: 22 January 2010
MP09_0164	Stage 2 infrastructure services including power, water, gas, sewer, roads and footpaths and permanent protection of remaining existing services	Approved: 9 November 2010

In addition, a further application was made to the City of Sydney (CoS) pertaining to subdivision of the then Carlton United Breweries site (now referred to a Central Park). The application is described below.

Super Lot Subdivision Application

The City of Sydney has approved an application for subdivision of the Central Park site into eight super lots. This is the initial step in preparing lots to accommodate the Main Park and various blocks generally as defined within the approved Concept Plan (as modified). The continuing subdivision of the Central Park site will also assist some of the government agencies in the infrastructure design requirements. These lots will be further divided by a plan of subdivision providing both public and private stratum lots based upon the Development Application when approved.

1.2.3 Block 1 +4N Project Application (MP 08_0253)

On 26 May 2010 the then NSW Department of Planning approved the construction of a commercial Building on Blocks 1 and 4 which consists of the following elements:

- The excavation of the basement under Blocks 1 and 4 and the brewery yard;
- Construction of a new commercial 10 – 15 storey commercial building (72,780m$_2$ GFA) accommodating:
  - – 5 levels of basement car parking
  - – A shell for the future installation of a tri-generation plant;
  - – Retail floor space;
  - – Commercial floor space;
  - – Childcare centre;
- Demolition of the rear ground floor bar of the Australian Hotel;
- Demolition of the rear one storey bathroom additions of the heritage terrace group known as 8 – 12 Abercrombie Street; and
- Construction of the surrounding public domain.

The approval has since been modified to include the installation of a Central Thermal Plant (previously described as a tri-generation plant) and associated infrastructure within the approved basement space. The Central Thermal Plant (CTP) has now been the subject of a further modification to reduce its size. A third, administrative modification has been approved to clarify Green Star requirements.

The most recent modification (MOD 4) involved the excise of Block 4S from the Block 1 +4N approval, to allow for the delivery of Block 4S as student Accommodation. This modification (MP 08_0253 MOD 4) was approved in December 2013 by the Planning Assessment Commission.

1.3 Analysis of Alternatives

In the approved Concept Plan (as modified) the identified land uses include Residential or non-residential development, with the ground floor prescribed as non-residential development. Block 1 is identified as a mixed use development located at north western corner of the Central Park site. Block 1 will contribute to the residential mix by providing 281 apartments in an area well serviced by public transport, and in close proximity to the retail, work and education opportunities offered by the Sydney CBD and surrounds. Chippendale Green is located to the south of Block 1, providing easily accessible public open space, as well as space to be provided within the courtyard of the Brewery Yard building.

In exploring the use of the site, a number of submissions were made for Block 1 +4N to be occupied by commercial without success. A decision was them made to consider alternate uses such as residential.

As identified within the Economic Impact Statement prepared by MacroPlan Dimasi and submitted with a recent Concept Plan Amendment (Mod 8), for office space has weakened over the past 10 years (especially when considered in conjunction with other large scale developments), whilst demand for housing in increasing. Annual office absorption in Sydney CBD has averaged just 45,000m^2 over the five years to 2011. Moreover, as identified in the report, the future supply of office space is already well catered for by major under construction or approved projects with a pipeline of approximately 800,000m^2 of office space identified for Sydney CBD.

The proposed development will meet demand, contributing the delivery of identified strategic planning housing targets, and ensure the completion of the northern gateway of the site in a timely manner representing a positive outcome for the site, which has otherwise been disused or vacant for the past 10 years.

Furthermore, the proposal is consistent with the intent of the Concept Plan, to ensuring vitality and vibrancy of the Central Park site throughout the day and night, provides a positive and appropriate response to the current strategic policy framework for providing balanced growth within central Sydney.

1.4 Modification to Block 4N

In order to facilitate the delivery of Block 1, a separate modification to the approved Project Application for Block 1 +4N (MP 08_0253 Mod 5) will be submitted to excise Block 1 from this approval. The modification to MP 08_0253 involves the removal of the upper level link bridge between Blocks 1 and 4N, resulting in amendments to the floor plates and the eastern facade of Block 4N. This will be submitted concurrently to the SSDA for Block 1, with the intention that these two applications are determined simultaneously.

1.5 Secretary's Environmental Assessment Requirements

In accordance with section 78A(8A) of the EP&A Act, and Schedule 2 of the Environmental Planning and Assessment Regulations 2000, the Secretary of the NSW Department of Planning and Environment issued their requirements for the preparation of the EIS to accompany Block 1, Central Park on 25 June 2014. A copy of the Secretary's Environmental Assessment Requirements (SEARs) is provided at **Appendix A**.

The SEARs require that the EIS must include the documents listed in Schedule 1 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) and must meet the requirements of Schedule 2 of the Regulation, in particular the form specifications in Clause 6 and the content specifications in Clause 7. Several stakeholders were identified with whom consultation must occur during the preparation of the EIS.

Table 3 provides a detailed summary of the individual matters listed in the SEARs and identifies where these requirements has been addressed in this report and the accompanying technical studies.

Table 3 – Secretary's Environmental Assessment Requirements (SSD – 6554)

Secretary's Environmental Assessment Requirement	Location in Report	
General Requirements	Report	Appendix
The EIS must meet the minimum requirements in Schedule 2 the *Environmental Planning and Assessment Regulation 2000*, specifically: ▪ form specifications in clause 6; and ▪ specifications in clause 7.	Pages i, ii, iii	-
EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.		-
Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • adequate baseline data; • consideration of potential cumulative impacts due to other development in the vicinity; and • measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.		-
Key Issues Statutory and Strategic Context	Report	Appendix
Address the statutory provisions applying to the development contained in all relevant environmental planning instruments, including:	Section 4	-
EP&A Act 1979	Section 4.2	-
State Environmental Planning Policy (State & Regional Development) 2011	Section 4.3	-
State Environmental Planning Policy (Infrastructure) 2007	Section 4.3	Appendix R
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004	Section 4.3	Appendix L
State Environmental Planning Policy No.55 – Remediation of Land	Section 4.3	-
State Environmental Planning Policy No.64 – Advertising and Signage	Section 4.3	-
State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development and accompanying Residential Flat Design Code	Section 4.3	Appendix C and K
Sydney Local Environmental Plan 2005	Section 4.3	Appendix K
Draft Metropolitan Strategy for Sydney	Section 4.2	-
Metropolitan Plan for Sydney 2036	Section 4.2	-
Draft Sydney City Sub-Regional Strategy	Section 4.2	-

Secretary's Environmental Assessment Requirement	Location in Report	
Sydney 2030 (The City of Sydney Council)	Section 4.2	-
Development Near Rail Corridors and Busy Roads - Interim Guideline	Section 4.2	-
Guide to Traffic Generating Developments (RTA)	Section 4.2	-
NSW Planning Guidelines for Walking and Cycling	Section 4.2	-
City Centre Access Strategy.	Section 4.2	
Compliance with the Approved Concept Plan	**Report**	**Appendix**
The EIS shall demonstrate that the proposal is consistent with the Concept Plan approval MP 06_0171 dated 5 February 2009 (as modified).	Section 4.6	
Built Form and Urban Design	**Report**	**Appendix**
The EIS shall address: ▪ the height, bulk and scale of the proposed development within the context of the locality and the approved Concept Plan; and ▪ design quality, with specific consideration of the overall site layout, axis, vistas and connectivity, street activation, façades, massing, setbacks, building articulation, materials, use of appropriate colours, building materials, landscaping and safer by design. ▪ provide photomontages of the proposed building in the context of immediately surrounding developments, including photomontages from within Central Park and along Broadway,	Section 4.7	Appendix B and C
Environmental and Residential Amenity	**Report**	**Appendix**
The EIS show compliance with SEPP 65 and the Residential Flat Design Code recommendations to achieve a high level of environmental and residential amenity. In this regard, the EIS should consider the proposed accommodation, as well as surrounding residential development.	Section 4.8	Appendix C and K
Landscaping and Public Domain Management	**Report**	**Appendix**
The EIS shall provide details of the public domain works and landscaping adjacent to the site, considering City of Sydney Council's requirements including the Street Tree Master Plan, Streets Design Code and draft Interim Sydney Lights Design Code.	Section 4.9	Appendix G
Transport and Accessibility (Construction and Operation)	**Report**	**Appendix**
The EIS shall: ▪ detail access arrangements at all stages of construction; ▪ detail the type of service vehicles, number of service vehicle movements and parking arrangements that enable entry and exit in a forward direction; ▪ demonstrate how users of the development will be able to make travel choices that support the achievement of State Plan targets, including: ▪ describing the measures to be implemented to promote sustainable means of transport including public transport usage, car sharing scheme, pedestrian and bicycle linkages and parking provisions; and ▪ a Workplace Travel Plan and Travel Access Guide for employees, residents and visitors to the site. ▪ provide accurate details of peak hour vehicle movements and assess the impacts of this traffic on the local road network, including intersection capacity; ▪ demonstrate appropriate provision, design and location of on-site car and bicycle parking, including bicycle parking at ground level (Note: the Department supports reduced car parking in areas well-serviced by public transport); and ▪ address pedestrian movements through and around the site, and if necessary, identify an appropriate alternate route for pedestrians during construction. Any alternate route should be well lit, offer passive surveillance and be easily identifiable.	Section 4.10	Appendix M and S
Ecologically Sustainable Development (ESD)	**Report**	**Appendix**
The EIS shall: ▪ detail how the development will incorporate ESD principles in the design, construction and ongoing operation phases of the development; and ▪ demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice and achieve a suitable Green Star rating, consistent with the approved Concept Plan (as modified).	Section 4.11	Appendix L
Noise	**Report**	**Appendix**
The EIS shall identify the main noise generating sources and activities at all stages	Section 12	Appendix T

Secretary's Environmental Assessment Requirement	Location in Report	
of construction, and any noise sources during operation. The EIS shall outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.		
Drainage and Flooding	Report	Appendix
The EIS shall address drainage / flooding issues associated with the development / site, including stormwater, drainage infrastructure and incorporation of Water Sensitive Urban Design measures.	Section 13	Appendix U
Staging	Report	Appendix
The EIS is to include details regarding the staging of the proposed development, in relation to the Central Park site and the construction of the combined basement under Blocks 1 and 4N.	Section 4.16	Appendix B
Contributions	Report	Appendix
The EIS shall address the contributions applicable to the development / or details of any Voluntary Planning Agreement.	Section 4.17	-
Heritage	Report	Appendix
The EIS shall provide a Heritage Impact Assessment that should be prepared in accordance with the NSW Heritage Office publication 'Statement of Heritage Impact", having particular regard to the surrounding heritage buildings and how the heritage significance of those buildings is to be maintained.	Section 4.2	Appendix F
Consultation	Report	Appendix
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups (including the Chippendale Residents Interest Group). In particular you must consult with City of Sydney Council. 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	Section 3.10	Appendix J,
	Also, all appended reports include details of any relevant consultation undertaken with authorities / stakeholders etc.	

1.6 Project Team

Client	Frasers Property Australia + Sekisui House (Central Park JV No.2.)
Development Manager	Frasers Property Australia
Architect	Foster + Partners
Local Collaborating Architect	PTW
Planning	JBA
Structure	Robert Bird Group
Building Services/	WSP
Fire Engineering	WSP
ESD Strategy	WSP Built Ecology
Quantity Surveyor	Slattery Australia
Landscape Architects	JAA +Turf Design Studio
BCA/DDA Consultant	City Plan Services
Acoustics	Acoustic Logic
Traffic	GTA Consultants
Wind, Reflectivity & Noise	Cermak Peterka Petersen
Facade Engineers	Surface Design
Safety Management	Elton Consulting
Community Consultation	Elton Consulting
Waste & Logistics	Arup
Civil Engineers	Mott MacDonald
Heritage	Urbis

2.0 Site Analysis

2.1 Site Description

Central Park is located on the southern edge of the Sydney Central Business District (CBD). Central Park is in close proximity to Central Station, Broadway Shopping Centre, the University of Technology, Sydney and the University of Notre Dame Australia. A location plan is provided at **Figure 1**.

Block 1 is located at the north western corner of the Central Park site and is bound by Broadway to the north, Central Park Avenue to the south, Chippendale Way to the east, and Block 4N directly to the west. Block 1, along with the existing Block 2 (One Central Park), the Clare Hotel (Block 3A) and the future Block 4N development will form part of the northern edge of Central Park, providing and urban edge and separation of Chippendale Green and other areas of public domain within the Central Park site from Broadway. An aerial photograph of the Block 1 site within Central Park is provided at **Figure 2** below and an image of the site in **Figure 3**.

The Block 1 site occupies an area of 3,535m^2 and is currently vacant. The site is legally described as Lot 1 in DP 807298 and Lot 12 in DP1194122 which is owned by Central Park JV No 2. A survey Plan of the Site is provided at **Appendix D**. A Plan of proposed Stratum subdivision is also provided at **Appendix W**).

Figure 1 – Location plan
Source: Foster + Partners

Figure 2 – Aerial photograph and site plan

Figure 3 – View of the subject site (currently under construction) from the north east
Source: JBA

2.1.1 Topography

The area of Chippendale, in which Central Park is located, has an overall topography grading down to the west at about two degrees. The Block 1 site has a fall from east to west with a variation in height of approximately 1.6m at the Broadway frontage. The remainder of the site has a minor fall to the north-west. The through site link, and future pedestrian laneway has a variation in height from south to north of approximately 1m.

The Block 1 site is currently in the process of excavation as part of the early works approval (for remediation) and excavation in accordance with the Approval Project Application (MP 08_0253).

2.1.2 Geotechnical Conditions

The site is underlain by the intersection of three stratigraphic units: Hawkesbury Sandstone (at depths of 2-4m), Ashfield Shale, and man-made fill over Quaternary sands. The sandstone will provide an excellent foundation of high bearing capacity and the earthquake site factor is favourable as it is a 'rock' site.

The water table occurs at relatively shallow depth throughout the site and drainage will be required below the basement floor slab. The soils / groundwater are assessed as being moderately aggressive to buried concrete and mildly aggressive to buried steel structures.

Further detail is provided in the Geotechnical Investigation Statement prepared by JK Geotechnics and provided at **Appendix E**. This letter refers to the previous Geotechnical Report undertaken by JK Geotechcnics for (approved) Block 1 +4N Basement. The report concludes that the site is capable of supporting the proposed development, the subject of this DA.

2.1.3 Contamination and Remediation

Remediation of the Block 1 site is currently being undertaken in accordance with MP07_0163 (Remediation) approved in August 2008. The site is now suitable for the approved Concept Plan (as modified) uses, including the Block 1 mixed use development proposal.

However, the site's use by contractors (and the potential for contamination) needs to be reviewed prior to commencement of the works, given it is likely that the top layer (approximately 300 – 500mm) of fill will need to be removed prior to basement excavation.

2.1.4 Heritage

The Brewery Yard to the south of the site comprises a number of buildings which have been identified as heritage items. Assessment of the impact of the approved Concept Plan (as modified) on these items has been previously undertaken. Given the proximity of the Block 1 site to the Brewery Yard and the adjoining buildings, the potential impacts of the proposed works to on the heritage significance of these items has been considered in Heritage Impact Statement prepared by Urbis (**Appendix F**).

2.1.5 Infrastructure and Services

Decommissioning of most of the existing infrastructure on the site has been completed in accordance with MP07_0120 (Demolition and Site Preparation) approved in March 2008. However, mains infrastructure, which runs the length of Balfour Street, has been retained in situ following completion of the demolition and site preparation works.

The site has since been serviced with potable water, electricity, sewer, gas and telecommunications, which will be augmented as necessary to accommodate the proposed development.

A Central Thermal Plant (CTP) is provided below the courtyard of the Brewery Yard Building, to the north east of the site. The CTP consists of chiller and boiler plant for the purposes of generating cooling and heating for air conditioning and domestic hot water needs for the whole of Central Park including Block 1. A recycled water plant (including sewer mining) is also provided.

2.1.6 Access

Pedestrian and Cycling

Formalised pedestrian facilities are provided on all road frontages in the vicinity of the Central Park site and include footpaths and ramps. Block 1 will integrate with the proposed Ultimo Pedestrian Network and existing CoS Cycleway Network through the CBD and surrounds. A main pedestrian footway and cycle route (proposed City Council Route 20) will run through the middle of Central Park connecting Balfour Street with Broadway and Jones Street in the north. Signalised pedestrian crossing facilities are provided at the intersections surrounding the Central Park site.

Central Park incorporates a high number of pedestrian and cycle routes throughout, and within close proximity to Block 1. A shared pathway is located on Abercrombie Street to the west of the Block 1 site. Additionally, a dedicated bike path is located on the northern side of Broadway that facilitates cyclists emanating from Newtown (south) travelling north (along the bike path on Jones Street).

Rail and Light Rail

Central Railway Station is located approximately 700m east of the Central Park site. The station offers regular suburban and interstate services on the Sydney rail network.

Central Railway Station also provides light rail services with the Central light rail stop located to the north of the station.

Bus

The Central Park site has excellent access to regular bus services along Broadway, as well as a connecting bus interchange on the corner of George and Lee Streets to the north east of the site.

Vehicle

The Block 1 site is easily accessible by vehicles via Broadway to the north, Cleveland Street to the south and City Road / Princes Highway to the west. Basement car parking is provided for residents and visitors of Block 1 in accordance with the relevant planning controls.

2.2 Surrounding Development

To the North

To the north of the Block 1 site is Broadway, an eight land roadway that runs east/west, and includes a dedicated bus lane in each direction. Further north of the site North of is the University of Technology, Sydney (UTS). UTS is currently undertaking construction, expansion and extension to the Broadway Precinct of its City Campus to enable the provision of improved education, social and sporting facilities for use by existing and future students and the local community. The first in the redevelopment of UTS's billion-dollar City Campus Master Plan is the Faculty of Engineering and IT building (FEIT) located on the corner of Broadway and Wattle Streets opening in July 2014 (see **Figures 4** and **5**).

Figure 4 – UTS REIT Building located north of the site
Source: Andrew Worssam

Figure 5 – UTS REIT Building as seen from Chippendale Way
Source: JBA

To the East

To the east of the Block 1 site is Chippendale Way that provides pedestrian vehicle access to and from the Central Park site. Further east of the site is the western tower of Block 2 of Central Park, also known as One Central Park. Block 2 contains lower levels of retail, food speciality and restaurants with outdoor setting and local supermarket, and residential uses above.

To the South

The Block 1 site is the Brewery Yard building and associated courtyards separated from the site by Central Park Avenue. Both Central Park Avenue and the Brewery Yard are currently under construction as part of the delivery of Block 4N, 4S and Block 1. Further south (and south east) of the site is Chippendale Green (formerly the Main Park) and an area, that was previously referred to a Block 2A within the Concept Plan, which is now an additional area of landscaped open space for use by the public.

These parks contribute to a generous hierarchy of public open spaces distributed to provide a variety of passive and active recreational opportunities and break up

the urban form. **Figure 6** shows development to the south. **Figure 7** shows Chippendale Green to the south.

Figure 6 – Open space to the south of the site (Central Park Model)
Source: JBA

Figure 7 – Chippendale Green south of the site
Source: JBA

To the West

To the west of the Block 1 site is the Australia Hotel, and the Block 4N site. The site currently has approved as a commercial office development with underground car parking. Works on this site have commenced (in combination with the other remediation and early works approvals).

To the south-west of the site is Block 4S, a student accommodation building (approved in December 2013) which is currently under construction. This development consists of a 15/part 16 storey building comprising student accommodation and ground floor retail, including bicycle parking, and communal facilities.

Further west of the site on the south western corner of Broadway and Abercrombie Street is St Benedict's Catholic Church.

Figure 8 – Proposed redevelopment of Block 4N and 4S
Source: Foster + Partners

3.0 Description of the Development

This section of the report provides a detailed description of the proposed development. An Architectural Design Report (**Appendix C**) and Architectural Drawings (**Appendix B**) have been prepared by Foster +Partners ain associated with PTW. A Public Domain and Landscape Report including Landscape Drawings has been prepared by Jeppe Aagaad Andersen +Turf Design Studio and is provided at **Appendix G.**

More specifically, this SSDA seeks approval for the following components:

- Construction of an eighteen (18) storey mixed use building comprising a total of 281 residential apartments (52 of which will be adaptable apartments), including:
  - 94 x studio apartments.
  - 91 x 1 bed apartments.
  - 72 x 2 bed apartments.
  - 24 x 3 bed apartments.
- Four levels (4) of basement comprising car parking, bicycle parking, end-of-journey facilities, and services infrastructure to service Block 1 and Block 4N including;
  - 345 car parking space (216 to be allocated for use by Block 1).
  - 7 Motorcycle Space.
  - Bicycle Parking Spaces to service residential/retail and visitor requirements.
  - Service vehicle loading are consisting of a total of 20 service vehicle bays.
- 1,100m^2 of non-residential/retail floor area at ground level with active street frontages to all four frontages of the building (including the future pedestrian link between Block 1+4N);
- Resident facilities including a gym and 20m swimming pool located on level 2, outdoor terrace area on level 16, with an accessible Jacuzzi, barbeques and outdoor furniture;
- Total Gross Floor Area (GFA) of 24,454m^2 including 1,000 m^2 of non-residential, 187m^2 of other GFA, and 23,167m^2 of residential use; and
- Stratum subdivision of the site.

