

# ETHOS URBAN

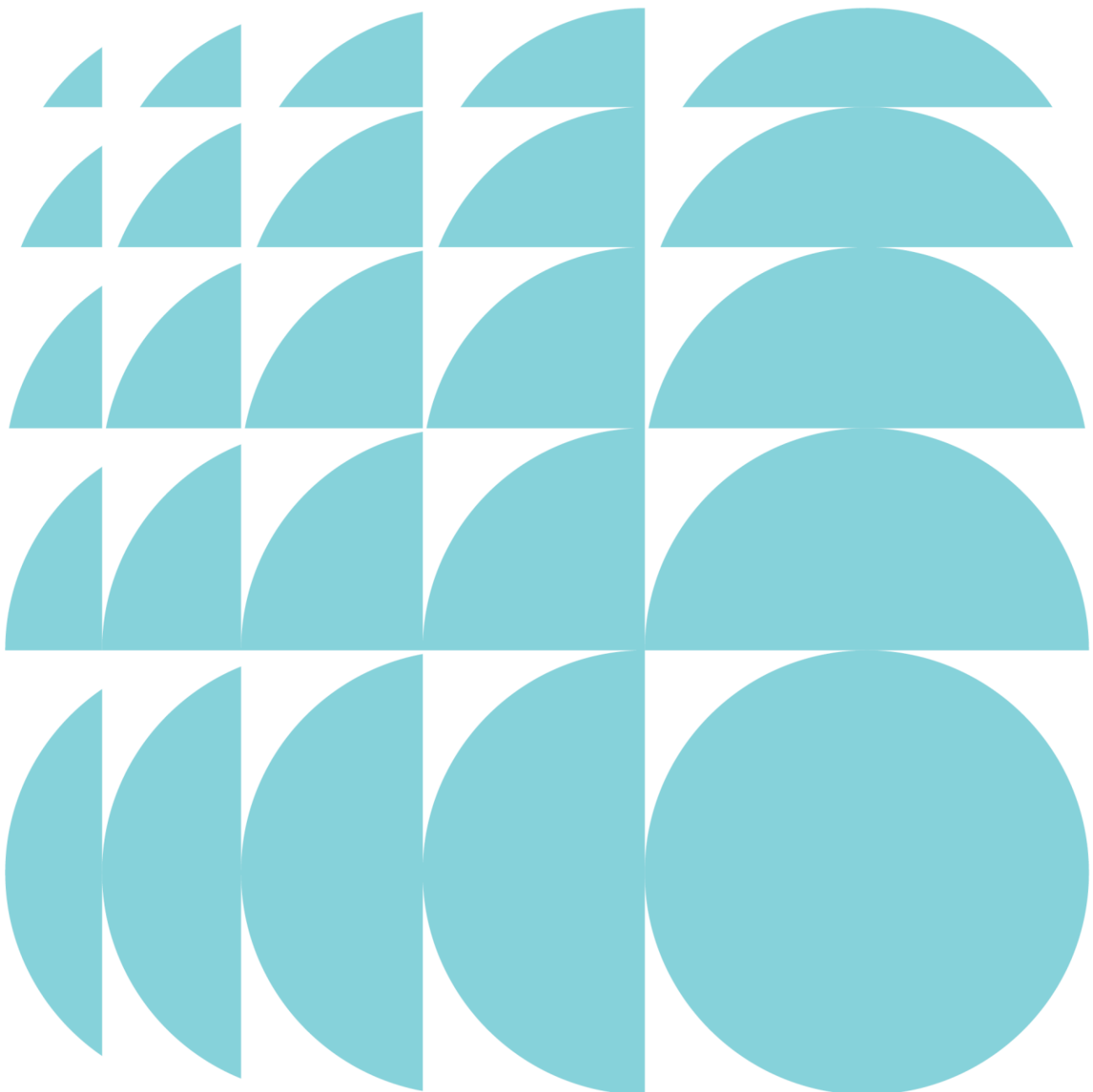
## Crime Prevention Through Environmental Design (CPTED) Assessment

Powerhouse Ultimo Renewal  
Concept Proposal SSDA

Submitted to the Department of Planning and  
Environment

On behalf of the Department of Enterprise,  
Investment and Trade (Create NSW)

2 September 2022 | 2210545



Ethos Urban acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We acknowledge the Gadigal people, of the Eora Nation, the Traditional Custodians of the land where this document was prepared, and all peoples and nations from lands affected.

We pay our respects to their Elders past, present and emerging.

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# Contents

<b>1.0</b>	<b>Introduction</b>	<b>3</b>
1.1	Disclaimer	4
1.2	Project Background	4
1.3	Project Overview	5
<b>2.0</b>	<b>The Site</b>	<b>6</b>
2.1	Site location and overview	6
2.2	Existing development	7
2.3	Transport and Accessibility	8
2.4	Walking and Cycling Network	9
2.5	Surrounding Development	10
2.6	Crime Risk Rating	11
<b>3.0</b>	<b>The Proposed Development</b>	<b>13</b>
3.1	Design Principles	13
3.2	Maximum Building Envelope	14
<b>4.0</b>	<b>Nature of Recorded Crime</b>	<b>16</b>
4.1	Sydney Development Control Plan 2012	19
4.2	Crime Prevention Strategy	20
<b>4.0</b>	<b>Matters for Consideration</b>	<b>21</b>
4.3	Surveillance	21
4.4	Lighting and Technical Supervision	21
4.5	Territorial Reinforcement	22
4.6	Environmental Maintenance	22
4.7	Activity and Space Management	23
4.8	Access Control	23
4.9	Design, Definition and Designation	23
<b>5.0</b>	<b>Crime Risk Rating and Recommendation</b>	<b>25</b>
5.1	Recommendations	25
<b>Figures</b>		
Figure 1	Image: Artists impression Powerhouse Ultimo	5
Figure 2	Site plan and key features	6
Figure 3	Current site layout	7
Figure 4	Wran Building and Powerhouse building viewed from Harris Street	7
Figure 5	Existing vegetation concentrated centrally within the forecourt	8
Figure 6	Access to the lower level pedestrian entrance into the Switch House from Macarthur Street	9
Figure 7	Harris Street to the north	10
Figure 8	Ian Thorpe Aquatic Centre	10
Figure 9	Urbanest and Darling Square behind the Powerhouse building	10
Figure 10	Hay Street, Darling Park to the east of the site	10
Figure 11	Western side of Harris Street	11
Figure 12	Residential street to the west of the site	11

# Contents

Figure 13	Three key zones of the proposed building envelopes	15
Figure 14	Hotspot - Assault – non-domestic related	17
Figure 15	Hotspot - Assault – domestic related	17
Figure 16	Hotspot - Break and enter – dwelling	17
Figure 17	Hotspot - Break and enter – non-dwelling	17
Figure 18	Hotspot - Malicious damage to property	18
Figure 19	Hotspot - Motor vehicle theft	18
Figure 20	Hotspot - Steal from dwelling	18
Figure 21	Hotspot - Steal from motor vehicle	18
Figure 22	Hotspot - Robbery	19
Figure 23	Hotspot - Steal from person	19

## 1.0 Introduction

This Crime Prevention Through Environmental Design (CPTED) Assessment has been undertaken to assess the potential opportunities for crime and the perceived fear of crime that may be associated with the Concept Proposal Development Application (DA) for the renewal of Powerhouse Ultimo, as envisaged in the Environmental Impact Statement (EIS) 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 identify the potential opportunities of crime created by the proposed development by assessing the development in accordance with design and place management principles of CPTED.

Ethos Urban has prepared this assessment in accordance with the methods and resources of the NSW Police Force Safer by Design Course. This assessment has been prepared and reviewed by experienced CPTED professionals, following their completion 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 a 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 Crime Risk Rating considers the development for the purposes of the proposed building envelopes associated with the Stage 1 Concept DA demonstrated by John Wardle Architects.

The following tasks were undertaken in the preparation of this assessment:

- review of the Safer By Design Manual by the NSW Police Force;
- collection and analysis of local and NSW State crime statistics from the Bureau of Crime Statistics and Research (BOCSAR); and
- a crime risk assessment, in accordance with the current NSW policy and practice, of the following regulation and assessment principles:
  1. Surveillance;
  2. Lighting / Technical Supervision;
  3. Territorial Reinforcement;
  4. Environmental Maintenance;
  5. Activity and Space Management;
  6. Access Control; and
  7. Design, Definition and Designation.

