

# Powerhouse Ultimo Renewal Revised Urban Design Report & Analysis

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## 1.0 Site Analysis



# 1.1 Overview

This chapter updates the urban analysis for the Powerhouse Ultimo site and its surrounding context to inform updated design guidelines and strategies for the site. The analysis supplements the existing information provided with the Urban Design Report (Appendix B to the EIS) and responds to comments received from City of Sydney and Department of Planning and Environment.

The site analysis has focused on the following attributes:

- Access and Movement – Public Transport
- Access and Movement – Pedestrian and Cycle Movement
- Open Spaces
- Spatial Character – Public Domain
- Topography
- Subdivision Patterns
- Spatial Character – Harris Street, Goods Line & Street Elevations
- View Analysis – Existing
- Overshadowing – Existing
- Opportunities
- Constraints



Powerhouse Ultimo's connection to the Goods Line. Image credit: Katherine Lu.



Powerhouse Ultimo on the edge of the city. Image credit: Powerhouse Ultimo



1.2 Access and Movement - Public Transport



The Powerhouse Ultimo precinct is well serviced by public transport with close proximity to Central Station, Inner West Light Rail via Haymarket and Exhibition stops, as well as 501 buses along Harris Street. Light Rail on George Street and the future Metro West broaden the reach in the future. This is enhanced by the well-connected pedestrian network in Chinatown, Darling Square and Darling Harbour.

Future Infrastructure

- Sydney Central Metro serves lines T1, T2, T3, T4 & T8 lines.

Ultimo Precinct Projected Modal Splits

Modal split for residents living in Haymarket (based on 2016 Census Data) – details only 8% of residents are car drivers.

The close proximity of Ultimo to major public transport nodes (particularly Central Station) and the Sydney CBD dictates that car dependency for future residents of Ultimo is anticipated to be low based on current modal splits.



Key

- Bus network
- Train track + stations
- Light rail route + stations
- Future light rail route + stations
- Future metro route + stations
- Key public transport hub

Image 1. Future Pyrmont Station <<https://concreteplayground.com/sydney/news-2/pyrmont-and-the-cbd-new-train-lines-metro-west-line>>

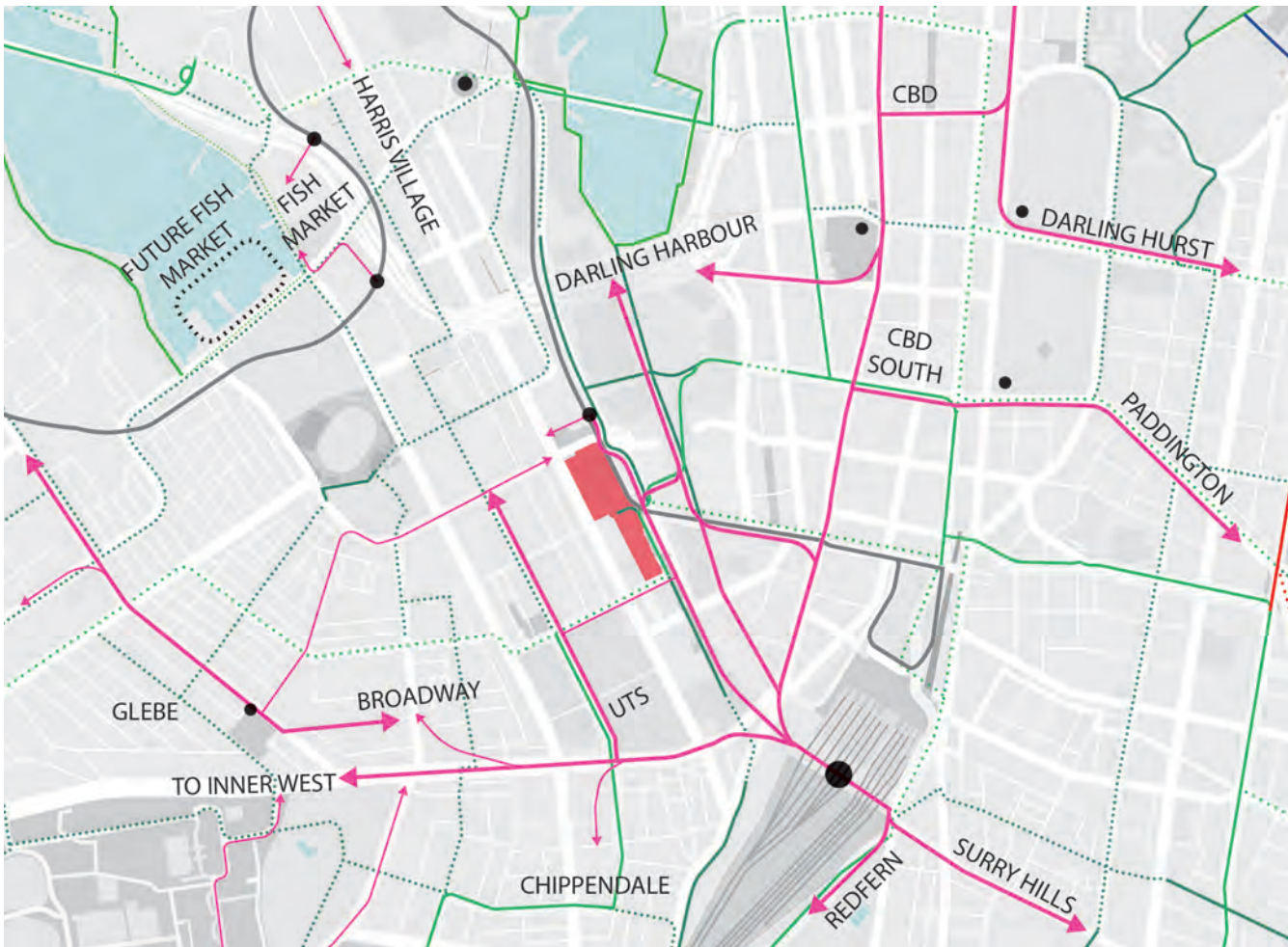
Image 2. Exhibition Centre Light Rail Stop <Google Maps - street view image>.

Image 3. Powerhouse Ultimo Bus Stop + Plaza <ASPECT - site image>

Image 4. Powerhouse Ultimo Bus Stop <Google Maps, street view image>.



### 1.3 Access and Movement - Pedestrian and Cycle Movement

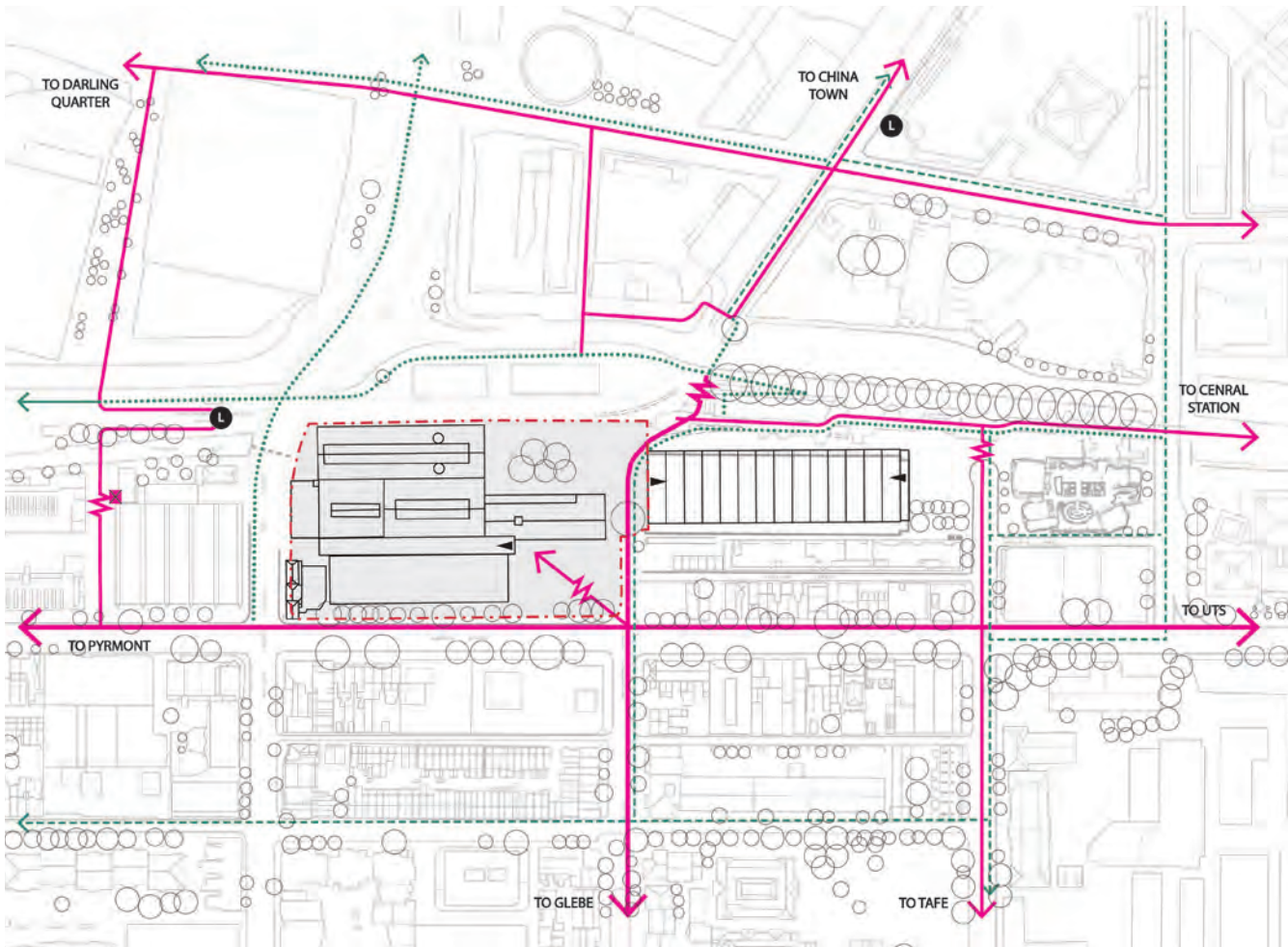


Excellent public transport linkages to heavy rail, light rail, buses and, the new Metro line, all intersect with the primary north-south axis of Harris Street. This confluence of the public transport network dovetails with the pedestrian and bicycle network to ensure a highly accessible and connected precinct.

As outlined in the City of Sydney DRAFT Cycling Strategy and Action Plan 2018-2030, the precinct presents a significant role in the regional and local cycling network, providing great connections for cyclists from Central Station to Pyrmont and Darling Harbour. There is great on site potential to improve the cycling connection from The Goods Line to Broadway via Mary Ann Street.

#### Key

- Major public transport stop
- Light rail
- ↔ Pedestrian flow
- Existing local cycleway
- ⋯ Planned local cycleway
- Existing regional cycleway
- ⋯ Planned regional cycleway
- Existing recreational cycleway
- ⋯ Planned recreational cycleway



The precinct is bounded by a well established pedestrian network that connects to major public transport hubs. It provides plentiful car-free pedestrian friendly connections. With abundant public transport, the site is extremely well connected. However, while being considered as part of the Ultimo community, the precinct presents a lack of pedestrian friendly streets that stitch itself back to the neighbourhood. Improving east-west connections and large falls across the site pose challenges for accessibility to consider going forward.

Despite having good pedestrian connections to the south and east, the local topography creates major constraints for accessibility, particularly with steep footpaths on Macarthur Street. The light rail corridor that runs along the east of the site presents as a fenced barrier and allows minimal crossings. The existing museum forecourt has poor interface with Harris Street, presenting stairs with tactile indicators. Careful consideration will be needed to provide permeable movement on site and seamless pedestrian focused connections to its surroundings.

#### Key

- - - Site boundary
- ↔ Pedestrian flow
- ↔ Cycleway only
- ↔ Shared pedestrian and cycleway
- ↔ Share cycleway and local traffic
- L Light rail station
- ▲ Entry points
- ⚡ Existing steps
- ⊠ Elevator access



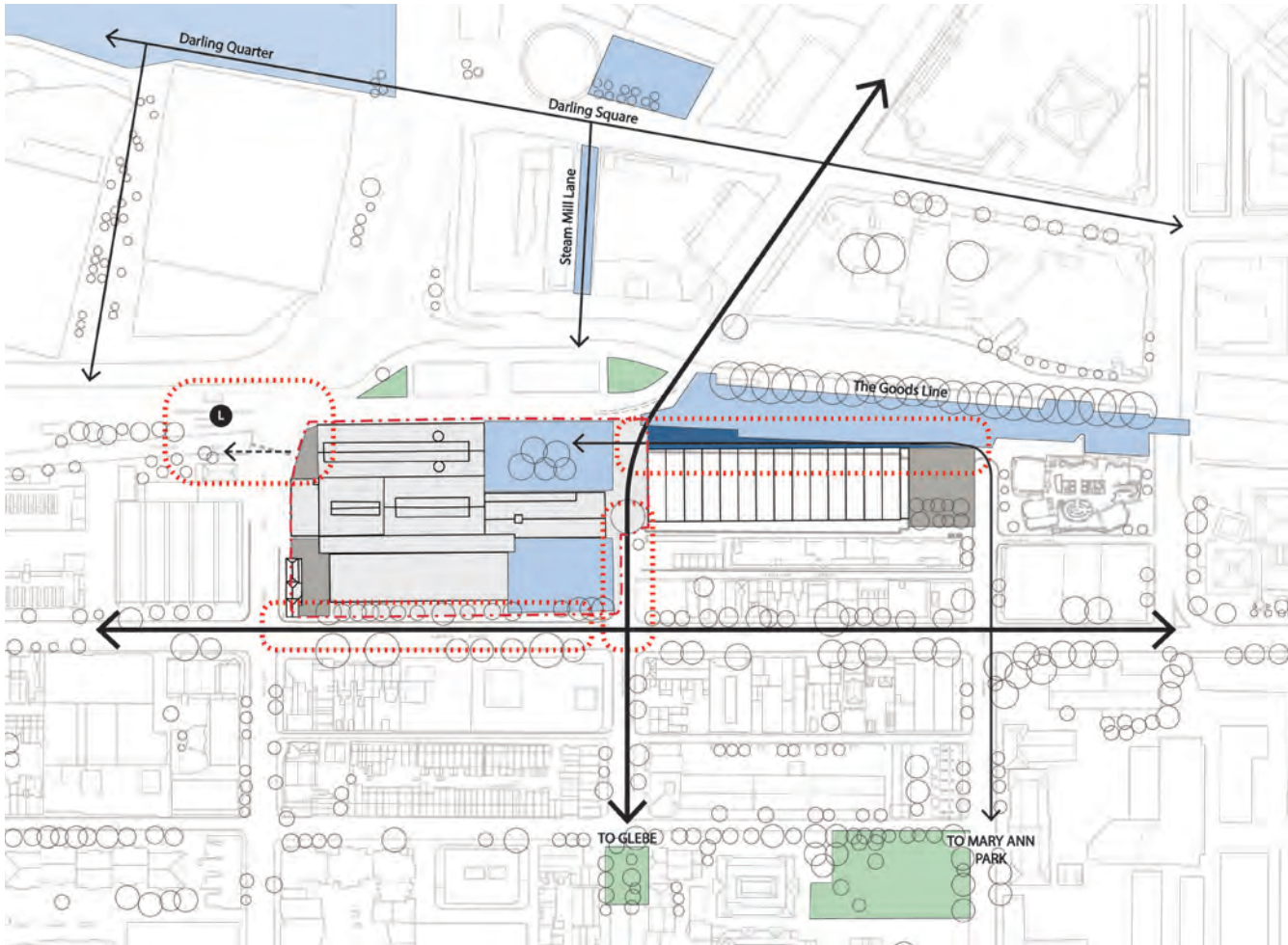
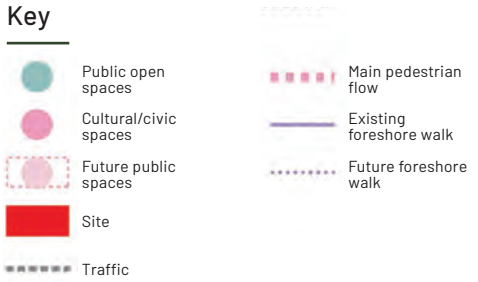
# 1.4 Open Spaces



While large open spaces are distributed along the foreshore line, the site sits adjacent to a cluster of public spaces with great cultural value. The completion of George Street Light Rail has reinforced a strong and connected North – South civic spine.

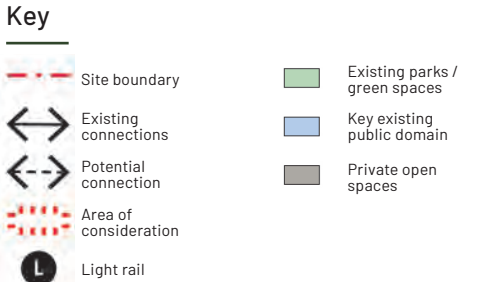
Existing and proposed open spaces, public domain projects in the area:

- Darling Harbour
- Goods Line
- Darling Square
- Chinatown
- Mary Ann Street Park
- Wentworth Park



The buildings within the precinct site terminate the axis of Hay Street to the east, Macarthur Street flows down hill from the west, dropping dramatically as it crosses Harris Street to terminate at the Powerhouse forecourt and light rail.

Current site conditions create constraints to intuitive public movement north-south given the heavily trafficked William Henry Street - Pier Street link and the adjacent light rail corridor. The site presents significant opportunities to improve the interface with, and activation of, the Goods Line, and to improve linkages to the Darling Harbour/Darling Square precinct and its newly established boulevard – particularly along an extension of Macarthur Street.





1.5 Spatial Character - Public Domain



The site is located within diverse and changing neighbourhoods. Significant investment in major infrastructure over the last decade has seen the addition of the Sydney International Convention Centre and precinct, Darling Square and The Goods Line.

To the west, the Ultimo precinct retains a substantially inner-city local character, with smaller pocket parks and interweaving streets edged by character laden (often) heritage buildings. The Bays East district transformation will draw more residents into nearby neighbourhoods and substantial projects such as the new Fish Market will provide iconic destinations for visitors and locals alike.

To the south, plans to better connect pedestrian and cyclists to the new Metro (and ultimately across central station) will further strengthen the quality and quantity of public space.

