Crime Prevention Through Environmental Design (CPTED) Report

New High School at Jerrabomberra, NSW (SSD 2441956)

On behalf of
NSW Department of Education

mecone

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Revision	Revision Date	Status	Authorised	
			Name	Signature
A	13-10-2021	Final	GS	

* This document is for discussion purposes only unless signed and dated by the persons identified. This document has been reviewed by the Project Director.

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1 Introduction

This Crime Prevention Through Environmental Design (CPTED) accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of an application for a State Significant Development (SSD 24461956).

This report has been prepared on behalf of the NSW Department of Education (DoE) for an SSDA for a new high school at Jerrabomberra, NSW.

1.1 Report Purpose

The purpose of this report is to assess the proposal in terms of the key principles of CPTED and to provide recommendations that can be considered as part of detailed design for the site.

This report responds to the Secretary's Environmental Assessment Requirements

(SEARs) for the project (described further below). It has been prepared with regard to the following documents:

- Crime prevention and the assessment of development applications – Guidelines under section 79C [now 4.15] of the Environmental Planning and Assessment Act 1979 (Department of Urban Affairs and Planning, 2001);
- "Safer by design – Crime Risk Assessment' (NSW Police Force, 2016); and
- Companion to Safer by Design Crime Risk Assessment (NSW Police Force).

The assessment undertaken in this report is based on drawings package issued by TKD Architects on 20 September 2021.

1.2 SEARs

This CPTED report responds to the Secretary's Environmental Assessment Requirements (SEARs) for the project issued on 13 August 2021. The table below outlines the SEARs requirements regarding CPTED.

Items 1 and 2 are addressed by this report.

Table 1. SEARs CPTED Requirement

SEAR Heading	SEAR Content
1. Statutory Context, Strategic Context and Policies	Address the relevant planning provisions, goals and strategic planning objectives in all relevant planning policies including but not limited to the following: - Crime Prevention through Environmental Design (CPTED) Principles.
2. Built Form and Urban Design	Address how Crime Prevention through Environmental Design (CPTED) principles are to be integrated into development.

1.3 Report Structure

The structure of this report is as follows:

- Chapter 1 introduces the report;
- Chapter 2 identifies the site and context;

- Chapter 3 provides an overview of the proposal;
- Chapter 4 provides an overview of crime in the area
- Chapter 5 provides a discussion of the development in the context of CPTED principles and provides recommendations for future implementation;
- Chapter 6 concludes the report.

Additionally, an assessment against the NSW Police Force CPTED Checklist is provided at **Appendix 1**.

1.4 About the Author

The author has completed the Safer by Design Course (Attendee ID: 51255068) by the NSW Police Force, which provides CPTED approved courses and qualifies the author to prepare this report.

2 Site Analysis

2.1 Site Description

The proposed development is located within the South Jerrabomberra Innovation Precinct, also referred as the Poplars Innovation Hub, in the local government area of Queanbeyan-Palerang Regional Council.

The school site- is part of an existing lot (Lot 1 in DP 1263364), which is approximately 65.49ha in area and will be characterised by a mix of business park and open space uses and a new north-south connector road named Environa Drive.

Delivery of the Precinct is underway with Environa Drive currently under construction. Most of the-lot, however, remains undeveloped.

The school site is subject to a proposed lot (Lot 2 in DP 1263364), which was approved by Council under DA332-2015 on 10 March 2021 but is not yet registered. The approved lot is irregular in shape, is largely cleared and is approximately 4.5ha in area. A small dam is located adjacent to the south eastern boundary of the site, which forms part of a broader wetland.

The site is located in excellent proximity to existing open space facilities. It adjoins David Madew Regional Park to the south east and is located 100m east of an existing recreational field associated with Jerrabomberra Public School.

A description of the site is provided in the table below.

Table 2 – New High School in Jerrabomberra Site Description

Item	Description
Site address	School address yet to be determined however, it is located within the Jerrabomberra Innovation Precinct at 300 Lanyon Drive, Jerrabomberra.
Legal description	Lot 1 in DP 1263364 (existing) Lot 2 in DP 1263364 (proposed, but not registered)
Total area	Lot 1 – 65.49ha Lot 2 – 4.5ha

Table 2 – New High School in Jerrabomberra Site Description	
Item	Description
Frontages	The site provides frontage to Environa Drive and the northern stub road, both currently under construction.
Existing use	The site is undeveloped and contains a series of small vegetation clusters scattered across the site.
Existing access	Existing access is via an informal unsealed driveway off Tompsitt Drive along the northern boundary of the existing lot. The site will be accessed via Environa Drive and a secondary access road (North Road), which is currently under construction.
Context	Land to the south is primarily residential in nature. Jerrabomberra Public School and David Madew Regional Park are located to the east/south-east, while land to the west is undeveloped and features Jerrabomberra Creek. The site is located within the South Jerrabomberra Innovation Precinct, which is currently under construction. The areas north and west of the site are currently undeveloped but the site is currently undergoing a transition from rural to business park uses. Development further north on the opposite side of Tompsitt Drive and along Edwin Land Parkway includes retail and commercial uses. Development immediately to the south includes existing low density residential development. Land in the south west has been identified for future low density residential, light industrial and business park uses.

Figure 1: Site aerial depicting the land subject to the proposed High School.
Source: TKD Architects

3 Proposed Development

The proposed development is for the construction of a new high school in Jerrabomberra. The proposal will meet community demand and to ensure new learning facilities are co-located near existing open space infrastructure. The proposal generally includes the following works:

- Site preparation;
- Construction of a series of buildings up to three storeys including administration/staff areas, library, hall and general learning spaces;
- Construction of new walkways, central plaza and outdoor games courts;
- Construction of a new at-grade car park; and
- Associated site landscaping and open space.

The proposal has been designed to accommodate approximately 500 students with Stream 3 teaching spaces, however the core facilities will be future proofed to a Stream 5 to enable possible future expansion to meet projected demand.

The proposal will include site preparation works, such as clearing and levelling to accommodate the proposed buildings and play areas. The proposal will involve the construction of a series of buildings housing general learning spaces, administration and staff wings, outdoor learning areas, a library and assembly hall.

The proposal will include construction of a new driveway and hardstand with access proposed off the northern stub road east of Environa Drive. Pedestrian access is proposed off Environa Drive and the northern stub road.