Photomontages of the proposed development are provided at **Figure 9** and **10**.

Figure 9 – Photomontage of the proposed development – view from the south west
Source: Foster + Partners

Figure 10 – Photomontage of the proposed development, view from the north-east.
Source: Foster + Partners

3.1 Design / Urban Design Principles

A detailed Urban Design Report has been prepared by Foster +Partners (**Appendix C)** which describes the design, concept and planning of the proposal in detail. The concept for Block 1 is based on the following project-specific design principles:

- Provide high quality residential accommodation;
- Arrive at a massing that consolidates the requirements of the brief within approved massing envelope of the Concept Plan and comply with required set-backs;
- Maximise sun and daylight to the apartments as well as the public realm, including the public park;
- Develop an architectural language that addresses to the historical buildings on the site;
- Continue the urban design of the streetscape by maintaining set datum lines along Broadway;
- Design an environmentally sustainable building; and
- Ensure an animated ground plane and integrated landscape design that improves the public domain around the building.

3.2 Overview

Table 4 below provides the key numerical information of the proposed development. It is noted that the approved Concept Plan (as modified) is the principle planning document applicable to the Central Park site, which includes Block 1.

The SSD application will be assessed against the relevant provisions under Part 4 of the EP&A Act. Where it does not provide development controls, CoS Local Environmental Plan (LEP) 2005 (which continues to apply to the Central Park site) apply. In accordance with clause 11 of the SEPP SRD, the requirements of Development Control Plans (DCPs) do not apply, however have been considered in the design of the development where relevant as best practice.

Table 4 – Key numerical information

Component	Proposal
Site area	3,535m^2
GFA (Total)	24,454m^2
Residential GFA (Total)	23,167m^2
Retail GFA (Total)	1,100m^2
Other GFA Area	189 m^2
Height RL storeys	 RL 79.5 (Approximately 65m) 16-18
No. of apartments	Total of 281: ▪ 94 x studio apartments ▪ 4 x 1 bed apartments ▪ 87 x 1bed + Study apartments ▪ 13 x 2 bedroom apartments ▪ 59 x 2 bed apartments ▪ 24 x 3 bed apartments *52 Adaptable Apartments*
Total no. of car spaces	Total of 345 ▪ Block1 - 216 ▪ Block B4N - 129

Component	Proposal
	▪ Brewery - 19
Total no. of motorcycle spaces	7
Total no. of bicycle spaces	208
Service Spaces	20 vehicle bays including: ▪ 4 truck bays ▪ 16 van/utility bays

3.3 Demolition and Site Preparation

The existing structures on the Block 1 site have been demolished in accordance with MP 07_0120 (Demolition and Site Preparation) approved in March 2008. Remediation of the site is underway MP07_0163 (Remediation) approved in August 2008. In accordance with the existing approval (MO 08_0253) as amended, excavation of the approved combined basement has commenced on the site.

3.4 Infrastructure and Services

The site is serviced with potable water, electricity, sewer, gas and telecommunications, which will be augmented as necessary to accommodate the proposed development.

A Central Thermal Plant (CTP) is provided as part of the site wide infrastructure and consists of chiller and boiler plant for the purposes of generating cooling and heating for air conditioning and domestic hot water needs for the whole of Central Park including Block 1.

A Recycled Water Plant (including sewer mining) is also provided to service the non-potable water needs of the whole of Central Park, including Block 1, such as for irrigation to landscaped areas (public domain and private planters), toilet flushing, clothes washing in apartments and general basement cleaning where required.

Further details in relation to the infrastructure requirements and provision at Block 1 are provided in Services Infrastructure Report prepared by WSP and provided at **Appendix H**.

All required service inputs (including mechanical, electrical, communications, hydraulics, vertical transport and fire services and safety) have been considered in accordance with the relevant responsible criteria and will be designed in accordance with the relevant standards and authority requirements.

3.5 Built Form

3.5.1 Building Form

Block 1 is a part 16-part 18 storey building storey building which is generally consistent with the development controls provided in the approved Concept Plan (as modified) in particular height, sun access plane and overshadowing, footprint envelope, and GFA

The built form steps from 18 storeys at the Broadway frontage, to 16 storeys at the rear with frontage to Central Park Avenue. A two level podium is incorporated to the lower levels of the building, with a neck level at level 3, to create to separate the tower above and provide a more pedestrians scale the street levels. This form is shown below in the sections at **Figure 11** and **12**. An aerial montage of the built form is also shown in **Figure 13.**

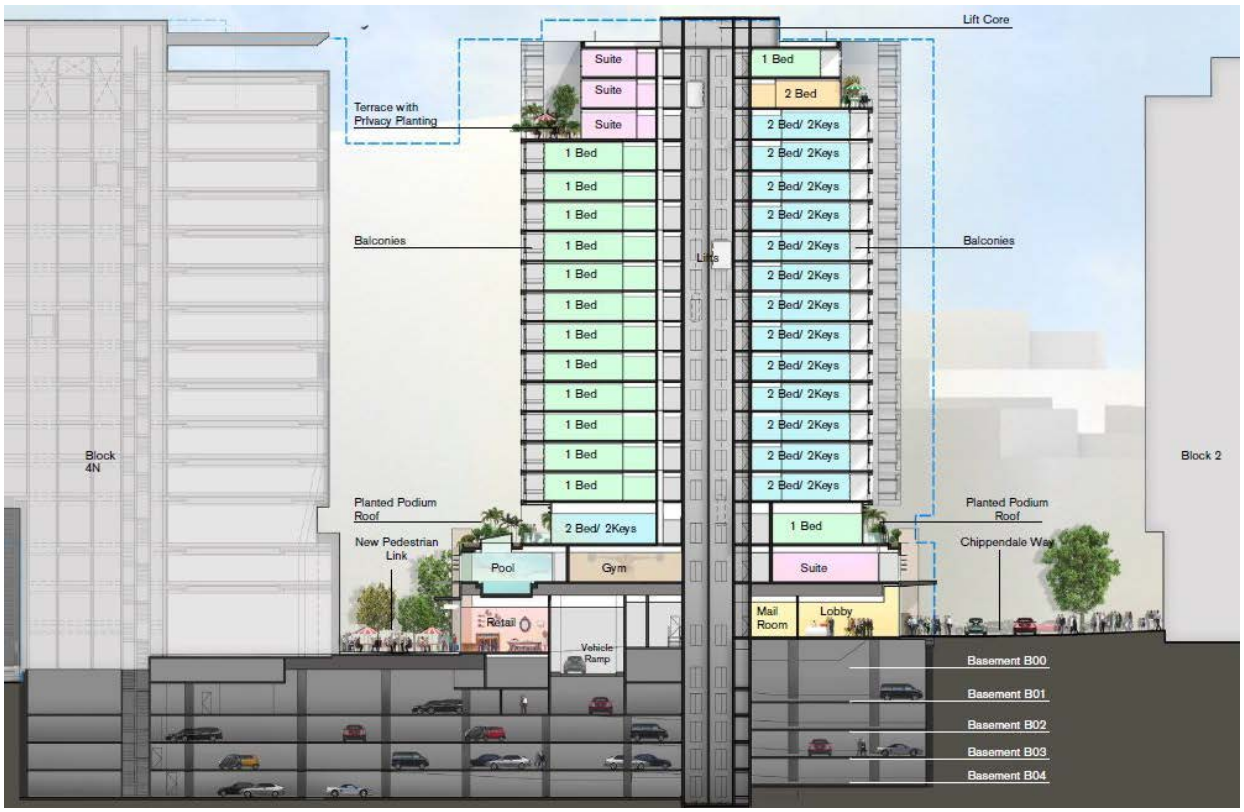


Figure 11 – East-West Section of the proposal
Source: Foster + Partners]

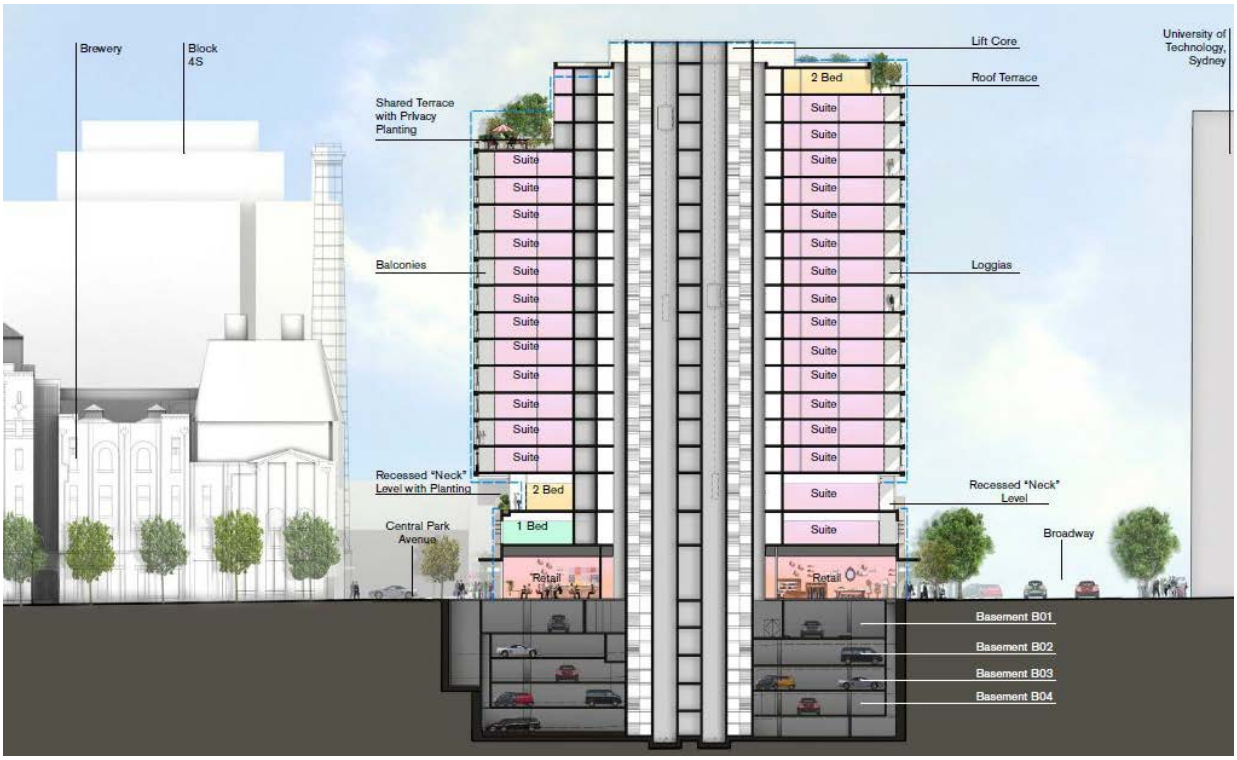


Figure 12 – North – South Section of the proposal
Source: Foster + Partners

Figure 13 – Aerial Montage of the site and surrounds
Source: Foster + Partners

The following elements were considered when establishing the concept and massing the proposal:

- Consideration of the Concept Plan envelop parameters;
- Primary development controls including separation and setbacks;
- Progression of the floorplan and Introduction of daylight slots;
- Urban relationship to the streetscape and lower levels (including the neck level); and
- Responding to the environmental aspects of the site including facade design.

Concept Plan and Primary Development Controls

As a starting point, the key consideration of the proposed form was the parameters of the Concept Plan. This included the consideration of the maximum building height, GFA, podium, and neck design (heritage datum), and stepped form of the envelope for solar access.

In addition to the Concept Plan, the key development controls of SEPP 65, and the RFDC were considered, specifically separation distance, access to natural light, and ventilation. The proposed residential use of Block 1 and removal of connections between Block 1 and 4N allowed for increased separation distances contributing increased solar access to the public domain. A comparison between existing and proposed built form and footprint in shown below at **Figure 14**.

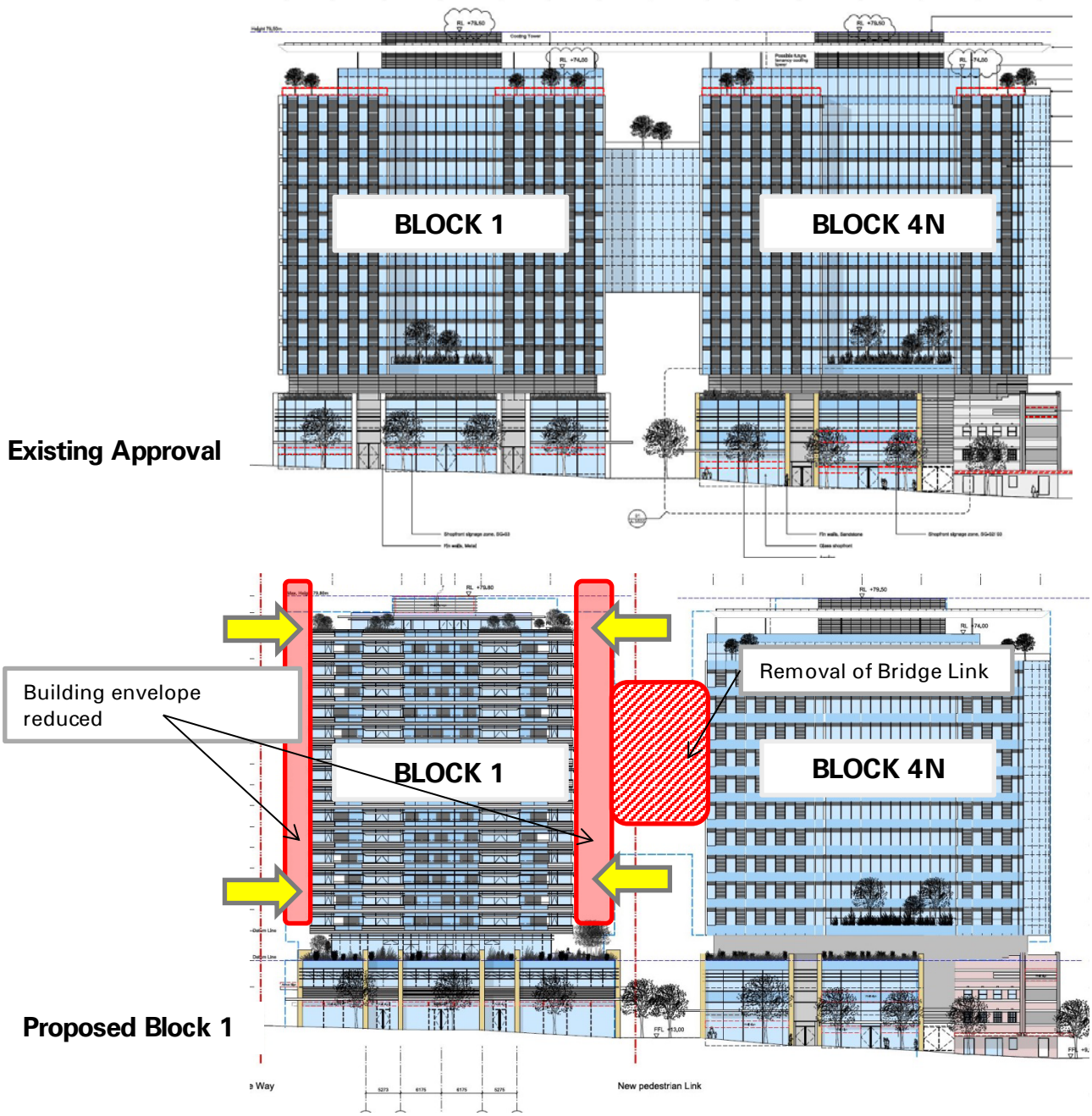


Figure 14 – Approved and Proposed Block 1 envelope
Source: Foster + Partners and JBA

Introduction of Daylight Slots

The proposed design incorporates three light slots (2 on the eastern elevation and one on the western elevation). The slots not only allow natural light and ventilation the common lobbies, but provide cross ventilation to the substantial number of apartments on each floor plate. The reduction of the floorplate and creation of slots, also allows for improved access to views and modulation in the façade (as seen in **Figure 15**).

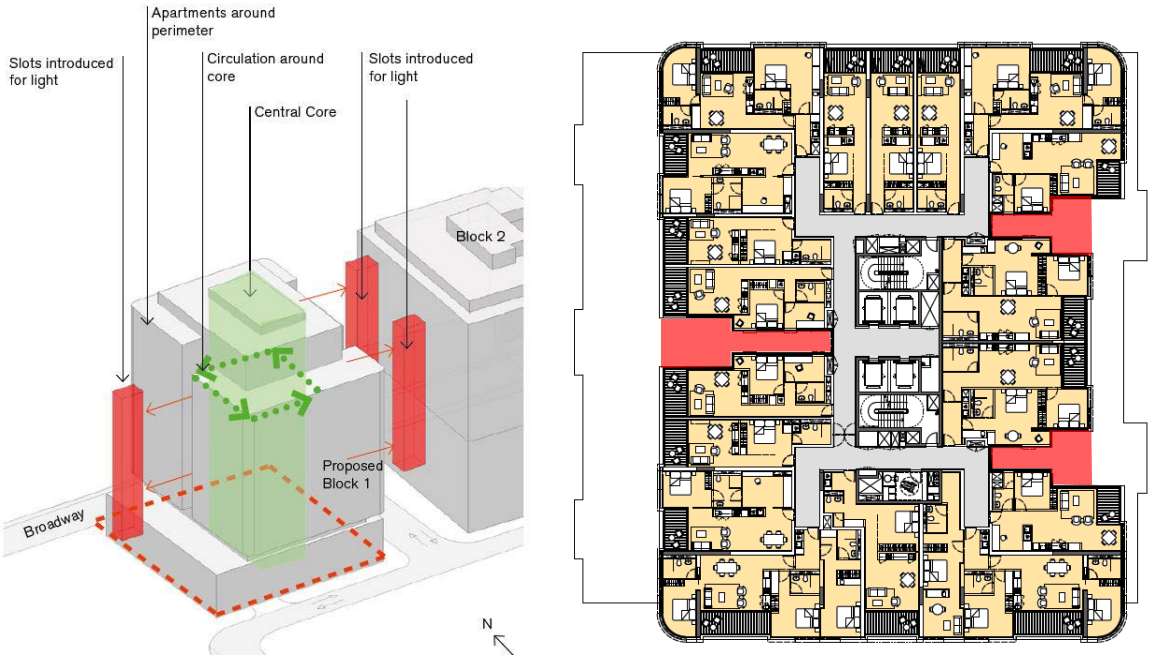


Figure 15 – Daylight Slots (slots shown in red)
Source: Foster + Partners and JBA

Urban relationship to the streetscape and lower levels

This aspect included the establishment of the podium level, including the neck of the building. This aspect was considerate of the requirements of the Concept Plan to maintain the height datum, as well as the scale and materiality of the surrounding heritage elements The datum line against the proposed podium is shown below in **Figure 16**.

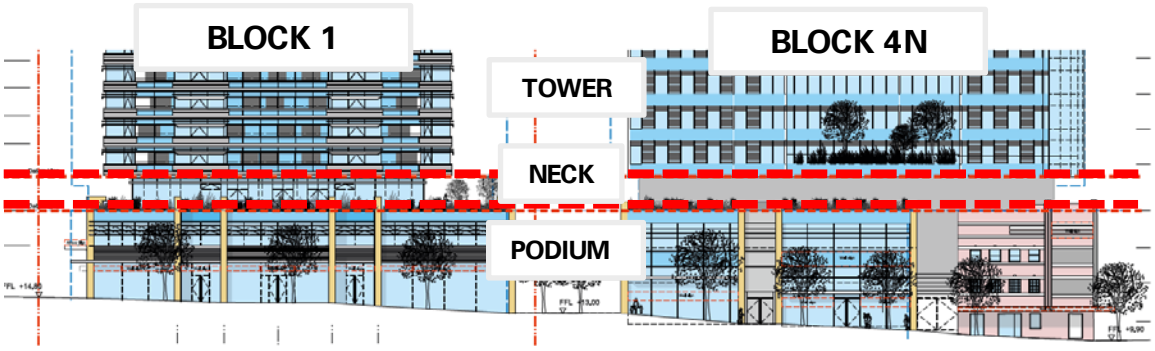


Figure 16 – Podium design and datum
Source: Foster + Partners and JBA

Responding to the environmental aspects of the site

This aspect involved further articulation of the block to include facade detailing. It also involved consideration of the specific orientation and shadowing requirements, with the emphasis of expression of living areas to the facade of the building.

Before arriving at the proposed form, a number of design options were explored and the benefits and downsides of other design options were considered. The key drivers for the massing options were:

- Respect the concept plan established envelope and minimise additional overshadowing of the park;
- SEPP65 separation distances to One Central Park and Block 4N;

- Maintain the street frontage as described in the Concept Plan, which requires Block B1 to remain aligned with the surrounding blocks along Broadway and not to be set back;
- Consider views onto and from surrounding blocks;
- Maximum workable floorplan depth for apartments- see also plan studies;
- Respond to the heritage buildings on the site; and
- Maintain the approved podium footprint and datum lines of approved Concept Masterplan.

