Art Gallery of NSW

Sydney Modern Project

Crime Prevention Through
Environmental Design Report

248085-SE-CPTED-01

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		Name	Codee Ludbey	Shane Norton	Nick Boulter
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Contents

1 Executive Summary

1.1 Introduction

The Art Gallery of New South Wales is Australia's premier art museum and a major attraction for cultural tourism attracting over 1 million visitors annually. The Gallery presents over 35 exhibitions a year and has outstanding collections of Australian, Aboriginal, Asian and international contemporary art. The Gallery's collections are valued at over $1.1 billion.

The Art Gallery of NSW proposes to undertake a major expansion of the existing art gallery adjacent to the Phillip Precinct of the Domain. The expansion, proposed as a separate, stand-alone building, is located north of the existing gallery, partly extending over the Easter Distributor land bridge and includes a disused Navy fuel bunker located to the north east of this land bridge.

The new building comprises a new entry plaza, new exhibition spaces, shop, food, and beverage facilities, visitor amenities, art research and education spaces, new roof terraces and landscaping and associated site works and infrastructure, including loading and service areas, services infrastructure and an ancillary seawater heat exchange system.

Arup has been commissioned to provide an initial assessment of opportunities where Crime Prevention through Environmental Design (CPTED) may be incorporated into the designs for the Art Gallery of New South Wales (AGNSW) Expansion - Sydney Modern.

Arup have also conducted a Security Risk Assessment detailing specific security based risks to the precinct, with appropriate mitigation measures. The executive summary of this assessment has been appended in Appendix A.

1.2 Methodology

In preparing this report, Arup has undertaken the following:

- Review of CPTED theory and how this can be typically applied to Gallery facilities and landscape;

- Perform a review of the current architectural designs, and relevant reports, with an emphasis on the external site wide areas;

- Collection and analysis of local and state crime statistics, obtained from open sources such as the Bureau of Crime Statistics and Research (BOCSAR), in order to better understand the external security environment;

- Collection and analysis of local demographic statistics, obtained from open sources from the Australian Bureau of Statistics, in order to better understand the external environment;

- Attend site inspection of the existing AGNSW facilities, and liaise with AGNSW, Architectus and McGregor Coxall landscape architects to collaboratively review and discuss the architectural designs, CPTED strategies and stakeholder requirements; and

- Conduct a CPTED review and detail the CPTED strategies, findings and recommendations.

1.3   Recommendations

Recommendations made herein aim to enhance the preventative crime characteristics of the redeveloped precinct by:

- Increasing the perception of risk to criminals by increasing the presence of deter, detect, delay and response characteristics;

- Increasing the effort required to commit crime by increasing the time, energy or resources which need to be expended by the offender in order for the offence to be successful;

- Reducing the potential rewards of crime by minimising, removing and concealing rewards; and

- Advertising the proper use of space, and making it clear on the types of people permitted throughout the precinct under various operating conditions.

The Sydney Modern Building and surrounding area as it stands, generally provides very good CPTED measures/characteristics, particularly in regards to natural surveillance due to the use of glazing, a minimalist structural design, and high permeability between spaces. However, Section 0 of this report details a list of recommendations that can further enhance the CPTED and security aspects of the project and subsequently the Gallery during detailed design.

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2   Project Overview

The Art Gallery of NSW proposes to undertake a major expansion of the existing art gallery adjacent to the Phillip Precinct of the Domain. The expansion, proposed as a separate, stand-alone building, is located north of the existing gallery, partly extending over the Eastern Distributor land bridge and includes a disused Navy fuel bunker located to the north east of this land bridge.

The new building comprises a new entry plaza, new exhibition spaces, shop, food and beverage facilities, visitor amenities, art research and education spaces, new roof terraces and landscaping and associated site works and infrastructure, including loading and service areas, services infrastructure and an ancillary seawater heat exchange system.

Development consent is sought for:

- Site preparation works, including:

  - Site clearing, including demolition of former substation, part of road surfaces, kerbs and traffic islands, pedestrian crossings, foot paths, retaining walls, stairs, and part of disused underground former Navy fuel bunkers;

  - Tree removal;

  - Excavation and site earthworks;

  - Remediation works;

- Construction of the new building comprising:

  - Covered public entry plaza;

  - Five building levels, including entry pavilion following the site topography down to Lincoln Crescent;

  - Retention of part of existing former underground Navy fuel bunker for use as gallery space and support spaces;

  - Art exhibition spaces;

  - Outdoor publicly accessible terraces;

  - Shop and cafe;

  - Multipurpose space;

  - Education spaces;

  - Ground level loading dock (accessed via Lincoln Crescent) with associated art handling facilities, workshops, service parking, plant, and storage areas.

- Landscaping and public domain improvements including:

  - Continuation of the east-west pedestrian link over the land bridge between the Domain and Woolloomooloo Bay, including dedicated lift structure for universal access;

  - Improved public access of the north south pedestrian link

- Enhancement of the public open space on the land bridge to create a landscape and art connection between the two buildings

- Hard and soft landscaping to roofs and terraces;

- Plantings and new pathways;

- Increased landscaped area to forecourt of existing Art Gallery building and removal of car parking

- Relocation of selected trees to the south-eastern corner of the site;

- Sound barrier to edge of land bridge;

• Upgrade works to part of Art Gallery Road, Cowper Wharf Road, Mrs Macquaries Road, and Lincoln Crescent, including new pedestrian crossings;

• Provision of vehicle drop off points including a taxi stand, private vehicle drop off and bus/coach drop off, at Art Gallery Road;

• Installation of an ancillary seawater heat exchange system to act as the new building's cooling system, adjacent to and within Woolloomooloo Bay;

• Diversion, extension and augmentation of physical infrastructure and utilities as required.

2.1   Report Overview

CPTED strategies have been incorporated in the design of The Art Gallery of New South Wales Expansion – Sydney Modern. The Art Gallery of New South Wales Expansion - Sydney Modern will seek to improve and incorporate additional CPTED strategies to reduce incidence of crime. CPTED aims 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';

- Removing conditions that create confusion about required norms of behaviour; and

- Reducing the need for overt security measures (large fences and barriers, 'a sea' of CCTV cameras etc.), which improves the amenity of an area.

This report is intended to inform the project team on how the theory of CPTED may be applied to the Sydney Modern Building and surrounds, and the potential benefits that such an approach can be realised for stakeholders and users of the space. It also demonstrates a fundamental understanding and project specific application of crime prevention techniques.

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It is recommended that the appropriate AGNSW stakeholders be given the opportunity to review the security recommendations contained within this report, as part of an ongoing process of consultation. It is intended that any recommendations made in this report that are accepted by the relevant project stakeholders, be further developed and incorporated into the on-going detailed design process.

3 Underlying Principles

3.1 CPTED Theory

3.1.1 General

Crime Prevention through Environmental Design (CPTED) is the use of design and space management principles in order to influence human behaviour. CPTED is a crime prevention strategy based on the proper planning, design and structure of cities, neighbourhoods, precincts or individual sites to create an effective use of the built environment which can lead to a reduction in the fear and incidence of crime, as well as an improvement in quality of life.

