

Client

Frasers Property

Project

Frasers Broadway - Safety Management  
Strategy and Safety Management Plan for  
Block 2 Project Application

Date

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# 1 Introduction

## 1.1 Purpose of this report

This Safety Management Strategy and Safety Management Plan report has been provided in association with the Block 2 Project Application (PA) for the Frasers Broadway development.

This report satisfies the Director-General's Requirements: *Streetscape and public domain – (5) Demonstrate that all aspects of the public domain will incorporate the principles of Crime Prevention through Environmental Design.*

The Block 2 PA will be assessed as a Major Project under Part 3A of the Environmental Planning and Assessment Act.

This Safety Management Strategy and Safety Management Plan meets the stated Commitments No.29, 30 and 31 for Crime Prevention through Environmental Design (CPTED) contained within Frasers Broadway Concept Plan Modification Application 2008.

These Commitments are:

*29. A Safety Management Strategy will be prepared and provide guidelines for the application of CPTED principles and Safer by Design best practice models.*

*30. 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 DoP) Crime Prevention and Assessment of the Development Applications Guidelines under Section 79C of the Environmental Planning and Assessment Act 1979.*

*31. The NSW Police will be consulted throughout the CPTED assessments for all applications for the CUB site.*

In regards to Commitment No. 31, the NSW Police Redfern Local Area Command and Crime Prevention Unit were contacted to provide their input into the report. Due to staff constraints, however, they were not in a position to assist and

stated they would provide input following lodgement of the PA with the Department of Planning if and as required.

## 1.2 Structure of the report

**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.

## 1.3 Background

The Frasers Broadway 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.

Block 2 is bounded by Broadway to the north and Tooth Avenue to the south, Kent Road to the east and Balfour Street to the west.

Block 2C is referred to as the open space area that contains the elevated pedestrian platforms that links Block 2 to the north with the Main Park to the south. Block 2C is bounded by Block 5 to the east and Balfour Street pedestrian boulevard to the west.

For the purposes of this PA Block 2C will be referred to as Block 2 unless otherwise stated.

Following the purchase of the Frasers Broadway site in June 2007, Frasers Property 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 Property has directed that safety and CPTED be a fundamental component of the design approach.

The design brief given by Frasers Property to Ateliers Jean Nouvel and JPW Architects for Block 2 incorporated explicit safety requirements,

including integration of CPTED principles. The stated objective was to ensure the development of model 'safety by design' buildings and associated public domain.

## 1.4 Methodology

The preparation of this report has relied on consultation with the project design team. Input was also sought from external stakeholders such as the NSW Local Area Command and the City of Sydney. The outcomes of these consultation and engagement activities were supported by desktop research and analysis of design documents.

This report was informed by reviewing the following design documents associated with the Block 2 PA:

- Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009)
- Lower Ground and Ground Floor Plans - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 9 September 2009)
- Level 1 and 2 Plans - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009)
- Level 3, 4 and Level 5 Floor Plans - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 9 September 2009)
- Sections AA, BB, FF - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 9 September 2009)
- East Façade Residential Tower Section CC - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 9 September 2009)
- West Façade Residential Tower Section DD - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 9 September 2009)
- Elevations Residential Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 9 September 2009)
- Draft Interior Lighting Design (Ateliers Jean Nouvel, 19 December 2008)

In addition this report referenced pertinent information associated with the Block 2 PA and the landscape design including:

- Landscape Strategy, Jeppe Aagard Andersen + Turf Design Studio (September 2008)
- Amended Landscape Master Plan (Jeppe Aagard Andersen + Turf Design Studio, 25 September 2008)
- Draft Security Management Plan, Frasers Property (2008)

- Traffic Pedestrian and Cycle Routes (Masson Wilson Twiney, 4 April 2008).

## 1.5 Crime Prevention through Environmental Design (CPTED) Principles

This study is consistent with the principles and philosophy of the guidelines outlined in the NSW Department of Urban Affairs and Planning (now the Department of Planning), *Crime prevention and the assessment of development applications: Guidelines under section 79C of the Environmental Planning and Assessment Act 1979*. It investigates how Block 2 embraces, and intends to embrace, principles central to CPTED such as natural surveillance, access control, ownership (territoriality) and space management (maintenance).

See Appendix A for definitions of CPTED Terminology used within this report.

## 1.6 Disclaimer

Information within this report is based upon data provided to Elton Consulting at the time of this assessment. In conducting this report, Elton Consulting does not offer any promise or guarantee of safety to persons or property.

## 2 Overview of consultation

Frasers Property has made a major commitment to engage with the community and other key stakeholders regarding Frasers Broadway. This includes consultation on issues pertaining to crime and safety for this project.

For the purposes of this report, input was sought from the following key project partners:

- City of Sydney Council
- NSW Police (Redfern Local Area Command and Parramatta Crime Prevention Office)
- NSW Department of Planning
- TAFE (Sydney Institute)
- State Transit Authority (STA)
- Project design team consultants.

A number of stakeholders however were not in a position to respond at this stage including:

- City of Sydney Council – will provide input once the PA is lodged with Department of Planning.
- NSW Police – due to a number of factors including lack of staff, will provide input once the PA is lodged with Department of Planning. Contacting the police was a requirement under the Statement of Commitments (item No.31).
- NSW Department of Planning – will provide input once the PA is lodged with the Department.
- UTS and TAFE – relevant staff unavailable.

Extensive consultation has previously occurred with the above project partners as part of the CPTED assessment for the Concept Plan (2006) and the Modified Concept Plan (2008). This included the Redfern Local Area Command (LAC), UTS Security Service, and the Community Safety Officer at the City of Sydney. They 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
- Concern was raised by the City of Sydney Community Safety Officer and the representative from the Security Service at the UTS about crime against students travelling to and from the UTS campus along Broadway (towards Glebe and Annandale) and also through Chippendale towards Darlington
- Other crime hot spots identified by the Redfern Local Area Command were Redfern Railway Station and Victoria Park.

It is intended that the development of the Safety Management Strategy and Safety Management Plan reflects the issues and recommendations arising from these earlier consultations. Frasers Property have committed to ongoing consultation with key stakeholders throughout development of the project.

# 3 Safety Management Strategy

## 3.1 Purpose

This section details the Safety Management Strategy and satisfies Commitment No.29 contained within Frasers Broadway Concept Plan Modification 2008.

## 3.2 The Strategy

The following aims underpin the Safety Management Strategy for Frasers Broadway Block 2. All of these aims are of equal importance.

- Create a safe public domain for all users at all times
- Facilitate a safe and easily accessed pedestrian and transport network
- Create a safe environment during the development process
- Address safety needs of special user groups
- Develop a safe community for residents around and on site
- Promote health and injury prevention
- Promote and support safety
- Create a safe, secure and well maintained built environment.

These aims are consistent in principle and philosophy within the guidelines outlined in the NSW Department of Urban Affairs and Planning (now the Department of Planning), *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.

## 3.3 Objectives, features, strategies and recommendations for Block 2

### 3.3.1 Create a safe public domain for all users at all times

#### Objective

Block 2 will have a legible public domain that is easy to navigate, promotes social interaction and contain lively public spaces that are filled with activities compatible with surrounding uses.

#### Design features of Block 2

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

- A public domain that encourages visual and pedestrian permeability and connects into the existing city grid
- Activated streets and squares with a compatible mix of activities and users (e.g. shops, entrances to residential towers, cafes etc.) so as to maximise natural surveillance by a diversity of users
- Entertainment night zones designed to minimise potential disruptions to residents and with safe and direct access to public transport and car parks
- A mix of uses which are compatible with adjoining and co-located uses and are designed to support public safety and health
- Public open space areas that maximise opportunities for natural surveillance and visibility.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

#### Strategies and actions for Block 2

The following strategy and action will be implemented for delivery of Block 2 in the detailed design stage:

- Identify, in the design of the public domain and artworks, materials, finishes, equipment, plantings and fixtures that discourage graffiti and vandalism.

### 3.3.2 Create a safe and easily accessed pedestrian and transport network

#### Objective

Block 2 will have a safe, locatable and easily accessed pedestrian and public transport network.

## Design features of Block 2

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

- A safe pedestrian network, made up of preferred routes and safe spots within Block 2 and its surrounding areas, that increases safety and security of all users during the day and at night
- Activity centres (shopping, restaurant and entertainment areas) that have short logical connections to public transport and the safe pedestrian network
- Public transport stops (taxi and bus) which maximise natural surveillance
- Co-located pedestrian, cycle and vehicle movement routes that maximise activity and natural surveillance opportunities, whilst ensuring a safe interface between all modes of transport
- Footpaths, cycleways and pedestrian areas designed to ensure that pedestrians and cyclists have priority over vehicles
- A pedestrian and cycle network which facilitates efficient connectivity with external facilities, including the Central public transport hub
- Elevated platforms ensure pedestrians will not need to traverse internal road system
- An amalgamated car park network that provides direct access routes which maximise natural surveillance and visibility.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

## Strategies and actions for Block 2

The following strategies and actions will be implemented for Block 2 in the construction phase:

- Use temporary and permanent signage during construction to assist people to easily locate desired active and public transport services and facilities
- Consult with City of Sydney Council and public transport operators (e.g. State Transit, Taxi operators) to encourage the development of safe pedestrian networks beyond the boundaries of the site that link to key public transport interchanges such as Central Station and Railway Square.

## 3.3.3 Create a safe environment during the development process

### Objective

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

### Strategies and actions for Block 2

The following strategies and actions will be implemented for delivery of Block 2 in the detailed design stage:

- 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)
- Proactively manage and stage development of Block 2 so that a safe environment is created for visitors, business owners and residents at all times during the construction process (e.g. manage public access to areas under construction, undeveloped sites and roads)
- Ensure that signage contains current and relevant information as the area is developed.