3.5.2 Basement

The proposal includes a four levels of basement that are intended to service both Block 1, the future development of Block 4N as well as the Brewery Building. The basement includes car/motorcycle parking, bicycle parking, storage, plant, services, and loading/waste collection areas. The proposed basement is arranged generally consistent with that approved within Project Application MP 08_0253.

Consistent with the existing approved basement (MP 08_0253) the proposed basement will have two vehicle access points, one for residential/office parking, and a separate entrance for service vehicles. The residential entry point is proposed from Chippendale way at the western end of the southern elevation. The service vehicle entry point is located on Abercrombie Street, south of the existing (and retained) terraces.

The footprint of the basement sets back from the western boundary below basement level 1 as shown on the Architectural Plans at **Appendix B**. Typical floor to floor heights are 3.1m, with additional clearance at entry ramps and within the service area (below Block 4N).

The internal layout and arrangement of uses are shown on the Architectural Plans (**Appendix B)** and detailed in the Architectural Design Report (**Appendix C**).

3.5.3 Building Height

The building height has been primarily determined by the envelope as defined in the approved Concept Plan MP06_0171 (as modified). The building height has also taken into consideration the potential for overshadowing, and impacts to views and vistas. While there are some minor variations to the southern side of the building envelope (as discussed in **Section 4.2**) the height is generally consistent with the Concept Plan.

The height of the proposal is a part 16/part 18 storey building with a maximum building height of RL 79.8 (65m) in accordance with the maximum permissible height of the Concept Plan. Level 16 at the southern portion of the site has an RL of 67.1 (53m)

3.5.4 Gross Floor Area

The use and GFA for each level within the proposed development is set out in the architectural drawings provided at **Appendix B** and reproduced in **Table 5** below. In accordance with the approved Concept Plan (as modified), the general arrangement of the site includes retail, entry lobby and communal areas at ground level, with the upper levels occupied by residential accommodation, and a communal areas, gym and pool at level 2 and roof-top terrace at level 16.

Table 5 – Uses and GFA by level

Level	Uses	GFAm²
Level 00	Retail Residential Lobby	1098 226
Level 02	Residential Gym/Pool	1,330 189
Level 03(neck)	Residential	1,186
Level 04	Residential	1,462
Level 05	Residential	1,462
Level 06	Residential	1,462
Level 07	Residential	1,462
Level 08	Residential	1,462
Level 09	Residential	1,462
Level 10	Residential	1,462
Level 11	Residential	1,462
Level 12	Residential	1,462
Level 13	Residential	1,462
Level 14	Residential	1,462
Level 15	Residential	1,462
Level 16	Residential Communal Terrace	1,079
Level 17	Residential	1,035
Level 18	Residential	767
Level 19 (roof)	Plant	
	TOTAL	24,454

The above GFA has been calculated as per the GFA Plans prepared by Foster + Partners and provided at **Appendix B**.

3.5.5 Apartment Mix and Size

As part of the massing and built form design, the environmental aspects have been a focus of the proposal. Apartment configuration has been carefully considered to maximise views, outlooks, cross ventilation and access to natural light. The context of the site affords south facing apartments a high quality outlook over Chippendale Green and the Brewery Building and courtyard. The north facing apartments also achieve city vistas with increased levels of natural daylight.

As shown on the Architectural Plans at **Appendix B**, the typical level of the residential tower accommodates a mix of apartment sizes and types arranged around central core, which supports four lifts. Apartments have been orientated to the street frontages, with living areas enforced on the elevations.

The use of light slots in the building's typical floorplate increased the amount of building façade, providing opportunities for increased access and ventilation opportunities to apartments and common areas. Common areas within the floor plate, are minimised, whilst being naturally lit and ventilated, providing an efficient floor plate arrangement, whilst also contributing to a sense of a more personalised entrance, off small wings in the corridors

On level 2 and 3 of the building, immediately above the podium, the apartments are set back from the podium footprint, and provided with planters that provide a desirable outlook from within the apartments and contribute to providing privacy, whilst still allowing for a workable floorplate and apartment layout. The upper levels of the building, level 15 to 18, provide for the premium apartment accommodation, some of which have small roof top courtyards.

The building comprises a total of 281 apartments distributed as follows:

- 94 x studio apartments (24%);
- 91 x 1 bed apartments (36%);
- 72 x 2 bed apartments (33%); and
- 24 x 3 bed apartments (7%).

The proposed apartment mix responds to the existing and future high demand for smaller apartment types, largely driven by the site's location and context in conjunction with the existing and forecast demographic profile and market demand. Given the site's proximity to public transport and availability of car share facilities, high quality apartment design, resident facilities (including swimming pool, gym, and roof top terraces), and highly desirable aspects and vistas, all apartments are afforded a high levels of amenity.

The average apartment sizes are provided below in **Table 6.** Details of the Apartment typologies and arrangements are illustrated within the Architectural Design Statement at **Appendix C.**

Table 6 – Average apartment sizes

Apartment Type	Average size
Suite	40 m^2
• One bedroom	45-50m^2
One bedroom +studio	55 m^2
Two bedrooms, 1 bathroom	60-65 m^2
Two bedrooms, 2 bathrooms:	75-80 m^2
Two bedroom, dual key	85-90 m^2
Three bedroom, dual key	105-110 m^2

3.5.6 Adaptable Apartment

The proposal provide a total of 52 adaptable apartments, which are spread across the two bed +study and two bed (dual key) apartment types, as shown at **Appendix B** and **C**. The mix of apartment types, as well as their potential location within the building provides flexibility and variation .The total number of adaptable apartments provides for 19% of the proposed apartment numbers. Plans illustrating how the apartments can be adaptive are provided as part of the Architectural Plans (**Appendix B**) and Architectural Design Report (**Appendix C**).

3.5.7 Storage

Storage areas for the apartments are provided within each apartment and in the basement (generally 50% in each area).The total areas for storage provided are detailed in **Table 7** below. It is noted that as part of the proposed storage arrangement, the space within the basement will be capable of storing a bicycle (equivalent to a class 1 locker).

Table 7 – Proposed Storage

Apartment Type	Storage Size
Suite	6m^3
One bedrooms	6 m^3
Two bedrooms,	8 m^3
Three bedrooms	10m^3

3.5.8 Private Open Space

The proposed arrangement of the developments private open space is shown in details within the Architectural Design Report prepared by Foster +Partners (**Appendix C**) and Landscape Design Report and Plan prepared by JAA +Turf (**Appendix G**).

All apartments within the development are provided with an area of private open space, as either a balcony or loggia that can be enclosed. All apartments on the north elevation, above Broadway, will be provided with a loggia to allow for protection from traffic noise, as well as being able to be used as an extension of the principal living area within the apartment. All other apartments within the development are provided with a balcony (or 'lanai'). The distribution of loggias/balconies is illustrated below in **Figure 17**. All private open spaces achieve a minimum depth of 1.8m to allow high level of functionality of the space.

A combination of terraces and balconies has been provided to the podium level apartments that incorporate landscaping perimeter screening as shown above in **Figure 25.** On level 16 and 18, apartments are also provided with outdoor courtyards, screened by landscaping.

The private open space of each apartment is designed to be a flexible extension of the internal living space as either a loggia or a "lanai" balcony.

Figure 17 – Balcony and Loggias Proposed
Source: Foster + Partners

3.5.9 Communal Areas

The proposal comprises an internal communal area consisting of the entry lobby and, pool and gym facilities on level 2, and communal roof terrace on level 16. The entry lobby is accessed on the east side of the building off Chippendale Way and is identified by vertical fins at the entry. Each of these areas is discussed in further detail below.

Indoor

Level 2 of the building provides gymnasium and a 20m pool (5m wide) indoor pool, with generous lounge area that provide views and outlook over the Brewery Yard Courtyards, and Broadway. Change room facilities, gym and sauna/steam room are located off the pool adjacent to the core (as shown below in **Figure 18**). All facilities within the building will be exclusively for the use of residents within the building.

The facade of this area has been design to incorporate horizontal elements, which contribute to privacy from surrounding building, whilst still allowing for outlook from within, and the penetration of natural light and sunlight (see **Figure 19**).

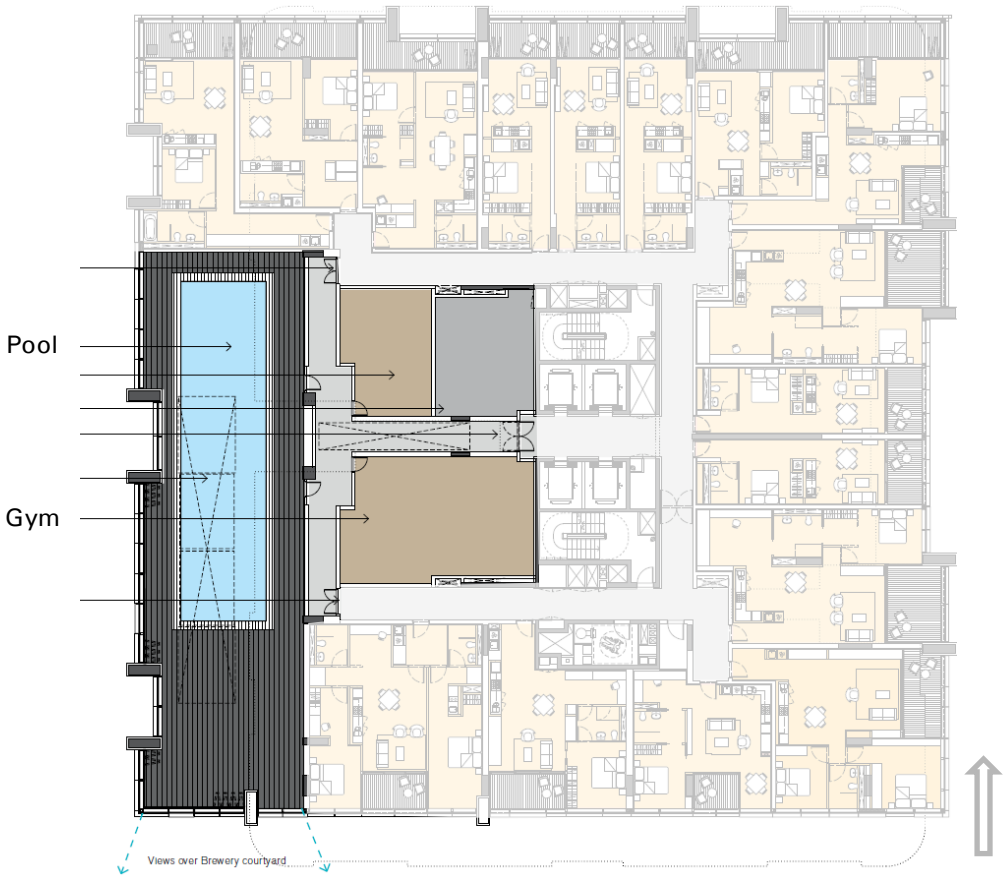


Figure 18 – Location of the Level 2 Communal Facilities
Source: Foster + Partners

Figure 19 – Photomontage illustrating the SW podium and level 2 façade.
Source: Foster + Partners

Ground Floor Lobby
The proposal comprises an internal communal area consisting of the entry lobby and residents' lounge at ground level. The entry lobby is accessed on the east side of the building off Chippendale Way with a lounge areas/meeting point. The location and design of the residential lobby area is shown in **Figures 21** and **22**.

Rooftop Terrace
An external communal area, comprising a terrace, is also provided. The roof-top terrace is located to the south of level 16 and will includes fixed, as well a loose planters, furniture and seating (including seating nooks and floating bench table), communal BBQs and an accessible Jacuzzi (refer to **Appendix G**).

Landscaping is used to the perimeter to separate this space form the adjoining terraces on the upper levels units. A single feature tree at the centre of the outdoor space also service to separate the passive recreation and seating areas on this level (see **Figure 20** below). The Level 16 terrace provides an impressive vantage point to with views overlooking Chippendale Green and further south towards Botany Bay.

Planting
As specified within the Landscape Plan and Report (**Appendix G**), planting for the roof terraces is proposed within three typologies;

- **First tier:** typically located to perimeter planters includes smaller dense, darker tonal planting which will maintain internal sightlines across to city views;
- **Second tier:** typically located where more private and sheltered environments are desired. Larger species will be utilised to enclose spaces and frame views;
- **Feature Planting**: small trees and accent planting are proposed to larger planter areas where soil volumes will support root systems.

Figure 20 – Proposed Level 16 communal Terrace
Source: JAA + Turf Design

3.5.10 Materials and Finishes

The materials palette for the facade now includes white concrete precast panels and some areas of tinted glass for the block, but otherwise remains consistent with the Concept Plan and previously approved materials for Block 1. Details of the materials proposed to be used are detailed in the Architectural Design Report (**Appendix C**). A Materials and sample board has been prepared by Foster + Partners and submitted under separate cover. In summary the following materials are proposed:

Lower Levels

The lower levels will be finished in a palette of materials that are inspired by the heritage buildings located at the junction of Broadway and Abercrombie Street. This proposal for Block 1 will follow the strategy proposed for Block 4N. Below the city datum line the range of materials will include sandstone or similar, granite, terracotta, metal finished in copper brown and dark grey paint, clear and tinted vision glass to shop fronts and studios and copper brown back painted glass to spandrels.

Upper Levels

The upper levels in keeping with the strategy adopted on Block 1 will employ a range of more contemporary material finishes above the recessed floor at the city datum. White precast concrete is proposed for the spandrels, while the horizontal shading façade elements are proposed to be extruded aluminium profiles.

Glazing

To maximise outlook and access to natural light, the proposal uses full height glass panels. The glass type will be double glazed units with a very light grey neutral low E coating.

Windows to the façade will be full height in loggias and balconies with, floor to ceiling sliders or awning windows of varied dimensions. Sliders will be fitted with internal safety screens or balustrades to provide the required aperture specifications for safety. Glazed back panels together with clear glazing to windows provide a consistent treatment to the facade.

3.5.11 Retail Uses

The proposal comprises non-residential/retail uses at ground level on all frontages of the proposed building. These uses demonstrate consistency with the approved Concept Plan (as modified), providing active and non-residential uses at ground level designed to animate the perimeter and provide the opportunity for seating within the public domain adjacent. The fit out and use of the retail

tenancies, including signage, will be subject to a separate Development Application to be determined by CoS Council. The layout of these is provided below in **Figure 21** and detailed in the Architectural Design Statement provided at **Appendix C.**

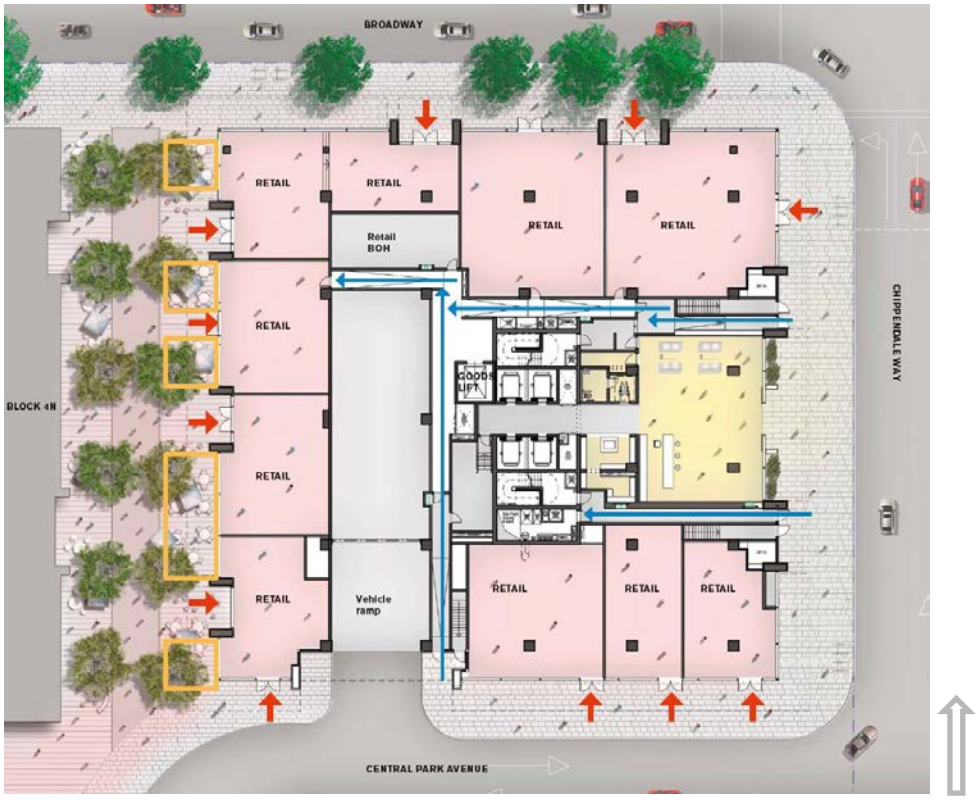


Figure 21 – Arrangement of non-residential/retail uses on the ground floor.
Source: Foster + Partners

3.5.12 Waste Rooms

A Waste Management Plan has been prepared by Arup (**Appendix I**), which sets out the proposed storage, handling and collection procedures proposed. At the southern end of each residential floor is a waste room which includes a waste chute and space for co-mingled recycling storage. Ground floor non-residential waste is proposed is to be stored within the tenancies, before being transported to the waste room within the basement.

3.5.13 Building Services

The floorplate has been designed around a centralised core, containing two x two banks of residential list that service all levels of the development, including all levels of the basement. The core also supports two escape stairs (on the northern and southern sides of the respective lift banks) providing a safe fire egress path from all levels.

A Building Services Report has been prepared by WSP (**Appendix H**) which details the proposed mechanical, electrical, communication, hydraulic and fire services to be installed.

The building will be supplied via an Ausgrid substation located within the basement area. The building will also be provided with a main switch room that will be located within close proximity to its associated substation. Dependant on the final capacity of the Tri-generation system associated with the Central Thermal Plant, there may be the opportunity to utilise the excess electricity within Block 1. Where possible, building pant and services have been allocated within

the basement, however some limited plant is proposed to the rooftop including fire escape stairs.

3.6 Landscaping and Public Domain

A Public Domain and Landscape Report including Landscape Drawings has been prepared by Jeppe Aagaad Andersen (JAA) +Turf Design Studio and is provided at **Appendix G**. The report provides details of the proposed street level landscaping, and upper level landscaping, including arrangement of the communal open spaces level 2 and 16 of the development. The key strategies of connectivity, access, street character, street planting and materials have been addressed and implemented within the proposed scheme.

It is noted that the landscape plan indicates the intended future arrangement of the proposed pedestrianized link between Blocks 1 +4N, which is not the subject of this application, as it sits outside of the boundary of Block 1, however has been shown for consistency and to demonstrate the design intent of this space. The detailed arrangement this area, including landscaping, will be the subject of a future application.

As shown on the landscape plans at **Appendix G,** the proposal includes the paving of Chippendale Way, Central Park Avenue, and Broadway, and well as some limited on street planting in these areas.

3.7 Pedestrian Access and Entry

Primary pedestrian access to the site is from Chippendale Way to the East, Central Park Avenue to the South, Broadway to the North and pedestrian link to the west. The main entry to Block 1 is on the eastern elevation off Central Park Avenue. The entry is a double height space with views through the lobby and resident's lounge to Abercrombie Street beyond. The main entry is shown on the excerpt of the ground floor plan provided at **Figure 22**.

Pedestrianized link and other access

The pedestrianized link will be activated as a thoroughfare by residents, office workers, and student accommodation, as well as retail customers throughout all times of the day. In addition, it is intended to that retail/food specialty tenancies will line the street frontages, and include outdoor seating within this area (as identified in yellow at **Figure 21**). This link will provide a separate and dedicated residential only access to the site (as a mod-block connection) from Broadway.

Pedestrian access will also be provided to the site via paved footpaths to all street frontages, in accordance with Councils Public Domain Manual.

Residential Lobby

The Residential entry and lobby to the building is located on the eastern facade of the building off Chippendale Way (see **Figure 22**). The including breakout/seating/meeting spaces, high quality finishes, mailroom, and high level ceiling that will contribute to the spacious feel for residents/visitors on entry. Access to the lobby will be secured at all time, using electronic swipe entry and intercom for visitors. Within the back of house areas of the lobby, a goods lift allows for deliveries and loading directly to the basement from the lobby.

Figure 22 – Residential entry lobby plan
Source: Foster + Partners

3.8 Bicycle Parking and Access

The proposal provides spaces for bicycle parking distributed throughout basement levels 1 – 4. End-of-journey facilities are provided at basement level 1. Access to bicycle parking is available from the main building entrance off Central Park Avenue via lift to the basement levels. The provision includes bicycle parking spaces for residential visitors, some of which are provided on Central Parl Avenue and Chippendale Way and located to complement the landscaping and public domain proposal.

Retail bicycle parking is also provided for staff. Retail staff will have access to the end-of-journey facilities at basement level 1 including dedicated lockers via the vehicle ramp (if using bicycles) or via the fire stairs.

3.9 Vehicle Parking and Servicing

Car Parking

The proposal provides 216 car parking spaces distributed throughout basement levels allocated to Block 1. An addition 129 spaces have been provided within the basement that will be allocated to the future delivery of Block 4N.

