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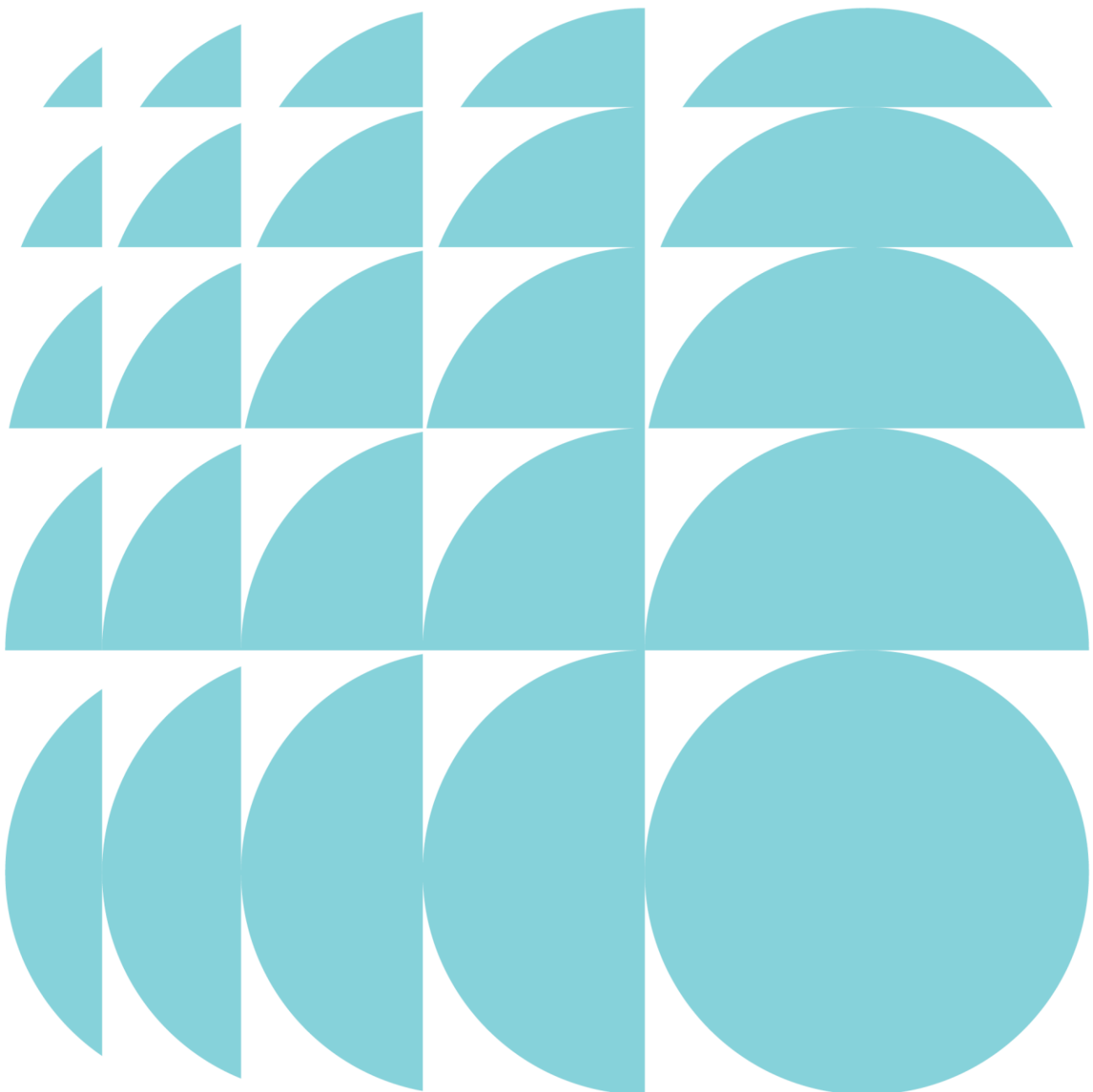
Crime Prevention Through Environmental Design (CPTED) Assessment

Kambala Sport, Wellbeing and Senior Learning
Precinct - Kambala School
794-796 New South Head Road, Rose Bay

Submitted to Department of Planning, Industry
and Environment

On behalf of Kambala School

19 June 2020 | 2190171



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Contents

1.0	Introduction	3
1.1	Disclaimer	4
2.0	The Site	4
2.1	Site Location and Description	4
2.2	Site Description	5
3.0	Proposed Development	11
3.1	Secretary's Environmental Assessment Requirements (SEARs)	11
3.2	Description of Development	12
4.0	Nature of Recorded Crime	14
5.0	Matters of Consideration	17
5.1	Surveillance	17
5.2	Territorial Reinforcement	18
5.3	Activity and Space Management	19
5.4	Access Control	19
6.0	Crime Risk Rating and Recommendation	20
6.1	Recommendations	20
7.0	Conclusion	22

Figures

Figure 1	Locational context plan	4
Figure 2	Aerial Map	5
Figure 3	Kambala School Map	6
Figure 4	Main entry from New South Head Road	6
Figure 5	Site of proposed development, New South Head Road in the background	6
Figure 6	Minter building directly facing the proposed development site	7
Figure 7	View of the main school entrance and perimeter vegetation at New South Head Road, from the proposed development site.	7
Figure 8	View of the proposed development from New South Head Road	7
Figure 9	Existing Music Building and existing tennis courts above.	7
Figure 10	Existing perimeter vegetation when viewed from New South Head Road	7
Figure 11	Existing Loading Dock entrance from Tivoli Avenue	7
Figure 12	View of main east-west pathway connecting New South Head Road entrance to the administration	

Contents

	building (proposed development site located on the left)	8
Figure 13	Existing CCTV notification signage and swipe access provisions at school entrance gates	8
Figure 14	Kincoppal School to the north of the Kambala Boarding Houses (forefront)	8
Figure 15	New South Head Road to the east of the site	9
Figure 16	Low density residential on Bayview Hill Road to the north of the site	9
Figure 17	Sydney Harbour to the west of the site	9
Figure 18	Pedestrian and vehicular access to the site	10
Figure 19	Incidents of Assault (Domestic assault) from January 2019 to December 2019 Hotspot	15
Figure 20	Incidents of Theft (Break & enter dwelling) from January 2019 to December 2019 Hotspot	15
Figure 21	Incidents of Theft (Motor vehicle theft) from January 2019 to December 2019 Hotspot	16
Figure 22	Incidents of Theft (Steal from dwelling) from January 2019 to December 2019 Hotspot	16

Tables

Table 1	Statistics of recorded crime in Rose Bay (suburb) between 1 January 2016 and 31 December 2019	14
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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 Sport, Wellbeing and Senior Learning Precinct Redevelopment at Kambala 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.