Key

Parks

Pocket Parks

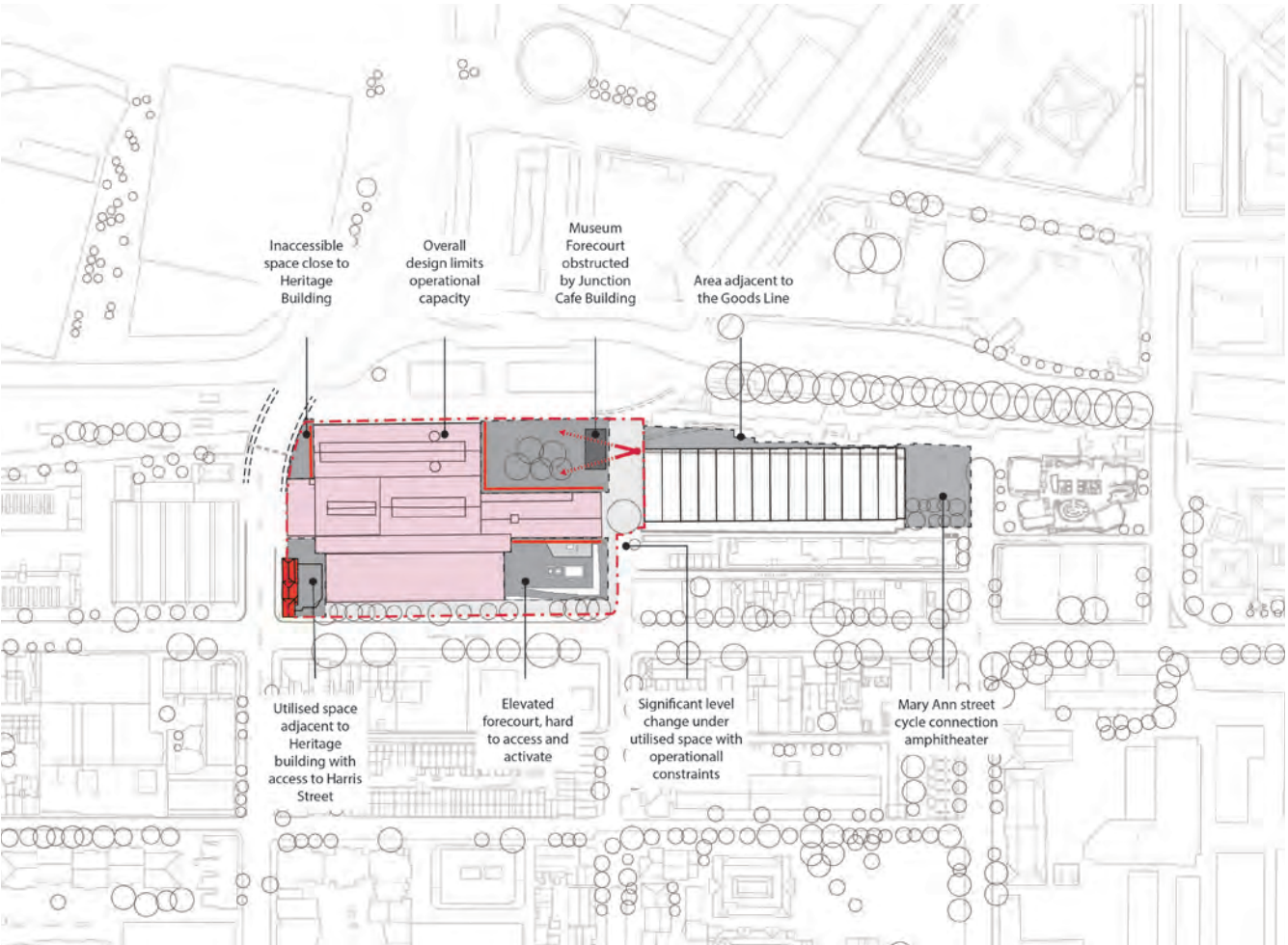
Square / civic spaces

Foreshore walk

Pedestrianised street / sharezone

Street closure

Laneways



Nowhere is the history of Ultimo and its variant built form more apparent than along the length of Harris Street. Along Harris Street to the north of the site, the remnants of industry remain, warehouses with sawtooth roofs have been converted to apartments and offices.

Within these residential enclaves the six to eight storey warehouses sit adjacent to two storey cottages as they always have. To the south, the prevailing street wall condition intensifies toward Broadway, encountering cultural and educational institutions including the ABC, UTS and TAFE along the way.

Key

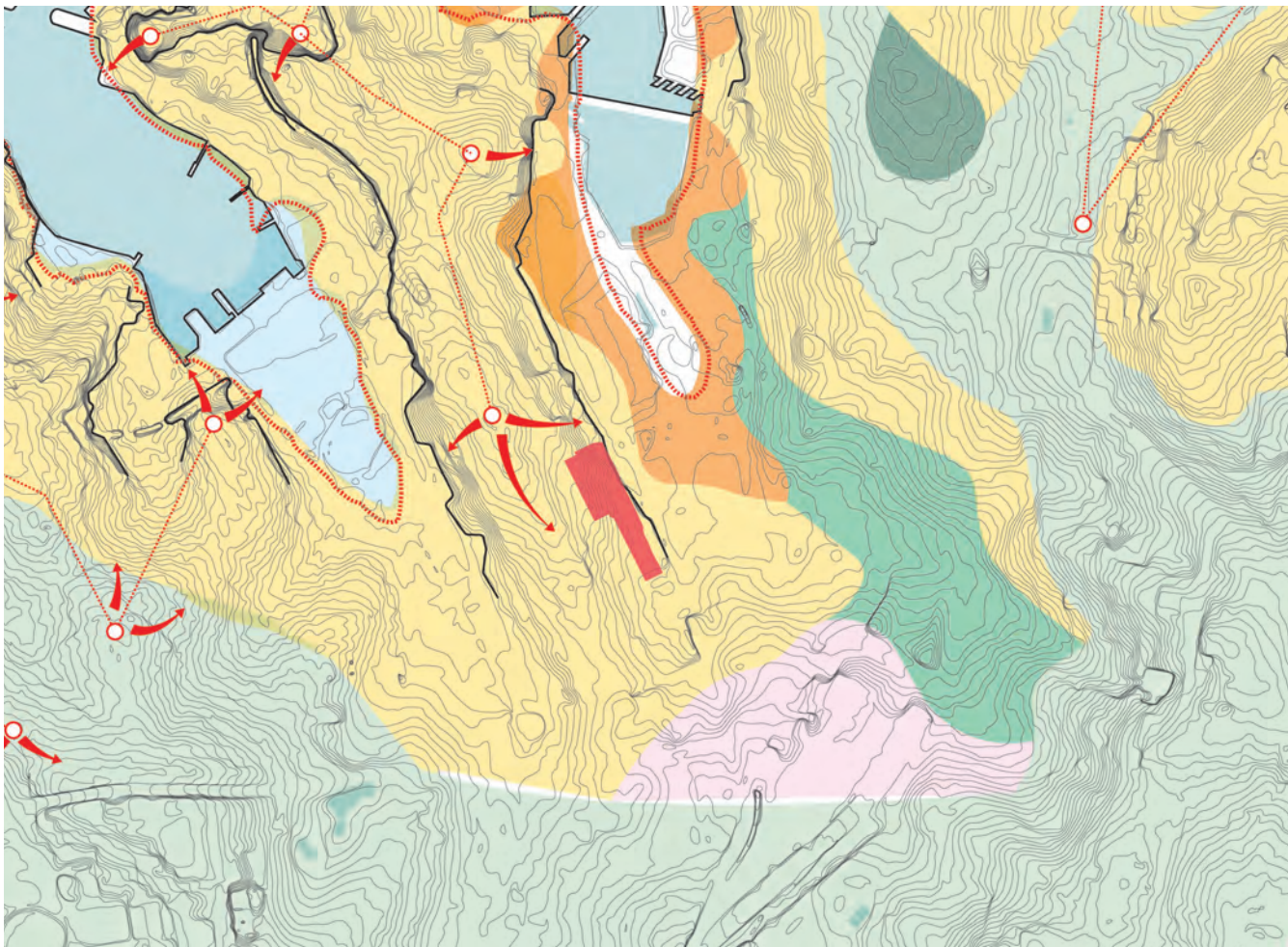
Site boundary

Existing heritage facades / elements

Obstructed heritage views



# 1.6 Topography

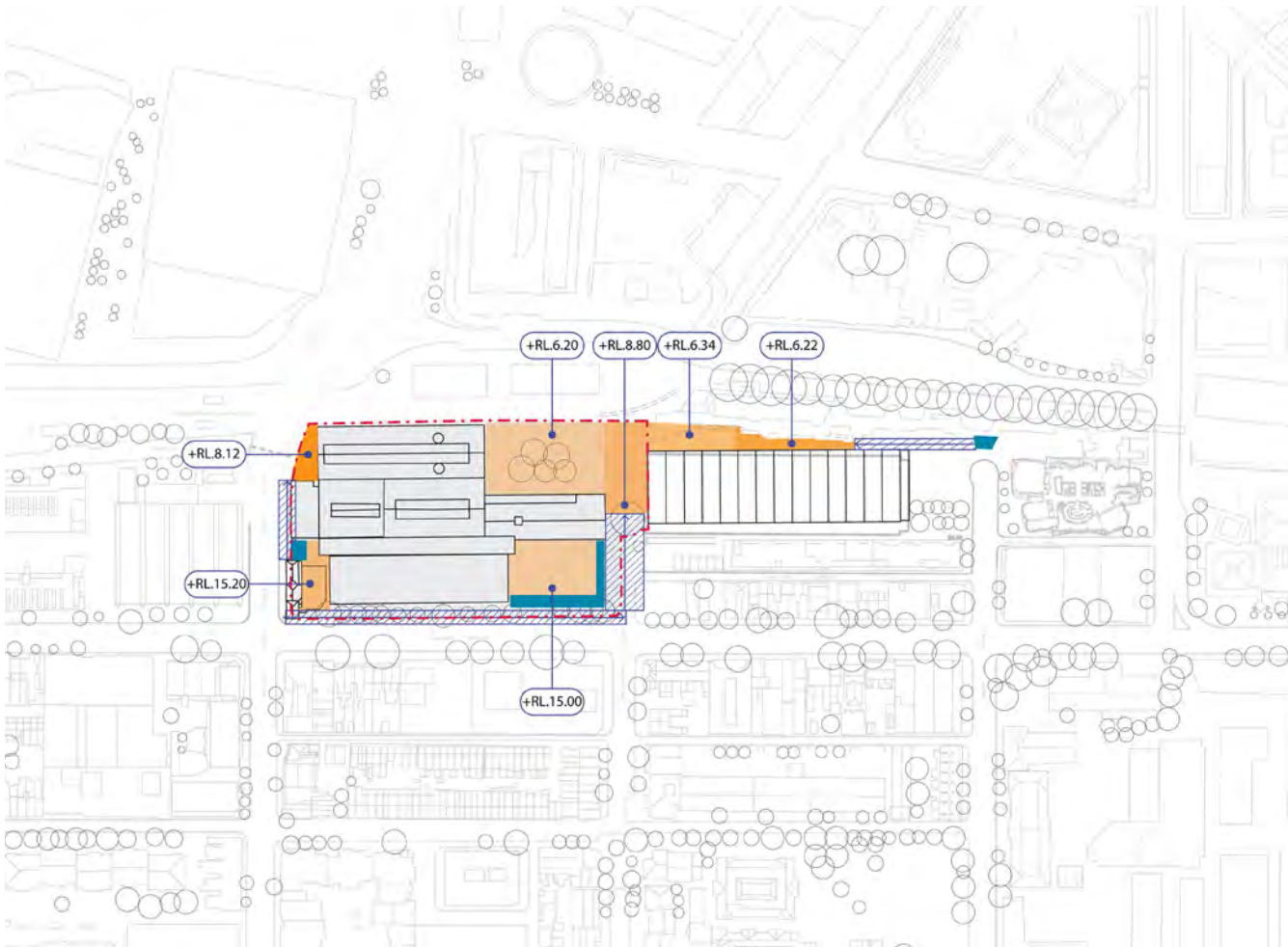
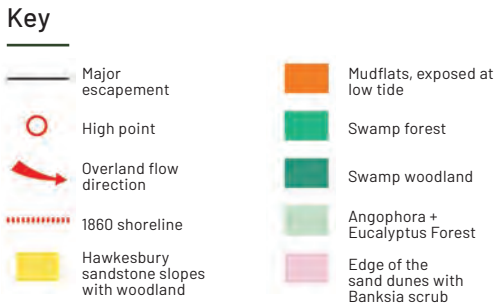


There is up to nine metres variance in the ground level between Harris Street and The Goods Line, with the existing buildings cut into the slope to form several different floor levels and platforms throughout the site.

The existing site has significant infrastructure below ground level, flooding risk has been considered and will be addressed in the detailed design (Stage 2) DA.

Pymont was the source of sandstone that was quarried for many of Sydney significant heritage buildings.

The dominant original vegetation community of the area is sandstone woodland and mudflats.

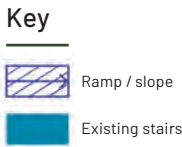


## Site Thresholds

The site is characterised by a complex ground plane, in terms of topographic level changes and also the physical encumbrances created by road infrastructure.

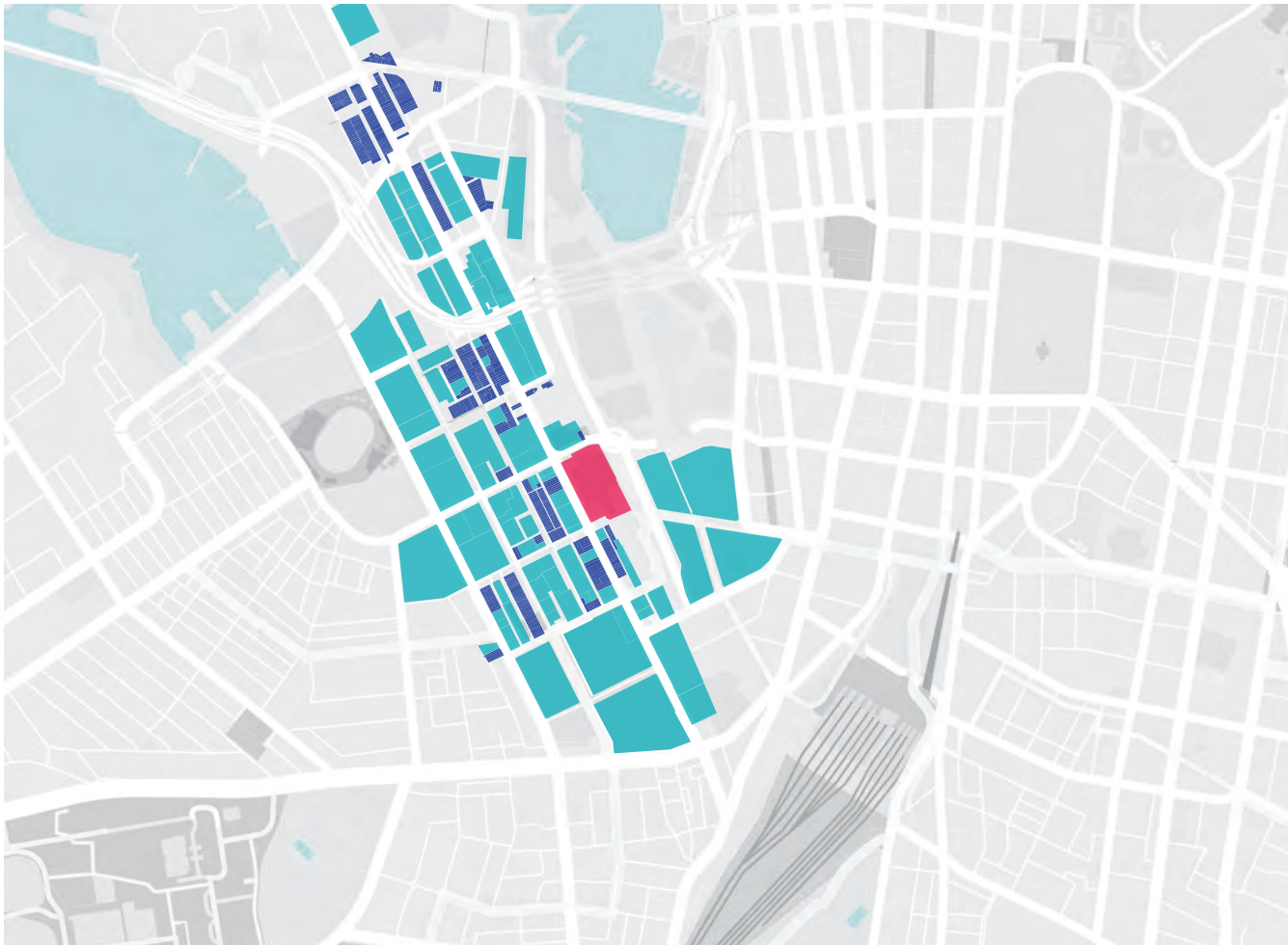
## Significant changes in gradient and levels occur in these locations:

Hay Street (east) / Goods Line  
Stairs and ramp from RL3.3 to RL6.6, a change of level of approximately 3.3m  
Mary Ann Street (South) / The Goods Line  
Stairs and street transition from RL4.8 – RL 8.1, a change of level of approximately 3.2m





1.7 Subdivision Patterns






The site is bounded by Harris Street and Omnibus Lane to the west; the William Henry Street Bridge to the north; The Goods Line to the east; and Mary Ann Street to the south. The site has combined the following earlier sites:

Ultimo Post Office (Lot 1 DP 770031) on the corner of Harris Street and William Henry Street;

Ultimo Power House (Lot 1 DP 631345), adjacent to The Goods Line, between the William Henry Street Bridge and Macarthur Street;

Warehouse buildings (Lot 1 DP 781732) on Harris Street between the Ultimo Post Office and Macarthur Street.

**Key**

	Small Allotments
	Large Allotments
	Powerhouse Site



The Powerhouse Ultimo. Source: John Wardle Architects



Scale of development along the Goods Line. Source: John Wardle Architects



Scale of development along Harris Street. Source: John Wardle Architects



The adjacent residential grain along Macarthur Street. Source: John Wardle Architects



# 1.8 Spatial Character - Figure Ground Plan

By virtue of its location at the western edge of the Sydney CBD the precinct is exposed to a varied context and spatial character.

Haymarket and Darling Square to the east are characterised by food and beverage outlets at ground level and commercial, residential, hospitality and educational uses over, usually six to eight storeys in height. Some residential and student housing towers of over twenty storeys are recent developments in the area.

To the north, public and cultural infrastructure including the Ian Thorpe Aquatic Centre and the International Convention Centre are mixed with mid rise multi-residential uses and to the west, Ultimo is characterised by a mixed grain of low scale Victorian and 20th century residential terrace housing and six to eight storey warehouse conversions and multi-residential developments. To the south, the built form is characterised by commercial, institutional and educational uses at relatively high density at eight to twelve storeys in height – eg UTS, TAFE, ABC.

The precinct is best defined by the varied conditions presented at its edges, namely Harris Street and the Goods Line. These two key movement corridors run north-south and, along their respective lengths, traverse a range of uses, building types and heights.

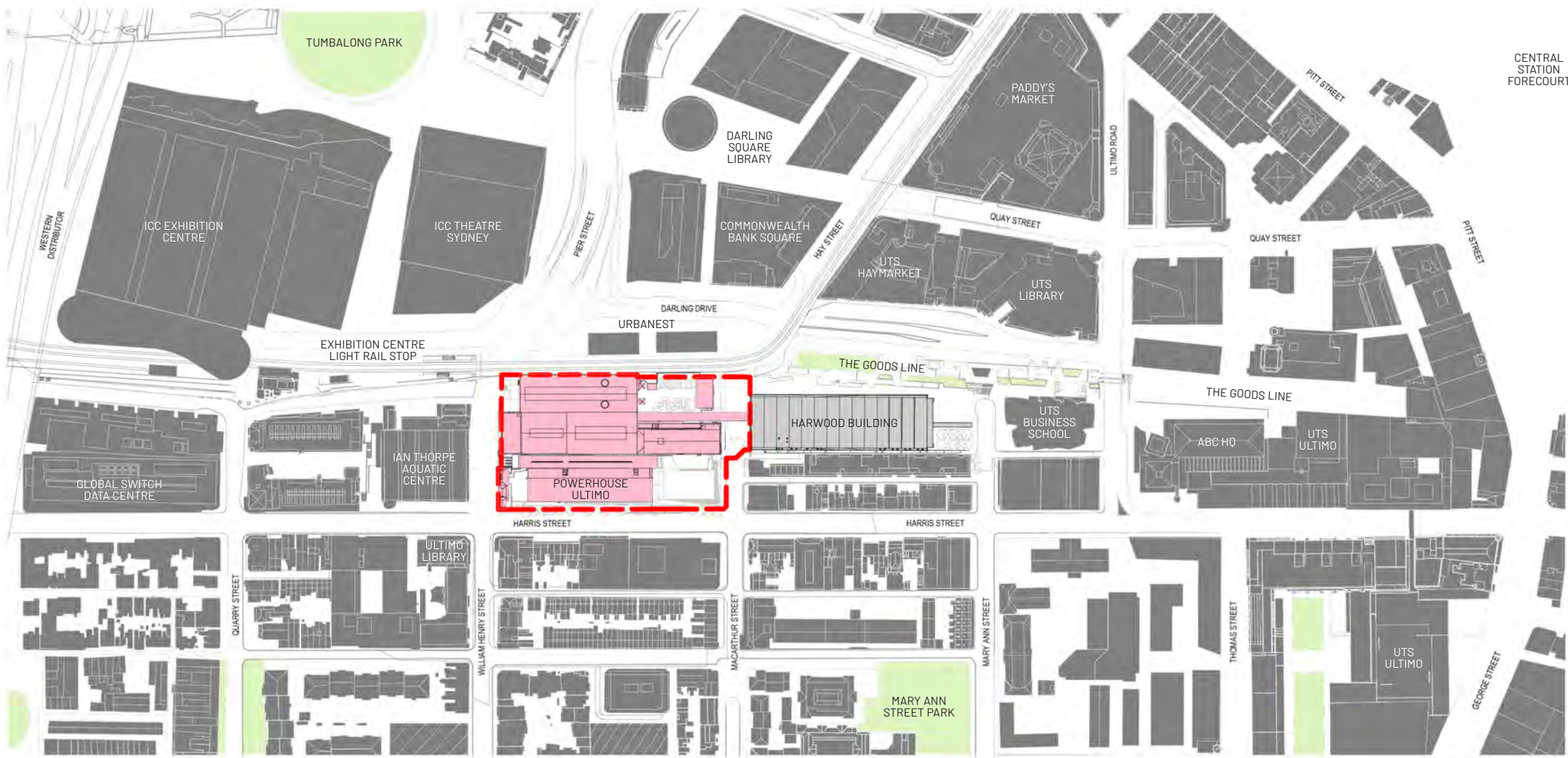


Figure Ground Plan

## Key

- Site boundary
- PUR Buildings
- Harwood Building
- Context Buildings



1.9 Spatial Character - Site Photos



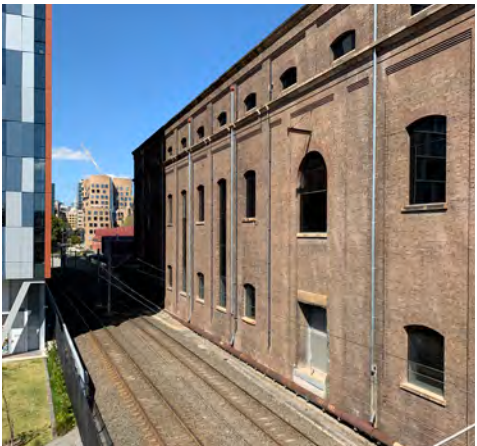
- |                        |                  |                       |                |
|------------------------|------------------|-----------------------|----------------|
| 1 Harwood Site         | 2 The Goods Line | 3 Plaza               | 4 Switch House |
| 5 Turbine Hall         | 6 Boiler House   | 7 Engine Room / Annex | 8 Vault        |
| 9 Heritage Post Office | 10 Touring Hall  | 11 Light Rail         | 12 Harris St   |



Powerhouse Museum Courtyard, looking north towards the Boiler House & Turbine House.



