

Deicorp Projects (Tallawong Station) Pty Ltd

## Crime Prevention through Environmental Design Assessment

Proposed Mixed Use Development

Tallawong Station Precinct South

May 2020

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# 1 Introduction

## 1.1 Overview

The purpose of this report is to consider the potential crime risk caused by the proposed mixed use development and to identify proactive and preventative building design measures to minimise opportunities for crime.

The report has been prepared in accordance with the Crime Prevention Through Environmental Design (CPTED) guidelines prepared by the NSW Police in conjunction with the Department of Planning, Industry and Environment.

Crime Prevention through Environmental Design (CPTED) provides a clear approach to crime prevention and focus on the '*planning, design and structure of cities and neighbourhoods*'. The main aims of the policy are to:

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

The NSW Police guidelines provide four key principles in limiting crime through design. These are:

1. Surveillance;
2. Access control;
3. Territorial re-enforcement; and
4. Space/activity management.

We have inspected the site and undertaken a preliminary assessment of the architectural plans against the above guidelines. This report recommends design principles for the mixed use development to reduce the potential for crime.

## 1.2 Locality

The Mixed Use development site is located at 1-15 Conferta Avenue (Lot 293 DP 1213279) and 2 -12 Conferta Avenue (Lot 294 DP 1213279), Rouse Hill.

The site is currently vacant of buildings and has been cleared of vegetation for development. A commuter car park exists to the west of the development site with vehicle access from Conferta Avenue. Refer to Figure 1 aerial imagery for reference.

The site is zoned R3 Medium Density Residential and B4 Mixed Use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006. A small portion of the south eastern boundary is zoned SP2 Infrastructure as shown in Figure 2.

The site is located within the Blacktown LGA and the North West Growth Area.





Figure 1: Aerial view of site and surrounding development (Nearmap Pty Ltd 2019)



Figure 2: Extract from ePlanning Spatial Viewer - Land Zoning

## 2 Crime Statistics

The NSW Bureau of Crime Statistics and Research provides an overview of the crime profile during the previous calendar year. The data can assist in identifying specific crimes prevalent in an area and guide design to limit the recurrence of anti-social behaviour.

The following table identifies the threat levels in the Rouse Hill suburb and Blacktown LGA for crimes relevant to the proposed mixed use development. BOCSAR data ranks crime rates out of 5 levels with one being the lowest and five being the highest.

*Table 1: Threat levels in the Rouse Hill suburb and Blacktown LGA (2018 - 2019)*

| Level of Crime             | Crime Type by Location  |   |
|----------------------------|---|---|
|                            | Rouse Hill  | Blacktown LGA   |
| <b>HIGHEST LEVEL CRIME</b> | No relevant crimes  | Robbery<br>Steal from Motor Vehicle   |
| <b>HIGH LEVEL CRIME</b>    | No relevant crimes  | Assault (Domestic)<br>Assault (Non- domestic)<br>Steal from Person                |
| <b>MEDIUM LEVEL CRIME</b>  | No relevant crimes  | Steal from Dwelling<br>Break and Enter (Dwelling)<br>Malicious Damage to Property |
| <b>LOW LEVEL CRIME</b>     | No relevant crimes  | No relevant crimes  |
| <b>LOWEST LEVEL CRIME</b>  | Steal from Dwelling<br>Break and Enter (Dwelling)<br>Assault (Domestic)<br>Assault (Non - domestic)<br>Malicious Damage to Property<br>Steal from Person<br>Robbery<br>Steal from Motor Vehicle | No relevant crimes  |

The figures below show “hotspot” crime mapping for some of the most relevant crimes shown above for mixed use development in Rouse Hill. They compare the crime rate occurrence in a five-year period.

This form of crime mapping is useful as it shows where the high crime areas are and can be used to help understand the factors that affect the distribution and frequency of crime. The “hotspot” indicates where crime occurrences are clustered in particular areas, the cluster is identified from highest to lowest, indicated in dark orange, light orange and yellow.

The location of the subject site is identified on the hotspot maps below with the following symbol 

### Steal from Dwelling

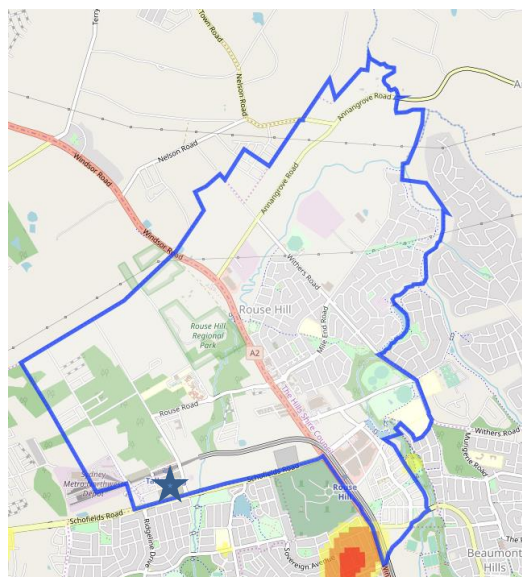


Figure 3: Steal from Dwelling (2015)

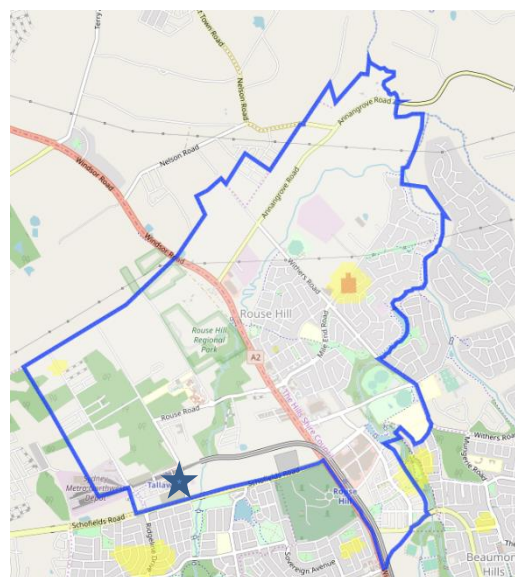


Figure 4: Steal from Dwelling (2019)