The following documentation of the proposed development has been reviewed as part of this assessment:

- Architectural drawings prepared Allen Jack + Cottier, dated 09 June 2020; and
- External Lighting Strategy prepared by LCI, dated 23 April 2020.

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. Territorial reinforcement
 3. Activity and Space Management
 4. Access control

A site inspection was undertaken on 25 February 2020 between the hours 9.00am and 11.00am 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 represent 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

The site is located at 794-796 New South Head Road, Rose Bay, within the Woollahra Local Government Area (LGA). Situated in the eastern suburbs of Sydney, the site is approximately 8km east of the Sydney CBD. The site is located on New South Head Road, which is a classified road connecting the Sydney Central Business District with the eastern beaches and is surrounded by predominantly residential uses.

The site's locational context is shown at **Figure 1**.

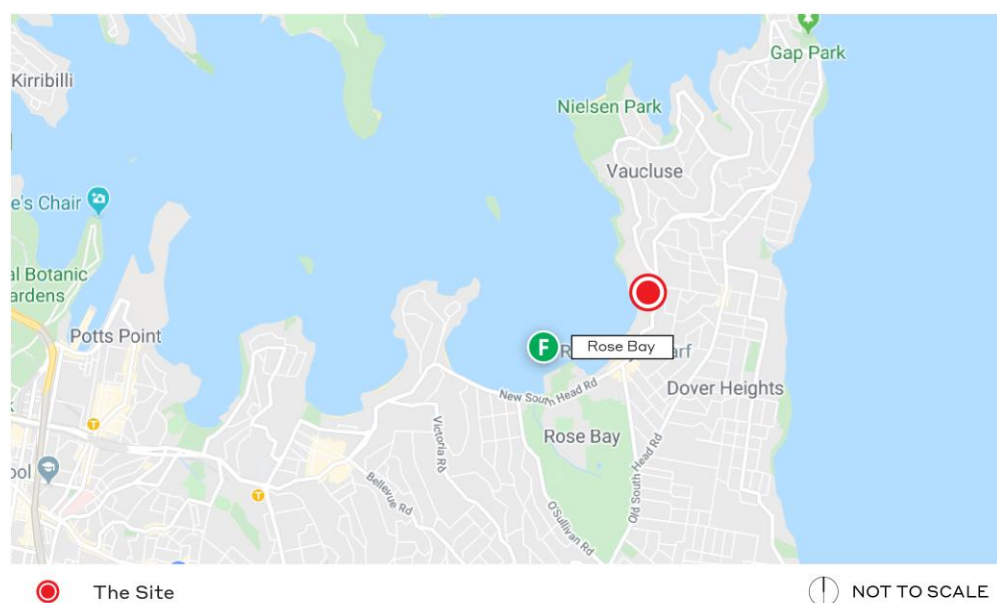


Figure 1 Locational context plan

Source: Google Maps and Ethos Urban

2.2 Site Description

Kambala School is an independent Anglican early learning, primary, secondary and boarding school for girls. The site is bound by Bayview Hill Road to the north, New South Head Road to the east, and Tivoli Avenue to the south and west. The surrounding area primarily comprises low density residential dwellings interspersed with medium and high density residential flat buildings, concentrated around New South Head Road.

An aerial photo of the site is shown at **Figure 2**.



Figure 2 Aerial Map

Source: Nearmap and Ethos Urban

2.2.1 Existing Development

The site comprises the existing campus grounds of the Kambala School at 794-796 New South Head Road, Rose Bay. The northern portion of the site to the north of Bayview Hill Road is currently occupied by two two-storey brick residences utilised by the school, while the north western corner of the main site is occupied by an early learning centre and a contemporary school building. The south western portion of the site is occupied by an additional four contemporary schooling buildings, a pool and library and the heritage listed Tivoli Building. Further south is another brick residence composed of three storeys.

The school grounds slope down from New South Head Road in the east to the west. New South Head Road itself slopes steeply upwards to the north.

There is limited vegetation on the site, as much of the site comprises of buildings and sports facilities such as an oval, tennis court and grass courts.

A map of the existing development is shown at **Figure 3**.