### Recommendation

Recommendations for future actions include:

- Educate surrounding residents/visitors/business owners on safe areas and "no go zones" during the development process.

## 3.3.4 Address safety needs of special user groups

### Objective

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

### Design features of Block 2

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

- Provision of safe road crossings along Broadway
- Internal street treatments so drivers are made aware of the likely presence of pedestrians
- Provision of lifts, escalator and ramps in publicly accessible areas

- Ground level maximises pedestrian comfort, amenity and accessibility including wide openings and easy access to services
- Barriers on the side of the open space platforms provide security along the edge for children and unsighted pedestrians
- Ramps connect pedestrian arcades to accommodate users with mobility disabilities.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

### Strategies and actions for Block 2

The following strategies and actions will be implemented for Block 2 in the design of the construction phase:

- Use signage to increase safety by improving people's ability to find their way about Block 2, and to and from surrounding areas at all hours (e.g. provide clear information about access routes; ensure that signs that are essential for night-time use are clearly visible; ensure buildings are clearly identified).

### Recommendation

Recommendations for future actions include:

- Undertake discussions with relevant authorities and community organisations to manage homelessness and social issues positively
- Ensure that 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.

### 3.3.5 Develop a safe community for residents around and on-site

#### Objective

During the construction phase of the project, 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.

#### Strategies and actions for Block 2

- A centralised technical surveillance system for Frasers Broadway.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

### Recommendations

Recommendations for future actions include:

- Inform adjacent residents and other major stakeholders of key safety initiatives during the construction phase (e.g. provide regular updates on safety initiatives in a newsletter)
- Consult with government agencies, adjacent communities and residents and owners of retail facilities during development of the block.

### 3.3.6 Promote and support safety

#### Objective

Ensure publicly accessible areas will be safe for all user groups, including children.

#### Features of design for Block 2

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

- Buildings, streets and public open spaces deter public nuisance, loitering and inappropriate behaviour
- A safe pedestrian network, made up of preferred routes and safe spots within Block 2 and surrounding areas, that increases safety and security of all users during the day and at night
- Landscape and building design support clear sightlines for children and wheelchair users as well as for adults
- Public transport stops (taxi and bus) which maximise natural surveillance
- Footpaths, cycleways and pedestrian areas designed to ensure that pedestrians and cyclists have priority over vehicles and co-located to maximise natural surveillance opportunities
- Safety features such as secure barriers on the side of open public spaces (including the major platforms) reduce the potential for misadventure.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

#### Strategies and actions for Block 2

The following strategies and actions will be implemented for delivery of Block 2 in the design of the construction phase:

- Use signage to increase safety by improving people's ability to find their way about Block 2, and to and from surrounding areas at all hours (e.g. provide clear information about access

routes; ensure that signs that are essential for night-time use are clearly visible; ensure buildings are clearly identified).

- 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.

### 3.3.7 Promote health and injury prevention

#### Objective

Block 2 will be a place that encourages people to live a healthy lifestyle and which takes an active role in safety and injury prevention.

#### Design features of Block 2

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

- An environment that encourages people to lead healthy, socially engaged, and physically active lives by incorporating a number of diverse uses and linking it to public open space
- Provision of arcades and elevated pedestrian platforms that removes the need for users to traverse the internal road system
- Providing a diversity of public open spaces that allow for a variety of activities and user groups.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

#### Recommendation

Recommendations for future actions include:

- Promote the development of safe and injury-free activities and environments at Block 2 for all users by not only complying with safety standards, but proactively promoting injury prevention, and individual/community safety
- Proactively work with all stakeholders during the development phase, including clients, designers, contractors and the workforce to create an incident and injury-free workplace.

### 3.3.8 Create a safe, secure and well maintained built environment

#### Objective

Block 2 will have a legible, durable and well maintained built environment that is secure, feels safe to users and deters crime.

#### Design features of Block 2

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

- Usage by a variety of age groups
- Buildings that feel safe for all and deter crime (e.g. a legible hierarchy of spaces; all entrances provide safe egress and access; removed opportunities for illegitimate entry; clearly delineated the boundaries between public, semi-public (or shared) and private spaces; located lifts for maximum visibility and natural surveillance)
- Built environment that maximise opportunities for natural surveillance, particularly of public open space areas.

A detailed description of the design features that support this objective is contained in the compliance schedule under the Safety Management Plan (see Section 4).

#### Strategies and actions for Block 2

The following strategies and actions will be implemented for delivery for Block 2 by the development of the design of the construction phase:

- Use materials, finishes, equipment and fixtures that are attractive, robust, replaceable, reduce opportunities for graffiti and vandalism
- Design lighting so that entrances, exits, service areas, pathways, car parking etc., are well lit after dark when they are likely to be used. Provide a safe level of illumination across Block 2 with an emphasis given to preferred routes to encourage their usage by pedestrians
- 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.

## 3.4 Translating strategy into safety management plan

The next step in implementing this strategy is to transform it into a safety management plan that has practical relevance to the development of Block 2.

# 4 Safety Management Plan

## 4.1 Introduction

The development of the Safety Management Plan is a necessary requirement as part of the Department of Planning's Statement of Commitments for Frasers Broadway. The Plan uses the aims from the Safety Management Strategy as the basis to describe the proposed building design. It also uses performance criteria and compliance checklist that addresses *Crime Prevention and the Assessment of the Development Applications Guidelines under Section 79C of the Environmental Planning and Assessment Act 1979*.

## 4.2 Crime risk review of buildings based on Department of Planning checklist

### 4.2.1 Create a safe public domain for all users at all times

The Block 2 mixed use proposal includes a 35 storey residential tower east of the site and a 17 storey residential tower to the west. Two dedicated entrances for residents and their visitors into the eastern residential tower will be located along Kent Road. A dedicated entrance for the western residential tower will be located along Tooth Lane. Block 2 will consist of five floors dedicated for public use including a potential supermarket on the lower ground floor, retail arcades on the ground first and third floors, a food hall on the second floor, commercial gym and commercial tenancies on the fourth floor. Level five and above will include facilities for residents of the towers including covered garden areas.

On the ground floor, there will be two pedestrian retail arcades running north-south and linking Broadway to Tooth Avenue. These arcades will intersect with two east-west running arcades which will provide a connection between Kent Road and Balfour Street. These arcades consisting of active retail edges and the retail units will be publicly accessible from 7am to 11pm, seven days a week. The legibility of the straight pedestrian arcades at right angles to one another allows visual permeability through the site. From a community safety point of view, this provides the area with a legible public realm that is easy to navigate on foot, rather than having to rely altogether on 'second tier' information such as signage.

Block 2C proposes public open spaces across a series of elevated platforms. These platforms (four in total) will consist of a mix of soft and hard landscaping and will have panoramic views across the Broadway site to the south. Pedestrian access within Block 2C will be via a lift and stairs. Block 2C will connect the lower ground floor (supermarket) with all the elevated platforms. The highest platform (Platform A) will feature as a footbridge over Tooth Avenue to access the food hall (second floor) of Block 2.

Assessment Criteria	Design Requirements/ Suggestions	Compliance
<p><b>Design</b></p> <p>Design open space to be legible.</p>	<p>Ensure that entrances and exits are easily identifiable and that people are easily able to find their way around and locate each other.</p>	<p>As shown in the Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009) and JAAA +TDS – Main Park Perspective (Page 28, September 2008) the central open space ('Block 2C') will be clearly legible from north of the site i.e. Balfour Street and Tooth Avenue and from the Main Park to the south.</p> <p>The open space will be framed by the Brewery Yard heritage precinct to the west and Balfour Street, which will be converted into a pedestrian boulevard south of Tooth Avenue.</p> <p>Block 2C contains a series of elevated 'platform' sections south of Tooth Avenue which will provide a panoramic view across the site.</p>
<p>Create a public domain that encourages visual and pedestrian permeability and connects into existing grid.</p>		<p>The legibility of the site is derived primarily from the grid pattern allowing unimpeded views from the public domain. Permeability is achieved by the underlying grid pattern, which is not a vehicle based grid, is still evident to the user in the form of spacious and open pedestrian routes e.g. Balfour Street to the west, as well as in the remaining streets with vehicles.</p> <p>The legibility of the straight pedestrian arcades at right angles to one another allows visual permeability through the site. This provides the area with a legible public realm that is easy to navigate on foot, rather than having to rely altogether on 'second tier' information such as signage.</p> <p>Community safety is further enhanced by the absence of any 'dead ends' in the development's street network that could be used to entrap pedestrians.</p> <p>Pedestrian permeability connecting areas south of Tooth Avenue to Block 2 will be improved with the location of the elevated platforms. These platforms will link the southern section of the site to Broadway without the need to cross Tooth Avenue.</p>
<p>Ensure that communal open space is appropriately secured.</p>		<p>As shown in the Level 4 and Level 5 Floor Plans - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), the communal open space for residents will largely be provided on these two floors. These areas will be separated from public access (Level 3 and below) via a secure lift system. The Level 5 communal open space between the two residential towers is separated by the atrium, providing each tower with a separate open space.</p>
<p>Plan and manage entertainment night zones so that they do not disrupt residents and have safe and direct access to public transport and car parks</p>		<p>It is envisaged that the Block 2 will consist of arcades that will be publicly accessible from 7am to 11pm, seven days a week. The arcades will consist of retail units on ground, first and third floors, a food hall on second floor (9 units), a commercial gym and commercial tenancy on the fourth floor and supermarket and restaurant on lower ground floor. These facilities are intending to operate between 9am to 11pm and acoustic finishes will ensure that they do not disrupt residents who will live on the fifth floor and above.</p>