Powerhouse Museum Cafe & Store, looking east towards the Switch House.



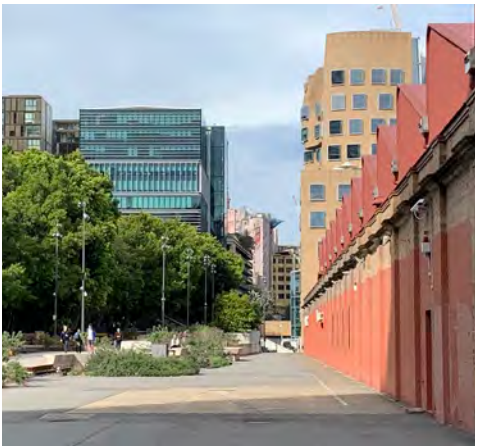
Eastern Facade of the Boiler House adjacent to the Light Rail Corridor to Dulwich Hill



Approaching the Harwood Building from the south along The Goods Line.



Eastern facade of the Harwood Building along The Goods Line.



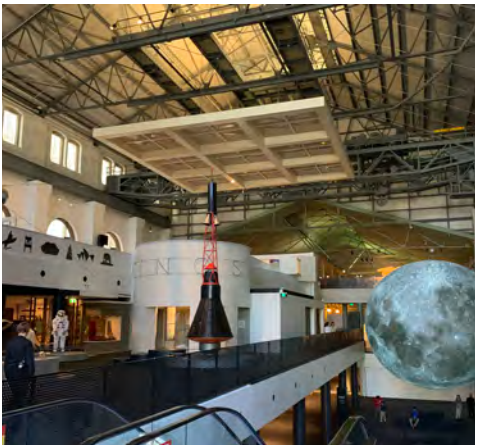
Eastern facade of the Harwood Building looking south along The Goods Line to UTS..



The Powerhouse Museum addressing Harris St and Macarthur St with Urbanest in the background.



The heritage listed Ultimo Post Office addressing Harris St and William Henry St.



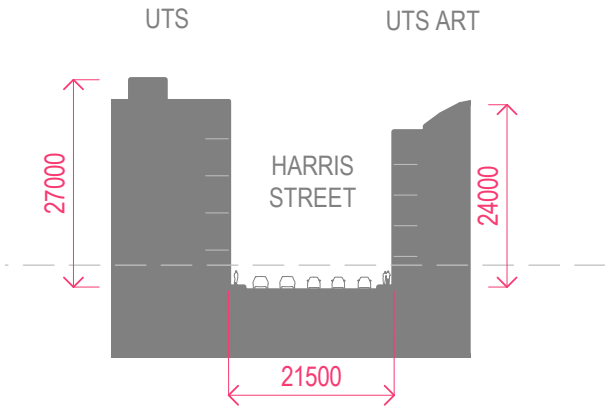
Within the Turbine House looking north.



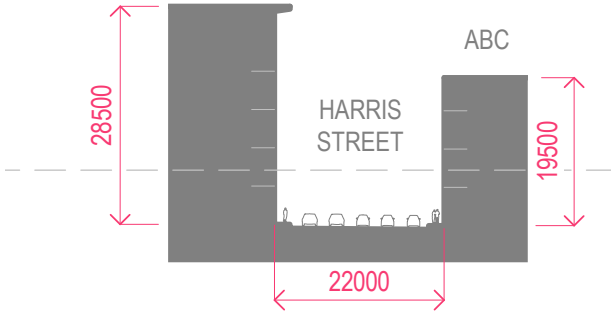
1.10 Spatial Character - Harris Street

The spatial character of Harris Street is varied throughout its length. Along Harris Street to the north of the site, the remnants of industry remain, warehouses with sawtooth roofs have been converted for residential and commercial uses. Within these residential enclaves the six to eight storey warehouses sit adjacent to two storey residential terraces.

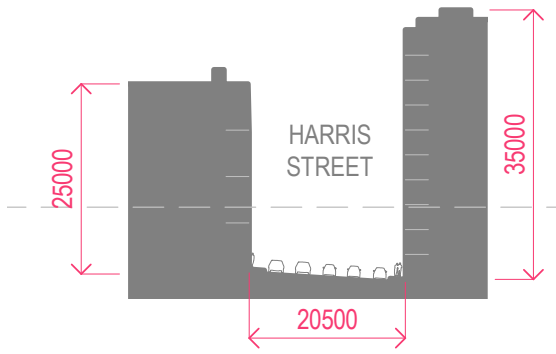
To the south, the prevailing street wall condition intensifies toward Broadway, encountering cultural and educational institutions like the ABC, UTS and TAFE. Similarly, the spatial character of Harris Street in the vicinity of Powerhouse is also varied with a mix of commercial, residential and civic uses at varying heights.



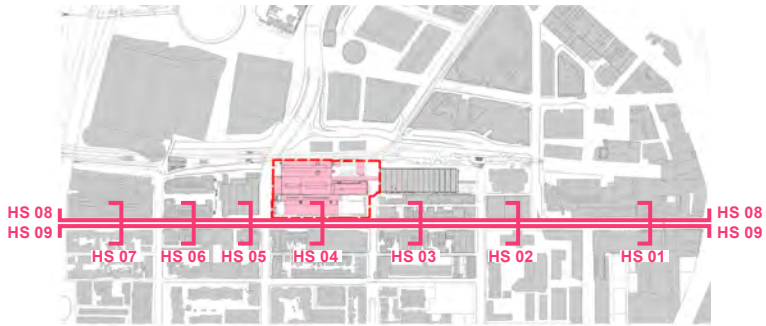
HS 01: UTS & UTS Art



HS 02: ABC HQ



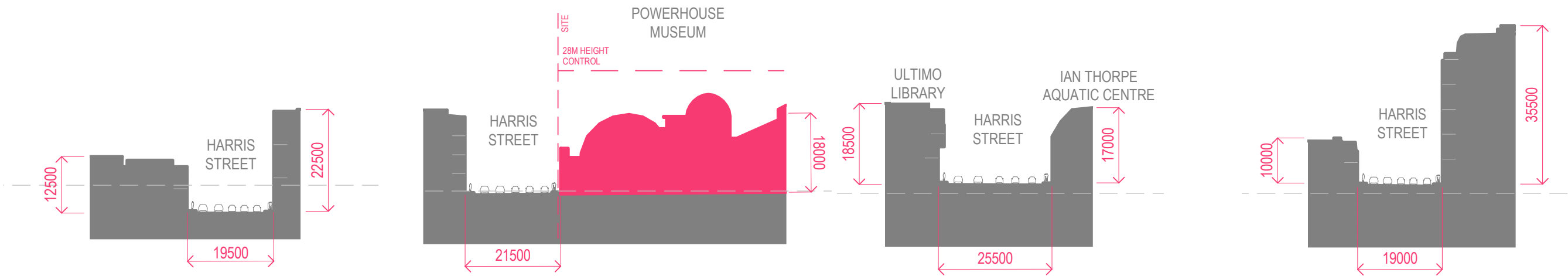
HS 03: TAFE NSW Ultimo



Key Plan



1.10 Spatial Character - Harris Street



HS 03: Heritage Scale



HS 04: Existing Powerhouse Ultimo along Harris Street



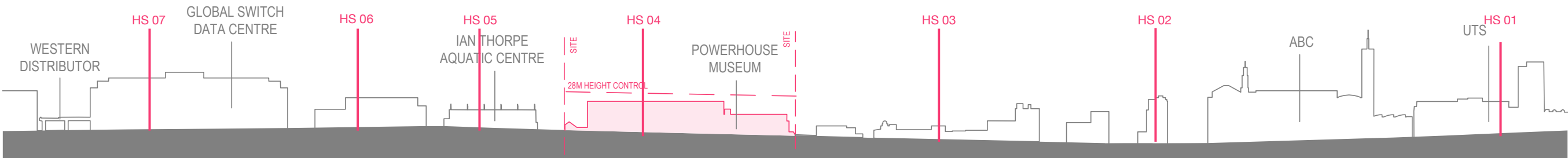
HS 05: Ultimo Library and Ian Thorpe Aquatic Centre



HS 06: Global Switch Data Centre

1.10 Spatial Character - Harris Street

Harris Street - East



HS 09: Harris Street Elevation facing East



1.10 Spatial Character - Harris Street

Harris Street - West

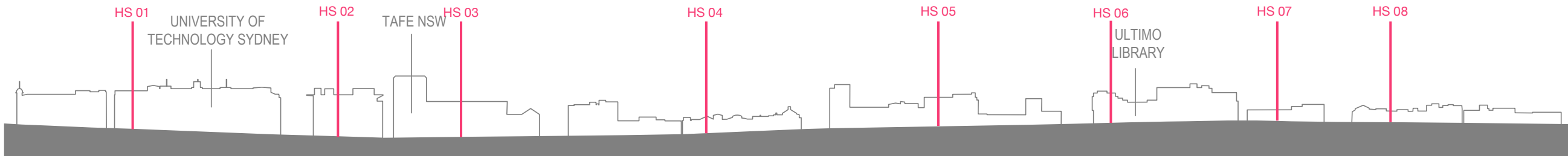


Mary Ann Street

Macarthur Street

Street block opposite Powerhouse Ultimo Site

Ultimo Library



HS 09: Harris Street Elevation facing West

### 1.11 Spatial Character - The Goods Line

The Goods Line is a successful urban renewal project that establishes a high quality public domain, is pedestrian focused, and links a number of existing cultural institutions along its length. The UTS, ABC, Central Station and Powerhouse Ultimo each have good access and address to The Goods Line.

To the north and east of The Goods Line, existing public and cultural infrastructure such as Sydney International Convention Exhibition and Entertainment Precinct, Tumbalong Park and Darling Quarter together with The Capitol Theatre and Darling Square help reinforce what could be a thriving cultural spine at the southern end of the Sydney CBD.

This unique mix of commercial, tertiary and cultural uses are defining for The Goods Line. It is a transitory public space and does not exhibit a residential character, nor is it fronted by residential development along its length.



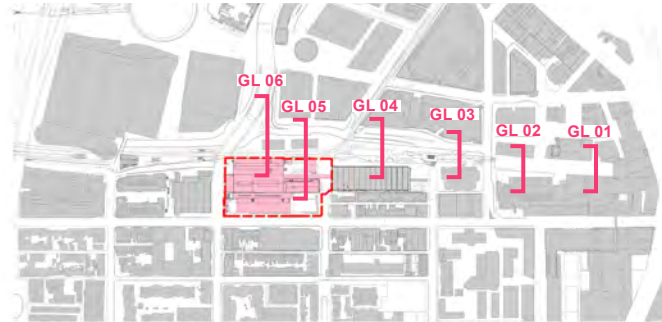
GL 01: UTS



GL 02: ABC HQ



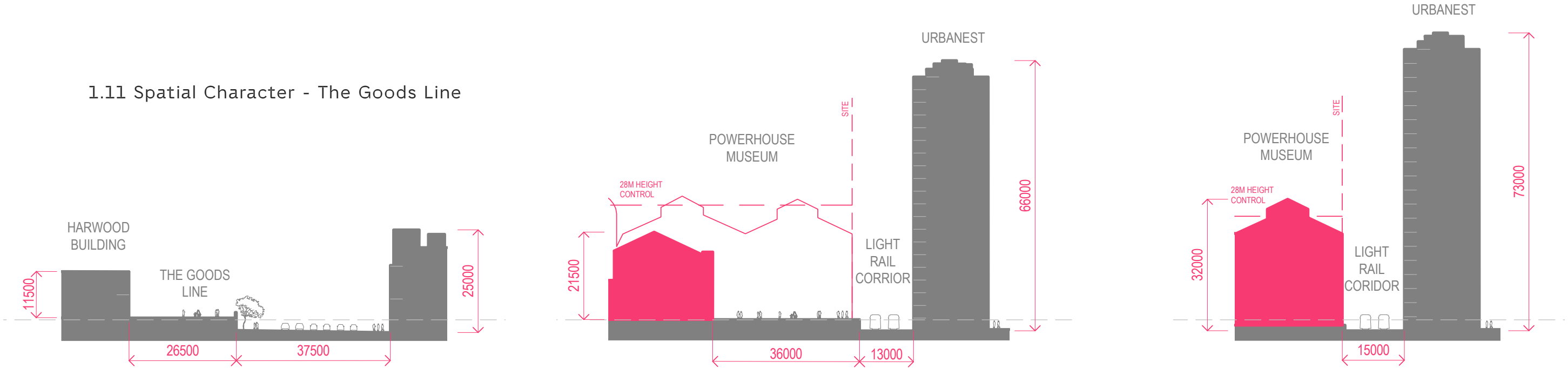
GL 03: The Goods Line & UTS



Key Plan



# 1.11 Spatial Character - The Goods Line



GL 04: The Goods Line



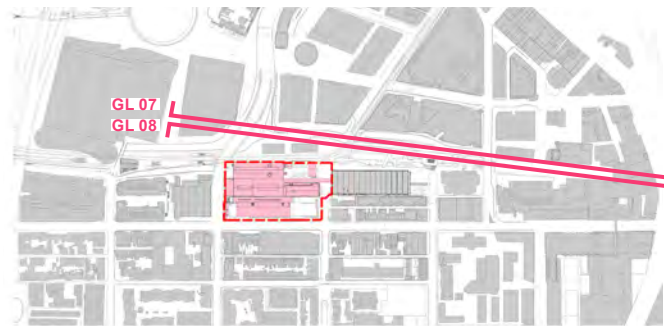
GL 05: Powerhouse Ultimo Forecourt



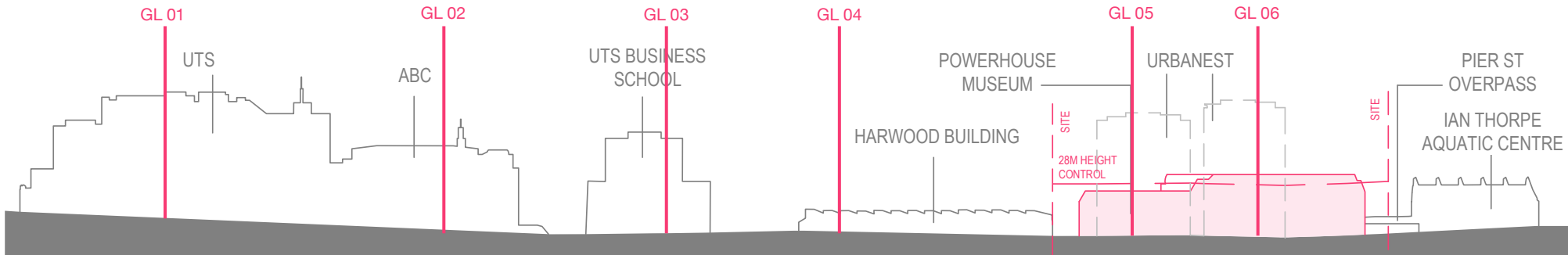
GL 06: Light Rail Corridor

1.11 Spatial Character - The Goods Line

The Goods Line - West



Key Plan



GL 08: Goods Line Elevation facing West



1.12 Spatial Character - The Goods Line / Darling Drive

Urbanest Building & Darling Drive - East

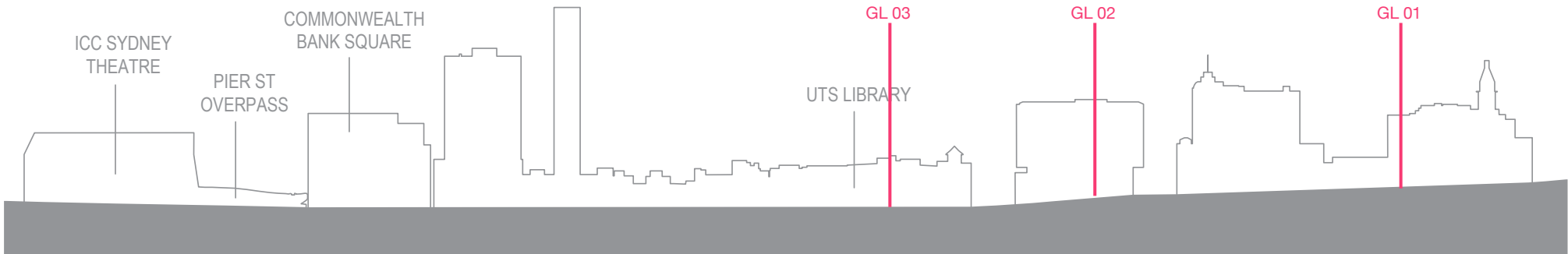


Urbanest Student Accommodation



Darling Drive

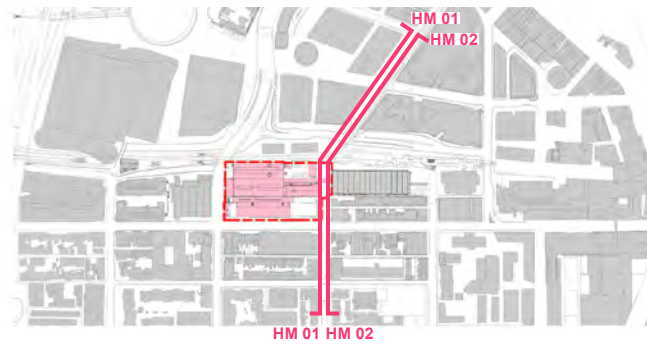
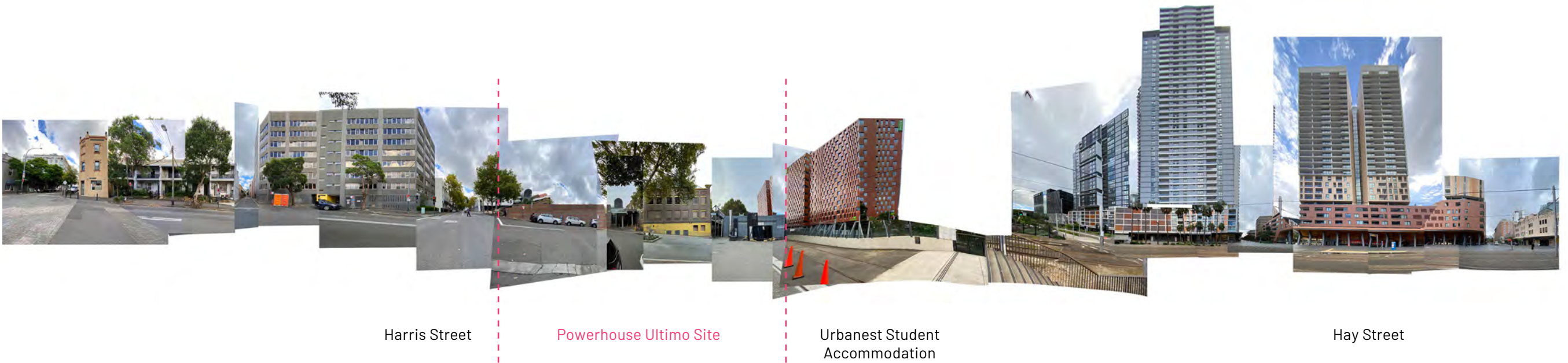
UTS Haymarket