The basement (allocation for Block 1) including a total of 42 and is in accordance with the DCP 2012. A total of 18 small car parking spaces are also provided. Access to car parking is available via the car park entry off the sites southern boundary, Central Park Avenue and will be security controlled via swipe card or remote. Once in the basement car park, residents will have direct access to their apartments via lift. The parking numbers proposed are within the maximum cap for the Central park site od 2,000.

Motorcycle Parking

17 motorcycle parking spaces are also provided throughout the basement.

Car Share

A total of nine (9) car share spaces are proposed as part of the proposal that will be made accessible to the public. Refer to Architectural Plans at **Appendix B.**

3.9.1 Servicing and Loading Dock

A loading dock and waste services area for residential and retail uses (as well as future Block 4N uses) is located on the western side of Basement Level 00. Access to the loading dock is off a dedicated entry from Abercrombie Street with adequate vehicle crossings to cater for the required service, delivery and waste collection vehicles in accordance with the relevant Australian Standards. Vehicles will enter in a forward direction and a turntable is provided to allow them to exit in a forward direction also. Provisions for a total of 20 loading vehicles including four truck bay (to accommodate 8.8m vehicles) and 16 van/utility type spaces are provided.

3.10 Subdivision

The proposal seeks consent for the stratum subdivision of the sit, in accordance with the draft subdivision plans provided at **Appendix W**.

3.11 Consultation

3.11.1 Background

The SEARs for the proposed development require that consultation be undertaken with the relevant local, State or Commonwealth Government authorities, service providers, community groups including the Chippendale Residents Interest Group (CRIG), affected landowners and particularly CoS. A Consultation Outcomes Report has been prepared by Elton Consulting and is provided at **Appendix J**.

Throughout development of Central Park the proponent's approach has been to facilitate active partnerships with key stakeholders and the community. For Block 1 this has included meeting with DoPE, CoS, community consultation and information sessions with the CRIG, and consultant meetings and correspondence with relevant authorities. The consultation approach for Block 1 is consistent with the 'inform' and 'consult' levels of the IAP2 (International Association of Public Participation) spectrum and as defined in the City of Sydney Community Engagement Policy.

3.11.2 Consultation

Department of Planning and Environment

Prior to lodgement of this SSDA, the proponent, architect and JBA met with DPE to discuss the proposal for Block 1 on 7 May 2014. At the meeting the high level design and intent of the proposal were discussed, include the land use, and strategic approach to the submission of concurrent modification to the Block 1 +4N Project Application.

City of Sydney

A meeting was help with City of Sydney Council staff on 4 June 2014. It is noted that this meeting was prior to the receipt of the SEARs, and prior to Council compiling their comments in response to the request for SEARs

The meeting was attended by the proponent, JBA, and CoS representatives specialising in planning, and urban design. Council did not make any formal comment on the plans presented at this meeting, however comments were provided in response the plan package submitted as Part of the request for SEARs.

Authorities

Authorities have been consulted with in relation to: services and infrastructure to ascertain the extent of provision and/or augmentation of services to the site; ESD compliance including BASIX and Green Star; and traffic generation including updated rates for high density residential developments. This, and further consultation, is described in the appended reports.

Community and Chippendale Resident Interest Group

An open community information and feedback session was held on Monday 28 July 2014 from 5pm to 8pm in an office at 7 Carlton Street, Chippendale. The session was designed for community members to drop in at a time that suited them and view a number of information displaying images and information about the proposed design. Notification of the meeting was provided via a letterbox to surroundings residents in Chippendale (1800 letters) and One Central Park West (250 Letters), as well as on the Central Park website, facebook page, and internal Central Park notification system. A total of 39 Chippendale residents attended the session, including a number of residents from One Central Park West.

A stakeholder briefing was held in the consultation period with the Chippendale Residents Interest Group (CRIG). The briefing was held on 24 July from 6:00pm-7:30pm and was attended by three members of the CRIG. A presentation of the project was given by PTW Architects and with project representatives from Frasers attending to answer questions. Letters advising of the Block 1 consultation were also distributed to the University of Technology Sydney, the University of Notre Dame, and the Planet X Housing Co-op (located in Chippendale).

3.11.3 Outcomes

The Consultation Outcomes Report prepared by Elton Consulting (**Appendix ##**) provides a detailed description of the items raise/outcomes of the stakeholder and public consultation undertaken as part of this project, as well as identifying the proponents response to each.

4.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposal. It addresses the matters for consideration set out in the SEARSs (see **Section 1.5**). The Mitigation Measures at **Section 6.0** complement the findings.

4.1 Secretary's Environmental Assessment Requirements

Table 1 in **Section 1.5** provides a summary which sets out the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

4.2 Compliance with Relevant Planning Policies

The proposal's consistency with the relevant strategies, policies and guidelines as set out in the SEARSs is addressed in **Table 8**. Variations to, and non-compliance with, the strategies, policies and guidelines as highlighted in the table are discussed in detail in the following sections of this report.

Table 8 – Consistency with relevant strategies, policies and guidelines

Instrument/Strategy	Comments
Strategic Plans	
Draft Metropolitan Strategy for Sydney	In considering the strategic context, the department has reviewed the framework provided by the Draft Metropolitan Strategy for Sydney. The Draft Strategy is intended to guide the development of the Sydney Metropolitan area towards 2031 and beyond and aims to achieve the sustainable growth of Sydney, built around five key outcomes: ▪ balanced growth; ▪ a liveable city; ▪ productivity and prosperity; ▪ healthy and resilient environment; and ▪ accessibility and connectivity. The Draft Strategy's Balanced Growth objective seeks to strengthen and grow Sydney's centres by encouraging mixed use within centres including central commercial areas where there is market demand and complementary land uses such as residential. As previously considered and determined by the Department of Planning and the Planning Assessment Commission the proposed residential use meets the identified demand for residential floor space in the context of the sites city edge location. The proposed development is consistent with the Strategy in that it will: ▪ encourage patronage on public transport by being in close proximity to rail, light rail, bus and ferry services.; and ▪ encourage alternative modes of travel by providing bicycle parking for residents, visitors and retail patrons.
Metropolitan Plan for Sydney 2036	The Metropolitan Plan for Sydney 2036 (The Metropolitan Plan) has been prepared to guide Sydney's growth to 2036 and act as a tool for coordination between Councils and the State government to deliver the action points. One of the central objectives of the plan is to provide improvements to the affordability of housing across Sydney, within the intention to increase the number of smaller (affordable) dwellings. The following actions are relevant to the proposal. ▪ Action B1.3 – locate 80 percent of new housing within walking catchments of centres with good public transport ▪ Action D1.1 - locate 70 percent of housing within existing urban areas The proposed development is consistent with the Strategy in that it will: ▪ provide a substantial quantum of residential accommodation within walking catchments of centres with good public transport; and

Instrument/Strategy	Comments
	▪ provide a substantial quantum of residential accommodation within existing urban areas.
Metropolitan Transport Plan 2010	In March 2010, the Department of Planning announced the first five year review of the Metropolitan Strategy. The resulting Metropolitan Plan for Sydney 2036 seeks to respond to recent challenges facing growth in Sydney including the global financial crisis, housing affordability and climate change. The review integrated the Metropolitan Strategy with the Metropolitan Transport Plan, while accommodating increased population projections across Sydney, such as: ▪ a population forecast to reach nearly 6 million by 2036 (an increase of 1.7 million from the 2006 projections); ▪ a need for 770,000 additional homes by 2036; and ▪ a need to provide 760,000 more jobs by 2036. The Concept Plan will capitalise on the site's accessible location to public transport, retail facilities and employment opportunities, to ensure the proposal supports key actions within the Metropolitan Plan for Sydney 2036, namely: ▪ A3 contain Sydney's urban footprint; and ▪ B1.3 locate new housing within the walking catchments of centres of all sizes with good public transport.
Draft Sydney City Sub-Regional Plan	The Sydney Metropolitan Strategy outlines seven key strategies for the development of Sydney over the next 25 years. The strategy sets specific targets for increasing housing and jobs in the major centres of Sydney. Central Park is located within the Sydney City subregion. The Sydney subregion is nominated as a 'Global Centre' which is the "*main focus for national and international business, professional services, specialised health and education precincts, specialised shops and tourism, it is also a recreational and tourist destination for the Sydney region and has national and international significance*". The specific targets that are set for the Sydney region are approximately: ▪ 48,400 new jobs ▪ 31,793 new dwellings The proposed development is consistent with the Strategy in that it: ▪ is located within Central Park which is within the Sydney City sub-region which is nominated as a 'Global Centre'; and ▪ will contribute to the achievement of specific targets relating to new jobs and new dwellings.
Sydney 2030 (The City of Sydney Council)	The future development of the site supports the objectives of the Sydney 2030 Strategy by promoting the development of a lively and engaging City Centre, supporting a City for pedestrians and cyclists, providing housing for a diverse population, delivering a building that will embody design excellence, and providing for fine grain streets and laneways that enhance pedestrian connectivity. The proposed development is consistent with the Strategy in that it: ▪ will achieve a 5 star Green Star rating; ▪ will provide residential accommodation in support of Sydney's growing economy and population; and ▪ will provide physical connections through alternative modes of transport and community connections with the overall Central Park development.
Development Near Rail Corridors and Busy Roads-Interim Guideline	The proposed development is located adjacent to a road with traffic volumes greater than 40,000 vehicles (Broadway). Accordingly, a noise impact assessment has been undertaken and mitigation measures such as acoustic treatments including upgraded glazing and acoustic seals are proposed to reduce the impact of road noise on the proposed development see Section 4.12.
Guide to Traffic Generating Developments (RTA/RMS)	The proposed development will improve walkability and cycle access across the City through the provision of bicycle parking and end-of-journey facilities which facilitate the use of pedestrian and bicycle paths and support a reduced reliance on private vehicles.
NSW Planning Guidelines for Walking and Cycling	The proposed development is consistent with the Strategy in that it: ▪ will provide increased density within a site highly accessible to public transport; ▪ is within walking distance of other services and amenities, including retail and employment opportunities offered by the CBD; and ▪ is in close proximity to pedestrian and cycle facilities within Central Park as proposed in the approved Concept Plan (as modified).

Instrument/Strategy	Comments
Sydney City Access Strategy	The proposed development is consistent with the Sydney City Access Strategy, encouraging the use of existing and future public transport linages in close proximity to the site, notably the railway network, light rail, and bicycle connections currently under construction adjacent the site. In addition, the site is well located on an identified bus corridor within a bus stop precinct. The proposal is consistent with the Strategy, providing accommodation and services in a location highly accessible to existing and planned public transport and commuter linkages. The proposal will not impact on the ability for the Government to deliver the planned infrastructure and service upgrades as part of the Strategy. Finally, the construction of program of the proposal will be contained within the site, and will not impact the flow of vehicle, pedestrian of cyclist traffic along Broadway.

4.3 Compliance with Environmental Planning Instruments

The proposal's consistency and compliance with the relevant statutory plans and policies is addressed in **Table 9** and further detail is provided below. Variations to, and non-compliance with, the statutory plans and policies as highlighted in the table are discussed in detail in the following sections of this report.

Table 9 – Consistency with relevant environmental planning instruments

Instrument	Comments
SEPP (State & Regional Development) 2011	Pursuant to the SEPP a project within the Broadway (CUB) Site will be SSD if it has a capital investment value (CIV) of $10 million or more. The proposed development has a CIV of over $10 million, and is therefore identified as SSD and considered to be development of State and/or Regional Significance. This EIS has accordingly been prepared in support of the DA.
SEPP (Infrastructure) 2007	The proposed development is not immediately adjacent to the Metro Light Rail corridor. Accordingly, the proposal does not trigger consultation with the relevant rail authority under Clause 85 of the SEPP. The proposed development comprises 75 or more dwellings and has access to a classified road / road that connects to a classified road. Accordingly, it is defined as traffic generating development under Schedule 3 of the SEPP and is to be referred to the Roads and Maritime Services (RMS). See Section 4.10.
SEPP 55 (Remediation of Land)	Clause 7 of SEPP 55 specifies that a consent authority must not consent to the carrying out of any development on land unless it has considered whether land is contaminated and if the land is contaminated, it is satisfied that the land is/can be suitable for the proposed development. Remediation works have been carried out on the site in accordance with MP 07_0163. Accordingly, the site is suitable for the proposed development.
SEPP 64 – Advertising and Signage	As shown on the Architectural Plans at Appendix B, the proposal includes indicative signage signs for the future ground floor retail. The proposed locations have been included to provide guidance and consistency to signage that will accompany future operators of the tenancies. The locations shown on the plan have considered criteria set out in Schedule 1 of the SEPP. A detailed assessment against SEPP 64 and relevant local planning controls will be provided as part of future application for tenancy signage.
SEPP 65 (Design Quality of Residential Flat Development)	The proposed development has taken into consideration the principles of SEPP 65 and the Residential Flat Design Code. Compliance with the SEPP and the RFDC 'Rules of Thumb' is outlined in the Compliance Tables provided at Appendix K and discussed below in Section 4.8. A Design Verification Statement prepared by Foster + Partners in accordance with the requirements of the SEPP has also been provided at Appendix K.
Sydney Local Environmental Plan 2005	The approved Concept Plan (as modified) is consistent with the relevant controls in the Sydney LEP 2005. Accordingly, Block 1, which is proposed in accordance with the Concept Plan, is consistent with the LEP.
City of Sydney Development Control Plan	The approved Concept Plan (as modified) is the prevailing document for the development controls applicable to the proposal. However, where the Concept

Instrument	Comments
2012	Plan is silent the DCP has been referred to. In particular, compliance with energy efficiency, storage, end-of-journey facilities, bicycle parking and waste management provisions for best practice. It is however noted that, in accordance with clause 11 of the SEPP SRD, the requirements of Development Control Plans (DCPs) do not apply. Refer to Appendix K for further assessment.

4.3.1 Environmental Planning and Assessment Act 1979

State Significant Development

The EP&A Act establishes a specific assessment system to consider projects classed as State Significant Development (SSD). SSD is development deemed to be of significance to the State and for example includes projects located in precincts regarded as important by the NSW Government, such as Central Park. As noted in **Table 10**, the proposed development the subject of this DA is classed as SSD.

This EIS has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed development. **Table 10** provides an assessment of the proposed development against the objects of the EP&A Act.

Table 10 – Objects of the EP&A Act 1979

Object	Comment
	The proposed development will contribute to the proper management, development and conservation of the artificial resources of the site. In particular, design features and construction methods have been outlined in the ESD (see Appendix L) and Construction Environmental Management Plan (see Appendix M). These measures will be implemented throughout the construction and operational phases of the proposal, and existing artificial resources and infrastructure will be retained where practicable. The proposed development will promote the social and economic welfare of the community by providing an improved urban environment and will contribute to the enhancement of a key CBD location that is presently underutilised.
5(a)(ii) To encourage the promotion and co-ordination of the orderly economic use and development of land.	The proposed development involves the orderly redevelopment of a site currently underutilised in a prime CBD location.
5(a)(iii) To encourage the protection, provision and co-ordination of communication and utility services.	The proposed development will not impact on the provision or coordination of communication and/or utility services. Relevant utility providers have been consulted during the development of the proposal. In addition, the proposal will connect to the site CTP for potable hot and cold water.
5(a)(iv) To encourage the provision of land for public purposes.	The proposed development supports the provision of a high quality public domain, in particular Chippendale Green located to the south of the proposal.
5(a)(v) To encourage the provision and co-ordination of community services and facilities.	The proposed development provides open spaces which will enable community interaction and recreational pursuits, in particular Chippendale Green.
5(a)(vi) To encourage the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.	The proposed development will take place in a highly modified and disturbed urban environment and will not impact on biodiversity values. The site is not considered to have habitat suitable for any threatened flora and fauna, and the only vegetation proposed to be removed are introduced street trees.
5(a)(vii) To encourage ecologically sustainable development.	The proposed development accords with the principles of Ecologically Sustainable Development, as set out in Schedule 2 of the EP&A Regulation 2000. This is further considered in Section 4.11 (ESD) of this

Object	Comment
	EIS.
5(a)(viii) To encourage the provision and maintenance of affordable housing.	In lieu of the provision and maintenance of affordable housing The Affordable Housing Planning Agreement between the Redfern Waterloo Authority and the landowner was accepted by Deed Poll dated 29 July 2007. A payment plan was established and payments have been made in instalments over the last five years.
5(b) To promote the sharing of the responsibility for environmental planning between different levels of government in the State.	Consultation has been undertaken with various levels of government and government agencies, and community groups during the preparation of the Block 1 SSD the broader Central Park redevelopment as a whole, and all government agencies will be afforded the opportunity for further input into the development process during the public exhibition period.
5(c) To provide increased opportunity for public involvement and participation in environmental planning and assessment.	The community consultation carried out assisted development of the proposal and is detailed in Section 3.10 of this EIS. Further consultation will be carried out during design development, prior to the commencement of construction, and throughout the construction period.

4.4 Design Excellence

Commitment No 2 (Schedule 4) of the approved Concept Plan (MP06_0171) as modified, related to ensuring design excellence for the delivery of Blocks identified within the Concept Plan states:

> *Schedule 4 – Modified Statement of Commitments*
>
> *[Item 2] The following is the list of architects agreed with the Department of Planning to be appointed for each of the nominated blocks on the site*
>
> *Block 1 and 4A – Foster and Associated with Peddle Thorpe and Walker*

In accordance with this commitment, Block 1 is being undertaken by Foster + Partners in conjunction with Peddle Thorpe and Walker (PTW).

4.5 Land Use

The Block 1 site is zoned City Edge under the Sydney Local Environmental Plan 2005. The proposal is consistent with the objectives of the City Edge Zone :

- to encourage an increase in the permanent residential population through new residential development or the conversion of existing buildings and to ensure the maintenance of a range of housing choice;
- to recognise the development potential of certain major sites within the zone and to encourage development of them which is consistent with other zone objectives, and
- to ensure wind levels are consistent with pedestrian comfort and the amenity of the public domain;
- to ensure adequate levels of daylight to streets, and
- to facilitate the conservation of items and areas of heritage significance.

The proposed mixed retail/.residential uses support the objectives of the zone being located in close proximity, minimising the need for transport to access services as well as contributing to employment opportunities.

Proposed residential uses are highly suited to the dense inner city location and improve the vitality of the area. The amenity of the adjacent Chippendale Green is both protected, and enhanced by locating residential uses adjacent to the park, improving overlooking and surveillance. As discussed in **Section 3.1,** the removal of the current approved bridge link between Block 1 and 4N, as a result

of the proposed change in land use, has significant solar access benefits to the usable public domain within Central Park.

The proposed development will meet demand, contributing the delivery of identified strategic planning housing targets, and ensure the completion of the northern gateway of the site in a timely manner representing a positive outcome for the site, which has otherwise been disused or vacant for the past 10 years.

4.6 Consistency with Concept Plan

The proposal is generally consistent with the approved Concept Plan (as modified). The proposal's consistency with the approved Concept Plan (as modified), is discussed below.

4.6.1 Land Use

The proposed uses are consistent with the Concept Plan, including ground floor non-residential uses and upper level residential use.

4.6.2 Height

The approved Concept Plan (as modified) shows a maximum building height for Block 1 of RL79.8AHD. It is noted that the maximum building height does not include communication devices and architectural roof features.

The proposal is consistent with the maximum building height as it does not exceed RL79.8AHD. It is noted that the proposed envelope does however penetrate the concept plan envelope marginally in two minor locations on the southern side of the envelope, as shown below in **Figure 23**. The impacts associated with the variation to the existing envelope are negligible, as discussed in **Sections 4.62** and **4.8** below.

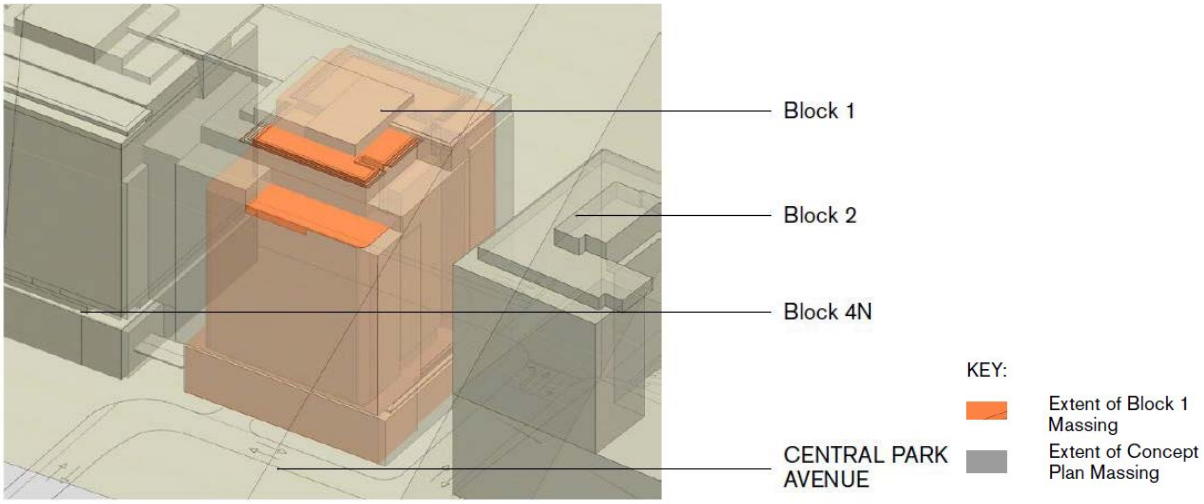


Figure 23 – Variations to Approved Concept Plan Envelope
Source: Foster + Partners

4.6.3 Sun Access Plane and Building Envelope

The sun access plane for the Block 1 site is defined in State Environmental Planning Policy (Major Projects) 2005. The building envelope is shown in the drawings prepared by Foster +Partners as part of the approved Concept Plan (as modified). The drawings show minor incursions on the sun access plane.