Assessment Criteria	Design Requirements/ Suggestions	Compliance
		The 'night zones' are closely situated to public transport services along Broadway and the proposed car parks off Kent Street.
<b>Entrapment spots</b>		
Avoid entrapment spots.	Provide multiple entries/exits to all public open spaces to act as escape routes if people are being pursued.	As shown in the Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009) and the Amended Landscape Master Plan (JAAA + TDS, 25 September 2008) a number of multiple entry and exit points surround the open space of Block 2C.
<b>Natural surveillance</b>		
Design to maximise opportunities for natural surveillance and visibility of open space areas from pedestrian, cycle and vehicular movement systems.		See above for vehicular movement systems.  As shown in the Traffic Pedestrian and Cycle Routes (Masson Wilson Twiney, 4 April 2008) the proposed City Council Bike' Route 20' will be a major regional cycle route running through the site along the Block 2C open space. The plan also indicates that the main pedestrian thoroughfare running north-south from Broadway through to the Main Park and beyond will pass along Block 2C.
Avoid open space that adjoins the rear of buildings / impermeable barriers.	Locate open space so that can be observed from activity rooms of adjacent buildings. If required, use secure fencing that is visibly permeable.	The proposed open space is centrally located within the proposed site and can be observed from activity uses of adjacent buildings i.e. Brewery Yard Precinct, Block 1 (see earlier PA), Block 2 activity generators and residential apartments and Block 5A residential apartment block.
Locate open space where it can be easily observed by legitimate users of adjacent space / buildings.	Locate open space at locations surrounded by a mix of land uses, so it can be easily observed by people who are spending time there (not just passing through).	Building 2 open space is surrounded by retail, open space and active transport networks which provide a variety of passive observation opportunities day and night.
Ensure that the design and location of landscaping allows for natural surveillance.	Select trees for critical locations that do not have branches below 1.5 m (for the trees protection, it is better if they do not have branches below 2.4 m).	The design and siting of landscape elements are characterised by an orderly arrangement that will not limit the proposal's legibility or pedestrian visibility. It will be intended that branches will not be below 1.5 metres (as a minimum).
Avoid plants that create areas of concealment.	Select species having regard to their type, location, mature size and form to minimise possible hiding places for intruders.	No dense shrub arrangements will be planted within the proposal.
Ensure that landscaping does not obstruct building entries.	Avoid placing taller growing plants and trees in areas that screen doorways, entrances and windows.	As shown in the Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), no tall trees will be positioned front of doorways.  Any proposed tree planting along the streets will conform to the City of Sydney Street Tree Masterplan (JAAA +TDS – Planting (Page 49, September 2008).
Ensure high visibility around paths.	Ensure that planting within 5m of a pedestrian pathway is lower than 1m or thin-trunked with a high canopy.	The design and siting of landscape elements are characterised by an orderly arrangement that will not limit the proposal's legibility or pedestrian visibility. See above.

Assessment Criteria	Design Requirements/ Suggestions	Compliance
Avoid future sightline impediments.	Avoid use of landscaping materials that could, when mature, serve as screens or barriers to unimpeded views of pathways etc.	See above.
<b>Activity generators</b>		
Create attractive and inviting public open space.	Design public open space to be interesting and inviting to attract usage by legitimate users.	As shown in the Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009) and JAAA +TDS – Main Park Perspective (Page 28, September 2008), Block 2C open space incorporates an attractive outdoor plaza with elevated platforms and attractive tree planting and water features. The open space will be surrounded by retail uses above and below ground to invite a wide range of user groups.
Populate and activate open spaces such as streets and squares with activity generators so as to maximise natural surveillance by a diversity of users.	Locate activity generators at strategic locations along pedestrian routes (such as playgrounds, basketball courts, chairs and tables, etc).	Requirement of the landscape design is to create activity centres within the main park that encourage a wide range of activities and the presence of a diversity of users. The location of the platforms between the main residential towers and the main park for the site ensures that it will be a major pedestrian activity zone.
Avoid creating spaces that do not attract use.	Avoid creating unused or unusable “dead” spaces or isolated pockets.	Although the elevated platforms are relatively smaller pockets of open space than the Main Park, these will be highly visible from across the site and will provide attractive panoramic views. These platforms will be accessible via stairs or a scenic lift (located to the north) and are intended to be an important north-south pedestrian thoroughfare linking Block 2 food hall to Block 2C.
Ensure that adjoining and co-located uses are compatible and do not create an unhealthy situation or danger.		The co-located uses are compatible and will work together to create a convivial, active environment day and night.
<b>Features and fixtures</b>		
Use materials, finishes, equipment, plantings and fixtures in the design of the public domain and artworks that are attractive, robust, and replaceable as an integrated design solution to reduce opportunities for graffiti and vandalism.		It is intended that the proposal will use attractive, robust and durable materials that will provide surfaces and finishes which deter vandalism and graffiti.  All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.
Provide facilities in safe, well-used spaces.	Locate facilities (e.g. telephones, barbecues etc) near areas of active use.	Detailed planning for buildings will include a directive to locate facilities within well used, appropriately lit and safe spaces.

<b>Assessment Criteria</b>	<b>Design Requirements/ Suggestions</b>	<b>Compliance</b>
Ensure signage and / or maps at the entrance to open space which provides clear information regarding access routes and designated special use open spaces.		The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians and vehicles. See above.
Provide safe routes to facilities.	Ensure that access to facilities is as direct as possible and free of obstruction.	Safe routes will be provided to facilities.
Provide safe seating in areas of active use.	Locate seating in convenient locations where it can be easily seen.	The elevated platforms provide informal seating. As part of detailed planning formal seating will be provided where necessary in active areas.
<b>Landscape - Materials</b>		
Grade planting, with taller plants next to walls.		<p>The design and siting of landscape elements including planting are characterised by an orderly arrangement that will not limit the proposal's legibility or pedestrian visibility.</p> <p>Dense shrubs will not be planted within the pedestrian paths.</p> <p>Careful consideration has been placed in the selection of all plants, that will take into account their shape and size as they mature.</p> <p>As stated above, a Maintenance Strategy will be implemented and be on-going.</p>
Specify high-quality plants to increase their chance of survival and their resistance to vandalism.	Rather than planting saplings, consider planting heavy standard (120-140 mm girth), extra heavy standard (140-160 mm girth) or even semi-mature trees (200-720 mm) to make it physically more difficult to snap main growing stems.	<p>JAAA +TDS's Landscape Masterplan (September 2008) provides for the introduction of high quality plants and includes an on-going maintenance strategy. CPTED principles will be embedded within this strategy including:</p> <ul style="list-style-type: none"> <li>• Preference for vegetation at high or low levels</li> <li>• Use plants that facilitate natural surveillance</li> <li>• Provide a diversity of vegetation that provides a natural barrier to vandalism</li> <li>• Consider opportunities to utilise vegetation to reduce opportunities to graffiti wall surfaces.</li> </ul>
Avoid plants that obstruct natural surveillance.	Avoid medium-height vegetation with concentrated top-to-bottom foliage.	See Landscape Masterplan above.
Use plants that encourage natural surveillance.	Consider plants such as low hedges and shrubs (1 – 1.2m high), creepers, ground covers or high-canopied trees, clean-trunked to a height of 2m, as they permit natural surveillance.	See Landscape Masterplan above.
Protect delicate foliage.	Use sharp-edged foliage to protect more delicate foliage.	See Landscape Masterplan above.

<b>Assessment Criteria</b>	<b>Design Requirements/ Suggestions</b>	<b>Compliance</b>
Apply "green screens" on graffiti-prone walls to avoid graffiti.	Carefully locate climbing plants in key locations to prevent graffiti. Take care in selecting these plants, as some are known to damage brickwork and wall surfaces.	See Landscape Masterplan above.
Utilise "keep-off" planting.	Use shrubs such as prickly thorns to prevent short cuts across beds but ensure that no dangers are created.	It is envisaged "keep off" planting will not be required.
Minimise opportunities for vandalism.	Avoid loose stones for ground cover near buildings with windows.	No loose stones are proposed near buildings with windows.
Use hard landscaping as appropriate.	Use hard landscaping details such as low fencing and walls where appropriate to deter pedestrian, cycle, skateboard, rollerblade or vehicle movement, where required.	As detailed in the Option 1 Main Park Centre (JAAA + TDS, September 2008), attractive, granite hard landscaping is envisaged to be provided in the surrounding Balfour Street pedestrian boulevard.  As shown in Section BB - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 19 December 2008) timber decking will be provided along the elevated platforms.
Provide stable surfaces on all pathways.	If deterrent surfaces are constructed using cobbles or large pebbles, make sure that they are embedded for two-thirds of their own depth.	All materials and finishes will be positioned by qualified tradespeople and to best practice Australian building standards.
Provide solid, non-slip surfaces for pathways.	Avoid using gravel paths and borders, as these both provide loose material that can be used as missiles and may cause difficulties for people with impaired movement.	There is no intent to use gravel paths and borders in the open space elements. It is intended that all ground surfaces will feature non-slip qualities as required.
<b>Maintenance</b>		
Consider maintenance processes in public open space design.	Design public open space for easy maintenance of well used areas.	It is intended that vegetation within the site will be regularly maintained to ensure it remains attractive and does not enable potential offenders to hide.  All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.
Ensure that public open space appears well cared for. This will deter vandals.	Ensure that open space and associated amenities are well maintained, indicating that the area is well cared for by ground staff.	As above.