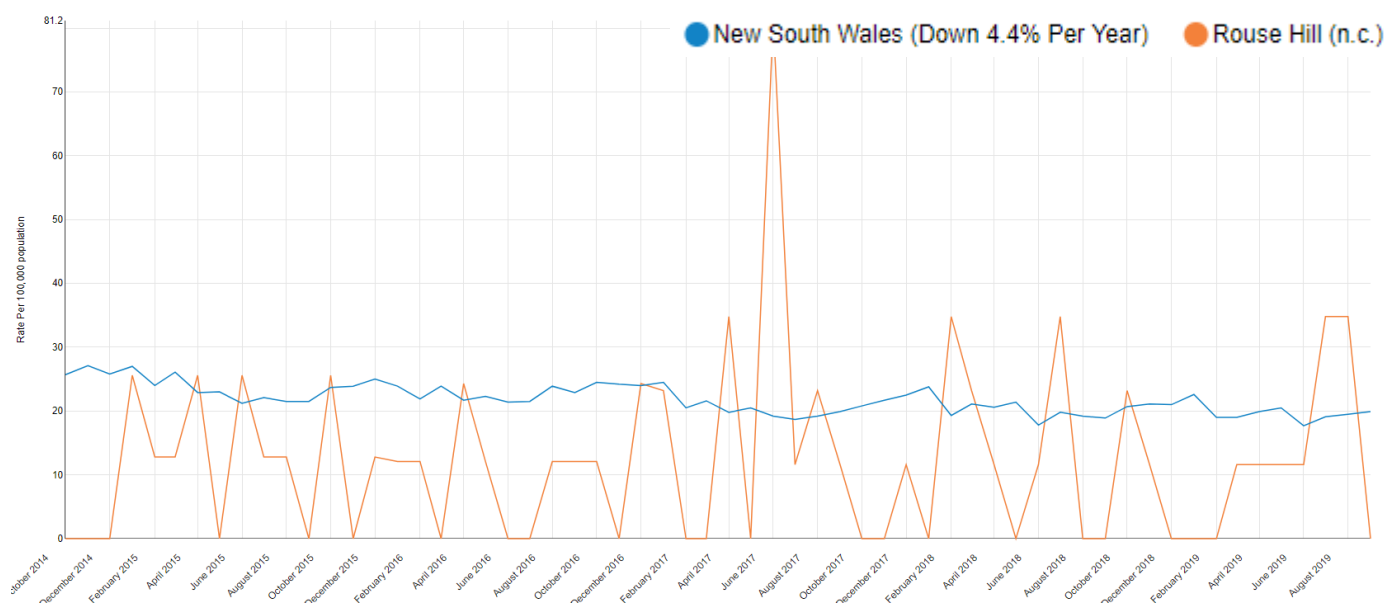


Figure 5: Rates of Steal from Dwelling (October 2014 to August 2019)

Figures 3 and 4 show changes to the hotspot rates of *Steal from Dwelling* in Rouse Hill from 2015 to 2019. No changes to hotspot incidence has occurred within the site or surrounding development in this time. The subject site is not located within a low, medium or high hotspot.

Figure 5 represents a graph of the rates of *Steal from Dwelling*, with comparisons between NSW and Rouse Hill. The graph indicates that between October 2014 and August 2019 the rate of *Steal from Dwelling* in Rouse Hill has experienced no change, while NSW has decreased by 4.4% per year.



### Malicious Damage to Property

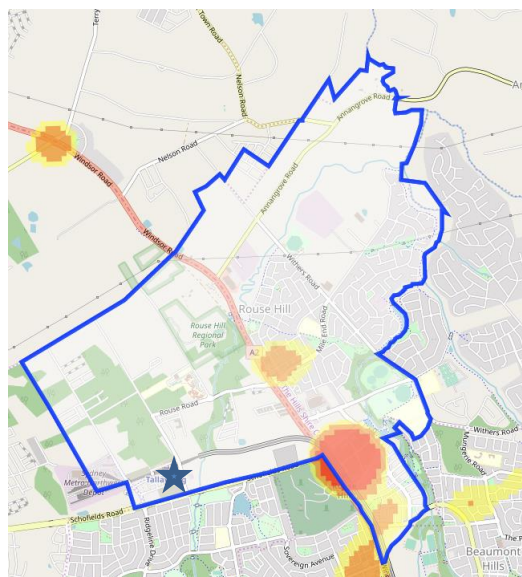


Figure 6: Malicious Damage to Property (2015)

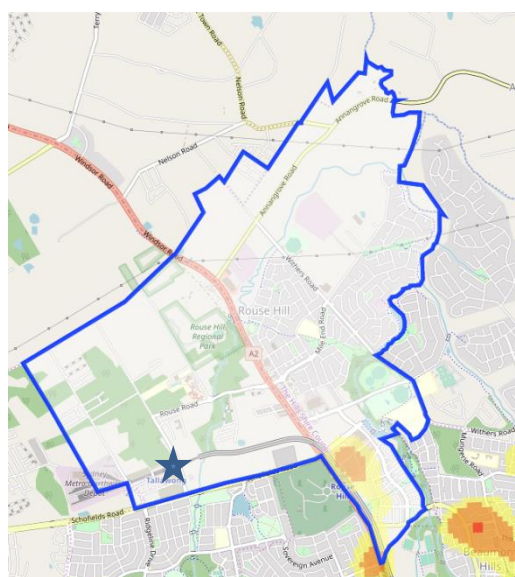


Figure 7: Malicious Damage to Property (2019)