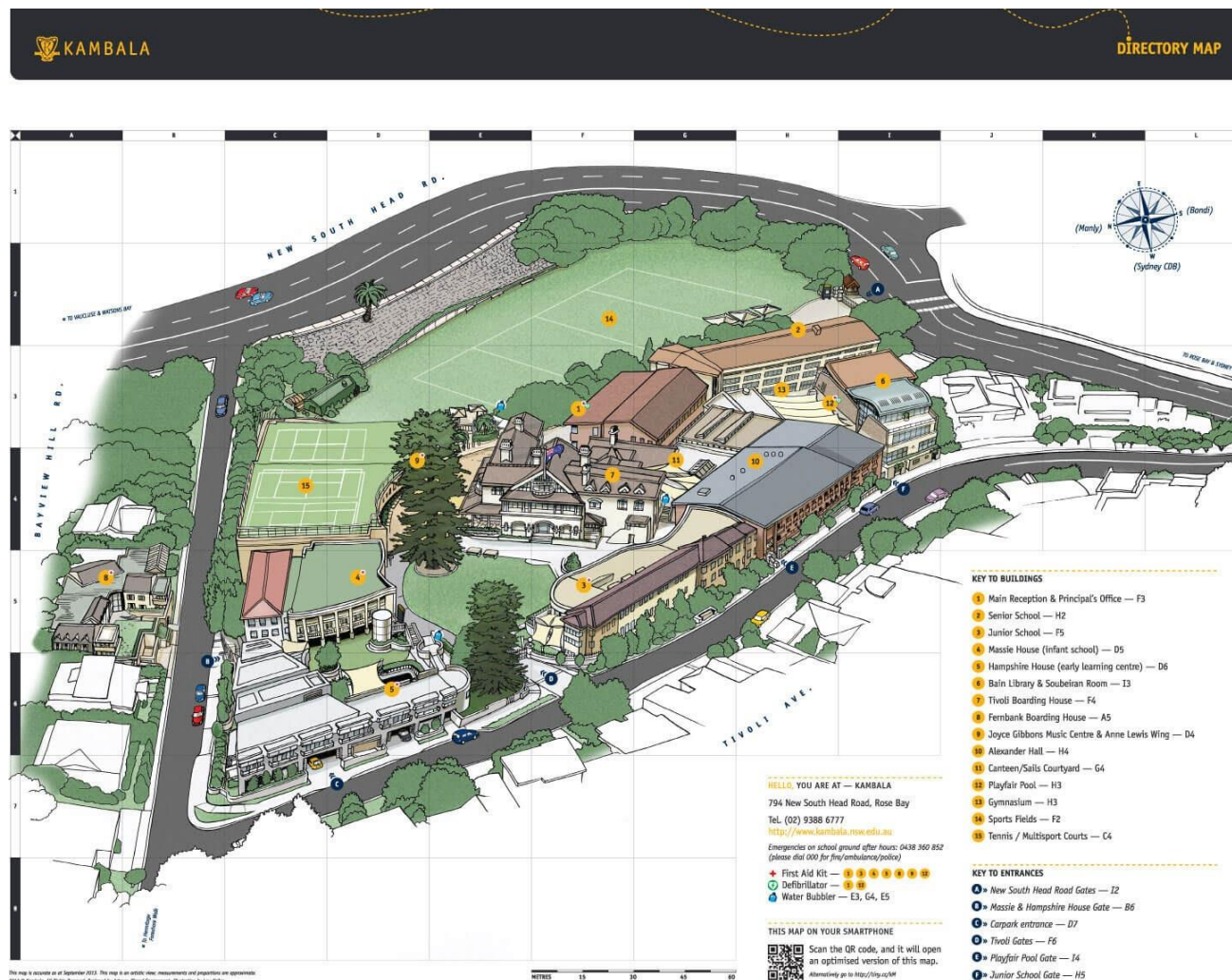


Figure 3 Kambala School Map

Source: Kambala

Existing buildings surrounding the proposed development site and observed safety measures within the school are illustrated from **Figure 4** to **Figure 13** below.

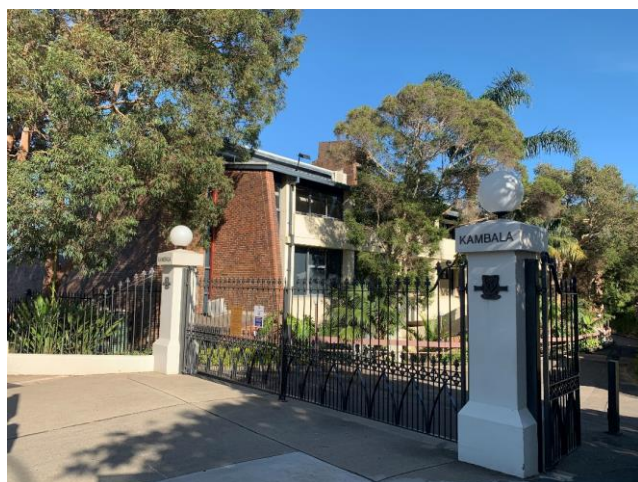


Figure 4 Main entry from New South Head Road



Figure 5 Site of proposed development, New South Head Road in the background



Figure 6 Minter building directly facing the proposed development site



Figure 7 View of the main school entrance and perimeter vegetation at New South Head Road, from the proposed development site.

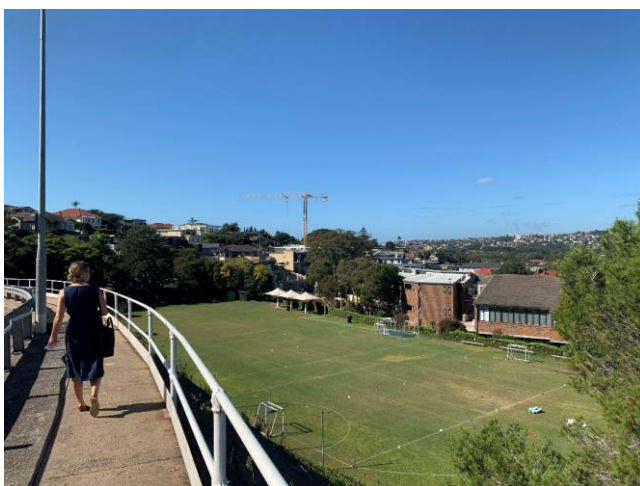


Figure 8 View of the proposed development from New South Head Road



Figure 9 Existing Music Building and existing tennis courts above.



Figure 10 Existing perimeter vegetation when viewed from New South Head Road



Figure 11 Existing Loading Dock entrance from Tivoli Avenue



Figure 12 View of main east-west pathway connecting New South Head Road entrance to the administration building (proposed development site located on the left)

Source: Ethos Urban



Figure 13 Existing CCTV notification signage and swipe access provisions at school entrance gates

2.2.2 Surrounding Development

The surrounding land uses are generally characterised by low density residential, some medium to high density apartment buildings clustered on New South Head Road, and other school uses (Refer to **Figure 14** to **Figure 17**).

To the north of the site is Kincoppal-Rose Bay School, which is a co-educational Catholic independent day and boarding school. This site is also listed as a heritage item under the Woollahra Local Environmental Plan 2011.

Low density residential houses characterise the areas to the east, south and west. Further south is the Rose Bay Ferry Wharf, which provides access to Double Bay, Darling Point, Watson Bay and Circular Quay. Further west of the site is Sydney Harbour.



Figure 14 Kincoppal School to the north of the Kambala Boarding Houses (forefront)

Source: Ethos Urban



Figure 15 New South Head Road to the east of the site

Source: Ethos Urban



Figure 16 Low density residential on Bayview Hill Road to the north of the site

Source: Ethos Urban



Figure 17 Sydney Harbour to the west of the site

Source: Ethos Urban

2.2.3 Access and Security

The site is accessible via a variety of pedestrian access gates. The main entrance from New South Head Road is the main gate accessed by students and visitors, who are required to visit reception before their visit.