#### 4.2.2 Create a safe and easily accessed pedestrian and transport network

The proposal identifies a number of pedestrian routes via arcades, lifts and the elevated platforms which alleviates the need to traverse the internal road system. The pedestrian network links into the existing pedestrian network along Tooth Avenue, Balfour Street and Broadway. The pathways will connect with other parts of the site (once developed) along a grid system ensuring integration with the city's pedestrian and cycle network and access to major transport hubs i.e. Railway Square/Central Station. The pedestrian routes through the site are direct and cover a short distance to the bus routes located along Broadway.

The existing set of traffic signals at Broadway/Jones Street will be configured to introduce a right turn bay into the Balfour Street connection. The Block 2 basement car park is part of an amalgamated basement car park network that includes Block 5 and Block 9. This will reduce the need to travel through the site and reduces the number of access and egress points across the site.

Discussions are currently underway with the RTA and City of Sydney to determine speed limits within the internal road system.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
Ensure that all pedestrian routes (footpaths along the side of streets, pedestrian laneways/alleyways, and pathway within public open space) are clearly defined to increase safety and security of all users during the day and night (use lighting to encourage use of preferred routes).		As mentioned in Section 1, pedestrian footpaths along the side of roads, paths within the new public open space, pathways and pedestrian laneways are organised in a grid. The grid provides a legibility whereby pedestrian pathways at right angles to one another allow visual permeability through the site. Also, a legible public realm makes it easy to navigate on foot, rather than having to rely on 'second tier' information such as signage.  Discussions with the Development Manager have indicated that public areas within Block 2 will be designed to assist the safe movement of pedestrians and to eliminate any dark spaces along footpaths. It is envisaged that the proposed lighting will be compliant with Australian Standards and Design Guides for Lux Levels (email correspondence from Frasers Property, 27 January 2009).
Encourage establishment of activities with a high after hours use along the edges of the pedestrian network.		After hours retail uses will be provided along the northern edge of the Main Park. This includes the sunken plaza and lower ground retail, food court and arcades as part of Block 2 (see Block 2 PA) and shopping arcades as part of Block 1 and 4 (see Block 1 And 4 PA).
Create activity centres (shopping, restaurant and entertainment areas) that have short logical connections to the public transport and the safe pedestrian network.		The proposed routes from the retail spaces are direct and cover a short distance to Broadway and central public transport hubs.  The pedestrian routes will be lined with retail uses and the proposed lighting strategy will ensure these areas will be well lit to ensure people's safety.
Provide public transport stops (taxi and bus) which		The existing bus stop along Broadway is well located to service Block 2. Natural surveillance will be provided by the retail units located along Broadway and the residential units above.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
maximise natural surveillance.		
Optimise opportunities for alternative transport by designing footpaths, cycleways and pedestrian areas so that pedestrians and cyclists have priority over vehicles (where possible).		As identified in the Public Domain Plan and Masson Wilson Twiney Concept Plan – Traffic, Pedestrian and Cycle Routes (4 April 2008), the proposal identifies a number of pedestrian routes via arcades and footpaths which minimises the need to traverse the internal road system. The Traffic Concept Plan also proposes a dedicated cycleway along Balfour Street.  Refer to detailed cycleway assessment below.
Use temporary and permanent signage to assist people to easily locate desired services and facilities to ensure people feel safe and secure in the public domain, and are directed along safe routes to activity centres and public transport (this may involve the establishment of temporary signage during the construction process).		The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians accessing services and public transport as well as for motorists.
Develop partnerships with City of Sydney council and public transport operators (e.g. State Transit, Taxi operators) to encourage the development of safe pedestrian network links that extend beyond the boundaries of the site to key public transport interchanges such as Central station and Railway Square.		The traffic consultant has stated that discussions are currently underway with State Transit about public transport infrastructure. Ensuring clear, unimpeded access along Broadway is a priority for people wishing to walk to Railway Square e.g. removal of bus shelters to free up footpath (Email correspondence from Halcrow MWT, 28 January 2008).
Design pathways to be direct and to follow pedestrian desire lines.	Ensure that careful consideration of existing and likely preferred routes is reflected in the design of pathways.	See above.  The proposed pedestrian network links into the existing pedestrian network along Tooth Avenue and Broadway. The pathways will connect with other parts of the site (once developed) along a

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
		grid system as well as to the city pedestrian and cycle networks and major transport hubs i.e. Railway Square/Central Station. The pedestrian routes through the site are direct and cover a short distance to the bus network located along Broadway.
Avoid planting dense shrubbery around pedestrian paths.	Set shrubs well back from paths or use plant material with thorns or other repelling characteristics.	No dense shrubs will be planted within the pedestrian paths (see Section 1).
Co-locate natural surveillance areas.	Co-locate pedestrian, cycle and vehicular movements systems to encourage maximum surveillance of public areas.	As stated in Section 1, the proposal provides maximum opportunity for surveillance of public areas.
Co-locate pedestrian, cycle and vehicular movements forming a collector system for meeting others and maximising surveillance.	Channel pedestrian traffic between activity generators so that people using footpaths, especially in the evening, meet other people.	People accessing activity generators will be facilitated by the location of the pedestrian arcades that are overlaid over the street grid and by the creation of the new pedestrian Balfour Street Boulevard which connects the northern section of the site to the south.
Ensure that laneways and alleyways are straight, unobstructed and have more than one entrance		There are no alleyways proposed within the PA.
Ensure that routes are as direct as possible, especially if they will be used at night.	Provide direct access routes to and from buildings from streets, taxi ranks and bus stops.	Routes are direct and will ensure safety through appropriate lighting, passive surveillance and street activation, see above.
<b>Edging of pathways</b>		
Make sure that path edging is consistent and sturdy.	Ensure that paving of paths meets surrounding ground at grade to avoid falls.	It is intended that the proposal will use attractive, robust and durable materials to ensure safety. Pedestrian pathways will be constructed to ensure there is no edge transition between the paths and the surround ground.
Clearly define paths from surrounding ground.	Provide clear edge definition between paths and surrounds / planting.	It is intended that the proposal will use attractive, robust and durable materials that provide a clear colour, texture and tactile delineation between the paths and surrounding soft landscaping.
Apply careful use of high-edging.	Use high edging (such as garden walls) to define edges of paths and planter beds; stained broom-finished concrete is the best material. This type of edging may also be used as seating. Ensure that edging cannot obscure potential assailants.	The platforms which form the bulk of the public open space for Block 2 include distinct barriers for safety and to clearly delineate the edges. Other public domain areas will provide distinct edge treatments with consideration given to the potential to also provide seating.
<b>Sightlines</b>		
Landscape and light paths to maximize sightlines.	Apply footpath lighting and landscaping so that it is possible to see ahead and to both	The design and siting of landscape elements are characterised by an orderly arrangement that will not limit the proposal's legibility or pedestrian visibility.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
	sides of the path, and therefore avoid the chance of attack by a hidden intruder.	Discussions with the Development Manager have indicated that public areas within Block 2 will be designed to assist the safe and confident movement of pedestrians, including eliminating any dark spaces along footpaths. It is envisaged that the proposed lighting will be compliant with Australian Standards and Design Guides for Lux Levels (Email correspondence from Frasers Property, 27 January 2009). A separate internal lighting strategy is being prepared for Block 2.  As mentioned in the JAAA +TDS – Lighting (Page 62, September 2008), a range of lighting elements will be used across the site pertaining to the public domain surrounding Block 2 and Block 2C.  'Smartpoles' will be installed along Broadway as per City of Sydney Council requirements and Tooth Avenue will feature 'street lighting'.
Orient paths to maximise sightlines.	Avoid curves or changes in grade that will impede sightlines. Make paths relatively straight where that does not create a monotonous appearance.	As discussed in Section 1, the pedestrian network will not include any curves or bends that could impede sightlines.
Avoid blind corners on pathways.	Ensure that pathways are direct. All barriers along pathways should be optically permeable (see-through) including landscaping, fencing, etc.	See above.
Avoid sightline impediments	Avoid sharp "blind corners". Where they do occur consider the installation of mirrors to allow users of footpaths to see ahead of them and around corners.	There are no blind corners in the development.
Create safe routes to bus stops, taxi stands, buildings and car parking.	Orient paths and planting so that the whole route between bus or parking areas and building entries can be clearly seen.	The proposed routes through the arcades are straight, direct and cover a short distance to Broadway. The pedestrian routes will be lined with retail uses and will be well lit to ensure safety. These pedestrian routes will be clearly seen.
<b>Natural surveillance</b>		
Co-locate pedestrian, cycle and vehicle movement routes, to maximise activity and natural surveillance opportunities, whilst ensuring a safe interface between them (e.g. dictate low vehicle speed limits in shared zones	Ensure that all footpaths are visible from activity rooms of adjacent buildings, particularly those where reliable night-time activity can be predicted (e.g. apartments).	Activity centres and residential units in Block 2 will overlook all major external pedestrian and cycle routes.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
and heavy pedestrian areas; provide clear definition between bicycle and pedestrian path ways etc).		
Encourage legitimate use for natural surveillance.	Encourage the casual use of spaces adjacent to pathways so that they can become “animated” and filled with appropriate uses that promote natural surveillance, such as playgrounds.	The pedestrian pathways will be lined with retail spaces that will be used by workers, students, residents and general visitors. Natural surveillance will be maximised with the location of the proposed Main Park with elevated platforms at Block 2C.
<b>Entrapment spots adjacent to pedestrian routes</b>		
Avoid creating entrapment spots by pedestrian routes.	Avoid creating entrapment spots (e.g., a storage area, hidden area below or above grade) adjacent to a main pedestrian route, movement predictor or private dead-end alleyway.	The toilets in the lower ground floor retail area have a shared access point from an air lock, with the female toilets being at the far end. Sightlines can be improved with a viewing panel on the exterior door into the airlock or separating the male and female toilets completely by changing the use of the adjacent staff toilets.
Avoid creating entrapment spots by pedestrian routes.	Avoid gaps in the street, such as entrances to interior courtyards, which may create an environment that is or appears isolated after dark.	All open public entrances penetrate the full width of the buildings and connect to roads, thoroughfares and the active lower ground plaza.
<b>Escape routes from movement predictors</b>		
Avoid dead-ends.	Provide a visible exit point (or escape route) which provides an alternative route back to the built environment to enable a person to avoid a situation in which he or she might feel threatened. Provide signposts to identify exit routes.	All pedestrian routes have alternative access (escape route).  The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians accessing services and public transport.
Avoid creating entrapment spots.	Ensure that if pathways have a landscape border it is of low-lying or high branching vegetation. Avoid trees or bushes that create entrapment spots and reduce sightlines).	The design and siting of landscape elements are characterised by an orderly arrangement that will not limit the proposal’s legibility or pedestrian visibility.  Careful consideration has been placed in the selection of all plants, that will take into account their shape and size as they mature.
<b>Maintenance</b>		

