Environmental Impact Statement

State Significant Development (SSD - 5700-2012)

Block 4S, Central Park

Student Accommodation and Ground Floor Commercial Uses

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

January 2013 ■ 12373

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JBA Urban Planning Consultants Pty Ltd operates under a Quality Management System. 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

Signature  Date 31/01/13

This report has been reviewed by: Gordon Kirkby

Signature  Date 31/01/13

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Executive Summary

Purpose of this Report

This Environmental Impact Statement (EIS) is in support of an application for State Significant Development (SSD) for student accommodation and ground floor retail uses to Block 4S of Central Park (previous known as the Carlton United Brewery) The EIS has been prepared in accordance with the relevant legislation and planning policies, and addresses the matters raised in the Director General's environmental assessment requirements.

A request for the issue of Director General's Environmental Assessment Requirements (DGRs) was sought on 20 November 2012. Accordingly, the DGRs were issued to the Frasers Broadway Pty Ltd on 19 December 2012. A copy of the DGRs is included at **Appendix A**.

Overview

The proposal comprises of fourteen (14) storeys and includes residential accommodation for 826 students, a variety of communal recreation, dining and study facilities, rooftop terraces, administration facilities, ground floor retail and a basement Central Park precinct-wide central thermal plant tri-generation plant comprising:

- A total of 826 beds within 688 rooms comprising of:
  - 167 beds within multi-share rooms (of between 3-6 beds)
  - A mix of studio types:
    - 329 Studio "Standard"
    - 301 Studio "Long"
    - 29 Studio Accessible/Deluxe
- Total GFA of 23,763m^2
- 851m^2 of non-residential floor space located on the ground and lower ground floors with active frontages;
- Modifications to the existing approved basements to allow for loading and unloading from the southern elevation on Irving Street;
- Internal spaces for students including theatre, gym, laundry and lounge areas to level 00, 01, and level 13 as well as a lounge area within the northern link on every 2 levels from 3 and above; and
- External courtyard to level 3 and two terraces to level 13 resulting in an external areas of 500m^2 .

It is noted that the proposal requires concurrent modifications to the approved Concept Plan MP06_0171 and Project Application MP08-0253. These have been submitted to the Department of Planning and Infrastructure accompany this application.

Planning context

Section 4 of the EIS considers the relevant legislation applying to the proposal. The proposal complies with all relevant planning controls.

The site is located on land that forms part of the Central Park (Carlton United Brewery) Concept Plan MP 06_0171. A concurrent application has been submitted to the Department of Planning and Infrastructure proposing a change of use from commercial to residential land use. Further, the EIS considers the all aspects of the concept plan including the GFA, building envelope and ESD.

Environmental Impacts

This 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.

The key issues that have been addressed in this EIS are:

- Compliance with approved concept plan envelope, and existing approved building envelope (MP 08_0253)
- Economic Impact Assessment of the land use as residential, changing from the approved commercial use.
- Height, bulk and scale of the proposal including built form, and the associated overshadowing impacts.
- Residential amenity for the student accommodation including solar access, cross flor ventilation and unit sizes
- Drainage and stormwater management.
- Landscape and public domain treatments to the link between Block 4N an 4S as well as Abercrombie Street and Central Park Avenue
- The implementation of ESD strategies

Conclusion

The EIS addresses the DGRs, and the proposal provides for highly demanded student accommodation in close proximity to public transport, universities and tertiary education and the CBD. The potential impacts of the development are minor and can be adequately managed. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning and Infrastructure.

Statement of Validity

Environmental Impact Statement prepared by	
Name	Gordon Kirkby
Address	Level 7, 77 Berry Street, North Sydney
In respect of	State Significant Development - Development Application for student Accommodation and Ground Floor Commercial use
Applicant name	Central Park JV No 2
Applicant address	Block 4S, Central Park – 26 Broadway, Chippendale
Land to be developed	Lot 2 DP 114 2053
Proposed development	Block 4S – Student Accommodation
Environmental Impact Statement Certificate	An Environmental Impact Statement (EIS) is attached. I certify that I have prepared the content of this EIS and to the best of my knowledge: ▪ It is in accordance with Part 4 of the *Environmental Planning and Assessment Act 1979* and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. ▪ It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.
Signature	
Name	Gordon Kirkby
Date	January 2012

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Infrastructure in support of an application for State Significant Development (SSD) for Student Accommodation and ground floor commercial uses at Block 4S, Central Park.

State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) identifies development which is declared to be State Significant Development (SSD). Under clause 2 of Schedule 2 of SRD SEPP, development on the 'Broadway (CUB) Site' (Central Park) with a capital investment value (CIV) of more than $10 million is identified as State Significant Development (SSD). As the proposed development of Block 4S will have a CIV of approximately $71,453,000 the proposal it is declared to be SSD for the purposes of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The EIS has been prepared by JBA Planning on behalf of Central Park JV No 2 , the proponent, based on the Architectural Drawings provided by Foster + Partners and Nettleton Tribe (see **Appendix C**) and other supporting technical information appended to the report (see Table of Contents).

This report describes the site, its environs, the proposed development, and provides an assessment of the proposal in accordance with the Director-General's Requirements (DGRs) issued for the proposal.

The SSD application will be assessed against the relevant provisions under Part 4 of the EP&A Act. However, 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.

A copy of the DGRs is included in **Appendix A**.

1.1 Overview

The proposal comprises of fourteen (14) storeys and includes residential accommodation for 826 students, a variety of communal recreation, dining and study facilities, rooftop terraces, administration facilities, ground floor retail and a basement Central Park precinct-wide central thermal plant tri-generation plant comprising:

- A total of 826 beds within 688 rooms comprising of:
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- 851m^2 of non-residential floor space located on the ground and lower ground floors with active frontages;
- Modifications to the existing approved basements to allow for loading and unloading from the southern elevation on Irving Street;
- Internal spaces for students including theatre, gym, laundry and lounge areas to level 00, 01, and level 13 as well as a lounge area within the northern link on every 2 levels from 3 and above; and

- External courtyard to level 3 and two terraces to level 13 resulting in an external areas of 500m^2 .

It is noted that the proposal requires concurrent modifications to the approved Concept Plan MP06_0171 and Project Application MP08-0253. These have been submitted to the Department of Planning and Infrastructure accompany this application.

1.2 Background

Concept Plan

MP06_0171, as modified in February 2009, is a Concept Plan approval applying to the Frasers Broadway (now Central Park) site which permits the construction of a mixed use precinct comprising:

- 11 development blocks;
- A maximum Gross Floor Area (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 this time there have been a total of 7 modifications with a concurrent modification (Mod 8) with the Department of Planning and Infrastructure.

Demolition/Recycling Project Application

In March 2008 the DoP granted consent for demolition and recycling works on the Frasers Broadway site. The works approved under this consent were completed in December 2008.

Remediation and Transitional Works Application

Consent (MP_07_0163) has also been granted to undertake remediation works on the site. The works approved include the removal of a layer of contaminated fill and the installation of a barrier wall along the southern boundary of the site which will prevent the continued cross flow of contaminated groundwater onto the site.

Superlot Subdivision Application

The City of Sydney has approved an application for subdivision of the Frasers Broadway site into 8 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 subdivision of the site will also assist some of the government agencies in the infrastructure design requirements. These lots will be further divided by a plan of sub-division providing both public and private stratum lots based upon the Project Application when approved. Copies of the existing survey plans and the approved superlot subdivision plans are included at **Appendix D**.

Previous Project Approval

On 26 May 2010 approval was granted for the Project Application (MP 08_0253) by the Planning and Assessment Commission (PAC) for

- construction of a new 10-15 storey commercial building accommodating:
  - 5 levels of basement car parking;
  - space at basement level for installation of a tri-generation plant (plant not included within approval);
  - retail and commercial floor space;
  - child care centre.
- excavation below Blocks 1 and 4 and the Brewery Yard;
- demolition of rear ground floor bar of the Australian Hotel;
- demolition of the rear one storey bathroom and additions of the heritage terrace group known as 8-12 Abercrombie Street; and construction of the surrounding public domain.

Figure 1 – Photomontage of proposed development as viewed from corner of Broadway and Abercrombie Street

The application has since been modified three (3) times. Mod 1 included the staging of the construction of the basement to allow for the excavation and installation of the Central Thermal Plan (CTP) and associated infrastructure as part of Stage 1 and the remaining basement to be considered as part of Stage 2.

The most recent modification (Mod 3) was approved on 10 May 2012 and included the following proposed works:

- Stage 1 is to excavate and construct a reduced CTP basement shell and install a single 1.OMW co-generation gas engine and associated infrastructure;
- revise the design of the brewery yard and services;

- re-utilise the existing chimney stack to exhaust 4 gas boilers and to install a new chimney stack to the west of the heritage buildings in the Brewery Yard to exhaust the gas engine; and
- Stage 2 is to excavate and construct all remaining works forming Blocks 1 and 4.

Block 4S was previously approved for commercial development as part of the Project Application for Blocks 1 and 4 (MP08_0253). However, due to a range of economic factors, it has become apparent that the development of the whole of Blocks 1 and 4 for commercial purposes no longer aligns with the commercial office demand for this area of the CBD. Further, there is significant demand for student accommodation in the locality, and this project specifically, will be supported by Federal/State Government National Affordable Rental Housing Scheme (NRAS) – affordable housing initiative.

As a result, the SSD DA will seek approval for the redevelopment of Block 4S as student accommodation with associated non-residential uses and retail on the ground floor. The application will be accompanied by two concurrent modification applications to facilitate the development. These include:

- An application to modify the Concept Plan (MP 06_0171) to enable the proposed amendments to the building envelope, and the use of Block 1 and 4 for student accommodation / residential purposes, which will result in a subsequent change to the Concept Plan approved residential / non-residential split.
- An application to modify the Block 1 and 4 Project Application (MP 08_0253) to excise Block 4S, to enable the proposed development to take place independently of Blocks 4N and 1.

The scheme will be designed by the original architects for Blocks 1 and 4, being Foster + Partners in associated with local collaborating architect Nettleton Tribe. Block 4S will be built to a maximum height of RL71.5 AHD (including plant)

Blocks 1 and 4 (including the Brewery Precinct) have an approved GFA of 77,000m^2 which is to be made up entirely of non-residential uses. The proposed Block 4S development will have a GFA of 23,763m^2. Whilst the ground floor of the proposed development will be used for retail uses to activate the street frontages of Abercrombie, Central Park Avenue and Irving Streets, the use of the upper levels as student housing (classified as Class 3 Boarding House) will require the concurrent modification to the Concept Plan as outlined above.

1.1 Objectives

The proposal is seeking to provide high quality, well managed and well design student accommodation for tertiary students within Sydney, servicing the high demand for student housing.

The aims and objectives of the proposed student accommodation development include:

- Well design and secure accommodation for tertiary students
- Create a development of appropriate size and scale that fits within the context of Central Park and surrounding development
- Support the ESD and WSUD principles of the site and the City through the use of technologies and materials
- Provision of highly accessible and well managed student accommodation close to numerous universities and tertiary education facilities

- Provide for housing to alleviate current pressures on the rental market for this type of accommodation
- Act as support for the surrounding institutions
- Contribute to the social and educational development and interaction of students through the provision of functional space and high quality services.

1.2 Analysis of Alternatives

Within the inner Sydney Market, in close proximity to universities and tertiary education facilities there is a growing demand for student accommodation development. The delivery of this development reduces the stress that would otherwise be placed on the private rental accommodation market in these areas further supporting affordable housing initiative (being a part NRAS project). Have the ability to provide high quality secure accommodation in this location is key in the prosperity of the Sydney as a destination for International students.

1.3 EIS Requirements

In accordance with section 89G of the EP&A Act, the Director-General of the Department of Planning and Infrastructure issued the requirements for the preparation of the EIS on 19 December 2012. A copy of the Director General's Requirements (DGRs) is included at **Appendix A**.

The DGRs 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, specifically 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 1 provides a summary of the individual matters listed in the DGRs and identifies where these requirements are addressed in this report and the accompanying technical studies.

Table 1 – Director General Requirements

	Director General Requirement	Location in Report	
	General Requirements	Report	Appendix
	Executive Summary	Introduction	
	Declaration	Introduction	
	Environmental Risk Assessment	4.3	
	EPA Regulations - Schedule 2 requirements (clause 6 and 7)	4	
	– Statement of objectives – Mitigation Measures – List of Approvals under any other Act	1.1	
	Key Issues	Report	Appendix
1	Statutory and Strategic Context	4	
2	Compliance with Approved Concept Plan	4.4	
3	Built Form and Urban Design	4.5	B/B/C
4	Environment and Residential Amenity	4.7	B/I
5	Landscaping and Public Domain Plan	3.10	E
6	Economic Impact Assessment	4.23	Z
7	Transport and Accessibility (Construction and Operation)	4.10	L
8	Ecological Sustainable Development (ESD)	4.15	N
9	Noise	4.14	M
11	Staging	3.14	-
	Plans and Documents		
	Shadow Diagrams	C	
	Erosion and Sediment Control Plan	R	
	View Analysis	B/C	

	Landscape Plan and Public Domain	E
	Construction Management and Traffic Management Plan	S/V
	3D perspectives and Photomontages	B/C
	Operational Management Plan	G

1.4 Project Team

An expert project team has been formed to deliver the project and includes:

Proponent	Central Park JV No 2
Development Manager	Frasers Broadway Pty Ltd
Architects	Foster + Partners with local collaborating Architect Nettleton Tribe
Urban Planning	JBA
Facade Engineers	Surface Design
Quantity Surveyors	Altus Page Kirkland
Services	WSP Buildings
Landscape and Public Domain	Jeppe Aagaard Andersen + Turf Design Studio
Environmental Sustainability	WSP Built Ecology
CPTED	Elton Consulting
Water Cycle Management	Mott MacDonald
Traffic and Transport	GTA Consultants
Construction Management	Frasers Broadway Pty Ltd
Operational Management	Frasers Broadway Pty Ltd and its nominated specialist student accommodation manager
Heritage	Urbis Pty Ltd
Waste Handling	Arup
Structural	Robert Bird Group
BCA	City Plan Services
Noise	Acoustic Logic
Access	Accessibility Solutions (NSW) Pty Ltd
Economic Impact	MacroPlan Dimasi

2.0 Site Analysis

2.1 Site Location and Context

Central Park is located on the southern edge of the Sydney Central Business District (CBD). As shown in **Figure 2**, the site is in close proximity to Central Station, Broadway Shopping Centre, the University of Technology, Sydney and the University of Notre Dame.

Block 4S is located on the western boundary of the Central Park site and is bounded by Block 4 'North' (Block 4 N) to the north, Central Park Avenue and the Brewery Precinct (previously known as Block 4B to the east, Irving Street to the south and Abercrombie Street to the west. The location of Block 4S within the Central Park site is shown at **Figure 3** below.

The site is currently vacant.

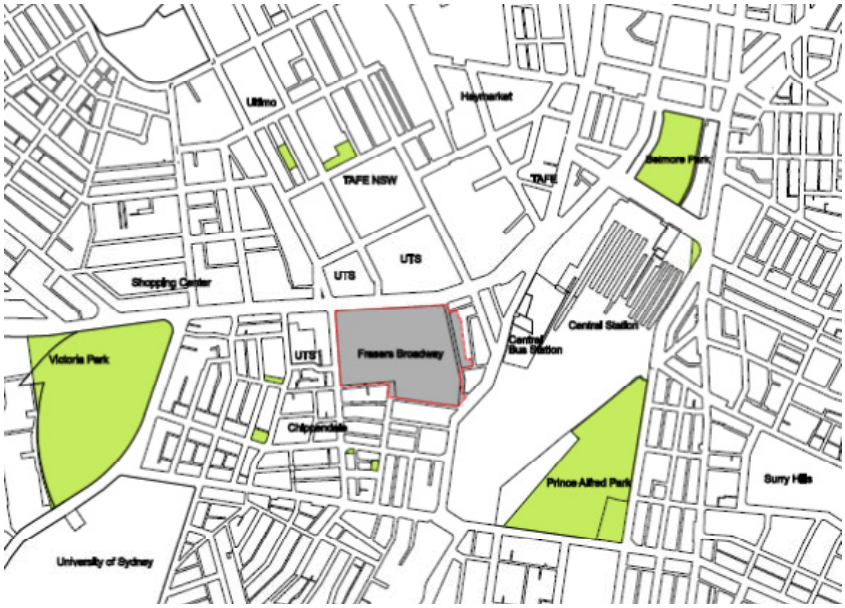

Figure 2 – Location Plan

Figure 3 – Aerial Photograph (site shown in red)

2.2 Land Ownership

The site (Block 4S) is owned by Frasers Broadway Pty Ltd, with the recent purchase of a small parcel of land owner by Energy Australia on the south.ern boundary of the site. The site can be legally described as Lot 2 DP 114 2053.