The design of a particular space has to ensure that the intended activity can function properly, as well as directly support the control of behaviour, in order to reduce the opportunity for crime. The design of the precinct should strive to incorporate the three overlaying CPTED strategies – Natural Access Control, Natural Surveillance and Territorial Reinforcement (Figure 1).
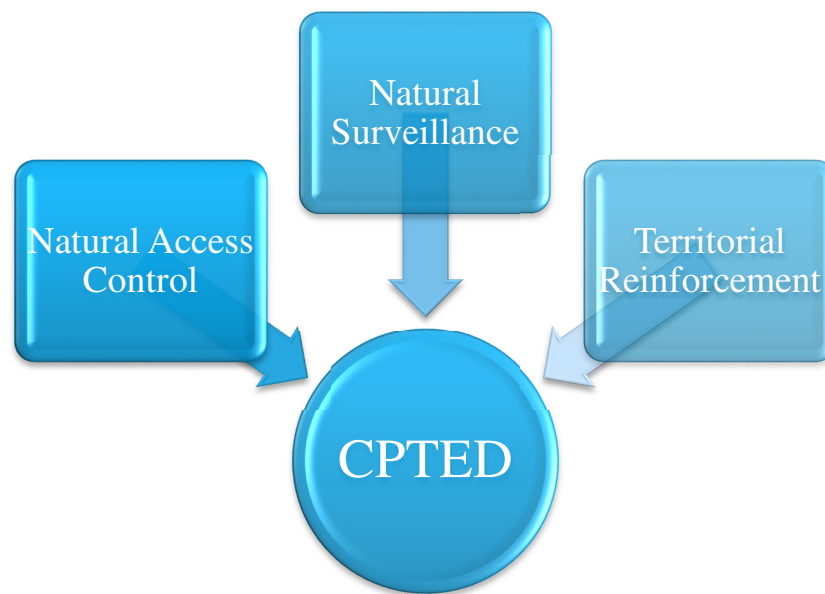
Figure 1. CPTED Principles

3.1.2 Natural Access Control

Natural access control decreasing opportunities for crime by controlling access to a potential target and by creating a perception of risk to an offender. Physical and symbolic barriers can be used to attract, channel or restrict the movement of people.

Effective natural access control can be achieved by creating:

- Designed landscapes and physical locations e.g. footpaths that direct pedestrians into and throughout target areas;

- Public spaces which attract people into the area and discourage intruders;

- Restrict access to internal areas or high-risk areas like car parks or other rarely visited areas (e.g. by having doors, shrubs, fences and gates); and

- Selectively placed entrances and exits, fencing, lighting and landscaping to control the flow of access or to limit access.

Where practical, the intent of these natural access control measures should be incorporated into the Sydney Modern designs, and on-going Gallery operations.

3.1.3   Natural Surveillance

Natural surveillance is about creating environments that keep intruders under observation. It aims to provide opportunities for people engaged in their normal daily business to observe the space around them.

Natural surveillance means creating clear sightlines. It works by designing the placement of physical features, activities and people in such a way so that maximum visibility and positive interaction occurs among legitimate users of the space.

Quality surveillance can be achieved or improved by considering the following design principles:

- Streets and public spaces can be observed from nearby buildings;

- Clear sightlines exist between public and private places;

- Open plan and minimalist (clutter-free) designs;

- Effective lighting of public places is adopted;

- Spots that facilitate entrapment are eliminated;

- Attractive and well maintained landscaping, with proper light and clear sight lines, is used to prevent offenders finding a place to hide or entrap victims; and

- Activation of the space or surrounding areas that encourages regular and diverse use of the space.

Where practical, the intent of these natural surveillance measures should be incorporated into the Sydney Modern designs, and on-going Gallery operations.

3.1.4   Territorial Reinforcement

Territorial reinforcement is about clearly defining private space from semi-public and public space in order to create a sense of ownership. The created ownership shows that the owner has a vested interest in the location, which increases the actual and perceived risk of detection of offenders.

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Fences, change in pavements, signs, lighting and landscaping can be used to define public, semi-public and private space. Care is necessary to ensure that territorial reinforcement is not achieved by making public spaces into private spaces, through gates and enclosures.

Territorial reinforcement can be achieved through:

- Design with a clear distinction between public and private spaces by using physical barriers (e.g. fences) and symbolic barriers (e.g. vegetation);

- Design that encourages people to gather in a public space and to feel some responsibility for its use and condition;

- Environmental markers (e.g. signage, walkways, pavers, lighting, bollards and fencing) which define intended use and ownership; and

- Regular maintenance of vegetation, infrastructure, and prompt removal of graffiti and vandalism.

Where practical, the intent of these territorial reinforcement measures should be incorporated into the new building designs, and on-going Gallery operations.

4 Development Application Requirements

4.1 Overview

Development Applications (DAs) within NSW typically require a crime prevention through environmental design assessment to be conducted. This is a requirement of the Environmental Planning and Assessment Act 1979 as set out in Section 5.2 below, and further detailed in the following Guideline produced by the NSW Department of Urban Affairs and Planning:

- Crime Prevention and the Assessment of Development Applications - Guidelines under Section 79C of the Environmental Planning and Assessment Act 1979.

4.2 DA Requirements

As detailed in the Guideline specified above, before a decision can be made on a development application, a consent authority (usually a council) must consider the application under Section 79C of the Environmental Planning and Assessment Act 1979. Included in Section 79C are subsections requiring the consent authority to consider:

- The likely impacts of that development, including the environmental impacts on the natural and built environments, and social and economic impacts on the locality; and

- The public interest.

Crime prevention falls under these subsections of 79C. Consent authorities have an obligation to ensure that a development provides safety and security to users and the community.

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5 Crime Profile

5.1 Overview

The proposed AGNSW Expansion – Sydney Modern project is located in The Domain, which is located within the Sydney Local Government Area (LGA). It should be noted that the crime figures included in this section of the report were those crimes recorded by NSW Police. These figures do not necessarily represent all crimes committed in the Sydney LGA as not all crimes get reported to Police.

The offences listed below make up the most prevalent crimes that are relevant to the Gallery. Their five year trend is also included in order to identify if the security risks that they pose is likely to increase or decrease in the future. It is these offences that CPTED and other security measures employed at the Gallery are most likely to have to protect against.

For a more detailed assessment of AGNSW's crime profile, see the Security Risk Assessment documentation.

