



Block 8 Central Park CPTED Report

Crime Prevention and Community Safety Management Strategy

Client:
Fraser's Broadway Pty Ltd

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Contents

1	INTRODUCTION	1
1.1	Overview	1
1.1.1	Block 8 proposal	1
1.2	Statement of Commitments	1
1.3	CPTED Principles	2
1.4	Methodology	2
1.5	Structure of this report	3
1.6	Disclaimer	3
2	PROPOSED DEVELOPMENT	4
2.1	Central Park	4
2.1.1	Concept Plan	4
2.2	Block 8	4
2.2.1	Location and context	4
2.2.2	Proposed development of Block 8	5
3	CONSULTATION	6
4	COMMUNITY SAFETY MANAGEMENT STRATEGY	7
4.1	Overview	7
4.2	CPTED objectives	7
4.3	CPTED design and management features	8
5	COMMUNITY SAFETY MANAGEMENT PLAN	12
5.1	Overview	12
5.1.1	Summary of CPTED assessment	12
5.2	CPTED review of Block 8	14
5.2.1	Building design	14
5.2.2	Building design – car and bicycle parking	18
5.2.3	Building design – communal areas	19
5.2.4	Building design – servicing areas	20
5.2.5	Public domain design	20
5.2.6	Public domain design – lighting	23
5.2.7	Public domain design – signage	24
5.2.8	Landscaping	25
5.2.9	Formal surveillance and security	28
5.2.10	Building uses	28
5.2.11	Transport	30
5.2.12	Construction management	30
5.2.13	Consultation	31

6	CONCLUSION AND IMPLEMENTATION	32
6.1	General	32
6.2	Compliance	32

APPENDICES

A	Appendix A: What is CPTED	34
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1 Introduction

1.1 Overview

This report has been prepared on behalf of Frasers Broadway Pty Ltd (Frasers) to accompany a State Significant Development Application (SSDA) for a mixed use development known as Block 8 at Central Park, Chippendale.

The purpose of this report is to carry out a Crime Prevention through Environmental Design (CPTED) analysis of the proposed development of Block 8. This report addresses 'Safer by Design' principles for crime prevention and safety for Block 8. It contains:

- » **Community Safety Strategy** – which outlines broad aims, objectives and strategies for CPTED that generally apply across the whole Central Park site against best practice 'Safer by Design' principles, and
- » **Community Safety Plan** – which provides commentary, assessment and recommendations relating to Block 8's building design, parking structure design and other design considerations, against the stated aims, objectives and strategies in the Community Safety Strategy.

This report considers design (physical) and management / operational (non-physical) components of Block 8 that relate to crime prevention and community safety.

Frasers prides itself on delivering high quality and environmentally responsible development projects and Block 8 demonstrates the Frasers ethos.

1.1.1 Block 8 proposal

Block 8 is located at the south western corner of the Central Park site and is bound by Irving Street and proposed student housing to the north, Central Park Avenue and Chippendale Green to the east, O'Connor Street and existing commercial and industrial development to the south, and Abercrombie Street and existing residential and mixed use development to the west.

The current Block 8 proposal is consistent with the Central Park approved Concept Plan (as modified) and comprises the following:

- » 13 storey mixed use building including residential and retail uses
- » 178 apartments (14,169m² GFA)
- » Terraces, balconies and/or loggias to all apartments
- » Residents' lounge
- » Ground floor retail tenancies (135m² GFA)
- » Three levels of basement car parking (88 vehicle and 260 bicycle parking spaces)
- » Public domain works.

Block 8 will provide a mix of residential accommodation in an area well serviced by public transport, and in close proximity to the retail, work and education opportunities offered by the Sydney Central Business District (CBD) and surrounds.

1.2 Statement of Commitments

This report has been prepared to satisfy the Statement of Commitments associated with the approved Concept Plan. Specifically, this report addresses commitments no. 30 – 32 contained within Schedule 4 of the Concept Plan Approval (MP06_0171) as modified. Commitments no. 30 – 32 relate to the undertaking of detailed CPTED assessment as part of the PA stage.

The relevant commitments are:

30. *A Safety Management Strategy will be prepared and provide guidelines for the application of CPTED principles and 'Safer by Design' best practice models.*
31. *A Safety Management Plan will be submitted which address issues relating to building design and parking structures design, vandal proof finishes and graffiti proof finishes, lighting, convenience location and other design considerations. The Safety Management Plans will also incorporate the performance criteria and compliance checklist addressing the guidelines outlined in the Department of Urban Affairs and Planning (now the Department of Planning and Infrastructure) Crime Prevention and Assessment of the Development Applications Guidelines under Section 79C of the Environmental Planning and Assessment Act 1979.*
32. *The NSW Police will be consulted throughout the CPTED assessments for all applications for the CUB site.*

1.3 CPTED Principles

The assessment undertaken in the preparation of this report is based on an overarching strategy for safety and crime prevention at Central Park, as contained within the overarching CPTED Report for the modified Concept Plan (*Preliminary CPTED Report for Modified Concept Plan*, Elton Consulting, April 2008). The overarching report set out the CPTED framework for all development at Central Park and contained an analysis of the crime and safety issues in the neighbourhoods surrounding the Central Park site, including crime hot spots, incidents and trends.

The principles adopted in the overarching report are those of CPTED – a contextual approach to crime prevention. This involves using design to both intensify the difficulty to possible offenders and diminishing the rewards. The report is supported by five overlapping principles that have been applied to the modified Concept Plan, and are described in Appendix A. They are:

- » Territoriality
- » Natural Surveillance
- » Access Control
- » Maintenance (space management)
- » Activity Control.

The assessment of Block 8 is consistent with the overarching report for the Concept Plan and in doing so, is consistent with principles and philosophy NSW Department of Urban Affairs and Planning's (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*.

The assessment of Block 8 investigates how the design of Block 8 embraces, or intends to embrace, principles of CPTED; natural surveillance, access control, ownership (territoriality) and space management (maintenance).

Development and implementation of ongoing security management systems for the proposed development are considered essential to achieve the 'Safety by Design' principles. This is referred to as CPTM ('Crime Prevention Through Environmental Management'). It is therefore recommended that as an ongoing crime prevention strategy, the security management regularly link in with the security systems in place for other buildings in Central Park.

1.4 Methodology

Elton Consulting has relied on consultation with the project team, desktop research and review and analysis of design documents in the preparation of this report. The design drawings prepared by Smart Design Studio and JAAA+Turf Design Studio have been reviewed in the preparation of this report.

1.5 Structure of this report

This report is structured as follows:

- » Section 1 introduces the report
- » Section 2 provides an overview of the consultation undertaken to date pertaining to CPTED issues
- » Section 3 outlines the Safety Management Strategy
- » Section 4 outlines the Safety Management Plan
- » Section 5 outlines the implementation of the Safety Management Strategy and Plan
- » Section 6 provides a comment on implementation and a conclusion.

1.6 Disclaimer

Information within this report is based upon information provided to Elton Consulting between September 2013 and December 2013. In preparing this report, Elton Consulting does not offer any promise or guarantee of safety to persons or property.

This report has been peer reviewed by a qualified CPTED professional.

This report is accurate in so much as it relies on information provided at the time of the review and reporting process. As additional information is provided it may be necessary to review and update this report.

2 Proposed Development

2.1 Central Park

The Central Park site is a 5.795 hectare rectangular parcel of land that occupies a significant proportion of the north eastern section of the suburb of Chippendale. Central Park is located on the southern edge of the Sydney CBD. The site is in close proximity to Central Station, Broadway Shopping Centre and the University of Technology, Sydney.

Following the purchase of the site in June 2007, Frasers undertook an extensive community consultation and design enquiry process. One of the major issues identified by the public during consultation was community health and safety. In response to this, Frasers has directed that safety and CPTED be a fundamental component of the design approach.

2.1.1 Concept Plan

The Concept Plan approval for Central Park (MP 06_0171), as modified, permits the construction of a mixed use precinct comprising:

- » 11 development blocks
- » A maximum Gross Floor Area (GFA) of 255,500m² 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
- » Contributions.

2.2 Block 8

2.2.1 Location and context

Block 8 is located at the south western corner of the Central Park site and is bound by Irving Street to the north, Central Park Avenue to the east, O'Connor Street to the south and Abercrombie Street to the west. Refer to Figure 1.

Block 8 is located at the edge of the Central Park precinct and forms part of the interface between new development and the existing Chippendale community. Development outside of the Central Park site and surrounding Block 8 consists primarily of commercial (office) and residential uses. Development on the south side of O'Connor Street opposite Block 8 contains 2 to 3 storey commercial offices. The western side of Abercrombie Street contains 4 storey mixed use development comprising commercial offices, some ground floor retail and residential uses, with 2 storey residential terraces located on the western side of Abercrombie Street south of O'Connor Street.

Within the Central Park site, Block 8 is located in the south western corner. Surrounding development includes Block 4S to the north (student accommodation and retail uses on the ground floor) and the main open space park directly to the east.

2.2.2 Proposed development of Block 8

The proposed development of Block 8 comprises a thirteen (13) storey mixed use building containing 190 residential apartments, a communal residents lounge, ground floor retail tenancies and three levels of basement car and bicycle parking facilities, as well as building waste storage facilities, mechanical/plant rooms and loading bay facilities.

Refer to architectural plans prepared by Smart Design Studio for further details.

Proposed public domain works involve hard and soft landscape treatment of the surrounding footpath areas around the proposed built form envelope.

Refer to landscape plans prepared by Jeppe Aagaard Andersen + Turf Design Studio (JAAA+TDS) for further details.

Figure 1 Location of Block 8



Source: Near Maps

3 Consultation

Fraser's Broadway Pty Ltd has made a major commitment to engage with the community and other key stakeholders regarding Central Park. This includes consultation on issues pertaining to crime and safety for this project.

Extensive consultation has previously occurred as part of the CPTED Report for the Concept Plan (2006) and the modified Concept Plan (2008). This included consultation with:

- » 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).

These stakeholders provided information on crime hotspots, crime incidents and perceptions, and crime trends for the neighbourhoods and educational institutions surrounding the Fraser's Broadway site.

Some key points mentioned were:

- » Crime hotspots in the Chippendale area, while relatively common, were mostly transitory in nature and did not have a prolonged life
- » The City of Sydney Council Community Safety Officer noted that there was a general perception among Chippendale residents that crime levels in the area were decreasing and that the area was becoming a safer place to live
- » Other crime hot spots identified by the Redfern Local Area Command were Redfern Railway Station and Victoria Park.