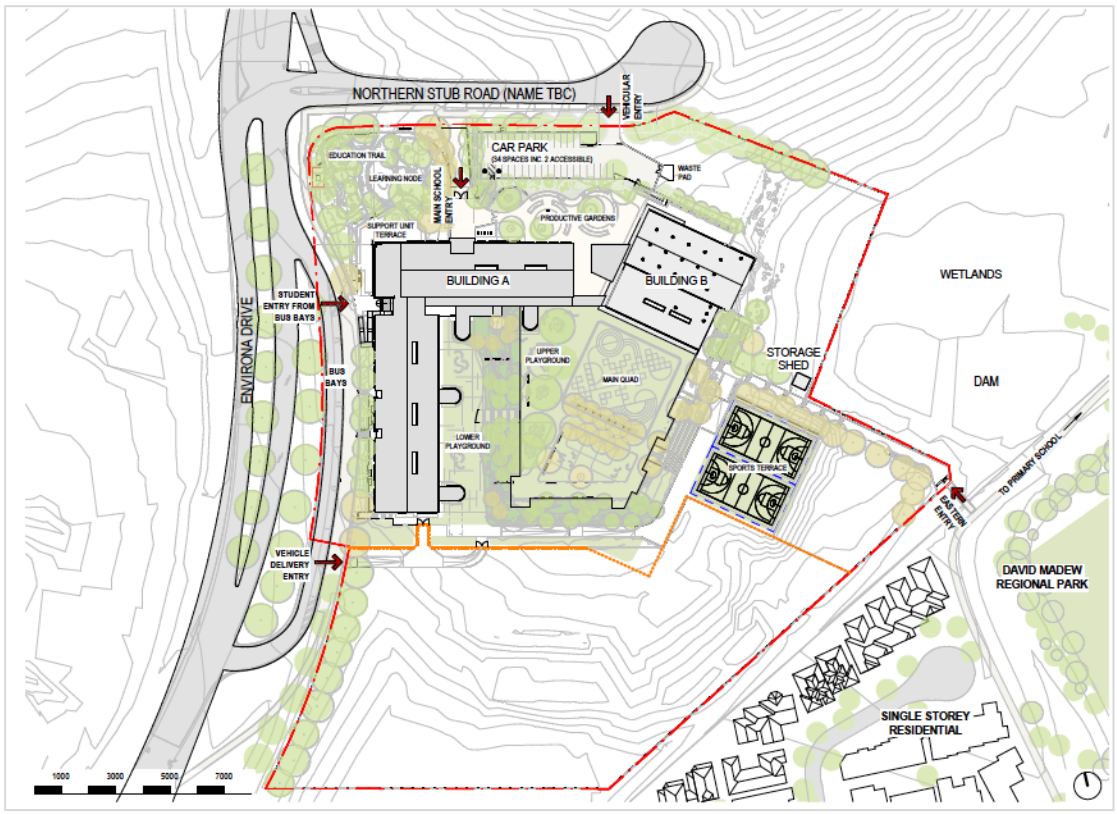

Figure 2: Proposed site plan
Source: TKD Architects

4 Crime Profile

4.1 Crime Trends

Table 3 below provides a breakdown of major crime rates in Queanbeyan-Palerang Regional LGA based on data from the NSW Bureau of Crime and Statistics and Research (BOCSAR).

The table shows the incident rate ratio of Queanbeyan-Palerang Regional-to-NSW crime rates (with the NSW rate equivalent to 1) from the past year (July 2020 to June 2021).

The crime figures discussed in this section of the report are only those crimes that have been recorded by NSW Police and as such cannot be seen to represent all crimes committed in the area.

Also, levels of reported crime are sensitive to a range of factors, such as the willingness or ability of people to report a criminal activity and the levels and nature of police activity.

Table 3. Ratio to NSW Rate – Rate of Recorded Criminal Incidents per 100.000 Population for Major Offences

Offence Type	July 20 – June 21
Murder	-
Assault – domestic violence related	0.7
Assault – non-domestic violence related	0.8

Table 3. Ratio to NSW Rate – Rate of Recorded Criminal Incidents per 100.000 Population for Major Offences	
Sexual assault	0.8
Indecent assault, act of indecency and other sexual offences	0.7
Robbery without a weapon	0.6
Robbery with a firearm	-
Robbery with a weapon not a firearm	0.6
Break and enter dwelling	1.0
Break and enter non-dwelling	1.0
Motor vehicle theft	1.1
Steal from motor vehicle	1.3
Steal from retail store	1.0
Steal from dwelling	1.0
Steal from person	0.4
Fraud	0.7
Malicious damage to property	0.7

Compared to the rest of NSW, Queanbeyan-Palerang Regional LGA generally has a **lower or equivalent** rate of crime.

There is no meaningful data on trends at the suburb level, but the Queanbeyan-Palerang Regional LGA data shows that the **majority of major crime** rates in the LGA have **remained stable** over the previous two-year period.

4.2 Crime Hotspots

Hotspots indicate areas of high crime density (number of incidents per 50m x 50m) relative to crime concentrations across NSW.

While Queanbeyan-Palerang Regional LGA broadly displays generally low to equal crime rates, it is important to note that the location of the proposed high school is not located within a designated "hotspot".

As shown in the images below, BOCSAR data for Jerrabomberra indicates that minor hotspots are located within the suburb, however, are generally low in density. Jerrabomberra has a significantly lower incident rate than surrounding suburbs and the site for the proposed high school is not located within a hotspot area.

