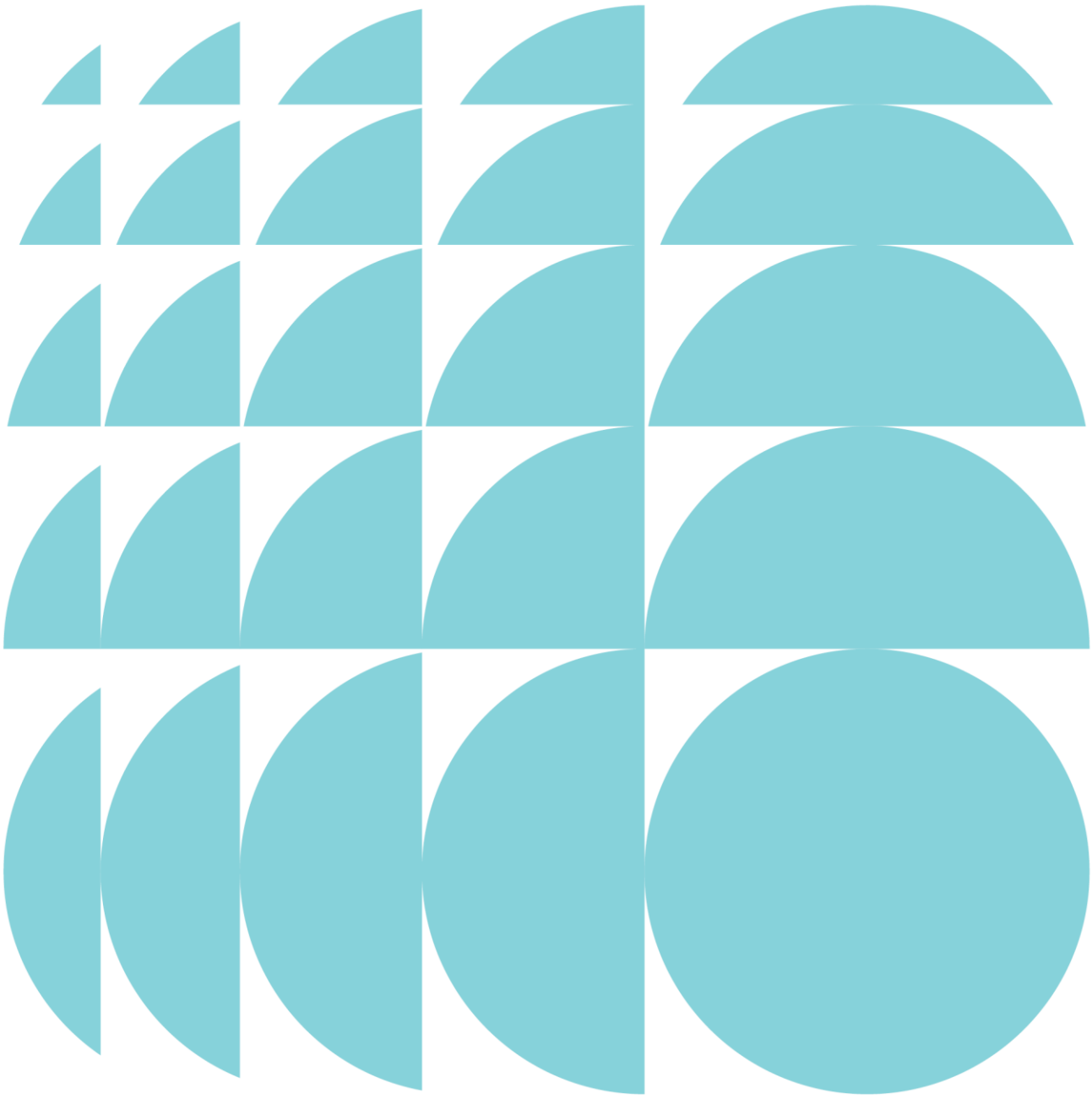
ETHOS URBAN

Crime Prevention Through Environmental Design (CPTED) Assessment

Picton High School Redevelopment
State Significant Development

Submitted to NSW Department of Planning and Environment
On behalf of the NSW Department of Education

23 February 2018 | 16734



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1.0 Introduction

This Crime Prevention Through Environmental Design (CPTED) Assessment has been undertaken to assess the elements and the fear of crime that may be associated with the proposed redevelopment of Picton High School envisaged within the State Significant Development Application (SSDA) to which this report is appended.