2.3 Surrounding Development

To the North

Directly to the north of the site is Block 1 and 4 (to which Block 4S was previously included). Approval has been granted to Blocks 1 and 4 for the construction of a 10-15 storey commercial retail development with underground car parking and surrounding public domain works.

Further to the north is Broadway and University of Technology Sydney (UTS). UTS are currently in the process of construction, expansion and extensions to the Broadway Precinct of the City Campus to enable the University to provide improved education, social and sporting facilities for use by existing and future students and the local community.

To the East

To the immediate east of the site is the Brewery Yard and park which forms part of Block 1 and 4. Further east is the approved and under construction Atelier Jean Nouvel (AJN) building on Block 2, which is currently under construction.

To the West

To the west is the mixed use, but predominantly residential suburb of Chippendale. Abercrombie Street forms a physical barrier on the western side of the Frasers Broadway site. Immediately to the west is the St Benedict's building – University of Notre Dame, School of Arts and Sciences. Further west is City Road, Victoria Park and Sydney University

To the South

South of the site is Irving Street and the future residential building on Block 8. An architect is yet to be appointed for the detailed design of the building on Block 8 and as such the design of Block 4S has been informed by the approved building envelope on Block 8.

2.4 Pedestrian and Cyclist Facilities

Formalised pedestrian facilities are provided on all road frontages and in the surrounding area with footpaths and ramps provided. The proposal will integrate well with the proposed Ultimo Pedestrian Network (UPN) and existing City of Sydney Cycleway Network through to CBD and surrounds. A main pedestrian footway and cycle route (proposed City Council Route 20) will run through the centre of the park connecting Balfour Street across to Broadway and Jones Street.

Signalised pedestrian crossing facilities are provided to the intersection of Abercrombie/Wattle Street and Broadway on all four sides on the corner of the site. Central Park incorporates high number of pedestrian and cycle routes throughout, and within close proximity to Block 4N. A shared pathway is located on Abercrombie Street to the west of the site.

2.5 Access and Public Transport

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

3.0 Description of Proposed Development

This chapter of the report provides a detailed description of the proposed development. An Urban Design and Architectural Design Report as well as Master plan and architectural drawings prepared by Foster + Partners are included at **Appendix A** and **B** respectively. Landscape and Public Domain drawings prepared by JAA +Turf Design are included at **Appendix E.**

The proposal comprises of fourteen (14) storeys and includes residential accommodation for 826 students, a variety of communal recreation, dining and study facilities, rooftop terraces, administration facilities, ground floor retail and a basement Central Park precinct-wide central thermal plant tri-generation plant comprising:

- A total of 826 beds within 688 rooms comprising of:
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- External courtyard to level 3 and two terraces to level 13 resulting in an external areas of 500m^2 .

A montage of the proposed development is provided below (**Figure 4**).

Figure 4 – Photomontage of the proposed Blocks 1 + 4 including 4S

Source: *Foster + Partners*

3.1 Development / Urban Design Principles

Foster + Partners have prepared a Development Application Design Report which includes a site analysis, and details of the concept and facade design. Within this report, the principles of SEPP 65 – residential amenity are also addressed.

The key design principles behind the proposed student accommodation scheme are described and illustrated in the Design Report prepared by Foster + Partners (**Appendix B**). The key principles included:

- Activated Ground Plan
- Communal Facilities
- Two Wings of Residential
- Accommodation Split for Light and Ventilation
- Massing Relationship and Context

Details of the concept design are described in further detail below in **Section 3.5.**

3.2 Numerical Overview

Table 2 below provides a numerical overview of the proposed development.

Table 2 – Key numerical information

Component	Proposal
Site area	3,000m^2
GFA (Total)	23,763 **m^2**
Residential GFA (Total)	20,991m^2
Retail GFA (Total)	851m^2
Height	RL 71.45 (Top of plant)
No. of units	688 329 Standard Studios 302 Studio Long 29 Deluxe/accessible studios 29 Multishare apartments (167 Beds)
No. of Beds	826
Communal Open Space	
Internal External	1253m^2 500m^2
Total no. of car spaces	Nil
Motorcycle Parking	4
Bicycle Parking	197

3.3 Demolition and Site Preparation

The existing structures on Block 4S were substantially demolished in accordance with MP 09_0120 (Demolition and Site Preparation). This part of the site is currently vacant and is being utilised for storage during construction of the other areas of the Concept Plan site.

3.4 Infrastructure and Services

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

A Building Services report has been prepared by WSP Built Ecology (**Appendix F)** that describes the precinct and centralised Central Park facilities, as well as the following infrastructure and service details:

- Mechanical Services
- Electrical Services
- Communications Services
- Hydraulic Services
- Vertical Transportation Services
- Fire Services
- Fire Safety Engineering

The required service inputs have been considered in accordance with the relevant responsible criteria. All of the above services will be designed in accordance with the relevant standards and authority requirements.

3.5 Building Layout and Gross Floor Area

The layout, circulation and design approach are addressed in the Developments Application Design Report prepared by Foster + Partners (**Appendix B**). The details of the use of each level and design approach have been addressed level by level in this attached report. The building form and layout has been determined based on a site analysis, physical and historical context, and concept plan requirements.

3.5.1 Building Form and Layout

As part of the Concept Design and change of the use from a commercial scheme to residential (student accommodation), consideration of buildings capability for natural ventilation, daylight to common areas, provision of a landscaped courtyard and available views were considered.

It was determined to provide a building form that included two wings (east and west) with an internal courtyard located on level 3 above the entry lobby and ground floor communal space. This arrangement is considerate of residential amenity to allow for light and ventilation to a greater number of apartments, and captures to opportunity to optimise views and outlook for students. The arrangement and location of land uses within the building can be seen in **Figure 5** below.

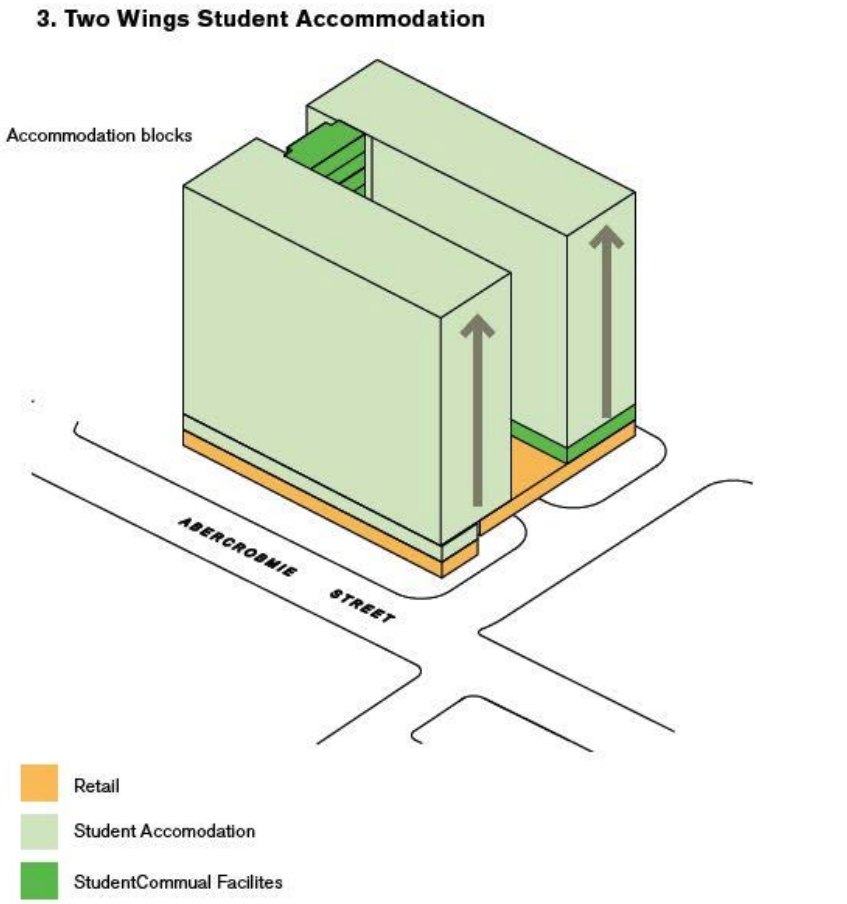

Figure 5 – Extract of Design Principles showing building form

Source: *Foster + Partners*

The section provided below in **Figure 6** displays how the building will operate vertically, including the location of the communal areas on every second level (yellow), basement, and loading dock from Irving Street.

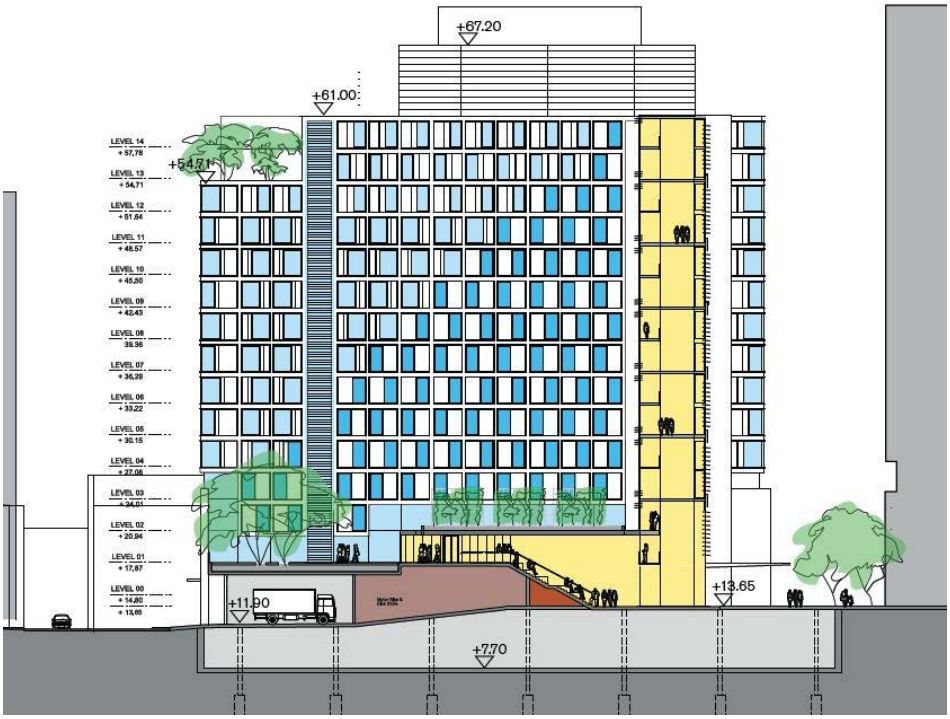

Figure 6 – Section of proposed building

The built form incorporates elements of the City Datum Line which is extended to define a 'podium' portion of the building which acknowledges the scale and materiality of it's neighbours on the other side of Abercrombie Street as well as those on B4N (**Figure 7**).

The building incorporates a recess to the north, east, and west elevations to level 3 above the podium. This step or recess to this level, as outlined in the Design Report, responds to the horizontal lines of adjoining building and terraces and breaks up the building massing.

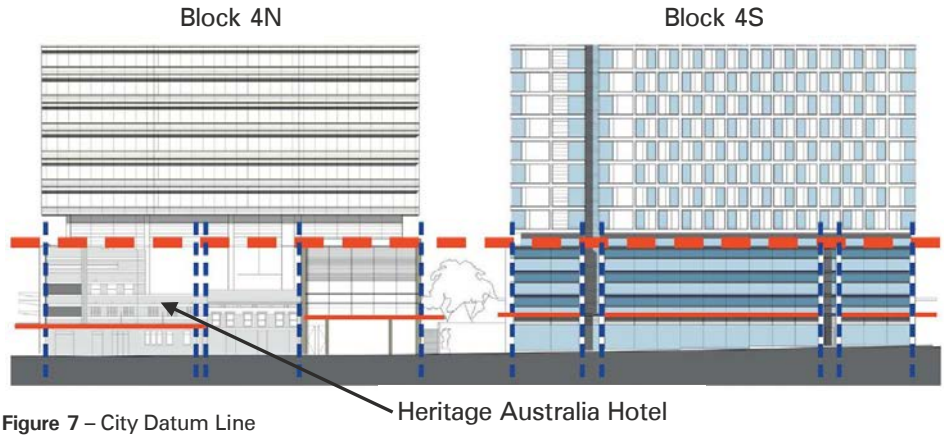

Figure 7 – City Datum Line

Source: *Foster + Partners*

3.5.2 Gross Floor Area by Level and Uses

The proposed use and GFA for each level within the proposed is set out as part of the Architectural plans. In accordance with the Concept plan, the general arrangement of the site includes non-residential uses, entry lobby, and communal space for students at the ground floor. The upper levels are solely occupied by student accommodation (see **Table 3**).

Table 3 – Uses and GFA by level

	Uses	GFA m^2
Level GF	Retail	684
Level 00	Retail/residential/communal	1,420
Level 01	Residential/communal	1,730
Level 02	Residential	1,573
Level 03	Residential/communal	1,415
Level 04	Residential	1,573
Level 05	Residential/communal	1,613
Level 06	Residential	1,573
Level 07	Residential/communal	1,613
Level 08	Residential	1,573
Level 09	Residential/communal	1,613
Level 10	Residential	1,573
Level 11	Residential/communal	1,613
Level 12	Residential	1,573
Level 13	Residential/communal	1,313
Level 14	Residential	1,313
	TOTAL	23,763

3.5.3 Building Height

The building height has primarily been determined by the approved envelope (as part of MP 08_025) as well as the concept Plan. Whilst there are variations to this envelope (discussed later in **Section 4.4.2**) the building height is generally consistent has also been determined based on the potential for overshadowing, views, and streetscape.

3.5.4 Room Sizes and Dimensions

The proposal includes four unit variations to cater for the varying needs of students including studio long, standard studios, deluxe/accessible studios, and multi-share (as show in **Figure 8**).

The Studio Long units are located on the external facade of the building, facing east and west, with the standard studio rooms located on the internal elevations facing the courtyard. The accessible studios are typically located to the north of the floor plate adjacent the lift lobby and fire egress stairs on both the east and west wings. The multi-share units are located on the buildings northern elevation to take advantage of the aspect and access to sunlight.

A typical floor play and layout is shown below in **Figure 9**.