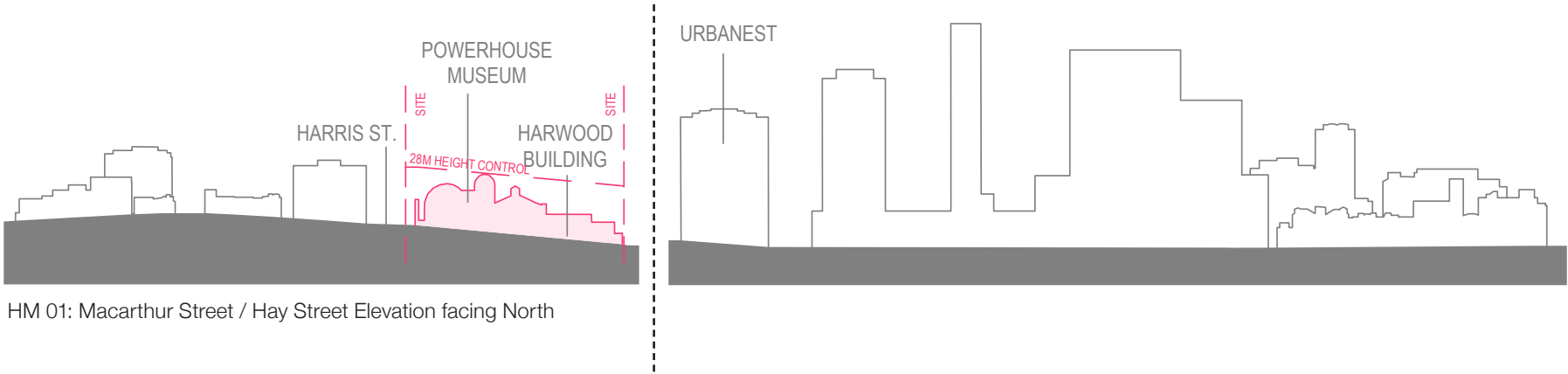
GL 09: Darling Drive Elevation facing East

1.13 Spatial Character - Macarthur St / Hay St

Macarthur St / Hay St - North



Key Plan

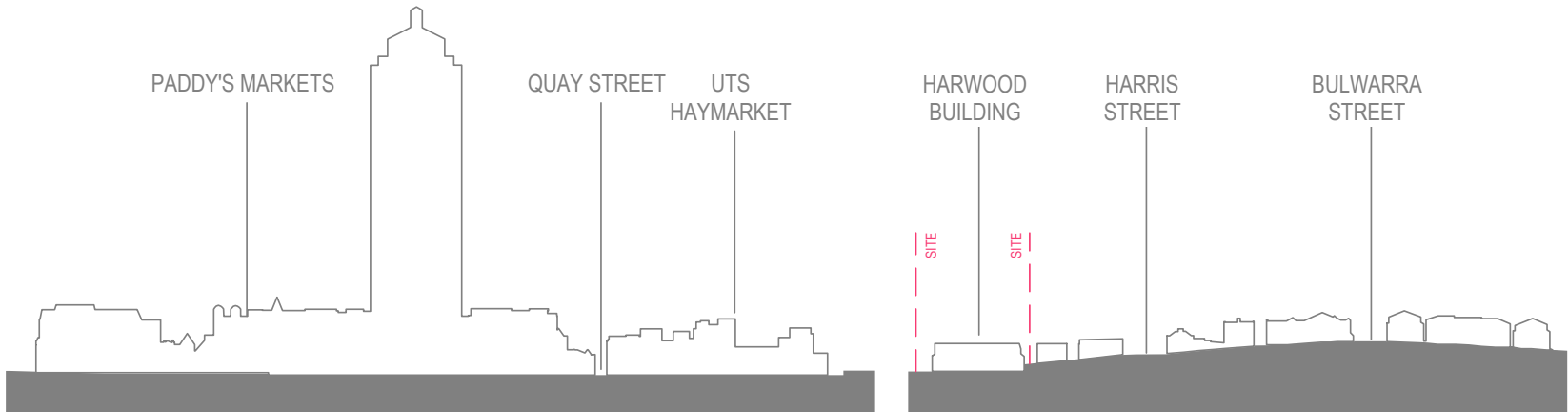


HM 01: Macarthur Street / Hay Street Elevation facing North



1.13 Spatial Character - Macarthur St / Hay St

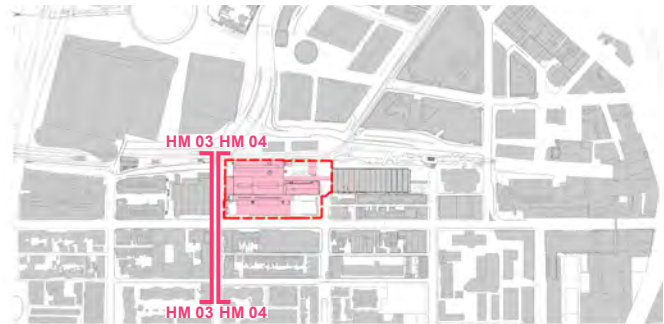
Macarthur St / Hay St - South



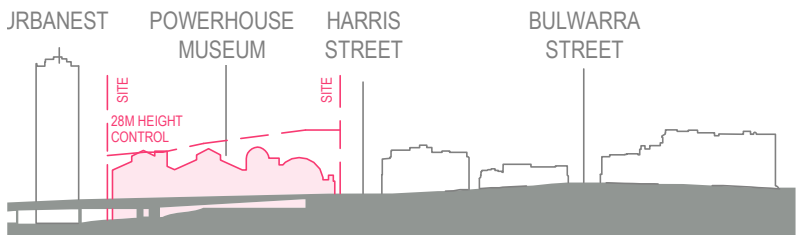
HM 02: Macarthur Street / Hay Street Elevation facing South

1.14 Spatial Character - William Henry Street

William Henry Street - South



Key Plan

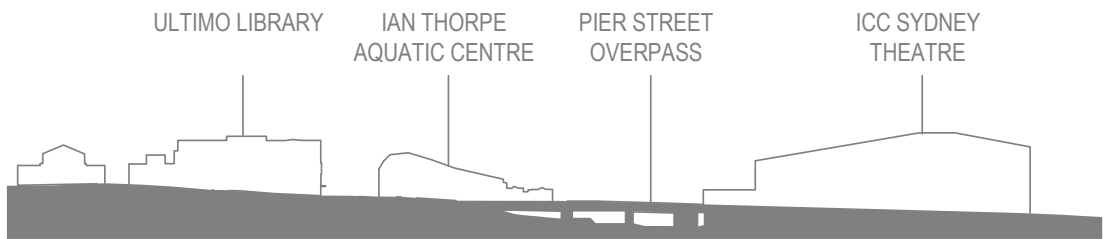
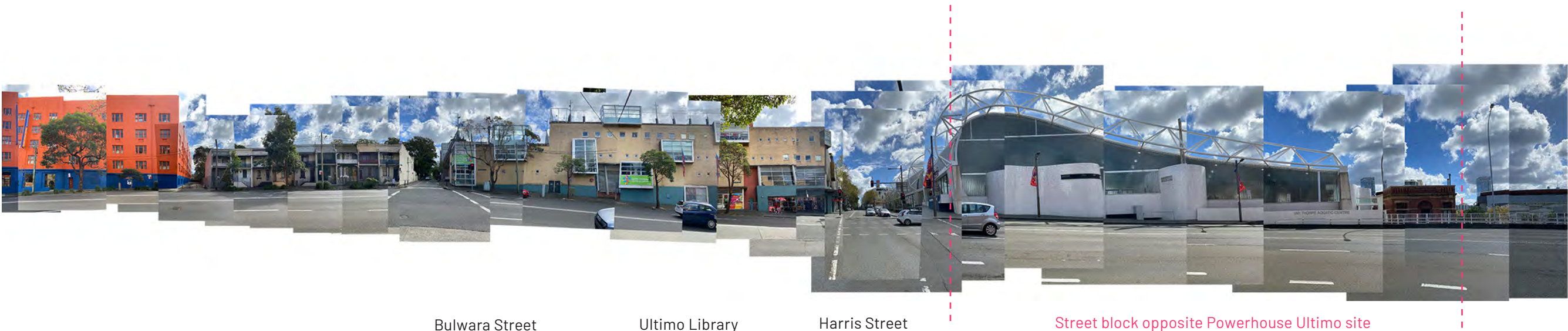


HM 04: William Henry Street facing South



1.14 Spatial Character - William Henry Street

William Henry Street - North



HM 03: William Henry Street facing North

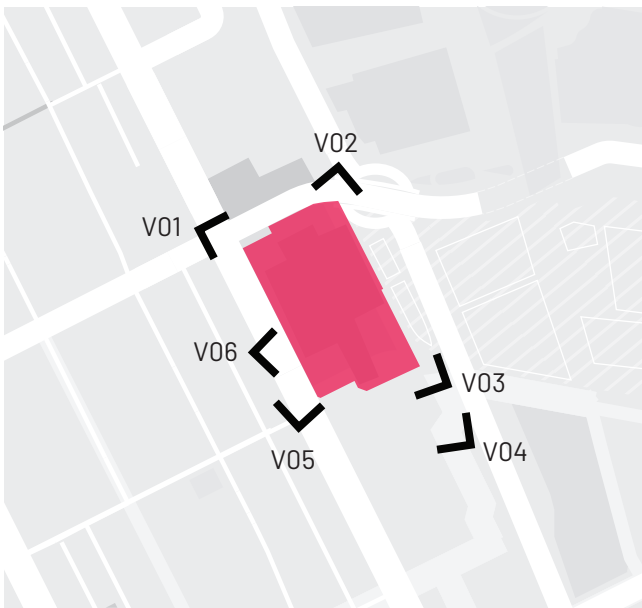
### 1.15 View Analysis - Powerhouse Ultimo Site

The view analysis captures the visual impact of the existing Powerhouse Ultimo buildings, which includes the heritage buildings: the Switch House, Boiler House, Turbine Hall, Engine House, North Annex and the Former Post Office as well as the Wran building and the adjacent Harwood building.

The Powerhouse Ultimo buildings are visible from both south and north ends of Harris Street, William Henry Street looking east, Darling Drive looking south, The Goods line looking north, and to the east from the Plaza looking north and Hay Street looking north west.

There is minimal visual impact from the far south end of The Goods Line and from Broadway looking north. There is no visual impact further beyond the site from Darling Quarter looking south west.

Existing views from immediately around the site have been taken from a detailed Visual and View Impact Assessment (VIA), which accompanies the Environmental Impact Statement (EIS) undertaken by Ethos Urban as part of the Stage 1 SSDA. A complete and detailed assessment of views is available in the VIA.



View Analysis Key



V01: NW corner of Harris St and William Henry St looking SE



V02: Pier St Northern Footpath looking SW



V03: Goods Line and end of Macarthur St looking NW



V04: Goods Line between Macarthur St and Mary Ann St looking NW



V05: SW corner of Harris St and Macarthur St looking NE



V06: Harris St looking east



1.16 View Analysis - Wider Context

The wider view analysis captures the visual impact of the existing Powerhouse Ultimo buildings, from the surrounding context beyond the immediate site.

The Powerhouse Ultimo buildings have minimal to no existing visual impact from the south end of the Goods Line opposite UTS Ultimo and from Broadway looking down Harris street as are obscured by surrounding buildings and trees.

There is no visual impact from the Darling Quarter precinct, with the ICC Theatre and high rise buildings dominating the skyline.

Some visual impact of the Powerhouse buildings is visible from Hay Street and Darling Drive in Haymarket as well as down William Henry Street looking east. The visible portion of the Powerhouse buildings in these views have minimal presence within their surroundings and do not dominate the skyline.

The wider context view analysis was undertaken through a series of site visits by JWA to the Powerhouse Ultimo site and it's surrounds during the preparation of the Stage 1 SSDA.



View Analysis Key



V07: The Goods Line opposite UTS Ultimo



V08: Hay Street



V09: Broadway facing north



V10: Darling Drive facing south



V11: Tumbalong Park facing ICC Theatre



V12: William Henry Street facing east



1.17 Overshadowing - Existing

Existing buildings on the site create a negligible amount of overshadowing to the surrounding context at present. The Turbine Hall, Boiler House and Switch House heritage buildings create partial overshadowing to the south-east courtyard from midday through to the afternoon at most times of the year.

Overshadowing is cast to the existing external courtyard to the south-east of the site by the student accommodation towers east of the site across the year. The towers fully overshadow the south-east external courtyard from morning to late afternoon during the winter solstice, and from morning to midday most other times of the year. The existing two storey town houses to the south of Macarthur Street are overshadowed by the towers in winter from early morning to 10am.

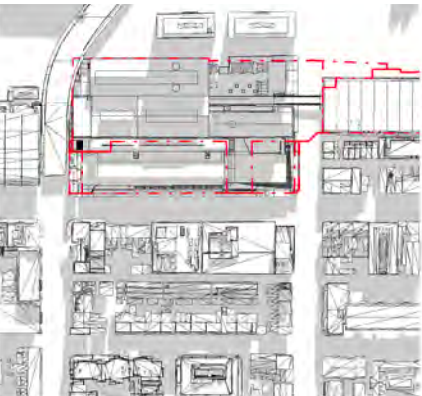
The Harris Street forecourt is most impacted by overshadowing in the early morning during the winter, being almost fully overshadowed by the Urbanest towers, Switch House and Wran building at 9am during the winter solstice. The forecourt is minimally overshadowed by the Switch House from early morning to midday and by the Wran building from midday to early afternoon, being least impacted throughout the day in spring and summer and most impacted during winter.

Legend

Lot boundaries

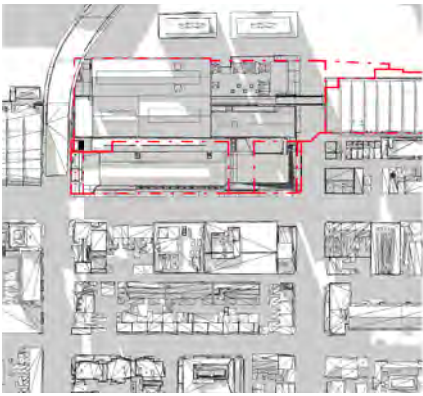
Existing overshadowing

Shadow Diagrams - Autumn Equinox



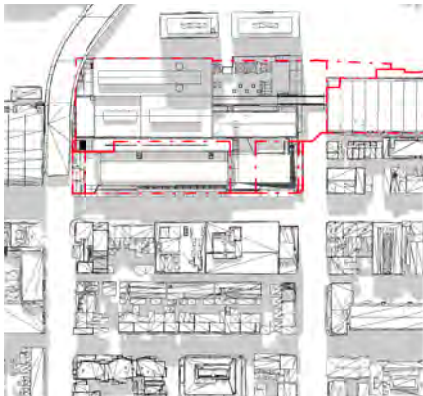
21 March 2022 - 9am

Shadow Diagrams - Winter Solstice



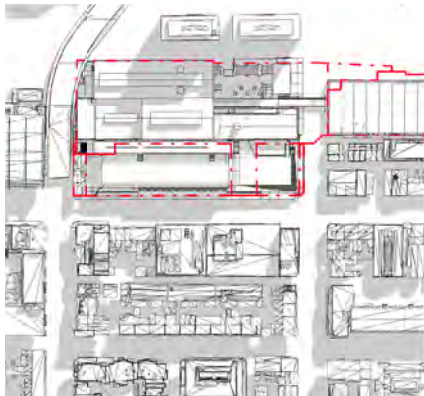
21 June 2022 - 9am

Shadow Diagrams - Spring Equinox

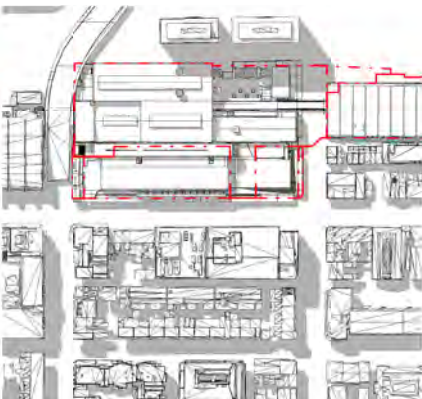


23 September 2022 - 9am

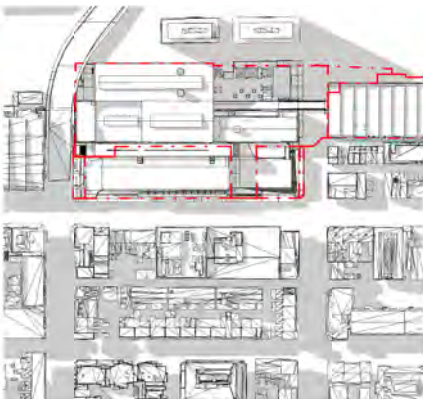
Shadow Diagrams - Summer Solstice



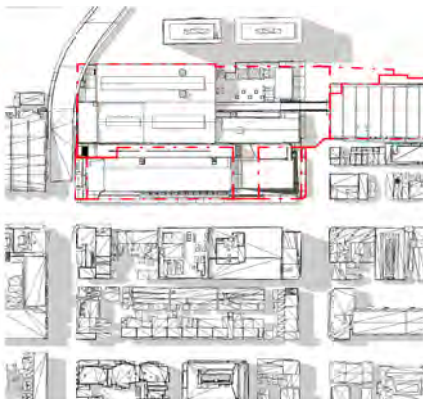
21 December 2022 - 9am



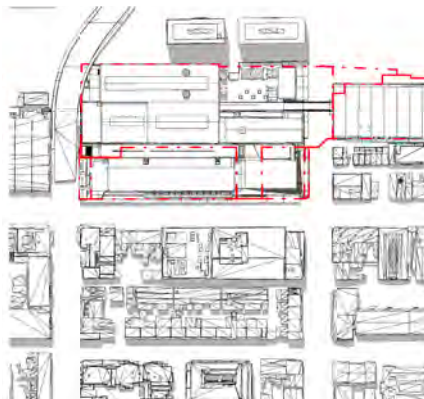
21 March 2022 - 12pm



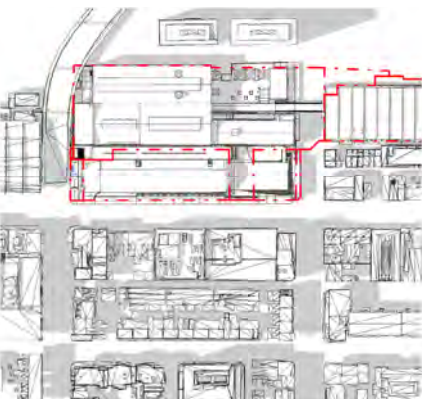
21 June 2022 - 12pm



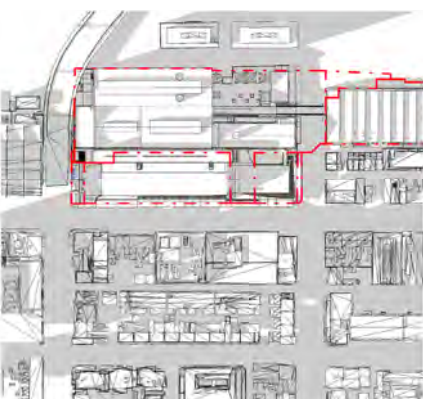
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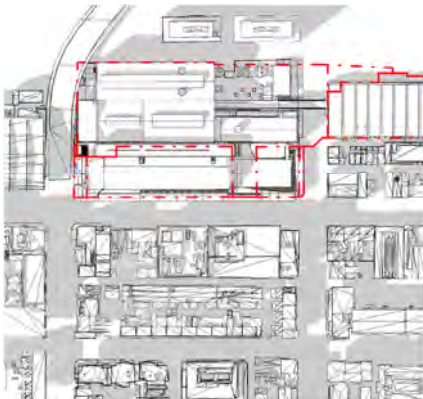
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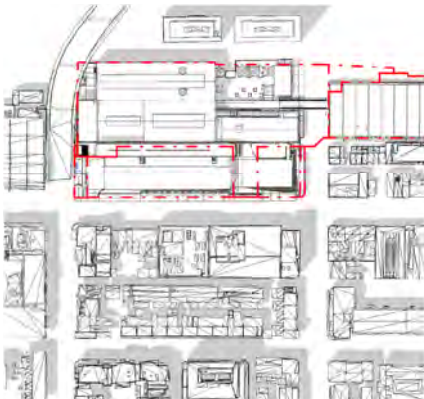
21 March 2022 - 3pm