In addition, consultation with the NSW Police (Redfern Local Area Command) has occurred in the preparation of detailed CPTED reports for individual blocks.

A meeting was held with the Crime Prevention Officer from Redfern Local Area Command on 30 March 2012. The purpose of the meeting was to provide details of the student accommodation aspect of Central Park (located directly to the north of Block 8) to the NSW Police, discuss key CPTED issues as they relate to the student accommodation to the north of Block 8 and obtain feedback on CPTED relevant matters for that and future applications.

Feedback received during the meeting was considered to be of a general nature and has therefore been taken into consideration in the assessment of Block 8. It is intended that the preparation of this report reflects the issues and recommendations arising from these earlier consultations.

Fraser's have committed to ongoing consultation with key stakeholders throughout development of the project. The next phase of consultation took place during October 2013 and is detailed in section 5.2.13 of this report.

Relevant stakeholders will also have the opportunity to access information about the proposal and / or provide formal feedback at the public exhibition stage.

4 Community Safety Management Strategy

4.1 Overview

This section contains a Community Safety Management Strategy to satisfy commitment no. 30 contained within the Concept Plan approval for Central Park (as modified).

According to the Statement of Commitments, the Community Safety Management Strategy provides guidelines for the application of CPTED principles and 'Safer by Design' best practice models. As such, the Strategy is broad and contains objectives and generic design features that, if implemented, could assist to achieve CPTED principles.

4.2 CPTED objectives

The following objectives underpin the Community Safety Management Strategy for Block 8:

- » Create a secure public domain for all users at all times
- » Create a secure and easily accessed pedestrian and transport network
- » Create a secure environment during the construction process
- » Address the crime prevention needs of special user groups
- » Contribute to the creation of a secure community for residents around and on site
- » Promote health and injury prevention
- » Promote and support crime prevention through formal surveillance and appropriate signage
- » Create a secure and well-maintained built environment.

It is noted that these objectives refer to aspects of community safety that are outside of the scope of CPTED; however, are important elements to the creation of an environment that promotes community safety.

These objectives are consistent in principle and philosophy within the guidelines outlined in the NSW Department of Urban Affairs and Planning's (now 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).

4.3 CPTED design and management features

Objective 1: Create a secure public domain for all users at all times

Explanation of the objective

The public domain around Block 8 shall be legible, easy to navigate, promote social interaction and contain lively public spaces that are filled with activities compatible with surrounding uses.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

- » A public domain that encourages visual and pedestrian permeability by connecting to the existing road and pedestrian pathways
- » A public domain that maximises opportunities for natural surveillance and visibility, and created uninterrupted sightlines, through the use of lighting, appropriate landscaping and straight, wide and legible pathways
- » Activated streets and public spaces that allow for a variety of compatible activities and user groups (e.g. shops, cafes, entrances to building lobbies, etc.) so to attract pedestrian activity and thereby maximise natural surveillance
- » A mix of uses which are compatible with adjoining and co-located uses and are designed to support public safety and health
- » Avoidance of small corners or entrapment spaces in the public domain.

Design features to assist in achieving this objective

- » Use of glazing on the building facade at the ground floor to enclose private areas from the adjacent public areas, but also encourage sightlines and casual surveillance between public and private domain
- » Position outdoor lighting at regular intervals, so to provide consistency of lighting and prevent shadows and glare
- » Use landscaping that consists of low-lying plants or high-canopy trees that facilitate visual permeability and sightlines in the public domain and to prevent potential spaces for concealment.

Objective 2: Create a secure and easily accessed pedestrian and transport network

Explanation of the objective

Block 8 will be located within a safe, locatable and easily accessed pedestrian and public transport network.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

- » A secure pedestrian network, made up of preferred routes and safe spots in public spaces, that increase security of all users during the day and at night
- » Signage used throughout the pedestrian network that includes non-written forms of signage, such as maps, to assist non-English speaking people to navigate the site
- » Co-locate pedestrian, cycle and vehicle routes that maximise activity and natural surveillance opportunities, whilst ensuring a safe interface between all modes of transport
- » Footpaths, cycle-ways and pedestrian areas designed to ensure that pedestrians and cyclists have priority over vehicles
- » Car parks that provide direct access routes which maximise natural surveillance and visibility
- » A pedestrian and cycle network which facilitates efficient connectivity with external facilities, including the Central public transport hub
- » Activity generators (cafes, restaurant and entertainment areas) that have short logical connections to public transport and the safe pedestrian network.

Design features to assist in achieving this objective

- » Use appropriate lighting in the public domain, particularly on pedestrian and vehicle pathways and entry points to the building / lobby
- » Discourage the location of blank walls along main roads or pedestrian routes
- » Use temporary and permanent signage during construction to assist people to easily locate desired active and public transport services and facilities.

Objective 3: Create a secure environment during the construction process

Explanation of the objective

Development of Block 8 will be managed to provide a safe and amenable environment for surrounding business owners, visitors and residents throughout the construction process.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

- » Proactively manage and stage development so that a safe environment is created for visitors, business owners and residents who pass the site at all times during the construction process (e.g. manage public access to areas under construction, undeveloped sites and roads)
- » Ensure prompt maintenance and repairs at all construction sites (e.g. remove graffiti promptly to maintain a 'cared for' image) and facilitate prompt reporting of any damage or repair needs (e.g. place signs indicating contact details for emergency maintenance in a prominent location)
- » Educate surrounding residents, visitors and business owners on safe areas and "no go zones" during the development process
- » Conduct site safety audit each day during construction to ensure safety standards are maintained by workers.

Design features to assist in achieving this objective

- » Provide security barriers and necessary fencing during the construction phase
- » Ensure paving of pedestrian pathways and public domain areas is consistent and provide smooth transition along pathways during construction.

Objective 4: Address the crime prevention needs of special user groups

Explanation of the objective

The specific crime prevention needs of special user groups (e.g. children, younger people, older people and people living with a disability) are understood and addressed.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

- » Ground level maximises pedestrian comfort, amenity and accessibility through wide openings and easy access to retail spaces
- » Provision of lifts and ramps in publicly accessible areas
- » Pedestrian walkways that accommodates users with mobility disabilities (e.g. use of ramps)
- » Create non-written means of legibility, such as the creation of visually and physically inviting places, through the use of lighting and wide, inviting pedestrian pathways
- » Undertake discussions with relevant authorities and community organisations to manage homelessness and social issues positively
- » Ensure the public domain provides stimulus for a wide diversity of user groups including young children, youth, physical as well as mentally impaired and the elderly
- » Provide a diversity of fittings and modifications to the public domain that facilitate accessibility and ease of movement for the physically handicapped and for children, such as lighting, handrails, ramps (where required).

Design features to assist in achieving this objective

- » Provide consistent ground treatments (e.g. paving) and smooth transitions between public domain, semi-public and private areas.

Objective 5: Develop a secure community for residents around and on-site

Explanation of the objective

Residents, visitors, business owners and service providers (e.g. UTS, TAFE, City of Sydney Council, NSW Police, fire, ambulance, security, State Transit, taxi operators, etc.) will be supported as active partners in creating a safe environment.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

- » On-going consultation with surrounding residents and communities on design and construction progress, to inform adjacent residents and other major stakeholders of key safety initiatives during construction
- » Consult with government agencies, adjacent communities and residents and owners of commercial facilities during development
- » Technical surveillance provided for Central Park.

Objective 6: Promote health and injury prevention

Explanation of the objective

Encourage people to work and live a healthy lifestyle and take an active role in safety and injury prevention.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

- » Encourage a variety of diverse and active uses linked to public open space
- » Proactively work with all stakeholders during the development phase, including clients, designers, contractors and the workforce, to create an incident and injury-free workplace.

Objective 7: Promote and support crime prevention through formal surveillance and appropriate signage

Explanation of the objective

Ensure publicly accessible areas will be safe for all user groups through the use of formal surveillance and signage.

In pursuit of the above objective, the proposal includes the following elements:

- » A comprehensive security management system that includes CCTV cameras in the public domain and semi-public areas if the building and on-site management to monitor Block 8 and its surrounds
- » Install CCTV cameras in appropriate locations to enable surveillance of vulnerable areas
- » Use signage to increase safety by improving people's ability to find their way about Block 8 at all hours
- » Use signage to provide clear information about access routes.

Design features to assist in achieving this objective

- » Ensure that signs that are essential for night-time use are lit.

Objective 8: Create a secure and well maintained built environment

Explanation of the objective

Block 8 will have a legible, durable and well maintained built environment that is secure, feels safe to users and deters crime.

In pursuit of the above objective, the proposal includes the following elements:

- » Buildings should be made to feel safe and deter crime by creating a legible hierarchy of spaces; providing safe egress and access at all building entrances; removing opportunities for illegitimate entry; clearly delineate boundaries between public, semi-public (or shared) and private spaces; locate lifts for maximum visibility and natural surveillance
- » Maximise opportunities for passive surveillance, particularly of public open space areas
- » Ensure ample and safe opportunities for maintenance of the public domain
- » Provide a safe level of illumination at the ground level and public domain around the buildings with an emphasis given to preferred routes to encourage their usage by pedestrians, and supplementary lighting at lobby entry points
- » Clearly delineate public and private spaces through the provision of glazing, doors and materials
- » Ensure consistent ground surface and transition between public and private spaces
- » Ensure prompt maintenance and repairs of the built environment (e.g. remove graffiti promptly to maintain a 'cared for' image) and facilitate prompt reporting of any damage or repair needs
- » Develop a building management or facilities maintenance plan on occupation to ensure maintenance is carried out regularly.

Design features to assist in achieving this objective

- » Use appropriate locking systems where access should be restricted
- » Design lighting so that entrances, exits, service areas, pathways etc., are well lit after dark when they are likely to be used
- » Provide wide pedestrian thoroughfares across the site
- » Use glazing at the ground level where public and private spaces interface
- » Use materials, finishes, equipment and fixtures that are attractive, robust, replaceable, reduce opportunities for graffiti and vandalism.

5 Community Safety Management Plan

5.1 Overview

This section contains the Community Safety Management Plan to satisfy commitment no. 31 of the Concept Plan approval for Central Park (as modified). The Community Safety Management Plan uses the broad objectives of the Community Safety Management Strategy as the basis to describe and assess the proposed SSDA plans for Block 8.