A site inspection was undertaken on the 14 April 2022 between the hours 8am and 9am to assess the current site conditions, situational crime prevention measures and perceived safety of the existing environment. We understand no change has occurred to the site since that time that would change the recommendations of this report.

## 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 document 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 a CCTV network and other security measures such as bollard/barriers during the detailed design development phase of the project.

## 1.2 Project Background

Powerhouse Ultimo is Australia's contemporary museum for excellence and innovation in applied arts and sciences. It is an important and recognisable cultural landmark and destination located within close proximity of Sydney's city centre.

The Powerhouse Ultimo Renewal is a transformative \$480-\$500 million investment by the NSW Government to establish a world-class museum that will significantly contribute to an important and developing part of Sydney. The renewal will see Powerhouse Ultimo deliver a programming focus on design and fashion, presenting exhibitions that showcase the Powerhouse Collection, international exclusive exhibitions and programs that support the design and fashion industries.

The Powerhouse Ultimo Renewal investment will catalyse a wider Ultimo creative industries precinct that unites existing creative industries workspaces and institutions, including the Tech Central, University of Technology and the ABC. This investment directly supports and aligns with the broader strategic opportunity to transform the Pyrmont Peninsula as identified in the Pyrmont Peninsula Place Strategy and supports a coordinated series of investments in cultural infrastructure throughout NSW as envisaged in the Cultural Infrastructure Plan 2025+. The objectives for this development are to:

- Deliver an international standard museum that is complimentary to Powerhouse Parramatta, Powerhouse Castle Hill and Sydney Observatory.
- Provide new and refurbished international standard spaces for museum operations, exhibitions, programs and associated industry and creative uses that will activate and engage audiences.
- Facilitate a national design excellence process that encourages a wide range of creative and innovative architectural responses to the site and functional brief.
- Integrate a vibrant creative industries precinct, that connects with its surrounds, responds to the changed and changing urban environment and provides concurrent original and distinctive contemporary cultural experiences.
- Enable and support the development of the NSW creative industries and improve productivity through sustainable, flexible and affordable infrastructure that supports colocation and collaboration.
- Deliver a highly operational precinct that contributes to the NSW visitor and night time economies.
- Ensure effective and efficient coordination with other government initiatives and represent value for money.

- Provide a connected and integrated interface with surrounding precinct developments, including the Ultimo Goods Line, Harwood Building, Darling Square, UTS and Tech Central.



**Figure 1** Image: Artists impression Powerhouse Ultimo

*Created by Mogamma*

### 1.3 Project Overview

This Concept DA sets the vision for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Specifically, consent is sought for the following in this Concept SSDA:

- A maximum building envelope for any new buildings and alterations or additions to existing buildings retained on the site.
- Use of the new spaces and built form as an 'information and education facility' including exhibition, education, and back of house spaces, and a range of related and ancillary uses to contribute to the operation of Powerhouse Ultimo.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).
- An updated Conservation Management Plan to ensure that future development occurs in a manner that is compatible with, and facilitates the conservation of, the heritage values of the site.
- General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

It is emphasised that no physical works are proposed as part of this Concept SSDA, which will be detailed in a separate and future Stage 2 DA and informed by a competitive design process.



## 2.0 The Site

### 2.1 Site location and overview

Powerhouse Ultimo is situated upon the lands of the Gadigal people of the Eora Nation. It is located within the City of Sydney Local Government Area and its primary address is 500 Harris Street, Ultimo.

The site is located at the interface between the suburbs of Ultimo, Pyrmont, Haymarket and Darling Harbour at the northern terminus of the Ultimo Goods Line from Central Station and close to the southern end of Tumbalong Boulevard. Macarthur Street serves as a pedestrian-friendly east-west connection between Ultimo and the southern CBD. The Paddy's Markets and Exhibition Centre Light Rail Stations are both located in close proximity to the site, and bus stops at Harris Street provide access to Central as well as centres including Ryde and Parramatta via Victoria Road.

The site's locational context is shown at **Figure 2**.



**Figure 2 Site plan and key features**

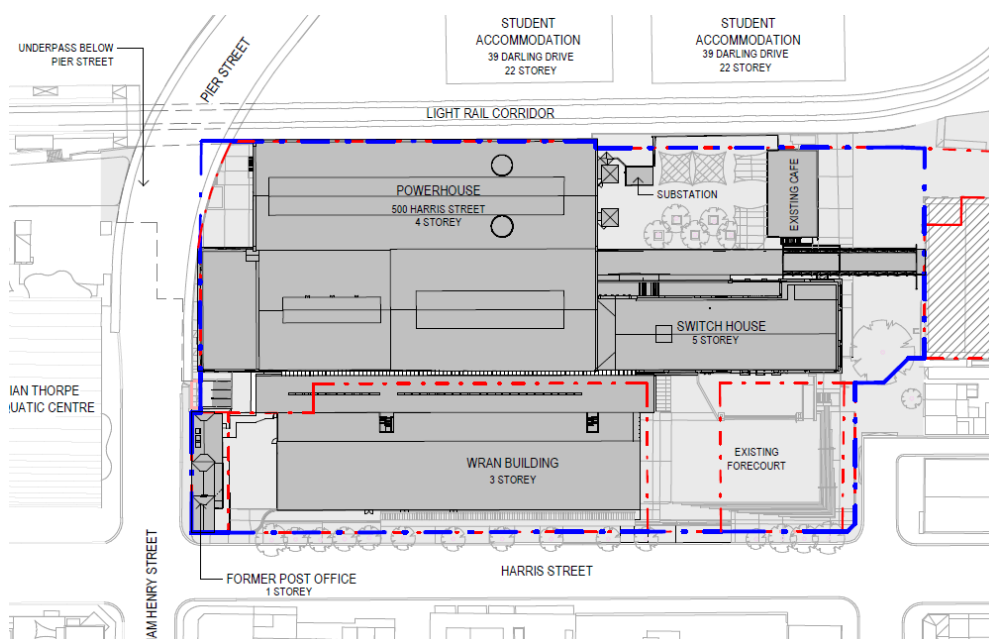
Source: Ethos Urban



## 2.2 Existing development

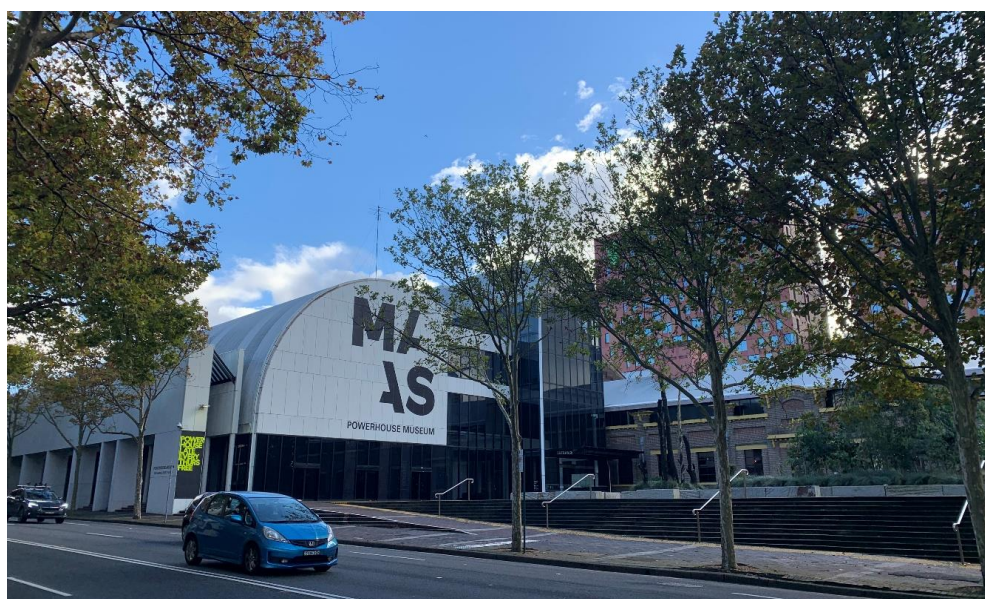
The site contains two heritage-listed buildings, being the 'Ultimo Power House' (c.1899-1905) and the 'Former Ultimo Post Office including interior' (c.1901), both of which are listed on the State Heritage Register under the *Heritage Act 1997*. Other buildings within the site include the former tram shed (Harwood Building) and the 1988 museum building fronting Harris Street (Wran Building), the Switch House, Turbine Hall, Boiler House, Northern Annexe. A café building has been constructed immediately to the south of the Power House at the northern end of the Ultimo Goods Line. Located at the corner of Harris Street and Macarthur Street is a forecourt that acts as the main public entrance to the site, but provides limited activation and is disconnected from higher-quality urban spaces including the Ultimo Goods Line.