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
Maintain paths and surrounding areas.	Ensure that pathways and surrounding landscaping is carefully maintained to avoid hazards.	As stated above, a Maintenance Strategy will be implemented and on-going.  All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.
Maintain laneways and boundaries.	Ensure that laneways and fencing on laneway boundaries are adequately maintained.	See above.
<b>Cycleways - Safe routes</b>		
Design bicycle routes both for convenience and security.	Locate cycle routes near vehicle and pedestrian traffic during the day and evening. Avoid empty spaces and dangerous crossings as possible.	Reconfiguration of signalised crossing will be undertaken along Broadway into Balfour Street to minimise potential dangerous crossings.  Balfour Street will also be part of City of Sydney Council's cycle 'Route 20' which will be an important north-south corridor which it intended to be heavily utilised by commuter cyclists.
Avoid tall bushes, dense shrubbery and dense clusters of trees immediately adjacent to routes and at predictable stopping points such as road crossings.	Use low planting (maximum height 600mm) and high-branching trees (2 metres) to open sightlines. These are particularly recommended within a distance of 15 metres from bicycle stop signs or road junctions.	Careful consideration will be placed in the selection of all plants, that will take into account their shape and size as they mature.
<b>Signage and lighting</b>		
Ensure that routes are well lit.	Maintain consistent lighting of cycle paths and immediate surrounds.	Discussions with the Development Manager have indicated that public areas within Block 2 will be designed to assist safe and confident movement of pedestrians, including eliminating any dark spaces along footpaths. It is envisaged the proposed lighting will be compliant with Australian Standards and Design Guides for Lux levels (Email correspondence from Frasers Property, 27 January 2009).
<b>Bicycle parking areas</b>		
Ensure that bicycle parking areas are well lit.		Bicycle parking are in publicly accessible areas with high levels of natural and artificial lighting. Proposed lighting will be compliant with Australian Standards and Design Guides for Lux levels (Email correspondence from Frasers Property, 27 January 2009).
Locate bicycle parking where it can be informally surveyed from streets and interiors of the building, not hidden behind walls or fences, for example.		Secure bicycle storage is provided for residents in the basement carpark. Bicycle racks are provided in Chippen Lane for visitors and will be located to be secure, accessible and visible.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
Provide bicycle parking and locking facilities.	Provide secure facilities for long-stay users such as commuters. Rails ("stands") are only suitable for short-stay users.	It is proposed that long-term secure parking facilities will be provided in accordance with the specified design brief and to meet Green Star commercial and residential provisions.
<b>Car park design</b>		
Ensure that the design of car parks provides direct access routes that maximise natural surveillance and visibility.		<p>The proposed amalgamated car park system provides vehicular access (residents and service vehicles) to Blocks 2, Block 5 and Block 9 building basements without the need to travel through the whole site.</p> <p>The proposed access and egress points for residents in Block 2 will be via O'Connor Street (under 'Block 9'). The proposed access and egress points for service vehicles delivering goods for Block 2 and 2C will be from Kent Road.</p> <p>It is intended that vehicles can enter the basement car parks immediately from the surrounding road network and travel underground.</p> <p>The proposed car park entry points will be visible from the proposed uses to be generated in Blocks 5 and Block 9 (future PAs).</p>
Ensure that roof heights in car parks are above 2.2m to allow for maximum visual surveillance and to reduce vandalism of lighting fixtures.		As shown in the West Façade Residential Tower Section DD - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), the proposed four level basement car park will have a minimum height clearance of 2.6 metres.
Ensure basement car parks uses materials and finishes that reflect light.		It is intended that the proposal will use materials with appropriate light reflectivity to improve illumination and minimise shadows.
<b>Surveillance</b>		
Ensure open sightlines which allow for maximum surveillance of car parks.		As indicated in the above drawings open sightlines will be provided.
Where appropriate use technical surveillance measures in car parks and buildings.		<p>As indicated in the Draft Security Management Plan (Block 2), the car parks will be monitored by security camera. During operating hours boom gates will operate at the bottom of the ramps in vision of the security office. Entry will be controlled by a security reader or intercoms connected to either concierge or the security office.</p> <p>Boom gates will act as a security checkpoint for retail &amp; courier deliveries.</p>

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
		<p>If required in addition to the security staff, a dock master will be engaged to manage the loading dock.</p> <p>Residents will gain access to the car park via security swipe cards.</p> <p>Within the car park and loading dock there will be colour CCTV cameras - generally a number of cameras per floor recording back to the security office located at the main concierge desk &amp; boom gate office if required.</p> <p>Periodic walk throughs of the car park by static guards will be undertaken.</p> <p>Each level will have security cameras and each lobby will only be accessed by way of security card.</p> <p>All fire stair doors will have alarms for emergency use only. Once within the fire stairs re-entry is not possible apart from the BCA requirement at each floor there is an intercom to advise the security office. Otherwise egress is at ground level.</p>
<b>Entrapment spaces</b>		
Ensure blind spots, sharp angle corners, heavy columns and entrapment spots are minimised within car parks.		Proposal complies.
<b>Building egress and access</b>		
Ensure direct and easy access is provided from the car park to the street, apartment blocks, and retail outlet.		Proposal complies.
Secure pedestrian and vehicular entrances and exits to car parks.		Pedestrian and vehicular entrances and exits into car parks will be well lit and sign posted.
Remove opportunities for illegitimate entry.		As stated in the Draft Security Management Plan and confirmed in writing with the Development Manager the car park entrance off O'Connor Street and Kent Road will have roller shutters on the entry/exit ramp, which will normally be open between 5.00am and 9.00pm. To facilitate entry outside of these hours there is a remote reader and intercom to either of the concierge desks. This area will also be monitored by security camera.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Design of routes and pathways</b>		
		<p>During operating hours there are boom gates located at the bottom of the ramps in vision of the security office. Again entry is controlled by a security reader or intercoms connected to either concierge or the security office. This security barrier for egress will also activate the Kent Street roller shutter after hours.</p> <p>Boom gate acts as a security checkpoint for retail and courier deliveries.</p> <p>If required in addition to the security staff, a dock master will be engaged to manage the loading dock (Email correspondence from Frasers Property, 27 January 2009).</p>

#### 4.2.3 Create a safe environment during the development process

At this stage, it is intended that safety management systems and protocols pertaining to the construction phase of the development will be designed through the preparation of Construction Management Plans at the next stage of the development process. Construction Safety Management Plans will include information relating to construction signage and site access.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Construction sites</b>		
Develop a specific management program for construction sites.		To be addressed through the preparation of a Construction Safety Management Plan for Block 2.
Avoid creating opportunities for vandalism during construction.		24 hour supervision of the site will limit opportunities for vandalism. More detailed guidelines and directives to minimise damage to the site will be identified in the Construction Safety Management Plan.
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 prominent location).		24 hour supervision of the site will ensure rapid identification and action on graffiti or repair requirements. Building contracts will incorporate requirements to meet the Construction Safety Management Plan.

Assessment criteria	Requirements/Suggestions	Compliance
<b>Construction sites</b>		
Proactively manage and stage development within Block 2 so that a safe environment is maintained for visitors, business owners and residents at all times during the construction process (e.g. management public access to areas under construction, undeveloped sites and roads).		This will be addressed in the Construction Safety Management Plan.
Ensure that signage contains current and relevant information as the area is developed.		This will be addressed in the Construction Safety Management Plan as well as the Signage Strategy.
Educate surrounding residents/visitors/business owners on safe areas and "no go zones" during the development process.		Consultations with City of Sydney, TAFE, UTS and residents will be undertaken at the next stage to development to inform stakeholders and the community with respect to safe areas and "no go zones". In addition, information on the construction process will be provided on the Frasers Broadway website, community newsletter and site hoardings.
<b>Maintenance</b>		
Place signage indicating contact details for emergency maintenance in prominent locations.		The forthcoming Signage Strategy will detail measures to provide relevant and current information during the development phase.
<b>Durable surface materials</b>		
Use robust, replaceable materials.	Specify materials that can withstand normal hard use and can be easily replaced. Use standard-sized panels, panes and fittings to facilitate replacement.	As mentioned in section 1, it is intended that the proposal will use attractive, robust and durable materials. The Frasers Broadway Sustainability Strategy encourages the use of standard sizes and fittings to reduce waste and enhance opportunities for recycling and easy disassembly.
Select security grilles, shutters and doors that allow natural observation of the street.	Ensure that security grilles and security doors are optically permeable (see-through) and sympathetic to the architectural style of the building.	To be integrated into the detailed design specifications for Building 2.