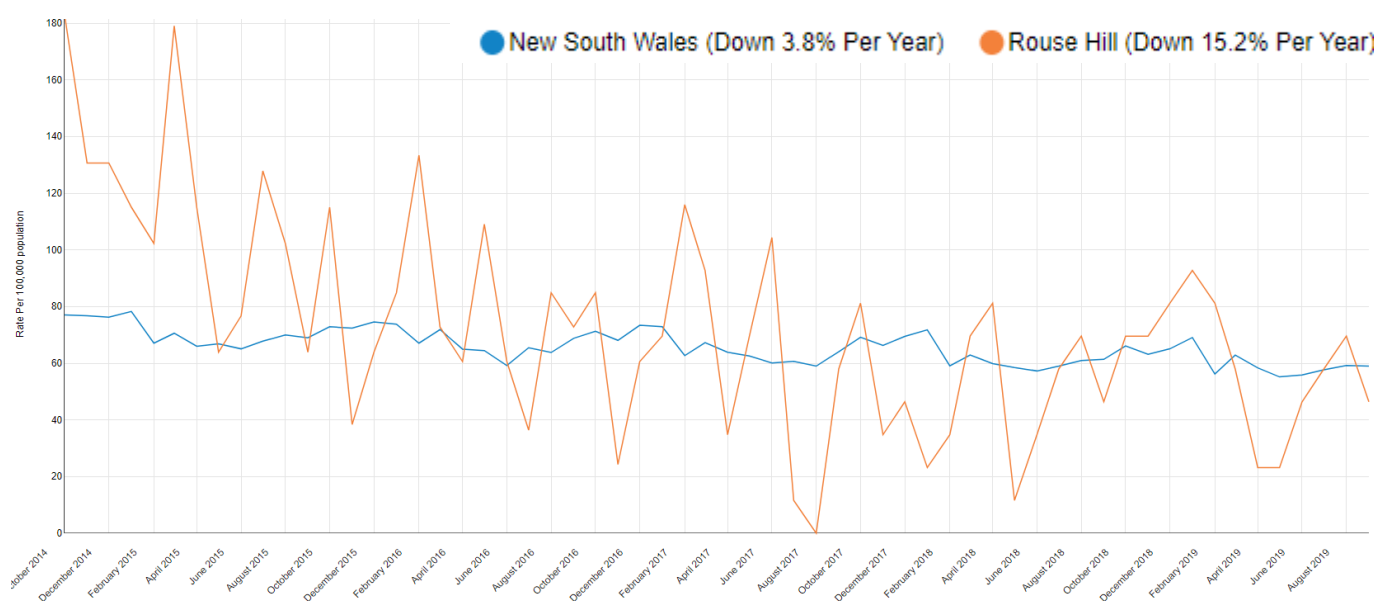


Figure 8: Rates of Malicious Damage to Property (October 2014 to August 2019)

Figures 6 and 7 show changes to the hotspot rating of *Malicious Damage to Property* in Rouse Hill from 2015 to 2019. No change to hotspot incidence has occurred within or surrounding the site. The site is not located within a low, medium or high hotspot rating for this crime.

Figure 8 represents a graph of the rates of *Malicious Damage to Property*, with comparisons between NSW and Rouse Hill. The graph provides a summary of statistics between October 2014 and August 2019 where the rate of *Malicious Damage to Property* in Rouse Hill has decreased by 15.2% per year, while NSW has decreased by 3.8% per year.



**Assault (Non - domestic)**

Figure 9: Assault (Non - domestic) (2015)

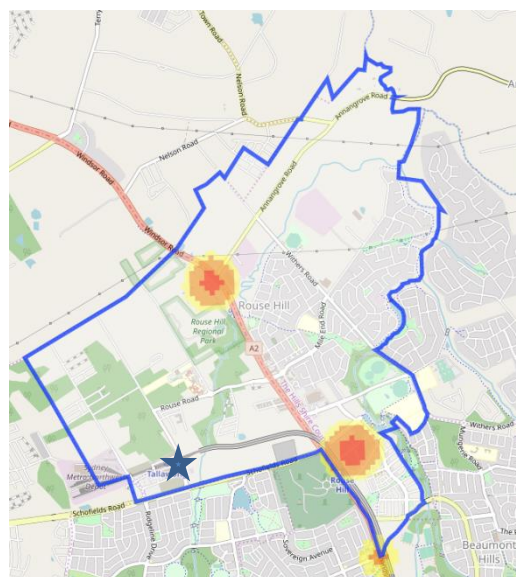


Figure 10: Assault (Non - domestic) (2019)

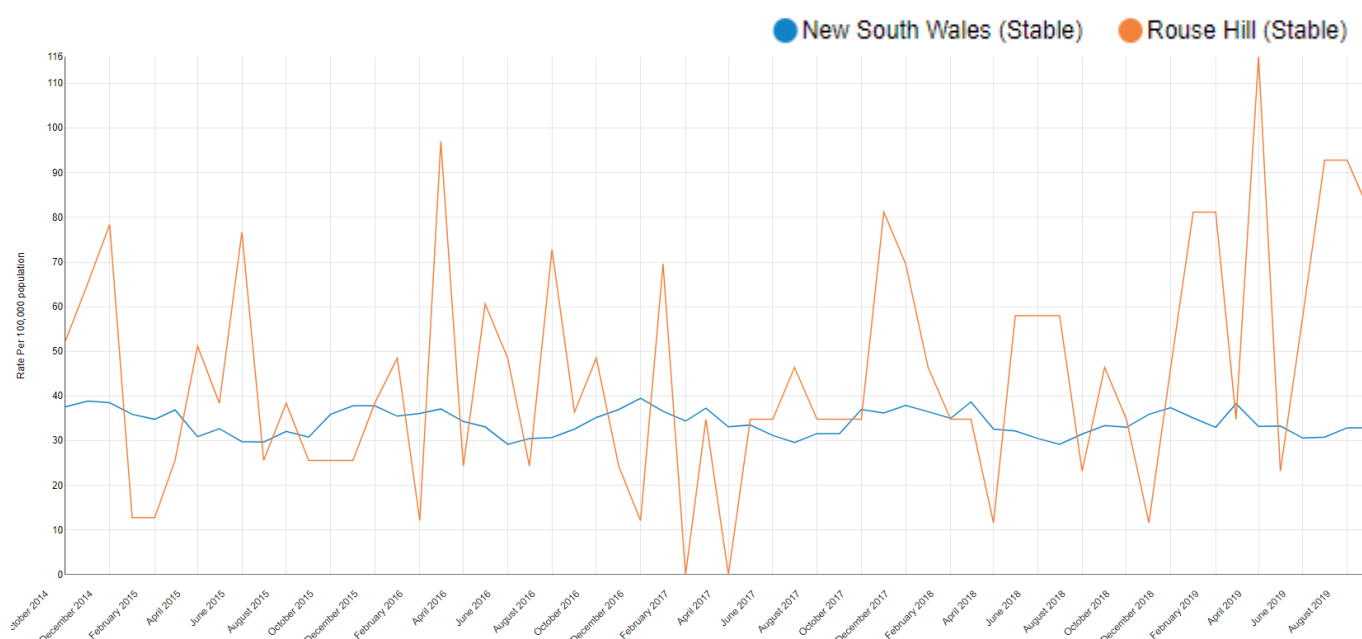


Figure 11: Rates of Assault (Non-domestic) (October 2014 to August 2019)