A plan of the existing site layout is provided at **Figure 3**.



**Figure 3** Current site layout

Source: John Wardle Architects



**Figure 4** Wran Building and Powerhouse building viewed from Harris Street

Source: Ethos Urban

## 2.2.1 Vegetation

As the site is located in a highly urbanised location, there is not a significant amount of existing vegetation located on the site. The site accommodates some vegetation including a variety of trees of varying sizes located within the boundary perimeter, mostly within the eastern Harris Street Road Reserve, at the southern Macarthur Street road reserve and within the northern Mary Ann Street road reserve. The remainder of the trees are located within a courtyard area to the south of the Powerhouse building and a courtyard to the south of the Wran Building.



**Figure 5** Existing vegetation concentrated centrally within the forecourt

Source: Ethos Urban

## 2.3 Transport and Accessibility

### 2.3.1 Vehicular Access

Vehicular access to the site varies depending on the user. Limited staff parking is provided to the east of the Harwood Building and is accessed via Pyrmont Street (underneath Pier Street overpass), Mary Ann Street and Macarthur Street which is also used by contractors as needed. No public parking is provided on the site, and no amendments are proposed to any of the existing on-site parking.

Loading and servicing is provided via Macarthur Street, with the main loading dock located within the Harwood Building. For large museum deliveries, trucks manoeuvre within the main forecourt area at the eastern end of Macarthur Street and reverse into the loading zone of the eastern building.



## 2.4 Walking and Cycling Network

The site is well serviced by a number of key walking and cycling routes, providing connections to key destinations, such as Darling Harbour, Darling Square, Central Sydney and Central Station. The Goods Line facilitates a continuous connection between the site and Central Station and Railway Square, while a shared path on Darling Drive provides connectivity to Darling Harbour and into Pyrmont. Public bicycle parking is available on streets surrounding the site. As no vehicular access is permitted on site, the site is accessible by pedestrian access both from the Harris Street forecourt into the Wran Building and Powerhouse Building, as well as into the café at the ground floor of the Switch House. The lower ground level of the Switch House is accessible for pedestrians via a gated underpass accessed from Macarthur Street, refer to **Figure 6**.



**Figure 6** Access to the lower level pedestrian entrance into the Switch House from Macarthur Street

Source: Ethos Urban

### 2.4.1 Public Transport

The site is well connected by a range of public transport services, including:

- Light rail, with stops on both the Inner West, CBD and South East Light Rail line within 800m of the site.
- Heavy rail, with Central Station and Town Hall approximately 10 minutes walk from the site.
- Bus, with bus stops located on Harris Street immediately adjacent to the site. Railway Square bus terminus is also within walking distance via The Goods Line.

## 2.5 Surrounding Development

The urban context of the site is characterised by a wide array of land uses, development typologies and architectural styles. There is no consistent street wall height along Harris Street or intersecting local streets, with 2-storey historic terraces sitting in close proximity to more modern 6-8 storey commercial and mixed use buildings. The recent urban renewal of Darling Square provides a rapid transformation in density and building heights immediately to the east of the site, with a range of 20+ storey buildings with a modern setting.

The context surrounding the site is discussed in more detail below.

### North

The site is bordered by William Henry Street / Pier Street to the north, which is a four lane freeway connecting Harris Street and Ultimo to southern Central Sydney and Haymarket. The publicly accessible Ian Thorpe Aquatic Centre is located on the northern side of Pier Street. Beyond this is Tumbalong Park and Darling Harbour, which represents the western edge of Central Sydney.



**Figure 7 Harris Street to the north**

Source: Ethos Urban

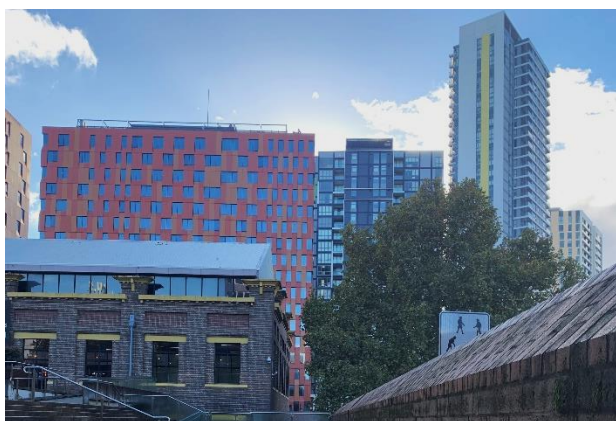


**Figure 8 Ian Thorpe Aquatic Centre**

Source: Ethos Urban

### East

Directly to the east of the site is Urbanest student accommodation, which is an approximately 18 storey building. Further east is Darling Square, which contains high density student and residential accommodation. Beyond this precinct is Haymarket and Chinatown, which is characterised by commercial and retail development.



**Figure 9 Urbanest and Darling Square behind the Powerhouse building**

Source: Ethos Urban



**Figure 10 Hay Street, Darling Park to the east of the site**

Source: Ethos Urban



## South

The Goods Line is located directly to the south of the site, connecting the Powerhouse Museum, northern Ultimo and Pyrmont with Central Station and the University of Technology Sydney (UTS). The Goods Line is a pedestrianised park and walking track along an old train track and is not accessible by vehicle. Several UTS education buildings are located along The Goods Line, including the Dr Chau Chak Wing Building designed by Frank Gehry. Harris Street is parallel to The Goods Line and runs to the south-east of the site, connecting Pyrmont to Central Station. Further south of the site is Central Station, the Central Park precinct and Chippendale.

## West

Directly to the west of the site is the suburb of Ultimo, which is characterised by a mix of medium density residential, educational uses and commercial uses. Beyond this is Wentworth Park, the suburbs of Glebe and Broadway. This area is characterised by a mix of residential, education and commercial uses, and contains Broadway Shopping Centre and University of Sydney.



**Figure 11 Western side of Harris Street**

Source: Ethos Urban



**Figure 12 Residential street to the west of the site**

Source: Ethos Urban

## 2.6 Crime Risk Rating

Overall, the Crime Risk of the site is considered to be 'moderate'.

The key positive elements of the site are:

- The site is surrounded by a diverse range of land-uses in the form of multi-storey buildings and tower developments with activated education, retail and commercial uses. The nature of these surrounding developments provides uses that attract high levels of pedestrian traffic which provide overlooking opportunities across the site and thus provide a high level of 'natural' community policing and effective guardianship.
- The surrounding built form is characterised by a number of high quality developments, including recently completed buildings and public domains (located to the east) that contribute to the perception that the area is well cared for and subject to considerable investment.
- CCTV presence is noted on site and points towards key areas of the surrounding public domain and building entrances.
- Some surrounding buildings (including the Harwood Building) provide secure access arrangements with guardians such as security guards evidently present on site that provide a visible perception that there are formal policing guardians on site that oversee pedestrian and vehicular flow across the site; and
- The surrounding streetscape provides dedicated footpaths that have high levels of pedestrian usage consistent with its outer fringe CBD location. The site is situated at a popular thoroughfare that provides access from Haymarket and the Goods Line to UTS and other commercial uses to the west and is frequented often by tourists, locals, commuters and the like.
- No evidence of vandalism (including graffiti or damage to property), litter or loitering on site.



Other elements of the site are:

- The site is located on the fringe of the Sydney CBD within a highly urbanised environment which typically experience higher rates of crime (however not necessarily higher rates of victimisation).
- The existing access arrangement into the lower level of the Switch House from Macarthur Street is recessed from the public domain and portrays a space that is ambiguous in use, is unviewable from distant public domain areas. The existing built form in this location raises concern to its susceptibility to support areas of concealment where it may invite unwanted behaviour.