#### 4.2.4 Address safety needs of special user groups

The ground level pedestrian environment has been orientated towards maximising pedestrian movement and comfort with the provision of ramps, lifts and escalators. The pedestrian routes through the site are direct and cover a short distance to the bus network located along Broadway. The existing set of traffic signals at Broadway/Jones Street would be reconfigured to introduce a right turn bay into the Balfour Street connection. Discussions are currently underway with RTA and City of Sydney Council to determine speed limits within the internal road system.

Aim (Assessment Criteria)	Requirements/Suggestions	Compliance
Create a safe environment in Block 2 for children and young people (e.g. provide safe road crossings).		<p>The existing set of traffic signals at Broadway/Jones Street will be reconfigured to introduce a right turn bay into the Balfour Street connection and assist the general public to access the site safely.</p> <p>The streets will be treated in such a way that drivers will be made aware of the likely presence of pedestrians. A differentiation in the pavement materials and the narrowness of the street itself, together with the use of other design elements such as bollards, will provide an "environmental signal" to traffic to slow down.</p>
Create a safe environment in Block 2 for older people and people living with a disability (e.g. provide clear signage to identify safe and accessible access and egress for people with disability).		<p>The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians accessing services and public transport and for vehicles.</p> <p>As shown in the Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), Block 2 and the majority of the areas in Block 2C will be clearly accessible for people with disabilities.</p> <p>The elevated platforms will be accessed by a scenic lift at the northern end for people who are mobility impaired.</p>
Undertake discussions with relevant authorities and community organisations to manage homelessness and social issues in a positive way.		Discussions will be undertaken with City of Sydney Council.

#### 4.2.5 Develop a safe community for residents surrounding the area and on-site

On-going consultation with external stakeholders who have shown an interest in the Broadway development will be maintained and opportunities for input during the construction phase of the project will be provided.

Aim (Assessment Criteria)	Requirements/Suggestions	Compliance
Inform adjacent residents and other major stakeholders of key safety initiatives during the development phase (e.g. provide regular updates on community safety initiatives in a newsletter).		Information on the construction process will be provided on the Frasers Broadway website, community newsletter and site hoardings.
Foster partnerships with government agencies, adjacent communities and residents and owners of commercial facilities during development of the block.		A major aspect of the Frasers Property approach has been to facilitate active partnerships with key stakeholders and the community. Refer to the Community Consultation Plan for details of the engagement strategy for the next phase of the development process
Promote a centralised technical surveillance system for Frasers Broadway.		As detailed in the Draft Security Management Plan a centralised technical surveillance system has been developed and will be implemented and managed for Block 2.

#### 4.2.6 Promote and support safety

The proposal includes a variety of retail uses along street frontages and with direct access to Block 2C open space via the elevated pedestrian platforms. This provides an active edge to the public realm, promotes clear and unobstructed natural surveillance along Balfour Street, Tooth Avenue and the open space, and encourages ground level pedestrian activity. Good visual connection between uses and public environments will deter crime by making the offender's behaviour more easily noticeable to passers by.

A Draft Security Management Plan has been developed for Block 2.

Assessment Criteria	Design Requirements/Suggestions	Compliance
<b>Formal Surveillance</b>		
Design buildings, streets and public open spaces so that they deter public nuisance, loitering and inappropriate		The proposal includes a variety of retail uses at street level, below ground and above ground as well as elevated pedestrian open space towards the south of Block 2. This provides an active edge to the public realm, promotes clear and unobstructed natural surveillance of the streets and open space, and encourages ground level pedestrian activity. This good visual connection

Assessment Criteria	Design Requirements/Suggestions	Compliance
behaviour.		between uses and public environments will deter crime by making the offender's behaviour more easily noticeable to passers by.
Use signage to increase safety by improving people's ability to find their way about Block 2, and to and from its surrounding areas at all hours (e.g. provide clear information about access routes; ensure that signs that are essential for night-time use are clearly visible; ensure buildings are clearly identified).		<p>The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians accessing services and public transport and for vehicles.</p> <p>As discussed in Section 1, legibility is provided by straight pedestrian thoroughfares at right angles to one another allowing visual permeability through the site. From a community safety point of view, this provides the area with a legible public realm that is easy to navigate on foot, rather than having to rely altogether on 'second tier' information such as signage.</p>
Promote a feeling of safety and security for businesses, residents and visitors.		<p>As detailed in the Draft Security Management Plan a centralised technical surveillance system has been developed and will be implemented and managed for Block 2.</p> <p>The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians accessing services and public transport and for vehicles.</p> <p>All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.</p>
Provide a permanent security presence including a 24-hour on-site security and facilities control centre. The facility will be responsible for the provision of the following services: 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.		<p>As detailed in the Draft Security Management Plan for Block 2, the main entry concierge desks will have staff in position 24 hours, 365 days a year. During the hours 8.00am to 8.00pm there will be two concierge staff. After hours (8pm till 8am) there would be one concierge in position at all times. An after-hours security guard patrolling the building will support the concierge. Security guards will have two-way radio contact. The concierge desk during after hours will have access to the various security cameras located throughout the building.</p>
Installation of real-time video		As detailed above CCTV cameras will be installed at all major entry and exit points as well as

Assessment Criteria	Design Requirements/Suggestions	Compliance
surveillance (CCTV) coverage of entry lobbies to all buildings, entry and exits to car parks; pedestrian walkways in public and communal spaces, coverage of public open spaces, access points to public open spaces and to visitor parking areas.		within the public domain. These will form part of the technical surveillance system.
Security patrols to entail a permanent presence of licensed uniformed security officers.		After hours security officers will work with the concierge to ensure 24 hour presence of trained personnel.
Provide an electronic security system that provides intruder detection and electronic access control. Access control should use a common platform across all buildings yet provide flexibility in credential card types and formats. System to be centrally administered by the Security and Facilities Control Centre.		As detailed in the Draft Security Management Plan a centralised technical surveillance system has been developed and will be implemented and managed for Block 2.
Streets designed to accommodate emergency vehicles.		Emergency vehicle access will be available via Balfour Street, Tooth Avenue and Kent Road.
<b>Signage design</b>		
Ensure that signage is easily legible.		The forthcoming Signage Strategy will detail measures to address ease of way finding for pedestrians accessing services and public transport and for motorists.
Ensure that signs that are essential for night-time use are clearly visible.	Illuminate or use reflective or luminous signs for night-time use.	Signage Strategy to document requirements for night time visibility of essential signs.
Ensure buildings are clearly identifiable by number and/or name.		Building numbering and / or naming will be addressed in the Signage Strategy.

<b>Assessment Criteria</b>	<b>Design Requirements/Suggestions</b>	<b>Compliance</b>
<b>Signage Location</b>		
Utilise a signage plan to develop a carefully considered strategy for the location of signs.	Prepare a signage plan for the building, related to the system of "safe routes" and preferred pedestrian paths and indicating destinations, facilities and amenities en route.	A Signage Strategy is being prepared for Block 2.
Locate signs where people will see them.	Locate signs strategically at building entrances and near activity nodes.	This issue is to be addressed in the Signage Strategy.
Avoid entrapment spaces	Ensure that the size and siting of signs outside the building do not create entrapment spaces.	This issue is to be addressed in the Signage Strategy.
Locate signs for maximum visibility.	Locate signs so that they are not likely to be obscured by growing vegetation as it matures.	Vegetation to be carefully selected to provide appropriate shading and amenity while minimising any potential to obscure essential sightlines and facilities. Maintenance strategies are incorporated into the design of the public domain.
<b>Content of signs</b>		
Provide clear information about security.	Provide interior and exterior signage that indicates where to go for assistance.	This issue is to be addressed in the Signage Strategy.
Provide clear information about the location of public facilities and amenities.	Provide signage describing the location of telephones, duress buttons, taxis, bus stops and the nearest "safe" place.	See above.
Provide clear signage at local public facilities.		See above.
Provide clear information about hours of operation.	Clearly indicate closing hours at building entrances adjacent to public areas that are closed off at night. Clearly indicate where to go for help.	See above.
Provide clear information about access routes	Provide clear and regular signposting to main pedestrian routes.	See above.
Provide clear information about the location of the entry, space, etc.	Provide maps of the building at all main entrances and ensure that information is in plain words in the languages of various identified user groups. Make sure all signs are clearly marked with "you are here".	See above.

#### 4.2.7 Promote health and injury prevention

The project has involved local and international collaboration between built environment specialists with a deep understanding of creating safe, active spaces. The design brief given by Frasers Property emphasised the need to design public and private spaces that follow crime prevention through environmental design principles and support safe activity. The stated objective was to ensure the development of model 'safety and active by design' buildings and associated public domain.

Aim (Assessment Criteria)	Design Requirements/Suggestions	Compliance
Work with masterplanners, landscape architects, urban designers, recreational planners and architects to create an environment at Block 2 that encourages people to lead healthy, socially engaged, and physically active lives.		As shown in Section 1 the proposal will help to encourage an active environment for all users.
Promote the development of safe and injury-free activities and environments at Block 2 for all users by not only complying with safety standards, but proactively promoting injury prevention, and individual and community safety.		To be addressed through the preparation of Construction Safety Management Plan and as part of the design brief for Block 2. CPTED principles have been incorporated into the design approach to ensure the development of a model 'safety by design' building and associated public domain.
Proactively work with all stakeholders during the development phase, including clients, designers, contractors and the workforce to create an incident and injury-free workplace.		Regular project meeting have been undertaken with the project team through the design and development of Frasers Broadway. The Construction Safety Management Plan will ensure that safety principles are considered throughout the development phase for Block 2.

#### 4.2.8 Create a safe, secure and well maintained built environment

The proposed mixed use residential complex provides active edges around the perimeter of the building and will be of particular importance along the extensive Broadway Street frontage where presently there is minimal opportunity for casual surveillance.