The assessment contained in this section of the report is structured in accordance with the main design (physical) and management (non-physical) elements of Block 8 and addresses the public domain, semi-public domain and interface between public/semi-public and private areas.

The CPTED assessment of the Block 8 SSDA Plans addresses the following:

- » Building design (e.g. entry/exit points)
- » Building design – car and bicycle parking and delivery / loading areas
- » Building design – communal areas
- » Building design – servicing areas (e.g. “Back of house” areas such as plant rooms and garbage rooms)
- » Public domain design
- » Public domain design – lighting
- » Public domain design – signage
- » Landscaping
- » Formal surveillance and security
- » Building uses
- » Transport
- » Construction management
- » Consultation.

5.1.1 Summary of CPTED assessment

Block 8 consists of public domain elements, built form elements associated with the proposed building, and the interface of the public and private areas, as well as the surrounding pedestrian and transport network. Each of these aspects works in combination to contribute to crime prevention and the creation of spaces that promote community safety.

This section focuses on both the physical design aspects for Block 8 which contribute to achieving the principles of CPTED, as well as the non-physical/operational/management aspects of the building (once occupied). **Only the physical design elements can be certified as being complied with at the time of occupation.**

Public domain

Public areas within and around Block 8 consist of the public streets and pathways directly surrounding the proposed built form, which are made attractive and inviting for legitimate users through a variety of physical design and non-physical elements. These include:

- » Built form design that facilitates safety, sightlines and surveillance, and avoids entrapment, in the public domain
- » Use of appropriate materials, fixtures, finishes, lighting and landscaping
- » Appropriate building uses that generate activity
- » Ensuring maintenance of the public domain is facilitated.

The public domain to the north of the site is a publically accessible via a thoroughfare (Irving Street) that connects Central Park Avenue to Abercrombie Street. The thoroughfare separates Block 8 from the building to the north (Block 4S). Irving Street is one of the main east-west links allowing pedestrians to access the central part of the Central Park site, providing access to the Brewery Yard (and associated bar/retail/entertainment uses) and public open space. It is envisaged that the link will generate high volumes of pedestrian activity.

Activity generating uses within Block 8 are primarily located on the ground floor fronting Abercrombie Street (west). The provision of retail uses at the ground floor on the western façade of the building will attract shoppers and pedestrians to the area. The design of the building provides opportunities for surveillance of the public domain adjoining the retail spaces. This is achieved through the use of glazing, which facilitates direct sightlines and light spill from internal lighting, and therefore contributes to lighting the pathways and making public areas feel safer during the day and night.

The opportunity to include a cafe/restaurant within the ground floor would generate night and day activity in the area.

A communal resident's lounge is located on the Ground Floor for use by residents only. This space is glazed along the entire western frontage, thus providing ample opportunity for passive surveillance of the adjacent public domain including Abercrombie Street.

The provision of terraces and loggias at and above ground level provides opportunities for overlooking of the surrounding streets and public areas, so as to enhance surveillance of the public domain. Terraces and/or loggias are provided on the northern, southern, eastern and western facades of the building on Levels 1 through Level 12 as follows:

- » Ground Level: Loggia on eastern façade overlooking Central Park Avenue
- » Level 1: Loggia on northern, eastern and western facades
- » Levels 2 to 6: Loggia on all facades
- » Level 7: Terrace to unit at south west corner of the building overlooking Abercrombie Street and O'Connor Street
- » Level 8: Terraces on southern and western facades
- » Level 9: Loggia on northern, eastern and western facades and terrace on eastern façade
- » Level 10: Loggia and/or terraces on all facades
- » Level 11: Loggia on northern, eastern and western facades
- » Level 12: Communal terrace on southern façade, and terraces on eastern and western facades.

The provision of loggia and terraces on all facades of the building provides opportunities for passive surveillance from the private residential areas of the surrounding public domain, including the surrounding pedestrian and transport network. This surveillance is an important aspect of CPTED and assists to create a feeling of greater safety for users of the public domain.

Pedestrian and transport network

The pedestrian and transport network surrounding the site comprises of:

- » **Central Park Avenue:** one of the key roads within the Central Park site, this road provides access between Broadway (Parramatta Road) and O'Connor Streets and is the main link to the existing road network and the new internal streets. Central Park Avenue is the eastern border of Block 8.
- » **Irving Street:** provides a road link between Abercrombie Street and Central Park Avenue. This road is the northern boundary of Block 8. Irving Street is part of a conceptual east-west links that traverses the Central Park site.
- » **Abercrombie Street:** an existing north-south thoroughfare that connects Broadway (Parramatta Road) to the City South at Cleveland Street. Abercrombie Street is the western boundary of Block 8.
- » **O'Connor Street:** provides a road link along the southern boundary of Block 8 and runs along the southern end of Central Park Avenue.

The topography of the site is such that a slope from east (Central Park Avenue) to west (Abercrombie Street) is evident, as well as a slope from south (O'Connor Street) to north (Irving Street).

This network of streets and pathways should be made safe and accessible through the design of the public domain and adjacent buildings (e.g. activity generating uses fronting onto the main routes), use of materials and fixtures (e.g. lighting, appropriate landscaping and furniture to promote activity) and technical surveillance systems (e.g. CCTV).

The pathways immediately adjoining Block 8 should provide seamless access and transition to adjoining pathways, roads or public spaces so as to enable safe movement across Central Park. Further detail is provided in the tables below.

5.2 CPTED review of Block 8

5.2.1 Building design

This section focuses on the proposed built form for Block 8 and considers whether the building design is secure, feels 'safe' to users and is designed to help deter crime.

Aspects of the built form that influence the feeling of safety include:

- » Design of the building to be legible, create a clear hierarchy of space, enable safe access/egress, and enable formal and passive surveillance
- » Selection of appropriate materials, fixtures and lighting (which are durable and kept well maintained) to enhance community safety
- » Proposed use of the building to promote activity (detailed in Section 5.2.10).

The creation of active retail / commercial edges along the western facade of the proposed building will be important to activate the public domain, therefore building features that encourage sightlines between active and public places are to be encouraged along this façade.

It is anticipated that Block 8 will attract a high volume of visitors, as well as nearby residents who will utilise the retail opportunities within the building. To ensure the security of these people, a range of measures have been implemented in the building design, in terms of access and egress, building materials, lighting design and security/management systems.

Whilst these groups will generate activity and vibrancy around the site, thus enhancing opportunities for surveillance, the measures implemented in the design of the buildings together with the associated management systems, should assist to prevent crimes.

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 8
Safe egress and access at entry points	<p><i>As a general rule, main building entries should:</i></p> <ul style="list-style-type: none"> » <i>Provide safe egress and access</i> » <i>Remove opportunities for illegitimate entry</i> » <i>Create clearly defined entry points</i> » <i>Are designed so that they cannot hide intruders</i> » <i>Provide for maximum visibility.</i> <p>Main building entry/exit</p> <p>In Block 8, entrance and exit doors are not hidden from view of people in the public realm and are designed to be visible from the exterior so that there are clear views out from within buildings for people exiting.</p> <p>The main entrance to the residential component of Block 8 (lobby) is located in a prominent position visible from the main open space in Central Park. The lobby entrance of the building faces the street and is visible from Central Park Avenue.</p> <p>Several residential tenancies on the ground and upper floors facing O'Connor Street</p>

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 8
	<p>and Central Park Avenue have direct visibility to the surrounding streets and footpaths. Areas for planting and loggias to some units create private areas which encourage passive surveillance of the surrounding public domain. These design features assists in activating this part of the site, providing an address to surrounding streets rather than providing a blank wall to the edge of the Central Park precinct. This is considered to be a design feature that helps to integrates the Central Park site with surrounding (existing) uses.</p> <p>Clearly defined entry points</p> <p>The entry to the residential lobby is glazed and located off a public street/thoroughfare, and as such provides direct access and clearly defined entry points. Hiding places are minimised through the avoidance of low-lying planting in the areas outside the lobby that would otherwise enable offenders to hide. Refer to Landscaping Section below.</p> <p>The entry way is to be clearly distinguishable from public walkways leading to it through the use of appropriate lighting which should highlight the entrance, and the design of the doorways being setback from the building edge. Paving features should also distinguish the public domain from the internal lobby.</p>
Surveillance – glazing	<p>Opportunities for surveillance are maximised through the use of glazing on walls that define public from private space, as follows:</p> <p>Residential lobby</p> <p>Glazing is provided at the entrance to the residential lobby. This ensures the surrounding streets and pathways are highly visible to people exiting Block 8 whilst occupants/visitors entering Block 8 have clear sightlines into the building so as to detect any offenders.</p> <p>Street lighting, under-awning lighting, light spill from retail tenancies and other forms of pathway lighting (i.e. pole-mounted lighting) should be designed to create consistent and even lighting spread so that there is no glare for pedestrians and thus no adverse impact to visual sightlines in the evenings.</p> <p>Glazing is also provided to the western façade of the proposed building at the ground level, in the location of the residential communal lounge, thus enabling direct surveillance of Abercrombie Street.</p> <p>It is recommended that glass doors (and walls) are used to separate the residential lobby and residents’ communal lounge so as to create clear sightlines between these spaces, for people entering and exiting.</p> <p>Retail development</p> <p>Glazing is provided along the retail frontage to Abercrombie Street to provide for clear, unobstructed casual surveillance to the street, footpath and public areas. This provides an active edge to the public realm along Abercrombie Street, promotes clear and unobstructed natural surveillance of the street and encourages ground level pedestrian activity. In turn, this assists to deter crime by making the offender’s behaviour more easily noticeable to passers-by.</p> <p>It is recommended that glazing be used at the entrances to the retail spaces. Any back of house areas which provide access for staff, where not glazed, should be security/code locked.</p>