Figure 8 – Typical unit arrangements

Source: *Foster + Partners*

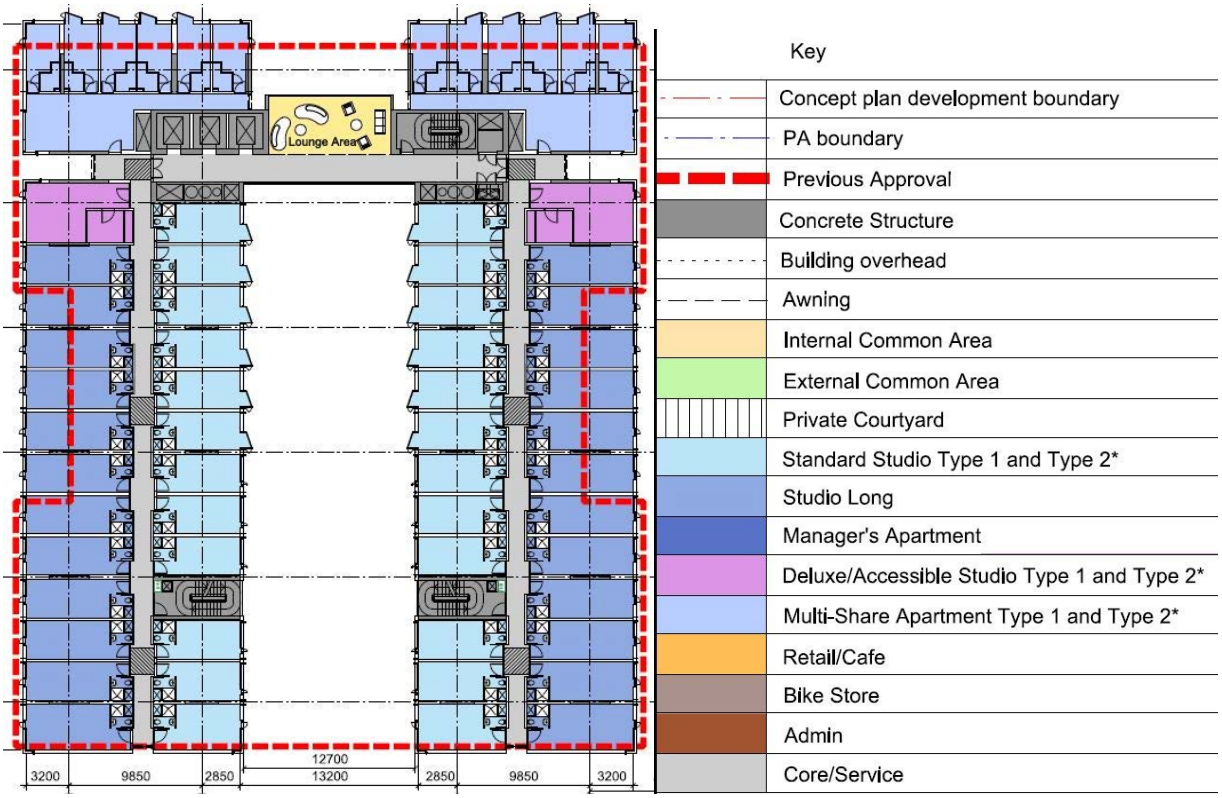

Figure 9 – Typical Floor Plan showing location of proposed rooms

Source: *Foster + Partners*

3.6 Facade Design

3.6.1 Awnings

A projecting awning is proposed to the ground floor of the building at the Abercrombie street frontage and Level 00 at the Central Park facade of the site. At the highest points, these awnings have a minimum clearance height to the underside, consistent with the requirements of City of Sydney. The awnings wrap around the building to the north and to the south and are stepped in relation to the ground levels. A section of the building is provided below in **Figure 10.**

3.6.2 Articulation

Articulation in the built form is provided though the design of the student accommodation window openings, ground floor retail facade and awnings, pedestrian entries to the building from the north east and west. The form of the building, stepping back the footprint of level 3 to create a podium up to level 2, and the cantilevering the remainder of the building out beyond the level 3 footprint consistent with the. This is illustrated below in a section of the building.

On the east and west elevations the circulation corridor has been recessed behind the facade to create interested and divide the bulk to the building when viewed from Broadway and Central Park Avenue. The main entry to the building at ground floor is set back behind the building line. This form is carried up through the building where circulation space, and communal areas are located.

Figure 10 – Awnings and articulation in the built form

3.6.3 Window openings

The facade of the proposal above the retail level involves various facade articulations. These have been incorporated into the facade to provide visual interest, maintain adequate privacy, provide light and ventilation and appropriate levels of internal amenity.

North Facade

The multi-share unit bedrooms are orientated north and will be protected from directly sunlight as a result of the approved Block 4N building envelope. The key issue that has directed the design is the maintenance of privacy to the future residents, maintaining privacy to the commercial buildings.

To provide daylight, whilst maintaining privacy to these rooms, projecting and angled elements are proposed to the facade. As shown in **Figure 11**, the north facing window will be constructed of privacy glass which provide light penetration but limit views in/out of the rooms. The return of the window is to be constructed of vision glass ventilation panel with lightweight metal mesh behind (See **Figure 11**).

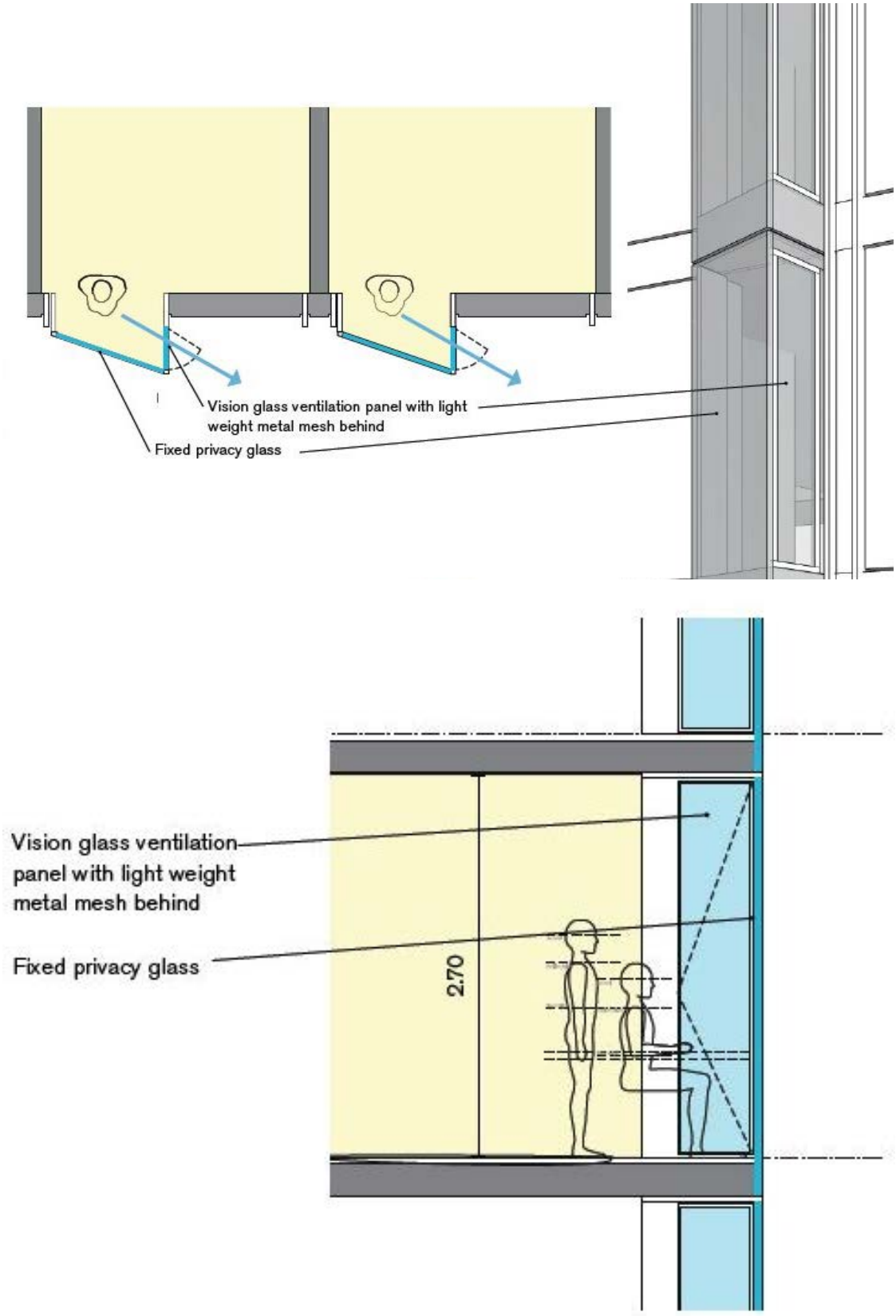

Figure 11 – Northern facade of bedrooms from level 4 and above.

East and West Facades (Studio Long)

The facade expression on the east and west is driven principally by sun access and ventilation as these elevations are not significantly overlooked by surrounding developments or other units within the development (see **Figure 12**).

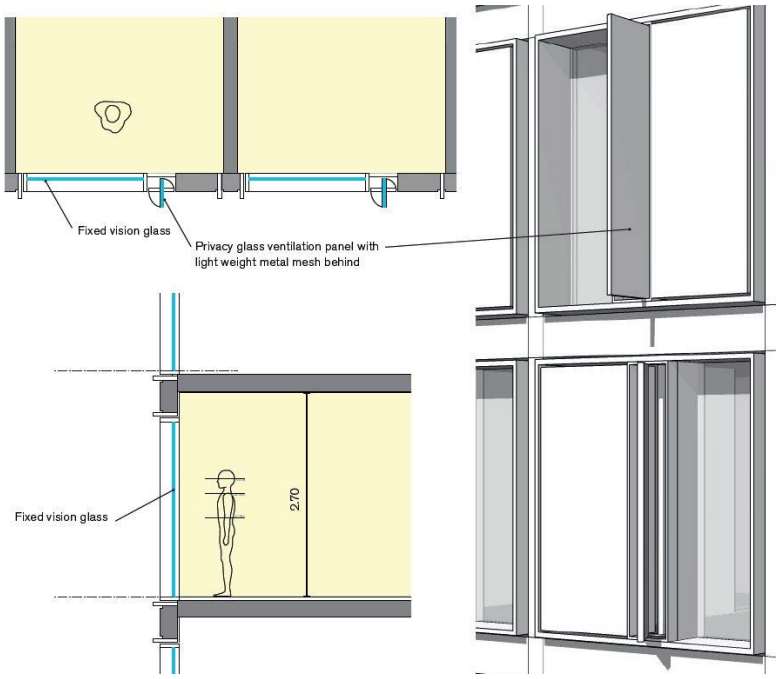

Figure 12 – East and west (external) facades of Studio (long) bedrooms.

East and West Facade (Corner - Deluxe/Accessible Studio)

Deluxe/accessible studios are located to the south of the ventilation/daylighting slot cut into the east and west facades. To these corners, the glazing is setback behind the building line (see **Figure 13**). Placement of the windows on the corner allows the units to take greater vantage of their aspect and access to natural light. A ventilation panel of privacy glass lightweight metal mesh behind in incorporated into the design allow for ventilation.

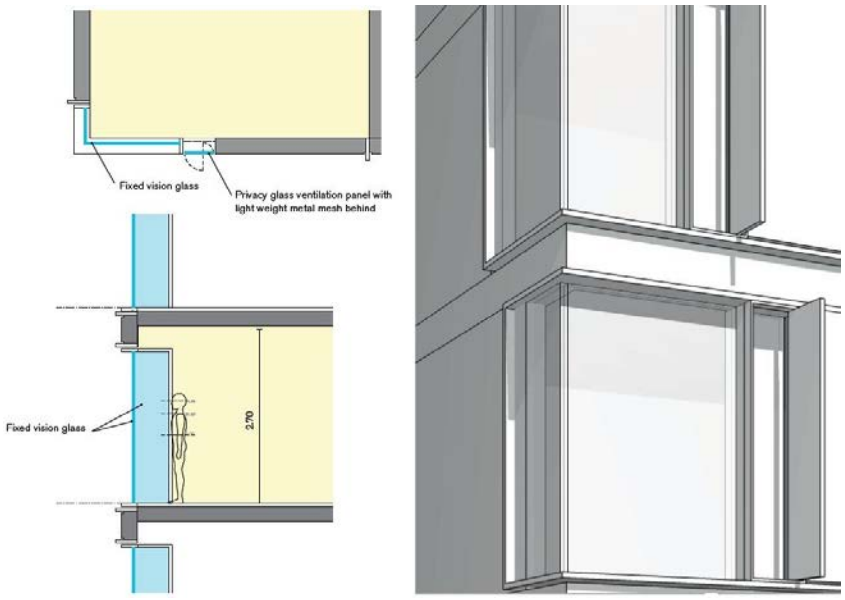

Figure 13 – Deluxe/accessible studio window facade.

Courtyard Windows (Studio Standard)

The Studio Standard units that are orientated towards the courtyard include articulation in the facade that takes advantage of the direct views down the length of the courtyard (south east and south west).

An angled window (saw tooth) in incorporated into the facade (see **Figure 14**) which have dimensions that allow the space for students to stand or sit in this space.

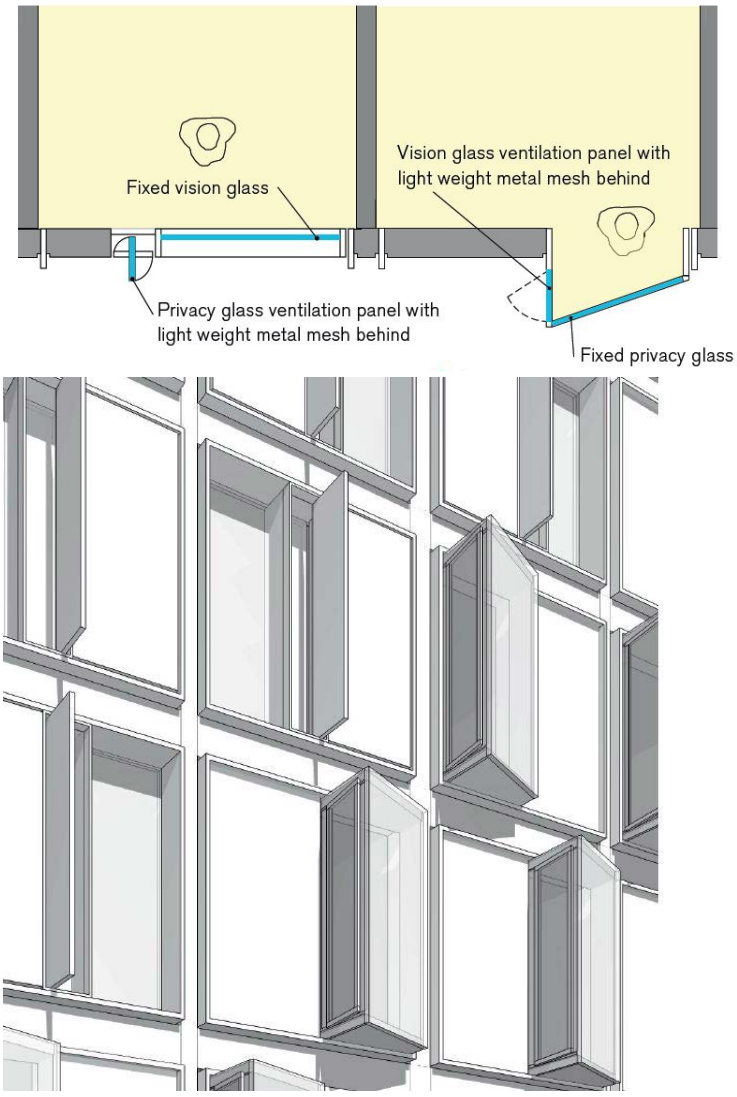

Figure 14 – Windows to the courtyard facing studios

3.7 Accommodation Mix

The accommodation mix within the building which includes a total of 688 rooms and 826 beds. The mix is:

- Standard studios – 329 (329 beds)
- Studio Long – 301 (301 beds)
- Studio Deluxe/Accessible – 29 (29 beds)
- Multi Share – 29 (167 beds)

3.8 Communal Areas

The proposal includes areas of internal and external communal space throughout the building on various levels.

The main areas of communal open space are the entry lobby/reception, level 1 and level 13. A number of communal spaces are also provided every second level within the building

Entry Lobby/Reception – Level 00

This area includes the reception desk and general admin station but is also provided with a number of pods, and information areas, and is intended to be used as aa gathering points for student coming or going to from the site. Access to level 1 is provided via a centralised staircase (**Figure 15**).