Figures 9 and 10 show changes to the hotspot rate of Assault (Non - domestic) in Rouse Hill from 2015 to 2019. It is evident from the mapping that no significant change in hotspot incidence has occurred within or surrounding the site. The subject lot is not located within a low, medium or high hotspot rating for this crime.

Figure 11 is a graph of the rates of Assault (Non - domestic), with comparisons between NSW and Rouse Hill. The graph indicates that between October 2015 and August 2019 the rate of Assault (Non - domestic) in Rouse Hill has remained stable, while NSW has also remained stable.

## 2.1 Proposed Development

The proposed mixed use development will incorporate a range of uses as provided in Table 2. Refer to specific residential yield in more detail below.

The proposal will also incorporate retail and commercial floorspace, a childcare centre and gym as per Architectural Plans submitted with the SSD application.

Table 2: Residential Development Yield

| Land Use    |              | Yield            |
|-------------|--------------|------------------|
| Residential | 1 Bedroom    | 252 units        |
|             | 2 Bedroom    | 682 units        |
|             | 3 Bedroom    | 53 units         |
|             | <b>Total</b> | <b>987 units</b> |



Figure 12: Extract from Level 01, 02 & 03 Plan

### Residential

A mix of 1, 2 and 3 bedroom apartments are proposed within the precinct. Unit breakdown is provided in Table 2 for reference.

Residential apartments will be accessed from lobby entries with secure entry and lift access to levels above. Basement parking will be provided to all residential apartments with vehicle access from the proposed new road or Conferta Avenue.

### **Retail and Commercial**

Retail and commercial spaces are proposed within Buildings 1A and 1B, located on the northern site orientated to Tallawong Station. Retail areas will be accessed from Conferta Avenue, Cudgegong Road and Themed Avenue with a proposed new road also traversing the northern site from south to north.

The primary retail precinct will be integrated within Building 1B with a proposed retail plaza intersecting the site from Cudgegong Road to the internal Village Green.

### **Child Care Centre**

A child care centre is proposed within Building 1A2 at Level 2.

The premises will incorporate secure outdoor space provided at Level 2. Access to Level 2 will be available from Level 1 lobby which is sited at ground level due to sloping topography throughout the precinct.

### **Public Open Space**

Significant open space provision is to be integrated within the northern and southern sites to achieve a landscaped precinct. The Village Green will form the focal centre piece available for public use with adjacent play space, market square and landscaped through site link. The proposed new road linking Themed and Conferta Avenues will generate significant opportunities for natural surveillance of Tallawong Green and adjacent play space.

Additional pocket parks will be located within residential buildings orientated to Schofields Road. An extract of Proposed Landscaping of Stage 1 is provided in Figure 15.