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 8
Access control	<p>Access control shall be provided to all non-public areas of Block 8. Security code/intercom/access passes shall be used to control illegitimate entry or access to the residential components of Block 8. Specifically, security measures shall be applied to the Block 8 lobby doors to reduce opportunities for illegitimate entry. The entry/exit will be glazed to enable visibility for residents entering/exiting the building. Sightlines to this entry should be enhanced by appropriate lighting design and clear, unimpeded sightlines to/from the outdoor areas.</p> <p>Deterrence of illegitimate entry shall also be encouraged at the “back of house” areas where doors provide risks for entry. In particular along the Irving Street frontage, doors that provide access to the garbage room shall be security key/code accessible only for the use of residents/tenants of the residential accommodation.</p> <p>The ground floor retail uses should be security lockable (with security key card or lock system) to deter illegitimate entry.</p> <p>The units fronting O’Connor Street and Central Park Avenue on the ground floor have been designed with landscaping and/or loggias separating the private from public areas. Although fencing is provided (with landscaping in the form of ‘creeper’ plants), these areas may be vulnerable to illegitimate entry thus care should be taken to ensure glass doors to internal areas are security lockable and/or strengthened glazing should be used to prevent illegitimate entry.</p>
Defined spaces	<p>Clearly defined external/public versus private areas express a sense of ownership and reduce opportunities for illegitimate use or entry. Physical and/or psychological barriers can be used to define spaces to reinforce this sense of ownership.</p> <p>Internal and external spaces within Block 8 are defined by glass doors and facades (to define ownership but clear maintain sightlines).</p> <p>Internal spaces within Block 8 at the ground floor are distinguished from outdoor public areas through the use of walls and doors. However, glazing along the active ground floor facades helps to maintain opportunities for surveillance, thereby deterring crime by making the offender’s behaviour more easily noticeable to passers-by and users of the outdoor spaces.</p> <p>The extensive use of glazing along most of the building facades, and at entry points, will ensure public and private spaces are visible yet differentiated from one another.</p> <p>Outdoor paving materials are differentiated from indoor flooring materials to define the space.</p>
Avoidance of large blank walls	<p>There no large expanses of blank brick walls that would attract graffiti. The use of glazing at the ground level has been maximised as a means of deterring vandalism.</p> <p>Installation of lighting at the perimeter of the site, and day and night activity generating uses, will also help to deter opportunities for graffiti in the first instance by encouraging surveillance.</p> <p>Other design features that assist to avoid large blank walls include:</p> <ul style="list-style-type: none"> » Fencing with planting along the eastern façade and southern façade » Extensive glazing and some areas of landscaping along the western façade. <p>The northern façade (to Irving Street) is most vulnerable, as the “back of house” areas are located along this façade. CCTV cameras should ensure this façade is monitored.</p>

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 8
Entrapment spots	<p>Based on a review of the Ground Floor Plan prepared by Smart Design Studio (DA Plan No. 103), there are no observable entrapment spots that would provide a significant security risk.</p> <p>It is noted that one of the entries to the retail tenancy on the ground floor off Abercrombie Street is setback from the building line. It is recommended that there is good provision of under awning/under building lighting in this location and that the doors to access the retail tenancy are glazed.</p> <p>It is noted that landscaping is provided within three recessed voids on the ground floor, which may be vulnerable spaces. Refer to Landscaping section for further comments.</p> <p>No details of ATMs are provided in the documentation. It is recommended that any facilities such as ATMs or public telephones in the public realm are provided in areas that are well-lit and not obstructed by walls so as to reduce entrapment risks.</p>
Lift entrances	<p>The lifts within the Block 8 are located in a highly visible, well-used and accessible area in the Ground Floor lobby of the building. The lifts are not obstructed by any walls and are directly visible from the entrance to the residential lobby to encourage maximum visibility and surveillance.</p> <p>As an added security measure, glazing used for the lift doors could be considered to deter opportunities for graffiti and further encourage sightlines. However, the lobby in Block 8 does not present a vulnerable security risk and as such, this design feature is not considered essential.</p>
Materials and finishes	<p>The design of the building does not include large blank walls and is largely comprised of glazing and small expanses of blank wall sections. These design features will deter people from undertaking vandalism on the building.</p> <p>Specific materials and finishes that assist to deter vandalism include:</p> <ul style="list-style-type: none"> » Fencing with 'climbers' along the eastern and southern facades (where ground floor residential tenancies are located) » Thin metallic bike racks. <p>Full details of specific building materials and design details are unknown at this stage and will be confirmed at detailed design (CC) stage. However, the following features are recommended in the choice of detailed materials and finishes:</p> <ul style="list-style-type: none"> » Avoid solid shutters on front windows and doors as this will create an impression that the area is uninhabited and inhibit natural surveillance » Robust, durable and high quality materials are used » Use strong, wear-resistant laminate, impervious glazed ceramics, treated masonry products, stainless steel materials, anti-graffiti paints and clear over sprays to reduce the opportunity for vandalism.
Hardware and fixtures	<p>Details of security hardware are not known at this stage and will be confirmed at detailed design (CC) stage. However, it is recommended that robust and durable hardware and fixtures are used to prevent illegitimate entry and ensure security.</p> <p>The following recommendations are noted:</p> <ul style="list-style-type: none"> » Use sturdy, non-corrosive catches, bolts and locks (e.g. metallic bollards and bike racks located along Central Park Ave) » Use flush-mounted meter boxes or service points within a secure building/enclosure for protection » Use non-corrosive security locks and bolts

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 8
	<ul style="list-style-type: none"> » Communal / street furniture should be made of hardwearing vandal resistant materials and secured by sturdy anchor points or removed after hours » Specify appropriate heavy-duty hardware, such as dead-bolt locks for all storage areas adjacent to pedestrian routes » Use transparent, unbreakable materials in parts of doors and walls at major entry points » Provide monitored alarm systems » Security alarms and fixtures should be installed to best practice specifications.
Maintenance	<p>Maintenance and repairs of the built environment (e.g. remove graffiti promptly to maintain a 'cared for' image) and reporting of any damage or repair needs should be done promptly.</p> <p>It is understood that common activities and maintenance around Block 8 will be administered and managed by a Building Management Committee. Maintenance issues to be addressed after occupation should include:</p> <ul style="list-style-type: none"> » Ensure light fixtures are maintained in a clean condition and replaced if burnt out or broken » If graffiti/vandalism occurs, graffiti removal is to occur immediately by contracted specialist cleaners or coordinated by the Building Management Committee.

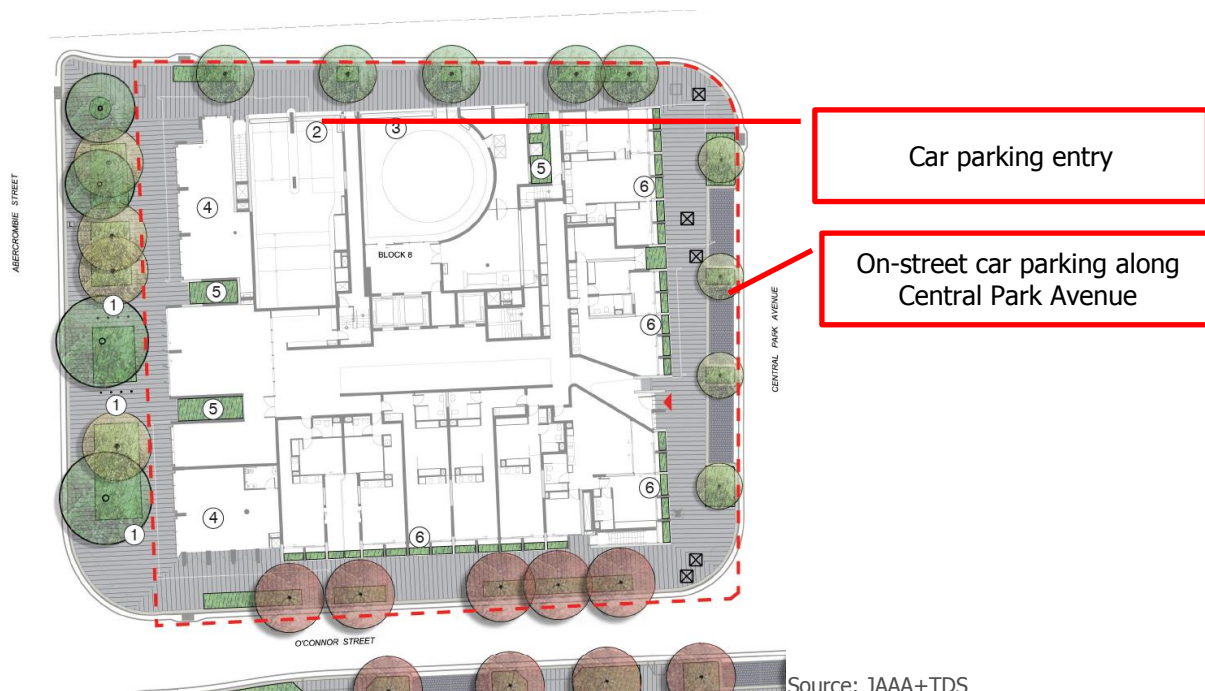
5.2.2 Building design – car and bicycle parking

This section focuses on specific crime prevention and community safety issues for the car parking and bicycle parking areas of Block 8. Three levels of basement car parking are proposed. Entry/exit to the basement car parking is via a ramp at the Irving Street frontage.

Bicycle parking/storage for residents is provided in the basement levels.

Design of the basement should ensure safe access and surveillance for these areas, during the day and night, and ensure blind spots, sharp angle corners, heavy columns and entrapment spots are minimised within the car park. In addition, on street car parking is provided along Central Park Avenue.

Figure 2 On Street car parking and car park entry location



CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 8
Safe access and surveillance for private car parking areas	<p>Based on a review of the basement and ground floor plans prepared by Smart Design Studio, the design of the car park is considered to provide direct access routes that enable natural surveillance and visibility.</p> <p>Entry to car parking for residents is via direct ramp downward located off Irving Street (Refer to Figure 1). Review of the three basement levels of car parking indicates that the basement car parking has been designed to ensure there are no concealed areas that may pose a risk to residents of the development. The parking areas are to be well lit and subject to security access to ensure maximum safety for residents.</p> <p>Ceiling heights in car park shall be at least 2.2m to allow for maximum visual surveillance within the basement levels, as well as to reduce vandalism of lighting fixtures.</p> <p>As an added safety precaution, a mirror could be utilised at the driveway to the car park to aid in visibility (where exiting cars would have blind spots).</p> <p>Pedestrian entry to the car park for residents is directly from the building lobby via lifts.</p>
Safe access and surveillance for bicycle parking areas	<p>Based on a review of the basement and ground floor plans prepared by Smart Design Studio, it is considered that private bicycle storage areas are located appropriately in the basement so that it can be surveyed by users upon approach.</p> <p>Access to/from the basement for bicycle storage shall be access controlled to ensure no illegitimate entry to Block 8 basement levels. The basement and bicycle storage area shall be lit at all times. As an added safety measure, it is recommended that CCTV be provided in bicycle parking areas.</p> <p>In addition, bike racks are to be provided along Abercrombie Street. Plan 10 in the Public Domain Report (JAAA+TDS) illustrates detail of the bike racks and bollards to be installed at Abercrombie Street.</p>
Surveillance for on-street car parking	There are clear sightlines between the on-street car parking along Central Park Avenue and public areas of Block 8 and surrounding blocks. Ensuring open sightlines allows for maximum surveillance of car parks.
Technical surveillance	It is recommended that technical surveillance via security (CCTV) cameras is provided in the basement car parks and visitor bicycle parking room. Refer to section 5.2.9 for further details.