5.2 Most Prevalent Crimes

The following graph shows the most prevalent crimes to occur in the City of Sydney LGA that are relevant to the AGNSW, based on total number of offences. A ranking of how the City of Sydney LGA crime rates compare to the other 141 LGA's cannot be provided because its residential population does not accurately reflect the number of people present in the area each day.
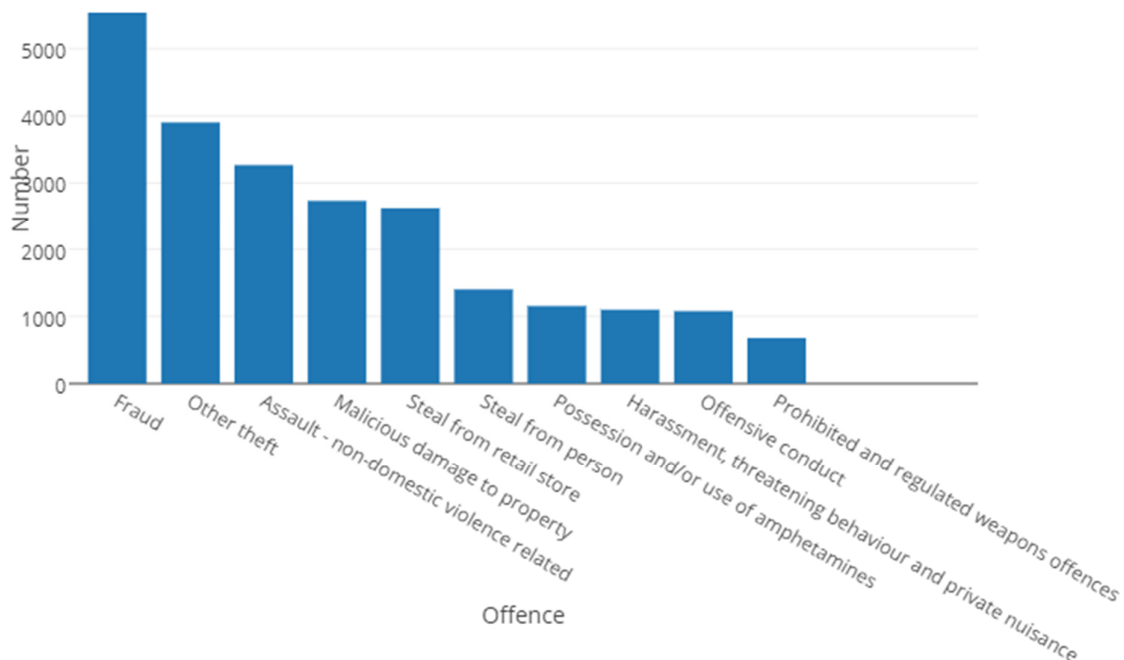

Figure 2. Top 10 relevant crimes: Sydney LGA. Source: BOCSAR

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5.3 Premise Related Crimes

The following graph shows the most prevalent crimes for recreational facilities for 2016. These percentages do not necessarily represent all crimes in recreational facilities as premise data is not recorded for all offences.
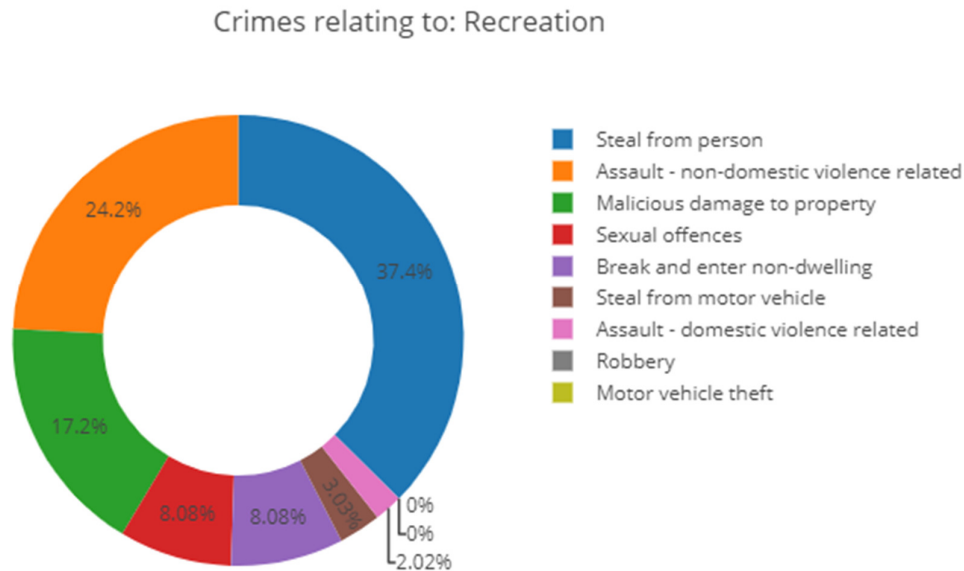

Figure 3. Premise Data for 2016 (Recreational Facility)

5.4 Five Year Trend

As can be seen in the five year trend crime graph below, eight of the ten most prevalent crimes applicable to the AGNSW have either been stable over this period or have reduced in occurrence. Based on these trends, the likelihood of these offences occurring in the future should either remain the same as currently assessed, or reduce.
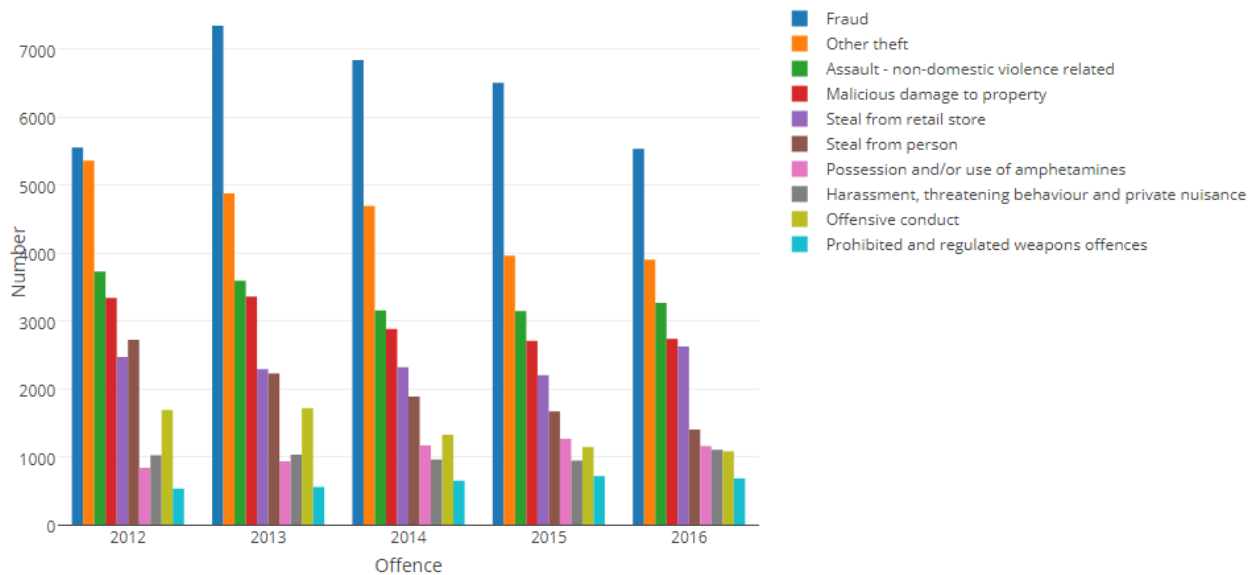
Figure 4. Top ten Crimes since 2012

5.5 Sources of Threat

It is important to be aware of the likely sources of threat as each source poses unique risks and each risk may be required to be treated differently in relation to each threat source (e.g. trespass by an issue motivated person poses a different risk and needs to be treated differently to trespass by a criminal).