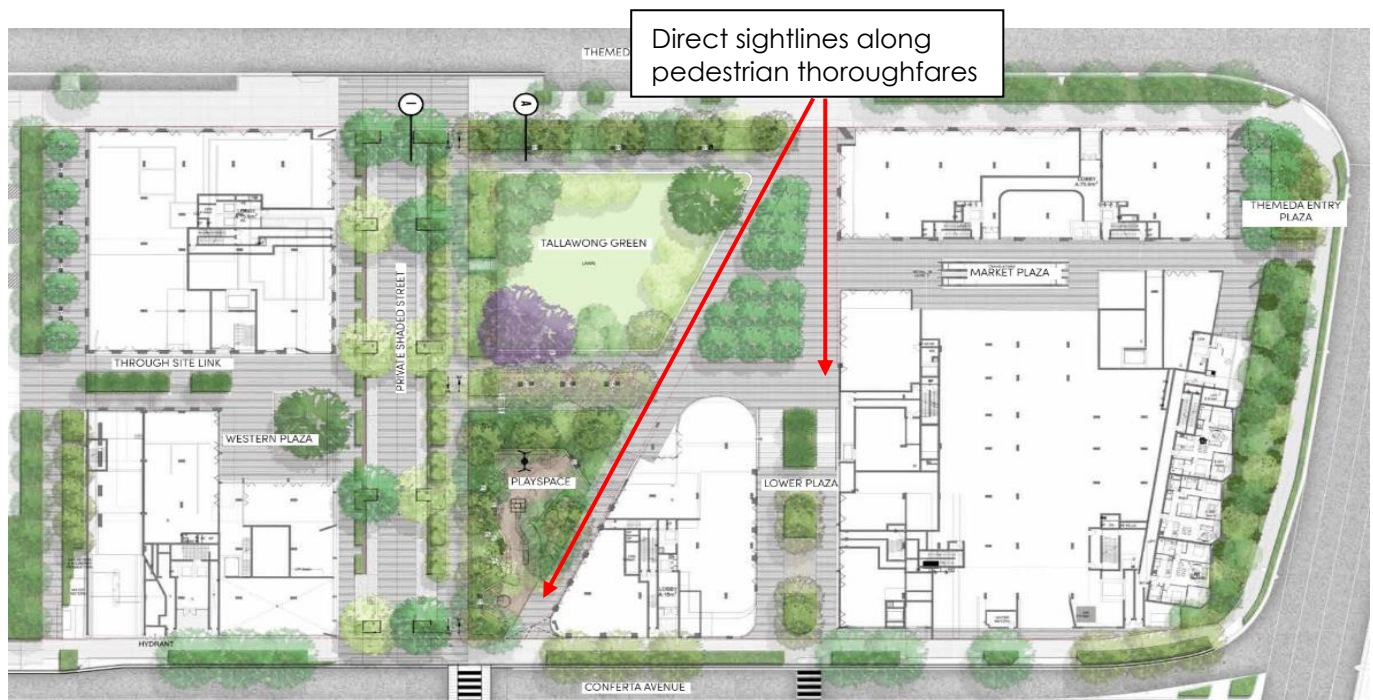


Figure 13: Extract from Landscape Plan - Stage 1 Masterplan



**Private Open Space**

Private open space will be integrated within ground level residential courtyards, balconies and rooftop residential areas in addition to landscaped green space at ground level surrounding building perimeters. Rooftop open space has been designed to CPTED standards with opportunities for sightlines of access points, extremities and opportunities for passive surveillance of streetscapes below.

**Access**

Residential building will incorporate restricted access controls in the form of key lock, swipe card or intercom entry. Lift access will be restricted in conjunction with access to rooftop and mid building private open space, commercial spaces above ground level and the Child Care Centre.

Access to basement car parking will be restricted with roller shutters or boom gate access control as shown in Architectural Plans. Loading zones will be secured with garage doors to mitigate opportunities for unauthorised access.

Waste storage areas will be secured with restricted access available to residents, tenants, building management and waste collection contractors. Access cards for waste storage rooms will be distributed as required.

**Landscaping**

A Landscape Masterplan has been prepared by Turf Design Studio with a site extract shown in Figure 16 for reference.

Low level planting has been applied to areas that require maintenance of ground level sightlines and additional surveillance. Deep soil provision, particularly located along Schofields Road in the south, will support larger species and canopy cover with a height to facilitate clear ground level sightlines.

Proposed landscaping will facilitate maintenance of a defined green buffer to mitigate the visual impact of the precinct. Vegetation height along Schofields Road has been designed to facilitate unimpeded sightlines into the development for pedestrians and vehicles.



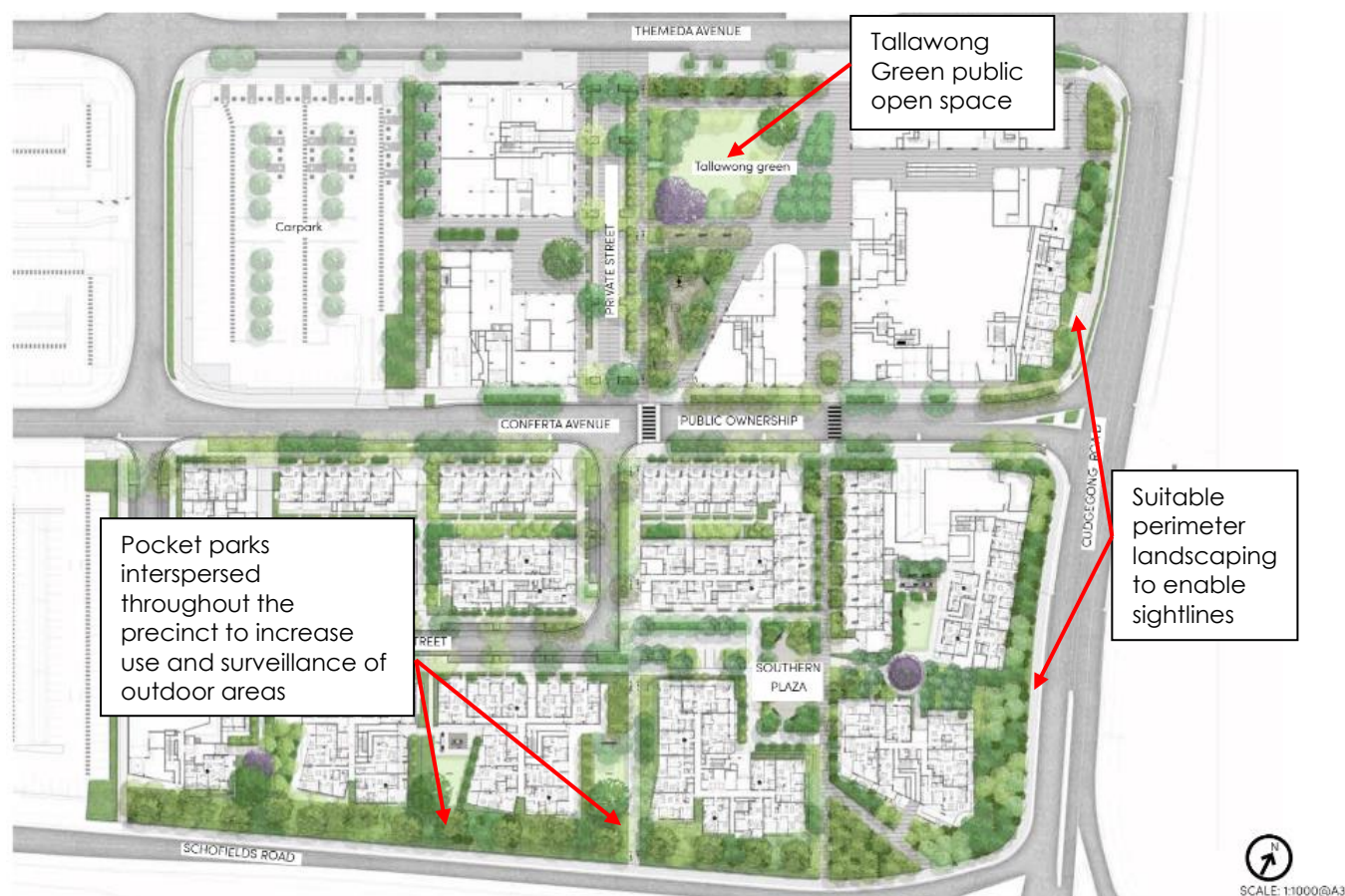


Figure 14: Extract from Landscape Masterplan

### Car Parking

Car parking will be provided within basement levels for all buildings.