21 June 2022 - 3pm



21 March 2022 - 3pm



21 December 2022 - 3pm

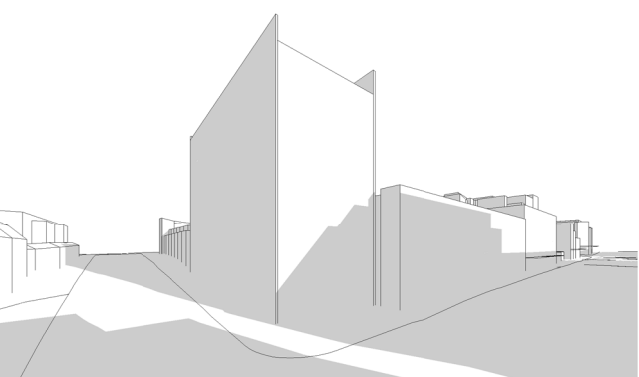


1.17 Overshadowing - Existing

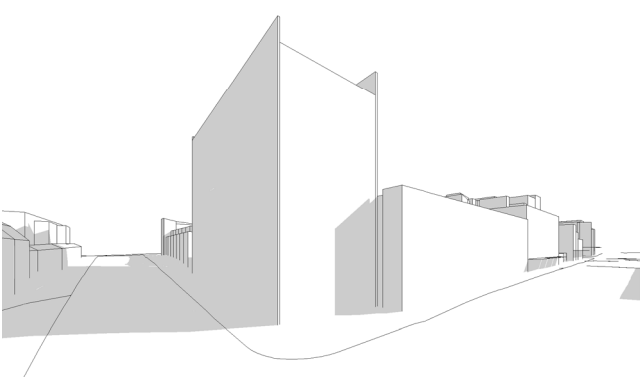
Photo 1 - Harris St south end facing west



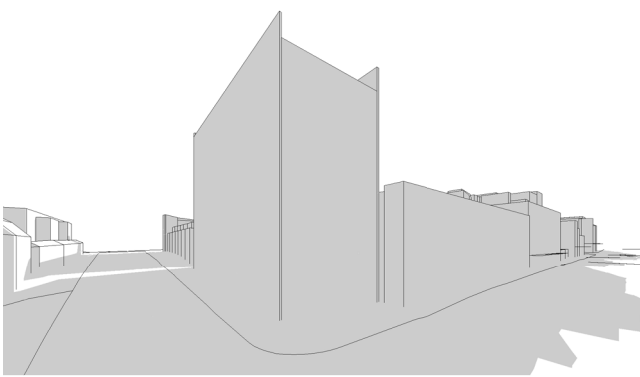
Street View 1 - Harris St south end facing west



21 June 2022 - 9am



21 June 2022 - 12pm

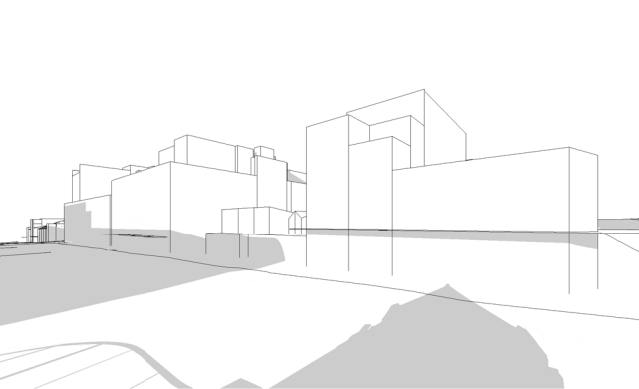


21 June 2022 - 3pm

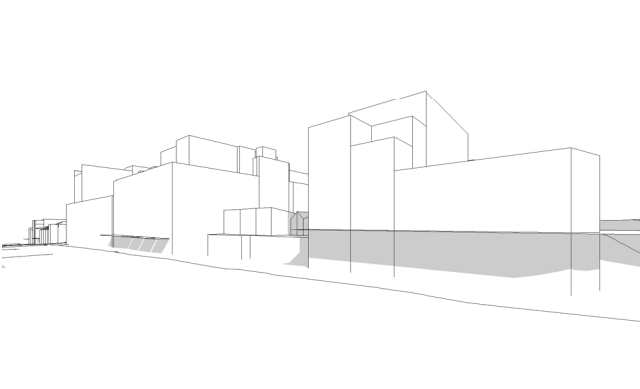
Photo 2 - Harris St north end facing west



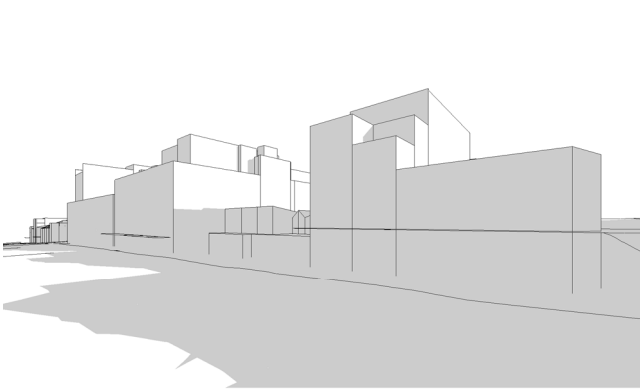
Street View 2 - Harris St north end facing west



21 June 2022 - 9am



21 June 2022 - 12pm

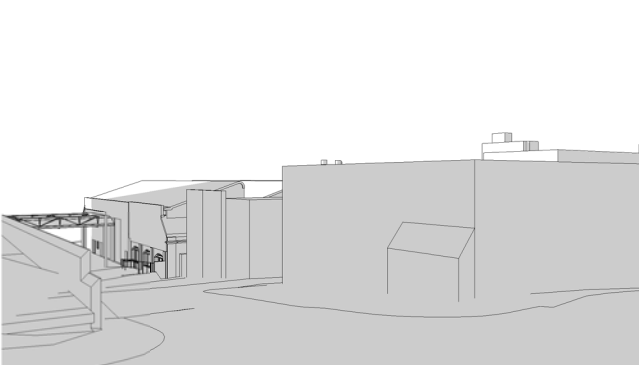


21 June 2022 - 3pm

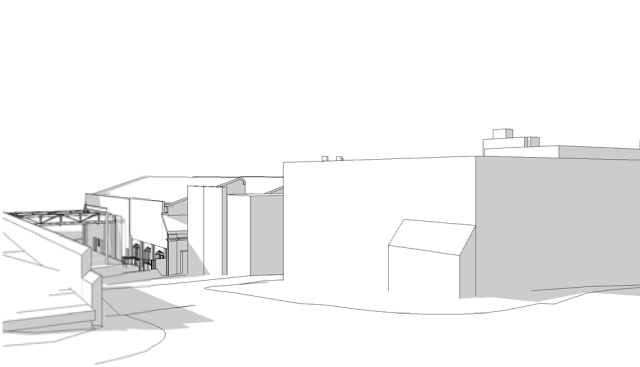
Photo 3 - Macarthur St west end facing south



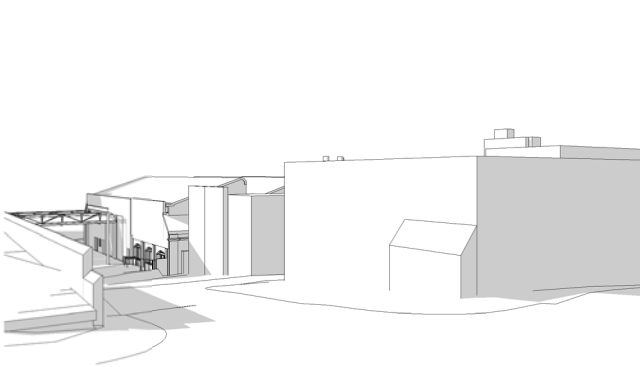
Street View 3 - Macarthur St west end facing south



21 June 2022 - 9am



21 June 2022 - 12pm



21 June 2022 - 3pm



# 1.18 Overshadowing - Building Envelope

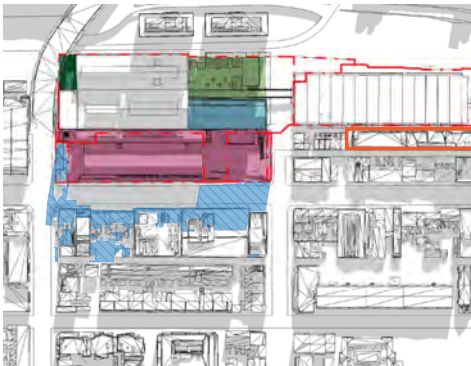
The maximum additional overshadowing to the context surrounding the site occurs during the winter solstice and autumn equinox. The impacted buildings to Harris Street and Macarthur Street includes several two storey Victorian residential terraces as well as a series of buildings, which vary from one to two storey hospitality venues to an eight storey commercial building on the corner of Macarthur and Harris Streets.

The proposed building envelope creates additional overshadowing during the winter solstice and autumn equinox to the buildings across the site, west of Harris Street. During the summer solstice and spring equinox overshadowing occurs from early morning until 10am, while during the winter solstice and autumn equinox overshadowing occurs from early morning until midday. Additional overshadowing occurs to the buildings opposite the site along Macarthur Street across the day during the winter solstice, and from mid-afternoon onwards during the spring and autumn equinox.

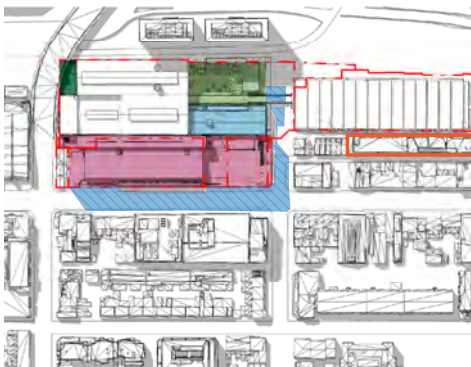
## Legend

- Lot boundaries
- Additional Overshadowing caused by Building Envelope
- Existing Apartment Block - 278-284 Systurm street

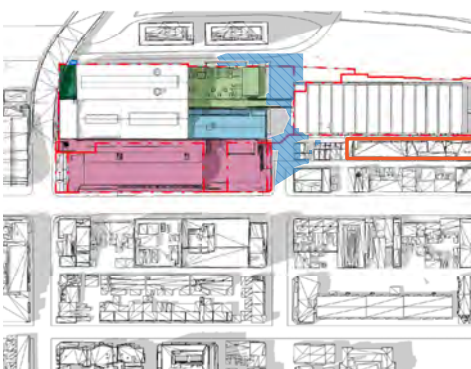
Shadow Diagrams - Autumn Equinox



21 March 2022 - 9am

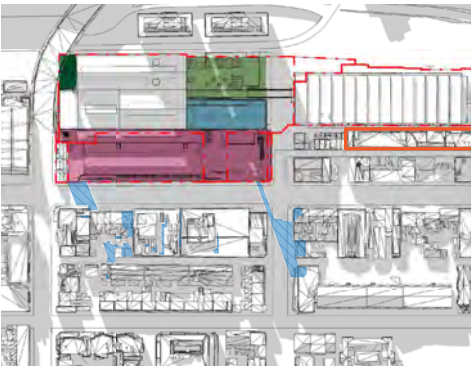


21 March 2022 - 12pm

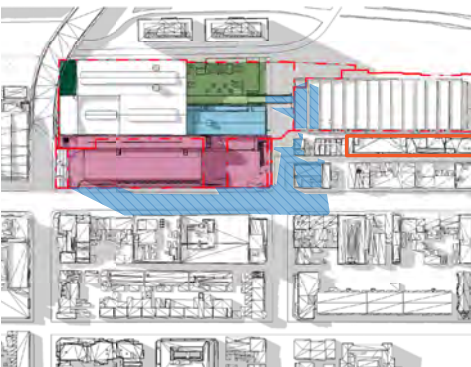


21 March 2022 - 3pm

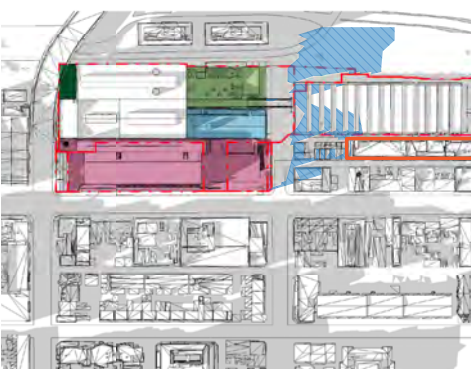
Shadow Diagrams - Winter Solstice



21 June 2022 - 9am

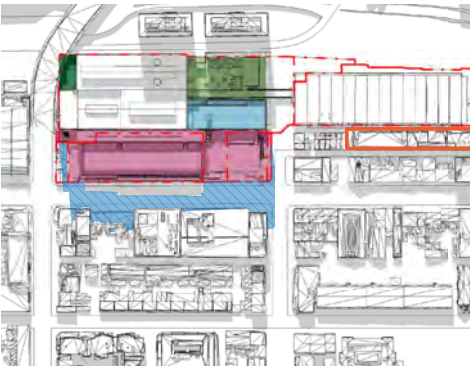


21 June 2022 - 12pm

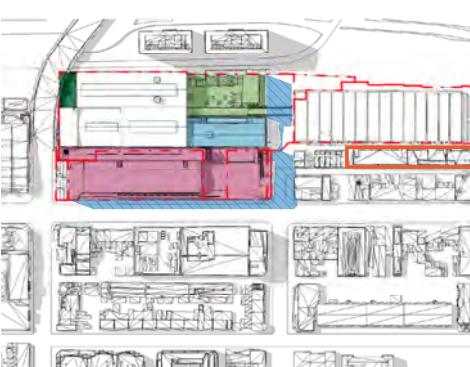


21 June 2022 - 3pm

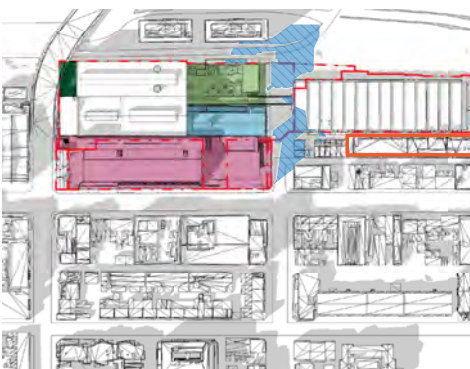
Shadow Diagrams - Spring Equinox



23 September 2022 - 9am

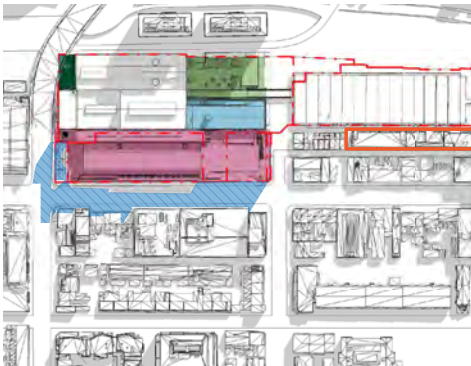


23 September 2022 - 12pm

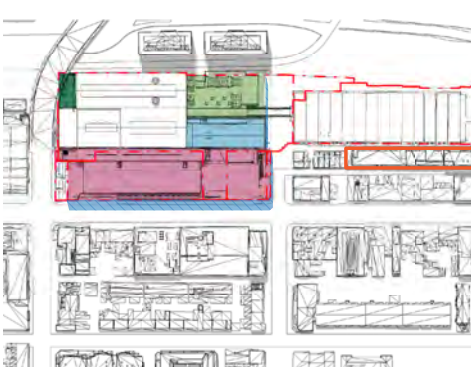


21 September 2022

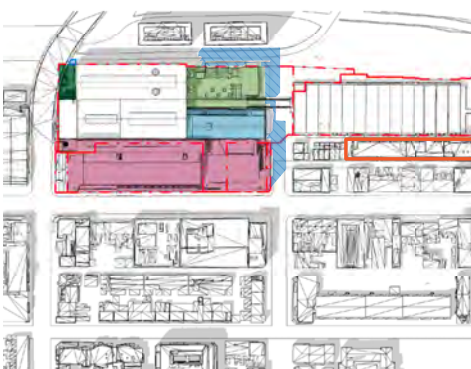
Shadow Diagrams - Summer Solstice



21 December 2022 - 9am



21 December 2022 - 12pm



21 December 2022 - 3pm



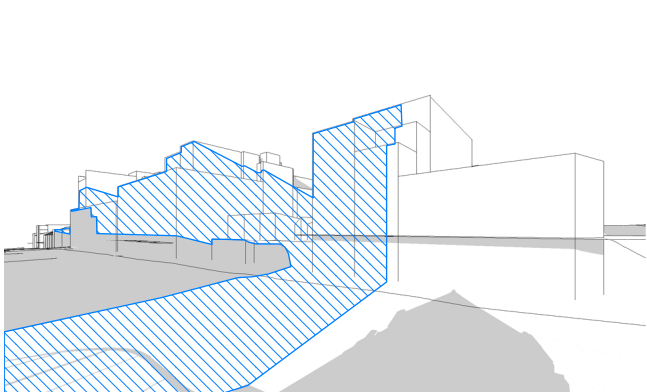
# 1.18 Overshadowing - Building Envelope

Photo 1 - Harris Street north end facing west



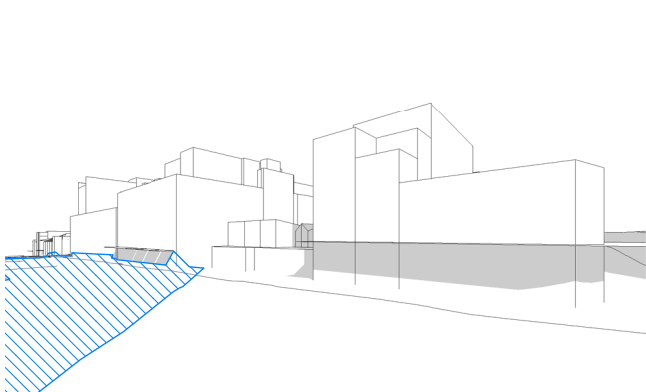
Source: John Wardle Architects

Street View 1 - Harris Street north end facing west



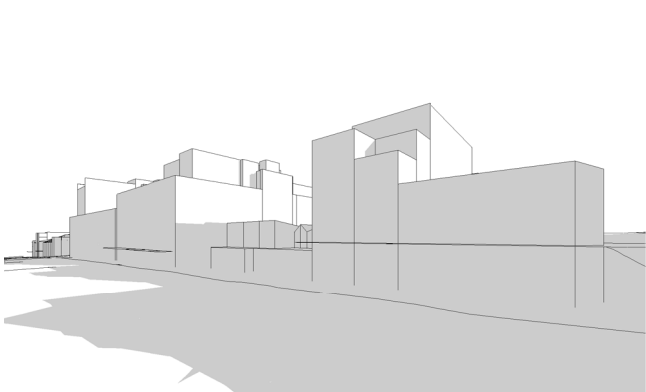
21 June 2022 - 9am

Overshadowing occurs early morning during the winter solstice from the building envelope to a majority of buildings west of Harris Street opposite the site, excluding the north east corner of the street block.



21 June 2022 - 12pm

Minimal additional overshadowing at winter solstice occurs from the building envelope to buildings west of Harris Street directly opposite the site. Overshadowing is limited to ground floor with existing awning structures also contributing to the extent of overshadowing.