5.2.3 Building design – communal areas

This section provides commentary on the communal areas of the proposed Block 8 development. The main communal / semi-public areas of the proposal include:

- » A residents' communal lounge (located on the ground floor)
- » Landscaped communal roof terrace on Level 12.

Design of the communal areas should be interesting and inviting to attract usage by legitimate users, and ensure the continuation of crime prevention and community safety design elements.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Surveillance and legibility	<p>A communal residents' lounge is located on the ground floor of Block 8. The communal lounge is accessible via a series of three doors which are located off the lobby. Access to the lounge should be restricted to residents (and their visitors, if supervised) only.</p> <p>A key card/security access should be used to deter illegitimate entry.</p> <p>The entrances to the lounge should be glazed to ensure people leaving or entering the space can clearly see if offenders are hiding.</p> <p>Glazing is provided on the western side of the lounge, separating it from the outdoor space. This provides very good surveillance opportunities of the public space adjacent to Abercrombie Street.</p> <p>Surveillance of the communal rooftop terrace could be via CCTV. As a minimum, entry to the communal terrace should be via key card to restrict illegitimate entry.</p>
Landscaping	Landscaping is proposed on the communal rooftop terrace. Refer to landscaping section (5.2.8) for assessment / comment.

5.2.4 Building design – servicing areas

Servicing areas, such as garbage rooms, loading areas, etc, are generally considered to be vulnerable elements of a residential or mixed use development. These spaces are generally less active and therefore vulnerable to illegitimate entry, vandalism and crime. The design of Block 8 should ensure that servicing areas located primarily along the Irving Street frontage deter crime by avoiding the creation of entrapment spots.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Entrances to non-pedestrian areas	<p>Illicit entry to Block 8 shall be restricted through security lockable doors.</p> <p>Entry to servicing or "back of house" areas is available from external areas (off Irving Street) or via a goods lift that opens to the loading bay. A garbage room is accessible from the residential lobby. Opportunities for illegitimate entry at the servicing / loading areas of the building should be minimised through the installation of key card/security access at each servicing entry.</p>
Surveillance	<p>As the servicing areas of the building are considered to be more vulnerable because of lower levels of activity and thus fewer opportunities for passive surveillance, it is considered appropriate to install CCTV cameras to the garbage room and loading bay. CCTV camera's in the car parking and bicycle storage areas are also recommended, as well as in the mail room. Refer to technical surveillance details in Section 5.2.9 of this report.</p> <p>Notwithstanding, it is acknowledged that Irving Street will attract vehicle movement and some level of pedestrian activity with pedestrians travelling east/west to access the open space park from Abercrombie Street. Movement within this thoroughfare provide some passive surveillance.</p>

5.2.5 Public domain design

This section addresses aspects of the public domain design (and interface between the public, semi-public and private realms) to encourage crime prevention and community safety. Public domain areas of the site shall be designed to be interesting and inviting to attract usage by legitimate users, as well as encourage

visual and pedestrian permeability. This section also considers the use of materials, finishes, equipment and fixtures in the design of the public domain that are attractive, robust and replaceable, so as to reduce opportunities for graffiti and vandalism.

The public domain design shall also consider specific crime prevention needs of special user groups (e.g. children, younger people, older people and people living with a disability). For example, the need to escape during a crime should be made legible for the elderly, young and people in a wheelchair.

It is noted that this report does not consider BCA issues or Australian Standards and it is recommended that all relevant BCA matters and relevant Australian Standards are complied with.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Design public areas to be legible	<p>The design of the public domain within Block 8 is legible (i.e. easily understood and navigated). The areas outside the building footprint connect to the existing grid pattern of surrounding streets.</p> <p>As shown in the Landscape Plans prepared by JAAA+Turf Design Studio, the pedestrian pathways that make up the public domain enable it to be clearly legible from the existing street grid, through the use of different paving types.</p> <p>It is recommended that pathway paving types are consistent with the paving selections in adjoining blocks to create continuity in the public domain.</p> <p>Public pathways around the proposed building are straight, wide and connect to existing or proposed public thoroughfares.</p> <p>All paving materials should be non-slip, in particular across the loading bay driveway.</p> <p>Other strategies to ensure the public domain is legible (i.e. easily understood and navigated) include the provision of signage to assist in way-finding.</p>
Activity-generating uses	<p>Activity generating uses have been located adjacent to public domain areas along Abercrombie Street, namely footpaths and the public street) which will maximise natural surveillance of the adjacent public domain (refer to Section 5.2.1 for detail on building design features that will promote natural surveillance, and Section 5.2.10 for discussion about the proposed building uses).</p> <p>Abercrombie Street is a pedestrian route, therefore locating activity generators along this strategically thoroughfare assists to provide passive surveillance of the area (in combination with the balconies of units above ground level).</p> <p>The residents' lounge on the ground floor of Block 8 is also considered a potential generator of pedestrian activity, and overlooks Abercrombie Street.</p>
Safe routes	<p>The proposal does not obstruct safe routes to nearby facilities, including public transport facilities at Broadway.</p> <p>Pedestrian routes will be made safe through the use of appropriate lighting within the public domain, in particular along streets, to encourage visibility at night.</p> <p>Paving materials selected for the public domain shall provide seamless public/private domain connectivity for pedestrians, thus not visually or physically prohibiting public access across the site.</p>
Entrapment spots	<p>Multiple entries / exits to all public open space areas should be provided so to act as escape routes if people are being pursued. Block 8 is surrounded on all four frontages by public streets, thereby multiple escape routes are provided to ensure alternative ways of escaping dangerous situations.</p> <p>Based on a review of the ground floor plans, there is no major recessing in the external perimeter of the proposed buildings which would create a safety risk for</p>

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
	<p>people in the public domain, thus opportunities for concealment or entrapment in the public domain are minimised.</p> <p>There are multiple entry and exit routes in the public domain surrounding the proposed building. The street network is such that there are no "dead-ends". Opportunities for escape are provided along the street and pedestrian network.</p> <p>The pedestrian network is based on a right angle grid pattern and does not showcase curves or bends that could impede sightlines. This allows for direct sight lines.</p>
Materials and finishes	<p>The selection of materials for pathways should be consistent with and complement the selection of pathway materials in surrounding blocks in Central Park (i.e. paving design will integrate with other public domain areas).</p> <p>Universal access to Australian Standards (AS) has been incorporated into the streetscape, connecting walkways and building entries without compromising design quality.</p> <p>It is understood that paving in public areas of the site shall comply with the relevant BCA requirements to ensure slip resistant pedestrian surface materials.</p> <p>Path edging shall be consistent and sturdy, ensuring that paving meets the surrounding ground at grade to avoid falls. All BCA requirements should be adhered to.</p>
Design bicycle routes both for convenience and security	<p>A bicycle lane along Abercrombie Street is located adjacent to pedestrian and vehicle traffic. Lighting of this thoroughfare shall enhance the pathways by providing safety through adequate illumination and thus visibility.</p>
Surveillance – sight lines	<p>There will be ample opportunities for natural surveillance and visibility of the public domain (i.e. of the pedestrian pathways surrounding Block 8) from pedestrian, cycle and vehicle movement systems around Block 8.</p> <p>As shown in the Ground Floor Plan prepared by Smart Design Studio (DA Plan No. 103), there will be clear sight lines between the streets and the pedestrian pathways. Opportunities for natural surveillance/visibility of the pathways from pedestrian, cycle and vehicular movements systems is improved through the use of consistent lighting, avoidance of low-lying plants and the activation of the ground floor uses, which will attract pedestrians to the area surrounding the site.</p> <p>The proposed design does create major obstructions to sightlines at the street level across the public domain.</p> <p>Trees are positioned along the northern, western, southern and eastern frontages however the landscaping section of this report (Section 5.2.8) details the recommended soft and hard landscaping selections that will ensure species and planting types do not create visual or physical barriers, particularly to sightlines.</p>
Escape routes	<p>The proposal provides a viable exit point (or escape route) in the public domain to enable a person to avoid a situation in which he or she might feel threatened. As mentioned previously, there are no "dead ends" in the public domain created by the proposed development. All pedestrian routes have alternative access (escape route) via a connecting street.</p>
Maintenance	<p>Public domain areas containing landscaping shall be carefully maintained to avoid hazards. Refer to Section 5.2.8 for further details on maintenance of landscaping.</p>

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Technical surveillance	Technical surveillance via security cameras are proposed in the basement car parks. Refer to Section 5.2.9 of this report.

5.2.6 Public domain design – lighting

This section addresses the design, location and selection of lighting in the public domain.