The car park entrance, accessed via Tivoli Avenue to the west of the site, provides vehicular access to the car park, in which staff can park.

There are several pedestrian entrances on Bayview Hill Road, however these are gated entrances that require an authorised pass to enter. This is particularly in relation to the preschool Hampshire House. A map of the entrances is provided at **Figure 18**.



Figure 18 Pedestrian and vehicular access to the site

Source: AJ+C

The school is enclosed along its boundaries with various fence and wall types, some portions of which are over 2m in height.

Along the front (eastern) boundary of the school on New South Head Road, the entrance point is secured by double gates and a separate gate for pedestrian access. Along the western boundary of the school on Tivoli Avenue, the entrance point is secured by a double gate only. All other pedestrian entrances are likewise secured by gates, most of which are controlled by swipe card access.

The school administration office is located centrally within the main school campus, accessed by share path from New South Head Road or pedestrian access from Tivoli Avenue.

2.2.4 Risk Assessment of Existing Site

A risk assessment of the Site in its existing context and form has been undertaken. The guidelines prepared by the former NSW Department of Urban Affairs and Planning titled "Crime Prevention and the assessment of development applications" remains a relevant resource document for the assessment of CPTED under section 4.15 of the Environmental Planning and Assessment Act, 1979, together with other relevant publications such as the Crime Prevention Handbook for local government prepared by the Australian Institute of Criminology. Furthermore, it is noted that a Crime Risk Assessment against the principles of CPTED was physically undertaken on site in accordance with the NSW Police Force publication dated February 2016 that provides a criteria of questions against each CPTED principle (100 in total).

Overall, the Crime Risk Rating assessment rated the site in its context as having a 'low' risk of crime, being 11 out of 100). The reasons for this are:

- The Site's location within a predominately urban residential area, with employment and household income levels that are substantially higher than the NSW average.
- Use of the site as a school, whereby surveillance and guardianship levels are very high both during school hours and after.
- Maintenance of school is at a high level, with no evidence of graffiti, dumping, disrepair or general lack of maintenance.
- Secure anti-climbing fences enclose majority of the site, with a number of existing security measures deterring anti-social behaviour (including CCTV and access controlled entries).

3.0 Proposed Development

3.1 Secretary's Environmental Assessment Requirements (SEARs)

On 24 November 2020 the NSW Department of Planning, Industry and Environment (DPIE) issued the Secretary's Environmental Assessment Requirements (SEARs) for the Kambala School Sports Precinct Redevelopment Application (SSD 10385). Key Issues 2, 4 and 7 include the following:

2. Policies

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

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

4. Built Form and Urban Design

- *Address CPTED Principles*

7. Transport and Accessibility

Include a transport and accessibility impact assessment, which details, but not limited to the following:

- *an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED;*

Accordingly, this CPTED assessment responds to the above.

3.2 Description of Development

The SSDA this report accompanies seeks consent for a new sport, wellbeing and senior learning precinct, including the following:

- The excavation of part of the existing sports field to facilitate the construction of the following:
 - sports facilities including weights room and dance rooms;
 - indoor multipurpose sports courts for use by up to 1500 people;
 - innovative and flexible teaching and learning spaces;
 - amenities, store rooms, plant, circulation and ancillary spaces
 - reinstatement of the sports field surface on the roof (sports field and perimeter fencing)
 - spectator seating / bleachers;
- The removal of the tennis courts (currently on the roof of the music building), and the construction of the following:
 - a wellbeing centre, called the SHINE centre, to accommodate the Kambala SHINE program
 - a new staff centre, called the KITE centre, to accommodate staff workstations, meeting areas and amenities
 - reinstatement of the tennis courts, lighting and perimeter fencing on the new roof
- a new eastern forecourt for the school, new external landscaped areas and new courtyards;
- minor works to the existing music building to facilitate a new connection to the new courtyard;
- the partial demolition of the Hawthorne building and the construction of a new façade, roof and landscaping; and
- the demolition of the Arts building and the construction of new facades to adjacent affected buildings, and new landscaping to the footprint of the demolished building.

3.2.1 Sports Precinct

The Sports, Wellbeing and Senior Learning Precinct Redevelopment involves a number of components. Firstly, the existing sports oval on the eastern portion of the site will be excavated to create a sports hall, as well as a teaching and learning block at the ground level. Due to the fall of the site, the current sports oval sits higher than the entrance gate and pathway adjacent to it.

The sports hall will be partially double height above the indoor courts, with office, learning and dance spaces available on a partial second level. The sports hall will accommodate 2 full size basketball courts and a netball court, as well as associated spectator seating. This hall will also be able to accommodate multi-purpose events, such as assemblies, exams, conference-type events, performances and the like. The hall is anticipated to accommodate approximately 1,5000 people. This hall is primarily required to enhance sporting facilities and to host large events.

Above this will be the external rooftop which will contain a football field with five netball courts marked over the top. Adjacent to this will be four tennis courts, with two basketball courts marked over the top.

3.2.2 Music Wing and SHINE Centre

To the north west of the current sports field is the existing Anne and John Lewis Music Building, which is currently a two-level brick building with tennis courts located on the roof. These tennis courts are at the same level of the existing sports oval and are accessed via this oval.

It is proposed that the tennis courts will be removed to allow for an additional level to be constructed above the music wing. This additional level will house new staff facilities (called the KITE centre), as well as the SHINE Centre, which will be a centrally located resource for the holistic wellbeing of staff and students.

This level of the Senior Learning Centre will deliver officers for counselling services, career advisors and other student services. A new reception area will also be located in this block. A variety of wellbeing spaces will also be provided in this building, such as a weights room and a multipurpose room for yoga and the like.

The existing music facilities on the ground floor will be modified slightly to allow new glazed connections from the back of the music building out to the new courtyard.

3.2.3 School Forecourt and Courtyard

A variety of landscaping changes are proposed to delineate safe and well-designed open spaces for the students. The forecourt is located directly in front of the Minter Building and is accessed directly from the heavily utilised New South Head Road. It is proposed that the space will be updated to provide a visual and acoustic barrier from the high point of Old South Head Road, maintaining the delineated gated entry and providing additional shading. The school forecourt will remain visible from within the proposed new building and through the main front gates. It is expected that students will be able to occupy the newly greened space to socialise during recess and lunchtime.