The shadow footprint of the proposal is generally consistent with the principles established in the approved Concept Plan (as modified). The building envelope

has been generated by the sun access plane in accordance with the approved Concept Plan (as modified).

While the envelope presents a minor variation to the approved envelope, it does so without creating and significant or adverse overshadowing.

It should be noted that as a direct result of the proposed Block 1 envelope (as part of the concurrent S75W modification to the Block 1 +4N Project Approval), that significant solar gains to the Brewery Yard Courtyards, public domain on Chippendale Way as well as to the proposed pedestrian street (through-site link to Broadway) are created. These benefits can be seen on the Overshadowing Diagrams prepared by Foster and Partners (**Appendix B**) as well as **Figures 29** and **30**.

4.6.4 Footprint and Massing

The approved Concept Plan (as modified) showed Block 1 to be generally square in shape, with some limited articulation to the northern and southern facades, suitable for the intended commercial uses.

The base of the building (between Ground and Level 3) is to be retained as per the approved Concept Plan (and approved Project Application MP 08_0253), to maintain continuity of retail interface and entry at ground level activation and street level, and maintenance of the sites datum lines. The proposed design of the Block 1 tower above seeks to significantly reduce the approved form and envelope, setting back from both the western and western boundaries, creating a slimmer building. The benefit of this affords suitable separation for the internal amenity of residents from surrounding building, improved access to natural light and better ventilation, and also improved sunlight to many areas useable area of the public domain, including the Brewery Yard courtyard.

This proposed massing arrangement was part of the massing and form considerations to ensure adequate separation between the existing West Tower of One Central Park, and the future non-residential development proposed to Block 4N. Additionally, the greater separation also allows for increased level of natural light to apartments, as well as the public domain surrounding the site (which can be seen below in **Figure 24**).

4.6.5 Gross Floor Area

The proposal the subject of this SSD Application seeks approval of a maximum Gross Floor Area (GFA) of 24,454m^2, with a maximum residential GFA of 23,167m^2 and 1,100m^2 of non-residential GFA (being retail uses on ground floor) and 189m^2 of other GFA.

As identified on the Architectural Plans at **Appendix B**, and Architectural Design Report at **Appendix C**, the proposal area identified as being loggias (being able to be fully enclosed by glass) have been included as part of the overall calculation of GFA. The area of balconies (that are not capable of being fully enclosed

The proposal is consistent with the allocation for the site as prescribed in Concept Plan MOD 9, being a maximum GFA of 24,515 m^2, with a maximum residential component of 23,362 m^2.

The proposal is consistent with the Concept Plan provisions regarding the mix of land uses/land use split for the Block 1 site, in accordance with Mod 9 of the Concept Plan. The proposal also complies with the maximum permissible GFA on the Central Park site of 255,500sqm, and does not exceed the maximum permission residential/non-residential land use mix (see **Table 10** below).

Table 11 – Block 1 GFA

Instrument	Concept Plan (Mod 9)	Proposal	Complies
Maximum GFA	24,515m^2	24,454m^2	YES
Residential	23,362m^2	23,354m^2	YES
Non Residential	1,153m^2	1,100m^2	YES

4.6.6 Gross Floor Area Summary of the Site

Table 12 below provides a GFA summary, including land use mix, of all sites across Central Park, in accordance with the Concept Plan as amended (MP 06_0170 Mod 9).

Table 12 – Central Park GFA Table

Block	Proposed GFA (m^2)	Non-Residential	Max Residential
1	24,515	1,153	23,362
4N	25,930	25,930	
4S	22,326	962	21,364
4B (Brewery)	3,898	3,898	
2	67,626	19,235	48,391
3	11,043	5,000	6,043
5a	28,316	1,432	26,884
6	2000	2,000	
7	1000	1,000	-
8	14,879	135	14,744
9	26,598	-	26,598
10	1,844	303	1,541
11	24,276	1,249	24,276
Total	255,500	62,297	193,203

4.6.7 Design Integrity Panel Recommendations

Recommendations of the CUB/Frasers Design Integrity Panel as they relate to Block 1 were considered as part of the design and formation of the proposed scheme. Specifically, the compatibility of scale of the proposed building has been considered, to match the adjoining Block2 (west tower) and height and form of the future Block 4N building.

4.7 Built Form and Urban Design

The approved Concept Plan (as modified) provides a number of development controls which have informed the design of Block 1, in particular height, sun access plane and envelope, footprint and GFA. The evolution of the design is shown in the diagrams provided at **Figure 24**. Architectural Design Report prepared by Foster +Partners (**Appendix C**).

The approved Concept Plan (as modified) also showed Block 1 to have a roughly 'H' shaped footprint, with minor slots to the northern and southern elevations of the form.

As discussed in **Section 4.2** and **4.7** above, the built form of the proposal was developed by Foster +Partners after stepping through a number of considerations, starting with the existing approved Concept Plan envelope. Key development controls, such as separation and amenity drivers were then considered, followed by environmental factors and articulation of the façade.

The result is a 16 to 18 storey building which is generally consistent with the approved Concept Plan (as modified). The building envelope is articulated to

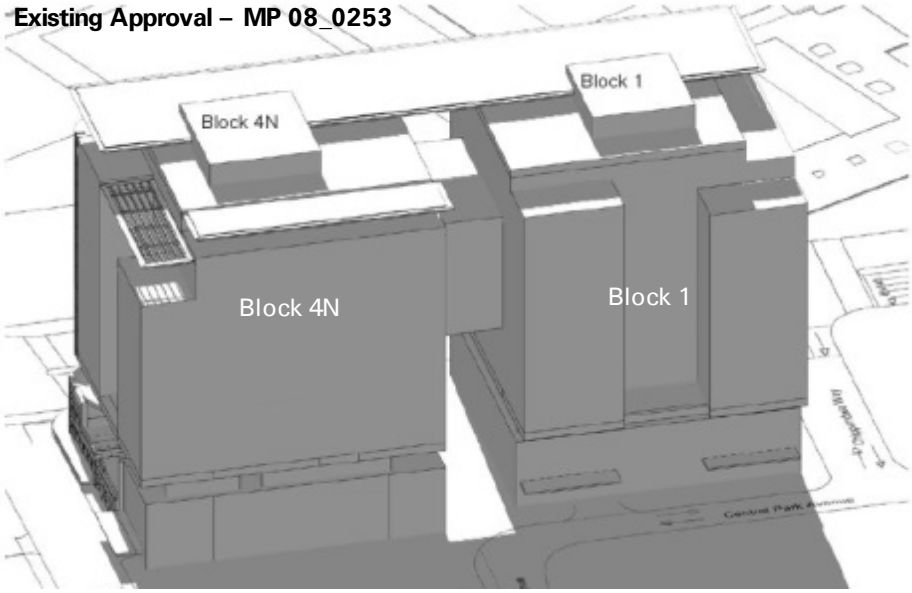
enhance residential amenity including natural ventilation and daylight, and available views.

The building steps from north to south to allow for the achievement of views and natural light to upper level apartments, whilst also allowing for the creation of an upper level (Level 16) communal roof terrace. The building form maintains the intended prominence to Broadway, forming part of the gateways to the CBD with the newly constructed UTS REIT building.

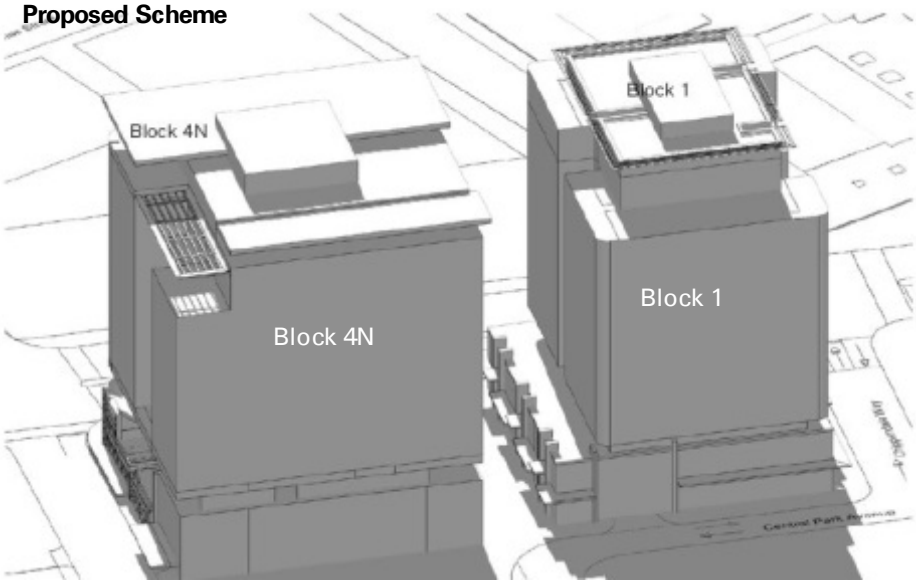
Natural light and ventilation are provided to the building permitter, as well as common corridors through the introduction of light slots, on the eastern and western façade, along with the increased surface area of the building. The resulting built form provides a significant separation between Block 1 and Block 4N as shown below in **Figure 25**.

The façade is characterised by horizontal fins running along the extent of the facade which optimise solar access, reduce solar gain, maximise available views and provide privacy.

Existing Approval – MP 08_0253



Proposed Scheme



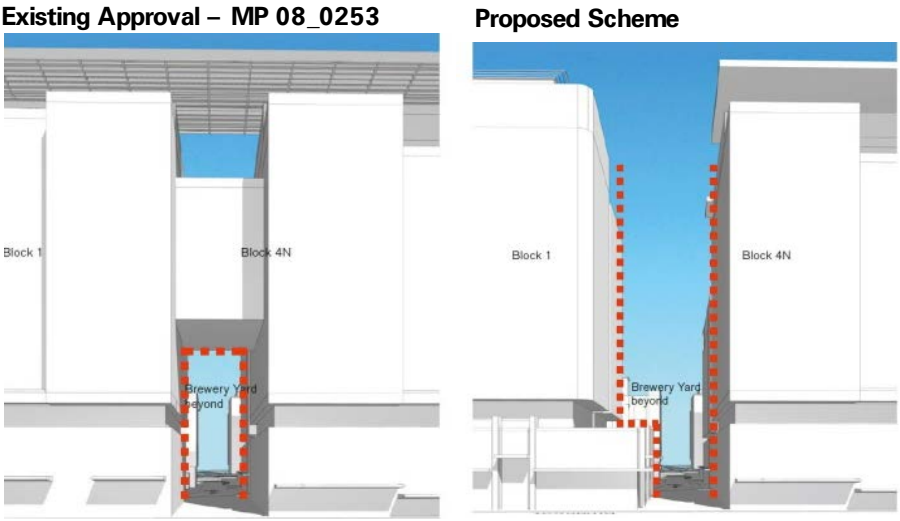


Figure 25 – Existing and proposed separation between Block 1 and Block 4N (view from Broadway)
Source: Foster + Partners

4.7.1 Building Envelope

The overall massing and layout of Block 1 has been developed with residential use in mind since the building's form has been reconfigured to now align with the building separation guidelines with the adjacent buildings (with their respective uses) as set out in the RFDC.

The use of a central core configuration has also led to a reduction in the depth of the useable area of a typical floorplate. This ensures all apartments are not excessively deep in layout or configuration, preferring to provide generous width to each apartment to allow greater connection to natural light and the available views. Further details are provided within the Architectural Design Report (**Appendix C**), specifically to the chapters relating to Concept and planning, that provide the rationale for the proposed floorplate.

4.8 Environmental and Residential Amenity

The proposed development has been designed in accordance with the principles of SEPP 65 and the Residential Flat Design Code (RFDC) with consideration of the Sydney DCP 2012. The proposed development meets the objectives of the SEPP and demonstrates consistency with the intend and design guidelines of the RFDC 'Rules of Thumb' as outlined in the Compliance Tables provided at **Appendix K** and detailed below.

The Residential Flat Design Code (RFDC) was established to support the design principles within SEPP 65 providing guidance for the application of these principles. At the heart of both the SEPP and the RFDC, is to deliver high quality, attractive, development that affords residents high levels of amenity.

Critical in achieving high levels of amenity is the recognition of the valuable aspects of amenity that can be achieved on a site, in its context. Given the site's inner city location, the southern and south eastern aspects overlooking Chippendale Green and surrounding landscaping are unique and important aspects that contribute to the amenity of the development additionally; the site proximity to employment opportunities (CBD), frequent public transport, key services, and recreation/leisure opportunities are important amenity factors in the location.

When establishing the proposed design, it was important to understand the aspects of the site and its context. For the development to achieve high levels of

amenity, as well as meet the amenity expectations of the future occupants, the proposal design demonstrates and understanding of the characteristic that drive amenity on the site.

In this instance, the aspect and views both immediate and distant have been identified as being highly valuable in the inner city location. The immediate aspect and vista is over Chippendale Green/Brewery Yard and low level development to the south of the Central Park Site, with expansive and uninterrupted views further south toward Botany Bay. Consideration has also been taken to the aspect, sunlight and views achieved from the north eastern and north-western corners of the proposal, overlooking the CBD towards Sydney Harbour and Wentworth Park/Rozelle Bay respectively.

In addition to the contextual characteristics detailed above, the following elements of the proposal significantly contribute to the amenity of apartments proposed:

- Proximity to public transport, services, employment and leisure/entertainment locations
- High quality resident only swimming pool and communal area, and gym;
- Communal terrace located on level 16, including and accessible Jacuzzi, BBQ facilities and outdoor furniture;
- Availability of a 24 hour concierge service;
- Provisions of appropriate car parking within the basement, and storage within both the apartment and basement;
- Availability to a large number of car share vehicle on the Central Park Site; and
- Well designed and efficient apartment layouts with various orientation and sizing options.

Whilst the design has responded to the characteristics of the site that contribute to the achievement of amenity listed above, it has also been design to provide flexibility in perspective and outlook, fop occupants who may prefer an outlook over Broadway.

Design Quality

A SEPP 65 Statement addressing the ten design quality principles of the SEPP has been prepared as part of the Design Report provided at **Appendix C**. The statement also assesses the Residential Flat Design Code 'Rules of Thumb'. The proposed development has been designed in accordance with the principles and 'Rules of Thumb' to provide a high quality development, affording high levels of amenity to residents.

It is important that when considering amenity and design quality on the whole, equal weighting be given to the various aspects. The context and site constraints must also be considered in the determination of amenity

Building Separation

Block 1 is adequately separated from surrounding buildings. To the north, Block 1 is separated from the UTS REIT building by Broadway. To the east, Block 1 is separated from the western tower of One Central Park, by 32m, consistent with the provisions of the RFDC. To the west, as building separation of 18m to the approved Block 1 commercial office tower is provided, consistent with the provisions of SEPP 65/RFDC for the separation of non-residential to residential uses above five storeys (See **Figure 26**).

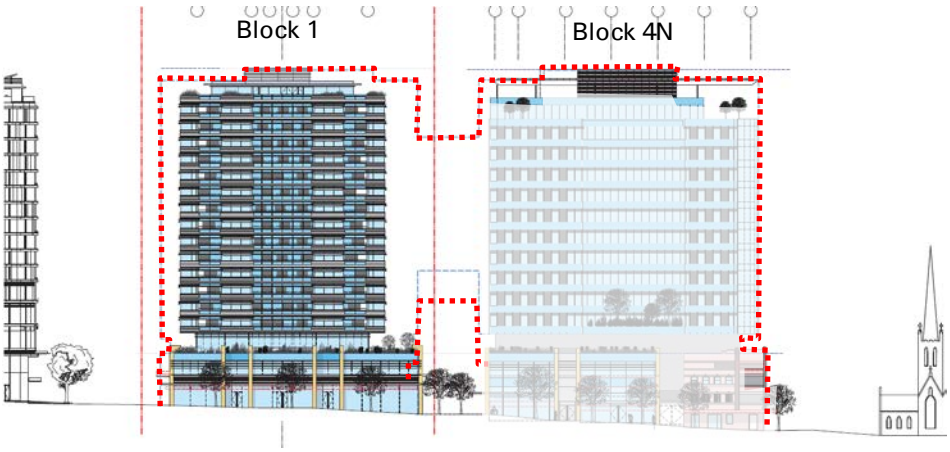


Figure 26 – Northern Elevation of Block 1 +4N (Concept Plan outline shown in red)
Source: Foster + Partners

Communal Open Space

Residents within Block 1 have approximately 540sqm of external communal space split between Level 02 (swimming pool and communal lounge and gym) and external roof terrace (Level 16), equating to 15% of the overall site area. In addition, the context of the site located directly north of Chippendale Green, Block 2A (which was previously intended to be development and has since been landscaped) and the future Brewery Yard Courtyard, are all located immediately to the south of the site, easily accessible to residents.

Importantly, the amenity of the open space within the development is high quality, providing services solely for the use of residents, with views to the south over Chippendale Green and high levels of solar access.

Private Open Space

All apartments within the development are provided with an area of private open space, as either a balcony or loggia that can be enclosed. All apartments on the north elevation, above Broadway, will be provided with a loggia to allow for protection from traffic noise, as well as being able to be used as an extension of the principal living area within the apartment. All other apartment within the development are provided with a balcony, with privacy screening or landscaping. All private open spaces achieve a minimum depth of 1.8m to allow high level of functionality of the space.

A combination of terraces and balconies has been provided to the podium level apartments that incorporate landscaping perimeter screening as shown above in **Figure 27.** On level 16 and 18, apartments are also provided with outdoor courtyards, screened by landscaping.

Figure 27 – [Landscape screening proposed to Level 2 private open space
Source: Foster + Partners

Solar Access

Assessment of the proposed development against SEPP 65/ RFDC (as well as Sydney DCP 2012) has been undertaken by Foster +Partners as part of the Architectural Design Report (**Appendix C**). The RFDC establishes the following:

> *"Living rooms and private open spaces for at least 70 percent of apartments in a development should receive a minimum of three hours direct sunlight between 9 am and 3 pm in mid-winter. In dense urban areas a minimum of two hours may be acceptable"*

For a consistent comparison of the solar access achieved by the proposed development (compared to other buildings on the Central Park Site), the same methodology that was adopted during the preparation of the Concept Plan (as amended) prepared by COX/ATA has been used. This study identified parameters for solar access being: 2 hours of solar access should be provided to apartments between the hours of 7:30am and 4:30pm on 21 June (mid-winter)

Consistent with the current sunlight planning principles, sunlight achieved to the balconies/lanais which would reach seated or standing occupants has been considered. This assumption was also used in the modelling established by COX/ATA.

An assessment against the RFDC rule of the number for solar access between 21 March between 9am and 3pm found that:

- 18% of apartments will receive 2 hours or more sun;
- 19% of apartments will receive 1.5 hours or more sun; and
- 30% of apartments will receive 1 hour or more sun.

The approved Concept Plan (as modified) identifies a solar access target of 52.6% of apartments to receive 2 hours or more sun on 21 June between 7.30am and 4.30pm.The proposal has been assessed and it has been found that:

- 19% of apartments will receive 2 hours or more sun;
- 23% of apartments will receive 1.5 hours or more sun; and
- 41% of apartments will receive 1 hours or more sun.

When considered at the March 22 Equinox, the proposal achieved the following between 7:30am and 4:30pm

- 26% of apartments will receive 2 hours or more sun;
- 29% of apartments will receive 1.5 hours or more sun; and
- 43% of apartments will receive 1 hours or more sun.

The above solar targets are to be considered in the context of the overall merits of Block 1. The proposal balances all aspects of the design and amenity to deliver a development which enhances the public domain, increase solar access to surrounding public domain, mitigates bulk and building mass to provide appropriate urban relationships and provides for a high level of amenity within a range of high quality residential apartments. In addition the quality of the communal open space, both internal (pool, gym, spa and sauna) and external (with BBQs and accessible Jacuzzi) provides exceptional amenity for occupants.

Furthermore, the proposal is considered to be consistent with the objectives of the provision in provide habitable rooms and other areas of the development (including lobbies and corridors on all levels) with access to natural light.

The context of the site, of expansive public open space within Chippendale green and many other areas through ought Central Park and surrounds that are available to residents given its proximity.

Accordingly, it is considered that the balance of the overall merits, as described within the Architectural Design Report (**Appendix C**) and throughout this EIS, offsets variation to the RFDC rule of thumb relating to solar access non-compliance.

Site Constraints

It is noted that significant winter shadows are generated by the buildings to the north of the site, namely the UTS tower, and UTS REIT building. Overshadowing is also generated from the Block 4N to the west and Block 2 to the east.