The likely sources of threats that the Art Gallery of NSW may be exposed to include:

- Trespassers;

- Vandals/Graffiti Artists (Taggers);

- People under the influence of drugs/alcohol;

- Antisocial people;

- Criminals (Opportunistic/Organised);

- Issue motivated groups;

- Disgruntled staff, contractors, members of the public;

- Former staff/Contractors; and

- People suffering from a mental health condition.

6   Design Assessment

6.1   General

The following sections detail the findings of the review of the crime prevention through environmental design aspects of the Architectural drawings.

6.2   Entry Level Review

6.2.1   Natural Surveillance

Entrance Foyer

The design and layout of the entrance foyer is generally sufficient from a natural surveillance point of view due to the large open plan design, minimal built structures, and use of glazing around the façade, which facilitates natural surveillance from and of neighbouring areas.

The location and layout of the lifts and lift lobby is also potentially problematic from both a natural surveillance and natural access control perspective. As the lift lobby is a somewhat confined space, it is recommended that this area utilises glazing, and minimises built structures in this area where possible to enhance the natural surveillance of the lift lobby from the wider entrance foyer area.
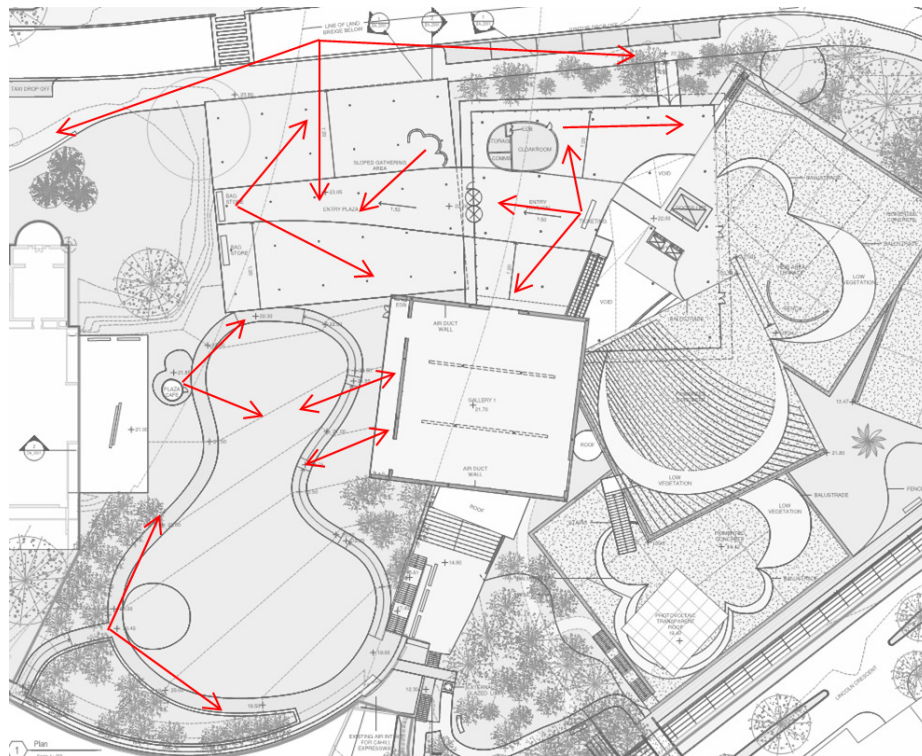

Figure 5. Entry Level Natural Surveillance Diagram

Gallery 1

The glazing on the façade of Gallery 1 and the lack of built structures and vegetation allows for good natural surveillance of Gallery 1 from the park area. Any dividing walls in this space should be glazed or of low height to further facilitate this natural surveillance. Good natural surveillance within the gallery itself is further facilitated due to the open plan of the gallery floor, and limited built structures.

6.2.2 Natural Access Control

Footpaths

There is clear and well defined footpaths throughout the precinct, connecting the key locations, and the precinct to its neighbouring areas. These well-defined nominated paths of travel provide a significant level of natural access control to and within the AGNSW precinct. These nominated paths of travel are proposed to be well supported by lighting and way-finding signage to further attract people to use these paths. This proposed lighting will help provide clear sight lines and increase the perception of surveillance.

Street Access

While existing low level barriers (chain linked bollards) will guide pedestrians to gain access to the Art Gallery via nominated paths, consideration should also be given to unlawful behaviour by drivers of vehicles. The current chain linked bollards are on the Domain side of Art Gallery Road across from AGNSW, with no visual deterrent or physical barrier to stop vehicles from targeting pedestrians or buildings. It is recommended that the natural access control of vehicles on the street be further examined in light of this. Prevention measures such as reinforced planter boxes, water features, shrouded bollards and statues can act as vehicle security barriers without taking away from the appearance of the gallery.

Way-finding Signage and Gallery 1

The way-finding signage used throughout the precinct and buildings should be clear and intuitive so that people can easily navigate their way throughout the buildings and precinct. Signage or visual cues should be used wherever possible so that people can easily identify areas of interest, and paths of travel.

6.3 Lower Level 1 Review

6.3.1 Natural Surveillance

Gallery 2

The open plan design of Gallery 2 will allow for good natural surveillance of this space.

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Café and Café Terrace

The cafe terrace provides good natural surveillance of the main walkway linking the precinct to Woolloomooloo, and of the outdoor lift. Proposed tree locations should be well maintained to maximise natural surveillance of this area. The use of glazing in the café will facilitate natural surveillance of the café, café terrace, and outdoor café.
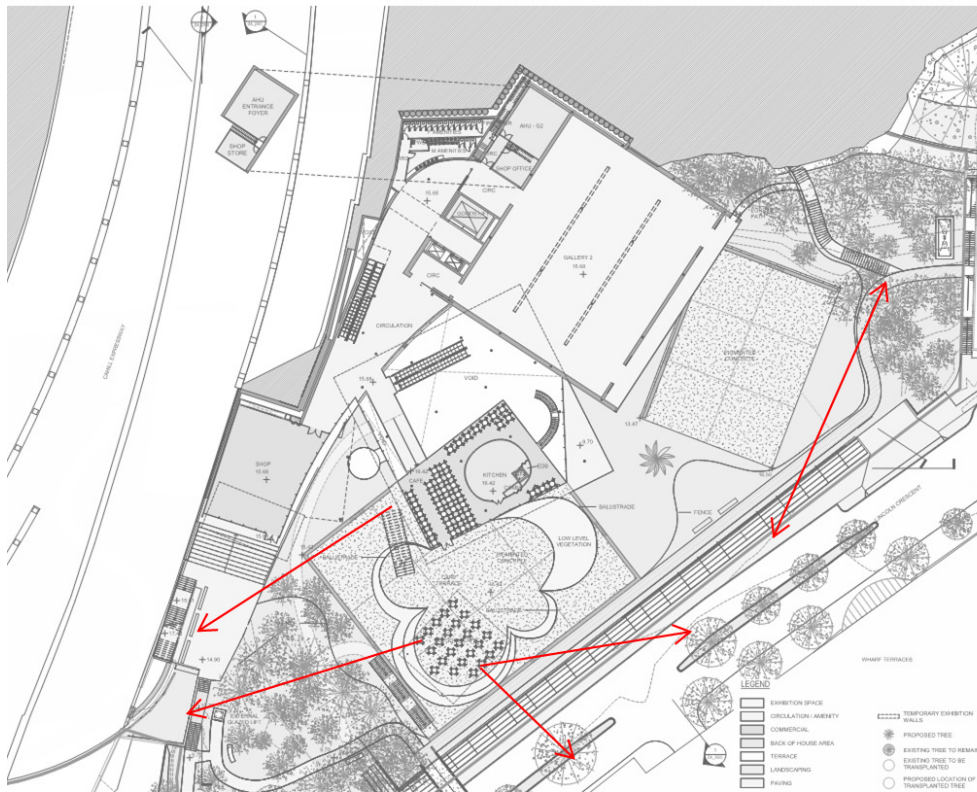