### 3.0 The Proposed Development

This Concept DA sets the vision for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Concept approval is sought for the following:

- A maximum building envelope for any new buildings and alterations and additions to existing buildings retained on the site.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).
- An updated Draft Conservation Management Plan to ensure that future development occurs in a manner that is compatible with, and facilitates the conservation of, the heritage values of the site.
- General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

It is emphasised that no physical works are proposed as part of this Concept SSDA, which will be detailed in a separate and future Stage 2 DA and informed by a competitive design process.

The EIS in which this report is appended to provides greater detail on the project and how the proposed development has responded to the site and the unique opportunities and requirements associated with the Powerhouse Ultimo Renewal project. However, for the purpose of assessing the relevant components of the Concept Proposal in the context of CPTED principles, the following sections have been included for reference.

#### 3.1 Design Principles

The proposed development seeks to provide a world-class contemporary museum delivering programming that is focused on design and fashion and presents exhibitions that showcase the Powerhouse Collection as well as international exhibitions and programs.

Through a detailed analysis of the site and its opportunities and constraints, the design team have identified a number of principles:

- **Reveal and celebrate heritage fabric and spaces:** configure the masterplan in a manner which better presents important heritage fabric and spaces to the wider public domain network allowing improved access to, and appreciation for, these buildings and spaces than is currently the case.
- **Adaptive reuse for contemporary museum practice:** the museum needs to reflect the changing needs of the community it services it must be **contemporary in its outlook and the way it presents its stories and its collections**. The continued adaptive re-use of the heritage fabric of the museum needs to reflect these contemporary methods. It should be flexible and agile.
- **Continue the cultural spine:** the continuation of the Goods Line increases connectivity to expansive public domain space, increase the visibility of the Harwood building and provides an opportunity to reorientate the museum's public address.
- **Create a connected and engaging public domain:** introduce a network of lanes, streets and public spaces within the site to seamlessly connect with the wider public domain network.
- **Arrange new built form to be responsive to the site and its context:** introduce new floor space and built form to some areas of the precinct whilst also improving the relationships between heritage fabric, the public domain network and surrounding streetscapes.
- **Unlock the site:** remove fences and obstructive structures to open the site and connect to the adjacent public domain.

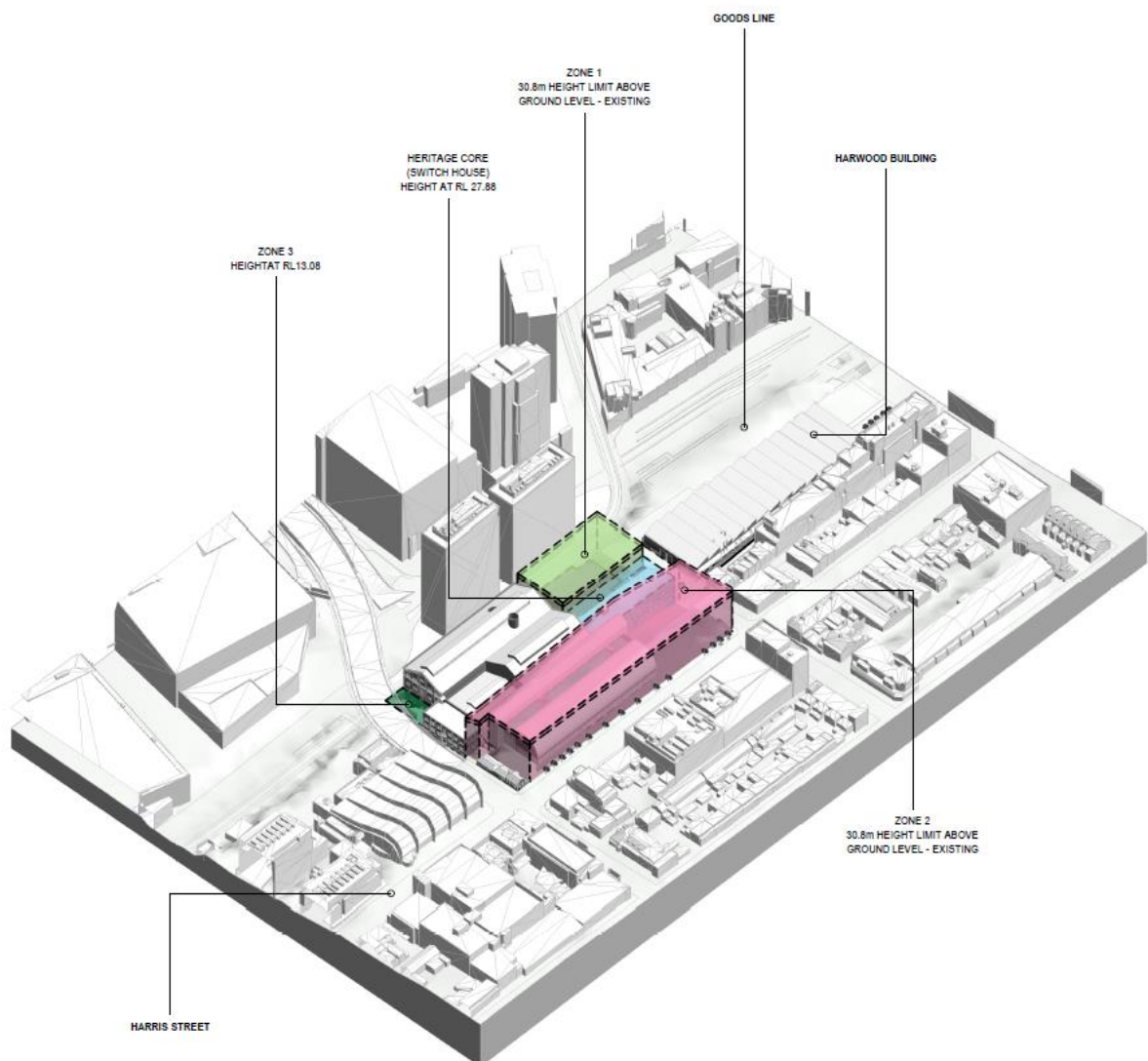
- **Connect:** strengthen connections to the surrounding precinct and public transport, including opportunities to integrate accessible connections into the project.
- **Unique character:** celebrate the unique architecture, character, and role of each space. Enable museum programming as well as the open spaces in the wider context.
- **Public space:** maintain or increase the quality and quantity of public domain on the site.

### 3.2 Maximum Building Envelope

This application seeks consent for a maximum building envelope which is defined via horizontal and vertical planes. The building envelope sets the maximum extent within which any future building, including any alterations and additions to existing retained buildings, will be contained within.

The building envelope has been designed as a maximum space that responds to the relevant planning controls and provides appropriate flexibility to allow architectural and landscape design responses to consider a range of options to be explored through the competitive design excellence and detailed design processes. No specific design details are proposed by this Concept Proposal SSDA as they remain high level to allow for a future detailed Stage 2 DA, following a competitive design process.

Within the proposed maximum building envelope are a series of indicative 'zones'. These zones provide principles and guidelines for how development in that section of the site might respond to its context, recognising that there are varied existing site conditions and adjacencies created by the different buildings and spatial elements across the Powerhouse Ultimo site. These zones make up the proposed maximum building envelope as shown in **Figure 13** below.



**Figure 13** Three key zones of the proposed building envelopes

## 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. over the 12 months to December 2021<sup>1</sup> found that the most commonly occurring crimes relevant to within the suburb of Ultimo were:

- Non-domestic assault;
- Domestic assault;
- Theft (Break and enter dwelling and break and enter non-dwelling)
- Steal from person;
- Steal from retail store;
- Steal from motor vehicle;
- Malicious damage to property;
- Motor vehicle theft

The frequency of the above crimes in the suburb of Ultimo, between December 2018 and December 2021 are detailed below.