CPTED is a situational crime prevention strategy that focuses on the design, planning and structure of the environment. This assessment aims to reduce the opportunities and facilitation of crime potentially created by the proposed development, by assessing the development in accordance with design and place management principles.

Ethos Urban has prepared this assessment in accordance with the methods and resources of the NSW Police Force *Safer by Design Course*. The assessment uses qualitative and quantitative measures to analyse the physical and social environment in which the proposed development is located, and recommends actions to mitigate crime opportunity in accordance with the Australian and New Zealand Risk Management Standard AS/NZS 31000:2009.

In accordance with the NSW Department of Planning and Environment's guidelines (2001) the aim of the CPTED strategy is to influence the design of buildings and places by:

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

Architectural drawings prepared Billard Leece dated 2 February 2018, have been reviewed as part of this assessment.

In addition, the following tasks were undertaken in the preparation of this assessment:

- review of relevant literature on CPTED;
- collection and analysis of local and NSW State crime statistics from the Bureau of Crime Statistics and Research (BOCSAR); and
- a crime risk assessment, in accordance with the current NSW policy and practice, of the following regulation and assessment principles:

1. Surveillance
2. Lighting/technical supervision
3. Territorial reinforcement
4. Environmental maintenance
5. Activity and Space Management

6. Access control
7. Design, Definition and Designation Conflicts

A site inspection was undertaken on 20 January 2017 between the hours 10.00am and 12.00pm to assess the current site conditions, situational crime prevention measures and perceived safety of the existing environment.

1.1 Disclaimer

CPTED strategies must work in conjunction with other crime prevention strategies and police operations. By using the recommendations contained in this assessment, a person must acknowledge that:

- There is no definitive measure of 'safety'. Therefore, this assessment cannot be used as proof of a definitive measure of safety.
- This assessment does not ensure complete safety for the community, and public and private property.
- Assessment and recommendations are informed by information provided, with observations made at the time the document was prepared.
- This assessment does not guarantee that all risks have been identified, or that the area assessed will be free from criminal activity if recommendations are followed.
- This assessment has been undertaken on behalf of the applicant, and does not represents the opinions and expertise of the NSW Police Force.

The principles of CPTED aim to minimise the opportunity for crime, but it is recognised that environmental design cannot definitively eliminate opportunities for crime, or prevent a determined perpetrator from committing such crimes.

We note that Ethos Urban are not specialist security consultants and therefore cannot comment on specific security measures or system requirements. Therefore it is recommended that a security consultant with a Class 2A licence under the Security Industry Act 1997 is engaged to provide specific advice on the placement, installation, monitoring and maintenance of the CCTV network and other security measures.

2.0 The Site

2.1 Site Location and Description

Picton High School is a NSW Department of Education (DoE) high school located at 480 Argyle Street (aka Old Hume Highway), Picton, in the Macarthur Region of south-west Sydney. It is located approximately 80km south-west of the Sydney CBD, within the Wollondilly Shire local government area (LGA) and situated approximately 3km south east of the Picton Town Centre.

The existing co-educational comprehensive high school was established in 1958, with further upgrades and additions made to the growing school in 1960's, 1980's and the latest Trade Training Centre in 2011. It is the only public high school in the LGA. The school has grown incrementally since its inception and there are currently more than 1,000 students enrolled from years 7-12.

Picton High School is contained within a single lot legally described as Lot 2 in DP520158 which is 5.691 hectares in area. It is noted that a small portion of the bus bay area falls within the public road reserve of the Old Hume Highway and is owned by NSW Road and Maritime Services (refer to **Figure 1**). The site is surrounded by residential development to the north, slopes down to Redbank Creek to the east, adjoins a small light-industrial precinct to the south and agricultural land lies to the west. Refer to **Figure 1** for an aerial photograph of the site.

Figure 1 – Site Plan
Source: BLP

2.2 Existing Development

The sixteen individual buildings across the campus are a mix of single and double storey teaching and learning facilities. They includes a multi-purpose hall, modern science laboratories, kitchens and library. In addition to the buildings, there are two basketball courts, two sports fields and an

agricultural learning facility on site. The respective buildings of the existing school are shown in **Figure 2** below.