Block 2 will consist of five floors dedicated for public use including a potential supermarket on the lower ground floor, retail arcades on the ground, first and third floors, a food hall on the second floor, gym and commercial facilities on the fourth floor. Block 2C proposes public open spaces across a series of elevated platforms. These platforms (four in total) will have high amenity and panoramic views across the Broadway site to the south. This proposal will improve the identity and viability of the area and create focal points of activity on the site.

It is anticipated that this area will attract a wide cross section of people including students from UTS campus and TAFE who will utilise the retail, recreational and future residential opportunities on the Fraser’s Broadway site. A signal controlled crossing on Broadway will provide safe and more direct access from the Ultimo campuses. These identified users plus workers from the Block 1 and Block 4 commercial complex will support the activities proposed for Block 2, as well as contributing significantly to the liveliness of its public domain. The activation of the site and the range of after business hours uses will provide a much higher level of amenity and safety for evening students at nearby institutions than currently exists.

All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.

Assessment Criteria	Requirements/Suggestions	Compliance
<b>Design</b>		
Promote usage by cross demographic user groups.		The proposal provides for a wide range of users across the development with access to open spaces 24 hours a day, seven days per week. It is intended that the retail arcades and other public uses will operate from 7am to 11pm, 7 days per week. This will attract a wide range of users groups including workers, residents (existing and future), students (UTS and TAFE) and general visitors during different times and days of the week.
Design building so that they feel safe for all and deter crime (e.g. create a legible hierarchy of spaces.		<p>The residential apartment complex is a high quality residential tower that will feature a variety of retail uses above and below ground and which will provide an active edge along the perimeter of the building. Block 2C contains a series of elevated ‘platform’ sections south of Tooth Avenue which will provide a panoramic view across the site.</p> <p>The mixed uses of retail, residential uses and the provision of open spaces will improve the identity and viability of the area and create focal points of activity in the development.</p> <p>As mentioned in Section 1, the legibility of the site is derived primarily from the grid pattern allowing unimpeded views from the public domain. The legibility of the underlying grid pattern is composed of straight pedestrian thoroughfares at right angles to one another allowing visual permeability through the site. This provides the area with a legible public realm that is easy to navigate on foot, rather than having to rely on ‘second tier’ information such as signage.</p>
Ensure all entrances provide safe egress and access; remove opportunities for illegitimate entry.		<p>Pedestrian arcades will be securely locked between 11pm to 7am, seven days per week.</p> <p>As detailed in the Draft Security Management Plan, illegitimate entry will be reduced into the residential apartments (both high rise and low rise areas) with the provision of main entry concierge desks for the following areas:</p> <ul style="list-style-type: none"> <li>• Tooth Avenue (residential apartment lobby)</li> </ul>

Assessment Criteria	Requirements/Suggestions	Compliance
		<ul style="list-style-type: none"> <li>• Kent Road North (low rise residential apartment lobby – Level 5 to Level 28)</li> <li>• Kent Road South (high rise residential apartment lobby – Level 29 to Level 34).</li> </ul> <p>They will have staff in position 24 hours, 365 days a year. During the hours 8.00am to 8.00pm there will be two concierge staff. After hours (8pm till 8am) there would be one concierge in position at all times. An after-hours security guard patrolling the building will support the concierge with two-way radio contact. The concierge desk during after hours will have access to the various security cameras located throughout the building.</p>
Ensure that exit and entry doors are clearly visible.	Locate entrances at prominent positions. Ensure that the front door to the building faces the street.	All building entrances will face onto a street. As shown in the Lower Ground Floor, Ground Floor and Public Domain Plans - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), the location of exit and entry doors into the residential lobbies and the retail arcades are clearly visible along the footpaths and Tooth Avenue. They can also be viewed from the retail uses located along the ground floor of Block 2.
Create a legible hierarchy of spaces.	Encourage a clear hierarchy of space from the public street to the semi-private areas of buildings to increase the territoriality of the building and make it uncomfortable for offenders to loiter in entranceways.	The proposal locates retail uses from Lower Ground Floor to Level 4 and along street frontages. These uses will be connected via the retail arcades and the elevated open space platforms. This will provide an active edge to the public realm by promoting clear and predominantly unobstructed natural surveillance of Tooth Avenue, while encouraging pedestrian activity. The good visual connection between uses and public environments will deter crime by making the offender's behaviour more easily noticeable to passers by.
Design entrances to be clearly defined entry points.	Make the area around the main entranceway clearly distinguishable from public walkways leading to it so that users feel distinctly that they are entering an area controlled by the users.	The design of lobbies from the street are clearly defined entry points. The design and layout of the lobby areas will make it distinguishable from public walkways and will be controlled by a concierge service at all times.
Design entrances so that they cannot hide intruders.	Provide a direct external entry path and foyer to the building to avoid potential hiding places.	As shown in the Ground Floor Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), lobby areas have been designed to avoid hiding places.
Design entrances for maximum visibility.	Design building lobbies to be visible from the exterior. Ensure clear views out from within buildings for people exiting.	Proposal complies. See above.
Avoid locating ramped and lift entrances in isolated areas.	Locate ramp and lift for maximum visibility and natural surveillance.	<p>As shown in the Lower Ground, Ground Floor and Level 1, 2 and 3 Plans - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009), lift entrances and escalators will be located in highly visible, well used areas.</p> <p>As mentioned in the Draft Security Management Plan, the lifts will have security access control that can be isolated should the floors have multiple tenancies. On these levels there will be security checkpoints into the respective tenancies.</p>

Assessment Criteria	Requirements/Suggestions	Compliance
		<p>As shown in the above drawings, a dedicated lift (Lift No. 6 and No.7) will be provided for the general public to access all retail floors within Block 2. This lift will be located within the apartment complex to the west and will be situated within a well used area.</p> <p>The 'Scenic lift' (Lift No. 8) will also be dedicated to the general public and will provide access into Block 2C. This Block includes retail on the include Lower Ground Floor and retail uses along the four elevated open space platforms. Platform A (the highest platform) will provide direct, safe access into Building 2 Food Hall. The Scenic lift will be highly visible from the public domain.</p>
Secure non-pedestrian entrances.	Ensure that non-pedestrian entrances are secured against illicit entry.	As mentioned above in the Draft Security Management Plan measures have been taken to secure non-pedestrian entry.
Remove opportunities for illegitimate entry.	Locate delivery hatches, bins, light fixtures and landscaping /trees so that they do not assist an intruder to gain access to windows and doors.	As mentioned above in the Draft Security Management Plan measures have been undertaken to prevent illegal entry.
Street frontages of retail facilities to reinforce pedestrian activity at ground level.		As mentioned above, and as shown in Public Domain Plan - Block 2 (Ateliers Jean Nouvel + Johnson Pilton Walker, 30 January 2009) proposed retail uses, including at street frontages will reinforce pedestrian activity.
Clearly define spaces to express a sense of ownership and reduce illegitimate use / entry.	Physical and / or psychological barriers (e.g., fences, gardens, lawn strips, varying textured surfaces) can be used to define spaces.	A diversity of public and private spaces will be provided in Block 2. These will be clearly delineated through separate entrances and security measures. Physical and visual barriers, including the presence of concierges will ensure a clear sense of ownership and territoriality.
Ensure that lifts feel used and 'cared for'.	Use graffiti and vandal-resistant materials in lift design.	<p>High quality and durable materials will be used for the lift design in order to meet Premium Grade standards.</p> <p>The palette of materials will be developed further in the next design phase.</p>
<b>Surveillance</b>		
Ensure that all retail development allows for clear, unobstructed casual surveillance from the shop to the street, foot path and other areas.		As mentioned in Section 2, retail along the edge of the pedestrian network will include cafes with internal and external exposure to maximise natural surveillance at all hours.
Reduce entrapment risks at Automatic Teller Machines (ATMs) and public telephones.	Do not locate ATMs in out-of-the-way places or adjacent to licensed premises. Ensure clear sight lines and provide card access only to those internal spaces after hours.	To be discussed in more detail at future stages.

Assessment Criteria	Requirements/Suggestions	Compliance
	Locate public facilities such as Automatic Teller Machines (ATMs) and public telephones at a highly visible location that is well lit at night.	
<b>Materials</b>		
Use materials, finishes, equipment and fixtures that are attractive, robust, replaceable, reduce opportunities for graffiti and vandalism.	Avoid the use of highly vulnerable materials such as flimsy paneling, delicately made light fittings and external fixtures that can be easily removed.	It is intended that the proposal will use attractive, robust and durable materials.  All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.
Do not use robust materials at the expense of building appearance. Unattractive, impersonal areas can deter users and become unsafe.	Avoid extensive use of problem materials such as heavy-duty mesh, cyclone fencing and grilles, which may encourage wilful damage.  Avoid solid shutters on front windows and doors that will create an impression that the area is uninhabited and inhibit natural surveillance.	Use of problem materials is minimised and they do not form part of the overall design intent  Solid shutters will only be incorporated for security reasons such as at car parking entrances. Overall the design intent is to provide active, visible and transparent spaces through materials and accessible pathways that encourage safe movement through the site.
Use materials which reduce opportunities for vandalism.	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.  Avoid flat or porous finishes in areas where graffiti is likely to be a problem.	High quality and durable materials will be used throughout the design in order to reduce the opportunity for vandalism.  The current proposal is looking into stone, glass shop fronts and metal for the podium areas - please refer to PA-drawings and sample boards.  The details of material treatments will be developed during the next design phase.  The amount of flat or porous finishes is minimised by the architectural design of the building. On lower levels, the majority of the facades will be glass shop fronts rather than flat walls.
Use protective coatings over materials that are not naturally robust and vandal resistant.	Employ protective coatings able to withstand normal wear and tear and be resistant to attack: graffiti, scratching and peeling.	Any treatments that will not severely impact the architectural design might be applied to the materials. The details of the treatments will be developed at the next design phase.
Use graffiti-resistant materials and design.	Avoid large blank walls that invite graffiti. Where large walls are unavoidable, consider the use of vegetation or anti-graffiti paint.	The design of the building generally minimises large blank walls as well as the use of vertical gardens, design and landscape features to minimise the potential for graffiti.