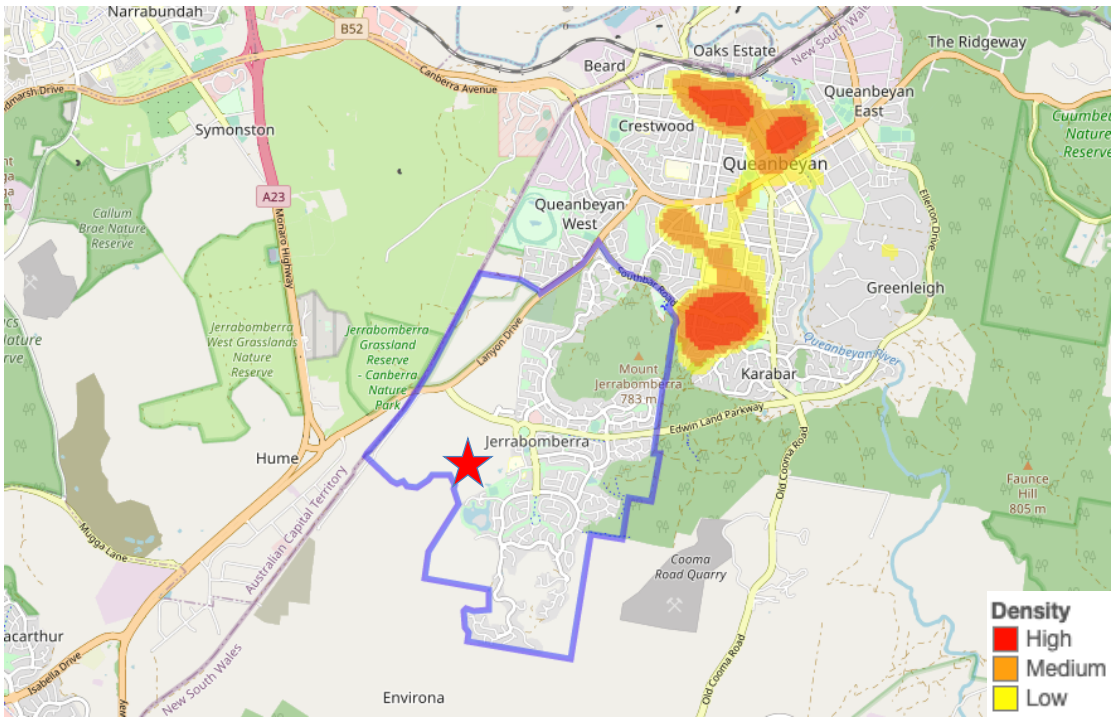

Figure 3: Hotspots Map – Domestic Assault
Source: BOCSAR

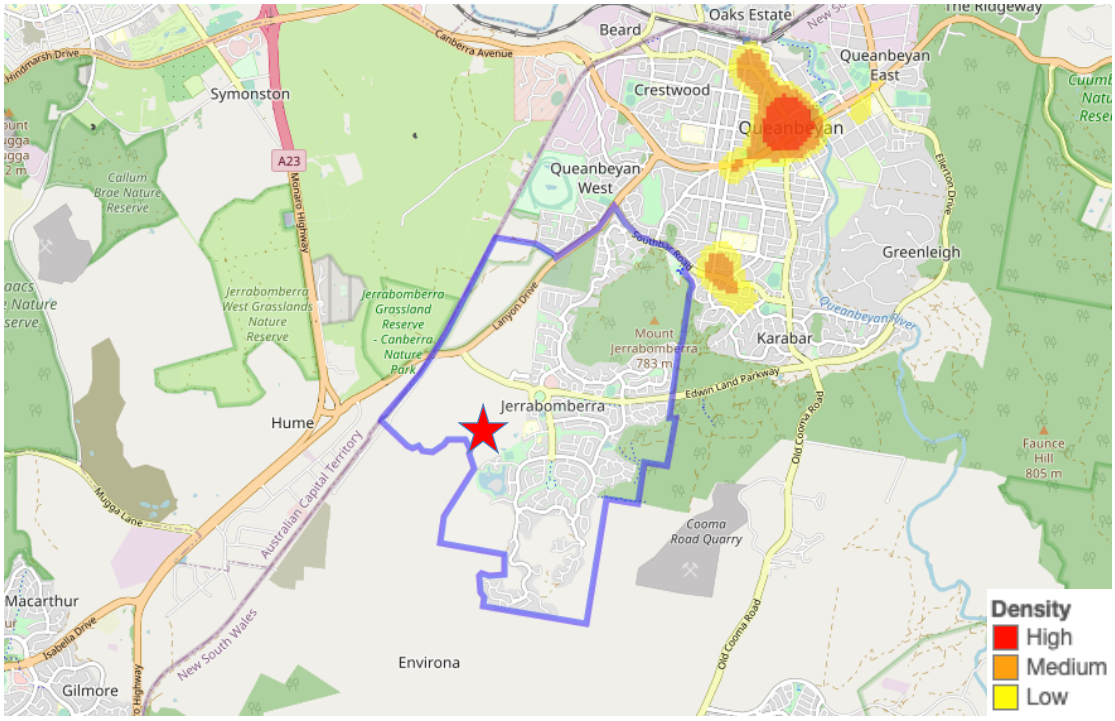

Figure 4: Hotspots Map – Non-Domestic Assault

Source: BOCSAR

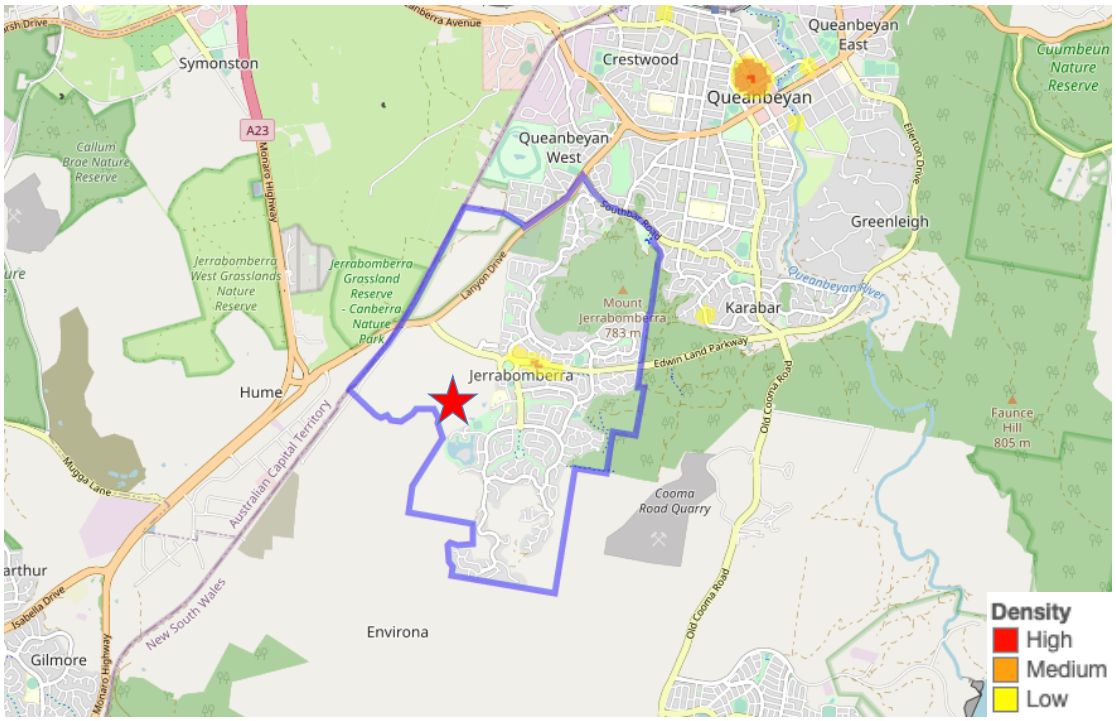

Figure 5: Hotspots Map – Robbery (All Types)
Source: BOCSAR

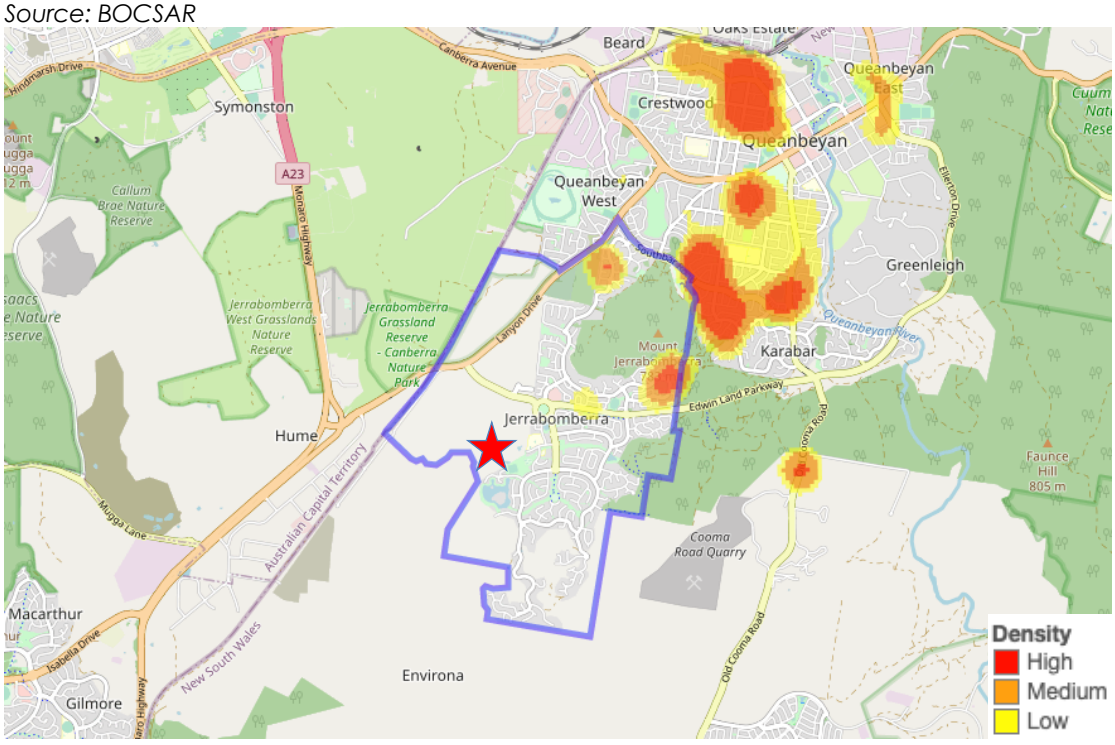

Figure 6: Hotspots Map – Break and Enter Dwelling
Source: BOCSAR

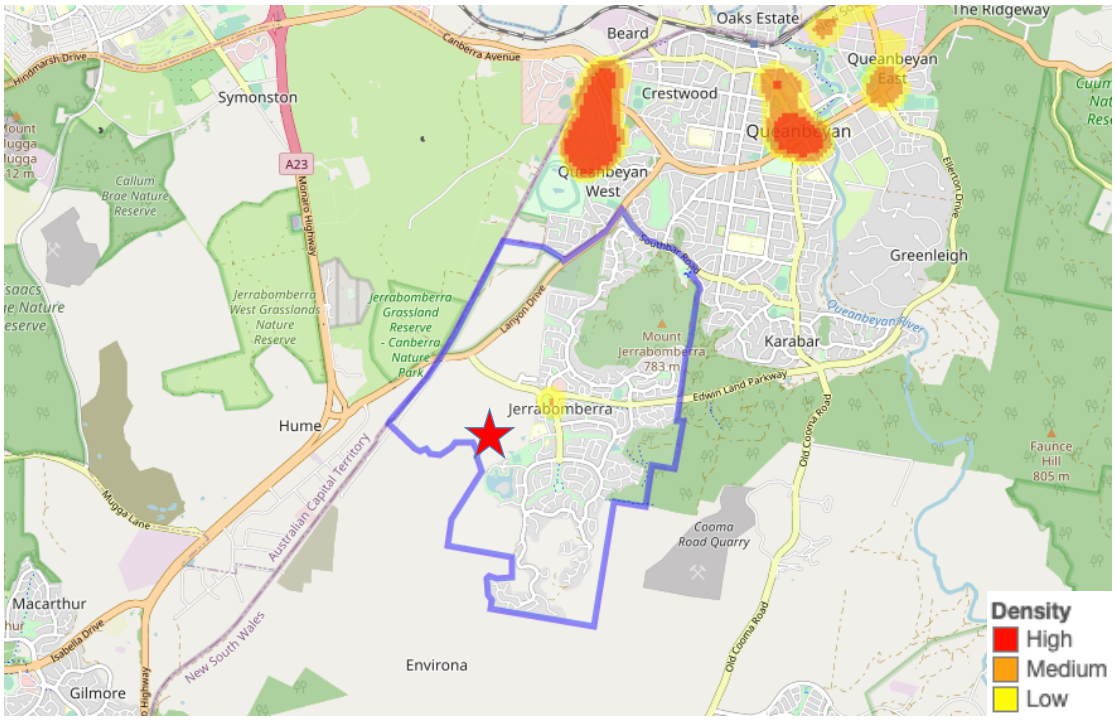

Figure 7: Hotspots Map – Break and Enter Non-Dwelling
Source: BOCSAR

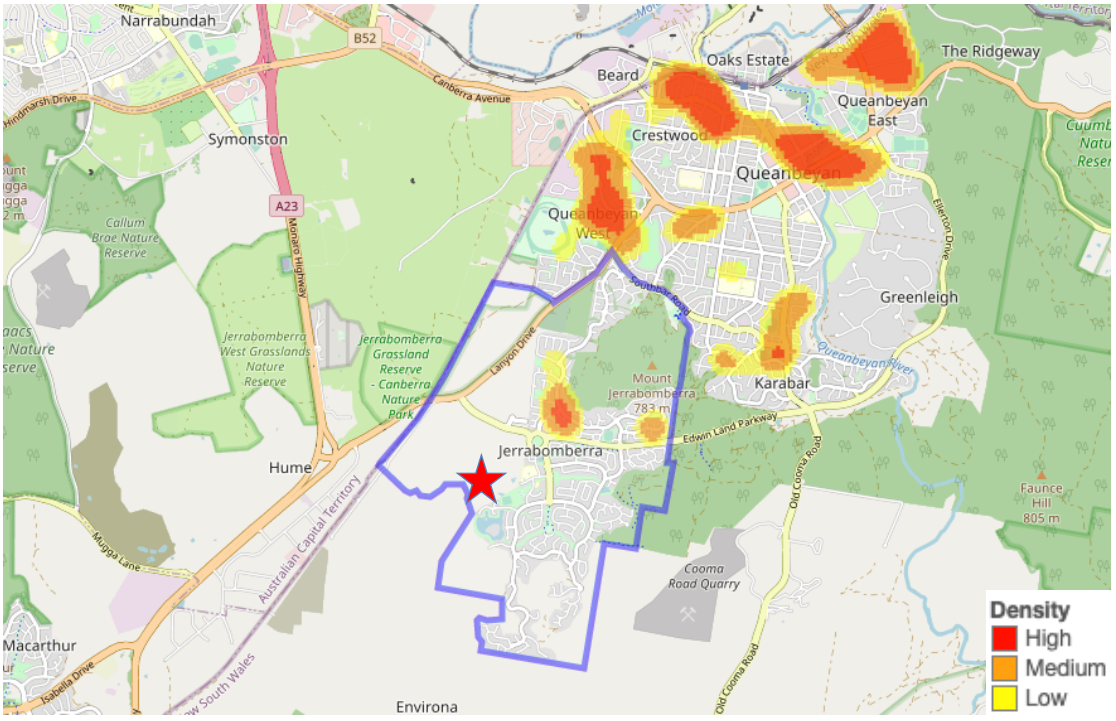

Figure 8: Hotspots Map – Motor Vehicle Theft