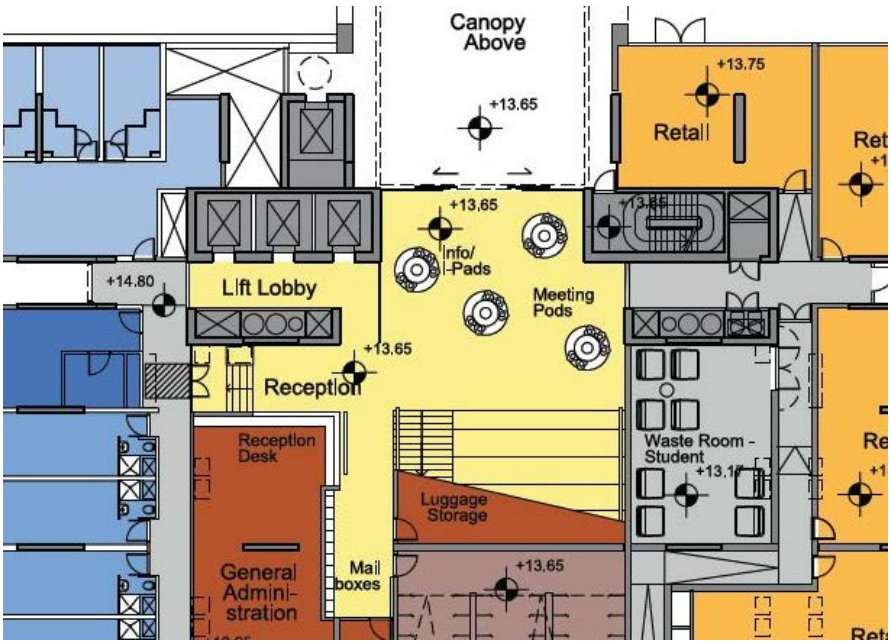

Figure 15 – Level 00 communal area and lobby

Level 1

Secured access from the lobby to residential areas above provides an additional layer of security. Level 1 provides functional services and large spaces for students including a gym, laundry, music/meeting room and theatre, as well as a number of study pods. A communal kitchen and lounge are also provided. Bi-folding doors allow the space to be opened up onto the courtyard and external BBQ area (**Figure 16**).

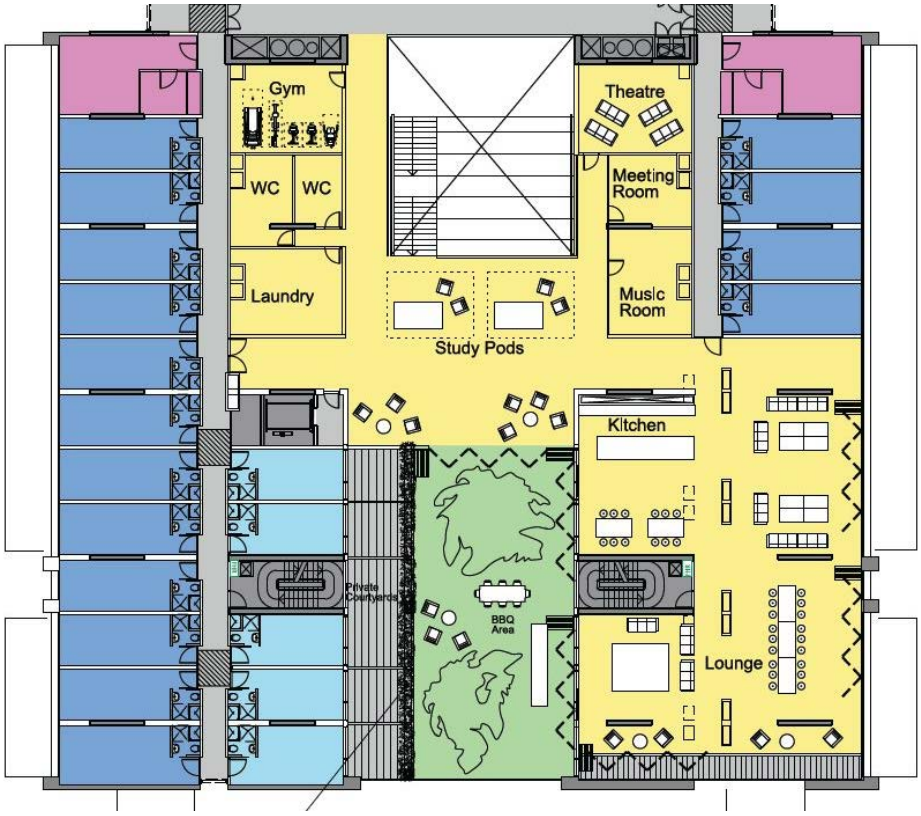

Figure 16 – Level 1 Communal areas and external courtyard

Level 13 – Roof Terraces
To the southern elevation of the wings at level 13 are two external terrace area, covered by a canopy and enclose in a glazed balustrade. Adjacent to these areas is also an internal kitchen/preparation area, within dining setting. To the west is extension of this area into the building which will be used a s a passive recreation/lounge area.

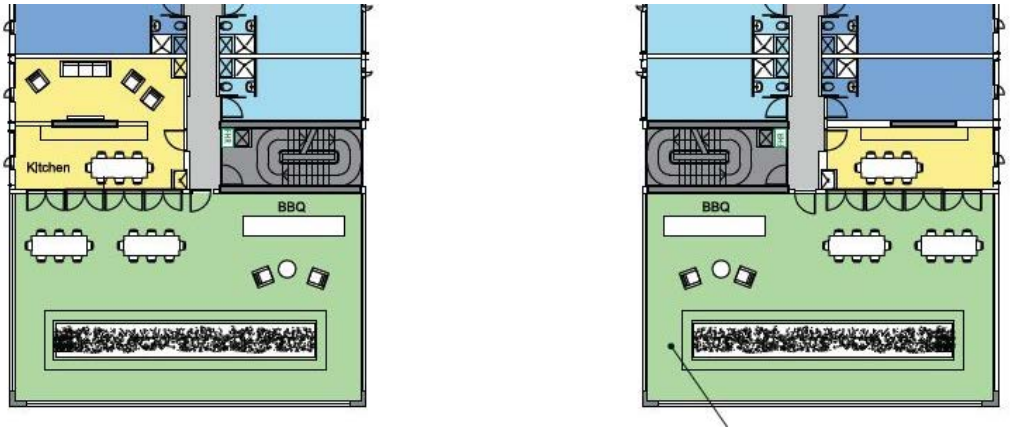

Figure 17 – Eastern and western terraces to

3.9 Retail Uses

The proposed lobby and retail uses to the ground floor demonstrate consistency with the concept plan to provide active and non residential uses to the ground floor (ground and level 00). The retail uses are split over two level due to the fall of the site to provide direct frontage to Abercrombie Street and Central Park Avenue. **Figure 18** below is an excerpt from the Development Application Design Report.

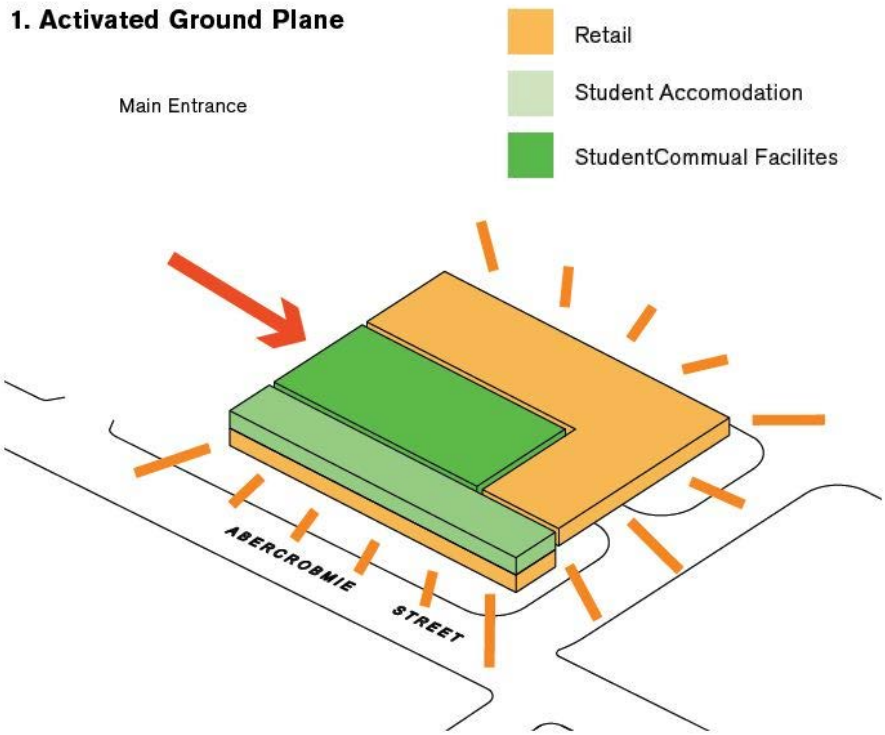

Figure 18 – Ground floor activation through retail use.

Source: *Foster + Partners*

As shown on the architectural plans (**Appendix C**), a total of 851m^2 retail space will be accommodation within the 11 tenancies

The fit out and use of these retail tenancies including signage will be subject to a separate Development Application to be submitted to the City of Sydney Council.

3.10 Landscaping and Public Domain

A Public Domain Plan has been prepared by Jeppe Aagard Andresen (JAA) + Turf Design Studio relating to Block 4S (**Appendix E**). An excerpt of this plan is provided below in **Figure 19.**

Figure 19 – Public Domain Plan

This report also includes details of the landscaping proposed internally to the size, within the Level 1 external space, and terraces to Level 13. The key strategies of connectivity, access, street character, street planting, and materials are addressed.

To the public domain plaza between Block 4N and 4S will be a row of trees, planted in paving. Access stairs providing an east west connection are confined to the northern side of this connect, adjoining Block 4N.

3.11 Pedestrian Access and Entry

Primary pedestrian access to the site is to be provided from Abercrombie Street and Central Park Avenue. Primary pedestrian access to the site is through to the main entry on the northern elevation orientated north between Block 4S and Block 4N. This entry is recessed into the facade with a large canopy over (see **Figure 20**). Primary pedestrian access to and from the site is to be provided from Abercrombie Street and Central Park Avenue.

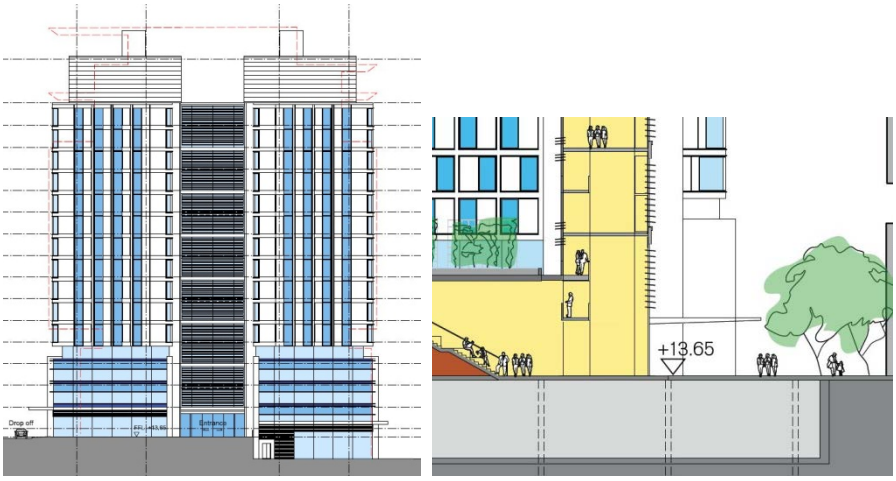

Figure 20 – Elevation and section of the main pedestrian entry to the site

The retail tenancies proposed along the frontage of Abercrombie Street and Central Park Avenue have been design to provide direct access to passing pedestrians and generate activity to the lower levels of the building at street level. Separate secondary access is available from Abercrombie Street and Central Park Avenue for servicing and access to the retail tenancies by staff.

3.12 Vehicle Access and Parking

3.12.1 Parking

The proposal does not seek to provide any car parking on-site to service the development.

The proposal includes space of parking of 197 bicycle parking spaces, and 4 motorcycle parking spaces for students within the ground floor bicycle storage room. The motorcycle and car parking spaces will be provided within the basement of the building.

3.12.2 Loading

Access to the proposed loading dock is also provided off Irving Street with adequate vehicle crossing to cater for the required service, waste collection and delivery vehicles in accordance with AS 2890.2. This will allow vehicles to enter and exit in a forward direction (**Figure 21**).

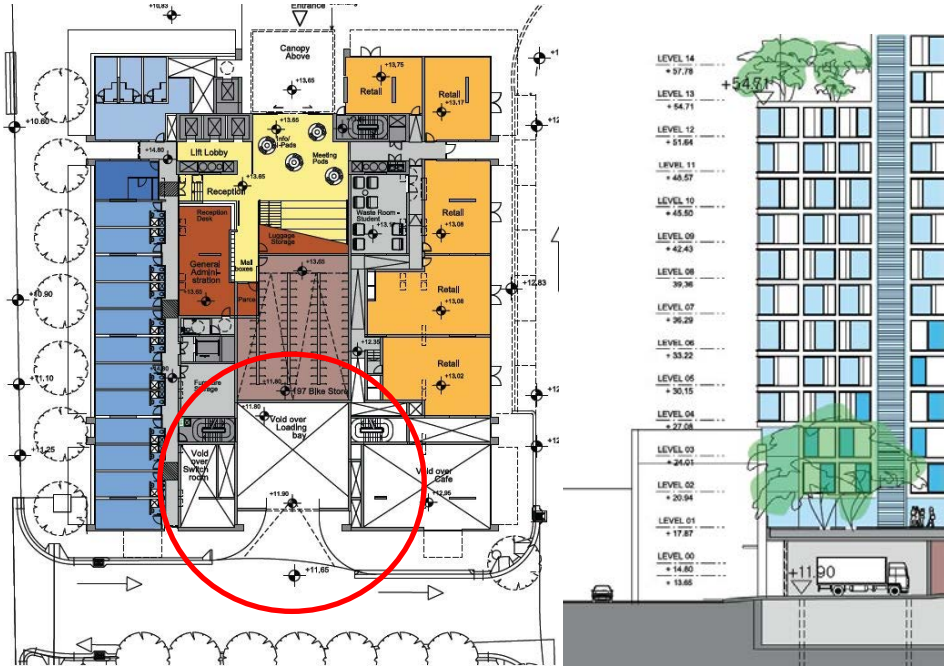

Figure 21 – Plan and elevation of the proposed loading dock

3.12.3 Vehicular Access

As it is not proposed to provide any car parking on-site, vehicle access for car parking is not required.

Access to the bicycle spaces on level 00 is available from the main entrance at the northern side of the building and via the loading dock from Irving Street. Access to the Motorcycle parking spaces is also provided from the loading dock vehicle crossing.

3.13 Operational Management

A preliminary Operational Plan of Management has been prepared by Frasers Broadway Pty Ltd (**Appendix G**). The detail within this Plan includes recommendations from the Safety Management Strategy prepare by Elton Consulting (**AppendixH)**. The Plan of Management addresses the following:

- Details of site supervision, night management and hours of operation;
- Details of a Noise Management Plan (refer Acoustic Report)
- Procedure for any external (i.e. nearby residents) or internal (i.e. students) complaints;
- Resident induction and house rules;
- The operation of indoor and outdoor communal facilities;
- The management of cleaning communal and private facilities;
- Details of waste management;
- Management and procedure of room occupation;
- Customer relations and satisfaction;
- Information and procedure of an emergency evacuation; and
- Policy procedure for training staff to deal with emergency situations.

Once an operator is appointed, the Plan of Management will be updated in accordance with their specific operational requirements and will be submitted to both the DPI and City of Sydney Council.

3.14 Staging

This proposal is intended to be delivered as a single development project; however an integral part of the overall development of Central Park which always envisaged successive phasing of works. The design and configuration of the project does allow for contingency in the delivery and the potential for staging of the remainder of Blocks 1 and 4N if required.

The staging of the proposed development in relation to the remainder of the Central Park Site is to be delivered in accordance with the Concept plan (Drawing No. A-1200(06)) which identified Blocks 4N and 4S to be delivered as a single stage in the overall delivery of the Central Park Site, whilst stages 4(b) and 4(c) could still be constructed a one development.

3.15 Consultation

The DGRs for this proposal required that an appropriate level of consultation be undertaken with various public authorities, service providers and affected landowners as part of the redevelopment and creation of Central Park.

As part of this process and in accordance with the DGRs consultation has taken place with City of Sydney and the Department of Planning to discuss the future developments on the site, include the proposed developments to Block 4S.

Two separate meetings were held with City of Sydney Council with The Chief Executive Office and the Director, Planning. These meeting were held separately with the relevant sections of the project and intent discussed.