**Table 1 Statistics of crime in the suburb of Ultimo between December 2018 and December 2021**

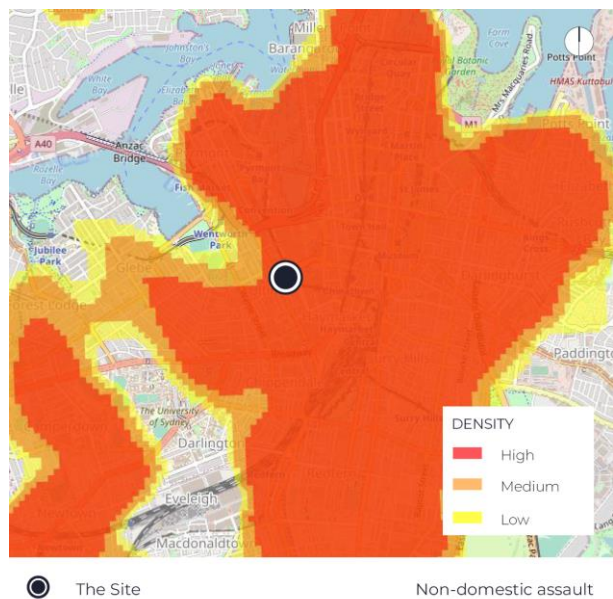
Crime	Incidents year from Dec 2018	Rate per 100,000 persons	Incidents year from Dec 2019	Rate per 100,000 persons	Incidents year from Dec 2020	Rate per 100,000 persons	Incidents year to Dec 2021	Rate per 100,000 persons	2018-2021 Trend	Rate per 100,000 Category
Assault – domestic violence related	28	279.4	40	398.3	38	379.9	31	309.9	Stable	Low
Assault – non-domestic violence related	64	638.5	56	557.6	44	439.9	47	469.9	Stable	Low
Break and enter – dwelling	22	219.5	16	159.3	23	230.0	17	170.0	Stable	Low
Break and enter – non-dwelling	20	199.5	17	169.3	8	80.0	8	80.0	Stable	Very Low
Steal from motor vehicle	32	319.3	27	268.8	28	279.9	13	130.0	Decline (7.9% p.a)	Very Low
Steal from retail store	24	239.4	22	219.1	17	170.0	28	279.9	Stable	Low
Steal from dwelling	38	379.1	34	338.5	34	339.9	29	289.9	Stable	Low
Steal from person	33	329.2	18	179.2	7	70.0	7	70.0	Decline (39.7% p.a)	Low
Motor vehicle theft	17	169.6	15	149.4	16	160.0	9	90.0	Decline (13.1% p.a)	Very Low
Malicious damage to property	74	738.3	65	647.2	54	539.9	37	369.9	Decline (20.6% p.a)	Low

Source: Bureau of Crime Statistics and Research NSW, 2022

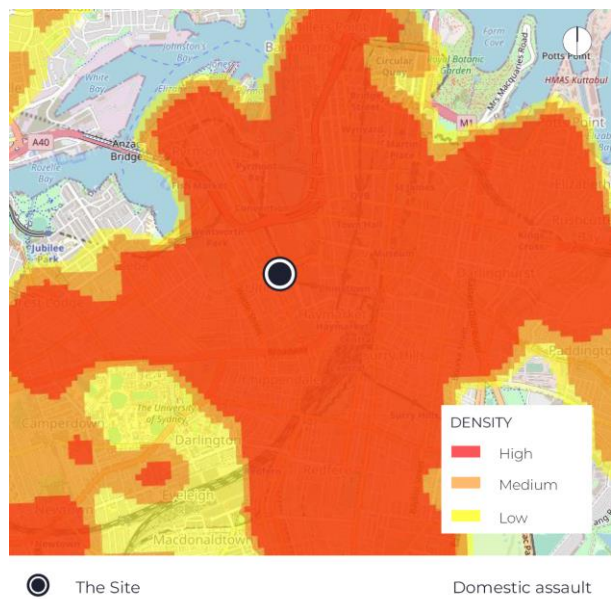
As illustrated in **Figures 14 to 23**, the BOSCAR database indicates that the site is located within or on the periphery of a hotspot for the above crimes.

<sup>1</sup> The most recent crime data available in relation all crimes affecting the suburb of Ultimo from December 2020 to December 2021.

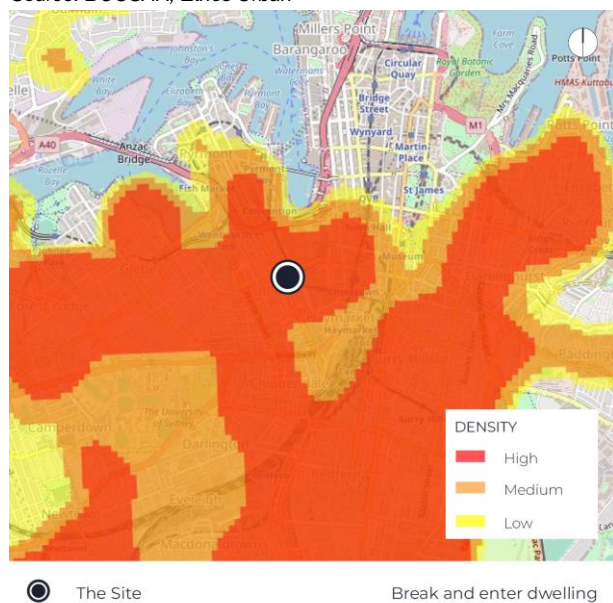




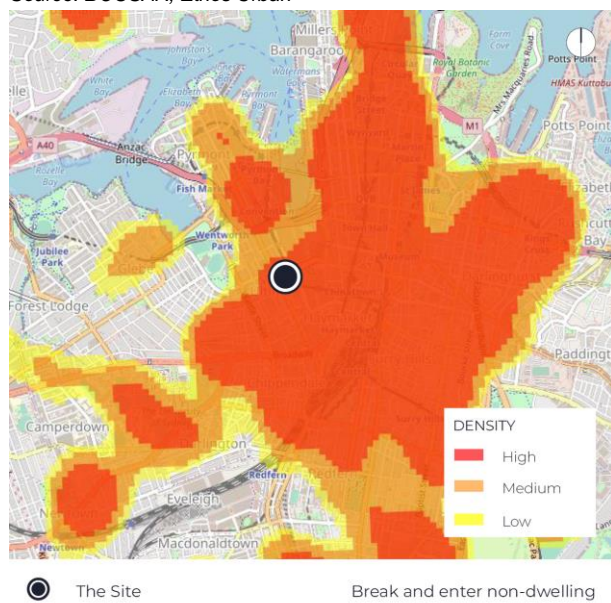
**Figure 14 Hotspot - Assault – non-domestic related**  
Source: BOCSAR, Ethos Urban



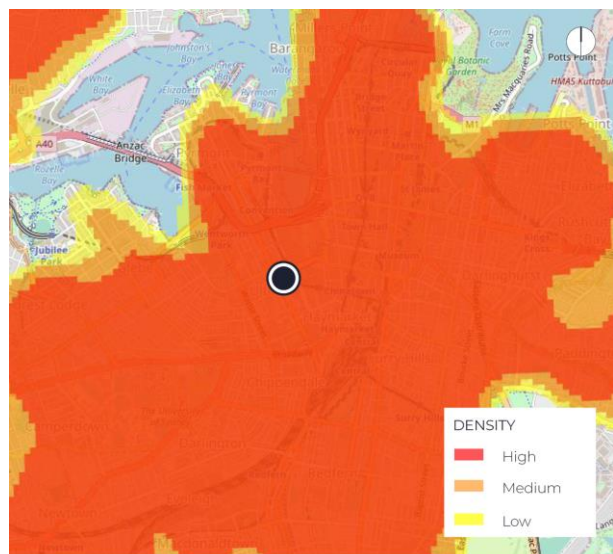
**Figure 15 Hotspot - Assault – domestic related**  
Source: BOCSAR, Ethos Urban