Residential and commercial vehicles will enter parking infrastructure from Conferta Avenue or the proposed new road traversing the site in an east-west orientation.

Residential and commercial parking entries will employ boom gate or roller door measures to control access as shown on Architectural Plans.

### 3 CPTED Principles

#### 3.1 Surveillance

The *Crime Prevention and the Assessment of Development Applications* states that 'the attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical'.

From a design perspective, 'deterrence' can be achieved by:

- clear sightlines between public and private places;
- effective lighting of public places; and
- landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.

Positive surveillance features of the development include:

- Significant opportunities for passive surveillance of site perimeters, internal access driveways and communal areas from balconies, windows and raised open space;
- Clear sightlines to the precinct facilitated by suitable canopy height along Schofields Road; and
- Lobby entries clearly visible from internal open space areas or access roads to reduce the need for physical surveillance.

Table 3 lists potential 'surveillance' issues and recommended strategies to minimise crime risk.

*Table 3: Surveillance issues and recommendations*

| Surveillance Issues | Recommendation   |
|---------------------|--|
| <b>Perimeter</b>    | <ul style="list-style-type: none"> <li>• Perimeters and internal vehicle driveway should be well lit at night.</li> <li>• Perimeter landscaping associated with residential areas should be well maintained to ensure appropriate surveillance can occur.</li> <li>• Regular surveillance checks of proposed open space areas should occur and perimeter landscaping should allow appropriate sightlines for this to be achieved.</li> </ul>   |
| <b>Entrances</b>    | <ul style="list-style-type: none"> <li>• All entrances should be well lit at night especially in alcoves and corners.</li> <li>• Entrances should be well defined and clearly sign posted.</li> <li>• Consideration should be given to the use of LED lights in some areas.</li> <li>• Glazing should allow natural surveillance of surrounding areas from within ground level commercial/ retail spaces.</li> </ul>   |
| <b>Car Parking</b>  | <ul style="list-style-type: none"> <li>• Minimise density of planting in car park entries to maintain clear sightlines to commercial and residential parking areas.</li> <li>• The car park should be well lit at night and located away from and not incorporate potential entrapment areas.</li> <li>• Ensure the residential car parking is secured by remote access garage doors or boom gates to reduce the need for permanent surveillance.</li> <li>• Ensure the basement car park fencing used to differentiate between commercial and residential parking does not inhibit sightlines or create potential places for entrapment.</li> </ul> |

| Surveillance Issues                | Recommendation  |
|------------------------------------|---|
|                                    | <ul style="list-style-type: none"> <li>Consideration should be given to the installation of Close Circuit TV (CCTV) within basement car park levels and at car park entries.</li> </ul>   |
| <b>Positioning of CCTV cameras</b> | <ul style="list-style-type: none"> <li>Consideration should be given to the installation of CCTV throughout the precinct. It is recommended that lobby areas, pedestrian pathways, retail areas and landscaped private and publicly accessed open space areas should also be clearly visible through CCTV.</li> <li>Position CCTV at places where the offender/s is most likely to have to pass or want to access, such as building entry/exit points or pedestrian access, internal vehicle access points or internal communal space entries.</li> <li>CCTV should be: <ul style="list-style-type: none"> <li>Clearly visible to deter potential offenders;</li> <li>Placed at a height that captures a full view of the offender's face whilst not being obscured by other interferences; and</li> <li>In areas where image capture will not be compromised by insufficient lighting</li> </ul> </li> </ul> |
| <b>Landscaping</b>                 | <ul style="list-style-type: none"> <li>The planting proposed in the Landscape Plan should not obstruct surveillance along road frontages and site perimeters.</li> <li>Landscaping should be free from obstructions and allow clear sightlines along designated pedestrian paths.</li> <li>Clear sightlines should be maintained within areas of mature tree planting.</li> <li>Vegetation should be low (below 700mm) in areas where offenders could easily hide.</li> <li>Landscaping should not impede opportunities of natural surveillance of building or car park entries.</li> <li>Foliage density should be effectively maintained to promote more active surveillance from residents.</li> <li>Any vegetation or debris on pathways must be removed to maintain the sightlines required for crime preventing surveillance.</li> </ul>  |
| <b>Lighting</b>                    | <ul style="list-style-type: none"> <li>Lighting should be vandal resistant.</li> <li>Lighting should satisfy the relevant Australian standard.</li> <li>Effective illumination at ground level should reduce any opportunity for shadowing along the pedestrian access paths.</li> <li>Car parks should be illuminated to provide for increased visibility, particularly in storage areas or places of potential entrapment.</li> <li>Street numbers on buildings should be illuminated to promote site identification.</li> </ul>  |
| <b>General Recommendations</b>     | <ul style="list-style-type: none"> <li>Signs should be erected in areas which are restricted prohibited or under surveillance to discourage criminal or anti-social activity.</li> <li>Consider contracting a local security firm for regular inspections of the site.</li> <li>Prune all trees and shrubs around buildings to enable clear visibility.</li> </ul>  |

| Surveillance Issues | Recommendation   |
|---------------------|--|
| <b>Site 1A</b>      | <ul style="list-style-type: none"> <li>• Clear sightlines to be maintained to Building 1A vehicle entry point from Conferta Avenue.</li> <li>• Vegetation along proposed new road linking Themeda Avenue to be low (below 700mm) where opportunity for hiding could occur near retail spaces.</li> <li>• CCTV is recommended to monitor proposed through site link.</li> </ul> |
| <b>Site 1B</b>      | <ul style="list-style-type: none"> <li>• Low planting is recommended around retail areas to enable surveillance of public spaces from within retail development.</li> </ul>  |
| <b>Site 2A</b>      | <ul style="list-style-type: none"> <li>• Access should be restricted to the loading dock and waste storage areas.</li> <li>• Explore opportunities for CCTV monitoring of pedestrian pathway, Podium levels 2A and residential vehicle entry.</li> </ul>   |
| <b>Site 2B</b>      | <ul style="list-style-type: none"> <li>• Design of residential windows should facilitate natural surveillance of podium levels and adjacent public pathway</li> </ul>  |
| <b>Site 2C</b>      | <ul style="list-style-type: none"> <li>• Glazing and window design should facilitate effective natural surveillance of Cudgegong Road frontage, internal Podium 2C and adjacent pedestrian walkway.</li> </ul>   |
| <b>Site 2D</b>      | <ul style="list-style-type: none"> <li>• Clear sightlines should be maintained to bicycle storage area entry points.</li> <li>• Landscaping should not restrict surveillance of residential vehicle driveway and entry point from the proposed new road.</li> </ul>  |
| <b>Site 2E</b>      | <ul style="list-style-type: none"> <li>• Windows orientated to the east should support natural surveillance of the pedestrian pathway linking Schofields Road and the proposed new road to the north.</li> </ul>   |



### 3.2 Access Control

Access Control can be defined as physical and symbolic barriers that are used to 'attract, channel or restrict the movement of people'.