Source: BOCSAR

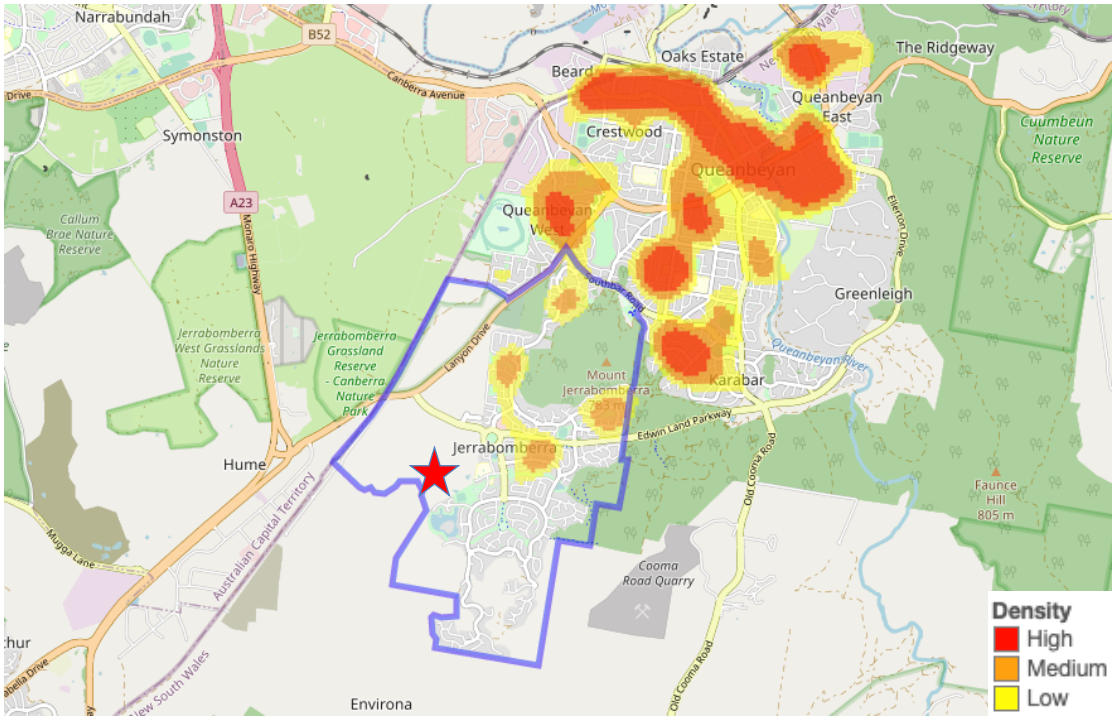

Figure 9: Hotspots Map – Steal from Motor Vehicle
Source: BOCSAR

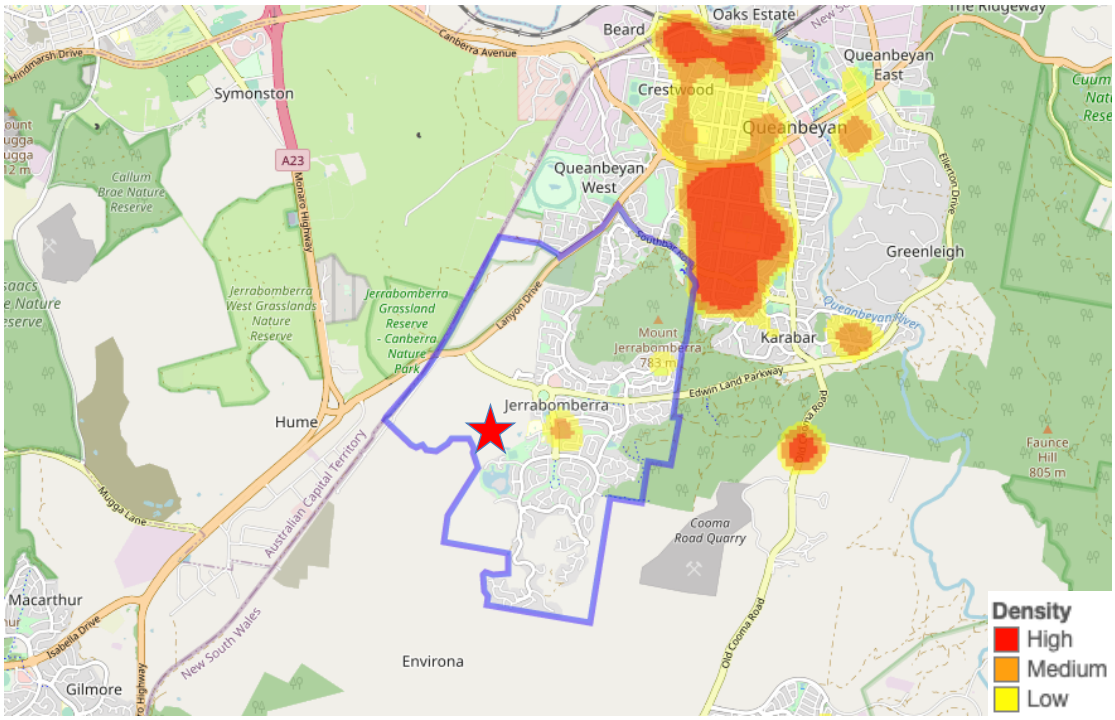

Figure 10: Hotspots Map – Steal from Dwelling
Source: BOCSAR

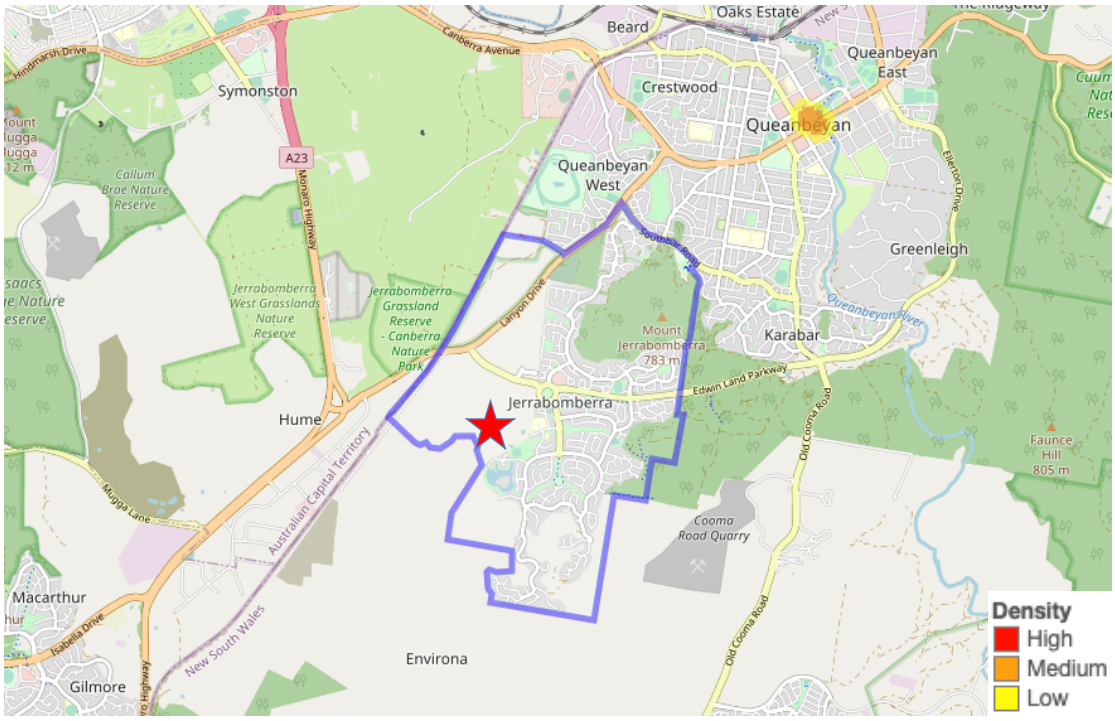

Figure 11: Hotspots Map – Steal from Person
Source: BOCSAR

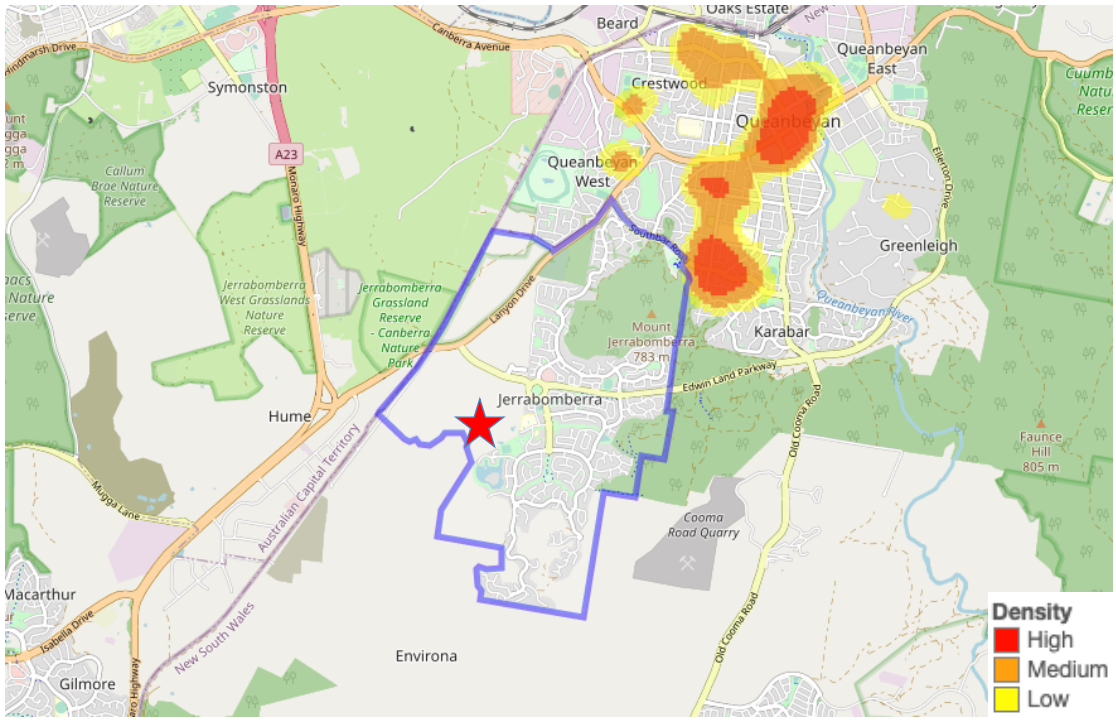

Figure 12: Hotspots Map – Malicious Damage to Property
Source: BOCSAR

Overall, the crime data for Queanbeyan-Palerang Regional LGA indicates a generally low to equal crime rate. Furthermore, the data for the suburb of Jerrabomberra points to a significantly **low incident crime environment**.

5 Crime Profile

5.1 CPTED Principles

This report utilises the principles of CPTED, which are based on a situational approach to crime prevention, which seek to minimise the risks for possible crime offences to occur. This is achieved by:

- Increasing the possibility of detection, challenge and capture;
- Increasing the effort required to commit crime;
- Reducing the potential rewards of crime by minimising, removing or concealing 'crime benefits'; and
- Removing conditions that create confusion about required norms of behaviour.

Notwithstanding this, the report and approach acknowledges that any design strategy proposed cannot operate effectively in isolation and is one element of a broader approach to a crime prevention strategy that includes social and community inputs and complementary strategies.

There are four key CPTED principles laid out in the CPTED guidelines:

- Natural Surveillance;
- Access Control;
- Territorial Reinforcement; and
- Space Management.

The following subsections discuss these principles in greater detail in the context of the proposed development. Additionally, an assessment against the NSW Police Force CPTED Checklist is provided at **Appendix 1**.