3.2.4 Landscaping and Public Domain

The landscaping component of the project is critical in delivering the school a campus wide uplift in functional, flexible and fit for purpose outdoor spaces. Additional landscaping and amenity provisions are to be provided within new and upgraded courtyard areas, incorporating vegetation and tree planting, outdoor learning spaces and general seating.

Landscaping upgrades are proposed in the following areas:

- School forecourt;
- Upper sports field;
- Northern courtyard;
- Tivoli Building;
- Hawthorn Building; and
- Southern Courtyard.

3.2.5 Pedestrian Access

Two new pedestrian access connection points are proposed to the Kambala School site. These include:

- an additional gate from Bayview Hill Road onto the raised Tennis court level; and
- an egress gate from the raised sports field directly onto the New South Head Road footpath.

The main pedestrian access to the proposed Sports, Wellbeing and Senior Learning Precinct will be via the main Forecourt, in proximity to the school's main pedestrian entrance via New South Head Road, as well as the Northern Courtyard and Transition Space.

3.2.6 Vehicular Access and Parking

At present, vehicular access and parking on the school grounds is provided from Tivoli Avenue, where a carpark accommodates 123 car spaces, including 100 staff car spaces; 12 childcare centre car spaces; 3 accessible car spaces; and 8 visitor car spaces. No changes are proposed or required to the existing parking or vehicular access to the school.

The drop-off zone is also on Tivoli Avenue, where drop-off and pick-up of children is staggered to ease congestion where possible. There is also a car-line on Bayview Hill Road.

Emergency and service vehicle access is currently provided via the main gates on New South Head Road. This access point will continue to service the school following the proposed development, with an additional service ramp provided from the ground level to level 3 of the sports field to accommodate small rigid vehicle access for maintenance and service of the sports fields and the New South Head Road stone embankment.

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 2016-2019 found that the most commonly occurring crimes relevant to CPTED within Woollahra were:

- Fraud;
- Malicious damage to property;
- Transport regulatory offences; and
- Theft from motor vehicle.

Frequency of the above crimes in the suburb of Rose Bay, between January 2016 and December 2019 are detailed in **Table 1**.

However, it is noted that not all of these most frequent crimes are considered relevant to this assessment of the proposed development, such as fraud and transport regulatory offences, and likewise no crime prevention measures recommended and implemented within the school campus will mitigate the occurrence of these crimes.

Table 1 Statistics of recorded crime in Rose Bay (suburb) between 1 January 2016 and 31 December 2019

Crime	Year to December 2016	Year to December 2017	Year to December 2018	Year to December 2019	2016-2019 Trend	Rate per 100,00 Population (2019)	Rating Category (2019)
Assault	45	47	41	30	downward	279.4	Very Low
Robbery	4	0	0	1	stable.	9.3	Very Low
Sexual Assault	9	9	14	10	stable	93.1	Very Low
Theft	202	209	179	127	downward	1182.7	Very Low
Malicious Damage to Property	66	45	39	33	downward	307.3	Very Low
Break & Enter non- dwelling	5	3	2	1	stable	9.3	Very Low
Disorderly Conduct	12	14	13	11	stable	102.4	Very Low
Drug Offences	26	36	25	22	stable	204.9	Very Low

Source: Bureau of Crime Statistics and Research NSW, 2020

As illustrated in **Figure 19** to **Figure 22** The BOCSAR database indicates that the Site is not located within close proximity of any high-density crime 'hotspots', however it is located in proximity to medium-density 'hotspots' in relation to 'break and enter' and 'theft from a dwelling'. It is additionally noted that 'domestic assault' 'motor vehicle theft' and 'theft from a dwelling' high-density hotspots are identified in Rose Bay and surrounding Vaucluse.

However, as the parking within the school is sufficiently secured, utilising crime preventative measures such as CCTV management, boom gates and other access control measures, the school has a low risk of motor vehicle related crimes. Likewise, the boarding facilities within the school are appropriately managed to address any crime risks, with access into the school limited without swipe card access. Therefore, it is similarly unlikely that theft crimes occur within the school.

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.

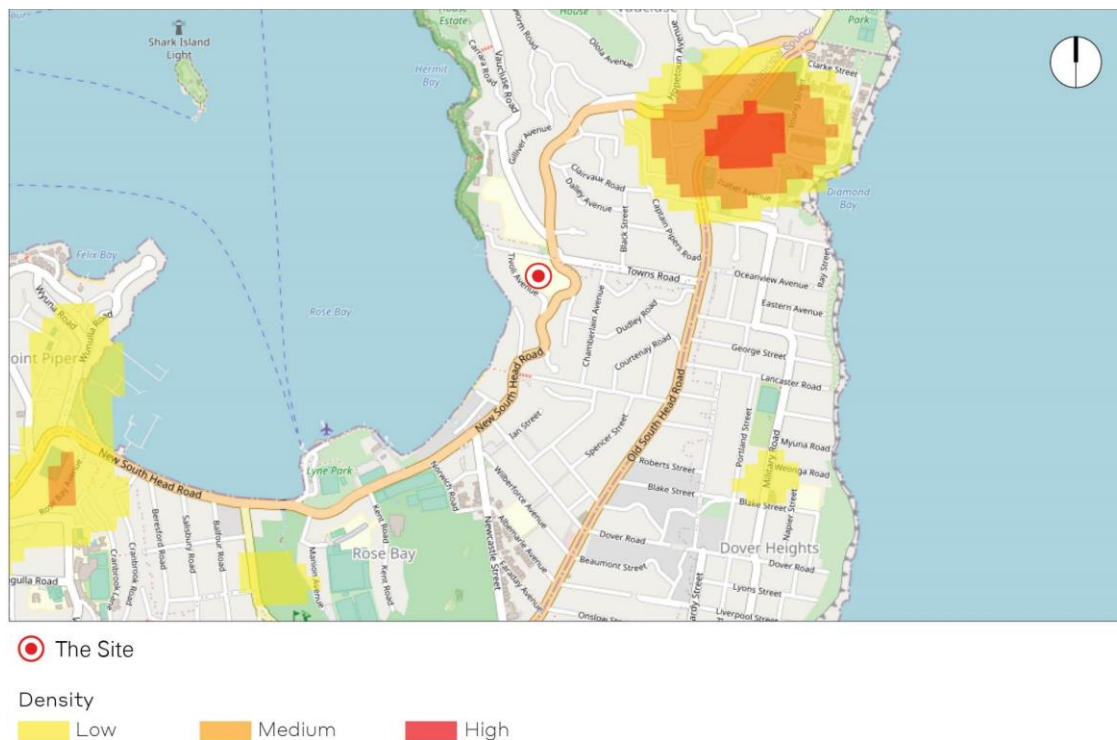


Figure 19 Incidents of Assault (Domestic assault) from January 2019 to December 2019 Hotspot
Source: BOCSAR & Ethos Urban