**Figure 16 Hotspot - Break and enter – dwelling**  
Source: BOCSAR, Ethos Urban



**Figure 17 Hotspot - Break and enter – non-dwelling**  
Source: BOCSAR, Ethos Urban

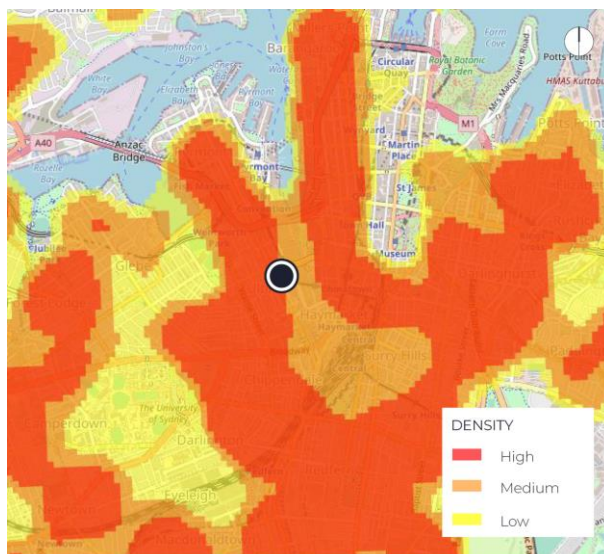


● The Site

Malicious damage to property

**Figure 18 Hotspot - Malicious damage to property**

Source: BOCSAR, Ethos Urban

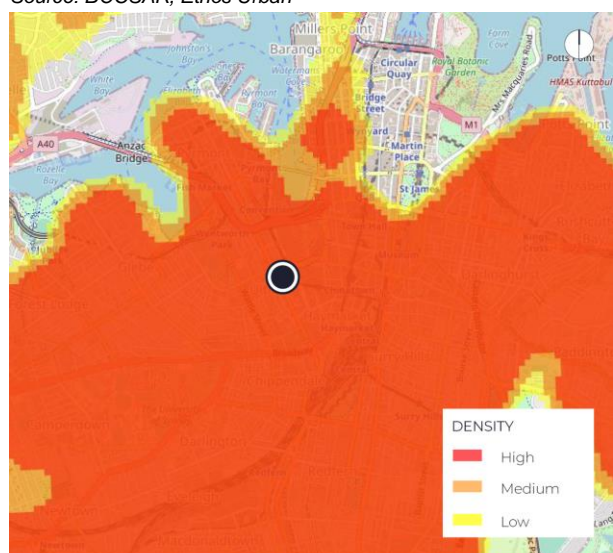


● The Site

Motor vehicle theft

**Figure 19 Hotspot - Motor vehicle theft**

Source: BOCSAR, Ethos Urban

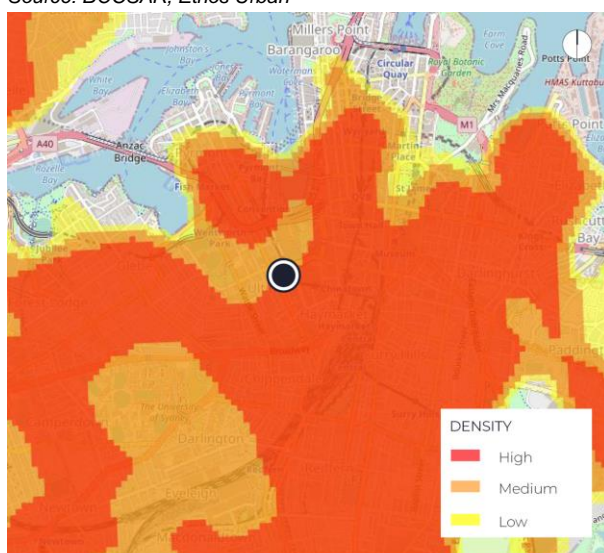


● The Site

Steal from dwelling

**Figure 20 Hotspot - Steal from dwelling**

Source: BOCSAR, Ethos Urban



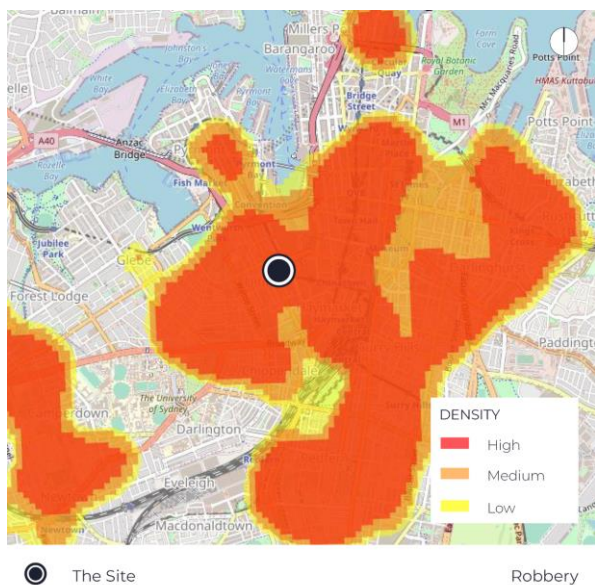
● The Site

Steal from motor vehicle

**Figure 21 Hotspot - Steal from motor vehicle**

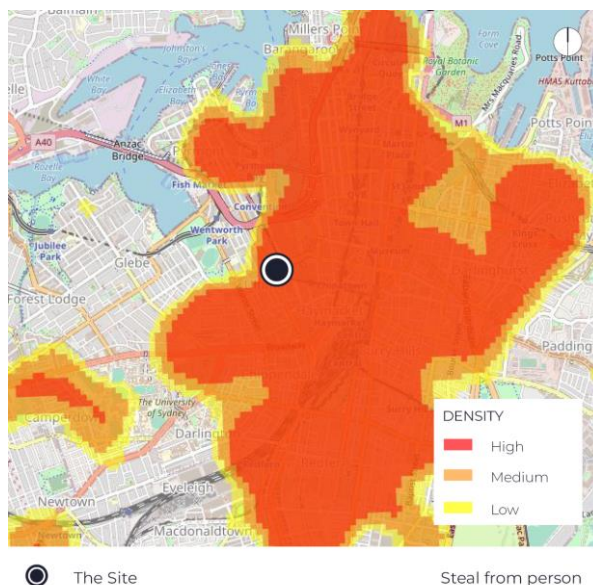
Source: BOCSAR, Ethos Urban





**Figure 22 Hotspot - Robbery**

Source: BOSCAR, Ethos Urban



**Figure 23 Hotspot - Steal from person**

Source: BOSCAR, Ethos Urban

Notwithstanding the above, 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 accurately reflect the risk of victimisation in locations such as areas that are located within proximity to CBD's or other centres that accommodate high density residential, employment and tourism with very high levels of residents and visitors.

It is noted that the site experiences high pedestrian flow as Harris Street, Macarthur Street, the Goods Line, and the nature of the precinct being characterised by residential and tertiary educational uses, as well as proximity to tourist, hotel accommodation and transit options all generate high flows of high pedestrian and urban activity.

In any event, specific CPTED principles will be carefully considered to minimise opportunities for these crimes at the subsequent detailed building design stages of the redevelopment. However, application of CPTED principles at this Concept Proposal DA stage is also vital in creating foundations for an urban environment that can assist in reducing the opportunity for specific types of crime. In this instance, natural surveillance, technical surveillance, lighting, street activity and effective guardianship are considered key.

#### 4.1 Sydney Development Control Plan 2012

The *Sydney Development Control Plan 2012* (Sydney DCP) applies to the site with Part 3.13.1 of the Sydney DCP focussing on objectives and controls relating to Crime Prevention Through Environmental Design measures, and details the following provisions to assist in reducing opportunities for crime:

- Active spaces and windows of habitable rooms within buildings are to be located to maximise casual surveillance of streets, laneways, parking areas, public spaces and communal courtyard space.
- In commercial, retail or public buildings, facilities such as toilets and parents rooms are to be conveniently located and designed to maximise casual surveillance to facility entries.
- Minimise blind-corners, recesses and other external areas that have the potential for concealment or entrapment.
- Building entries are to be clearly visible, unobstructed and easily identifiable from the street, other public areas and other development. Where practicable lift lobbies, stairwells, hallways and corridors should be visible from the public domain.

- Ground floors of non-residential buildings, the non-residential component of mixed use developments, and the foyers of residential buildings, are to be designed to enable surveillance from the public domain to the inside of the building at night.
- Pedestrian routes from car parking spaces to lift lobbies are to be as direct as possible with clear lines of sight along the route.
- Where dwelling units have individual main entries directly from a public space, the entry is to include a clearly defined transitional space between public and private areas.
- Building details such as fencing, drainpipes and landscaping are to be designed so that illegitimate access is not facilitated by the opportunity for foot or hand-holds, concealment and the like.

The development has not been designed in detail as yet, and will be the subject of a competitive design process, meaning this report responds to concept level building envelope only and as such it is entirely possible that the future detailed design of the development is able to achieve compliance with the above objectives. A review of the Concept Proposal and landscaping plans for the site has demonstrated that it is capable of satisfying and complying with the above provisions to provide a safer outcome on site by providing a future development scheme that is able to showcase good surveillance in and out of the site, with appropriate access control measures by way of informal and formal guardians on site, providing a built form that communicates good space management and territorial reinforcement.