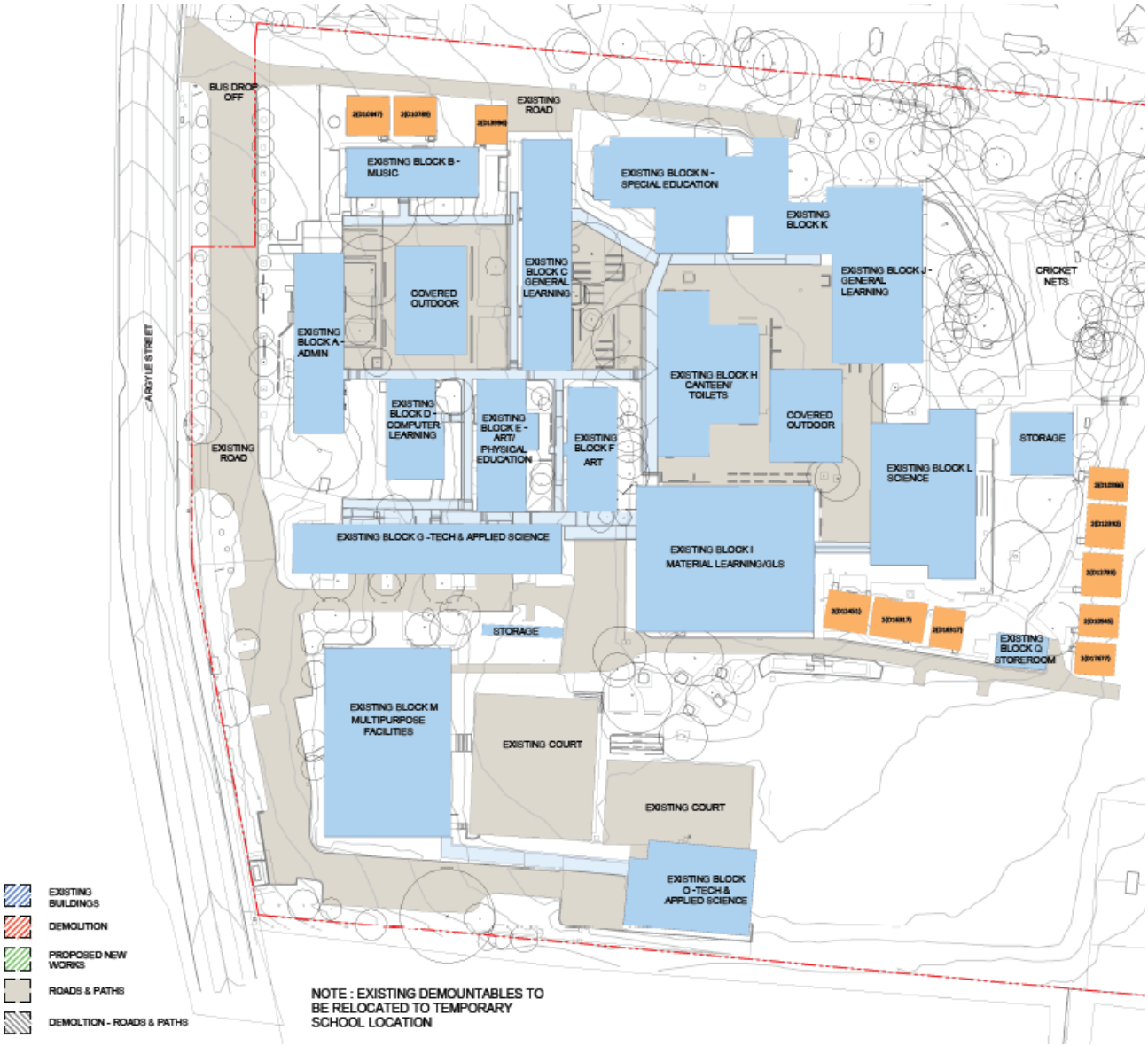


Figure 2 – Picton High School
Source: Billard Leece Partnership

Photographs of the existing school facilities are included in **Figures 3** to **8**.

Figure 3 – Quadrangle inside school

Figure 4 – Typical school block

Figure 5 – Passageway in central location in school

Figure 6 – Front of school & access into site

Figure 7 – Playing fields looking east

Figure 8 – Playing fields and demountable looking south

2.2.1 Access and Security

The school is aceessed via a one way access road running parallel to the Old Hume Highway. This access road provides vehicular access to the school at two points together with the main pedestrian access to the school (as shown at **Figure 2**).

The school is enclosed along its boundaries with an approximate 2.1m high black crimped spear fence with gates, commonly used by DoE schools in NSW to provide appropriate access control on to school grounds. Along the front (western) boundary of the school all entrance points are secured by double gates. Two internal staff carpark areas and the main school entrance are also accessed from the access road. The school administration office is immediately adjacent to the main school entrance providing natural surveillance and guardianship over the entrance to the school.