Meeting Date	Attendees
Meeting - 13 November 12	– Monica Barone (CEO), & Kim Woodbury (Operations officer), Sydney City Council. – Mick Caddey (Project Director), Frasers Property
Meeting 3 December 12	– Graeme Jahn (Director of Planning) – Mick Caddey (Project Director), Michael Goldrick (Director, Project Management), Frasers Property

4.0 Environmental Assessment

This chapter contains our assessment of the environmental effects of the proposed development as described in the preceding chapters of this report.

4.1 Legislation, Strategic Plans and Policies

The DGRs require the following legislation, strategies and planning instruments, which are relevant to the proposed development to be addressed:

- Objects of the *Environmental Planning and Assessment Act 1979*;
- Metropolitan Strategy 2036;
- Metropolitan Transport Plan 2010;
- Draft Sydney City Subregional Strategy;
- State Environmental Planning Policy (Affordable Rental Housing) 2009
- State Environmental Planning Policy No.65 – Residential Flat Design;
- State Environmental Planning Policy No.55 – Remediation of Land;
- Sydney Local Environmental Plan 2005;
- City of Sydney Boarding House DCP
- The Planning for Entertainment Guidelines 2009;
- Development Near Rail Corridors and Busy Roads - Interim Guideline; and
- Planning Guidelines for Walking and Cycling.

The Project Application's consistency with the relevant strategic and statutory plans and policies is discussed in **Table 4** below. Variations to, and non-compliance with, the key standards and guidelines highlighted in the table are discussed in detail in the following sections of this environmental assessment.

Table 4 – Compliance with strategic policies and statutory plans

Instrument / Strategy	Comments
Objects of the EPA Act	Refer to Section 4.2
Strategic Plans	
NSW State Plan	Refer to Section 4.2
Sydney City Subregional Strategy	Refer to Section 4.2
State Planning Instruments and Controls	
SEPP (Infrastructure)	– The proposed development comprises traffic generating development and must be referred to the RTA during the assessment of the application
SEPP 65 – Residential Flat Design	– The principles of SEPP 65 have been considered below in Section 4.6 and attached (See Appendix B and I).
SEPP (Affordable Rental Housing)	– The provision and objectives of the SEPP (Affordable Rental Housing) have been considered in preparation of this application and the design of the proposed development. Compliance is discussed throughout Section 4 and at Appendix J.
SEPP 55 (Remediation of Land)	Remediation works have been carried out on the site in accordance with MP 07_0163.
SEPP (BASIX)	A BASIX Certificate is located at Appendix K and addressed below in Section 4.15.
SEPP 65 (Design Quality of Residential Flat Development)	Given that the development is for student accommodation and not a residential flat building, the design complies as closely as possible with the principles of SEPP 65 and the Residential Flat Design Code (RFDC), see

Instrument / Strategy	Comments
	Section C and Appendix I.
Local Planning Instruments and Controls	
Sydney Local Environmental Plan 2005	The proposal provides parking in accordance with the LEP and MP 06_0171 (Mod 5). Refer to Appendix L
City of Sydney Boarding Houses DCP 2004	Compliance is discussed throughout Section 4 and at Appendix J

4.2 Compliance with Relevant Legislation and Planning Strategies

Objectives of the EPA Act

The proposed development is consistent with the objectives of the Environmental Planning and Assessment Act, 1979 in that it:

- Will promote the social and economic welfare of the community by way of provision of a range of affordable student accommodation;
- Promotes the orderly and effective use of the land by providing high density development within close proximity of existing services and facilities; and
- Comprises and ecologically sustainable development.

NSW State Plan

The NSW State Plan aims to support jobs and attract business investment to NSW, as well as improve quality of life in NSW's cities by providing attractive places to live, work and visit. In addition, the State Plan sets new targets and actions to increase the supply of affordable housing for low and moderate income households. Under the State Plan, the Director-General of the Department and Minister for Planning and Infrastructure have direct responsibility for achieving these objectives.

The proposed development, which seeks approval for affordable student accommodation within a highly accessible location, is consistent with the aims and targets of the State Plan.

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 proposal will provide accommodation for 826 students with excellent location to public transport within close proximity number of Universities and tertiary institutions.

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;
- B1.3 locate new housing within the walking catchments of centres of all sizes with good public transport;

D1.1 locate at least 70% of new housing within existing urban areas; and

Draft City Sub-regional Strategy

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, with the provision of 267 student beds, will significantly increase affordable housing within the Sydney subregion consistent with the objectives of the strategy.

Integrated Land Use and Transport Policy

Both the Metropolitan Transport Plan and Integrating Land Use and Transport – a Planning Policy Package seek to reduce car usage and promote public transport and alternative transportation modes through integrated transport plans, and promoting development within close proximity of public transport.

The site is within convenient walking distance of Central Railway Station and the bus stops at Railway Square. In combination, these provide an exceptionally good level of public transport accessibility. The services include suburban and country trains, a wide range of commuter bus services; links to the inner west light rail, taxi ranks and long distance coaches. The Central Park site has a 'likely natural high proportion of non car borne modal choice' and presents real opportunities for development that takes advantage of the existing transport infrastructure.

To the north of the site (beyond Block 4N) is Broadways' high frequency bus corridor, with a bus arriving every 30 seconds on week days and every two minutes on a Saturday morning.

The proposed student accommodation, with limited parking provision, will encourage the use of more sustainable forms of transport.

Development near Rail Corridors and Busy Roads - Interim Guidelines

The Department's Interim Guidelines on Development near Rail Corridors and Busy Roads makes recommendations for the assessment of noise impacts to developments from rail and road corridors and for mitigating such impacts.

Pursuant to *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP), a consent authority must take the guidelines into consideration before determining an application for a residential building adjacent to a road with an Annual Average Daily Traffic volume (AADT) of over 40,000 vehicles. The Interim Guidelines are to be referred to as best practice for developments adjacent to roads with an AADT of 20,000 to 40,000 vehicles.

The guidelines only require the impact of railway noise to be considered if the site is within 60m of a railway line. The site is outside of this distance, and so no further consideration is required with respect to rail vibration.

The key potential source of noise is road traffic noise intrusion from the highly trafficked roads that surround the site, particularly Broadway and Abercrombie Street.

In accordance with the Guidelines, acoustic treatments such as upgraded glazing and acoustic seals will be required to reduce the impact of road noise on the proposed development.

Planning Guidelines for Walking and Cycling

The Department of Planning's "Planning Guidelines for Walking and Cycling" aim to improve the consideration of walking and cycling in urban environments, and provides a walking and cycling focus to the Integrated Land Use and Transport Policy.

The development is consistent with the Planning Guidelines for Walking and Cycling as it provides increased densities within a site highly accessible to public transport. The site is also within walking distance of other services and amenities, including retail and employment opportunities of the CBD. In addition, the Concept Plan and Project Application have made provisions for pedestrian and cycle facilities within the site.

City of Sydney Affordable Rental Housing Strategy 2009-2014

The City of Sydney Affordable Rental Housing Strategy 2009-2014 contains affordable housing targets to 2030 including a growth of 7,969 to 2030. One of the steps stated to achieve this is through the provision of 1450 student accommodation dwellings. The proposed development will be providing 404 dwellings for student accommodation within the City of Sydney area, thereby providing a contribution towards achieving the set out target.

Objective 1 of the Strategy is to increase the amount of affordable housing available in the City of Sydney to households with very low, low and moderate incomes. There are 6 actions to deliver this including Action

A1.3 Where appropriate the City will facilitate the development of affordable student accommodation. The Cleveland Street student accommodation facility will

be affordable student accommodation, increasing the supply in accordance with the Strategy.

4.2.1 Design Excellence Commitments

In accordance with Concept Plan Commitment Number 2 Foster + Partners are the appointed project architects for Blocks 1 and 4 with local collaborating architects Nettleton Tribe.

As the Design Integrity Panel has not been held in operation for quite some time Frasers met with staff from the Department of Planning and Infrastructure and City of Sydney Council officers prior to the lodgement of the application to discuss the proposed design approach that was being pursued.

4.3 Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the University site has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

In accordance with the DGRs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the site; and
- measures to avoid, minimise, offset the predicted impacts where necessary. This includes the preparation of detailed contingency plans for managing any significant risk to the environment.

Figure 22 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Significance of Impact	Manageability of Impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 - Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 - Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 - Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 - High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 - Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Figure 22 – Risk assessment Tab

Item	Phase	Potential Environmental Impact	Proposed Mitigation Measures and / or Comment	Risk Assessment		
				Significance of Impact	Manageability of Impact	Residual Impact
Noise	C+O	– Increase in noise levels during construction activities – Increase in noise levels of operations including students and staff	– Adoption of a noise management plans to minimise and managed noise and vibration emissions from the site. – Appropriate sound minimisation measures to be incorporated within the plant and mechanical areas.	3	1	4 Low / medium
Traffic and Parking	C	– Increased traffic on local roads – Increased parking on local roads	– The proposal does not result in any additional on-site car parking – The Traffic and Parking report considers that the proposal will have a negligible impact on traffic flow – The Traffic and Transport Report outlines that the construction traffic volume peaks would likely occur in the early stages of construction, most likely during the demolition phase, and will be determined and adequately managed by the contractor in preparation of the final Construction Traffic Management Plan (CTMP) in accordance with the Construction Management Plan (CMP).	1	1	2 Low
Visual	O	– Visual impact from local residences, public roads and public open space.	– The development has been designed to be generally consistent with the concept plan envelope, below the existing maximum building height, and will not adversely impact on views from surrounding areas, public roads, or open space.	3	2	5 Low / medium
Heritage	C+O	– Impact on heritage items/Conservation areas – Impact on heritage items in the vicinity.	– The proposed development will not result in any material impact on the significance or value of the Australia Hotel or other heritage items in the vicinity, and as a result, no further assessment or mitigation measures are considered necessary.	2	1	2 Low
Air Quality	C+O	– Decrease in air quality	– The proposed development is not expected to significantly change pollution levels in the area. Measures will be implemented during construction to minimise dust generation, as outlined in the Construction Management Plan	2	5	5 Low/medium
Biodiversity	C+O	– Loss of trees within the development site – No significant impact identified in regard to flora and fauna	– Given the developed nature of the site and current and historical uses, there are not likely to be any significant impacts on any threatened species, populations or ecological communities or their habitats. – The proposal does not involve any tree removal and existing trees will not be impacted directly by the proposed development. Appropriate management measures will be put in place to mitigate any impacts to this vegetation	1	1	2 Low

Contamination	C	– Exposure of contamination or hazardous materials during construction	– Remediation works have been carried out on the site in accordance with MP 07_0163.	1	1	2 Low
Water Quality	C+O	– No significant impact identified	– During construction, erosion and sediment controls will be undertaken in accordance with the construction management plan and sediment and erosion plan – Stormwater management protocol will be put in place.	1	2	3 Low
Waste	C + O	– Generation of waste	– Waste management would be addressed as part of the Construction and Waste Management Plan prepared by Arup and will be prepared by the contractor on site. This would include initiatives such as: – Investigate the use of recycled materials in construction materials; – Maximisation of the recycling of wastes where possible; – All waste for disposal would be removed by a licensed waste contractor and disposed of at a licensed landfill facility if required.	1	2	3 Low
Crime	O	– Potential areas of crime associated behaviour	– The proposal encourages increase ground floor and lower level activation within the buildings that will promote passive surveillance with the site and surrounding areas. The design of the proposal has been considered in the CPTED report	2	2	4 Low / medium
Greenhouse	C + O	– Potential increase in emissions	– The proposal does not generate any additional demand for car parking. – Consideration of non-car travel modes including public transport, walking and cycling for staff and visitors. – Incorporation of ESD targets in the design of the proposed building.	1	1	2 (Low)

Key: C – Construction, O: Operation

4.4 Consistency with Concept Plan

The proposed development involves the following variations to the approved concept plan:

- Modification of the land use from non-residential to residential
- Variations and concessions to the approved building envelope

Consequently an amendment to the approved Concept Plan has been lodged concurrently with this application which seeks a range of amendments including:

- modifications to approved building envelopes, including changes to facilitate the separation of Block 4N and Block 4S, and minor variations to Blocks 1 and 4N;
- change of use of Block 4S from commercial to student accommodation (residential) with non-residential uses at the ground floor;
- modifications to enable a mix of residential and commercial uses within Block 1, providing future flexibility for Block 1 to be used for residential uses;
- modifications to enable the use of part of the Brewery Yard for residential uses;
- change to the minimum non-residential GFA requirement on the site from 30% to 23%; and
- modification of Condition A8 of Concept Plan Mod 2 to enable the future consideration of an application for the use of some parking spaces as public parking.

The proposal will not alter the approved overall GFA nor parking numbers across the Central Park site, and will be consistent with the maximum GFA for Block 4S as well the maximum residential/non residential land uses. The proposal has also been considered against the approved Project Application Mp 08_0253 with regard to the building envelope. Both the Concept Plan and the current approved envelope have been considered below.

4.4.1 Land Use

A concurrent modification has been prepared to amend the Concept plan to allow Block 4S to be used for residential.

4.4.2 Building Envelope

The proposal has been designed to be consistent with the height of the approved building envelope as part of MP 08_0253. The height, bulk and scale of the proposed development have also been considered in context of the concept plan.

Height

There proposal is consistent with the maximum building height of the concept plan, proposed to be built to an RL 71.45 top of the roof plant. The Concept Plan permits a maximum building height of RL of 71.5.

To the parapet of the building on Level 15, the building is proposed to a height of RL 61.5, consistent with the concept plan envelope which permits a height of RL of 60.5 to the western elevation and RL67.5 to the north.

Footprint

The change of use to student accommodation has resulted in a redesign of the building form. As discussed in **Section 4.5**, the built form includes two wings (east/west) with an internal separation of 12.7m.

The footprint of the building is proposed to be relocated north of the approved concept plan (and approved project application) location by approximately 1.5m. This results in a minor reduction in the width of the through site link between Blocks 4N and 4S from 14m to 12.5m.

The impacts of this modification have been considered with regard to the impact on overshadowing, amenity, and views in the following sections.

4.5 Built Form

The built form of the proposal promotes design excellence and a high quality of living for the students. The building envelope and design has regard to the surrounding lots, particularly Blocks 4N to the north and the potential for overlooking and impacts to privacy.

The built form of the proposal promotes design excellence and a high quality of living for the students. The building envelope and design considers surrounding development, of Block 4N, and the Australia Hotel.

The envelope and proposed building meets the boundary clearly delineating the public domain, between Block 4N and 4S, Abercrombie Street, Central Park Avenue and Irving Street.

As discussed in **Section 3**, the external materials, colour and facade articulation have been designed to complement the character of the surrounding heritage buildings in the vicinity. The proposed building will substantially improve the appearance of the existing site, providing a positive contribution to the Abercrombie Street and Broadway Streetscape.

4.6 Gross Floor Area

The key gross floor area figures of the relevant proposals are provided below in **Table 5** which are consistent with the total, residential, and non residential allocation permitted on the sites (in accordance with the concurrent Concept Plan amendment (MOD 8)).

Table 5 – Gross Floor Areas

	Concept Plan (MOD 8)			Proposals			Complies
	Residential	Non-Resi	TOTAL	Residential	Non-Resi	TOTAL	
B1+4N	25,000	26,460	51,460	-	50,699	50,699	YES
B4S	24,000	1,000	25,000	20,991	851	21,842	YES
Brewery	2,000	2258	4258		4258	4258	YES

The proposed gross floor area and land use mix for Block 4S is consistent with the allowable maximums within Block 1 + 4 and consequently is consistent with the residential/non-residential land use mix of the Concept Plan.

4.7 Environmental and Residential Amenity

The proposal has been designed to be consistent with the provisions relating to student housing within the SEPP (Affordable Rental Housing), City of Sydney Boarding House DCP, and SEPP 65/Residential Flat Design Code (RFDC) guiding principles. Whilst the application does not seek bonus floor space under the SEPP (Affordable Rental Housing) the provision, controls, and objectives have been considered in the building design, and in accordance with the DGRs.

With regard to SEPP 65 it is noted that the proposed student accommodation is of a very different nature to a normal residential development, with many of the facilities shared. The proposal has thus been designed to meet the objectives of the SEPP and the Residential Flat Design Code but cannot, because of fundamental design differences, achieve full compliance with all of the Rules of Thumb. Where compliance cannot be achieved with a Rule of Thumb, compliance with the Boarding House DCP and/or the AH SEPP has been achieved in lieu of this, e.g. solar access.