Figure 6. Lower Level 1 Natural Surveillance

6.3.2 Natural Access Control

Way-finding Signage

The way-finding signage used throughout the buildings should be clear and intuitive so that people can easily navigate their way throughout the buildings. Signage or visual cues should be used wherever possible so that people can easily identify areas of interest, and paths of travel. The fact that the lifts, stairs and escalators deliver people to a central foyer, from which they access the adjacent gallery spaces strongly influences the natural control of people to and throughout this area.

The use of the area behind the escalators leading to Gallery 2 and amenities should be encouraged through the use of clear signage indicating the location of these areas. This increased use as a result of effective signage will allow for greater safety for visitors in this space.

6.4   Lower Level 2 Review

6.4.1   Natural Surveillance

Foyer

The large open plan design of the foyer supports natural surveillance throughout this area (Figure 7). Where possible glazing along the walls connecting the foyer to the adjacent gallery spaces should be used to maximise natural surveillance between each space. Where solid walls are used, the openings to each gallery should be as large as possible in order to achieve this natural surveillance outcome.

Gallery 3

Gallery 3 has good natural surveillance as it has an open plan design. Further natural surveillance of the walkway from Woolloomooloo and of the Art Gallery surrounds could be facilitated by including windows in the South wall.

Galleries 4, 6 and Multipurpose Space

The open plan design of Gallery 6 allows for good natural surveillance, as well as natural surveillance from the foyer. The compartmentalised design of Gallery 4 means that there is poor natural surveillance from surrounding areas. The doorway to this space should be widened and walls glazed where possible to improve the natural surveillance of this space.

The multipurpose area has some natural surveillance from the wide entry to the space. Temporary installations in this space should minimise built structures and utilise large open spaces, providing good natural surveillance.
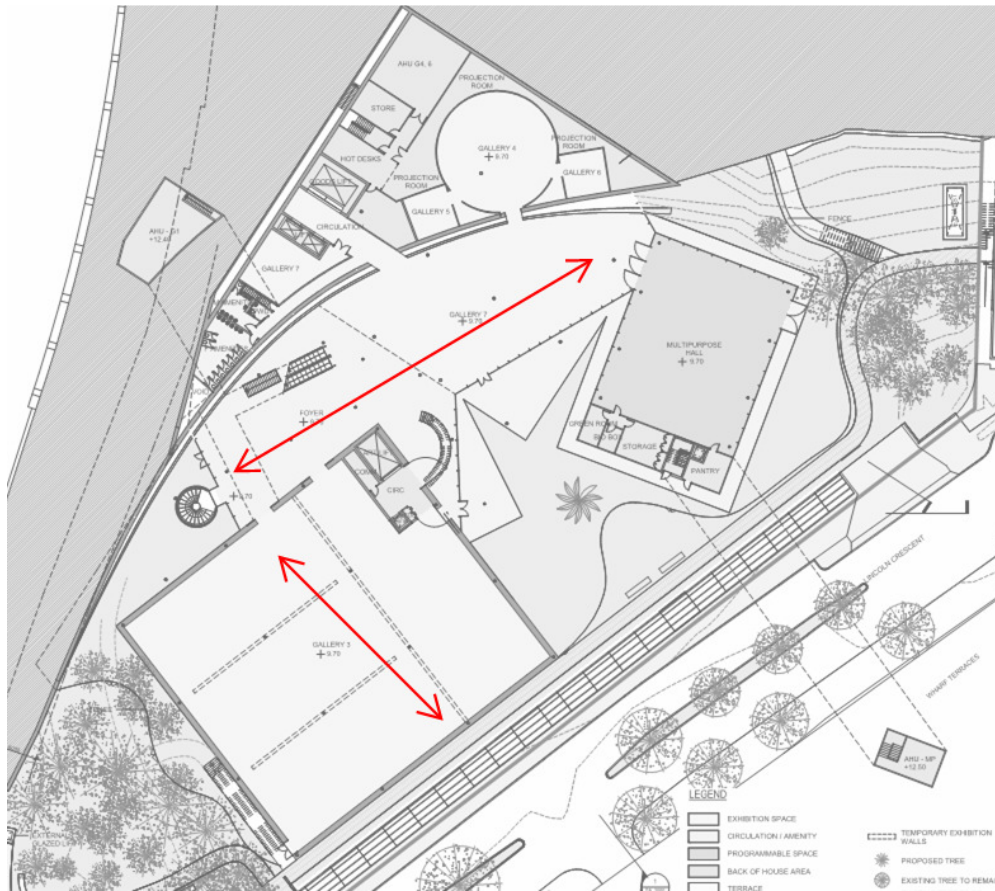
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Figure 7. Lower Level 2 Natural Surveillance

6.4.2 Natural Access Control

Way-finding Signage

Way-finding signage should intuitively direct and control people between the key points of interest within the Art Gallery. Visual cues should be utilised to clearly signify entrances and exits to different areas, with escalators and lifts to other floors and the outside lit up to ensure safe and easy movement of people through the Art Gallery.

6.5 Lower Level 3 Review

6.5.1 Natural Surveillance

Security Control Room

The location and orientation of the security control room facilitates good natural surveillance of the art and general loading docks. The highlighted wall in Figure 8 should be of a low height or the security control room should have windows which allow staff to see the art loading area as well as the general loading area to monitor the space.