2.3 Risk Assessment of Existing Site

A risk assessment of the Site in its existing context and form has been undertaken. Overall, the Crime Risk Rating is considered 'low'. The reasons for this are:

- The Site's location within a predominately rural and rural-residential area, with employment and household income levels that are substantially higher than the NSW average.
- Use of the site as a high school, whereby surveillance and guardianship levels are very high during school hours.
- Maintenance of school is at a high level, with no evidence of graffiti, dumping, disrepair or general lack of maintenance.
- Secure anti-climbing fence enclosing the site after hours when school is not in use.

3.0 The Proposed development

3.1 Secretary's Environmental Assessment Requirements (SEARs)

On 17 August 2017 the NSW Department of Planning and Environment (DPE) issued the Secreatary's Environmental Assessment Requirements (SEARs) for the Picton High School Redevelopment Application (SSD 8640). Key Issue 2 and 3 includes the following:

2. Policies

Address the relevant planning provisions, goals and strategic planning objectives in the following:

- *Crime Prevention Through Environmental Design (CPTED) Principles;*

3. Built Form and Urban Design

- *Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles.*

Accordingly, this CPTED report responds to the above.

3.2 Proposal Description

The EIS to which this CPTED report is appended is submitted to DPE in support of a SSD application for the redevelopment of Picton High School. A comprehensive description of the proposed development is included within the EIS. An overview of the proposed development is provided below (see **Figure 9**):

- Necessary early works including demolition of Buildings A-H, L and Q and associated excavation;
- Retention, repurposing or refurbishment of Buildings I, J, K, M and N;
- Reconfiguration of car and bus drop off / pick up areas, including a new access point from Wonga Road and internal access road;
- Increasing floor space incorporating permanent teaching spaces to accommodate 1,500 students and core facilities for 2,000 students;
- Realignment of boundary subdivision;
- Construction of a two to three storey building located along the central spine of the site connecting with existing retained buildings; and
- Associated landscaping works throughout the site.

Figure 9 – Site Plan of proposed school layout

4.0 Nature of Recorded Crime

Crime statistics obtained from the NSW Bureau of Crime Statistics and Research (BOCSAR) represents criminal incidents recorded by NSW Police. A review of the local statistics for 2016 found that the most commonly occurring crimes relevant to CPTED within Picton were:

- Assault – non-domestic violence related;
- Break and enter non dwelling; and
- Malicious damage to property.

Frequency of the above crimes in the town of Picton, between October 2013 and September 2017 are detailed below.

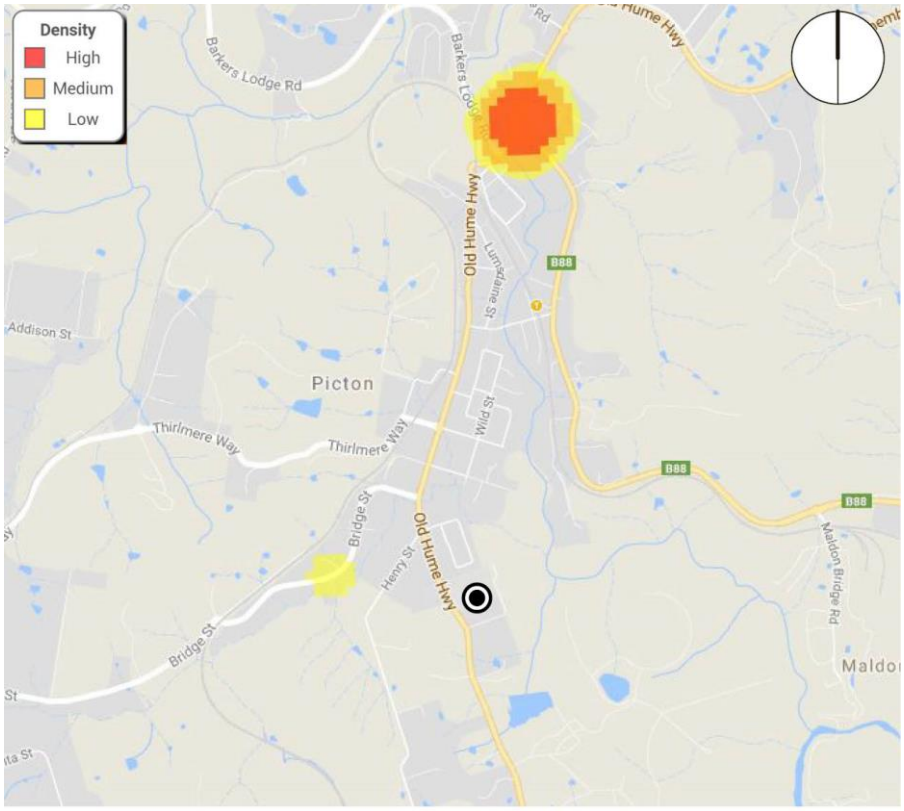
Table 1- Statistics of recorded crime in Picton