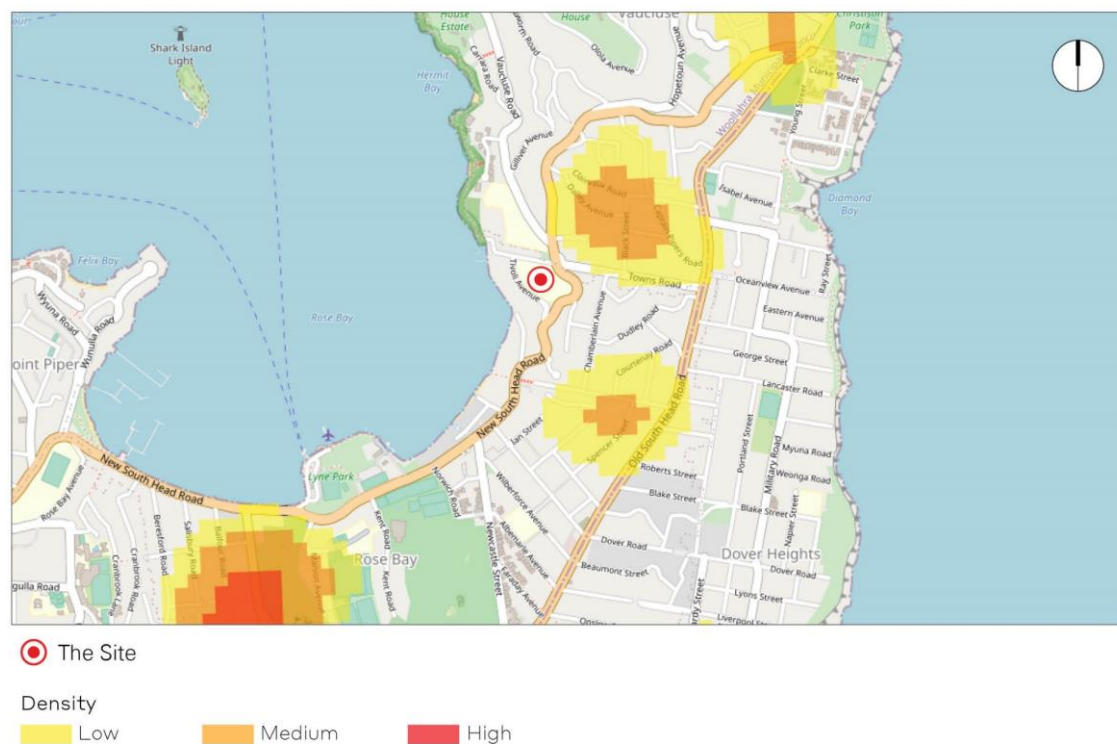


Figure 20 Incidents of Theft (Break & enter dwelling) from January 2019 to December 2019 Hotspot
Source: BOCSAR & Ethos Urban

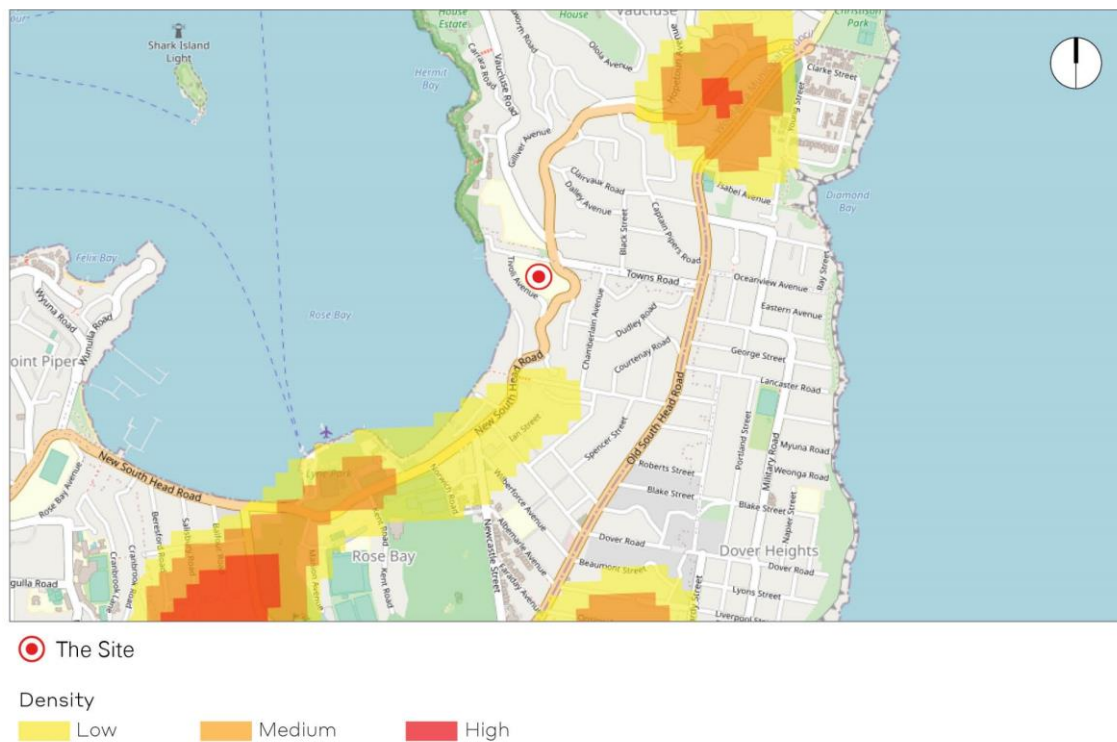


Figure 21 Incidents of Theft (Motor vehicle theft) from January 2019 to December 2019 Hotspot
Source: BOCSAR & Ethos Urban