5.2 Natural Surveillance

NSW police defines natural surveillance as:

> *Natural surveillance is achieved when normal space users can see and be seen by others. This highlights the importance of building layout, orientation and location; the strategic use of design; landscaping and lighting – it is a by-product of well-planned, well-designed and well-used space.*

It relates to keeping intruders under observation. Natural surveillance allows people to engage in their normal behaviour while providing maximum opportunities for observing the space around them.

This is achieved by:

- Orienting buildings, windows, entrances and exits, car parks, rubbish bins, walkways, landscape trees and shrubs, in a manner that will not obstruct opportunities for surveillance of public spaces;
- The placement of persons or activities to maximise surveillance possibilities; and
- Provide lighting for night-time illumination of car parks, walkways, entrances, exits and related areas to promote a safe environment.

Evaluation

Our review of the plans indicate the following in relation to natural surveillance:

- The high school buildings have been sited in an 'L" shape. This provides ongoing natural and passive surveillance of the main playground within the centre of the site as well as the main and secondary entrance;
- The buildings are setback and face the streetscape, providing opportunities for passive and natural surveillance of the bus bay, carpark, main entrance, gathering and educational walk, and productive garden;
- Site topography has been considered in the design of the building to avoid significant changes in level to maintain an adequate degree of visibility. This utilises sightlines to increase opportunities for natural and passive surveillance;
- The operation of the high school will require staff to always be present while used for school purposes (including before and after hours). This provides for the adequate supervision of the school grounds within school hours;
- As specified in the Architectural Design Report, prepared by TKD, external lighting will be provided to illuminate external spaces and avoid dark shadows. The lighting will be low height, low intensity and discreetly positioned whilst providing sufficient illumination of external areas. The lighting has been considered to avoid spill lighting and compliance with AS1158.1 and AS4282;
- Uses within the building are positioned such that there will be ongoing activity throughout all areas of the building, providing ongoing opportunity for overlooking by staff to surrounding areas;
- The proposed walkways providing access to the buildings and playground will provide overlooking to the sports courts, terraces, at-grade car park and immediate surrounds; and
- It is anticipated that the school will be provided with an integrated system of security cameras and alarms in accordance with DoE requirements.

Recommendations

- Entries and carpark should be illuminated at night-time in accordance with the relevant standards as indicated in the TKD Design Report. Obtrusive lighting should be carefully considered in the external lighting design to ensure compliance with AS4282 in order to minimise any spill onto neighbours or to the night sky;
- All areas intended to be used at night should allow for appropriate levels of visibility;
- Lighting and surveillance should be particularly considered at the southern entrance due to its separation from main activity areas;
- Particular consideration of digital surveillance should be made between the car park and school hall in the event the facility is used at night, after hours or by the public;
- Landscaping should be in accordance with the Context Planting Plan and Proposed Tree Plan which utilise low level shrubs interspersed with canopy trees. This allows for sightlines at eye-level and minimises opportunities for hiding, particularly where level changes are significant; and
- Trees should be maintained by a regular maintenance plan that keeps good sightlines to the building entries, particularly within the at-grade car park and southern entrance.

5.3 Access Control

NSW Police defines access control as:

> *Access control treatments restrict, channel and encourage people and vehicles into, out of and around the development. Way-finding, desire-lines and formal/informal routes are important crime prevention considerations. Effective access control can be achieved by using physical and symbolic barriers that channel and group pedestrians into areas, therefore increasing the time and effort required for criminals to commit crime.*

It relates to decreasing criminal accessibility.

This is achieved by:

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

Evaluation

Our review of the plans indicates the following in relation to access control:

- There a three direct entry points located on campus – a main northern entrance, a southern entrance for students who walk/cycle, and a secondary north-western entrance adjacent to the bus bay. These entries will serve to channel people into the desired lobby areas and associated learning spaces;
- The landscape fencing plan, prepared by Context, indicates that the campus will be surrounded by 2.15m high palisade fencing and gates. This will channel people towards the three main entry points and provide for a safe and secure campus;
- The main entries are positioned to allow clear and direct access to the carpark, northern stub road, bus stop and surrounding pedestrian network;
- Car entry is limited to one location at the carpark entry from the northern stub road. This directs vehicular movement into the desired areas;
- A western entrance for service/emergency requirements is located on campus and incorporates directional signage to instruct service/emergency vehicles to this entrance; and
- A wayfinding signage strategy is expected to be in place which will enhance the experience on campus and effectively channel people throughout the school. The signage strategy will be in accordance with DoE guidelines.

Recommendations

- The campus facilities should be locked after hours and only be accessible via a security key, fob or similar;
- Appropriate signage should be implemented that identifies the operating hours for public access (if a shared use agreement is reached). This should be particularly considered along the access path from the carpark.
- All pathways should be clearly illuminated with external lighting that are compliant with AS1158.1 and AS4282. External lighting should be designed to avoid light spill to surrounding neighbours and the night sky as outlined in the TKD Design Report. External lighting should be particularly considered at the southern pathway to provide for a clear and safe path of travel;

- Fire exit doors should be fitted with measures to restrict unauthorised access from the outside;
- Consideration should be made as to how the campus will be secured, particularly at the southern entry. All gates should be locked within school hours; and
- All areas should be fitted with doors that comply with the relevant Australian standards.

5.4 Territorial Re-enforcement

NSW Police defines territorial re-enforcement as:

> *Territorial Re-enforcement uses actual and symbolic boundary markers, spatial legibility and environmental cues to 'connect' people with space, to encourage communal responsibility for public areas and facilities, and to communicate to people where they should/not be and what activities are appropriate.*

It relates to clearly defining private space from semi-public and public spaces that creates a sense of ownership.

This is achieved by:

- Enhancing the 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 landscaping and pavement finishes, art, screening and fences to define and outline ownership of space.

Evaluation

Our review of the plans indicates the following in relation to territorial re-enforcement:

- The development has been designed for specific purposes with learning spaces, library, staff facilities, multi-purpose hall, gym, sports courts and amenity areas;
- The school hall (Building B) is well positioned in context of the school buildings. Building B is located at the front of the site behind the car park. Its location will assist with legibility and direct movement from members of the public into the facility and avoid unnecessary access or confusion through school grounds;
- The design of the buildings are clearly delineated in relation to adjoining uses. Different fencing treatments, such as palisade fencing, respond to the various existing and future conditions on the site boundaries and are suitably incorporated into the overall campus design;
- The school is setback from the streetscape and incorporates landscaping and fencing treatments to clearly define the transition from public space to private space;
- The building entries have had regard to existing site topography, interfaces and are located and designed to be easily identifiable:
    - The main entrances have been provided to the north, north-west (bus bay entrance) and south (cycle/walking entrance) of the site. These are clearly delineated and legible from the streetscape and provide a strong visual cue;

- It is anticipated that building entries will be marked with appropriate wayfinding signage, this is particularly important for the school hall, which may be available to the public; and
- The development's materials and finishes will distinguish the development from the surrounding public domain.