Internal Room Amenity

The proposed student rooms have been designed to comply with the minimum room requirements stipulated within the Boarding House DCP. Specifically all studio and multi-share rooms meet the following minimum area requirements of the AHSEPP and the Boarding House DCP.

Each bedroom is large enough to accommodate circulation space, a bed, a desk and a storage cupboard for clothes and other requirements in accordance with the Boarding House DCP.

Communal Open Space

Significant areas of communal open space are provided within both of the proposed buildings.

- Level 00 and level 1
- Communal area on every second level
- Communal area to the upper levels.

In addition to the large areas on the ground level and Level 00, as well as to Level 13, ever second level has been designed to incorporate a north facing communal area of approximately 40m^2 for use by the occupants. **Figure 23** illustrates the location and how these will appear within the development. The location at the centre of the building, adjacent to the lifts and stairwell encourages interaction and communal activity within the development.

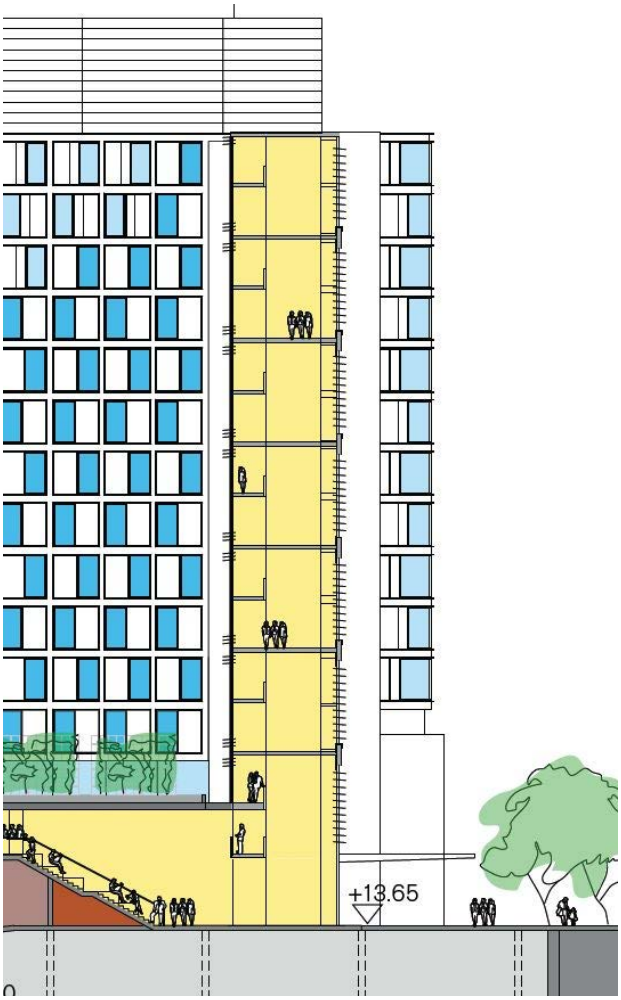

Figure 23 – Location of communal spaces on every second level

The Boarding House DCP requires the provision of a minimum 15m^2 of internal communal space, with a further 15m^2 for each additional 12 persons thereafter.

The proposal, with a total of 826 beds requires 1,048m^2 of internal communal open space. The proposal provides a total of 1,253m^2 internal communal space which exceeds this minimum requirement.

The communal areas provide recreational space with TV facilities, dining areas, couches for socialising and relaxing and study rooms. It is considered that the proposal provides high quality communal space to provide a high level of amenity and variety for the students.

External areas

The proposal includes three (3) main areas of external space on Level 1 and Level 13. A total of 500m^2 is provided in total, consistent with the provisions and objectives of the AHSEPP and Boarding House DCP. Both of these areas are accessible a in combination with internal communal space, making them more likely to be utilised, and acting as an extensions to the internal communal space.

Storage

The proposed development provides storage facilities within each room, and cluster rooms. The bicycle storage is located within the ground floor.

The layout of the single rooms has been designed to separate the rooms into two distinct areas. The first part of the room as you enter includes the kitchenette, bathroom, and cupboards. The rooms then open out into the living/study area, with space for a bed, desk, furniture, and room furniture. Adequate storage for students is therefore provided within the development, with some additional areas available in the basement if required.

Solar Access

The built form, location of communal areas, and building setbacks have been carefully considered to provide generous solar access given the site orientation and surrounding buildings. A daylight availability study has been prepared by Foster + Partners as part of the Design Report (**Appendix B**).

The RFDC requires that 70% of apartments in the building receive more than two hours of sunlight per day to living rooms and private open spaces on the 21 June between 9am and 3pm. Due to the orientation of the building, the size of neighbouring buildings to the north layout of the student accommodation, compliance with this rule of thumb is not possible.

The proposed student accommodation is of a very different nature to a normal residential development, and thus been designed to meet the objectives of the SEPP and the Residential Flat Design Code but in some instances may not achieve full compliance with all of the Rules of Thumb

A block model of the proposal has been analysed to assess the number of student accommodation units that receive two hours solar access between 08:00 and 17:00 in mid-winter. Based on the model prepared by Foster and Partners, 42% of all bedrooms will receive a minimum of two hours solar access in mid winter and 64% of bedrooms on 21 March 2012.

The location of the external open spaces at Level 13 will also receive suitable levels of solar access, in particular the external terrace to the south western corner with adjoining internal communal kitchen and separate lounge area. The internal communal space location on every second level between the wings is orientated north, taking advantage of natural light and sunlight. An excerpt of the solar access model is provided below in **Figure 24**.

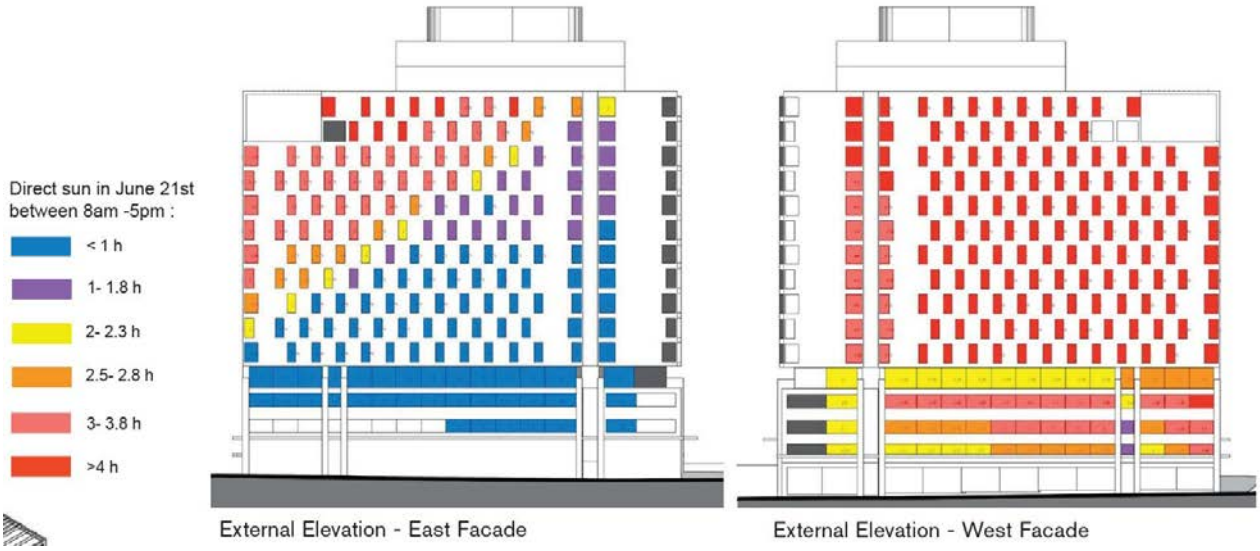

Figure 24 – Solar Access Model (Mid winter)

Building Separation

The location of the building footprint has been relocated north of the approved location, resulting in a reduction in the separation between Block 4N and 4S from 14m to 12.5m. The Building separation is also different than that of what was originally approved being commercial/commercial to now being commercial/residential. 12.7m separation within the site is maintained on the eastern, western and southern facades of the building.

Notwithstanding that the proposal does not provide the recommended `Rules of Thumb' building separation distances the development will still achieve a suitable level of residential amenity for future occupants and also existing neighbouring developments by way of the following design measures:

- Design of the northern facade windows from Level 4 and above have been angled north west and north east to avoid direct overlooking to/from Block 4N
- The glazing that will be used to the northern facade will provide privacy for occupants and minimise overlooking
- Fixed privacy glass will be installed on the northern pane, with a vision glass ventilation panel with light weight mesh behind. These will admit light but obscure views (see **Figure 25**).
- The two uses will generally be occupied a different times of the day;
- Acoustic Privacy to all neighbouring (residential and commercial) properties has been considered and integrated into the design of the external building envelope (refer to acoustic detail, **Appendix M** and recommendations**).**
- A separation distance of 13.2m is provided between the East and West Wings of the proposal. Considering the design treatment to the facade, and internal window treatment is considered will provide sufficient amenity to future occupants of the proposed development given that:
  - The student accommodation is short term in nature and more akin to serviced apartments than permanent residential accommodation;
  - Bedrooms will be provided with curtains/blinds which can be utilised by students if additional privacy is required; and
  - Some upper level windows on the east and west internal facade will include a splayed treatment (as per the northern elevation)

To the on the northern elevation of the building, the views north, which would otherwise overlook the office building are restricted to oblique views, as a result of the fixed privacy panel (see **Figure 26**). Furthermore, these rooms will be fitted with blinds that can be utilised by the occupant to minimise light penetration and increase privacy as required. The angle of these windows in relation to the commercial building of Block 4N is shown in **Figure 26.**

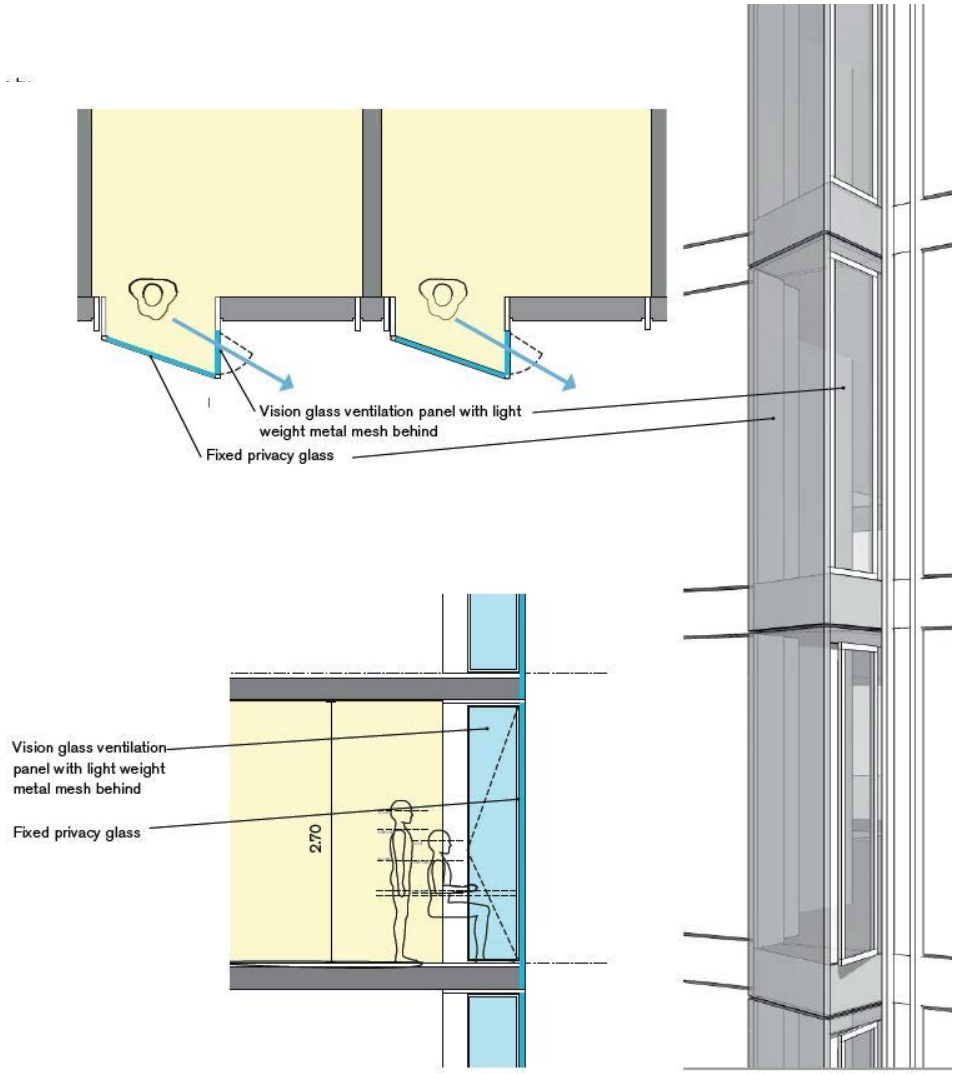

Figure 25 – Treatment of the northern windows from level 4 and above

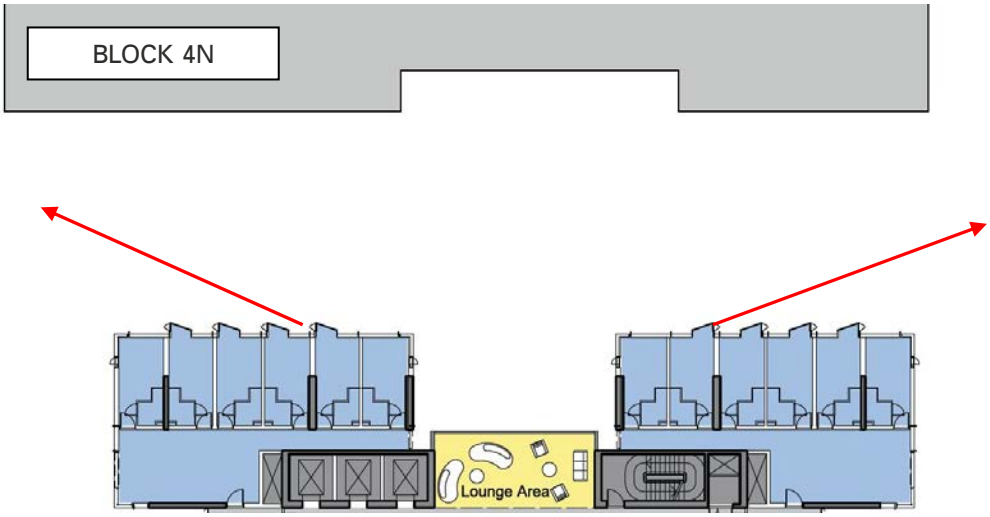

Figure 26 – Angle of views available from the north facing multi-share bedrooms.

Natural Ventilation

Natural ventilation within the development, particular to the communal spaces, studios and multi-share apartments has been considered and tested by WSP Built Ecology as part of the ESD report (**Appendix N**).

Within the multi-share apartments, cross ventilation is provided vi an opening the eastern and western wides of the unit, allowing air to move through communal space (as demonstrated in **Figure 27**)

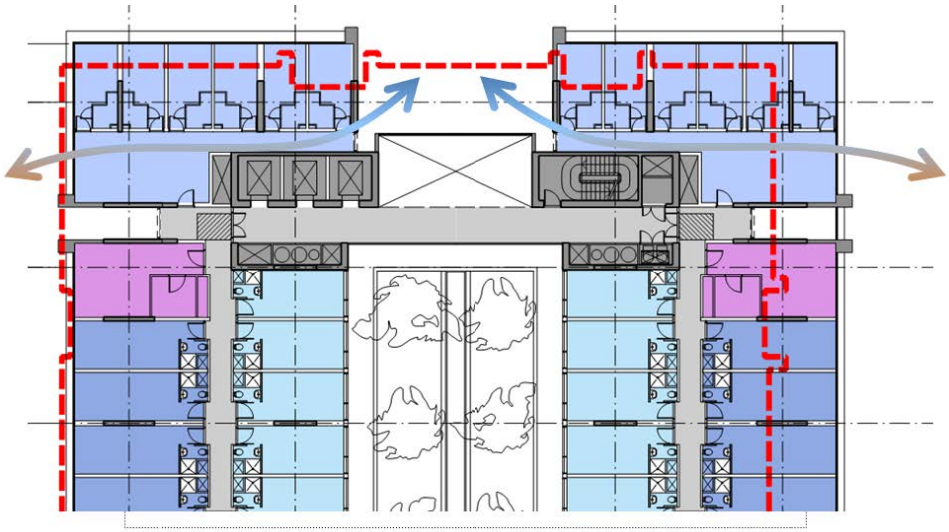

Figure 27 – Natural ventilation through multi-share units

Source: *WSP*

Within the studio apartments, the dimensions are small enough that single sided ventilation is considered adequate. In addition to this, use of the bathroom extraction fan will generate additional "pull" for increased air circulation. This is shown in **Figure 28**.