Crime	Incidents 2013/14 (Sept)	Incidents 2014/15 (Sept)	Incidents 2015/16 (Sept)	Incidents 2016/17 (Sept)	2013-2017 (Sept) Trend	Rate per 100,000 category
Assault – non-domestic violence related	21	18	18	15	Stable	Very low
Break and enter non dwelling	16	12	12	7	Stable	Very low
Malicious damage to property	41	34	26	41	Stable	Very low

Source: *Bureau of Crime Statistics and Research NSW, 2017*

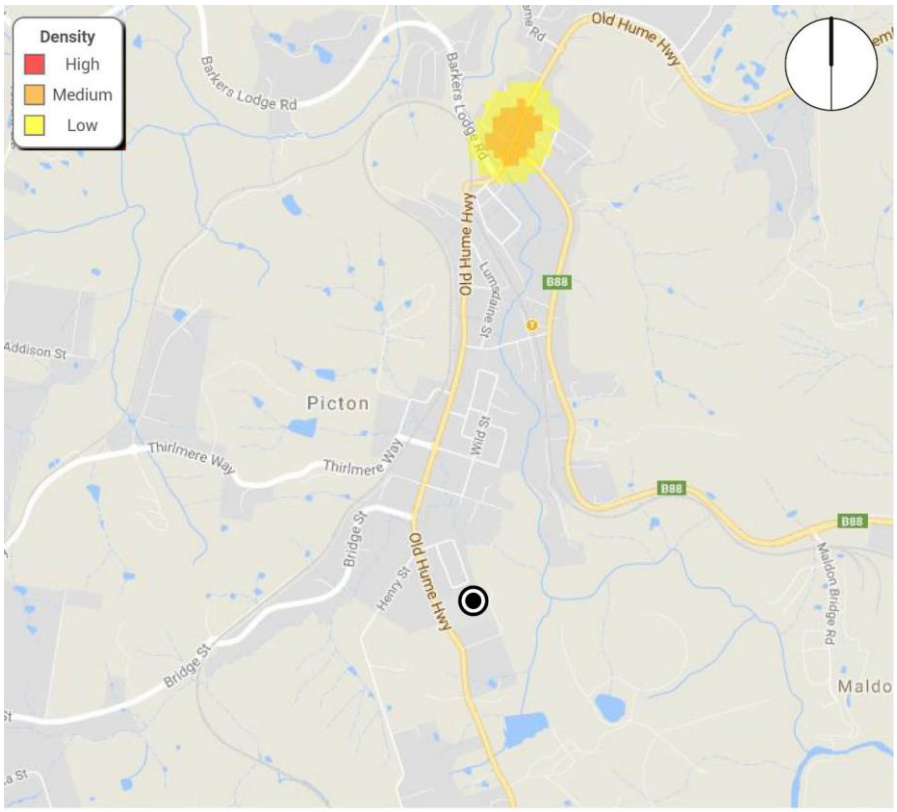
As illustrated in **Figures 10-11**. The BOCSAR database indicates that the Site is not located within close proximity of any high-density crime 'hotspots'. It is noted however that "break and enter non-dwelling" and "malicious damage to property" hotspots are identified in the Picton town centre.

Hotspots indicate areas of high crime density (number of incidents per 50m by 50m) relative to crime concentrations across NSW. They are not adjusted for the number of residents and visitors in the area and therefore may not reflect the risk of victimisation. In addition, we note that the BOCSAR statistics indicate that the majority of the Sydney and Paramatta CBDs are included within these hotspot areas.



The Site

Figure 10 – Break and enter non dwelling



The Site

Figure 11 – Malicious damage to property

5.0 Matters for Consideration

A potential perpetrator can take advantage of the environment, with access and the opportunity for concealment significantly affecting the safety and perceived safety of an environment.