**Section 5.0** of this report undertakes a detailed assessment with regards to the relevant matters for consideration and exemplifies how the indicative design of the proposed development will achieve compliance with the relevant CPTED principles. Further recommendations that satisfy the provisions contained in the Sydney DCP with regards to CPTED are detailed in **Section 6.0** of this assessment

## 4.2 Crime Prevention Strategy

The *City of Sydney Community Safety Action Plan 2019-2023* sets out the role and approach to enhancing safety within the community and includes the following relevant objectives to assist with reducing opportunities for crime.

- Increase actual and perceived public safety in city streets and spaces to ensure they are well-lit and attractive
- Promote a creative and vibrant night life to reduce alcohol related anti-social behaviour
- Improve road, public transport and pedestrian safety
- Ensure visitors feel safe and welcome in Sydney
- Help students to live, study and work safely in Sydney

The Concept Proposal has the potential to facilitate multiple actions mentioned above and is seen to contribute to an outcome that will facilitate a high quality, inclusive urban design and lively vibrant new development that is close to transit, services and educational uses. The development will incorporate an effective governance structure to help safeguard the increase in population density on site in a capacity that will prioritise safety and inclusivity as a core element to the renewal of the precinct. Further recommendations concurrent with this plan are detailed in **Section 6.0** of this assessment.

## 4.0 Matters for Consideration

A potential perpetrator can take advantage of the environment, with access and the opportunity for concealment significantly affecting the safety and perceived safety of an environment. Given the site's location in proximity to high risk areas, including major surrounding transport nodes, recreational and public domain areas, along with its location within the hotspots identified in this report, the following is an assessment of the proposed development's potential to create opportunities for such crimes.

### 4.3 Surveillance

Opportunities for crime can be reduced by providing opportunities for effective surveillance. The surveillance principle indicates that offenders are often deterred from committing a crime in areas with high levels of surveillance. From a design perspective, deterrence of crime can be achieved by providing:

- clear, direct path that encourage pedestrian activity and allow for clear lines of sight;
- activated day and night uses and casual streetscape surveillance offered by activity at the ground floor;
- establishing buildings close to the street frontage to allow passing traffic to observe the development;
- clear building entry points, highly visible from the street and pedestrianised areas;
- orientation of building entrances and windows towards the street, public domain and parking areas;
- appropriate lighting and effective guardianship of communal and/or public areas; and
- minimised opportunities for offenders to hide or entrap victims.

In a general sense the block layout and general building envelope design will continue to promote clear sight lines, natural surveillance, ease of access and wayfinding and opportunities for natural surveillance are generally benefited with the proposed development. The linear orientation of the new building envelope at the Harris Street frontage will continue to ensure that sight lines to the public domain and within the site are maintained from both Harris Street and Macarthur Street. As all proposed building envelopes are orientated towards streets and overlook and/or face The Goods Line and surrounding public domain, natural surveillance is maximised. Additionally, the placement of the new building envelope will be positioned at the Macarthur Street boundary, providing further opportunities for surveillance at Macarthur Street as a key east-west pedestrian thoroughfare within the wider area.

It is noted that all new future landscaping where appropriate (including in the Zone 1 and surrounding the new Harris Street building envelope) should be selected to maintain sight lines and minimise concealment opportunities, particularly along the internalised pedestrian circulation spaces nominated around the new building envelope. As such, any future planting should be selected that provides for high canopies and low shrubs in order to keep sightlines open. This is important along the edges of all pedestrian pathways. Recommendations in this respect are provided at **Section 7.1**. A more detailed assessment of this principle will be made as part of any future detailed design DA, subsequent to the approval of this Concept proposal.

### 4.4 Lighting and Technical Supervision

Effective lighting and discrete technical supervision can reduce fear, increase community activity, improve visibility and increase the likelihood of offenders being detected. Lighting and technical supervision are integral in increasing the safety and perceived safety. All lighting provided within and around the development, should ideally exceed the minimum Australian Lighting Standard AS/NZ 1158 for public streets, car parks and pedestrian areas, specifically addressing crime and fear reduction.

Future high quality lighting throughout all publicly accessible areas should be adequate to permit facial recognition, long sight lines and reduce dark shadowing which in turn will help reduce opportunity for predatory crime. Publicly accessible areas with low natural surveillance can attract loitering and anti-social behaviour after hours. As such, an external lighting strategy is recommended and minimum lighting lux levels and lighting uniformity levels for different parts of the proposed development are recommended in **Section 7.1**.

Any future outdoor lighting is recommended to have a minimum Colour Rendering Index (CRI) of 60. CRI is a quantitative measure of the ability of a light source to reveal the colours of various objects faithfully in comparison



with an ideal or natural light source. The higher the number the more faithfully the colour is represented, with 100 being the highest.

Any future development should incorporate discrete technical supervision by way of closed-circuit television (CCTV) is also considered warranted within the proposed development and should respond to the various uses and activity and be integrated with the wider museum network, covering internal private and external public spaces and the curtilage beyond. The placement of CCTV throughout the precinct should specifically focus on providing coverage to key access points and areas that do not benefit from natural surveillance. For this reason, discrete CCTV is considered appropriate in building entrances (including vehicle entrances), along Macarthur Street, near the Harris Street main pedestrian entrances and within other areas that may not otherwise benefit from natural surveillance. Recommendations in this respect are provided at **Section 7.1**. A more detailed assessment of this principle will be made as part of any future detailed design DA, subsequent to the approval of this Concept proposal.

#### 4.5 Territorial Reinforcement

Territorial reinforcement involves the perceived ownership of public spaces. Users will be more inclined to visit areas that are maintained and to which they feel they have a vested interest in. A well-used and dynamic public space is made safer by natural surveillance. Designing with a clear transition between public and private spaces, and clear design cues indicating the intended use of space is critical. A well maintained public domain is critical in encouraging occupancy of space, both in the interior and exterior of the development.

The proposed building envelopes are capable of providing a clear delineation between public land / publicly accessible land and private land is considered of high importance in this type of development. Any future DA will be able to define landscaping elements as a key factor in expressing this delineation.

Signage is also a powerful tool to utilise in enabling persons better understand delineations. This is particularly important along areas that are intended for public use but have an interface to private components of the future built form, including within the northern interfaces of the renewed precinct. Any future detailed DA will be able to express this clearly. Future signage considerations will be able to help reduce the opportunities for people to find excuses to gain unauthorised access and/or to loiter in areas of the development. Recommendations relating to territorial reinforcement are provided in **Section 7.1**. A more detailed assessment of this principle will be made as part of any future detailed design DA, subsequent to the approval of this Concept proposal.

#### 4.6 Environmental Maintenance

It is commonly understood that the quality and maintenance of a place can impact on feelings of safety and danger, influence local confidence and individual decisions to withdraw or engage in community life. It can also affect the economic prosperity of areas and lessen the likelihood of visitors to return.

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 built form, landscaping 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 proposed future development, enabled by the proposed building envelopes and site layout will create a new quality urban environment within an established iconic site. Given the carefully considered placement of building envelopes and designated uses of space within the site, the proposal is expected to enhance the image and activity of the site, thereby encouraging a sense of shared ownership.

The maintenance of the future built form and landscaping elements will be important to balance the safety and aesthetics of the area, each of which will contribute to the area's image. It is recommended that all future landscaping throughout the development be maintained for the purpose of conveying that the space is well cared for and diligently maintained in order to create and maintain a sense of safety and security. Ongoing maintenance of the site will encourage regular use and activity, which in turn will enhance the natural supervision of the public areas and foster feelings of safety. Recommendations in this respect are provided at **Section 7.1**. A more detailed assessment of this principle will be made as part of any future detailed design DA, subsequent to the approval of this Concept proposal.

## 4.7 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. Knowing where and how to enter, exit and find assistance within public places can impact on perceptions of safety.

The perceived image of an area can impact upon feelings of safety and danger, influence local confidence and individual decisions to either withdraw or engage in community life within public places. The proposed development will greatly enhance the image of the site and in doing so provide a vibrant and regularly used area where it was previously not afforded.

Any future management of the publicly accessible areas on private land will be a key element in preventing the opportunity for crime and will also have a bearing on amenity with regard to managing the type of activities intended for each designated space. Furthermore, effective guardianship plays a critical role in the safety and perceived safety of the proposed development. The ability of the Powerhouse to manage and organise on-going activities, events and initiatives within future buildings and public spaces will improve the sense of community ownership and effective guardianship of public and common spaces.