21 June 2022 - 3pm


No additional overshadowing during the afternoon at winter solstice occurs from the building envelope to buildings west of Harris Street directly opposite the site. Overshadowing occurs from existing buildings to the west of the Powerhouse Ultimo site.

Photo 2 - Macarthur Street west end facing south

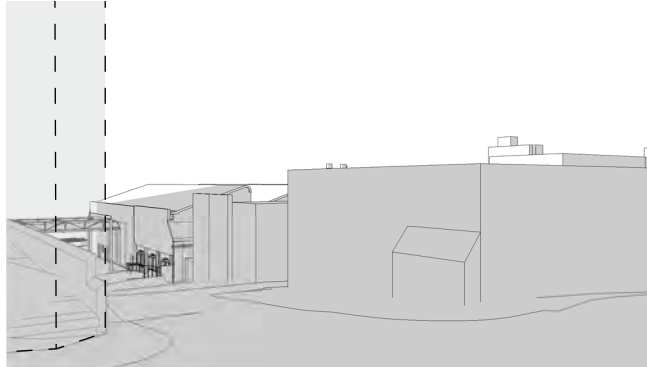


Source: John Wardle Architects

## Legend

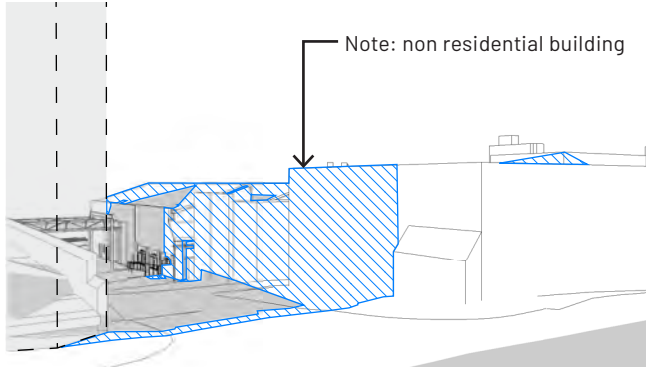
- Building Envelope outline
-  Building Envelope Overshadowing

Street View 1 - Macarthur Street west end facing south



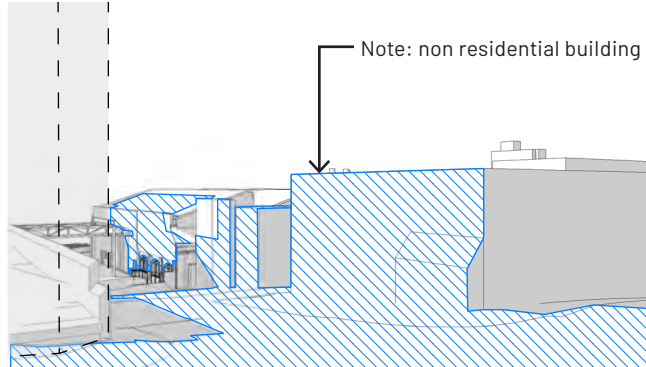
21 June 2022 - 9am

No additional overshadowing during the morning at winter solstice occurs from the building envelope response to buildings south of Macarthur Street directly opposite the site. Existing overshadowing is predominantly from the Urbanest residential towers.



21 June 2022 - 12pm

Additional overshadowing occurs at midday during winter solstice occurs from the building envelope to buildings south of Macarthur Street directly opposite the site.



21 June 2022 - 3pm

Additional overshadowing occurs in the afternoon during winter solstice from the building envelope to buildings south of Macarthur Street directly opposite the site as well as Macarthur Street and part of Harris Street.

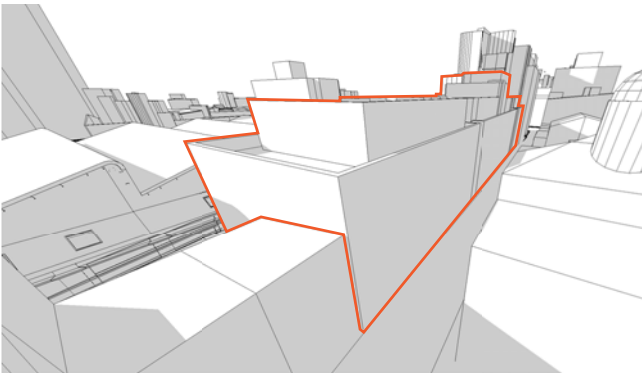
1.18 Overshadowing - Building Envelope

Photo 3 - Systrum Street north end facing south



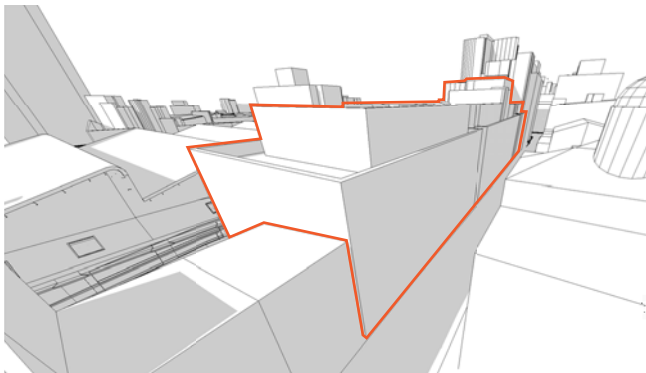
Source: John Wardle Architects

Street View 1 - Systrum Street facing south east (View towards 278 - 284 Systrum Street apartment block)



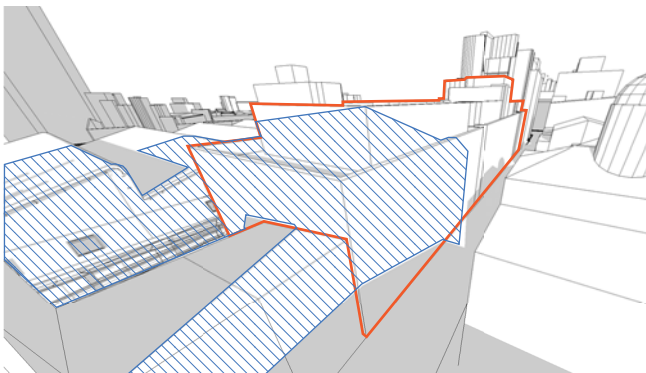
21 June 2022 - 9am

No additional overshadowing occurs in the morning at winter solstice from the building envelope to buildings located down Systrum Street. The west facade of the apartment block at 278-284 Systrum Street is in existing shadow in morning and is not affected by overshadowing from the building envelope.



21 June 2022 - 12pm


Minimal additional overshadowing occurs in the morning at winter solstice from the building envelope to buildings located down Systrum Street. The west facade of the apartment block at 278-284 Systrum Street is in existing shadow at midday and is not affected by overshadowing from the building envelope.



21 June 2022 - 3pm

Additional overshadowing occurs in the afternoon during winter solstice from the building envelope to the east of Systrum street as well as over the Harwood building. Additional overshadowing is cast over the north and part of the west facade of the apartment block at 278-284 Systrum Street.

Legend

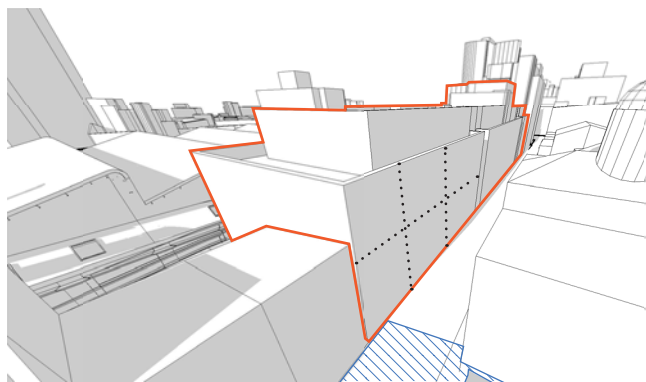
- Building Envelope outline
-  Building Envelope Overshadowing

1.18 Overshadowing - Building Envelope

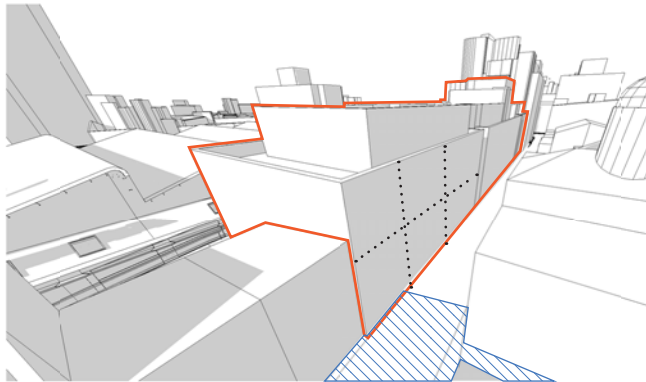
Photo 4 - Apartment Block at 278-284 Systrum Street



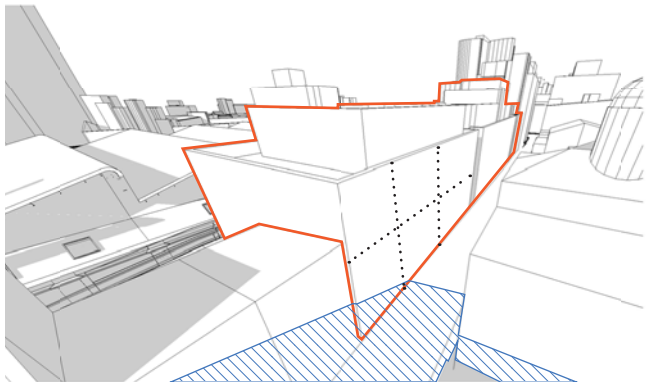
Source: John Wardle Architects



21 June 2022 - 1.30pm



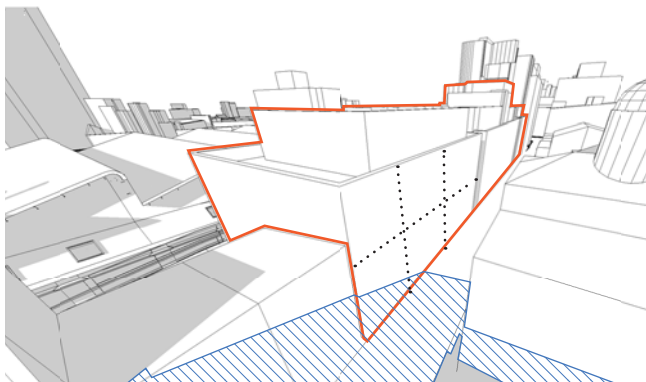
21 June 2022 - 1.40pm



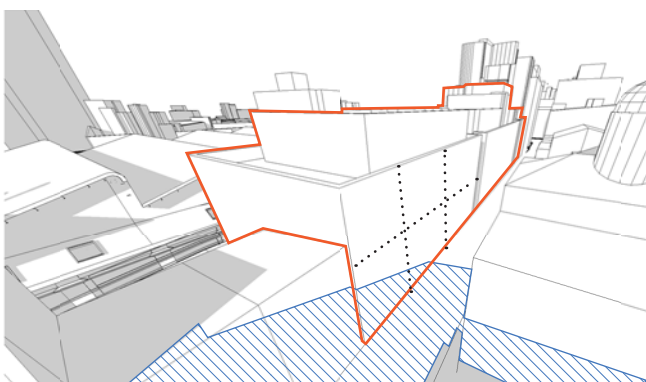
21 June 2022 - 1.45pm



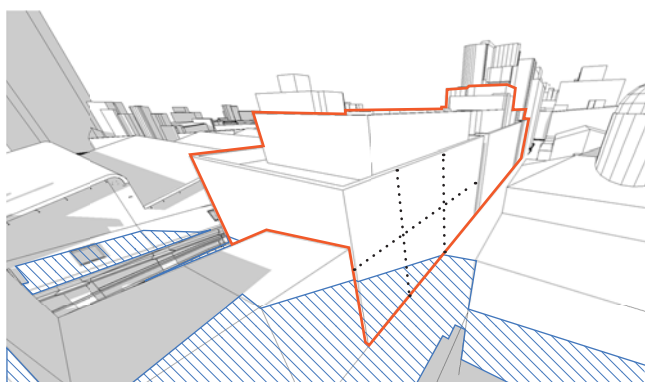
Source: John Wardle Architects



21 June 2022 - 1.50pm



21 June 2022 - 1.55pm



21 June 2022 - 2pm

Legend

- Existing Apartment Block - 278-284 Systrum street
- Indicative breakdown of apartments to west facade at 278-284 Systrum street
- Building Envelope Overshadowing

JWA have undertaken additional overshadowing analysis for the residential apartment building at 278-284 Systrum Street (82 Mary Anne Street) against the City of Sydney's 'Draft Minimising overshadowing of neighbouring apartments: Documentation guide' (Draft Guide).

This analysis confirms that the additional overshadowing would only affect a small number of apartments, each of which currently receive between 15 minutes and 2 hours of direct sunlight at mid-winter.

Each of these apartments will continue to achieve at least 15 minutes of direct sunlight at mid-winter, and accordingly the impacts of the maximum envelope would comply with the Draft Guide by maintaining the existing level of compliance with Objective 3B-2 of the Apartment Design Guide.



# 1.19 Opportunities

The urban design analysis reveals there is an opportunity to deliver on the following for Powerhouse Ultimo:

## 1. WORLD CLASS MUSEUM

- Expanded museum that is complementary to Powerhouse Parramatta.
- New and refurbished international standard spaces for exhibitions and programs.
- Dedicated fashion and design galleries

## 2. HERITAGE AND ADAPTIVE REUSE

- Continue the adaptive reuse of the site, highlighting and conserving the heritage fabric.
- Development of a new and updated Conservation Management Plan.
- Re-engage with the architecture of the original Ultimo Power Station .

## 3. CONNECTIVITY

- Review the museum’s address to Harris Street, Macarthur Street and The Goods Line.
- Explore reorientation of entrance to the city and connectivity to surrounding precincts, creating space for Powerhouse programming and community events.
- Establish a 24-hour connected precinct.

## 4. CREATIVE INDUSTRIES

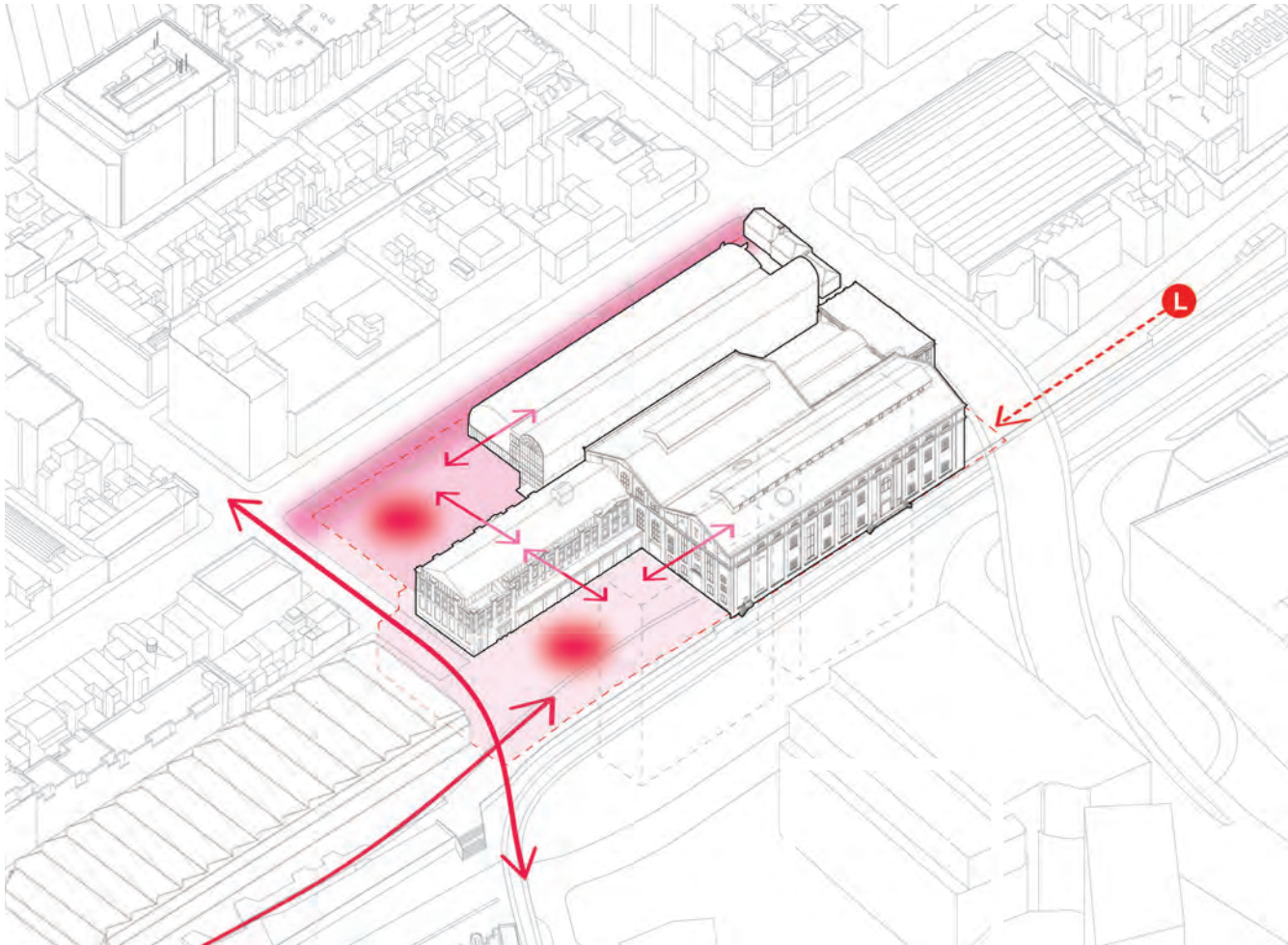
- Integrate a vibrant creative industries precinct that connects with its surrounds.
- Unite existing creative industries workspaces and institutions, including Tech Central, University of Technology and the ABC.
- Enable and support the development of the NSW creative industries.

## 5. VISITOR AND NIGHT-TIME ECONOMIES

- Delivery of a highly operational precinct that contributes to the visitor and night-time economies.

## 6. DESIGN EXCELLENCE

- Undertake a national design excellence process to source creative and innovative architectural responses to the site and functional brief.



- Key**
- Harris Street Engagement
  - Possible Pedestrian Connection
  - Key Pedestrian Movement
  - Opportunity Museum Expansion
  - Key Public Transport (Light Rail)
  - Key Opportunity for Built Form and/or Public Space

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## 2.0 Key Urban Moves



## 2.1 Overview

The renewal of Powerhouse Ultimo provides a unique opportunity to create a vibrant, cultural precinct to the south of the Sydney CBD. The Powerhouse Ultimo is well complemented by adjacent creative, educational, and institutional uses, with the University of Technology, Sydney, TAFE NSW Ultimo Campus and the ABC located nearby.

Drawing upon its rich, heritage and architectural fabric provides a strong foundation for the revitalisation of the Powerhouse Ultimo and to facilitate a thriving public domain, which is a vital component to the ongoing cultural life of Sydney.

This section identifies a series of key urban moves, which seek to guide the renewal design and inform positive heritage, urban design, and public realm outcomes. The key urban moves present a series of aspirational design strategies for the Powerhouse Ultimo Renewal that respond to the urban analysis of preceding sections.

These strategies were developed through an analysis of the policy context applicable to the site, alongside observational site analysis and resultant opportunities and constraints implicit in the site and its physical fabric.