Dock Control Room

The location and orientation of the dock control room facilitates good natural surveillance of the main vehicle entry, the entries to each loading dock, and of the parking areas (Figure 8).
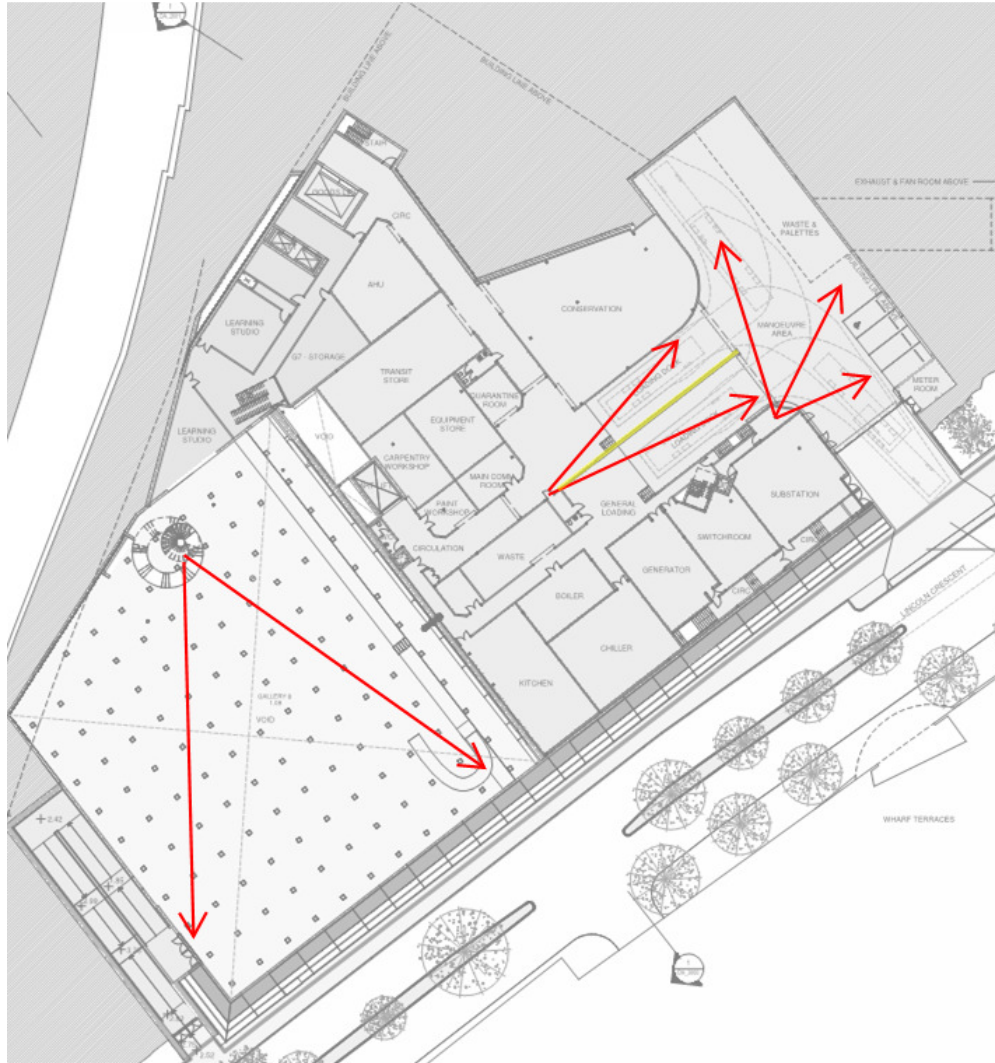
Figure 8. Lower Level 3 Natural Surveillance

6.5.2   Natural Access Control

Clear vehicle entry/exit points, loading areas, parking areas, and the use of a number of roller shutters provide strong control of access into and throughout this location. It is recommended that signage be provided to clearly demarcate the intended use of each area, and that the areas are restricted, non-public spaces. The positioning of the dock control and security control rooms will allow staff to quickly access the dock and loading areas, providing good natural access control.

6.6 Lower Level 4 Review

6.6.1 Natural Surveillance

Gallery 8

Natural surveillance of Gallery 8 from neighbouring areas is poor, as they are located within a converted fuel bunker. The majority of the neighbouring rooms are also back of house areas, which are not frequented as much as public areas, and dividing walls are typically solid, not glass. Natural surveillance is also less than optimal due to the significant amount of existing column structures. Staff should be encouraged to use the door leading into Gallery 8 when entering or exiting staff areas to increase the natural surveillance of the space. Wide doorways between Gallery 8, as well as glazed barriers would allow for greater natural surveillance between these spaces.

Figure 9. Lower Level 4 Natural Surveillance

6.6.2 Natural Access Control

Access to Lower Level 5 is confined to a small number of designated entry points, which provides a significant level of natural access control. These designated entry/exit points and paths of travel should be further reinforced by way-finding signage, and the use of visual cues.

6.7 Territorial Reinforcement

Territorial reinforcement is about clearly defining private space from semi-public and public space in order to create a sense of ownership. The created ownership shows that the owner has a vested interest in the location, which increases the actual and perceived risk of detection of offenders.

Care is necessary to ensure that territorial reinforcement is not achieved by making public spaces into private spaces through the use of gates and enclosures.

Territorial reinforcement can be achieved through:

- Design with a clear distinction between public and private spaces by using physical barriers (e.g. fences) and symbolic barriers (e.g. vegetation);

- Design that encourages people to gather in a public space and to feel some responsibility for its use and condition;

- Environmental markers (e.g. signage, walkways, change in paving type/style, lighting, bollards and fencing) which define intended use and ownership;

- Regular maintenance of vegetation, infrastructure, and prompt removal of graffiti and vandalism to maintain the amenity of the AGNSW precinct;

- Installing anti-vandal film on glass and protecting other likely to be targeted surfaces; and

- Keeping the grounds neat and tidy, removing discarded rubbish and keeping vegetation maintained.

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6.8   External Site Review

The following comments are based on current preliminary urban landscape designs. Arup will revise this section again at an appropriate time when more developed designs are made available for the external areas and public realm.

6.8.1   Natural Surveillance

General

The opportunity for natural surveillance should be maximised as far as practical by using mixed use areas, locating key locations alongside high trafficable areas, and through area activation (café's, shops, event spaces etc.).

Natural surveillance can further be maximised by orientating and positioning key staffed locations (ticketing desk, concierge etc.) in areas with clear sightlines of main entries. In addition, natural surveillance can be enhanced through the use of glazing, lighting, complimentary vegetation, minimising built structures and clutter, and maximising wide open spaces and thoroughfares.

Vegetation

Thoroughfares and Footpaths

It is recommended that the vegetation along the thoroughfares, footpaths and walkways enhance the natural surveillance properties along and from the thoroughfare as far as practical. The proposed vegetation includes trees with high canopies, and ground shrubbery with low heights to provide substantial clear space at eye level for visitors.

It is particularly important that the vegetation on tight bends in the thoroughfare be of a low height to allow pedestrians to clearly see what is ahead of them around the bend. In addition, it is also important that the high canopies provided along thoroughfares do not restrict the sight lines from other areas and public spaces from within and external to the gallery.

Park Area

The design of the oval park area surrounded by the walking track allows for good natural surveillance of the site. Limited built structures and vegetation in this area allows pedestrians to see across to the other side of the park, providing natural surveillance. Lighting along this path and clear lines of sight not blocked by trees at the corners, will enable pedestrians to see a safe distance ahead at all times. This area is also visible from Gallery 1 and provides the main route for pedestrians passing through from Woolloomooloo, further increasing the use and natural surveillance of this area. The café further provides natural surveillance for the park area, encouraging mixed use of the space and increasing dwell time.

Lighting

Lighting can significantly help facilitate natural and electronic surveillance, and reinforce natural access control, as legitimate users of a space are attracted to well-lit areas and paths, whilst illegitimate users can be deterred from these areas.

The proposed lighting plan for Sydney Modern includes several improved lighting conditions throughout the precinct. Lighting has been improved along Art Gallery Road, particularly at pedestrian crossings which will aid in natural surveillance and way finding. Further, lighting along proposed walkways between buildings, and along the perimeter of the precinct appear suitable. These lighting arrangements may not be suitable for effective CCTV recording, but will provide adequate natural surveillance.