Given that "break and enter non-dwelling", "malicious damage to property" are likely to be the main potential criminal offences affecting most schools (after hours), the following is an assessment of the proposed development's potential to create opportunities for such crimes and recommended measures to mitigate such occorances. Furthermore, given that the proposed development is a high school, particular attention must be given to security and student safety during school operating hours. This context underpins the following assessment of the proposed development in accordance with the CPTED principles.

5.1 Surveillance

Effective natural and incidental surveillance can reduce the opportunities for crime. The principle indicates that offenders are often deterred from committing a crime in areas with high levels of natural surveillance. The following design interventions benefit optimal natural surveillance:

- Clear sight lines between public and private places and maximising natural surveillance.
- Appropriate lighting and effective guardianship of communal and/or public areas.
- Minimal opportunity for offenders to conceal themselves or entrap victims.

The concept scheme for the redevelopment of Picton High School provides high levels of natural surveillance over nearly all parts of the school and promotes long sight-lines.

This begins with the administration building that is located adjacent to the front entrance to the school and is ideally positioned to observe all pedestrian and vehicular entry to the school from the Old Hume Highway. The position and orientation of the administration building allows it potential to observe not only the front entrance to the school, but also the bus bays, visitor car park, taxi drop off and access to the staff car park. The administration building in this location promotes active guardianship of the main entrance/exit to the school.

Furthermore, all internal courtyards, passageways and play/recretation areas within the school are ether overlooked by classrooms or staff areas, or are afforded with clear ground level sightlines so as to not block or obscure natural surveillance. The few areas that could be blocked or obscured from view (such as the southern side of the existing hall building or loading/delivery areas), could be afforded with CCTV network coverage. At a minimum it is suggested that CCTV network coverage is provided for the entry/exit points of the school. However, it is recommended that a security consultant with a Class 2A licence under the Security Industry Act 1997 is engaged to provide specific advice on placement, installation, monitoring and maintenance of the CCTV network.

Recommedations regarding natural surveiilence is provided at Section 6.0 of the report.

5.2 Lighting and Technical Supervision

Effective lighting can reduce fear, increase community activity, improve visibility and increase the likelihood of offenders being detected. All lighting within the proposed school should meet the minimum Australian and New Zealand Standards (AS/NZ1158) and further address objectives for

crime and fear reduction. Lighting should be adequate to permit facial recognition and facilitate natural surveillance, in order to reduce the threat of predatory crime.
A lighting strategy is considered necessary as the school is likely to be used after hours for school and non-school related activities. This strategy should ensure that the areas of the school that could be in after hours use and the associated travel paths (and peripheries) are appropriately lit.

Furthermore it is suggested that a motion detection lighting (together with possibly the CCTV network) system is used throughout the school so that when the school is in use after-hours it is difficult for an offender to conceal themselves in darkness and lie in wait to entrap victims.

Technical supervision such as a CCTV network is considered essential given the nature of the proposed development. The CCTV network should provide a live feed to a monitor in the administration building and recordings kept for a minimum of 30 days. Clearly, the DoE, school and specialist security consultants are best placed to understand the locations that require CCTV coverage, however at a minimum all entrances/exits to the school, car parking areas, loading areas and any areas with low natural surveillance should be covered within the CCTV network.

It is further noted that DoE has standard security requirments that will be adhered to, including intruder alarm systems covering the school both internally and externally.

Recommendations are provided in Section 6.0 of this report in respect to the provision of appropriate CCTV and lighting.

5.3 Territorial Reinforcement

Territorial reinforcement involves the perceived ownership of public spaces. Designing with clear transition between public and private spaces, and clear design cues indicating the intended use of space is a critical feature of territorial reinforcement. A well maintained public domain is critical in encouraging use of the space.

The NSW Police Safer by Design Guidelines note that people generally recognise areas that are well cared for and areas that display strong ownership cues are less likely to be improperly used. Territorial reinforcement is critical for the proposed development as a secondary school and requires clear delineation between school property and non-school property to ensure there is no ambiguity of space.

The proposed redevelopment of Picton High School will also substantially improve and enhance the overall image of the site when compared to the existing school. The new buildings, landscaping and overall redevelopment masterplan is expected to revitalise the appearance of the school and instil a sense of school and community ownership of the site that will assist in deterring vandalism, malicious damage and unauthorised entrance.

The front boundary of the site will be clearly defined with a 2.4m high fence called Corromesh and complementary front walls and barrier treatments. The entrance points along the front boundary are clearly legible and will have high levels of tnatural surveillance. It is recommended that the side and rear boundaries of the site are also fenced/walled with appropriate materials with access/egress points clearly identified and minimised in number. This will provide a physical barrier and also a visual cue as to the extent of school grounds.