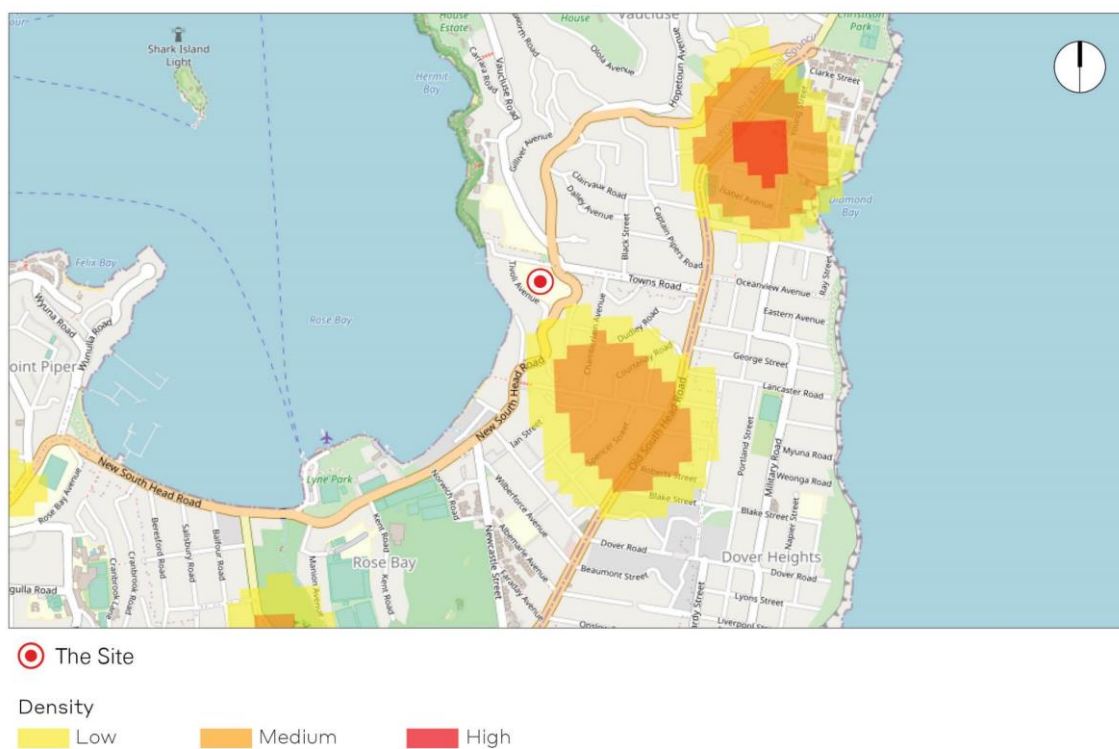


Figure 22 Incidents of Theft (Steal from dwelling) from January 2019 to December 2019 Hotspot
Source: BOCSAR & Ethos Urban

5.0 Matters of 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 occurrences.

Furthermore, given that the proposed development is a school, particular attention must be given to security and student safety during school operating hours, as well after hours for those that board at the school. 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 proposed Sports, Wellbeing and Senior Learning Precinct development within Kambala School will provide high levels of natural surveillance over majority of the school and promotes long sight-lines to the western and lower portions of the school.

Overall, surveillance from within the school will remain the primary source of natural surveillance to the proposed development, both during school hours and after hours from the boarding school. Most internal courtyards and passageways within the school are either overlooked by play/recreation areas, classrooms or staff areas, or are afforded with clear sightlines so as to not block or obscure natural surveillance.

The existing Minter building (Senior School), located immediately to the left when entering from the main school entrance, is well positioned and orientated to observe most pedestrian and vehicular entry to the school from New South Head Road, with the exception of some vegetation blocking partial views. Nonetheless, CCTV provides coverage of this entry forecourt area, including views into the site of the proposed development.

It is noted that although the administration building does not have direct line of sight to either main entrance, New South Head Road or Tivoli Avenue, vehicular access requires a swipe card to gain access and is covered by CCTV.

The development site is also afforded with natural surveillance from New South Head Road, which is at a significantly higher elevation to the north, and therefore provides uninterrupted views to the existing sporting fields. It is noted that existing perimeter vegetation partially blocks views to the site from portions of New South Head Road, however some of this vegetation is proposed to be removed, which will further promote passive surveillance.

The few areas that could be blocked or obscured from view (such as the Northern Courtyard and Level 2 north-eastern balconies adjacent the existing retaining wall along New South Head Road boundary), could be afforded with CCTV network coverage with adequate lighting. At a minimum it is suggested that CCTV network coverage is provided for all entry/exit points of the school, and all passageways that are not afforded with natural surveillance from surrounding buildings.

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.

Recommendations regarding natural surveillance is provided at **Section 6.0** of the report.

5.1.1 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.

As the school is to be used after hours for school and non-school related activities, an External Lighting Strategy has been prepared by LCI and appended to the SSDA package. The strategy ensures that the areas of the school that will be in after-hours use and the associated travel paths (and peripheries) are appropriately lit, with existing lighting to be upgraded where appropriate. This includes all proposed courtyards areas and landscaped areas.

Furthermore it is suggested that a motion detection lighting system (working in concert with new additions to the CCTV network) 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 that the site operates as a school with boarding uses after-hours. The school's existing CCTV network should be expanded to accommodate the proposed building and public domain areas, and provide a live feed to a monitor in the administration or facility management office, with recordings kept for a minimum of 30 days.

Clearly, the 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, if not already. It is further noted that standard security requirements for education premises should be adhered to, if not already. It is acknowledged that existing security for the school includes CCTV at all entrances and common areas, back to base monitored intruder alarms system, an onsite security guard outside school hours, physical gates and master key locks.

Installation of CCTV network and motion detection lighting should be considered within the Level 2 north-eastern balcony areas and Northern Courtyard of the proposed development.

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

5.2 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 school and requires clear delineation, which is already provided by existing perimeter fencing and signage throughout the school. This provides adequate physical barrier and visual cue as to the extent of school grounds.