Assessment Criteria	Requirements/Suggestions	Compliance
	Alternatively, modulate the wall, or use dark colours to discourage graffiti on vulnerable walls.	Any treatments that will not severely impact the architectural design might be applied to the materials. The details of the treatments will be developed at the next design phase.
Use open style transparent materials on stairwells.	Install glass panels in stairwells, where appropriate to promote visibility.	Building design, including stairwells promotes transparency and legibility. This includes extensive use of glass panels and non-solid partitioning.
<b>Maintenance</b>		
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.		All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.
<b>Hardware and fixtures</b>		
Ensure that security hardware is robust.	Use sturdy, non-corrosive catches, bolts and locks.	It is intended that the proposal will use attractive but robust and durable security hardware where possible.
Ensure that service boxes are secure.	Use flush-mounted meter boxes or service points within a secure building/enclosure for protection.	It is envisaged that service boxes will be secure.
Ensure that communal furniture is robust and secure.	Communal / street furniture should be made of hardwearing vandal resistant materials and secured by sturdy anchor points or removed after hours.	It is intended that the proposal will use attractive, robust and durable communal furniture. The details of material treatments will be developed during the next design phase.
Provide deadlocks for storage areas.	Specify appropriate heavy-duty hardware, such as dead-bolt locks for all storage areas adjacent to pedestrian routes.	It is envisaged that storage areas will be secure.
Provide physical barriers to limit access to restricted areas.	Limit access to loading docks and other restricted areas by measures such as lockable doors or gates.	As detailed in the Draft Security Management Plan a centralised technical surveillance system has been developed and will be implemented and managed for Block 2.
Utilise materials for durability and visible permeability.	Use transparent, unbreakable materials in parts of doors and walls at major entry points.	It is intended that the proposal will use attractive, robust and durable materials for all major fittings. The details of material treatments will be developed during the next design phase.
Security devices must be carefully selected and used to prevent reducing the building to a fortress like appearance.	Transparent or open grill devices should be as unobtrusive as possible.	It is intended that any security fixtures will be designed to be unobtrusive and blend with the design of the building.
Use security hardware and /	As required: Install high-quality locks on	Security alarms and fixtures will be installed to best practice specifications.

Assessment Criteria	Requirements/Suggestions	Compliance
or human measure ONLY where required to reduce opportunities for unauthorised access.	external windows and doors. Provide monitored alarm systems. Provide building supervisors or security guards.	
<b>Lighting - General guideline</b>		
Design lighting so that entrances, exits, service areas, pathways, car parking etc. are well lit after dark when they are likely to be used.		<p>The Draft Interior Lighting Design (Ateliers Jean Nouvel, 19 December 2008) illustrates the proposed lighting for interior and exterior areas:</p> <ul style="list-style-type: none"> <li>• The proposed elevated platforms will feature indirect lighting with lighting fixtures hidden under benches</li> <li>• Interior and exterior vegetation and atrium areas will feature focused lighting</li> <li>• The lobby areas will feature wall mounted, horizontal luminaries and will feature direct and indirect 'bright neutral light'</li> <li>• The retail arcades will feature 'bright neutral lighting'</li> <li>• The food hall (Level 2) will feature 'soft warm lighting' to provide ambience</li> <li>• The private gardens (Level 5) will feature 'Moon lighting'.</li> </ul> <p>Discussions with the Development Manager have indicated that public areas within Block 5 will be designed to assist the safe movement of pedestrians including eliminating any dark spaces along footpaths. It is envisaged that the proposed lighting will be compliant with Australian Standards and Design Guides for Lux Levels (Email correspondence from Frasers Property, 27 January 2009).</p> <p>As mentioned in the JAAA +TDS – Lighting (Page 62, September 2008), a range of lighting elements will be used across the site pertaining to the public domain:</p> <ul style="list-style-type: none"> <li>• 'Smartpoles' will be installed along Broadway as per City of Sydney Council requirements.</li> <li>• Tooth Avenue will feature 'street lighting'.</li> </ul>
Provide a safe level of illumination across Block 2 with an emphasis given to preferred routes to encourage their usage by pedestrians.		See above.
Treat lighting in a comprehensive manner; select an approach consistent		The details of the lighting fixtures will be developed at the next design phase however as part of the design brief consideration CPTED principles will be required.

Assessment Criteria	Requirements/Suggestions	Compliance
with the local conditions and crime problems specific to the context.		
<b>Minimum standards</b>		
Ensure that all exterior lighting complies with the minimum light technical values and principles as set down in Australian Standards.		It is envisaged the proposed lighting will be compliant with Australian Standards and Design Guides for Lux Levels.
Lighting must meet local council lighting requirements.	Comply with the City of Sydney Exterior Lighting Strategy.	'Smartpoles' will be installed along Broadway as per City of Sydney Council requirements. See above.
<b>Location and orientation of lighting</b>		
Ensure that entrances, exits, service areas, pathways, car parks, etc. are well lit after dark when they are likely to be used.	As a guide, areas should be lit well enough to enable users to identify a person's face from 15m away.	The details of the lighting fixtures will be developed at the next design phase however as part of the design brief consideration CPTED principles will be required.
Ensure inset spaces, access/egress routes and signage is well lit.	Direct lights towards access / egress routes to illuminate potential offenders, rather than towards buildings or observation points.	See above.
Use lighting to encourage use of preferred pedestrian routes.	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.	See above.
Illuminate signage	Provide adequate illumination for directional signage and maps.	See above.
Locate lighting where it will remain un-obscured by vegetation or other elements over time.	Avoid obscuration of lighting at installation or future date. Take into account vegetation growth as well as any other element that may create heavy shadow or reduce effectiveness of the lighting unit.	See above.
Minimise opportunities to use lighting fixtures in vandalism or theft.	Avoid locating lighting columns and electrical equipment alongside walls or low buildings, as they can provide opportunities	It is intended that light fittings will be located in areas that have high visibility and traffic reducing the potential for vandalism and theft. In less trafficked areas measures will be taken in the detailed design stage to ensure that the type and location of fittings reduces the potential

Assessment Criteria	Requirements/Suggestions	Compliance
	for climbing and further vandalism or criminal acts.	for damage or removal.
Minimise opportunities to vandalise lighting fixtures.	Provide high-level, out-of-reach lighting to maintain a daylight appearance, reduce the number of targets for attack and provide a high level of general lighting.	See above.
	Avoid lighting spillage onto neighbouring properties as this can cause nuisance and reduce opportunities for natural surveillance.	Lighting will be orientated to reduce the potential for night pollution and spillage onto neighbouring properties in line with Australian Standards for Exterior Lighting.
<b>Consistency of lighting</b>		
Take care not to create heavy shadow areas, especially close to pathways etc.	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.	It is envisaged the proposed lighting will be compliant with Australian Standards and Design Guides for Lux Levels.
Keep contrasts between lit and unlit areas in a given space to a minimum.	Choose and locate luminaires to ensure that immediate surroundings to pathways will receive some illuminance to reduce contrast.	See above.
Consider creating variety in brightness levels to give pedestrians an impression of warmth.	Use a mixture of lighting (within the constraints applied by the relevant Australian Standards).	Proposal will use a mixture of lighting. See above.
<b>Luminaire selection</b>		
Utilise FCO lighting to reduce glare	Wherever practical, use luminaires that have a Full Cut-Off (FCO) light distribution characteristic to keep discomfort and disability glare to a minimum.	Specific lighting levels and fittings will be identified in the detailed design stage but will be required to meet the minimum Australian standards.
Select lighting intensity to reduce glare.		See above.
Minimise light pollution.		See above.
Select light sources which provide good colour rendition — preferably equal to or better than Ra 85.		See above.
Select appropriate light levels to retain the integrity of identification vision along pedestrian routes.		See above.

Assessment Criteria	Requirements/Suggestions	Compliance
Provide adequate number of luminaires for effective lighting.		See above.
Avoid time-switched lamps, as they can be inoperative for days if there is a long maintenance cycle.		See above.
Use light fixtures protected from casual vandalism.		High quality and durable materials will be used throughout the design in order to reduce the opportunity for vandalism.
Avoid glare when used in conjunction with CCTV systems.		Specific lighting levels and fittings will be identified in the detailed design stage but will be required to meet the minimum Australian standards.
<b>Maintenance</b>		
Ensure that light fixtures are maintained in a clean condition and promptly replaced if burnt out or broken.		All common activities and maintenance issues will be administered and managed by the Building Management Committee designated for the whole site.
<b>Site planning and design</b>		
Ensure that a CPTED lighting expert is consulted throughout the design and development phase to ensure that lighting provisions and requirements are in accordance to Australian Standards and/or building management practices.	Ensure that CPTED consultants liaise with lighting consultants regarding CPTED lighting provisions and requirements according to Australian Standards and/or building management practices.	The details of the lighting fixtures will be developed at the next design phase.

### 4.3 Conclusion

The Safety Management Plan details how Block 2 is a high quality building design that exceeds safety and crime compliance requirements. Frasers Property or any future purchasers of the site will 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.

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 Safety Management Plan.

## 5 Implementation of Safety Management Plan

Frasers Property will ensure the Safety Management Strategy and the Safety Management Plan will be implemented by a qualified person at the next phase of the project.

## 6 Appendix A

### 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 exists; 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.