It is noted that as part of the ATA Report submitted with the Concept Plan (Mod 2) Experimentation to the twisting east and west facing balconies and windows towards north and staggering balconies where considered when exploring potential solutions to achieve increased solar access. Some examples of these are proved below in **Figure 28.**

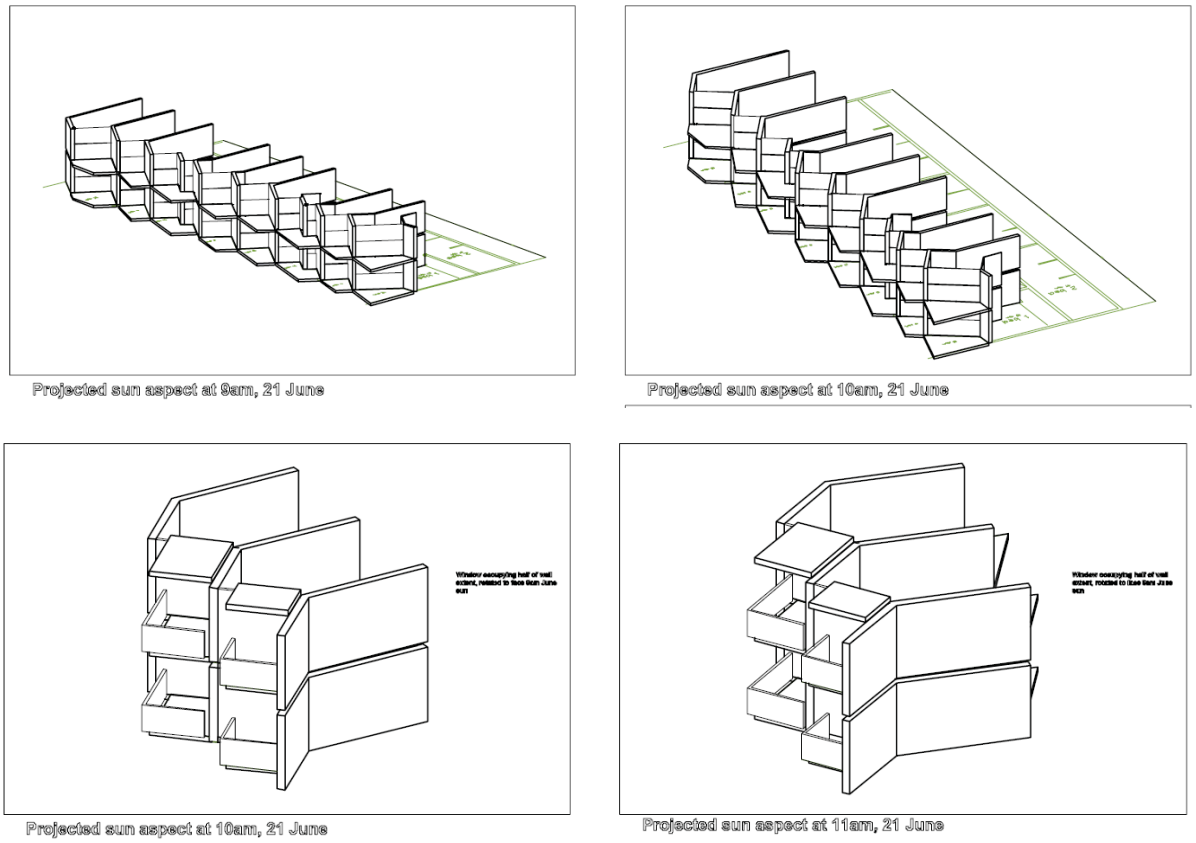


Figure 28 – Consideration of alternative designs to achieve increased solar access
Source: ATA

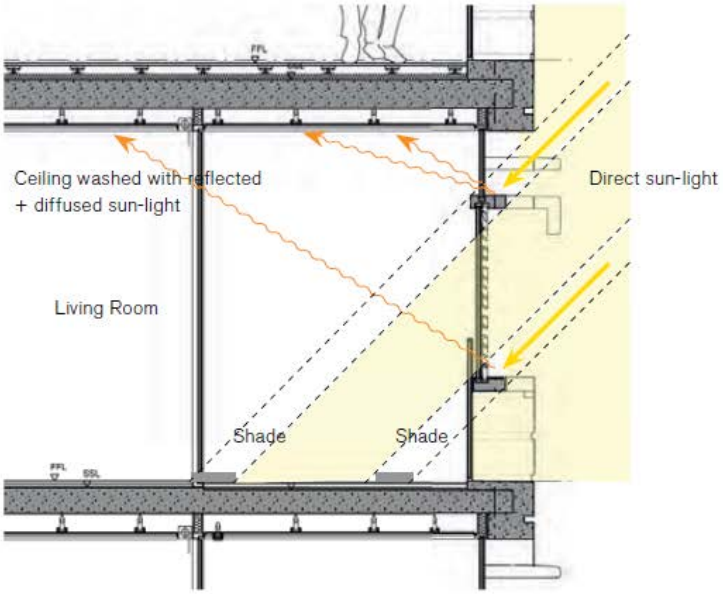
The ATA report states that "*If a solution is found along these lines of investigation it would likely be singular, and therefore, repetitive. It would probably compromise residential amenity in internal planning or outlook. Based on the studies attempted it is doubtful that a reasonable solution exists*".

As part of the design of proposed development, the potential for variations to these were considered by Foster +Partners. Given the orientation of the site, and affection from surrounding built form, this option, given the other implications to outlook, internal planning efficiencies and appearance

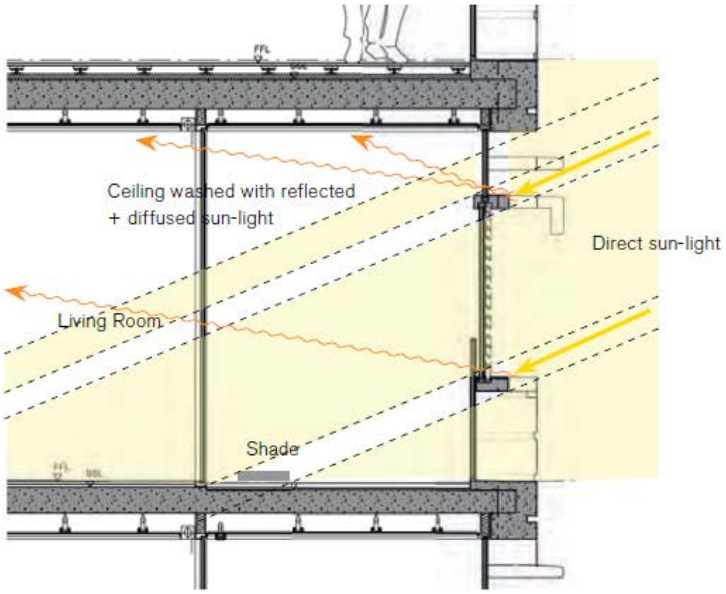
Passive Shading Devices and Light Shelves
Daylight the building façade and habitable rooms through the use of passive shadowing devices and light shelves, as discussed din the Architectural Design Repot, **Appendix C**. These elements to the building façade reflect and diffuse high level sun onto the ceiling of apartment during summer, whilst shadowing from the direct hot summer sun. alternatively in winter, with a low angle sun, the design of the shading devices allow for direct sunlight to penetrate into the building , whilst also washing onto the ceiling increasing the level f natural light. An example of this is shown below in **Figure 29**.

The inclusion of these elements on the façade, also adds to the visual interest of façade, assist in reflectivity from the building, and improve the building energy efficiency during different times of the year. In addition to this, the proposal also utilises horizontal banding of windows to balance solar access, views outwards and privacy without resulting in a compromise of one and other. As well as improving the level of natural light and opportunity for views, this proposed

arrangement also contributes to additional articulation and visual interest in the façade.



Living room/balcony scenario, high sun-angle



Living room/balcony scenario, low sun-angle

Figure 29 – Passive shading and light shelves
Source: Foster + Partners

Building Separation

The proposed provides a separation from the approved Block 4N scheme to the west of 18m and the existing west tower of One Central Park of approximately 32m.

Natural Ventilation

The RFDC uses 'cross-ventilation' as a convenient way of checking the likely contribution of natural ventilation to projected comfort conditions. Cross ventilation describes where a dwelling has operable openings to two or more distinctly different orientations, making it likely that in any conditions of breeze,

the relative pressure differentials will result in some air movement through the dwelling. The Rules of Thumb in the RFDC give a quantified recommendation with respect only to cross ventilation, relating to the overall proportion of complying apartments.

The intent of this control is to ensure sufficient volumes of fresh air movement through an apartment to create a comfortable indoor environment, ensuring habitable rooms have direct access to fresh air. As demonstrated below, the proposed development provides direct access to fresh air, and are arranged to allow movement of sufficient volumes of air through apartments to create a comfortable indoor environment.

All apartments within Block 1 are naturally ventilated. As outlined in the Architectural Design Report (**Appendix C**) as well as the ESD Statement (**Appendix L**), 56% of apartments are cross ventilated, with a further 5% of the apartments achieve the same levels of thermal comfort and indoor air quality as an equivalent cross ventilated apartment. The natural ventilation paths of a typical floor plate are shown below in **Figure 30**.

The layout of the apartment modelled in combination with the location of the windows and doors which act as ventilation openings, provides good natural ventilation to the spaces within the apartment. The air quality and thermal comfort provided by the natural ventilation solution is equivalent to a cross ventilated scenario. Due to the prevailing winds north and south single aspect apartments are also deemed to have good levels of ventilation.

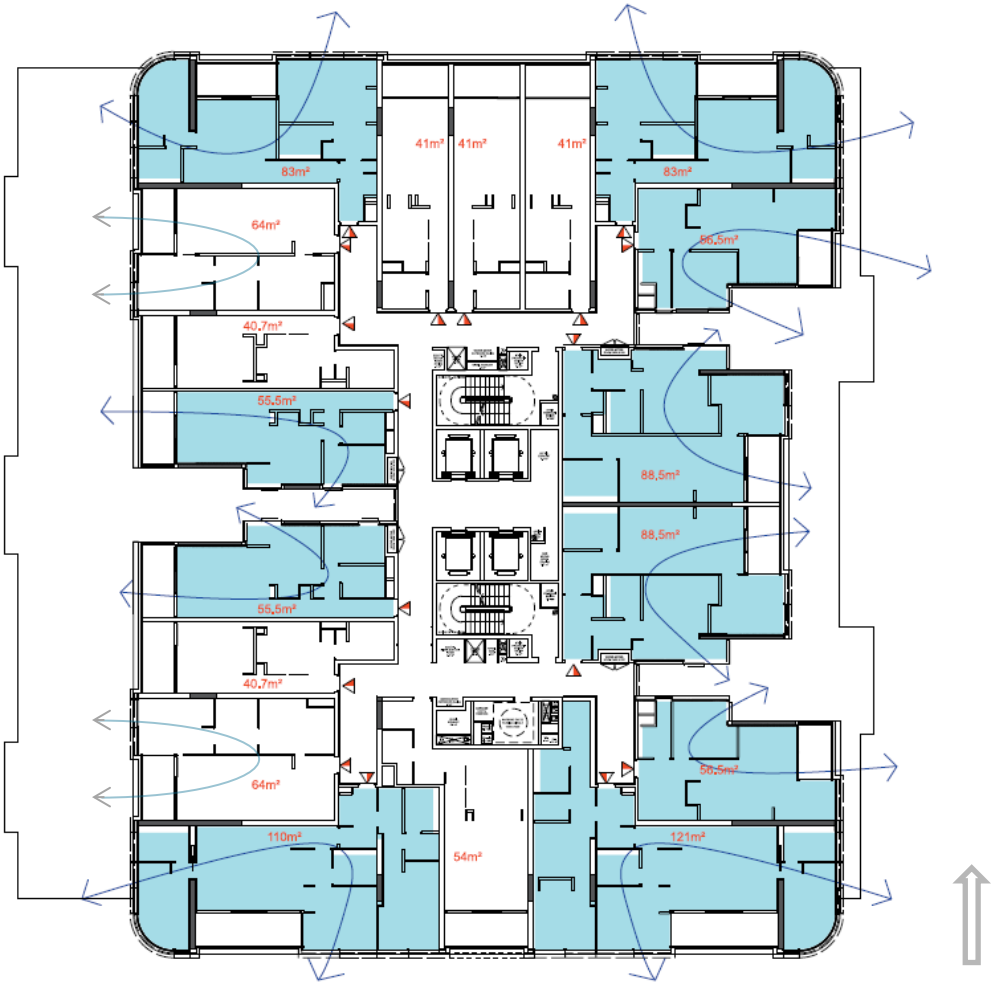


Figure 30 – Natural ventilation to apartments via external façade
Source: Foster + Partners

The depth of apartments complies with SEPP 65 requirements for kitchens and bedrooms to windows.

To demonstrate that the apartments have access to good natural ventilation equivalent to a cross ventilation scenario, a typical apartment which is found on all floors between Level 4 and 17 was modelled by WSP. The details of this modelling are set out in the ESD Report at **Appendix L.** The thermal comfort and CO_2 level (indicator of air flow and exchange) were under test apartment.

With regard to the level of thermal comfort, the analysis undertaken by WSP indicates that for 65% of the hours of the year fall within the comfort zone (both with and without cross flow ventilation). Therefore, the natural ventilation solution provided by the modelled apartment provides thermal comfort equivalent to a cross ventilation scenario. The natural ventilation modelling was conducted based on occupants opening and closing the windows according to temperature.

The results of the WSP analysis demonstrate that there was no significant difference between cross flow/single sided scenarios, suggesting that natural ventilation in these two apartments is equivalent of a cross ventilation scenario and therefore are consistent with the intent of the provision to ensure high level of air movement through apartments, particularly living areas.

Storage

The proposed development provides internal storage to each apartment and Class 1 bike lockers (caged) for bicycle storage within the basement levels, providing apartments with some 6m^3 , 8 m^3 and 10 m^3 of storage in accordance with SEPP 65. As demonstrated in **Table 7**, all apartments will comply with the storage requirements of the RFDC.

4.8.1 Overshadowing and Solar Access

Shadow Diagrams have been prepared by Foster +Partners and are provided at **Appendix B**. The building envelope of Block 1 is in keeping with the principles of the approved Concept Plan (as modified) with a number of considerable reductions as a result of increased setbacks, and the removal of the bridge link between Block 1 and Block 4N (the subject of a spate modification).

As demonstrated on the overshadowing plans, the proposal results in a net increase of solar access to the public domain, including Chippendale Green, Brewery Yard Courtyard, and the pedestrianized link between Block 1 +4N that will be utilised as outdoor seating for food speciality tenancies and passive recreation area. Additionally, the modification will also allow for increased level of solar access to the western elevation of Block 4N.

Importantly, as can be seen from the shadow diagrams, the minor variation to the approved concept plan envelope on the southern side of the building envelope (at the upper levels – as shown in **Figures 29** and **30**), does not result in any material overshadowing to surrounding land uses.

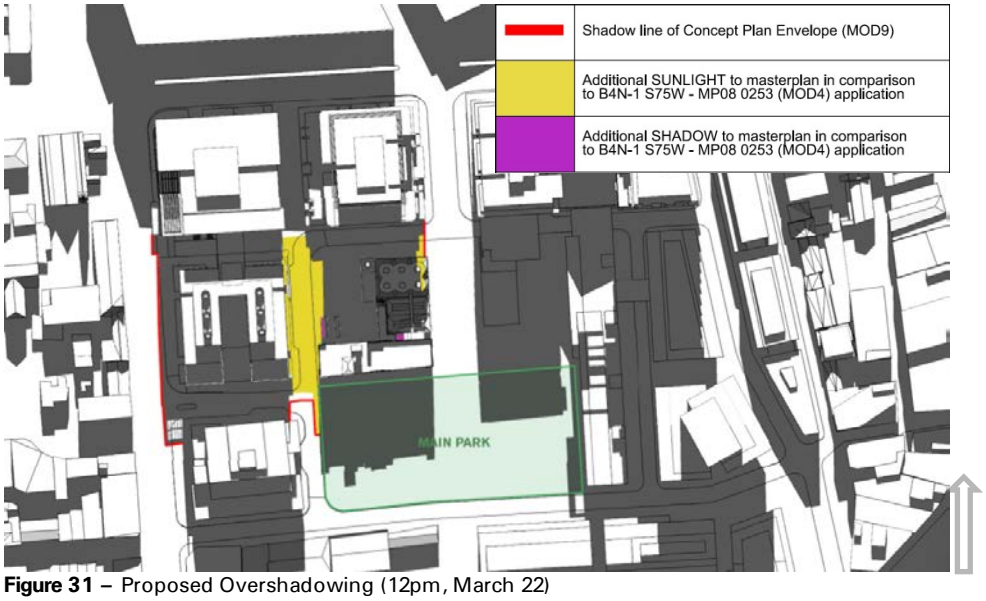


Figure 31 – Proposed Overshadowing (12pm, March 22)
Source: Foster + Partners

Figure 32 – Proposed Overshadowing (1pm, 22 March)
Source: Foster + Partners

4.8.2 Wind

A Wind Engineering and Solar Reflectivity Report has been prepared by Cermak Peterka Petersen (CPP) and is provided at **Appendix N**. The report refers to the assessment undertaken for the original Central Park Concept Plan in which a physical model was produced for the purposes of wind tunnel analysis.

CPP have reviewed the proposed plans and note that the important changes to the geometry of the Block 1, as well as the deletion of the link bridge between Block 1 +4N, as well as reduction in the massing of the proposed building form (setback further from Block 4N and One Central Park West), will likely have a positive impact to the pedestrian wind environment. This increase in area is expected to slightly reduce the wind speed through the link and onto Broadway, and increase the overall volume of flow, which is beneficial from an air quality perspective. Additionally, the main entrances to the building are well removed from the corner of the building which is also beneficial from a wind impact perspective

The assessment has found that the wind conditions on the building corners and the new pedestrianized link between to be similar to those in the parallel link on Chippendale Way (connecting to Broadway), hence would be suitable for pedestrian standing activities and pass the distress criterion.

These anticipated wind conditions are considered by CPP to meet the City of Sydney DCP 2012 requirements for a non-active frontage.

4.8.3 Reflectivity

A Wind Engineering and Solar Reflectivity Report has been prepared by CPP and is provided at **Appendix N**. CPP undertook analysis of Blocks 1 +4N as part of the previous Project Application. As part of this process, two solar reflectivity issues were identified. Whilst the design if the built from and envelope has changed slightly, the orientation has not, meaning the identified issues are required to be addressed. These are:

- Between 7am and 9am between March and October, with the morning sun reflecting off the northern sun to the west along Broadway
- Around 5pm during April to September when the afternoon setting sun reflects off the northern elevation to the east-north-east along Broadway.

To alleviate these potential project, vertical fins are required along the northern façade.CPP have recommended the use of these fins to block high incident angle reflections off the northern façade. From the previous studies the additional relevant recommendation was for all areas of the northern façade of Block 1 and 4N and along the north half of the east façade of Block 4N to install cladding or glazing with a reflectivity coefficient of less than10%.

As detailed in the Architectural Design Report prepared by Foster +Partners (**Appendix C**) consideration of a finely woven stainless steel mesh to the northern façade (bedroom windows and Loggias) is being explored, that will be finalised as part of the detailed design stage of the development. The final design will ensure compliance with Council's reflectivity provisions, specifically those within the DCP 2012. Refer to Mitigation measure at **Section 5.0**.

4.8.4 Building Code of Australia

A Building Code of Australia Assessment Report has been prepared by City Plan Services and is provided at **Appendix O**. The report establishes the proposal's compliance with the BCA and relevant Acts and Regulations. The proposal comprises some areas of non-compliance which can be addressed by justification against the performance requirements of the BCA, and some minor deemed-to-satisfy non-compliances which can be addressed by amendments to the plans.

The report concludes that the proposal is capable of complying with the BCA, including in relation to structure and fire safety, and that the areas of non-compliance with the deemed-to-satisfy provisions will be addressed by alternative solutions which will not significantly impact on the design of the proposed development.

4.8.5 Accessibility

An Access Review has been undertaken by Accessibility Solutions and is provided at **Appendix P**. The review identifies that the proposal incorporates the following design elements:

- The common domain ramped access-ways to retail areas and residential lobby on the ground floor areas of the development will provide appropriate access for people with disabilities;

- The various lifts provide access to the basement parking and all upper apartment levels to satisfy the BCA,DDA and Council's DCP;
- Details of accessible sanitary facilities associated with retail amenities and communal residential areas will be confirmed at construction certificate stage;
- The basement has the capacity to provide the required accessible parking numbers to accord with the BCA;
- The 42 width accessible parking spaces for the adaptable apartments(42) will comply with AS4299 and the intent of Council's DCP 2012;
- The common domain pathways and areas of the development will provide appropriate wheelchair access to enter all 218 apartments for people with disabilities consistent with SEPP 65, SEPP 65 Design Code and Council's DCP 2012; and
- 15% of apartments – forty-two (42) that will be adaptable in accordance with AS4299, which is consistent with SEPP 65, SEPP 65 Design Code and Council's DCP 2012.

The review concludes that the proposed development has demonstrated an appropriate degree of accessibility in accordance with DCP 2012, SEPP 65/RFDC, the AS1428 series, BCA, DDA Access to Premises Standards (including DDA Access Code) and the Commonwealth Disability Discrimination Act (DDA).