It is recommended that existing wayfinding be enhanced to further delineate parts of the school which should not be in use after-hours, including operation hours of entrances.

The new development and landscaping is expected to further revitalise the appearance of the school and reinforce the strong sense of school and community ownership of the site, which will assist in deterring vandalism, malicious damage and unauthorised entrance.

The long time school use and functioning of the site will provide direct territorial reinforcement and effective guardianship. Well maintained grounds and facilities and public domain treatments, in addition to the existing perimeter fencing, will provide further territorial reinforcement for times outside of school operating hours.

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

5.3 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 will be facilitated by the proposed development, which promotes the dynamic use of the site.

It 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 after hours 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.

5.3.1 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 school will be responsible for the ongoing maintenance of the grounds and the rapid removal of any graffiti and repair of damage. 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.

5.4 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 existing school premises.

Existing vehicular access to the school parking is only via Tivoli Avenue, on the opposite end of the school campus in which the proposed development is located. The existing school parking is adequately secured, with gated entry, formal surveillance by facilities management, swipe access and CCTV coverage, preventing antisocial behaviour.

Although vehicular access can occur via the existing main gate on New South Head Road in proximity to the development, perimeter fencing and swipe card access for vehicles prevent unwanted entry and allow control of access and movement within the school. Vehicular access at this gate is likely to be limited to maintenance vehicles during periods of low pedestrian movements after school hours, and emergency vehicles if required. This is considered good practice in ensuring a suitable road and pedestrian safety environment surrounding the proposed Sports, Wellbeing and Senior Learning Precinct.

Access control along the perimeter of the school grounds is already present in the form of appropriate fencing and other materials (such as walls etc) and access/egress points having high visibility with see through gates, enhancing the natural surveillance and effective guardianship for a controlled and safe school environment.

It is noted that although the administration building does not have direct line of sight to either main entrance, New South Head Road or Tivoli Avenue, vehicular access requires swipe card to gain access therefore preventing any unwarranted vehicular entry to the school. Likewise, most other entry points to the school are controlled by swipe access, facilitating a controlled and guarded environment. Swipe card access can be further considered for access into school buildings after-hours. For any gates that do not provide swipe card access it is recommended that locking mechanisms be durable and not easily breakable or unlocked, such as common padlock.

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

5.4.1 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. 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 entrance to the school on New South Head Road.

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 Allen Jack + Cottier, 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 500mm 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 500mm-2m should ideally be avoided or contained to areas not requiring clear sightlines or natural surveillance.
- Ensure clear sight lines from the Minter building to the main front entrances and approaches of the new sports precinct building.
- Ensure clear sight lines from Tivoli boarding house, The Music building and the proposed Sports Wellbeing and Senior Learning Precinct into the proposed North Courtyard.
- Ensure all sport fields perimeter fencing, atop the proposed development, maintains clear sight lines to pathways and landscaped courtyard areas.

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 buildings to improve surveillance and minimise opportunities for vandalism.
- Lighting uniformity is essential in outdoor lighting to promote consistent light levels and the perception of safety and security. As such, a target minimum lighting uniformity level between 0.3 Uo and 0.4 Uo is recommended for outdoor lighting used within the school grounds (exc. lighting for sporting fields/courts).
- Motion sensor lighting is also recommended for the proposed development, particularly associated with additional CCTV cameras inserted surrounding the proposed precinct.
- Installation of CCTV network and motion detection lighting should be considered within the Level 2 north-eastern balcony areas of the proposed development.
- Proposed lighting should also be designed to minimise light spill and pollution to adjoining properties, particularly residential properties, particularly lighting for sporting fields/courts.
- Proposed 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.
- 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

- It is recommended that existing wayfinding be enhanced to further delineate parts of the school which should not be in use after-hours, including operation hours of entrances and use of the sporting fields.
- Advisory signage at all entrances to the school grounds is recommended including a notice of entering school grounds and that all visitors must report to the administration building.
- All existing perimeter fencing is recommended to be well maintained to prevent degradation and a perception of a neglected space.
- Secure fencing and signage is recommended to delineate and separate any publicly accessible portions of the site (ie the proposed sporting fields) from the core school and boarding areas where appropriate.

Activity and Space Management

- 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.
- The school sporting fields are recommended to be secured after hours, with formal management such as a security service and ongoing viewing of CCTV footage.
- Separate school operating hours and after-hours security management plans/procedures should be prepared and implemented. These management plans/procedures are recommended to be reviewed every two years.

Environmental Maintenance

- Use high quality materials for proposed construction to lessen the likelihood of damage and help to reduce maintenance costs.
- Ensure that proposed 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 maintenance procedures of the school should be reviewed regularly to ensure their ongoing effectiveness.

Access Control

- It is recommended that vehicular access at the main New South Head Road gate be limited to maintenance vehicles during periods of low pedestrian movements after school hours, and emergency vehicles if required, to ensure a safe pedestrian environment.
- Secure after hours access to the proposed building, including classrooms, is recommended. In particular classrooms and storage areas with valuable equipment must be secured appropriately.
- Provide restricted access keys or the like to the secure gates/doors at all entrance/exit points of the site to prevent unauthorised entry outside of school hours.
- It is recommended that the existing perimeter fence of the site remain well maintained and pedestrian and vehicle entrance/exit points and timings be articulated via signage, and able to be secured (via gates etc).
- 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.
- For gates that do not provide swipe card access, it is recommended that locking mechanisms be durable and not easily breakable or unlocked, such as common padlock.

Design, Definition and Designation

Maintain the current design definition demonstrated in the proposed development. Ensure clarity of ownership and management are clearly understood by students, teachers, school staff and visitors of the Sports, Wellbeing and Senior Learning Precinct.

7.0 Conclusion

Overall, the proposed development will facilitate a new sports wellbeing and senior learning development, which will improve the safety and security within the site. In particular it is considered that the development:

- will provide the opportunity to reinforce the existing suitable technical supervision, lighting and access control mechanisms of the school;
- will provide opportunities for environmental improvements to the site, which in turn will increase the perception of the area as a high quality and safe environment; and
- will further increase activity and the use of high quality school facilities for students and potentially the public after hours in a safe and managed environment.

As such, our assessment finds that the design of the proposed development is generally consistent with the principles of CPTED and can improve the security and perceptions of safety for the site.