Powerhouse Ultimo. Image credit: Katherine Lu



View north across the Powerhouse Ultimo Site. Turbine Hall in centre, concealed by the Switch House, and modern constructions (Level 1 courtyard café and covered walkway). Source: Powerhouse Ultimo



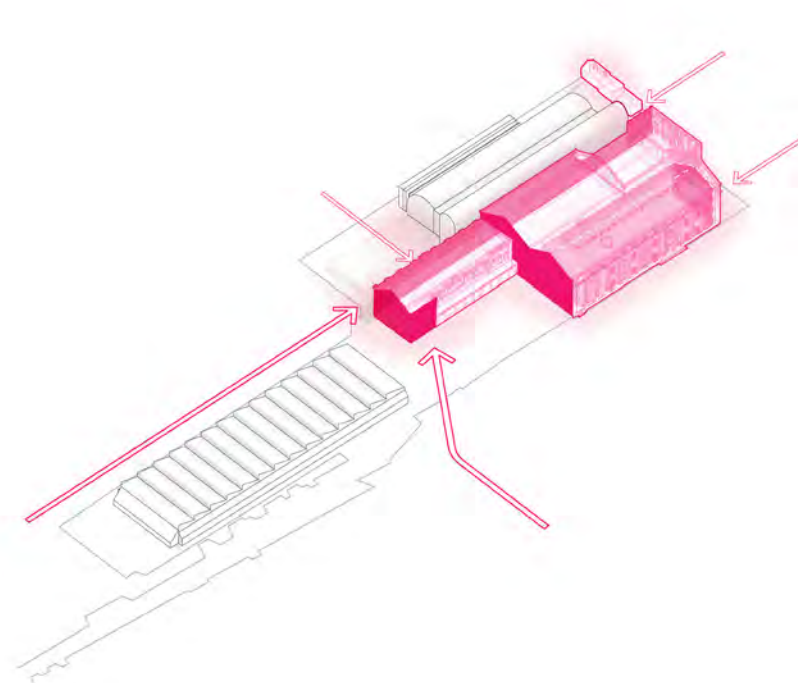
Powerhouse Ultimo. Image credit: Dan Boud



Powerhouse Ultimo. Image credit: Katherine Lu

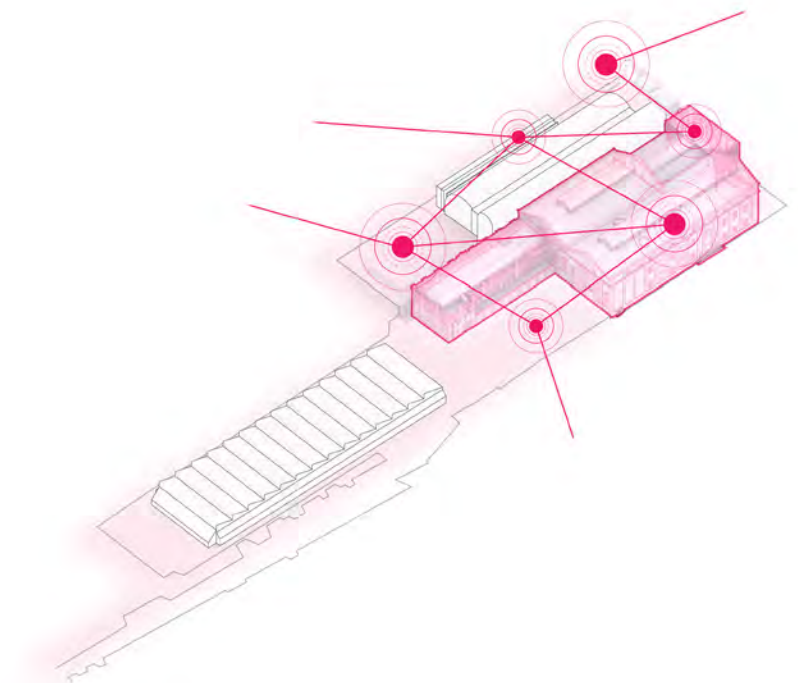


2.2 Key Moves - Urban Design



Reveal and celebrate heritage fabric and spaces

Reveal the important heritage fabric and spaces to the wider public domain network allowing improved access to, and appreciation for, these buildings and spaces.

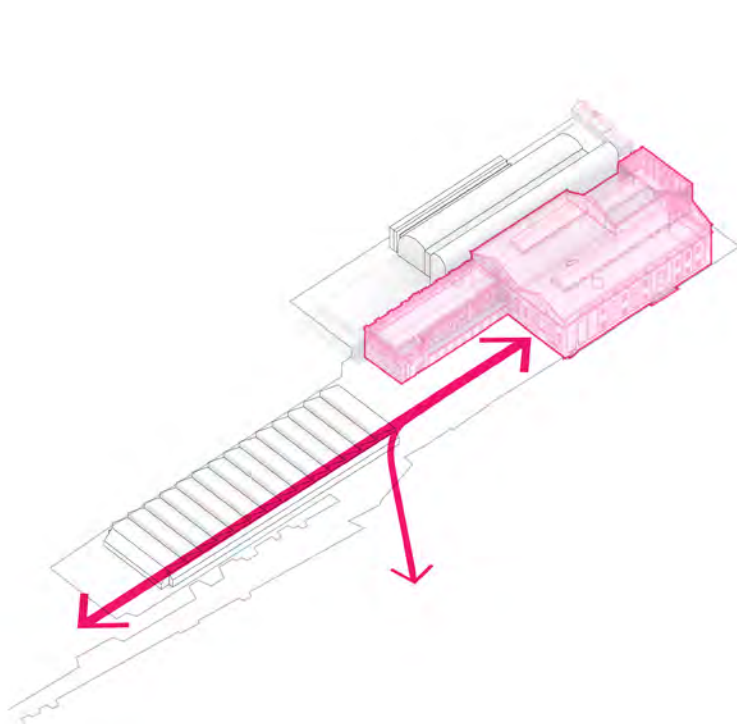


Adaptive reuse for contemporary museum practice

As Australia’s leading museum of design and innovation Powerhouse Ultimo will reflect the changing needs of the community it serves; it must be contemporary and relevant in its outlook and in the way it presents its stories and its collections. The continued adaptive reuse of the heritage fabric of the museum will reflect these contemporary methods and requires ongoing flexibility and agility of the built form.

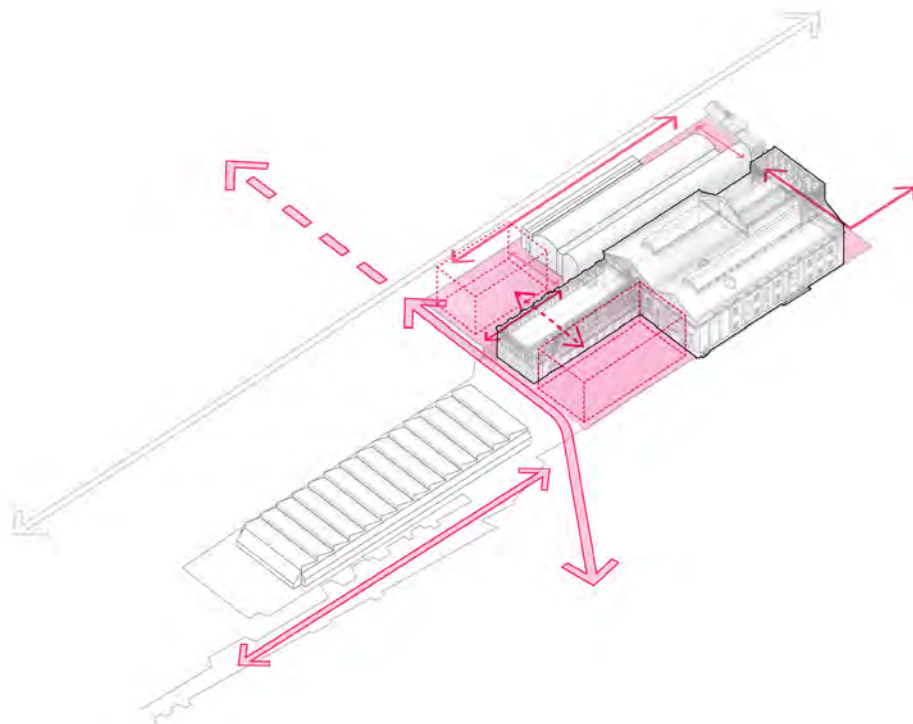


2.2 Key Moves - Urban Design



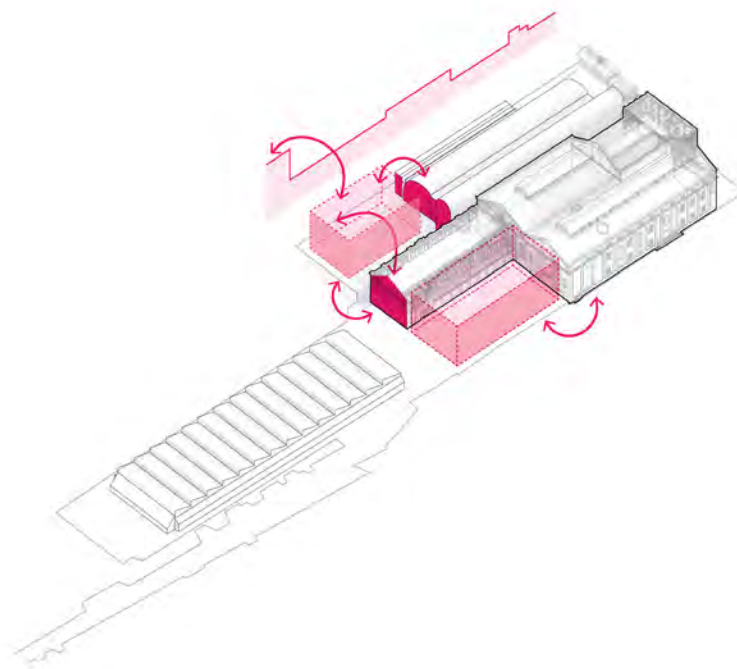
Continue the cultural spine

The continuation of the Goods Line increases connectivity to expansive public domain space, increases the visibility of the Harwood building and provides an opportunity to reorientate the Museum’s public address and entrance to the CBD.



Create a connected and engaging public domain

An opportunity exists to introduce a network of lanes and public spaces within the site, to seamlessly connect with the wider public domain network, particularly along the Goods Line and Hay Street.



Arrange new built form to be responsive to the site and its context

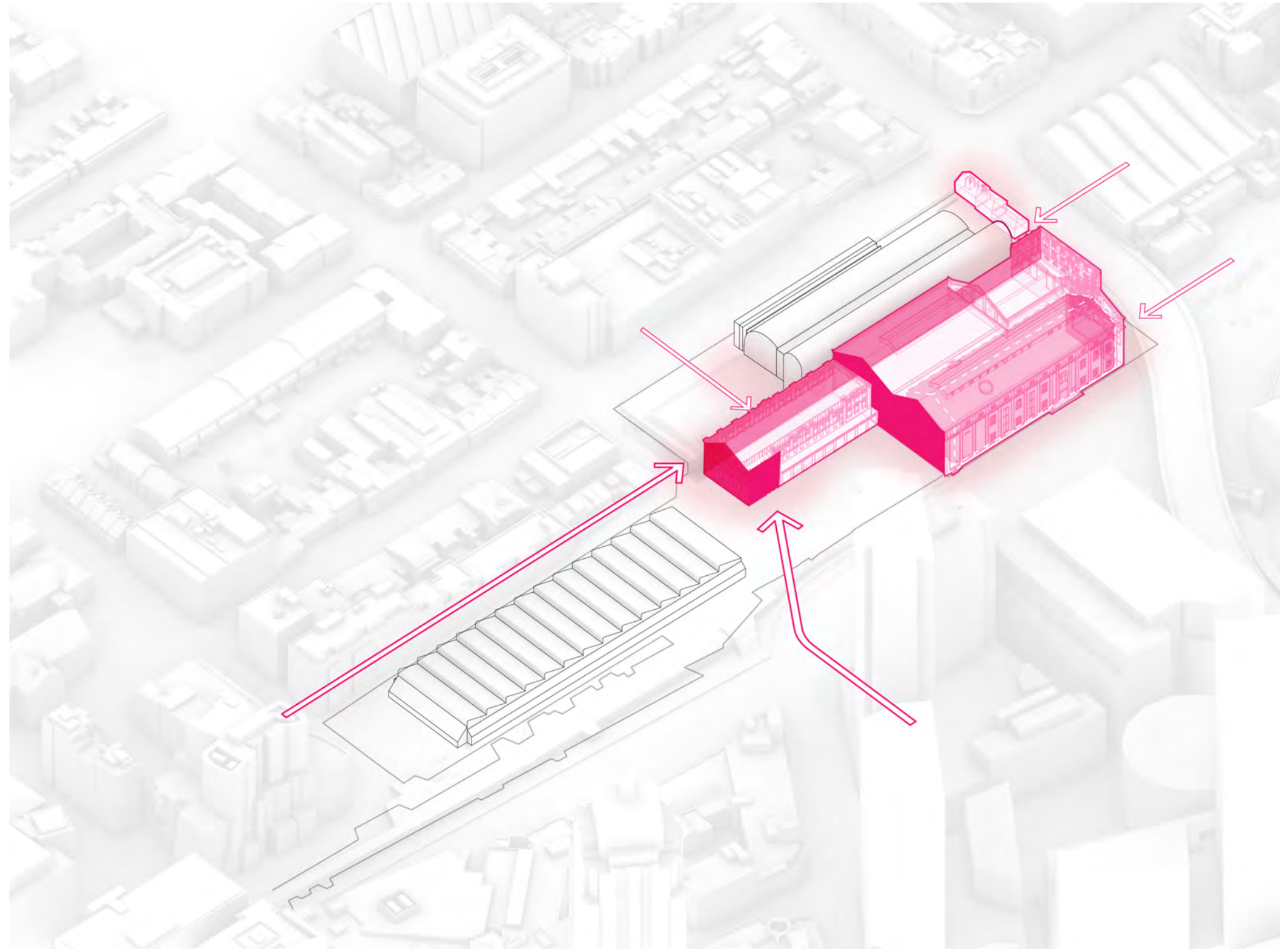
The new floor space and built form should improve the relationships between heritage fabric, the public domain network and surrounding streetscapes.

## 2.3 Reveal and celebrate heritage fabric and spaces

The site and its existing heritage fabric is characterised by largely intact, industrial-scaled masonry buildings of high quality and a series of more intimate spaces around and between these buildings. To a considerable extent, these buildings are removed or obscured from key public vantage points.

An opportunity exists to configure the design 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.

This opportunity supports a programmatic reinterpretation of the significant industrial history of the site in a meaningful way and most importantly, should celebrate the remaining fabric of the Powerhouse Ultimo heritage buildings: the Switch House, Boiler House, Turbine Hall, Engine House, North Annex and the Former Post Office reminding us of Sydney's rich industrial past.

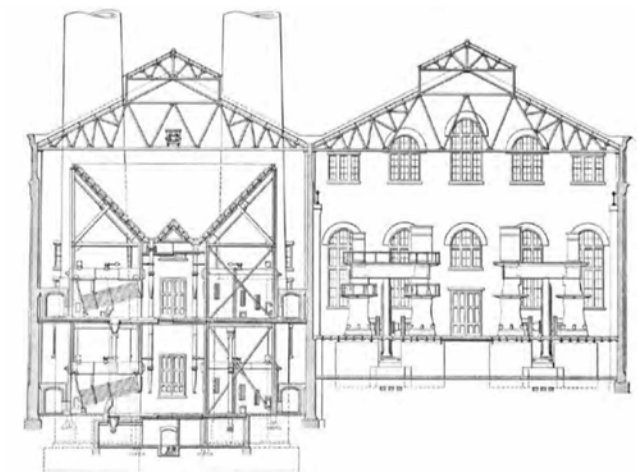




### 2.3 Reveal and celebrate heritage fabric and spaces

#### Revealing Heritage

During its 40-year utilisation (Stage 1 1981, Stage 2, 1988) of the site, there have been several additions and modifications to the Powerhouse site. Externally the finely detailed heritage facades should be given an appropriate curtilage where possible. Direct and indirect views of these facades assist an understanding of the scale of these buildings in their context. The approach to restoration and intervention should interpret and celebrate the heritage elements within the site.



A section drawing of the Boiler House and Turbine Hall soon after completion of the extensions between 1902 and 1905.



The interior of the Turbine Hall during the 1980s adaptation.

#### Celebrating Heritage

The Heritage Core celebrates the industrial history of the site. Opportunities to further reveal the robust character should be explored. Internally, the volumes of the Turbine Hall and Boiler Hall are to be celebrated and the scale of the buildings appreciated. Retention of the gantries and equipment within the Turbine Hall are important reminders of its industrial past.



The Ultimo Post Office c1905. Source: NSW State Archives.



The Engine House before its conversion into the Powerhouse Ultimo Museum in 1988. Source: Curio Projects



Stage 2 redevelopment of The Powerhouse Ultimo in the 1980s. Source: Curio Projects, Powerhouse Ultimo



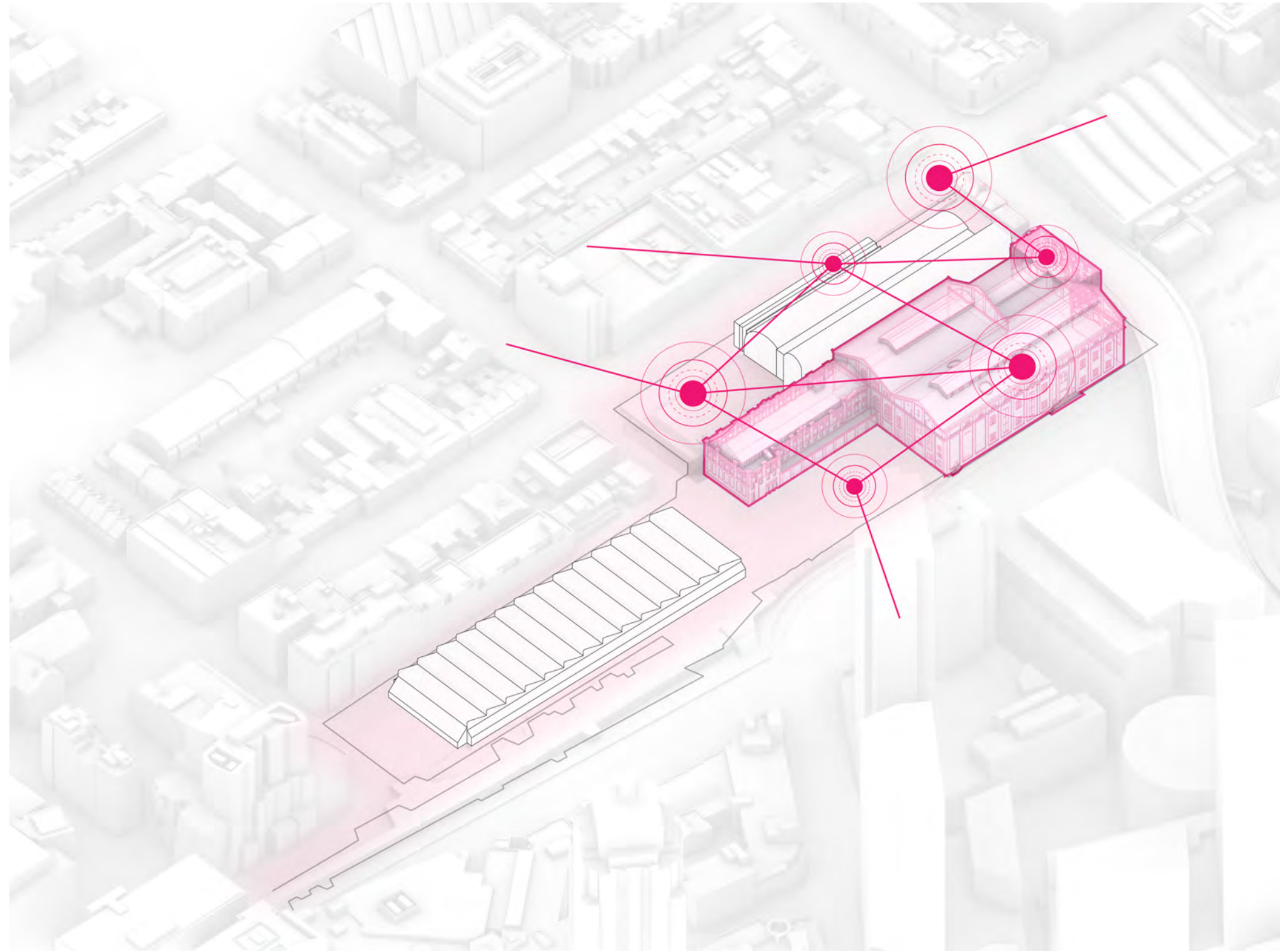
## 2.4 Adaptive reuse for contemporary museum practice

As Australia's leading museum of design and innovation, the Powerhouse should reflect the changing needs of the communities it serves. Contemporary museum programming is diverse and multi-modal, where once traditional exhibition spaces are now also used to present content in various modes and forms.

A revitalised Powerhouse Ultimo requires great flexibility with an improved ability to:

- Renew exhibitions
- Increase visitation and access to the Powerhouse Collection
- Support a changing program
- Create column free exhibition spaces
- Give primacy to the museum exhibition experience

The design should respond carefully and thoughtfully to the remaining industrial character, patina and spatial volumes.