Recommendations

- A wayfinding strategy should be provided which is compliant with the wayfinding and safety signage requirements of the DoE Educational Facilities Standards and Guidelines (EFSG). The buildings should incorporate appropriate entry signage and wayfinding signage in accordance with the TKD Design Report;
- Outdoor seating areas should be located in areas of active use;
- The use of signage and transition cues should be carefully considered primarily around the school hall to avoid confusion of this space;
- Appropriate landscaping, pavement finishes and fencing should be incorporated at the southern entrance to clearly define the transition from the public to private realm; and
- Consideration should be made to separate the service area from the student domain.

5.5 Space and Activity Management

NSW Police defines space/activity management as:

> *Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. All space, even well planned and well-designed areas need to be effectively used and maintained to maximise community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour.*

It relates to the placing of activity where individuals can engage in a space and contribute to natural surveillance and maintenance of that space.

This is achieved by:

- Locating safe activities in areas that will discourage possible offenders;
- Locating activities that increase natural surveillance;
- Locating activities that give the perception of safety for normal users, and the perception of risk for offenders; and
- Ensuring premises are well maintained and cared for.

Evaluation

Our review of the plans indicates the following in relation to Space/Activity Management:

- The building has been designed for specific purposes and will be owned and maintained by DoE;
- The school will provide for a vibrant and active location which provides for continual natural surveillance, deterring possible intruders; and
- It is anticipated that a management plan/strategy will be put into place to ensure proper building maintenance.

Recommendations

- Consideration should be given to the use of graffiti-resistance materials;
- Graffiti management measures should be incorporated into the maintenance plan/strategy for the building. Research has shown that the most effective strategy for reducing graffiti attacks is the quick removal of graffiti within a 48-hour period;
- The building maintenance plan/strategy should provide information within the building on how to report maintenance or vandalism;
- The building maintenance plan/strategy should also maintain landscaping to ensure the site displays strong ownership; and
- The design should incorporate a robust material palette, particularly for outdoor spaces in order to reduce susceptibility to vandalism and wear and tear.

6 Conclusion

This CPTED report supports an SSDA submitted to DPIE for the proposed new high school at Jerrabomberra, NSW.

The proposed development has been evaluated in the context of the four key principles of CPTED and relevant data from BOCSAR.

Section 5 of this report outlines measures that will enable the design and ongoing use of the development to align with those CPTED principles to reduce opportunities for crime. The recommendations identified are minor in scope.

The CPTED report demonstrates that the proposed new high school at Jerrabomberra will promote casual surveillance of the campus and future public domain, further activate the area and provide appropriate security measures to ensure the safety of students and broader public.

Given the above, we conclude that the development is acceptable from a crime risk perspective.

Annexure 1 – NSW CPTED Guideline Assessment

Table 2. NSW Police CPTED Guideline Assessment		
Standard	Provisions	Compliance
Natural Surveillance	Openings in buildings are located and designed to overlook public places to maximize casual surveillance.	Entry points are visible and clearly distinguishable.
	The main entry to a building should face the street.	The entry to the buildings face the main playground, providing natural surveillance to the main school grounds. Windows are provided to the buildings which overlook the proposed northern stub road and Environa Drive.
	An external entry path and the foyer to a building must be direct to avoid potential hiding places.	Paths provide no opportunity for potential hiding places and direct line of sight into the building. Southern entry pathway will incorporate adequate illumination and low lying shrubs to avoid hiding.
	Entry lobby areas to and from car parking areas should be transparent allowing viewing into and from these areas.	Entrances to lobby areas are clearly defined and transparent.
	Landscaping must not conceal the front door to a building when viewed from the street	Able to be implemented.
	Pedestrian access should be well lit and maximize sight lines.	Pedestrian access paths are direct and provide sight lines into the development.
	Landscaping should not inhibit sight lines.	Able to be implemented.
	ATM design and location is within direct view of pedestrian paths so that they can be overlooked from vantage points.	No ATMs are proposed
	The street number of a building must be visible from the street and made of a reflective material to allow visitors and emergency	Able to be implemented, if required

Table 2. NSW Police CPTED Guideline Assessment		
Standard	Provisions	Compliance
	vehicles to easily identify the location of the building.	
	Landscaping should be designed to maximize sight lines.	Able to be implemented.
Measures /security devices	All windows and doors on the ground floor must be made of toughened glass to reduce the opportunities for 'smash and grab' and 'break and enter' offences.	Able to be implemented.
	A security alarm system must be installed in a building.	Able to be implemented.
	Unless impracticable, access to an outdoor car park must be closed to the public outside of business hours via a lockable gate.	Able to be implemented.
	CCTV system must cover all high risk areas and including all entry areas.	Able to be implemented.
Access control	Loading docks in the vicinity of main entry areas are secured outside of business hours.	N/A
	Access to a loading dock, or other restricted area in a building must only be accessible to tenants via a security door, intercom, code or other mechanism.	N/A
	Clear signage should be erected indicating loading docks and other areas which cannot be accessed by the general public.	Able to be implemented.
Territoriality/ownership	Site planning provides a clear definition of territory and ownership of all private, semi-public and public places.	The site and design make a clear distinction between private and public areas.
Lighting	Both natural and artificial lighting is used to reduce poorly lit or dark	Natural and artificial light will improve visibility of the

Table 2. NSW Police CPTED Guideline Assessment		
Standard	Provisions	Compliance
	areas and therefore deterring crime and vandalism.	development, the semi-public spaces and the street.
	Lighting must be provided to the following areas of a building to promote safety and security and night; A – an external entry path, foyer, driveway and car park to a building b- shopfront. This may be in the form of motion sensitive lighting or timer lighting c – the underside of an awning.	Able to be implemented.
	Lift access to a car park that are intended for night use must be well lit using a vandal resistant, high mounted light fixture.	N/A
	The lighting in a car park must confirm to Australian Standards 1158.1, 2890.1.	Able to be implemented.
	The use of lighting fixtures, and vandal resistant, high mounted light fixtures, which are less susceptible to damage in the car park and laneway areas.	Able to be implemented.
	Car parking areas should be painted in light colours which will increase levels of illumination.	Able to be implemented.
Vandalism and graffiti	Development minimizes blank walls along all street frontages.	The design avoids long expanses of blank walls and includes articulation and modulation in the façade and transparent materials to both express the building and avoid graffiti opportunities.

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