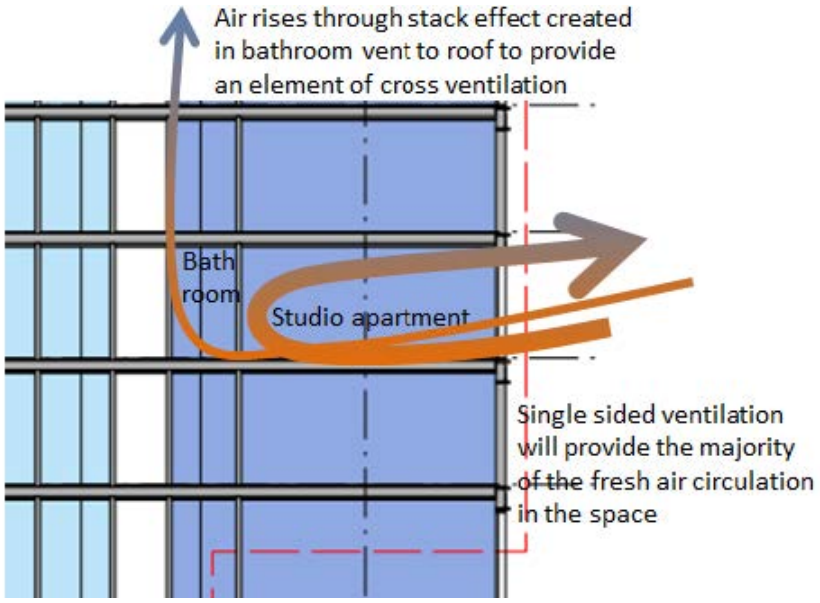

Figure 28 – Natural ventilation through studio units

Source: *WSP*

Corridor cross ventilation is also available from the proposed design, and is a key initiative in reducing the level of energy consultation in the building. A number of

openings are provided in the facade to the common circulation spaces to allow for this air movement and circulation

Modelling of the carbon dioxide levels within the dwelling has also been carried out by WSP. The result of the model demonstrates that the carbon dioxide levels are consistent with any occupied space and that with the windows completely open the carbon dioxide levels will remain below the established benchmark.

Design Quality

A SEPP 65 Design Quality Principles Statement has been prepared as part of the Development Application Design Report (**Appendix B**) that addresses the 10 design quality principles of SEPP 65. The proposal has been designed in accordance with these principles and will provide a high quality development, affording high levels of amenity to residents.

An additional table has been prepared by the local collaborating architect Nettleton Tribe (**Appendix I**) that also consider the Residential Flat Design Code Rules of Thumb.

4.8 Overshadowing and Solar Access

Shadow Diagrams have been prepared by Foster + Partners (**Appendix C**) that illustrate the shadow cast by existing surrounding building and the proposed development on 21 June (solstice). The study shows that whilst there will be some minor additional areas of overshadowing, the shadows generally fall upon Carlton Street, and existing commercial buildings to the south.

The proposal is consistent with the relevant controls of the SEPP (Affordable Rental Housing) and Boarding House DCP as it does not result in any significant additional adverse overshadowing to surrounding developments or public open space. The built form, and building envelope are generally consistent with that approved as part of the Concept Plan, which also considered overshadowing impacts to surrounding development.

Importantly, the building envelope of the proposed development has been considered so as to not generate any significant additional overshadowing from what was approved under MP 08_0253 (Block 1 + 4) (see **Figure 29**).

Figure 29 – Overshadowing

4.9 View Analysis

A detailed view analysis has been undertaken by Foster and Partners as shown at **Appendix C**. A range of views surrounding Block 4S have been prepared which demonstrate how the proposal sits within its context. The views also show the interface between Block 4N and 4S as seen from Central Park Avenue and Abercrombie Street, which with proposed deletion of (subject to separate approval) improves the accessible area of usable public domain, which also functions as a key link to and from Abercrombie Street through to the remainder of the Central Park site (see **Figures 30** and **31**).

Figure 30 – View between Block 4N and Block 4S from Abercrombie Street looking east

Figure 31 – View between Block 4N and Block 4S from Abercrombie Street looking west

4.10 Traffic, Parking and Servicing

4.10.1 Traffic Impacts

GTA consultants consider that the proposal is not expected to generate any traffic for the following reasons.

- Majority of students will not own a motor vehicle
- On-site parking is not provided for students
- The site is well located to public transport and amenity
- The site is well located to educational institutions

As such the Traffic and Parking Report concluded that there will be negligible traffic impact as a result of the proposal.

4.10.2 Traffic Generation

A Traffic and Transport Report has been prepared by GTA Traffic Consultants, **Appendix L**. The report considers the traffic and parking arrangements of the proposal in consideration of the DGRS, Concept Plan and relevant Planning controls.

The proposal will provide 197 bicycle parking spaces and 4 motorcycle parking space motorcycle spaces that will be located within the basement.

4.10.3 Vehicle Access and Parking

With regard to parking provision, the proposal has been considered against the following planning controls:

- SEPP Affordable Housing
- Sydney LEP 2005
- City of Sydney Boarding House DCP 1996

A significant number of car share spaces will be provided on the Central Park site and will available for student use.

SEPP (Affordable Housing)

The SEPP requires that at least one parking space will be provided for a bicycle, and one will be provided for a motorcycle, for every 5 boarding rooms (clause 30). This result in a total requirement of 165 bicycle parking spaces and 165 motorcycles spaces (based on 826 beds within the development).

The proposal provides a total of 197 bicycle parking spaces within the ground floor of building and 4 motorcycle spaces that are considered to adequately service the residential tenants of the student housing within the building, consistent with the objectives of this control. A SEPP 1 variation has been prepared to address the non compliance with the motorcycle parking (**Appendix O**)

The AHSEPP states that a consent authority cannot refuse development on the grounds of parking if (in an accessible area)

> *"0.2 parking spaces are provided for each boarding room"; and*
>
> *"1 parking space is provided for each person employed".*

The proposed development is required to provide 56 parking spaces (assuming the student accommodation would have three employees). However, in accordance with clause 29(4) of SEPP Affordable Housing, a consent authority can approve a development proposal which provides a lesser parking rate if it considers it

reasonable in the circumstances. Given the location of the site and its proximity the regular public transport, the University of Sydney, UTS and TAFE, and the number of car share spaces provided on site, the proposal with a lesser provision of onsite parking is considered to be consistent with the intent of this control.

Both Council and the Department of Planning and Infrastructure have made clear their objective to reduce the amount of parking provided on the site due to the sites central location. The proposed reduced parking provision rate is consistent with this objective and Frasers intention to deliver a sustainable development where use of sustainable forms of transport is encouraged.

Sydney LEP 2005

As Council's planning controls stipulate maximum parking ratios, the proposed development with five onsite parking spaces complies with Council's controls. The application also complies with the objectives of the controls which seek to reduce the rate of onsite parking and increase patronage of public transport.

The proposal does not propose to provide any on-site car parking.

We note that a student housing development at 1 Regent Street, Chippendale was recently approved by Council on 22 August 2011 with no on-site parking spaces (D/2011/515). In their assessment report, Council noted that the provision of car parking spaces is a maximum requirement, and that the provision of bicycle parking spaces will encourage sustainable transport.

City of Sydney Boarding Houses DCP

The City of Sydney Boarding House DCP requires that 2 bicycle spaces are provided per 6 bedrooms for a student housing development. Given there are a proposed 826 bedrooms, the proposal would require 275 bicycle parking spaces.

The proposal provides 197 bicycle parking spaces on site that is below the numeric control specified within the Boarding House DCP. However, it is expected that not all students will require such facilities given the highly accessible location and close proximity to Universities.

4.10.4 Loading and Deliveries

Service vehicles will access the site via the loading dock off Irving Street. Removalist trucks, couriers and retail deliveries are proposed to load and unload from the loading dock to the southern elevation of building. It is noted that the rooms will be furnished, which will minimise the needs for delivery and loading of large items such as beds and desks.

Waste collection will be conducted from both the loading dock (non-residential) and Central Park Avenue (Residential) as outlines in the Waste Management Report **Appendix P.**

The proposal will provide loading zone bays within the Kensington Precinct for deliveries. All student accommodation proposed will be fully furnished that will limit the need for student deliveries. It would be expected that the car parking spaces will be utilised by retail staff and operators, and deliveries to these tenancies will be minimal.

Ultimately, it is proposed that Block 4(a) and Block 4(c) (as per the staging plan within the concurrent Concept Plan modification A-2000) will connect at basement level in the future which will remove the need for any long-term on-street loading.

Traffic Impacts

The proposal does not involve any additional on site car parking, and therefore will have a negligible impact on the surrounding traffic network.

Public Transport

The site has excellent access to public transport being well serviced by regular bus services along Broadway. Central Railway Station is located approximate 700m east of the site with interstate and regular suburban services on the Sydney network, as well as a connecting bus interchange on the corner of George and Lee Streets to the north east of the site. Light rail services are also available from Central station.

The report details that the proposed use of student accommodation will encourage modal shift away from the private car and the greater use of public transport through the following ways:

- Students will be actively encouraged to use public transport and/or walk/cycle to education facilities in the immediate area; and
- Information will be provided to students and the employees of the proposed use detailing the location of Central Station and the appropriate bus stops with the public transport routes.

The site is in close proximity to a number of major tertiary education institutions, public transport, and services such as shops/supermarket, restaurants, bars and entertainment such as movie theatres and as such students will not need to travel by car to attend to their everyday needs. Further it is noted that car ownership in student accommodation tends to be very low of students owning a car.

A Workplace Travel Guide has been prepared as part of the Traffic and Transport Report (**Appendix L)** that will be provided to students and retail tenants/employees to encourage use of public transport, Consistent with the Environmental Design Requirements of LEP 2005 (Chapter 1 Part 5 Division 3) and the DGRs.

4.11 Access

An Access Assessment Report has been prepared by Accessibility Solutions and is located at **Appendix Q**. The report concludes that the proposed development will provide appropriate access for people with disabilities and can comply with the BCA and DDA Premises Standards. Specifically the proposal incorporates design elements and outcomes:

- On-grade and access from the adjacent public domain areas to ensure equitable access for people with disabilities to enter ground floor retail areas and lift lobby that serves the upper floors and basement parking.
- The retail areas on the ground floor level shall provide appropriate access in accordance with AS1428 to satisfy Parts D3 and F2.4 of the BCA and DDA Premises Standards.
- The ground floor level and level 1 shall provide student common amenities that will be accessible to comply with AS1428 to satisfy Parts D3 and F2.4 of the BCA and DDA Premises Standards.
- The development proposes three (3) lifts that facilitate access to all levels with level corridor access to all apartment doorway entrances to ensure equitable and convenient access. The lift cars shall be at least 1400mm X 2000mm to readily comply with AS1735.12 and Part E3.6 of the BCA and DDA Premises Standards.

- The development proposes the following configurations for accommodation suites;
  - 826 Beds within 688 units providing a mix of 519 studio and 167 X 4-5 bed clusters, including king single beds within 28 accessible studio units.
- The proposed twenty-eight (28) accessible single studio units complies with Table D3.1 and Part D3.3 of the BCA.

The proposal also demonstrates consistency with the City of Sydney Access DCP and City of Sydney Boarding Houses DCP in providing equitable access.

4.12 Contamination

The proposal is to be consistent with the Remediation and Transitional Works approval MP 07_0163, dated 18 August 2008 (including relevant modifications).

4.13 Stormwater and Flooding

A Stormwater Report has been prepared by Mott MacDonald and is included at **Appendix R** along with stormwater plans.

The site stormwater system has been designed to accommodate flows resulting from the development of all blocks within the site. Stormwater from Block 4S will reticulate to the site detention tank via a piped system along Central Park Avenue as approved separately under Project Applications MP 09_0164 and MP08_0210).

Concept Erosion and sediment control measures and plan will be implemented as part of the development works. A Concept Sediment and Erosion Control Plan is provided at **Appendix R**.

4.14 Acoustic Impacts

4.14.1 Operational Noise

A Noise Impact Assessment has been prepared by Acoustic Logic (**Appendix M**). The report considers the proposed development including noise generators, mechanical plant and noise generated from external communal spaces in the prevailing noise environment. The report also considers the external noise impacts on the internal amenity of the proposed dwellings.

The assessment recommends the following glazing construction specification to adequately manage traffic noise and ensure adequate internal amenity. Glazing details are provided below in **Table 6**.

Table 6 – Glazing Construction

Façade	Level	Room	Glazing	Acoustic Seals
Abercrombie Street	All Levels	Student Accommodation rooms	10.38mm laminated	Yes
North and South Facades	All Levels	Student Accommodation rooms	6.38mm laminated	Yes
East Façade	All Levels	Student Accommodation rooms	6.38mm laminated	Yes

Noise intrusion from traffic associated on surrounding road such as Broadway and Abercrombie Street will comply with the relevant standards provided the treatments as outlined in the report are adopted.

Potential noise generated by mechanical plant equipment has also been assessed the City of Sydney Standard Conditions and NSW EPA Industrial Noise Policy, with consideration of the nearest potentially affected noise receivers being:

- Commercial properties to the north and west the site.
- Residential properties on Abercrombie Street to the west of the site;
- Future commercial properties to the north of the site within the Frasers Broadway precinct.
- Future residential receives to the west of the site within the Frasers Broadway precinct.

Whilst mechanical plant equipment has not yet been finalised the report considers that all proposed plant can be satisfactorily attenuated to levels that will comply with the relevant noise emissions criteria of 49$L_{eq,15min}$ between 10pm and 7am.

4.14.2 Construction Noise and Vibration

During construction, noise and vibrations will be managed in accordance with the Construction Management Plan (**Appendix S**). A detailed Construction and Environmental Management Plan will be prepared prior to the issue of a Construction Certificate.

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.

The continuous noise associated with standard deliveries and internal demolition / construction works will be managed in accordance with the noise criteria for surrounding land uses.

4.15 Environmentally Sustainable Development

4.15.1 Ecological Sustainable Development

As detailed in this EIS, the student accommodation 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 educational environment, maximising the facilities of a well-resourced asset, and ensuring no damage to the environment during construction and operations, as per the 'Intergenerational Principle'.
- Has considered the conservation of biological diversity and ecological integrity in its design as per the 'Biodiversity Principle'.
- Is designed to be energy and water efficient to reduce lifetime environmental impacts and running costs as per the 'Valuation Principle'.

4.15.2 ESD Measures

The proposed development will aim to achieve a high level of sustainability. The proposal forms part of the Central Park development site that incorporates a precinct and centralised plant approach to the site thereby improving the efficiency and environmental performance of the proposal. The proposal has been designed to demonstrate consistency with industry best practice for Green Star rating, as required by condition B12(2) of the approved Concept Plan.

The ESD initiatives that will be implemented for the building include (see **Appendix N**):

- Connection to the CTP to meet the comfort cooling, space heating and domestic hot water (DHW) heating demands:
- Potential to connect to the Central Thermal Plant for energy in the future;
- Connection to the RWTP for wastewater treatment and recycled water supply:
- Meeting the Deemed-To-Satisfy (DTS) Provisions of Part J1 Building Fabric and Part J2 Glazing of Section J Energy Efficiency of the National Construction Code (NCC) 2012;
- Demonstrating alignment with the BASIX energy and water efficiency benchmark targets.
- As required by the Central Park Concept Plan, the project meets the principles of a 5 star Green Star rating: due to the space use of the building (Class 3) the building does not meet the eligibility criteria of any pre-existing Green Star tools.