The design of lighting should ensure that entrances, exits, service areas, pathways, car parking etc., are well lit after dark. It should also provide a safe level of illumination across the site with an emphasis given to preferred routes, namely Abercrombie Street, Irving Street, O'Connor Street and Central Park Avenue, to encourage their usage by pedestrians.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Surveillance – Lighting at entries/exits/streets	<p>Lighting details are unknown at this stage.</p> <p>However, a range of recommendations for the selection, location and maintenance of lighting are outlined below.</p> <ul style="list-style-type: none"> » All external public domain areas are required to be well lit through the installation of street lighting and/or external building lighting » Building entry points shall be lit to a higher lux level than surrounding streets » Central Park Avenue, Abercrombie Street, Irving Street and O'Connor Street shall be well lit to encourage pedestrians to use these thoroughfares » All street lighting shall preferably be pole-mounted lights, and spaced at regular intervals along key thoroughfares to encourage pedestrian activity » Adequate internal lighting (in the building entries and lobbies) as well as light-throw from street lights should ensure the pathways around Block 8 are well lit in the day and night » All external lighting and lighting in semi-private areas shall be compliant with Australian Standards and Design Guides for Lux Levels.
Surveillance – Positioning of lights	<p>Lighting details are unknown at this stage.</p> <p>However, a range of recommendations for the selection, location and maintenance of lighting are outlined below.</p> <ul style="list-style-type: none"> » As a guide, areas should be lit well enough to enable users to identify a person's face from 15m away » In addition to street lighting, lighting shall be provided on the underside of awnings or within building entries (where glazed) to illuminate the building/lobby entry point » Direct lights towards access/egress routes to illuminate potential offenders, rather than towards buildings or observation points » Care should be taken to provide good lighting at the loading bay/servicing areas and doors accessing the building along the Irving Street facade. » Illuminate pre-identified "preferred pedestrian routes" so that these become the focus of legitimate pedestrian activity after dark and pedestrians are discouraged from using other routes after dark » Provide adequate illumination for directional signage and maps » Ensure lighting is out-of-reach so as to minimise opportunities to vandalise lighting fixtures
Surveillance – Selection of lighting	<p>The following recommendations for the selection of lighting are noted.</p> <ul style="list-style-type: none"> » Use luminaires with a wide beam of illumination which reaches to the beam of the next light, or the perimeter of the site or area being traversed

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
	<ul style="list-style-type: none"> » Wherever practical, use luminaires that have a Full Cut-Off (FCO) light distribution characteristic to keep discomfort and disability glare to a minimum » Avoid time-switched lamps, as they can be inoperative for days if there is a long maintenance cycle » Select light sources which provide good colour rendition — preferably equal to or better than Ra 85.
Lighting design	It is recommended that a CPTED lighting expert is consulted throughout the detailed design phase to ensure that lighting provisions and requirements are in accordance to Australian Standards and/or building management practices.

5.2.7 Public domain design – signage

This section addresses the design, location and selection of signage in the public domain.

Signage should be used to provide clear information about places of security, preferred routes, facilities/amenities and locations of entry/exit/escape routes

Building signage should be located so as to be clear and visible to pedestrians in the public domain, and highlight preferred access routes. In particular, signage should be located for maximum visibility, during the day and night, along preferred routes and so that it cannot be obscured.

It is understood that a Signage Strategy will be prepared for the Central Park site. As such, the table below contains a series of recommendations to be incorporated into the Signage Strategy.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Ensure signage is easily legible	<p>Signage related to way-finding and the location of nearby blocks/ amenities should be located at the entrance to open space areas so as to provide clear information regarding access routes and designated special use open spaces. As Block 8 is located adjacent to an open space park, any signage related to the park should be clear or way-finding signage in the vicinity of Block 8, should be clear.</p> <p>It is recommended that the Signage Strategy detail measures to address ease of way-finding for pedestrians accessing services and public transport and for motorists.</p> <p>It is recommended that the following features be incorporated into the Signage Strategy for implementation:</p> <ul style="list-style-type: none"> » Use of LED electronic signage where appropriate, to ensure visibility of essential signs at night » Information containing warnings/details about the emergency access/egress for Block 8 » Building numbering and/ or naming so that buildings are clearly identifiable » Ensure that the size and siting of signs outside of building entries / exits do not create entrapment spaces
Signage location	<p>It is recommended that the following features be incorporated into the Signage Strategy for implementation:</p> <ul style="list-style-type: none"> » Place signage in identified “safe routes” and preferred pedestrian paths indicating destinations, facilities, amenities and buildings en route » Place signs at building entrances and near activity nodes » Where signs are placed close to vegetation, ensure the siting (and vegetation selection) of the sign cannot be obscured by growing vegetation as it matures
Signage content	It is recommended that the following content features be incorporated into the

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
	<p>Signage Strategy for implementation:</p> <ul style="list-style-type: none"> » Information about where to go for assistance in case of emergency » The location of telephones, duress buttons, taxis, bus stops and the nearest "safe" place » Closing hours at building entrances adjacent to public areas that are closed off at night » Clear and regular signposting to main pedestrian routes » Maps of the building at main entrances » Ensure information is in plain words marked with "you are here".

5.2.8 Landscaping

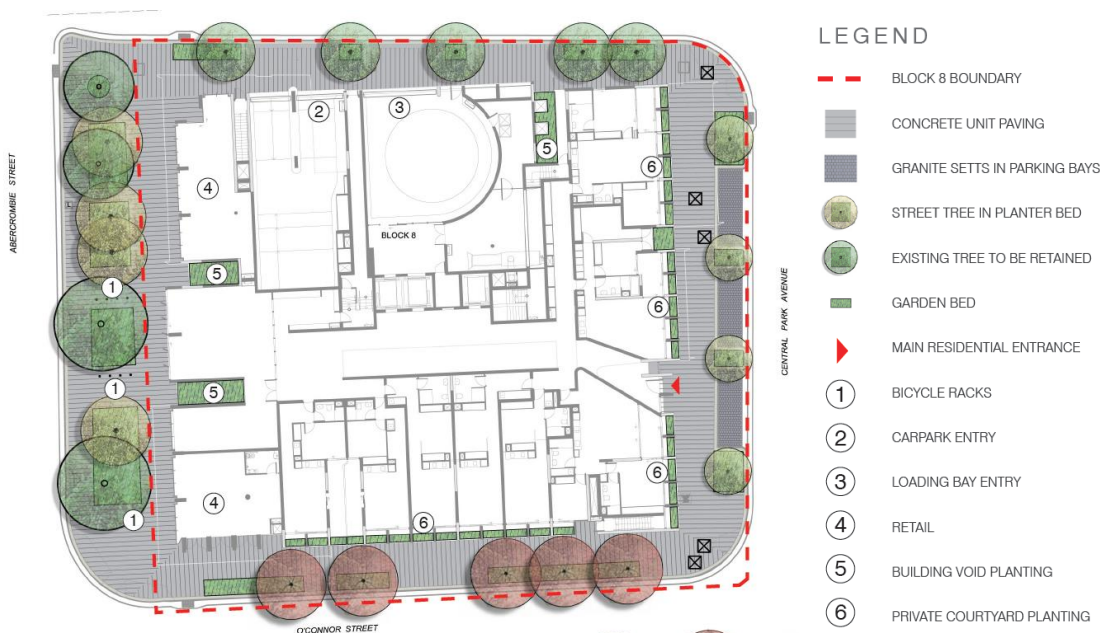
Landscaping has a significant impact on creating an attractive public domain, however should be carefully designed so as to avoid the creation of obstructions that facilitate crime.

As a general rule of thumb, the design and location of landscaping should allow for, and not inhibit, natural surveillance. In relation to soft landscaping in particular (i.e. plantings and the like), the type and location of species, noting their size and form at maturity, should be taken into account to minimise the creation of possible hiding places for intruders both at the time of construction and in the future.

The proposal incorporates both hard and soft landscaping features as shown in Figure 3 below and the JAAA+TDS Report. Key aspects of the landscaping design include:

- » Street trees
- » Private courtyard planting to the ground floor apartments (along fences that separate the public domain at the ground floor from residential units facing Central Park Avenue and O'Connor Street)
- » Building void planting
- » Screen planting (on rooftop terraces).

Figure 3 Landscape Design



Source: JAAA+TDS

As stated in the Landscaping Report:

Trees organise the public domain landscape by providing shade, physical buffers from traffic and greater green corridor links with Chippendale. The arrangement and variety of tree and groundcover species define space and frame architectural elements. The proposed planting will allow for summer shade and winter sun, displaying a play of colours and seasonal change.

The planting design intends to maintain an aesthetic continuity throughout the site; working with predominantly local Sydney species which tolerate environmental conditions as experienced on building rooftops. Maintenance of plant material has been considered in the selection process as well as similar growing medium requirements.

The commentary in the following table is based on a review of the Ground Floor Plans (prepared by Smart Design Studio) and Landscaping Plans (prepared by JAAA+Turf Design Studio).

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Surveillance	<p>Landscaping in the public domain should be selected so as to protect and maintain natural surveillance of the site and its surrounds. This includes no use of shrubs or low-lying plants in public domain areas and maintenance of wide, paved pedestrian pathways that are well lit.</p> <p>Trees are proposed to be planted on all four frontages in the public domain of Block 8. The selection of trees/planting types, and their location in the public domain, has the potential to impede sightlines for pedestrians.</p> <p>Based on a review of the plans provided, the street trees proposed should not obstruct building entries.</p> <p>Although tall trees will be planted along the street frontages, it is envisaged that there should be sufficient footpath width to avoid unnecessary obstruction of building entries. Any proposed tree planting along the pathways should take into account their shape and size as they mature (refer to 'plant types' below).</p> <p>Three locations on the ground floor are shown as Building Void Planting (see Figure 3). It is understood that these areas will contain low lying plant species such as <i>Chlorophytum comosum</i> 'Variegatum', <i>Dracaena</i> 'Janet Craig', <i>Helmholtzia glaberrima</i> and <i>Ophiopogon japonicas</i>. Planting in the void spaces should not be able to grow to medium height (over 600mm), as this may present an opportunity for offenders to hide.</p> <p>As shown in the Plans, the location of street trees is in an orderly arrangement that will not limit the proposal's legibility or pedestrian visibility, by being planted in a linear fashion.</p> <p>Based on a review of the plans, the proposal does not intend to provide tall bushes, dense shrubbery or dense clusters of trees immediately adjacent to routes and at predictable stopping points such as road crossings.</p> <p>Surveillance from ground floor units to the public domain will be hampered by climbers that are envisaged to grow along the fencing that separates the units from the public realm. This is considered necessary so as to keep internal spaces private. The use of climbers (e.g. <i>Trachelospermum jasminoides</i>) on the fence will create an attractive element when viewed from the street.</p>
Planting types	<p>The selection of plants for the public domain is outlined in the JAAA+Turf Design Studio Landscape Report. It is recommended that no dense shrubs be planted on the ground floor level which may create a visual barrier to key thoroughfares and building entries.</p> <p>The selection of trees should consider the following:</p> <p>» Select trees for planting in the public domain that do not have branches below</p>