Some opportunities for potential improvement include the pathways near the Eastern Distributor M1 where light levels may not be adequate for natural surveillance and natural access control.

Entry Plaza

The entry plaza has very strong natural surveillance properties, both within the plaza itself, and of the plaza from neighbouring areas. The large open plan design with multiple seating and gathering areas helps facilitate this natural surveillance throughout the Plaza. Its location beside the main vehicle and pedestrian thoroughfares in Art Gallery Road and its footpaths maximises the opportunity for natural surveillance from passing traffic. The entry plaza is also visible from the outdoor park café, providing additional opportunity for natural surveillance.

The entry plaza also has good natural surveillance from the new entry pavilion. Surrounding locations further provide natural surveillance due to the use of glazing. Built structures along these areas should be minimised wherever possible, to maximise the natural surveillance of the plaza from these locations.

Suggested lighting along Art Gallery Road will further improve natural surveillance properties for the entrance plaza and its surrounds.

The location of the student lockers at the entry plaza do benefit from good natural surveillance, however CCTV should be used to further reduce opportunity for possessions to be stolen.

Adjacent Premises & Area Activation

Art Gallery Road is a highly trafficable area which enhances the opportunity for natural surveillance from passing vehicles or pedestrians. The neighbouring Domain, Pavilion, and the Royal Botanic Garden attract regular and diverse users to the area, which also enhances the opportunity for natural surveillance of the AGNSW from neighbouring properties and locations. Furthermore, green space around the gallery is used regularly by fitness groups and other public gatherings further activating the space.

The placement of an artist commission along walkways increases the spaces amenity, and encourages users to engage with the site.

6.8.2   Natural Access Control

General

The AGNSW has substantial natural access control within its precinct, and also connecting it to its neighbouring areas. This natural access control has been

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achieved by the unique infrastructure surrounding the precinct, steep changes/differences in gradient, clearly defined precinct entry locations, and well defined footpaths and roadways. Figure 10 provides an overview of the natural access control features of the site.
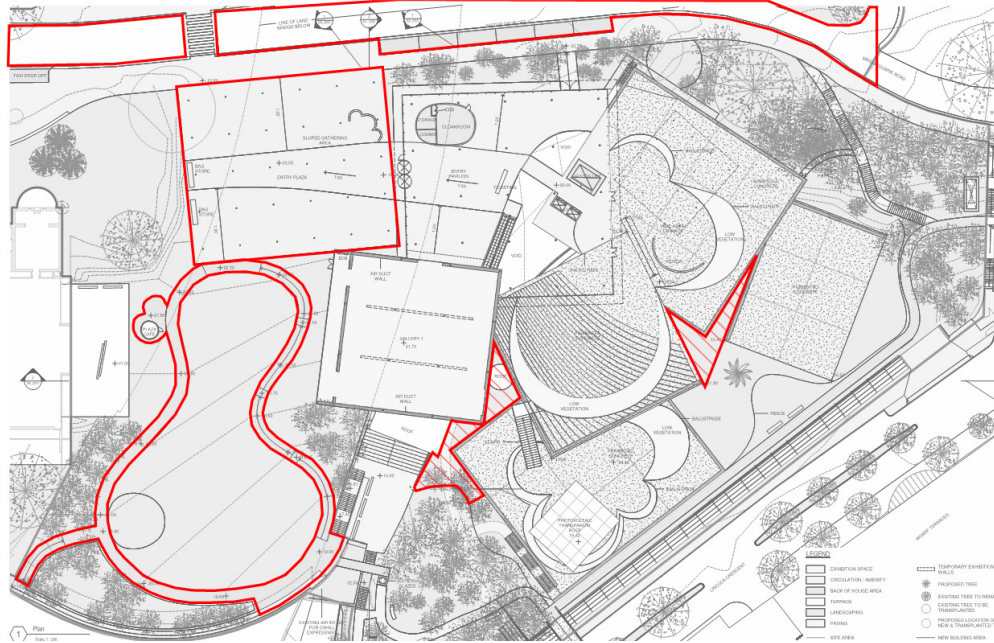

Figure 10. Natural Access Control Features

Entry Plaza

The entry plaza has been designed to provide a visual cue that it is the entry point to The Sydney Modern Extension, and the central hub of the Art Gallery as a whole. This specific design, and its central location within the AGNSW precinct, helps to naturally draw people to this location. All footpath networks within the Precinct, also link up and connect to this location, making it a key connection point to and from the Gallery.

Eastern Distributor/M1 and Land Bridge

The Eastern Distributor (ED) provides a formidable barrier that naturally controls pedestrian and vehicular access to and from the AGNSW. The ED largely limits access to the new Sydney Modern facilities to the land bridge and a couple of stairs linked to overpasses. The Land Bridge provides excellent natural access control to the Sydney Modern project area, as it, and the inherent differences in land heights limits access from the north-east and south-west.

Eastern Suburbs/South Coast Railway Line

The Eastern Suburbs/South Coast Railway Line that runs to the south of AGNSW also provides a barrier that naturally controls pedestrian and vehicular access to and from the AGNSW.

Bicycle Access

Cyclists are likely to travel to and from the AGNSW, and throughout the AGNSW precinct via Art Gallery Road or the numerous footpaths throughout the Domain. With new bicycle hire services such as O Bike and Ready Bike, this is likely to increase. Bike parking areas should be provided, adding a strong natural access control influence over cyclists. Bike parking should provide two locking points as required by standards, be visible from the entry plaza allowing for natural surveillance, and have CCTV for added surveillance and deterrence. The use of chain-linked bollards along Art Gallery Road and the shared access and maintenance roadway restricts bike access to the Gallery to nominated footpaths and Art Gallery Road itself.

Vehicle Access

General

Vehicle access to and from the AGNSW is confined predominately to Art Gallery Road. The new loading dock provided as part of the Sydney Modern project will be access via Lincoln Crescent only.

Art Gallery Road

As mentioned above, vehicle access to the AGNSW precinct is predominately confined to Art Gallery Road. A large pick-up/drop-off and taxi zone has been provided along Art Gallery Road, and there is also some street side parking along this area. The existing loading dock is also accessed via a shared access and maintenance roadway that runs down the side of the existing Gallery building and connects to Art Gallery Road. Chain linked bollards and mature trees lining the street ensure vehicles stick to these nominated roadways.

Lincoln Crescent

The new loading dock is accessed exclusively from Lincoln Crescent. Due to its location, delivery vans and trucks for the Sydney Modern Gallery will be segregated from the rest of the precinct and from pedestrians.

Hidden Corners

The design of Sydney Modern has resulted in the creation of a number of hidden areas around the exterior of the building which may attract anti-social behaviour (Hatched in Figure 10). Marking these areas as restricted access and utilising CCTV would assist in controlling the access and use of these areas.