4.8.6 Structural Certification

A Structural Statement has been prepared by Robert Bird Group (RBG) (**Appendix V**), which confirms that the proposed design is capable of complying with relevant standards and codes for construction, in relation to load bearing.

4.9 Landscaping and Public Domain Management

A Public Domain and Landscape Report including Landscape Drawings has been prepared by Jeppe Aagaad Andersen +Turf Design Studio and is provided at **Appendix G**.

The report identifies the key strategies of the public domain and landscaping proposal as being: connectivity, access, street character, street planting, planting and materials. The strategies adopt City of Sydney Council requirements as required by the DCP 2012, and from liaising with Council staff. It is noted that the works to the pedestrianized link are detailed as part of this application, but will be delivered as part of the future application to Block 4N.

Public Domain Landscaping

The landscape design, including the granite unit paving section and design to Chippendale Way and Broadway have considered the City of Sydney Council' Public Domain Manual as well as the Street Tree Masterplan, Streets Design Code and draft interim Sydney Lights Design Code (in accordance with the SEARs). In particular the landscape and public domain design incorporates:

- The design of the Broadway, Central Park Avenue, and Chippendale Way complies with the relevant CoS Design Code;
- The street frontages have been designed in consideration of CoS Street Tree Master Plan and Streets Design Code;
- The street zone is improved by landscaping and planting to public domain areas including the provision of soft landscaping at street level to the perimeter of the building;

- Awnings are designed to afford shelter from the elements and summer sun, whilst articulating the entries to the building, namely the residential entry lobbies.
- Bicycle parking is provided surrounding the site to complement the public domain and landscaping proposal;
- Universal access is provided in accordance with AS 1428; and
- Upper level terraces are landscaped with irrigated planter tubs, greening the private open space.

The new pedestrian link created between Block 1 and Block 4N will be landscaped and paved, providing a mid-block connection of pedestrian access through to Broadway, presents an opportunity to incorporate public art. This are will also be used as outdoor seating for the proposed retail tenancies. The design of the space has taken cues from the Concept Plan that required the design of the Broadway Frontage to be consistent to maintain a strong streetscape presence.

Upper Level Communal Space

The landscaping proposed at the upper levels of the building (level 3, 16 and 18) provides residents with a green outlook, as well as breaking up the form, and components of the building. All of the proposed landscaping on these levels has been designed so as to provide amenity for residents as well as being seen from the surrounding public domain, creating focal points of the building.

The species selected (including first tier, second tier and feature planting) has been selected to be low maintenance and hardy species, suitable for the proposed climate. Similarly, the proposed soil depths for planting on structures have consistent with the recommended design guidelines of SEPP 65/RFDC.

4.9.1 Crime Prevention Through Environmental Design

A Crime Prevention Through Environmental Design (CPTED) Report has been prepared by Elton Consulting and is provided at **Appendix Q**. The report demonstrates the proposal's commitment to CPTED principles, consistent with the approved Concept Plan (as modified). In preparing the report Elton Consulting has undertaken consultation with the following stakeholders:

- City of Sydney Council Community Safety officer;
- NSW Police (Redfern Local Area Command and Parramatta Crime Prevention Office);
- NSW Department of Planning and Environment;
- UTS Security Service;
- TAFE (Sydney Institute); and
- State Transit Authority (STA).

The CPTED design and management features of Block 1 are:

- The Block 1 public domain will be legible, easy to navigate, promote social interaction and contain lively public spaces that are filled with activities compatible with surrounding uses;
- Block 1 will be located within a safe, locatable and easily accessed pedestrian and public transport network;
- Development of Block 1 will be managed to provide a safe and amenable environment for surrounding business owners, visitors and residents throughout the construction process;

- The specific crime prevention needs of special user groups (e.g. children, younger people, older people and people living with a disability) are understood and will be addressed;
- Residents, visitors, business owners and service providers (e.g. UTS, TAFE, CoS, NSW Police, fire, ambulance, security, State Transit, taxi operators, etc.) will be supported as active partners in creating a safe environment;
- Encourage residents and visitors to work and live a healthy lifestyle and take an active role in safety and injury prevention;
- Ensure publicly accessible areas will be safe for all user groups through the use of formal surveillance and signage; and
- Block 1 will have a legible, durable and well maintained built environment that is secure, feels safe to users and deters crime.

A Community Safety Management Plan has been prepared in accordance with the approved Concept Plan (as modified) to assess the design of Block 1, including the physical (built form) and non-physical (management) elements. The plan makes a number of recommendations to meet the CPTED principles including use of appropriate street and under-awning lighting, maintaining clear internal and external sight lines, providing appropriate security to back of house / loading dock areas, use of passive and active surveillance measures i.e. CCTV, providing access control at street level and to the basement, use of durable materials, providing appropriate way-finding signage and public domain amenity and ensuring maintenance is undertaken promptly.

The report concludes that the proposed development is considered worthy of support from a safety and crime prevention perspective, subject to the recommendations above and contained within the report.

4.10 Transport and Accessibility

A Traffic and Transport Report has been prepared by GTA Consultants and is provided at **Appendix R**.

It is noted that as part of the proposed development, the combined basement beneath Block 1 and 4N, to service the future use of both building shave been proposed. The proposal involves minor modifications to the footprint of the approved basement car parking as per MP 08_0253 as modified.

Whilst the proposed layout, and parking numbers are sought for consent, the impact assessment of this application considers only the

4.10.1 Traffic Generation

Traffic impacts for the whole of the site were assessed and deemed satisfactory as part of the approved Concept Plan (as modified). The assessment estimated that the development would generate some 545 vehicle trips per hour (vph) and that the access intersections serving the site would have a good level of service with additional spare capacity.

From the proposed development it can be seen that the proposed total number of vehicle trips generated by Block 1 is approximately 60vph. The traffic report therefore considers that the proposed development of Block 1 with consideration of other recent changes on the Central Park site, will in fact decrease the number of vehicle trips in the busiest peak hour by some 14vph, As a result of the proposed development, the surrounding road network is expected to continue to operate well in the future as forecasted.

It is noted that traffic generation for the retail uses has been excluded given these uses would be predominately walk-in pedestrians who live in or in the vicinity of Block 1 or other Central Park buildings.

4.10.2 Vehicle Parking and Access

The proposal provides 216 car parking spaces for block 1 distributed throughout basement Level B1 to B4 of which 42 are accessible and 18 are small car spaces. The provision is consistent with the maximum permissible under the LEP 2005 and DCP therefore complies. The provision is also in accordance with the approved Concept Plan (as modified) which stipulates a minimum parking provision for the entire site of either the LEP requirements or 2,000 spaces. Ten motorcycle parking spaces are also provided throughout the basement.

Access to car parking is available via the car park entry off Irving Street and will be security controlled via swipe card or remote. The three basement levels are configured as split level accessed via a ramp at either end. The car park and associated elements have been designed in accordance with the relevant Australian Standards while providing sufficient car parking spaces to satisfy the requirements of the LEP.

4.10.3 Bicycle Parking and Access

The proposal provides 325 spaces for bicycle parking distributed throughout basement levels 1 – 4, and at grade within Central Park in accordance with the requirements of DCP 2012. End-of-journey facilities are provided at basement level 1 and include lockers for retail staff, in accordance with the DCP.

Retail bicycle parking is also provided, with 4 spaces space for staff. Retail staff will have access to the end-of-journey facilities at basement level 1 including dedicated lockers via the vehicle ramp (if using bicycles) or via the fire stairs.

Access to bicycle parking is available from the main building entrance off Chippendale Way via lift to the basement levels. The basement might also be accessed via the southern vehicle entry point off Central Park Avenue.

4.10.4 Loading and Deliveries

A loading dock and waste services area for residential and retail uses, as well as the future non-residential building to Bock 4N is located in the western portion of the upper level basement. Access to the loading and servicing area is provided off Abercrombie Street (consistent with the Approved, delivery and waste collection vehicles in accordance with the relevant Australian Standards (and consistent with the current Project Application Approval MP 08_0253). Vehicles will enter in a forward direction with adequate internal dimensions to allow them to exit in a forward direction also.

Waste collection will be conducted from the loading dock in accordance with the Waste Management Statement provided at **Appendix I** and described in **Section 4.14**.

4.10.5 Alternative Modes of Transport

Public Transport

The site has excellent access to public transport, being well served by regular bus services along Broadway, as well as a connecting bus interchange on the corner of George and Lee Streets to the north east of the site. Central Railway Station is located approximately 700m east of the site and offers regular suburban and interstate services on the Sydney rail network. The station also provides light rail services with the Central light rail stop located to the north of the station.

While it is expected that residents, visitors and retail staff would make use of the existing available public transport services, given the type and frequency of services, it is not expected that further augmentation would be required. Further, any improvement to the services would be a matter for consideration by Transport for NSW as part of its long term strategic planning and implementation process.

Walking and Cycling

The site is very well situated in terms of provision for walking and cycling with a number of strategic and local cycling routes and links in the vicinity of the site. Public footpaths are currently provided along the majority of roads in the local network which continues into the residential streets to the south and west of the site as well as across Broadway into the area north of the site.

There is an existing on-road cycle path which, along Broadway, is provided as an off-road shared pedestrian / cycle path. A combination of other on- and off-road cycle links provide access to the surrounding suburbs. In addition, on-road cycling is also permissible on the local road network where traffic volumes are generally considered to be moderate.

It is expected that the development will attract some additional walking and cycling trips which will necessitate augmentation of the network. Pedestrian crossing facilities will be provided across the main roads surrounding the site and pathways will be provided on both sides of all internal streets within the site. A shared pedestrian / cycleway link to Wellington Street will be provided through Chippendale Green connecting to Chippendale Way. A raised pedestrian threshold is also proposed across O'Connor Street, adjacent to Chippendale Green, at the centre of the site.

The provision of bicycle facilities throughout the site accounts for the external linkages to existing and proposed bicycle routes as part of CoS Bicycle Plan. Recreational cyclists will utilise the shared links to access Central Park Avenue before making their way to Broadway and non-recreational cyclists will utilise the sign posted cycle route through the site.

The result will be a permeable pedestrian / cycle network through the Central Park site which will be fully accessible to locals and those traversing the site, and will enhance existing pedestrian / cycle accessibility between Chippendale and the public transport node represented by Central Station.

In addition, CoS has plans for an off-road shared pedestrian / cycle pathway along the eastern side of Abercrombie Street.

Car Share

In accordance with the approved Concept Plan (as modified) and the DCP, a total of nine (9) car share spaces will be provided as part of the proposal. These spaces will be suitability located to allow access to the public, whilst not comprising the security arrangements of the residential/non-residential basement.

Green Travel Plan

A Green Travel Plan (GTP) is a package of measures aimed at promoting sustainable travel and reducing reliance on private vehicles, to ensure that the transport infrastructure, services and policies both within and external to the site are tailored to the users and coordinated to achieve the most sustainable outcome possible. A Green Travel Plan is provided as part of the Traffic and Transport ReporA Prepared by GTA (**Appendix R**).This GTP includes:

- Compliance with stringent parking controls applicable to the site;
- Creation of street networks and cycle ways, footpaths and links to encourage cycling and walking;
- A Travel Access Guide provided to each new occupant detailing public transport access to the site, and providing frequency of services and maps;
- Public transport information boards making residents and visitors more aware of the available alternative transport options;
- Provision of free weekly / quarterly public transport tickets (at initial occupation) to encourage public transport use from day one;
- Provision of high quality telecommunication points providing residents with the opportunity to work from home, reducing the need to travel;
- Provision of resident and visitor bicycle parking;
- Provision of a newsletter for up to two years after occupation bringing the latest news on sustainable travel initiatives in the area, and
- Provision of half yearly membership to a car share scheme.

4.10.6 Construction Traffic

A Construction Traffic Management Plan (CTMP) has been prepared by GTA Consultants and is provided at **Appendix S**. Details in relation to construction traffic are provided in **Section 4.10**.

4.11 Ecologically Sustainable Development

An Ecologically Sustainable Design (ESD) Report has been prepared by WSP and is provided at **Appendix L**. In accordance with the commitments made as part of the approved Concept Plan (as modified), the proposed development aims to meet appropriate environmental benchmark standards for multi-residential developments, and has been designed to demonstrate consistency with industry best practice, specifically to achieve a 5 star Green Star rating. The proposed development is part of the Central Park site which incorporates a precinct and centralised plant approach thereby improving the efficiency and environmental performance of the proposal.

As detailed in this EIS, the mixed use development is designed in accordance with the principles of ecologically sustainable development as defined in clause 7(4) of Schedule 2 of *the Environmental Planning and Assessment Regulation 2000*. The proposed development:

- Does not pose threats of serious or irreversible environmental damage, and measures to prevent environmental degradation will be implemented throughout construction as per the 'Precautionary Principle';
- Ensures that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations by creating a vibrant mixed use environment, maximising the facilities of a well-resourced asset, and ensuring no damage to the environment during construction and operation, as per the 'Intergenerational Principle';
- Has considered the conservation of biological diversity and ecological integrity in its design as per the 'Biodiversity Principle'; and
- Is designed to be energy and water efficient to reduce lifetime environmental impacts and running costs as per the 'Valuation Principle'.

Block 1 is targeting a 5 Star Green Star rating under the Green Building Council of Australia's Green Star Multi Unit Residential Tool (Design and As-Built). This will be achieved through best practice design, and will cover:

- Material selection with low environmental impact
- Indoor environment quality, including thermal and acoustic comfort
- Occupant health
- Promotion of public transport and alternative methods of transport
- Reduction in greenhouse gas emissions through connection to the Central Thermal Plant
- Reduction in potable water use through the connection to the Recycled Water Treatment Plant
- A minimum of 60 points will be targeted in order to achieve the 5 star Green Star rating.

4.11.1 ESD Initiatives

A key ESD feature is the location of the building within a precinct that produces a proportion of its own electricity via a tri-generation plant incorporated into a central thermal plant (CTP). Waste heat from the tri-generation plant is used to generate a proportion of the space and domestic hot water (DHW) heating and comfort cooling energy needs of the precinct. In addition, a recycled water treatment plant (RWTP) collects wastewater from all of the buildings in the precinct and provides Grade A water to meet all of the non-potable water uses in the precinct. A summary of the ESD initiatives for Block 1 are provided below:

- The building fabric design will meet thermal comfort and energy consumption requirements of BASIX and the BCA;
- Materials will be selected for their durability, embodied energy, renewable sources content, ease of manufacturing, ability to be recycled / reused / reconditioned, maintenance, local availability, VOC content, emission production, affordability and toxicity;
- Apartments and lobby spaces will operate as a mixed mode, with the building fabric comprised of operable elements and loggias to facilitate natural ventilation;
- A central heating and cooling system will be provided with connection to the site CTP providing chilled and hot water to the building;
- A centralised hot water system will be installed and will be serviced by the CTP;
- Residential lobbies will be afforded natural light and ventilation
- Internal light fittings specifications will be efficient and limited to fluorescent and LED fittings where appropriate;
- All external lighting, except where required for security reasons, will be solar powered where appropriate;
- Metering will be provided throughout the building and central services for all major building plant and equipment, as well as in apartments; and
- Personal vehicle usage will be discouraged by provision for motorbikes, bicycles, car share schemes, access to public transport networks, and proximity to retail and related amenities, through the implementation and communication of a Smart Travel Plan on the site; and

- Water fixtures and fittings will be specified to high Water Efficiency Labelling Scheme (WELS) rating with 4 star toilets, 3 star showers, and 6 star bathroom and tap fittings.

4.11.2 BASIX and BCA Compliance

BASIX sets sustainability targets for water and energy as well as minimum performance levels for the thermal comfort of the building. A maximum of 100 apartments can be included in one BASIX Certificate, therefore three BASIX Certificates have been developed for Block 1 due to the number of apartments in the development (281). The certificates are aggregated as follows:

- Certificate 1: Levels 2 –7, 100 apartments
- Certificate 2: Levels 8-12, 90 apartments
- Certificate 3: Levels 13-18, 91 apartments

The proposed development will target a minimum 20% in energy improvement in greenhouse gas emissions compared to the NSW benchmark of 3,292kg of CO2 per person per year. The following items are to be implemented to reach the energy reduction target:

- High performance building fabric which includes the adoption appropriate double glazing and façade treatment to all elevations;
- Detailing and specification of appropriate insulation to all exposed floors, roofs and external walls;
- Final construction details are subject to detailed NatHERS modelling assessments;
- Use of efficient lighting fixtures to apartments and common areas. Typically apartment lighting will be limited to LED and fluorescent fittings only. Common plant areas will be fluorescent fittings only, and metal halide fittings will be limited to car park entry points only. All common residential areas will be either LED or fluorescent fittings only;
- Lighting operation to common areas will be fitted with time-clock controls, motion sensors or timer settings to improve energy efficiency;
- Basement car park ventilation systems will include carbon monoxide monitors with variable speed fans to limit operation when not required;
- Installation of energy efficient appliances;

In order to maximise the water efficiency of the development, all fixtures in the proposed development are to meet the WELS (Water Efficiency Labelling Scheme). Specification and implementation of water efficient fixtures and appliances will also be implemented, along with the selection of planted or indigenous and drought-tolerant or low water species.

4.11.3 Section J – National Construction Code

The building fabric constructions are to be designed to meet the minimum National Construction Code (NCC) Series Section J Energy Efficiency 2013 provisions. The main construction to the retail areas includes aluminium shopfront systems with insulated glazed spandrel panels. External wall and roof insulation will be provided in accordance with NCC provisions. Floor insulation is to be provided between car park and retail areas. Glazing systems are to meet the minimum NCC Energy Efficiency provisions of Part J2.

Further details in relation to the retail building fabric and its compliance with Section J of the BCA are provided in the ESD Report prepared by WSP

Overall, the proposed development meets the BASIX requirements. A BASIX Certificate(s) has been produced and it is noted that there a nine apartments that require minor modifications to pass the NatHERS assessment. This will be undertaken as part of ongoing design development prior to the commencement of the works.

4.11.4 Green Star

Green Star is a voluntary environmental rating system for assessing different building types against environmental design targets. Block 1 at Central Park is a mixed use development targeting a Certified 5 star rating under the Multi Unit Residential v1 Design tool with the Green Building Council of Australia (GBCA).

The project has been registered with the Green Building Council and formal rating is anticipated within the first twelve months of the construction stage. To achieve a 5 star Green Star rating, the project must achieve more than 60 weighted points across all categories – management, indoor environmental quality, energy, transport, water, materials, land use, emissions and innovation – while meeting the minimum environmental conditional requirements. A full list of targeted Green Star initiatives and pathways, for each credit and category in relation to Block 1 is provided at **Appendix L**. A minimum of 64 points will be targeted to allow a safety margin, in case points are dropped during the future project stages. The buffer with the current Green Star strategy is 5.5 points.

4.12 Acoustic Impacts

A Noise Impact Assessment has been prepared by Acoustic Logic and is provided at **Appendix T.** The assessment provides an analysis of acoustic impacts associated with the proposed development and recommends acoustic treatments to ensure that internal noise levels comply with statutory requirements, as well as identifies potential noise sources generated by the site and determines noise emission goals to meet the acoustic requirements of the NSW EPA Industrial Noise Policy. The report also considered the potential impact of the operation of the development from mechanical plant and equipment. Details in relation to the noise impact during construction of the proposed development are provided in **Section 4.15**.

Traffic noise (particularly from Abercrombie Street) is assessed as being the most noise impacting activity, given Block 1's proximity to Broadway and Abercrombie Street, while noise from mechanical plant and equipment (including air conditioners) is likely to be generated by the development itself. It is noted that the design of the private open space of the dwellings fronting Broadway generally provides loggia, which will assist in the attenuation of noise to the living areas, but also improve the amenity of the loggia space (shielding noise), so that it can be enjoyed by residents

Nearest Receivers

The nearest potentially affected noise receivers are the residential properties on the western side of Abercrombie Street as well as those existing and future residential receivers within the Central Park Precinct to the south, east and west, particularly within the western tower of Block 2 (One Central park).

Background Noise Levels

A survey of the existing noise environment was carried out between 15 and 21 June 2010. Background noise levels measures at the nearest property boundary (residential to the west) are set out below in **Table 13.** The measures traffic noise at the sites broadways façade are set out in the table below.

Table 13 – Traffic Noise – Measured on Broadway

Location	Traffic Noise Level
Day (7am – 10pm)	73dB(A) Leq(1 Hour)
Night (10pm – 7am)	69 dB(A) Leq(1 Hour)

Unattended noise logging was carried out on the site between 12 and 19 February 2014, to establish the background noise levels as shown in **Table 14**.

Table 14 – Background Noise Levels

Description	Day Noise Level 7am to 6pm (dB(A))	Evening Noise Level 6pm to 10pm (dB(A)) Night Noise Level	Night Noise Level 10pm to 7am (dB(A))
Minimum Repeatable Background L90,15min	57	55	44

Consideration Requirements

Broadway, to the north of the site, carries high traffic volumes of greater than 40,000 vehicles and is required to be assessed on conjunction with NSW State Environmental Planning Policy (Infrastructure) 2007 criteria. Traffic noise requirements of DCP 2012 pertaining to the control of traffic noise to living areas, and the Australian Standard AS2107:2000 have also been considered.