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
	<p>1.5m (for the trees' protection, it is better if they do not have branches below 2.4m)</p> <ul style="list-style-type: none"> » Select trees in the vicinity of the built form which will not overhand balconies » Avoid medium-height vegetation with concentrated top-to-bottom foliage » Ensure that planting within 5m of a pedestrian pathway is lower than 600mm OR thin-trunked with a high canopy » Use low planting (maximum height 600mm) and high-branching trees (2m) to open sightlines; these are particularly recommended within a distance of 15m from bicycle stop signs or road junctions » Rather than planting saplings, consider planting heavy standard (120-140mm girth), extra heavy standard (140-160mm girth) or even semi-mature trees (200-720mm) to make it physically more difficult to snap main growing stems. <p>The proposal also includes private courtyards to the ground floor apartments at the private-public street front interfaces along Central Park Avenue and O'Connor Street. The proposed courtyard planting consists of low ground shrubs and climber planting to fences. This provides a 'green wall' screening to the ground floor apartments, providing visual amenity and privacy. Green screens provide a type of graffiti-prone wall to assist in the deterrence of graffiti, if located in key locations. Planting in these locations is considered to contribute to the creation of an attractive built form and will add visual interest to Block 8.</p> <p>The fence material on which the climbers will be attached shall be robust to deter illegitimate entry. The landscaping selection in this location (climbers) should not assist an intruder to gain access to windows and doors of upper floors.</p>
Future sightline impediments	<p>The planting selections should ensure that, when mature, the plants will not serve as screens or barriers to unimpeded views of pathways etc.</p>
Landscaping in communal areas	<p>Landscaped rooftop terraces are proposed on Levels 8, 9, 10 and 12 in the JAAA+Turf Design Studio Landscaping Report.</p> <p><i>Lightweight pots and paving on a pedestal system are proposed to provide visual and open space amenity while fulfilling structural requirements. Arrangements of plants and small trees, selected for visual impact and low maintenance qualities, will frame and define terrace open spaces and create visual focal points.</i> (JAAA+TDS Report).</p> <p>It is recommended that any pebbles used in the inner side of the balustrade, where they could be picked up and used thrown, should be fixed rather than loose. Alternatively, soft plantings could be used in place of the pebbles on the inner side of the balustrades.</p> <p>All concrete planters placed on the rooftop terraces should be either fixed or of a weight that does not enable them to be picked up or thrown.</p>
Pathways	<p>Pathways in the public domain should create a solid, non-slip surface. Based on a review of the Landscape Plans, no pedestrian pathways in Block 8 feature gravel paths and borders.</p> <p>It is recommended that all surfaces have stable and seamless paving, or provide appropriate transitions where paving materials differ.</p> <p>Paving used in the public domain should be non-slip and provide stable transitions between pathways and streets, and pathways and private areas.</p>

5.2.9 Formal surveillance and security

This section focuses on promoting community safety and crime prevention through the implementation of formal surveillance and security measures to help create a safe environment and ensure vulnerable areas are monitored. It is understood that a centralised security management plan is to be developed for the whole Central Park site.

The Plan should provide for centralised technical surveillance and monitoring systems. The security management shall be confirmed prior to occupation of the site.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Security management	<p>It is understood that a permanent security presence shall be provided on site via a 24-hour on-site security and facilities control centre. The control centre will be responsible for the provision of the following services:</p> <ul style="list-style-type: none">» Operation and management of the CCTV system» Response co-ordination to help-points and other enquires» Operation and administration of electronic access control systems» Co-ordination and management of property maintenance» Security patrols (including licensed uniformed security officers). <p>The security presence shall also be operational at the Central Park site upon occupation.</p>
Security cameras	<p>Installation of security cameras – real-time video surveillance (CCTV) –shall be positioned to monitor all high-activity areas, such as the lobby entry point, outside the building along the major pedestrian routes along all four frontages of the building, access to “back-of-house” areas fronting Irving Street, at the entry to the loading bay, and public areas in the basement level (e.g. corridors opposite the lift).</p> <p>CCTV cameras should be recessed if possible (under eaves in the perimeter of the building).</p>
Security controlled access	<p>The entry doors to the building should be controlled by security card/key access. All “back of house” areas including garbage rooms, loading bay, bike storage room and fire stairs should also be controlled by security card/key access. It is recommended that the residents’ lounge also be restricted for access and use by residents (and their visitors) only.</p> <p>It is recommended that a consistent electronic security system that provides intruder detection and electronic access control is provided for all entries to Block 8, which accords with that used in other central Park developments. Access control should use a common platform across all buildings yet provide flexibility in credential card types and formats.</p>

5.2.10 Building uses

This section addresses the details related to the proposed building uses and the implications for crime prevention and community safety. Building uses shall ensure that adjoining and co-located uses are compatible and do not create a dangerous situation.

Uses and activities with afterhours use along the edges of the pedestrian network should be encouraged.

Entertainment night zones, and centres of activity such as restaurants, should be planned and managed so that they do not disrupt residents and have short logical connections to public transport and car parks.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Active ground floor uses	<p>Retail uses at the ground level in Block 8 are adjacent to, and accessible from, public areas along Abercrombie Street. The retail uses on the ground floor will have the potential for extended hours for café/restaurants in order to encourage night time use and activity. This will maximise natural surveillance and encourage activity after working hours. Building design features, such as extensive glazing on the Ground floor, will help to encourage passive surveillance.</p> <p>These uses can potentially be used by workers, residents and general visitors to Central Park. These uses will encourage activity and provide natural surveillance to the site.</p> <p>There will be opportunities for pedestrian activity/social gathering in and around the retail uses, which can potentially extend outdoors onto the pathways to accommodate outdoor dining.</p>
Surveillance	<p>Opportunities of surveillance of the public domain are afforded through the location of balconies/terraces on upper floors of the proposed development. Overlooking of the public domain from private space is considered a contributing form of overarching surveillance of the site and surrounding areas, namely areas such as the public park, O'Connor Street and Abercrombie Street.</p>
Compatible adjoining uses	<p>Areas adjoining Block 8 include:</p> <ul style="list-style-type: none"> » Open space (park) to the east » Block 4S to the north (retail ground floor with student accommodation above) » Surrounding development (not within the Central Park precinct) to the south and the west containing mixed uses. <p>Residential accommodation and a small amount of retail is considered to be a suitable mix of uses in this locality. The ground floor retail uses facilitate activation at the street level and assist in passive surveillance of the surrounding public domain.</p> <p>As noted in the lighting section of this report (Section 5.2.6), given the location of the site at the edge of the Central Park precinct, continuous lighting is recommended to the pathways that adjoin Block 8.</p> <p>The street/pathway lighting should be complementary to the existing City of Sydney Council street lighting. Care should be taken in the selection of street lights to avoid creating glare or shadow. This will ensure users of adjoining buildings have secure and legible paths of travel.</p>
Night zones	<p>The proposed retail uses within Block 8 have potential to convert to night-time uses (e.g. restaurants or cafes) or trade with extended trading hours. It is envisaged that the ground floor will contain retail tenancies operating between 9am to 11pm (subject to future approvals).</p> <p>This has the potential to increase pedestrian activity, and therefore passive and active surveillance, of the surrounding public domain in Block 8 at night.</p> <p>These 'night zones' are closely situated to public transport services along Broadway and the proposed basement car parking in Block 8.</p> <p>A series of measures are proposed that will ensure the pedestrian route to Broadway is safe, including the installation of consistent and regular streetlights along Abercrombie Street and Central Park Avenue.</p> <p>It is envisaged that appropriate management of spill over noise from retail spaces shall be required with future DA's for the proposed use, to minimise disruption to</p>

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
	future residents in Block 8 and surrounding buildings.
Cross-demographic user groups	<p>The proposal provides for a range of possible uses within the ground floor retail tenancies, uses, with the potential for a night café/restaurant use.</p> <p>The proposed uses will be subject to future DA's.</p> <p>Potential uses such as shops and/or cafes have the potential to attract a wide range of users groups including workers, residents (existing and future), students from nearby universities (UTS and TAFE) and general visitors during different times and days of the week.</p>

5.2.11 Transport

This section describes the CPTED implications for transport and travel behaviour as a result of the Block 8 proposal. In particular, the development shall ensure that natural surveillance is provided to public transport nodes and key pedestrian routes. Opportunities for alternative transport should be optimised, by designing the Public Domain and proposed development so that pedestrians and cyclists have priority over vehicles (where possible).

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Natural surveillance	<p>The existing bus stops along Broadway and at Central are well located to service the site. Natural surveillance will be provided by the retail uses located along Broadway to assist in the natural surveillance of these public transport nodes.</p> <p>The proposal for Block 8 does not detract from the natural surveillance afforded to these stops. The proposal contributes to the creation of an active frontage (containing active retail ground floor uses) along Abercrombie Street, to assist in natural surveillance of this key pedestrian route.</p>
Alternative transport	<p>As shown in the Ground Floor Plan prepared by Smart Design Studio (DA Plan No. 103), cyclists and pedestrians have multiple options to travel to/from Block 8.</p> <p>Pathways adjacent to the streets are located around the perimeter of the buildings. A network of linked pathways ultimately connects to the pathway network along surrounding (existing) streets such as Broadway and Abercrombie Street.</p> <p>Safe bicycle parking facilities are located within the basement levels of Block 8 to encourage cycling as a preferred form of transport.</p>
Emergency vehicle access	Emergency vehicle access must be made available via all streets within the street network in Central Park.

5.2.12 Construction management

This section addresses crime prevention and community safety for the construction phase of the development. Work Health and Safety matters are not within the scope of this report. However, it is important to ensure the site, during construction, will be secure and planned in such a way so as to encourage crime prevention and community safety.

It is envisaged that further detail will be provided in a Construction Safety Management Plan at the next stage of the development process. Construction Safety Management Plans should include information relating to safety of workers and the public during construction, construction signage and site access. The Plan should outline necessary maintenance procedures to ensure safety during the construction phase.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 8
Construction Management Plan	<p>On-site security of the site is recommended in order to limit opportunities for vandalism. Where vandalism or graffiti occurs, it should be removed or repaired promptly to maintain a "cared for" image. Signs indicating contact details for emergency maintenance should be located in prominent locations. Signage should also be used to assist in informing surrounding residents/visitors/business owners on safe areas and "no go zones" during the construction phase.</p> <p>These aspects should be incorporated into a Construction Management Plan for the site.</p>

5.2.13 Consultation

A major aspect of the Frasers Broadway Pty Ltd approach has been to facilitate active partnerships with key stakeholders and the community.

Whilst not a direct CPTED matter, as part of the strategies for broader community safety it is noted that on-going consultation with external stakeholders with an interest in Central Park has been maintained.