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7   Recommendations

The Art Gallery NSW Expansion Project – Sydney Modern and surrounds as it stands, provides very good CPTED characteristics. The following are recommended to be implemented into the precinct designs in order to further enhance the CPTED and security aspects of the site:

Natural Surveillance

- Significant use of glazing to facilitate natural surveillance;

- Minimise built structures where possible to facilitate natural surveillance;

- Trees should be well maintained to maximise natural surveillance of walkways from above;

- Adequate lighting is provided throughout the project area, however some pathways, particularly near the Eastern Distributor M1 may require more lighting to assist natural surveillance, to help deter offenders, and assist natural access control;

- Lighting may need to be improved to increase the efficacy of electronic surveillance;

- Staff should be positioned/located in areas with good natural surveillance of building entry/exit points, stairs, escalators and lifts, wherever possible;

- Staff should be redirected through gallery spaces when circulating in and out of back of house areas;

- Bike parking should be provided for the public providing greater access control of bikes, with natural surveillance facilitated due to proximity to the entrance plaza and the use of CCTV;

- The wall between the general loading dock and art loading dock should be of low height, and/or windows should be included in the security control room to allow security staff to monitor both these areas; and

- Outdoor seating should be placed adjacent to the outdoor café to increase natural surveillance of the park area.

Natural Access Control

- Use of lighting, visual cues, footpaths, way-finding signage and vegetation to nominate desired movement routes, and make key locations and entry/exit points easily identifiable;

- Consider vehicular security measures along Art Gallery Road, including bollards, landscaping, and other opportunities to redirect, deter, or mitigate vehicle security risks;

- Use of physical barriers such as roller doors in loading docks and other back of house areas are recommended.

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Territorial Reinforcement

- Vegetation immediately around the AGNSW to be regularly maintained to assist natural and electronic surveillance, ensure proposed canopy and ground vegetation heights remain reasonably static, and to reduce areas of concealment/or concealment of suspicious packages;

- Regular maintenance of AGNSW infrastructure, and prompt removal of graffiti and vandalism, in order to maintain and enhance the territorial aspects of the facility;

- Use of vandal resistant surfaces either through design or treatment to allow for greater resistance to vandalism without impacting on the natural appearance of materials;

- Area activation should be used where possible to draw a diverse and mixed use of people, functions and activities to the area, and to help create a sense of ownership of the space;

- Removal of waste from the perimeter;

- Environmental markers (e.g. signage, walkways, change in paving type/style, lighting, bollards and fencing) which define intended use and ownership.

Appendix A - Security Risk Assessment

Art Gallery New South Wales

Sydney Modern

Security Risk and Threat Assessment

248085-01-SE-SRA-01

Rev 3 | 6 October 2017

Job number   248085-00

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Document Verification

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				248085-00	
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		Name	Codee Ludbey	Shane Norton	Shane Norton
		Signature			
Rev 1	23 Jun 2016	**Filename**	SRA Report R1.docx		
		Description	Incorporate Client Feedback		
			Prepared by	Checked by	Approved by
		Name	Codee Ludbey	Shane Norton	Shane Norton
		Signature			
Rev 2	15 Sep 2017	**Filename**			
		Description	Updated for SSDA Included discussion on Hostile Vehicles Updated Crime Statistics and Social Demographic Data		
			Prepared by	Checked by	Approved by
		Name	Jessica Enever	Codee Ludbey	Shane Norton
		Signature			
Rev 3	6 Oct 2017	**Filename**			
		Description	Issued for SSDA		
			Prepared by	Checked by	Approved by
		Name	Jessica Enever	Codee Ludbey	Shane Norton
		Signature			
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1 Executive Summary

Security Risk and Threat Assessment
This report identifies security risks relevant to the Art Gallery of NSW, located at Art Gallery Rd, Sydney, provides an analysis and evaluation of those risks, and provides a number of recommended treatment measures in order to reduce the risks as low as reasonably practicable.

Method of Analysis
The security risk assessment methodology used in this report has been based on the International Standard ISO 31000:2009 – Risk Management – Principles and Guidelines, and HB 167:2006 Security Risk Management.

Findings
This report has found that the security risk profile of Art Gallery NSW is generally tolerable. The security risk and threat assessment process has examined the Art Gallery NSW site and identified 32 security related risks.

Of these 32 identified security risks, 0 were assessed as Extreme risks (Unacceptable), 15 were assessed as High risks (May be Tolerable), 10 were assessed as Medium risks (Tolerable), and 6 were assessed as Low risks (Broadly Acceptable).

Of the 16 High risks (which may be tolerable), 14 are rated as having catastrophic consequences, and 1 as major ranging from rare to possible events; including terrorist based security risks. Of most concern are collection item based risks such as theft and damage.

This report has also found that the crime trend for the City of Sydney Local Government Area, within which Art Gallery NSW is located, is declining with 8 of the 10 most prevalent crimes applicable to the Art Gallery of NSW either stable or decreasing over the past 5 years. Based on these declining trends, the likelihood of these offences occurring in the future should either remain the same as currently assessed, or reduce.

Based on the outcome of the security risk and threat assessment, all identified security risks can be tolerated if it is not reasonably practicable to reduce the risk further. However, if there are options for further risk reduction and the cost is proportionate to the benefits to be gained, then implementation of these measures should be considered.

Recommendations

A broad range of security treatment measures have been recommended in Security Technology Review, Security Management Brief, Crime Prevention through Environmental Design Report, and Protective Security report to help mitigate and treat the identified security risks that Art Gallery NSW is exposed to. The recommended security treatment measures are based on Australian Security Standards, current security theories and reasonable security risk management practices. Recommended security treatment measures discussed include the upgrade of closed circuit television (CCTV), electronic access control, duress alarm systems, security lighting, high security locks and keys, and hostile vehicle mitigation.

Security Report Document List

This document forms part of a developing family of security reports that Arup are producing as part of our professional services to the Sydney Modern project. The Security Risk and Threat Assessment is the overarching security document supported by more detailed advice in the Security Technology Review, Security Management Brief, Crime Prevention through Environmental Design Report, and Protective Security report.

The Security Risk and Threat Assessment provides a broad identification of the threat and risk profile facing AGNSW, and outlines possible treatments. This advice is then detailed in the underlying reports.

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                    │  Threat Assessment  │
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│Protective│  │Crime Prevention│ │Security │  │Security Technology│
│Security  │  │through         │ │Management│ │Review            │
│Report    │  │Environmental   │ │Brief    │  │                  │
│          │  │Design Report   │ │         │  │                  │
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Report Limitations

This security risk and threat assessment has been based on the publically available Bureau of Crime Statistics and Research (BOCSAR) and Australian Bureau of Statistics Census data. As risks can change rapidly it is recommended that the risk profile of Art Gallery NSW is reviewed regularly and action is taken appropriately to mitigate any new or evolving risks.

Any opinion on Terrorist type risks is based on Arup's limited ability to gather accurate and timely intelligence on the motivation, capabilities and resources of these threat sources. This is in particular, only through open source (publically available) gathering techniques.

Conclusions

This report has been based on international standard practices. This report has found all of the 30 identified security risks may be tolerable or broadly acceptable. Based on the outcome of the security risk and threat assessment, the majority of identified security risks can be tolerated if it is not reasonably practicable to reduce the risk further, however reasonable treatment measures to further reduce risk have been recommended in the Security Technology Review, Security Management Brief, Crime Prevention through Environmental Design Report, and Protective Security report.