Overall, the new school development and the introduction of a greater number of students and teachers overtime will substantially increase the territorial reinforcement of the site. The institutional nature of the site and the introduction of teaching staff will provide direct territorial reinforcement and effective guardianship. Well maintained grounds and facilities as well as fencing and public domain treatments will provide more subtle territorial reinforcement for times outside of school operating hours.

A school signage strategy that provides extensive wayfinding signage together with perimieter signage at entrance points is also recommended to enhance territorial reinforcement of the school and will help reduce the opportunities for people to find excuses to gain unauthorised access and/or to loiter in areas of the development, or immediately adjacent to entries.

Recommendations are provided in Section 6.0 of this report in respect to the provision of appropriate territorial reinforcement.

5.4 Environmental Maintenance

There is a strong association between environmental maintenance and the fear or perceived fear of crime. General image can greatly affect the individual's desire to enter and engage with a space. Environmental maintenance and territorial reinforcement are co-dependent in achieving a safer space, and are integral in achieving optimal natural surveillance. The maintenance of the landscaping, equipment and lighting will assist in communicating care and the presence of effective guardianship. Routine maintenance is a strong indicator of area management and safety.

The NSW Department of Education will be responsible for the ongoing maintencence of the school and its grounds and the rapid removal of graffiti and repair of damage. Given the proposed development incorporates significant landscaping, effective environmental maintenance will be critical in achieving the perceived safety of the school and immediately surrounding area.

The maintenance of the buildings and landscaping is important to balance safety and aesthetics of the area, each of which will contribute to the area image. Well maintained spaces encourage regular use and activity, which in turn creates natural supervision of public areas and enhances feelings of safety. The use of high quality materials for construction and well established planting should be used to lessen the likelihood of damage and to help reduce maintenance costs.

Recommendations are provided in Section 6.0 of this report in respect of environmental maintenance.

5.5 Activity and Space Management

Similar to environmental maintenance, there is a strong association between activity and space management, and the fear or perceived fear of crime. Unlike environmental maintenance, this principle endeavours to manage the more dynamic activity and use of space. Numerous educational and sporting uses can be facilitated by the proposed development, which promotes the dynamic use of the Site.

This will be the responsibility of the school during school hours to ensure students and staff use spaces in a safe and controlled manner. Furthermore, the use of the school buildings and grounds afterhours and on weekends by external educational and sporting organisations should be

appropriately managed and controlled to ensure the spaces within the school grounds do not become unsafe environments during these after hours activities.

Recommendations are provided in Section 6.0 of this report in respect of activity and space management.

5.6 Access Control

Access control strategies restrict, channel and encourage the movement of people and vehicles into and through designated areas. Unauthorised entry is reduced by physical and technical barriers, as they increase the effort required to commit crime. Access control strategies are vital for a school environment and are well considered and clearly evident in the proposed development.

As discussed above, access control along the perimeter of the school grounds via appropriate fencing and other materials (such as walls etc) and clear access/egress points with high visibility, natural surveillance and effective guardianship is a key component to ensuring a controlled and safe school environment.

It is noted the DoE has security requirements for its secondary schools that we understand will be incorporated into the design including, internal access control, electronic lock down, emergency access control, lock out and lock down procedures and channelling all visitors into administration.

For road access security, pedestals with dual height for heavy vehicles, voice and camera intercom to reception are to be installed.

Recommendations are provided in Section 6.0 of this report in respect of access control.

5.7 Design, Definition and Designation

The design of the development reflects its purpose, which makes it difficult for potential offenders to make excuses about their presence and actions. The introduction of ownership cues, particularly building identification signage at the ground level, should further reinforce the purpose of spaces at ground level.

The design of the proposed development clearly articulates the intended use of space, resulting in minimal area of unclear definition and purpose. This aspect greatly benefits multiple principles of CPTED, including territorial reinforcement and activity and space management. The design of the proposed development facilitates natural surveillance both within the Site and to/from the surrounds, particularly at the front entrances to the school.

Recommendations are provided in Section 6.0 of this report in respect of design, definition and designation conflicts.

6.0 Crime Risk Rating and Recommendation

The Crime Risk Rating considers the development as proposed in plans prepared by Billard Leece Partnership, within the site's environment.

Acknowledging the Site's context and the issues discussed in Sections 2, 4 and 5, the Crime Risk Assessment Rating of the proposed development is rated within the 'low' category. An assessment of the proposal using the CPTED principles has found that, provided the actions recommended below are implemented, the rating would remain within the 'low' category.