The most recent consultation process occurred during October 2013. Details of the consultation are as follows:

- » On Saturday 12 October between 4.00pm-5:30pm, a site tour for local residents was held with Smart Design Studio representative, Anita Morandini. The purpose of the site tour and informal Q&A session was to allow the community to find out more about Block 8 before Frasers Property and Sekisui House lodge a building application.
- » Residents were notified of the site tour via letter box drop and through the project website: <http://www.centralparksydney.com/block-8-consultation/>
- » Feedback forms were provided at the session and subsequently emailed to residents to complete. Feedback is due by Monday 21 October 2013.
- » A briefing session was also held with representatives of the Chippendale Residents Interest Group (CRIG) on Thursday 10 October between 8:45am and 10:00am.
- » Refer to the Outcomes Report enclosed with the DA package summarising feedback and issues raised through the process and how Frasers Broadway Pty Ltd have responded to them.

Once the buildings are operational, ongoing liaison between the on-site security and/or strata managers is recommended to ensure the safety of residents.

6 Conclusion and implementation

6.1 General

This Safety Management Strategy and Plan details how the design of Block 8 meets and/or exceeds the 'safer by design' principles of CPTED.

Frasers Broadway Pty Ltd or any future purchasers of Block 8 will need to comply with all safety management requirements during the construction phase of the project and beyond. Additional information on specific materials, fittings and location of building and public domain elements will be provided in the detailed design stages.

Based upon this assessment, the proposal for Block 8 is therefore considered worthy of support from a safety and crime prevention perspective, subject to the recommendation contained within this report.

6.2 Compliance

This report sets out a variety of CPTED matters that concern physical aspects of the building design, as well as non-physical aspects such as on-going management. Compliance assessment of the proposal in future stages of development (e.g. Construction Certificate or Occupation Certificate) should be carried out against the observations and recommendations made in respect to the physical building design aspects only.

Appendices

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Appendix A: What is CPTED

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What is Crime Prevention Through Environmental Design (CPTED)

General CPTED concepts

Crime Prevention through Environmental Design (CPTED) is the design and effective use of the built environment so as to lead to a reduction in the fear and incidence of crime and an improvement in the quality of life. CPTED involves the design of a physical space so that it enhances the needs of legitimate users of the space. This emphasis on design and use deviates from the traditional 'target-hardening' approach to crime prevention.

For CPTED to be successful, it must be understandable and practicable for the normal users of the space. The normal users know more about what is going on in the environment and they have a vested interest (their own well-being) in ensuring that their immediate environment operates properly.

The Three D's: designation, definition and design

The 'Three D's' approach to space assessment provides a simple guide for the normal users in determining the appropriateness of how their space is designed and used. The Three-D concept is based on the three functions or dimensions of human space:

- » All human space has some designated purpose;
- » All human space has social, cultural, legal or physical definitions that prescribe the desired and acceptable behaviours; and
- » All human space is designed to support and encourage the desired behaviours.

CPTED involves the design of the physical space in the context of the legitimate user of the space, the normal and expected use of that space, and the predictable behaviour of the bona fide users and offenders. CPTED emphasises the connection between the functional objective of space utilisation and behaviour management. We must differentiate between designation of the purpose of space, its definition in terms of management and identity and its design as it relates to function and behaviour management.

By using the 'Three D's' as a guide, space may be evaluated by asking the following types of questions:

Designation

- » What is the designated purpose of this space?
- » For what purpose was it originally intended?
- » How well does the space support its current use or its intended use?
- » Is there conflict?

Definition

- » How is space defined?
- » Is it clear who owns it?
- » Where are its borders?
- » Are there social or cultural definitions that affect how space is used?
- » Are the legal or administrative rules clearly set out and reinforced in policy?
- » Are there signs?

- » Is there conflict or confusion between purpose and definition?

Design

- » How well does the physical design support the intended function?
- » How well does the physical design support the desired or accepted behaviours?
- » Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?
- » Is there confusion or conflict in the manner in which physical design is intended to control behaviour?

Once these questions have been asked, the information received may be used as a means of guiding decisions about the use of human space. The proper functions have to be matched with space that can support them.

The design must assure that the intended activity can function well and it must directly support the control of any behaviour that results.

Five key CPTED principles

CPTED is supported by the following five overlapping principles that are applied to specific sites and situations.

Territoriality

Territoriality is a concept that clearly delineates private space from semi-public and public spaces, and creates a sense of ownership. People usually protect territory that they feel is their own and have a certain respect for the territory of others. Fences, paving, art, signs, good maintenance and landscaping are some physical ways to express ownership. Identifying intruders is much easier in a well-defined space. An area that looks protected gives the impression that greater effort is required to commit a crime. A cared for environment can also reduce fear of crime. Areas that are run-down and the subject of graffiti and vandalism are generally more intimidating than areas that do not display such characteristics. Ownership creates an environment where appearance of such strangers and intruders stand out and are more easily identified through:

- » An enhanced feeling of legitimate ownership by reinforcing existing natural surveillance and natural access control strategies with additional symbolic or social ones;
- » Design of space to allow for its continued use and intended purpose; and
- » Use of pavement treatments, landscaping, art, signage, screening and fences to define and outline ownership of space.

Natural surveillance

Natural surveillance is a design concept directed primarily at keeping intruders under observation. Provision of natural surveillance helps to create environments where there is plenty of opportunity for people engaged in their normal behaviour to observe the space around them.

Criminals usually do not want to be seen. Placing physical features, activities and people in ways that maximise the ability to see what is happening discourages crime. For example, placing cafés and kiosks in parks increases natural surveillance by park users, while placing clotheslines near play equipment in a multiple unit development increases natural surveillance of the play area.

Barriers such as bushes or sheds can make it difficult to observe activity. Areas can be designed so they are more easily observed through design and placement of physical features to maximise visibility. This will include:

- » Building orientation, windows, entrances and exits, car parks, rubbish bins, walkways; landscape trees and shrubs, use of wrought iron fences or walls, signage and other physical obstructions;

- » Placement of persons or activities to maximise surveillance possibilities; and
- » Minimum maintained lighting standards that provide for night-time illumination of car parks, walkways, entrances, exits and related areas to promote a safe environment.

Access control

Access control is a design concept directed primarily at decreasing criminal accessibility. Provision of natural access control limits access and increases natural surveillance to restrict criminal intrusion, especially into areas where they will not be easily observed. Access can be restricted by physical barriers such as bollards, fences, doorways etc., or by security hardware such as locks, chains and alarms. Human measures can also be used, such as security guards. All these methods aim to increase the effort required to commit a crime and therefore, reduce the potential for it to happen.

When present, intruders are more readily recognised through:

- » Use footpaths, pavement, gates, lighting and landscaping to clearly guide the public to and from entrances and exits; and
- » Use gates, fences, walls, landscaping and lighting to prevent or discourage public access to or from dark or unmonitored areas.

Activity support

Activity support is the presence of activity planned for the space. Activity support involves placing activity where the individuals engaged in such an activity will become part of the natural surveillance system.

Examples include:

- » Place safe activities in areas that will discourage would be offenders, to increase the natural surveillance of these activities and the perception of safety for normal users, and the perception of risk for offenders;
- » Place high-risk activities in safer locations to overcome the vulnerability of these activities by using natural surveillance and access control of the safe area;
- » Locate gathering areas in locations that provide for natural surveillance and access control or in locations away from the view of would-be offenders; and
- » Improve the scheduling of space to allow for effective use and appropriate intensity of accepted behaviours.

Maintenance

Proper maintenance of landscaping, lighting treatment and other features can facilitate the principles of CPTED, territorial reinforcement, natural surveillance and natural access control. Functions include:

- » Proper maintenance of lighting fixtures to prescribed standards;
- » Landscaping which is maintained at prescribed standards; and
- » Minimising the conflicts between surveillance and landscaping as the ground cover, shrubs and trees mature.

Crime risk assessment: key design elements

During a crime-risk assessment process, specific types of problems can be identified. These include features such as activity generators, edge effects, movement predictors, conflicting user groups, crime "hotspots" and displacement effects. Once identified, CPTED principles can be brought to bear to reduce the impact of these problems. These are summarised below.

Activity generators

Activity generators are features that tend to create local activity: playgrounds, benches, picnic areas and kiosks. Crime opportunities can be high in such areas if CPTED is not applied. In some circumstances, activity generators can be used to reduce opportunities for crime.

Edge effects

Edge effects are generated around the actual, or perceived, physical borders of different land uses, such as the edge of a park, the border of a commercial strip or around a shopping mall. Research has shown that high crime rates have been found in such areas. Contemporary CPTED aims to identify, soften or eliminate as many as possible.

Movement predictors

Movement predictors are predictable or unchangeable routes or paths that offer few choices to pedestrians. Pedestrian bridges, enclosed pathways and staircases are examples. Often alternate routes are unavailable to pedestrians and this becomes a problem, especially if the movement predictor contains entrapment areas where offenders can hide and wait for victims. Movement predictors also determine the awareness spaces that offenders have of neighbourhoods and where targets may be located.

Conflicting user groups

Urban features designated for one legitimate group can conflict with other groups nearby, such as older people. In addition, different groups using design features for different reasons can often cause conflicts, such as walking trails used by both bicyclists and hikers. Attention must be given to avoid generating opportunities for problems by creating or exacerbating conflicts between user groups.

Hotspots

Hotspots are existing high-crime locations that can affect a nearby area. These can include areas of high car theft such as certain underground parking lots, pick-pocketing in bus terminals, or specific pubs experiencing fights at closing time. Consideration must be given to the proximity of such locations and how to provide for public safety in the project.

Displacement

The 'displacement phenomenon' occurs when crime is moved away, or drawn into, new projects. Many aspects of a problem or crime can be displaced, including its place, timing, and nature of offence, target and the method. Research has shown that displacement is not always negative. It can be controlled, and even used positively, if proper CPTED planning principles are incorporated.

Thinking like a criminal when designing to reduce crime: Rational Choice Theory

Criminologists have long known that criminals make rational choices about their targets and generally:

- » The greater the risk of being seen, challenged or caught, the less likely they are to commit a crime;
 - » The greater the effort required, the less likely they are to commit a crime;
 - » The fewer the reasonable or believable excuses that can be offered, the less likely they are to commit a crime; and
 - » The lesser the actual or perceived reward, the less likely they are to commit a crime.
- » CPTED principles in planning, design and management of the environment are therefore used to ensure that:
- > There is more chance of being seen, challenged or caught;
 - > Greater effort is required;
 - > Territorial boundaries make it clear when people are not on public land or in public space;
 - > The actual or perceived rewards are less; and
 - > Opportunities for criminal activity are minimised.



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