It is in the interest of the Powerhouse to ensure that the precinct is well managed and any damage or vandalism is repaired rapidly. It is recommended that a comprehensive and all-inclusive Plan of Management (PoM) is created to manage the different components of the site including food and beverage outlets, exhibition areas, front of house and back of house areas. This will also detail the ongoing maintenance, repair procedures and cleaning protocols of the wider Powerhouse precinct. Recommendations relating to activity and space management are provided in **Section 7.1**. A more detailed assessment of this principle will be made as part of any future detailed design DA, subsequent to the approval of this Concept proposal.

## 4.8 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 a crime. The proposed development includes multiple types of access, these include:

- Primary – access to all public areas, including extensions to the existing public domain and streetscapes.
- Secondary – access to semi-public areas, including building lobbies, presentation spaces and retail areas.
- Vehicle – i.e access for vehicles for loading within the proposed development, including the Macarthur Street shareway.

As with territorial reinforcement, it is important to maintain that the proposed development be free of physical access control that appears to fortify the environment. The proposed building envelopes provide a conceptual framework to be able to uphold any future access control measures and as part of any future detailed DA on site, it is recommended that retractable bollards as part of a Heavy Vehicle Management Strategy be considered at the Macarthur Street eastern terminus at the building envelope interface to prevent incidents of unwanted vehicular activity or potentially a vehicle ramming attack, thereby prioritising pedestrian and public safety.

Detailed assessment of access control for the future buildings and other works will occur at subsequent detailed Stage 2 DA of the Powerhouse renewal proposed development after a design competition process is complete. Recommendations in this respect are provided at **Section 7.1**. A more detailed assessment of this principle will be made as part of any future detailed design DA, subsequent to the approval of this Concept proposal.

## 4.9 Design, Definition and Designation

Perpetrators will often exploit areas with unclear spatial definition. The concept building envelopes will provide a foundation for a detailed design DA to be able to reflect a specific purpose for each part of the site. ,

The site plan layout and building envelopes are benefitted by a regular and linear orientation of buildings and public space, which benefits natural surveillance and intuitive wayfinding. Maintenance of the landscaped elements within the public domain should occur to ensure that these areas do not undermine the principles of CPTED, including access control, natural surveillance, effective lighting and technical surveillance.

Access arrangements detailed as part of a future DA will play a pivotal use in clearly delineating between the public and private uses on the site.

## 5.0 Crime Risk Rating and Recommendation

The Crime Risk Rating considers the concept building envelope as proposed by John Wardle Architects within the wider Powerhouse environment.

Acknowledging the existing and future site context along with the issues discussed in Section 2, 4, and 6, the Crime Risk Assessment Rating of the place was rated within the 'moderate' category. Nonetheless, improvement within this category could occur with the implementation of the recommendations below.

An assessment of the specific development area using the CPTED principles has found that, with the implementation of the recommendations, the rating could potentially be amended to re-categorise the area to a 'low' category. We note the levels of crime as indicated in **Section 5.0** hotspot mapping of this report are a reflection of the dense urban environment itself rather than the high quality considerations and design of the Concept Proposal building envelopes itself.

Crime will continue to exist outside of the development as is typical of a highly urbanised CBD fringe settings, however any future detailed design development application will have the opportunity to improve the safety and security of the proposed development via the recommendations below.

Please note that the below recommendations are provided to inform future detailed development applications that will be submitted following the approval of this Concept DA. A detailed CPTED assessment and report is recommended to accompany each detailed DA submitted following approval of the Concept DA.

### 5.1 Recommendations

#### 5.1.1 Surveillance

- Maintain sightlines to and from the future development and the surrounds by ensuring signage, landscaping and other fixed equipment do not create a significant visual obstruction from the internal areas towards the public domain.
- Ensure circulation spaces (presentation space / education entrances, exhibition foyer, retail entrances to Zone 1 and other points of ingress / egress) are unobstructed by structures, to remove opportunities for concealment and ensure that pedestrians can move freely with clear sightlines of their surrounds.
- Ensure the future design of the active street level uses along the Macarthur Street and Harris Street maximises natural surveillance, effective guardianship and activation. Seating should be located in areas of active use.
- In the future design of buildings, ensure opportunities for concealment are minimised by reducing alcoves and recesses throughout the ground floor of the building exteriors.
- Ensure roadways and pedestrian pathways do not lead to concealed spaces.
- Where possible all new landscaping and existing vegetation should retain and improve sightlines. In this regard, proposed vegetation, shrubs and trees should not (as far as possible) impede sightlines for pedestrians and should be regularly maintained to minimise concealment opportunities throughout the site. This is particularly important along the surrounding edges of the new building envelope at Harris Street. Medium height vegetation with top to bottom foliage should be avoided and the planting of high canopy trees and low shrubs/hedging encouraged.

#### 5.1.2 Lighting and Technical Supervision

- A CCTV network is essential for all publicly accessible areas and within the curtilage of the development. The CCTV network is to be designed in consultation with a suitably qualified security consultant with a Class 2A licence under the *Security Industry Act 1997* who can provide specific advice on the placement, installation, monitoring and maintenance of the CCTV network.
- The CCTV network should endeavour to ensure blackspots of coverage are not created.
- The CCTV network strategy should be partnered with the internal and external lighting strategy to ensure facial recognition is achieved in all lighting conditions.

- Discrete CCTV systems such as small dome cameras are recommended.
- All lighting is recommended to have a minimum Colour Rendering Index (CRI) of 60.
- A lighting strategy should be developed by or in consultation with a suitably qualified and experienced lighting expert. It is recommended that when designing the lighting strategy, a CPTED professional is consulted.
- As a guide exterior lighting should maintain a minimum of 20 Lux and also should have a minimum uniformity level of 0.4 Uo.

### **5.1.3 Territorial Reinforcement**

- Maintain that future building entrances are highly visible from the street, and avoid any entrapment areas associated with entries, especially to the lower level of the Switch House.
- Display CCTV security notice signs to convey that the site is under constant surveillance (if applicable).
- Clearly delineate between publicly and privately accessible areas via passive boundaries that do not appear to over fortify an environment. High landscaping and/or fencing is discouraged in these areas.
- Provide signage throughout the precinct to direct pedestrian movements and deter loitering where it is not designated.
- In general, if future street boundary fencing is proposed, it should not visually enclose the site with high fencing for access control purposes, rather the fencing and associated gates should typically be a visual and physical cue not an intruder barrier.

### **5.1.4 Environmental Maintenance**

- Ensure an effective and prompt response to environmental maintenance for the Powerhouse is clearly specified through a Plan of Management (or the like). Environmental maintenance should acknowledge the principles of CPTED and ensure general building maintenance and cleanliness is maintained throughout the precinct.
- Ensure mechanisms are in place to facilitate the ongoing maintenance of all areas within the precinct, including the implementation of a rapid removal policy for vandalism repair and removal of graffiti.
- Consistently manage vegetation so that sight lines are maintained and opportunities for concealment are minimised.
- Regular maintenance and cleaning and rapid removal of graffiti and the repair of vandalism is crucial to the ongoing perception of safety of the precinct and should be incorporated into a Plan of Management (or the like) in consultation with Council. Consideration should be given to graffiti resistant materials/surfaces.

### **5.1.5 Activity and Space Management**

- Ensure the effective management of the proposed development is articulated through a Plan of Management (or similar). This is particularly important for high use areas such as the future Zone 1 space.
- Ensure future buildings and wayfinding signage is appropriate to deter access to private spaces and direct pedestrian movements through the precinct.

### **5.1.6 Access Control**

- Ensure that any access control does not appear to fortify the environment. Generally speaking, if fencing to the public domain is proposed it is to be visually attractive and low in height.
- Consider installation of an appropriate bollard/barrier system in alignment with the Heavy Vehicle Management Strategy at the Macarthur Street terminus to prevent vehicles driving into the site. A security consultant with a Class 2A licence under the *Security Industry Act 1997* is recommended to be engaged to provide specific advice on the type, placement and installation of this bollard/barrier system to ensure vehicles moving at high velocity cannot enter the site in locations not intended for vehicles.



#### **5.1.7 Design, Definition and Designation**

- Provide wayfinding signage where appropriate to reinforce perceptions of safety and legibility and clearly define uses and directions (to be usable at night time). Ensure adequate and clear signage is provided for community facilities, infrastructure and transport options such as light rail, bus stops and taxi/uber ranks (if necessary).