Therefore, in order to demonstrate the sustainability aspirations of the project, a 5 star Green Star "principle led" pathway using the Green Star Multi Unit Residential v1 tool has been established to support the application of ESD initiatives across a full range of environmental categories.

Section J Compliance/BASIX and NatHERS

In the past, BASIX certificates have been requested by the regulatory authority for Class 3 developments to demonstrate the environmental performance of the building. However, the NSW Department of Planning has recently provided clarification that NatHERS certificates cannot be produced for Class 3 dwellings. As a NatHERS certificate is required to demonstrate compliance with the thermal comfort section of BASIX, this means that BASIX certificates cannot be produced for Class 3 accommodation. Therefore, the provisions of Section J of the NCC apply to Block 4S.

Despite a formal certificating not able to be issues, the project is still aiming to achieve compliance with BASIX. Justification of compliance with Section J and BASIX requirement are included in the ESD Report. A draft BASIX report has been provided as part of **Appendix K.**

Glazing

As the facade detail is quite complex and incorporates a high proportion of glazing a JV2 model solution is proposed to be completed in the detailed design

Due to the complex nature of the façade treatment, compliance with Section J will be demonstrated via a JV3 modelled solution in the detailed design stage. However a review of the DTS prevision of J2 have been undertaken. This investigation has led to recessed narrow windows on external (east/west) elevations to reduce unwanted direct solar gain in winter. The design can comply with the DTS and will be optimised through a JV3 alternative.

Green Star

Due to the space, use mix and spatial differentiation and its classification as a class 3 Block 4S does not meet the eligibility criteria of any pre-existing Green Star tools. Therefore, in order to demonstrate the sustainability aspirations of the project, a 5 star Green Star "principle led" pathway has been established to support the application of ESD initiatives across a full range of environmental categories. Class 3 buildings (i.e. Blocks 3B, 3C and 10) are not eligible under the Green Star Multi Unit Residential Design v1 tool.

Blocks 4S will be designed in accordance with the principles of the Green Star Multi Unit Residential Design v1 tool, consistent with the intent of condition B12 of MP_06_0171 (as amended) as detailed in **Appendix N**.

The above approach is consistent with that taken on other Blocks within the Central Park development which have recently been approved by the DPI, including the Brewery Precinct.

4.15.3 Central Thermal Plant (CTP)

A statement has been prepared by WSP which outlines the impacts of the proposal on the Central Thermal Plan located within the basement below Blocks 1 + 4 (**Appendix N**). The CTP has been proposed in two stages. The previously approved two level basement plant within the courtyard of the existing Irving Street Brewery Building remains unchanged. The further single level plant room under Block 4S is addressed as part of the Block 4S SSD application, with the stage 2 plant to be addressed under an independent S75W modification.

4.16 Wind

A wind Report has been prepared by Cermak Petrka Petersen (CPP) (**Appendix X)** which considers the modification proposed between the proposed building design between building 4N and 4S. The report considers that the change in the shape and form of the proposed will not influence the wind conditions around the site as external massing has not changed. The central courtyard of the proposal (level1) will have generally calm conditions given its orientation.

Overall, it is considered that the proposed changes to the development will not significantly impacts the environmental wind conditions (as per the previous wind assessment as part of MP 08_0253.

4.17 Reflectivity

CPP has reviewed the proposal in terms of its solar reflectivity and the modifications to the previously approved building massing and geometry (Solar Reflectivity Assessment for Frasers Broadway Blocks 1, 4, and 8, dated May 2009 prepared for MP 08_0253) (**Appendix T**).

The changes to the building massing including the deletion of the link bridge and the u shaped (winged) layout with a central light well are not expected to have any significant impacts in terms of reflectivity and will meet the control of the Central Sydney DCP with regards to reflectivity.

4.18 Building Code of Australia

BCA

A Building Code of Australia Assessment Report, prepared by CityPlan Services (**Appendix U**) includes details of the proposals ability to comply with the relevant

provision of the BCA (including Section J – Energy Efficiency) and Australian Standards. The proposal does involve some areas of non-compliance with the deemed-to-satisfy provisions of the BCA. These will be resolved by way of alternative design solutions which meet the performance requirements of the BCA. City Plan Services are of the opinion that the alternative solutions will not materially affect the design of the proposed building.

Fire Safety

The occupant egress and fire separation strategy for the developed have been considered by WSP Built Ecology (**Appendix F**) to provide an appropriate occupant fire life safety and Fire brigade intervention design. The proposal incorporates a number of major Alternative Solutions to be development and documented in the Final Fire Engineering Report. The BCA report considers design as proposed is capable of complying with the Building Code of Australia, and will be subject to construction documentation that will provide appropriate details to demonstrate compliance.

4.19 Structural Certification

A Design Structural Certificate has been prepared by Robert Bird Group Australia (**Appendix X**). This certificate states that the buildings have been designed in accordance with the structural requirements of the BCA and relevant Australian Standards.

4.20 Crime and Public Safety

Safety Management Strategy (SMS) and Safety Management Plan (SMP) have been prepared by Elton Consulting (**Appendix H**). This report demonstrates the proposal consistency with the Concept Plan, commitment and broader Crime Prevention Through Environmental Design (CPTED) principles. In preparation of the proposed development consultation with the following stakeholder was undertaken.

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

The Safety Management Strategy has been prepared considering the NSW Department of Urban Affairs and Planning (now the Department of Planning and Infrastructure), *Crime prevention and the assessment of development applications: Guidelines under section 79C of the Environmental Planning and Assessment Act 1979 and the City of Sydney's Design Guide for a Safer Community: A Framework for Planning a Safer City,* John Maynard, June 2004.

The Safety Management Plan (**Appendix H)** details how the design of Block 4S meets and/or exceeds safety and crime compliance requirements. The report provides a coordinated approach to safety and crime prevention that is supported by the preliminary Student Accommodation Plan of Management prepared by Frasers Broadway Pty Ltd.

The recommendation of the Safety Management Plan include the use of appropriate

lighting, maintaining sight lines, ensure building entrances are highly visible, signage, communication, to meet the CPTED Principles.

4.21 Waste Management

A Waste Management Plan prepared by Arup and is located at **Appendix P** and provides details regarding site waste generated during the operation phase of the development.

Consideration of the legislative requirements including the Protection of the Environment Operations Act, 1997, Waste Avoidance and Resource Recovery Act 2001 and Council of the City of Sydney Policy for Waste Minimisation in New Developments, 2005.

4.21.1 Operational Waste

The following waste generation streams have been identified

- Student accommodation;
- General retail;
- Food service retail; and
- Administrative areas.

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

- Two waste chutes (recycling, general waste) to service the student accommodation, with discharge of waste directly into bins/skips in central waste storage rooms;
- A 'temporary' central waste storage area on Level 0 (with direct street access to Central Park Avenue) to service student accommodation until completion of the basement; and
- A long term basement central waste storage area to replace the central waste storage area on Level 0 once truck access is provisioned to this level approximately 12 months after the onset of operation.

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

- A 'temporary' central waste storage room on the Ground floor to service all retail, including retail on Level 00 (upper ground floor, with access to the Ground floor from Level 00 provisioned via ramps) ;
- A long term basement central waste storage area to replace the Ground floor central waste storage area.

Garbage Rooms

Student Accommodation

- 660L Carousel compactor with 4 x 660L waste bins (red lid) to service the general waste chute (11.23m2);
- 5x 1000L co-mingle bins (yellow lid) to service recycling chute;
- 1x 120L waste bin (red lid) to service student accommodation and administration on Level 00 (this level will not have access to the waste chutes during the temporary arrangement);
- 1x 120L co-mingle recycling bin (yellow lid) to service student accommodation on Level 00;
- 1x 240L paper and cardboard bin (blue lid);

- Temporary storage area for hard rubbish / large e-waste / re-usable items (2m2); and\
- 1x receptacle for small e-waste (0.25m2).

Retail waste storage

- 5x 240L general waste bins (red lid)
- 4x 240L organic waste bins (green lid);
- 2x 660L paper and card recycling bin (blue lid);
- 4x 660L co-mingle recycling bins (yellow lid);
- Temporary storage area for hard rubbish / large e-waste / re-usable items (2.25m2); and
- 1x receptacle for small e-waste (0.25m2).

The space for the bin areas have been incorporated on the Architectural Plans (**Appendix C**).

Collection

Both general and recyclable waste are proposed to be stored in separate 240L Mobile Garbage Bins (MGB) in the centralised waste storage area and have been designed to accommodate waste generated by the development based on collection occurring by a private contractor.

4.21.2 Construction Waste

During construction, suitable areas on site (or off site, if necessary), will be provisioned which provide 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 vehicle access will take place from the following location in accordance with the Construction Traffic Management Plan

- **Gate 1**: Primary access and egress point, located on the southwest end of the site with access from Abercrombie St;
- **Gate 2**: Secondary access and egress point, located on the southeast end of the site with access from Central Park Avenue;

4.22 Public Art

The approved public art strategy as endorsed under the Concept Plan approval requires the provision numerous artworks and installations across the site.

Jennifer Turpin Studio and Michelle Crawford have prepared a Public Art Strategy for the Frasers Broadway site. This strategy covers the following:

- Themes of the artworks
- Permanent and temporary artworks
- Digital art
- Heritage interpretation

- Budgets and implementation strategies

An excerpt of this public art plan is provided below in **Figure 32.**

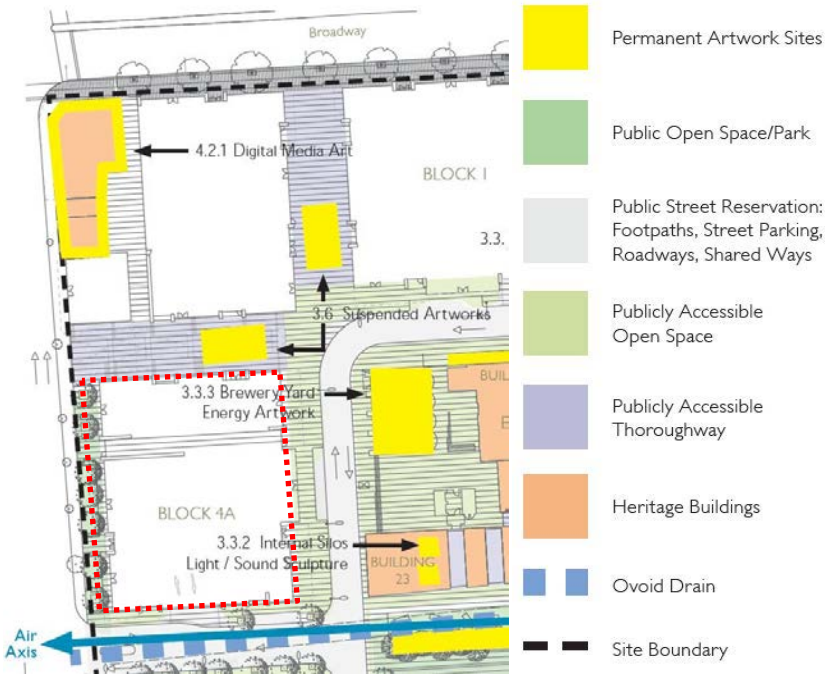

Figure 32 – Public Art Plan

For Blocks 1 and 4 it is proposed that permanent public art is proposed to feature in the through site links as important access routes.

The detailed design of the public art is yet to be developed. In light of this it is requested that a condition be imposed on the consent which involves a commitment has been made that requires the detailed design to be developed in consultation with City of Sydney Council and the Department of Planning and Infrastructure and installed prior to the issue of a final Occupation Certificate.

To the ground floor, the stair width in the plaza (between Block 4N and 4S) is deliberately restricted to open into the plaza area to the north west corner of the development to facilitate Public artwork in this location.

4.23 Economic Impact Assessment

An Economic Impact Assessment has been prepared by MacroPlan Dimasi (**Appendix Z**) in response to the relevant Direct General Requirement and to consider the impact of the loss of commercial floor pace as well as the impacts on the vitality and liveability of the development. In summary, the Economic Impact Assessment considers the student accommodation will

- Reduce the pronounced student housing shortage apparent in the region;
- Activate the Central Park precinct during ordinary business hours;
- Adhere to both Federal and State government policy objectives associated with the provision of new affordable dwellings; and
- Reduce strain on public infrastructure networks.

The proposed student accommodation that will replace the approved commercial will extend the vitality and vibrancy of the site and Central Park which is supportive of the retail and recreational services on the site and surrounds.

The report includes specific economic assessment of the student accommodation against current market conditions with consideration of international student enrolment as well as an assessment of the demand and supply for office space.

4.24 Construction Management

A Preliminary Construction Management Plan (CEMP) has been prepared by Frasers Broadway Pty Ltd as part of the application (**Appendix S**). The CMP is also accompanied by a Construction Traffic Management Plan (CTMP) (**Appendix V**) The CMP addresses the following issues:

- Soil and water management;
- Construction traffic management;
- Noise;
- Air quality;
- Site management;
- Contact details; and
- Hours of construction.

The Preliminary Construction Management Plan will be revised and issued to the PCA prior to works commencing on the site.

4.24.1 Construction Traffic

A separate Construction Traffic Management Plan (CTMP) has been prepared by GTA Consultants (refer to **Appendix V**). It is anticipated that construction activities will take approximately 19 months, with peak truck movements occurring during the construction phase, when there will be between 30 truck movements per day. Construction traffic will be managed in accordance with the following measures:

- Heavy vehicle warning signs will be installed to warn motorists that heavy vehicles are accessing the work zone on Kensington Lane, and a traffic controller will be present near the work zone to assist pedestrians, cyclists and general traffic.
- General vehicle access along Abercrombie Street will be maintained at all times.
- All vehicles associates with the construction of Block 4S will enter via a right turn from Abercrombie Street into Irving Street.
- All vehicles exiting the site will do so via a right turn from Irving Street onto Central Park Avenue then a right onto O'Conner Street and right turn onto Abercrombie Street.
- Designated truck routes will be established for construction vehicles travelling to and from Block 4S. All building contractors shall be notified of the truck routes and will be required to adhere to the routes when accessing the site. Construction vehicles will be required to radio site office on approach, to ensure that the access is available to the work zone.

The CTMP concludes that the proposed measures contained within the report will adequately address potential traffic related implications associated with the proposed construction of Block 4S.

4.24.2 Sediment and Erosion Plan

An Erosion and Sediment Control Plan has also been prepared by Mott MacDonald that identified the location of the sediment and erosion control measures (silt trap, filters) to be implemented during construction

5.0 Conclusion

This EIS has been prepared to consider the environmental, social and economic impacts of the Block 4S. The EIS has addressed the issues outlined in the DGRs (**Appendix A**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of relevant environmental planning instruments, built form, social and environmental impacts including traffic, noise, demolition and construction impacts and stormwater.

It is considered the project warrants approval for the following reasons:

- The propose is a high quality design, sustainability, and community engagement to ensure that each development enhances the economic, social, and environmental attributes of its local community.
- Encourages active use of public transport by its residents, with attributes including secure bicycle storage, and close proximity to public transport hubs, walking paths and amenities.
- the proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2(7)(4) of the EP&A Regulation as well as Section J of the BCA;
- High standards of amenity will be achieved within the student accommodation through a range of room sizes and types, natural daylight and ventilation and provision of expansive internal and external communal living areas.
- The proposed building will be of a high quality finish and will significantly improve the buildings relationship with character and context of surrounding development.
- The proposal will contribute to the activation of Central Park through provision of active ground level uses and also the introduction of a new form of accommodation on the Central Park site, thus contributing to a mixed community.
- The proposal will provide affordable student accommodation within walking distance to educational facilities and public transport. Measures are proposed to encourage use of sustainable forms of transport and minimise car use.
- A preliminary Plan of Management has been prepared which will ensure that the student accommodation is operated in such a manner that it does not affect the amenity of nearby residential dwellings.

Given the planning merits described above, and significant public benefits proposed, it is requested that the Minister approve the application.