Recommendations for Construction

The assessment recommends the glazing construction specification shown in **Table 15** to adequately manage traffic noise and ensure adequate internal amenity.

Calculations were performed by the acoustic consultant by taking into account the orientation of windows, the total area of glazing, facade transmission loss and room sound absorption characteristics to allow the likely interior noise levels to be predicted.

Table 15 – Glazing construction for Block 1

Façade	Level	Room	Glazing	Acoustic Seals
Broadway	All Levels	Living Areas Bedrooms	10.38mm laminated 12.38mm laminated	Yes Yes
East and West Facades	All Levels	Living Areas Bedrooms	6.38mm laminated 10.38mm laminated	Yes Yes
East Façade	All Levels	Living Areas Bedrooms	6.38mm laminated 6.38mm laminated	Yes Yes

In addition to glazing, the proposed construction methodology of concrete roofing and wall systems will not require any further acoustic restatement themselves, however any penetrations will be required to be acoustically sealed. With regard to ventilation requirements, all proposed tenancies are required to be provided with an alternative ventilation or air conditioning system to maintain adequate ventilation with the windows closed

Noise Generators

Potential noise generated by mechanical plant and equipment has also been assessed against the City of Sydney Standard Conditions and NSW EPA Industrial Noise Policy, with consideration of the nearest potentially affected noise receivers. City of Sydney Council's standard conditions specify that the transmission of noise, being the sound pressure level at the boundary of any affected receiver is not to exceed the background noise by more than 5dB.

While mechanical plant and equipment has not yet been selected it is anticipated that all plant can be satisfactorily attenuated to levels complying with noise emission criteria through appropriate location and (if necessary) standard acoustic treatments such as noise screens, enclosures and in-duct treatments (silencers / lined ducting) or similar. It is also noted that the requirement for mechanical plant and equipment within Block 1 is largely reduced due to it being centralised, such as within the CTP. Accordingly, potential noise impact is further reduced.

Assessment

The assessment concludes, the with the above recommendations implemented, noise intrusion from traffic associated with surrounding roads including Broadway and Abercrombie Street will comply with the relevant Sydney City Council, Australian Standards and the ISEPP noise provisions.

4.13 Drainage and Flooding

A Stormwater Report has been prepared by Mott Macdonald and includes a Stormwater Drainage Concept Plans. The report is provided at **Appendix U**. The report considers the existing site and stormwater arrangements, as well as the proposal, site stormwater management plan and the quality of water leaving the site. Appended to the report at **Appendix U** are the previous Stormwater Management Report prepared for the site.

Flooding and Stormwater

The overall Central Park site is situated within the Blackwattle Bay (SWC 17) catchment. The site is traversed by two major drainage systems, the Prince Alfred Park Branch which has a catchment area of 25 hectares upstream of the site, and the Tooth's Brewery Branch which has a catchment area of about 9 hectares. A site-wide stormwater system has been designed to accept the 20 year and 100 year design flows (piped and overland) respectively to connect to the detention tank beneath Chippendale Green prior to discharge to Sydney Water's stormwater mains. Stormwater Plans have been provided along with the Stormwater Report at **Appendix U**.

Final ground level RLs for Block 1 provide the recommended minimum freeboard levels or higher to protect people and buildings. Overflows will be provided to cater for greater than 100 year ARI flows and will discharge into Council's drainage system and/or overland flow path.

Water Sensitive Urban Design

A Water Sensitive Urban Design (WSUD) strategy has been prepared for the overall Central Park site. The strategy identifies site-specific opportunities which allow for development while achieving industry accepted / best practice water quality targets.

The strategy considers the entire Block 1 roof to drain into a rainwater tank to provide irrigation water to landscaped/communal areas, toilet flushing and water for clothes washing in apartments. The pipe system from the roof to the rainwater tank will be designed to provide a minimum 100 year ARI capacity. The strategy also includes the combination of gross pollutant trap to treat runoff from the rainwater tank prior to discharge into the Council's trunk drainage system.

Non-potable water will be provided from the site-wide recycled infrastructure system and the site CTP will be used to generate potable hot water for apartments. Water metres for all major water uses will be provided in apartments and retail tenancies and linked to a Building Management System.

The WSUD measures are also provided to assist the building in achieving a 5 star Green Star rating as detailed in **Section 4.11** and the Sustainable Design Report provided at **Appendix L**.

Erosion and Sediment Control

Erosion and sediment control details and plans are provided at **Appendix U**. These will be installed to ensure all existing surface pits will be protected, and all boundaries where there is potential for runoff to contaminate downstream property (private or public) will be protected by use of erosion fencing and earth berms.

The measures consider site access by construction vehicles, sediment and dust control, maintenance of erosion and sediment control devices and use of a temporary pump out system (where required).

4.14 Waste Management

A Waste Management Statement has been prepared by Arup and is provided at **Appendix I**. The statement provides details in relation to the waste generated during operation of the proposed development. Details in relation to the waste generated during construction of the proposed development are provided in **Section 4.14**. The statement makes an assessment against the legislative requirements including the *Protection of the Environment Operations Act, 1997*; *Waste Avoidance and Resource Recovery Act, 2001*; *NSW Waste Reduction and Purchasing Policy, 2007*; and *Council of the City of Sydney Policy for Waste Minimisation in New Developments, 2005*; as well considers Green Star requirements.

4.14.1 Operational Waste

The proposed development is likely to generate the following waste streams;

- Mixed general waste;
- Organic (wet) waste
- Co-mingle recycling;
- Electronic waste;
- Hard rubbish; and
- Cardboard and paper recycling (commercial / retail only).

The main waste facilities for residential waste from the proposed development will include:

- 1x waste chute (general waste) to service all residential level with discharge of waste directly into a compactor in the central waste storage area;
- 1x co-mingle recycling bin on each residential level, to be rotated daily with empty bins in the central waste storage area;
- Waste collection rooms on all residential floors, each holding a recycling bin and a waste chute compartment; and
- A central waste storage area / Main Garbage Room (MGR) located at level B1.

A temporary waste storage area capable of housing one days waste (general waste and recyclables) will be provided on each floor of the building (equivalent to 1 x 240 L general waste bin, 1 x 240 L comingled recyclables bin and a paper and cardboard crate for each residential floor). Day to day operation of tower

levels would not include storage of general waste as the waste chute would be in operation.

The main waste facilities for commercial / retail waste from the proposed development will include:

- Separate sets of bins for the following waste streams: general waste, co-mingle recycling and paper recycling;
- Waste to be stored prior to collection in 240L bin (x 6); and
- Waste collection from inside the vehicle loading dock.

Waste Generation

Table 16 – Block 1 Estimated Waste Generation

Location	Mixed Landfill (L/Day)	C-mingled recycling (L/Day)
Retail	549	549
Gym and Pool area	95	95
Residential	3,211	1,606
TOTAL	3,855 L / day	2,249 L /day

Waste Storage Areas

The following table details the number of waste receptacles to be stored, as well as their location within the building are provided below in **Table 17.** Further details are provided n the Waste Management Plan at **Appendix I.**

Table 17 – Block 1 Waste Storage Areas

Room	Area	Waste Stream	Storage Bins
Commercial Bin Room	56	Retail general waste	6 x 240L
		Retail Recyclables	6 x 240L
Residential holding bin room and Bulk storage	60	Residential recyclables	18 x 240L (2 x 240L organic)
Bulky Goods Store	10	Bulky goods	N/A
Bin Room 5	56	Residential General Waste	4 x 660L – multi bin compactor 8 x 660L bins

Collection

Waste collection services for each residential waste stream will be provided by appropriate licenced contractors / Council. Written evidence of a valid and current contractor with a licenced collector for waste and recycling collection and disposal will be provided and held on site at all times.

As there is expected to be minimal waste generated from retail tenancies which will be stored alongside residential waste, consultation will be undertaken with Council as to whether it can be collected with residential waste. Alternatively, a private waste contractor will collect this waste.

Residential (general) waste collection will occur three (3x) times per week. Residential cardboard and paper recycling will be collected twice (2 x) per week. Retail waste collection will occur twice a week, except for cardboard / paper recycling which will be collected once a week. Electronic waste and hard rubbish from both residential and retail uses will be collected monthly or as necessary. Cooking oil (waste) from food outlets will also be collected as necessary.

Amenity

The garbage rooms have been designed so as not to be visible from the exterior of the building. The waste management equipment to be selected will not generate significant noise and will be located in areas containing adequate

acoustic insulation. Any putrescible waste to be collected will be stored in a Council approved containers and all waste storage areas will be fitted with mechanical vertical ventilation systems. Waste will be collected regularly which will reduce the risk of odour to building occupants and neighbours.

Overall, the proposed waste management areas and waste management practices will ensure high levels of occupant and neighbourhood amenity.

4.15 Construction Management

A Construction Environmental Management Plan (CEMP) has been prepared by Frasers Property Management Pty Ltd and is provided at **Appendix M**. The CEMP is to be read in conjunction with the CTMP prepared by GTA Consultants and provided at **Appendix S**, the Waste Management Plan prepared by Arup and provided at **Appendix I** and the Erosion and Sediment Control Plan prepared by Mott MacDonald and provided at **Appendix U**. The CEMP addresses the following issues:

- Heritage and archaeology;
- Noise and vibration;
- Air quality;
- Soil and water management;
- Chemical management;
- Traffic management; and
- Health and safety management.

The CEMP will be revised and issued to the Private Certifying Authority prior to the commencement of the works.

4.15.1 Construction Traffic

A CTMP has been prepared by GTA Consultants and is provided at **Appendix S**. It is anticipated that construction activities will take approximately 24 months (with public domain works a further 2 months), with construction expected to generate between a maximum of 30 truck movements (two-way) per day.

It is noted that construction of Block 1 is anticipated to overlap with construction of Block 4S and Block 8. Accordingly, the cumulative construction of Block 8 and Block 4S is expected to generate up to 66 vehicles per day or 14 vehicles per peak hour. It is noted that these figures assume the worst case scenario of construction on the site. Construction vehicle movements to and from the site can be satisfactorily accommodated by the surrounding road network.

Construction traffic will be managed in accordance with the following measures;

- A traffic control plan will be prepared and implemented to assist vehicles entering and exiting the site and alert other drivers, pedestrians and cyclists that construction movements are taking place;
- A number of driver protocols will be established as part of the site induction procedure for drivers to ensure the safety of motorists, pedestrians and cyclists; and
- Emergency vehicle access to, from and around the site will be maintained at all times.

The CTMP concludes that the proposed measures contained within the report will adequately address potential traffic related impacts associated with the

construction of Block 1, as well as the construction of the combined Block 1 +4N basement.

4.15.2 Construction Noise and Vibration

During construction, noise and vibration will be managed in accordance with the CEMP prepared by Frasers Broadway Pty Ltd and provided at Appendix T. Construction Noise and Vibration have also been considered in detail by Acoustic Logic at **Appendix T**.

Based on typical construction practices and equipment used, it is anticipated that the principal source of noise emissions during the construction process will be generated during the ground excavation phase including from jack hammering and piling works.

The specific construction noise and vibration criteria have been considered against City of Sydney Council's Construction Hours/Noise within the Business District provisions, as well as the relevant Australia Standards. Noise Objectives for the works have also been considered, based on the background noise levels recorded on the site.

Structure borne and human comfort vibration caused by construction has been considered by Arup against the following:

- For structural damage vibration, German Standard DIN 4150-3 Structural Vibration: Effects of Vibration on Structures; and
- For human exposure to vibration, British Standard BS 6472 – 'Guide to Evaluate Human Exposure to Vibration Buildings (1Hz to 80Hz).

Noise management will include noise and vibration monitoring, carrying out of works during approved hours and minimising the duration of high noise activities, and a register of noise complaints will be maintained.

For both construction Nosie and construction vibration, site specific ameliorative measures have been included within the Noise Impact Assessment which will be adhered to during construction. Further noise and vibration control measures including the appropriate selection of equipment, site procedures and materials handling, acoustic barriers, silencing devices and noise monitoring have also been detailed in the report.

Importantly, the Noise Impact Assessment (**Appendix T**) refers to the establishment of direct communication with any affected parties as well as complaints handling procedures be implemented, along with reporting requirements.

4.15.3 Construction Waste

Construction waste and a CWMP are detailed in the Waste Management Statement prepared by Arup and provided at **Appendix I**. Construction of the proposed development is likely to generate excavation and construction waste streams, with natural materials, concrete, steel reinforcement, plastics and recyclable materials likely to comprise the greatest volume. The primary goal for waste management in the construction phase is to ensure at least 80% of waste is recycled or reused, which also supports Green Star goals.

During construction, suitable areas on- and/or off-site will be provided and will include adequate space and access for:

- Storage of building materials;
- Storage of demolition and construction waste;

- Sorting of demolition and construction waste; and
- Removal of demolition and construction waste for recycling, re-use or landfill.

Construction vehicles (including construction waste collection vehicles) will enter and exit the site via Abercrombie Street, in a forward direction only. Traffic will be directed via two gates. A truck turning bay will be provided in the same location as the future loading dock.

4.15.4 Erosion and Sediment Control Plan

An Erosion and Sediment Control Plan is provided as part of the Flooding, Stormwater and WSUD Report prepared by Mott MacDonald and provided at **Appendix U**. The principle for erosion and sediment control is described in **Section 4.13** and further measures provided at **Appendix U**.

4.15.5 Cumulative Construction Impacts

Consideration has been given to the cumulative construction impacts likely to occur on the Central Park site during the construction of Block 1. In particular, additional consideration is to be given to the location of access and egress of cars and construction vehicles. It is noted however that the location of Block 1 is most substantially separated from surrounding residential receivers, and (as set out on the Staging plan provided at **Appendix B**), will be delivered following the construction/completion of other blocks on the site.

The Construction Traffic Management Plan notes that whilst at the commencement of construction of Block 1, Block 4N, and Block 4S and Block 8 will be occurring concurrently, for the last approximately 12 months of the delivery of the project, the site will generate approximately half the truck movement, minimising the impact of construction to surrounding receivers and traffic.

4.16 Staging

The proposed development is intended to be delivered as a single project, to include Block 1 +4N basement. However, as part of the construction this includes successive phasing of the works and there is allowance for contingency in the delivery. The works on site are intended to be carried out in accordance with the Staging Plan provided s part of **Appendix B**. This identifies the delivery of Block 1 +4N together. It is also noted that the current approved scheme for Block 4N, will be amended prior to above ground works commencing on Block 4N.

4.17 Contributions

The Affordable Housing Planning Agreement, between the Redfern Waterloo Authority and the landowner, was accepted by Deed Poll dated 29 July 2007 and outlines how contributions towards affordable housing will be calculated for the Frasers Broadway site. A payment plan was established and payments have been made in instalments over the last five years. The AHPA does not specifically relate to Block 1, nor is there an Owners Consent Deed for Block 1.

The Voluntary Planning Agreement between the Minister for Planning and the landowner dated 9 February 2007 requires that 'design excellence' be achieved in the architecture developed across the site. In relation to Block 1, the nominated architects as required by Commitment 2 of the Concept Plan (Design Excellence) are the selected architects completing the project.

4.18 Site Suitability

Having regard to the characteristics of the site and its location both within the overall Central Park site and Central Sydney, the proposal is considered suitable for the site as it:

- Is located within Central Park which is within the Sydney City sub-region which is nominated as a 'Global Centre';
- Will take place in a highly modified and disturbed urban environment and will not impact on biodiversity values;
- Will contribute to the enhancement of a key CBD location that is presently underutilised;
- Will accord with the principles of Ecologically Sustainable Development by contributing to the proper management, development and conservation of the artificial resources of the site;
- Is within walking distance of other services and amenities, including public transport, retail and employment opportunities offered by the CBD;
- Is in close proximity to the pedestrian and cycle facilities within Central Park; and
- Will support the provision of a high quality public domain, in particular Chippendale Green located to the east of the proposal.

4.19 Public Interest

The proposed development is considered to be in the public interest as it:

- Will promote the social and economic welfare of the community by providing an improved urban environment;
- Will provide a substantial quantum of residential accommodation within an existing urban area which has easy access to good public transport;
- Will provide residential accommodation in support of Sydney's growing economy and population;
- Will encourage patronage on public transport by being in close proximity to rail, light rail, bus and ferry services;
- Will encourage alternative modes of travel by providing bicycle parking for residents, visitors and retail patrons;
- Will provide community connections within the overall Central Park development;
- Will achieve a 5 star Green Star rating;
- Will contribute to the achievement of specific targets relating to new jobs and new dwellings;
- Will address the provision and maintenance of affordable housing by adhering to the agreement established between the Redfern Waterloo Authority and the landowner; and
- Has responded to extensive consultation undertaken with various levels of government, authorities and the community.

5.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 18**. These measures have been derived from the previous assessment in **Section 4** and those detailed in appended consultants' reports.

Table 18 – Mitigation Measures

Mitigation Measures
CPTED ▪ The proposal is to adhere to the recommendations made in the CPTED (Appendix Q) in order to meet the CPTED principles including (but not limited to): – using appropriate street and under-awning lighting; – maintaining clear internal and external sight lines; – providing appropriate security to back of house / loading dock areas; – using passive and active surveillance measures i.e. CCTV; – providing access control at street level and to the basement; – using of durable materials; – providing appropriate way-finding signage and public domain amenity; and – ensuring maintenance is undertaken promptly.
Wind ▪ The extent of wind mitigation required at those locations that exceed the wind distress criterion (identified in the report provided at Appendix N) is to be determined as part of ongoing design development prior to commencement of the works.
Reflectivity ▪ All exterior façade materials are to have a reflectivity coefficient of 20% or less.
BCA ▪ The proposal is to make compliant those items identified in the BCA Assessment Report (Appendix O) as being non-compliant in the Construction Certificate application prior to the commencement of the works.
Transport and Accessibility ▪ Residents are to be provided with remote control access to basement level car parking to ameliorate queuing and ensure pedestrian safety. ▪ Signage prohibiting pedestrian access is to be provided at the car park entry on Central Park Avenue to discourage pedestrian use. ▪ Residents are to be provided with a Green Travel Plan to encourage use of alternative modes of transport.
ESD ▪ The proposal is to be delivered in line with the site wide, and Project specific ESD measures, as detailing the ESD report prepared by WSP (Appendix L).
Noise ▪ Plant and equipment is to be selected to ensure compliance with noise criteria identified in the Noise Impact Assessment (Appendix T) and acoustic treatments are to be provided as necessary.
Drainage and Flooding ▪ WSUD is to be undertaken in accordance with the site wide WSUD strategy. ▪ The WSUD strategy is to inform the WSUD measures to be implemented to assist in achieving a 5 star Green Star rating.
Waste Management ▪ The proponent is to consult with Council as to whether commercial / retail waste can be collected along with residential waste or whether a private waste contractor will need to collect this waste. ▪ The Waste Management Statement (Appendix I) is to inform the preparation of a building user guide, waste auditor report and Construction Waste Management Plan associated with achieving a 5 star Green Star rating. Commercial ▪ The proponent is to prepare a Plan of Management (PoM) detailing provision for commercial / retail waste disposal and collection as part of residential waste storage and removal. In particular, the PoM is to address access to the residential waste storage area via Abercrombie and Irving Streets.
Construction Management ▪ A final CEMP is to be submitted to the Private Certifying Authority prior to the commencement of the works. Traffic ▪ Construction traffic, including traffic control, entering and exiting the site, driver protocols and parking is to be managed in accordance with the CTMP (Appendix S). Noise and Vibration

Mitigation Measures
▪ Noise and vibration is to be managed in accordance with the CEMP (Appendix M).
Waste
▪ The proponent is to provide a detailed Waste Policy Design Compliance Certificate for the Construction Certificate application, which is to include details regarding disposal and recycling of different materials expected from demolition, construction, and the transport and destinations of these materials.
Erosion and Sediment Control
▪ Erosion and sediment control is to be managed in accordance with the Erosion and Sediment Control Plan (Appendix U).

6.0 Conclusion

This Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the development of a mixed use building known as Block 1, within the Central Park site. The EIS has addressed the issues outlined in the Secretary's Environmental Assessment Requirements (see **Appendix A**) and accords with Schedule 2 of the EP&A Regulation in regards to the form and content of the EIS.

The carrying out of the proposal is justified and warrants approval for the following reasons:

- The proposal is permissible with consent and is consistent with the relevant statutory planning controls;
- The proposal is consistent with the approved Concept Plan (as modified) which establishes land uses, building envelopes, street layouts and general development parameters;
- The proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2 Clause 7(4) of the *Environmental Planning and Assessment Regulation 2000*;
- The proposal exhibits a high quality design, achieving a strong relationship with the surrounding future and existing built form;
- The proposal provides a high standard of amenity through a mix of unit types and sizes, outlook, daylight and ventilation, and provision of exceptional internal and external communal areas;
- The use supports the ESD and WSUD principles on the site, with connection the site's CTP and harvesting rainwater on the site.
- The proposal encourages active use of public transport with attributes including secure bicycle storage and end of journey facilities, and its proximity to public transport hubs, walking paths and amenities; and
- The proposal contributes to the activation of Central Park through provision of active ground level uses, and the creation of a new pedestrian street between Block 4N and Block 1.

In light of the environmental, social and economic benefits of the proposal and the planning merit and significant public benefits associated with the proposal, it is recommended that this application be approved.