Effective access control can be achieved by creating:

- landscapes and physical locations that channel and group pedestrians into target areas;
- public spaces which attract, rather than discourage people from gathering; and
- restricted access to internal areas or high-risk areas (like car parks or other visited areas). This is often achieved through the use of physical barriers.

Positive access control aspects of the design include:

- Commercial and residential car park limited to one entry/ exit point;
- Rooftop and upper podium private open space restricted to residents and guest use;
- Secured lobby entry and unauthorised access controlled with swipe card lifts.

Table 4 lists potential 'access control' issues and recommended strategies to minimise crime risk.

Table 4: Access control issues and recommendations

| Access Control Issues                    | Recommendations   |
|--|---|
| <b>Perimeter</b>                         | <ul style="list-style-type: none"> <li>• Secure fencing should be maintained within residential terrace areas to prevent unauthorised access from pedestrians or users of the commercial premises.</li> <li>• Secure fencing should be maintained within rear commercial/ retail open space provisions at Basement 01 level.</li> <li>• These areas should be regularly inspected by a security contractor.</li> <li>• Consider the use of sensor lighting in these areas.</li> </ul> |
| <b>Landscaping</b>                       | <ul style="list-style-type: none"> <li>• Avoid planting large trees adjacent to buildings to prevent use of "natural ladders" for access to roofs or balconies.</li> <li>• Landscaping should not inhibit entry to access gates, paths or building entries.</li> <li>• Fenced areas should define private spaces.</li> </ul>  |
| <b>Entrances</b>                         | <ul style="list-style-type: none"> <li>• Residential entrances should be secured and controlled via electronic cards and intercom.</li> <li>• Elevator access to levels above should only be available via an electronic swipe card or intercom system.</li> <li>• Regular maintenance to lobby areas, car park and building entrances is essential for effective access control.</li> </ul>  |
| <b>Car Park</b>                          | <ul style="list-style-type: none"> <li>• Access to the residential car park should be controlled by an electronic access door and secured by swipe card or intercom system to limit unauthorised access.</li> <li>• Access should only be available to commercial car parks in business hours to mitigate opportunity for offenders to access this space in the evening or early morning.</li> </ul>  |
| <b>General Matters for Consideration</b> | <ul style="list-style-type: none"> <li>• Fully secure all external doors and windows with good quality locking devices. Make sure they are regularly maintained. All doors should be of solid construction and well fitted.</li> <li>• Make use of signage and stickers promoting security measures such as: security alarms, video surveillance and security</li> </ul>  |

| Access Control Issues | Recommendations  |
|-----------------------|--|
|                       | contractors.   |
| <b>Site 1A</b>        | <ul style="list-style-type: none"> <li>Ensure lift access to communal space, child care centre and residential levels is restricted to mitigate unauthorised access.</li> <li>Ensure Building 1A vehicle entry to basement car parking is controlled via boom gate access.</li> </ul>  |
| <b>Site 1B</b>        | <ul style="list-style-type: none"> <li>Ground level courtyards orientated to Cudgegong Road should be securely fenced and gated to reduce opportunity for unauthorised access from adjacent retail areas.</li> <li>Building B lobby should only be accessed by authorised residents with key card/ swipe card or intercom system.</li> </ul>   |
| <b>Site 2A</b>        | <ul style="list-style-type: none"> <li>Bicycle storage facilities should be secured with good quality locking devices and/ or swipe card entry.</li> <li>Residential courtyards at podium 2A level should be securely fenced and gated to reduce opportunity for unauthorised access.</li> </ul>   |
| <b>Site 2B</b>        | <ul style="list-style-type: none"> <li>Residential courtyards at podium 2B level should be securely fenced and gated to reduce opportunity for unauthorised access. This is particularly important along the eastern elevation that adjoins the pedestrian walkway.</li> </ul>   |
| <b>Site 2C</b>        | <ul style="list-style-type: none"> <li>Residential courtyards within Buildings 2C, 2C.2 and 2C.3 should be securely fenced and gated to limit access from Cudgegong Road, Schofields Road and proposed pedestrian walkway.</li> </ul>  |
| <b>Site 2D</b>        | <ul style="list-style-type: none"> <li>Proposed loading dock and waste storage area should be secured by boom gate or garage door.</li> <li>Residential courtyards adjacent to the proposed walkway traversing the centre of Buildings 2D.2 and 2D.3 should be securely fenced to restrict unauthorised access.</li> <li>Landscaping adjacent to the pedestrian walkway should be low to reduce opportunity for vegetation to be used as an access ladder to these buildings.</li> </ul> |
| <b>Site 2E</b>        | <ul style="list-style-type: none"> <li>Site 2E is bounded by pedestrian walkways and roadways and residential courtyards at ground level should be securely fenced to restrict unauthorised access.</li> </ul>   |

### 3.3 Territorial Reinforcement

Territorial reinforcement can be achieved by enhancing 'community ownership of public space' as it sends positive signals and reduces opportunities for crime.

Effective territorial reinforcement and community ownership can be achieved by creating:

- design that encourages people to gather in public space and to feel some responsibility for its use and condition;
- design with clear transitions and boundaries between public and private space; and
- clear design cues on who is to use space and what it is to be used for.

Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.