In informing the Conditions of Consent, recommendations to further improve the safety and security of the proposed development are detailed in Section 6.1.

6.1 Recommendations

Surveillance

- Ensure opportunities for natural and incidental surveillance are maintained through effective lighting, access control and environmental maintenance.
- Ensure that all proposed landscaping does not create concealment opportunities and restrict sightlines within the site and to the entrances to the school grounds. As such, planting within the proposed development should be maintained as follows:
  - For shrubs and ground cover – not exceed a height of 700mm above ground level at maturity.
  - For trees – the underside of a canopy should exceed 2m from ground level at maturity.
  - Planting that has a mature height of between 700mm-2m should ideally be avoided or contained to areas not requiring clear sightlines or natural surveillance.
- Ensure clear sight lines from the administration building to the main front entrances and approaches.

Lighting and Technical Supervision

- Consult a qualified lighting engineer to ensure the correct lighting is provided to meet (and ideally exceed) minimum Australia and New Zealand Lighting Standards, to entrances, pathways, courtyards and the exterior of buidlings to improve surveillance and minimise opportunities for vandalism.
- Lighting uniformity is essentially in outdoor lighting to promote consistent light levels and the preception of safety and security. As such, a target minimum lighting uniformity level of 0.4 Uo is recommended for outdoor lighting used within the school grounds (exc. lighting for sporting fields/courts). Lighting should also be designed to mininse light spill and pollution to adjoining properties, particularly residential properties.
- All lighting detail should be in accordance with the Australian Standards and relevant Council policy.
- All lighting is recommended to have a minimum Colour Rendering Index (CRI) of 60. Motion sensor lighting is also considered appropriate within the school grounds.
- The Department of Education security requirements for secondary schools shall be implemented including: CCTV network and security system controlled by on-site communications room

(preferably in administration building), intruder alarm system. The CCTV footage shall be recorded and kept for a minimum of 30 days.

- It is recommended that a security consultant with a Class 2A licence under the Security Industry Act 1997 is engaged to provide specific advice on placement, installation, monitoring and maintenance of the CCTV network.

Territorial Reinforcement

- Secure fencing and signage is recommended to delineate and separate any publicly accessible portions of the site (ie oval, courts) from the core school areas.
- School appropriate perimeter fencing to ensure clear physical and visual delineation of school and non-school land.
- Ensure that car parking areas are restricted and locked to ensure cars cannot enter the grounds outside of school hours.
- Preparation of signage strategy including way finding signage to reinforce visitor's perception of safety and legibility of the development. Also advisory signage at all entrances to the school grounds is recommended including a notice of entering school grounds and that all vistors must report to the administration building.

Environmental Maintenance

- Ensure the landscaping does not create concealment opportunities and does not restrict sightlines to/from the development and the surrounds. Additionally, the environmental condition should not facilitate a breach of access control.
- Ensure a prompt response is incorporated within environmental maintenance procedures, particularly in respect to dumping, graffiti and vandalism.
- The environmental maintence procedures of the school should be reviewed regularly to ensure their ongoing effectiveness.
- Use high quality materials for construction to lessen the likelihood of damage and help to reduce maintenance costs.

Activity and Space Management

- The use of the school buildings and grounds afterhours and on weekends by external edicational and sporting organisations should be appropriately managed and controlled to ensure the spaces within the school grounds do not become unsafe environments during these after hours activities. In this regard, management procedures/plans are recommended to be prepared and implemented.
- The school grounds are recommended to be secured after hours.
- Separate school operating hours and after hours security management plans/procedures should be prepared and implemented.

Access Control

- It is recommended that the perimeter of the site be fenced and pedestrian and vehicle entrance/exit points be clear and able to be secured (via gates etc). Further fencing to control access to the core of the school is suggested to prevent unauthorised after hours access to closed areas of the school after hours.

- Provide restricted access keys or the like to the secure gates/doors at the entrance/exit points of the site to prevent unauthorised entry outside of school hours.
- Secure access to buildings and classrooms afterhours is recommended. In particular classrooms and storage areas with valuable equipment must be secured appropriately.
- Fire exits are for emergency use only and doors should be alarmed to alert security. These exits should be brightly lit and free of obstructions to ensure good sightlines to these doors.

Design, Definition and Designation

- Maintain the current design definition demonstrated in the proposed development. Ensure clarity of ownership and management are clearly understood by users of the development.