Positive territorial reinforcement aspects of the proposal include:

- Architecturally designed common areas that promote resident interaction and a responsibility of users for the area;
- The entrance design to residential pathways and buildings provide a clear demarcation between public and semi-private space;
- Clear design cues associated with fenced terraces which delineate these spaces and identify who they are to be used by.

Table 5 lists potential 'territorial reinforcement' issues and recommended strategies to minimise crime risk.

*Table 5: Territorial reinforcement issues and recommendations*

| Territorial Reinforcement Issues           | Recommendations  |
|--|--|
| <b>Creating a sense of place/ownership</b> | <ul style="list-style-type: none"> <li>• Communal rooftop areas should allow resident maintenance and inclusion, in conjunction with a designated environmental contractor maintenance plan.</li> <li>• Clear distinction should be provided in landscaping and paving to identify separation between public and private spaces.</li> <li>• Signage should clearly identify private areas (particularly open space) so as to minimise conflict between residents and the general public and unintentional access.</li> </ul>             |
| <b>Way Finding</b>                         | <ul style="list-style-type: none"> <li>• Provide clear signage for pedestrians utilising pedestrian pathways and through site links.</li> <li>• Provide clear signage for motorists throughout the precinct to reduce vehicle - pedestrian conflict.</li> <li>• Explore opportunities for the introduction of a public address system to assist with security and management of emergencies.</li> </ul>  |
| <b>Public Open Space</b>                   | <ul style="list-style-type: none"> <li>• Public open space areas should be well maintained to allow the space to be used by the public, residents and visitors.</li> <li>• These areas should encourage social interaction between the community which will in turn increase natural surveillance and ownership of these spaces.</li> <li>• Any fencing of public open space areas within the precinct should be reviewed as this perceived access control can often reduce community involvement and usage of public spaces.</li> </ul> |

| Territorial Reinforcement Issues         | Recommendations   |
|--|---|
| <b>General Matters for Consideration</b> | <ul style="list-style-type: none"><li>• Consider installation of a monitored security alarm system.</li><li>• Prominently display any signs indicating the presence of a security system, the continual surveillance of the premises and any other security measures present.</li></ul> |



### 3.4 Space Management

Space management 'ensures that space is appropriately utilised and well cared for'. Strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti and the replacement of decayed physical elements.

Table 6 lists potential 'space management' issues and recommended strategies to minimise crime risk. The objective should be to minimise the perception of urban decay by maintaining clean and undamaged areas to minimise the fear of crime and avoidance behaviour.

*Table 6: Space management issues and recommendations*

| Space Management Issues            | Recommendations  |
|------------------------------------|--|
| <b>Waste storage</b>               | <ul style="list-style-type: none"> <li>Garbage bins and waste storage receptacles should be regularly emptied to prevent overflowing rubbish.</li> <li>The designated waste storage areas for respective sites should be secured for authorised access only.</li> </ul>  |
| <b>Graffiti</b>                    | <ul style="list-style-type: none"> <li>Remove graffiti as quickly as possible to minimise potential for cumulative graffiti and vandalism actions.</li> <li>Install vandal resistant lighting where applicable.</li> </ul>   |
| <b>Toilets</b>                     | <ul style="list-style-type: none"> <li>Toilets should be regularly maintained and kept clean at all times within retail and commercial areas.</li> <li>Lighting should be consistent and even to maximise visibility.</li> <li>Consider installing vandal proof mirrors in retail/commercial and communal residential facilities.</li> </ul> |
| <b>Lighting Repair</b>             | <ul style="list-style-type: none"> <li>The management regime should ensure that lighting is repaired as soon as possible after any lighting failure or damage.</li> </ul>  |
| <b>Cleanliness and Maintenance</b> | <ul style="list-style-type: none"> <li>The management regime shall ensure that the site is kept clean and tidy at all times.</li> <li>Clear all building perimeters including fences of rubbish and potential climbing aids.</li> <li>Maintain well-built and adequately secured boundary gates and fences.</li> </ul>                       |

## 4 Conclusion

Our assessment of the proposal in accordance with the CPTED principles confirms that the development can be managed to minimise the potential risk of crime and a re-design of the proposal is not required.

The recommended strategies are summarised as follows:

### Surveillance

- *Lighting*: Entrances, communal open spaces, private open spaces including rooftops and podiums, car parks and perimeters should be well lit at night;
- *Natural Surveillance*: Promote natural surveillance via balconies overlooking the streets, lobby areas, vehicle driveways and communal/ private open space at ground level;
- *Landscaping*: Maintain sight lines wherever possible via effective landscaping techniques using CPTED principles;
- *Concealment*: Reduce the opportunity for hiding in bushes and landscaping in secluded areas via low planting or taller trees and canopies; and
- *Formal Surveillance*: Potential contracting of a formal surveillance team to perform regular security assessments of the premises.

### Access Control

- *Designated Key Card Access*: Key/ swipe card access should enforce restricted access to the residential lifts, waste rooms, basement car parking premises and private open space;
- *Landscaping*: Large trees should not be planted immediately adjacent to balconies or glazing to prevent vegetation being used as a "ladder";
- *Internal Communal Areas*: These areas should be clearly designated, and access control should be maintained via key/swipe card access or intercom system;
- *Signage*: Provide signage identifying restricted and monitored areas, including the car park and private open space areas; and
- *Security*: Ensure use of high quality locking systems, reinforced glass, clear signage and stickers.

### Territorial Reinforcement

- *Landscaping*: Engage a landscape contractor to maintain perimeter and communal areas.
- *Fencing*: Ensure fencing identifies a clear distinction of areas within ground floor terraces;
- *Car Park*: Clearly delineate spaces through signage, boom gates, physical separation and other security measures, particularly within the interface of commercial and residential parking;
- *Alarm*: Consideration should be given to the installation of an alarm and dedicated CCTV system; and
- *Signage*: Provide signage to any visitors to the site which outline access control measures, emergency evacuation measures and procedures.

### Space Management

- Implementation of an on-going maintenance plan for waste, vandalism, toilets, community facilities, landscaping, fencing and lighting.

This report can be relied on as guide for security management across the site.