2.4 Adaptive reuse for contemporary museum practice



Powerhouse Ultimo taking shape in 1986. Image credit: Robert Pearce



Stage 2 redevelopment of Ultimo Power Station in the 1980's. Image credit: Powerhouse Ultimo



Stage 2 redevelopment of Ultimo Power Station 1980s, Source: Powerhouse Ultimo



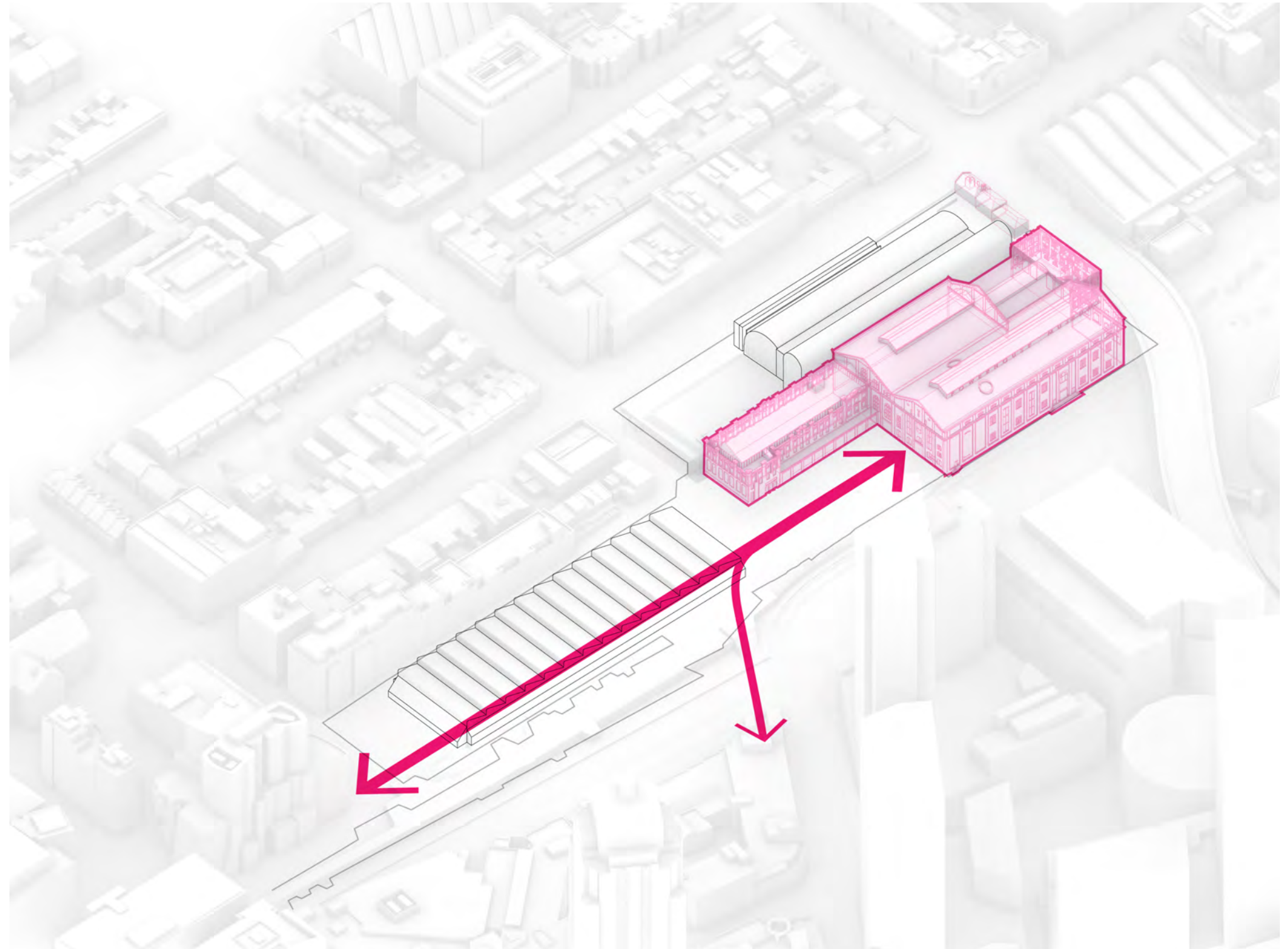
Artist's impression, Turbine Hall, Image credit: MOGAMMA



## 2.5 Continue the cultural spine

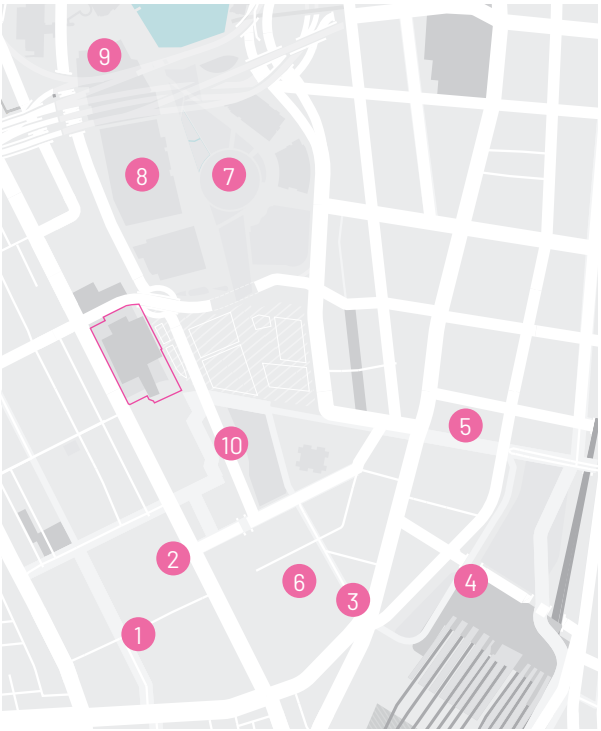
The Goods Line is a successful urban renewal project that establishes a high quality public domain and is pedestrian focused. UTS, ABC, Central Station and the existing Powerhouse Museum each have good access and address to the Goods Line. The emergence of the new Tech Central precinct will only serve to reinforce the value of the Goods Line as a key civic connector.

Through this relationship with the Goods Line and with an active and engaging public domain, Powerhouse Ultimo can also serve to unlock connections to its north and east. The International Convention Centre, Tumbalong Park and Darling Quarter together with The Capitol Theatre and Darling Square reinforce what could be a thriving cultural spine at the southern end of the Sydney CBD





2.5 Continue the cultural spine



Cultural Institutions surrounding Powerhouse Ultimo



1 UTS & Alumni Green  
Source: Aspect Studios



2 TAFE NSW  
Source: TAFE NSW



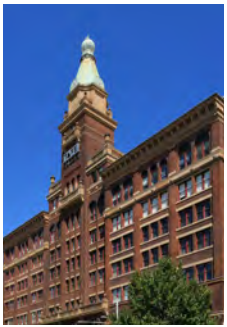
5 Capitol Theatre  
Source: www.timeout.com



7 Tumbalong Park  
Source: Aspect Studios



6 ABC HQ  
Source: www.abc.net.au



3 TAFE NSW  
Source: TAFE NSW



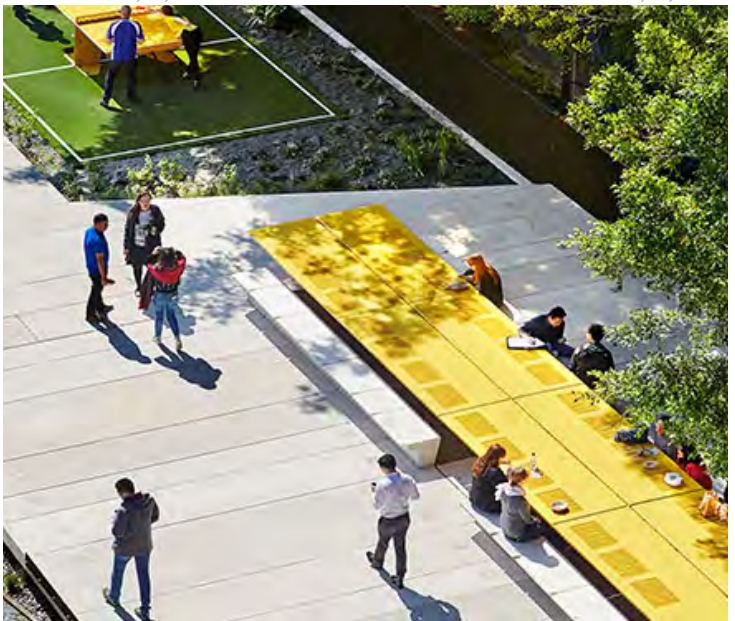
4 Central Station  
Source: Sydney-City Blogspot



8 ICC Sydney  
Source: ICC Sydney



9 ICC Sydney  
Source: ICC Sydney



10 The Goods Line  
Source: Aspect Studios



## 2.6 Create a connected and engaging public domain

The world's most successful cultural precincts are embedded within the surrounding urban fabric and are an authentic extension of the city - where workers, local residents and the public each have access to high amenity public space.

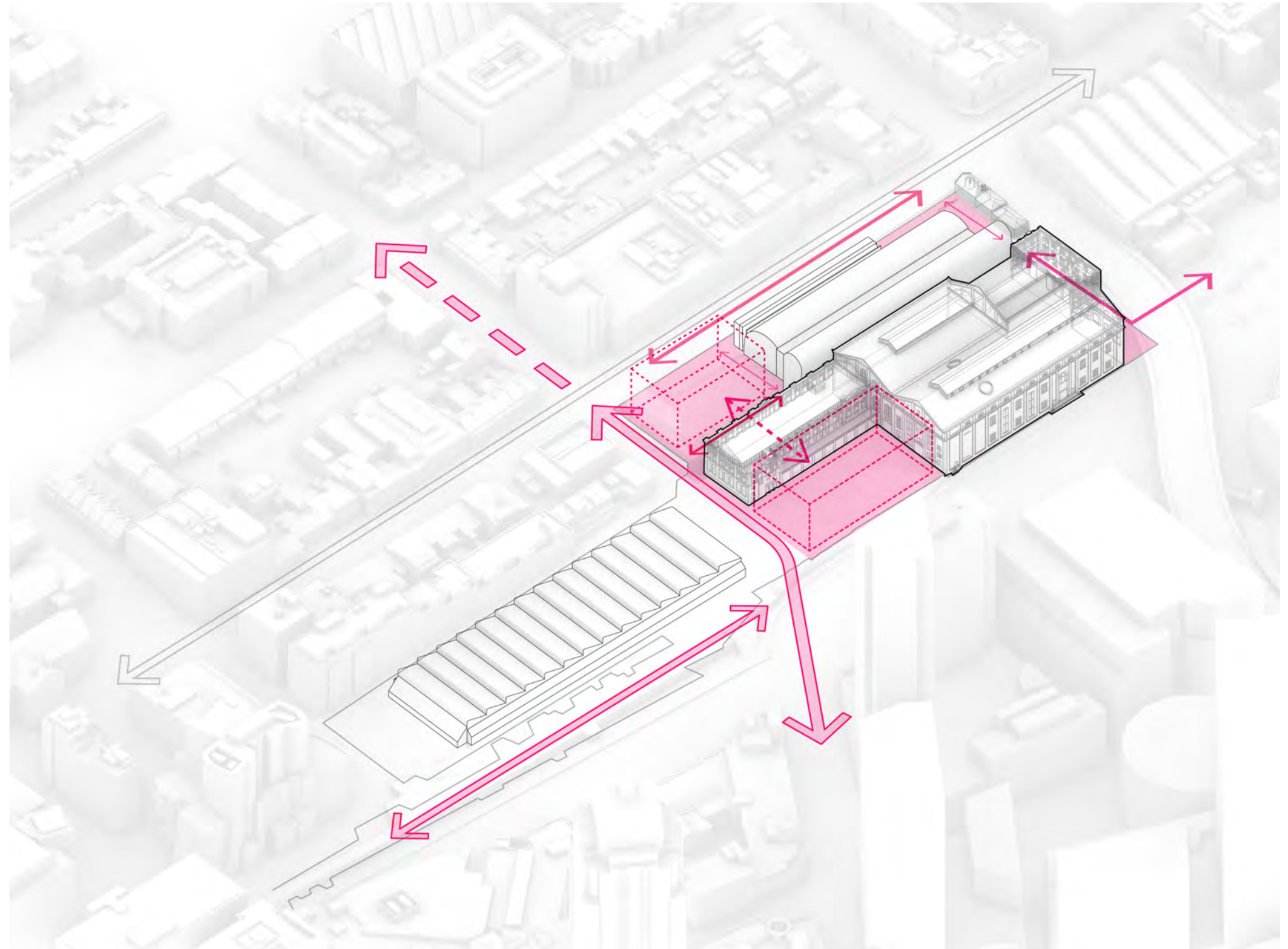
An opportunity exists to introduce a network of lanes and public spaces within the site, to seamlessly connect with the wider public domain network, particularly along The Goods Line and Hay Street.

Key opportunities exist to improve east-west links, connecting Darling Square and Chinatown, to the established neighbourhoods into Ultimo/Pymont and beyond.

A key opportunity exists for a new iconic public space within the site - in the location of the existing Harris Street forecourt and/or at the termination of The Goods Line, edged by revitalised heritage buildings and along the key east-west link.

Additional pedestrian focused lanes will allow for more permeability, unraveling heritage and creating a curious network of spaces to discover. This includes an opportunity to provide greater east-west and vertical connectivity through the site/museum.

The creation of a well connected network in this precinct will further inspire and unlock the potential of future connections to other neighbourhoods, especially to Harris Street Village and Pymont.





## 2.6 Create a connected and engaging public domain



The Goods Line, a key pedestrian link, Aspect Studios. Image Credit: Florian Groehn.



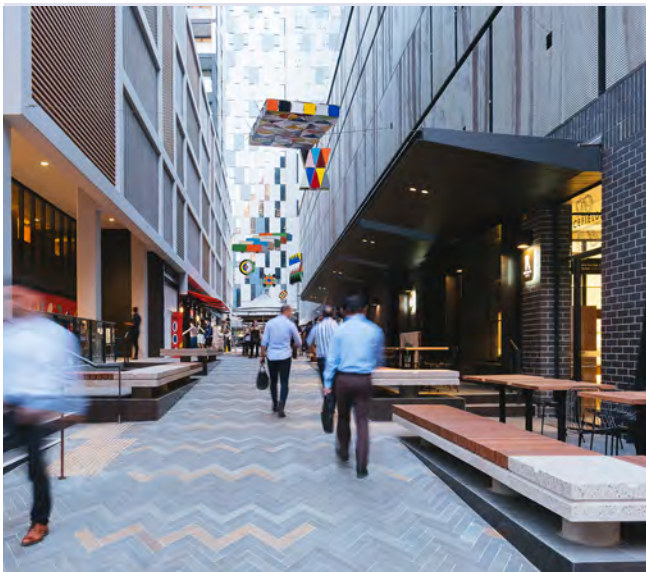
The Goods Line, Sydney Architecture Festival. A space for community interaction. Image credit: Aspect Studios

### A well connected network

The precinct will create a network that continues to enhance the established urban permeability whilst bringing the unique experience of the precinct. Unlocking the precinct through providing well defined entries and access points will help draw visitors into the site, creating a seamless and porous precinct.

### An engaging public domain

Understanding the hidden potential of the site, the indicative design response explores options to reclaim existing under utilised spaces, and create new engaging high-quality public domain that optimises the interaction between the precinct and the surrounding neighbourhood communities, acting as a shared platform for passive and active recreation and commercial food and beverage.



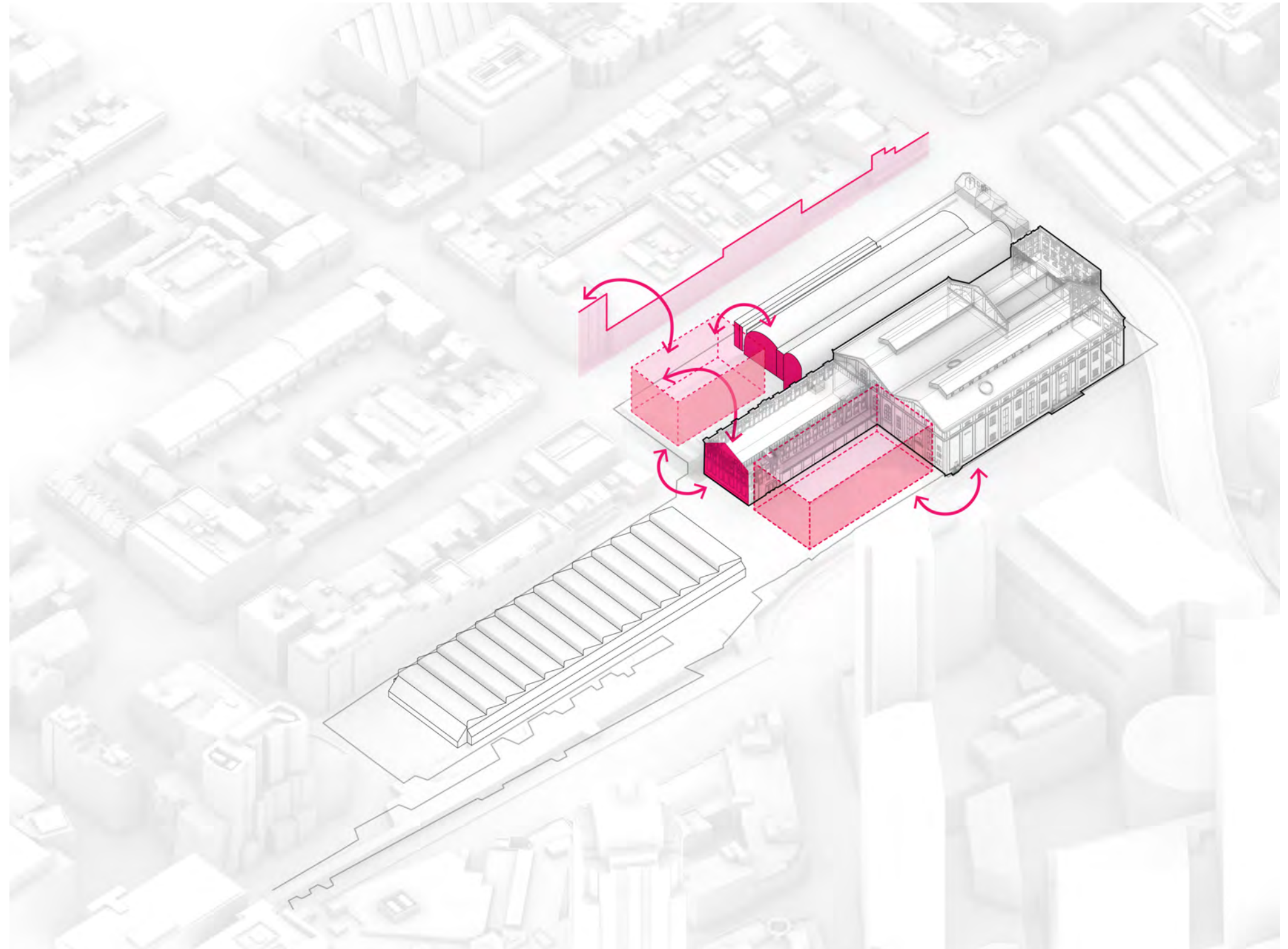
Steam Mill Lane, an active laneway with a unique character, Aspect Studios. Image credit: Simon London

## 2.7 Arrange new built form to be responsive to the site and its context

The juxtaposition between traditional residential terrace houses and large-scaled industrial buildings, the prevailing street wall scale of Harris Street and the evolving nature of the city form along The Goods Line are representative of the urban character of this part of Ultimo and Pyrmont.

Ultimo sits on the edge of the city as an intermediary between the Sydney Central Business District and more locally-scaled historic residential and former industrial precincts. The analysis also indicates that certain portions of the existing site can accommodate additional built form without creating overshadowing impacts upon key public spaces and neighbouring uses.

Additional floor space within the precinct could improve the relationships between heritage fabric, the public domain network surrounding streetscapes and outlying precincts which are both established (Darling Square and Darling Harbour) and under construction (Tech Central).





## 2.7 Arrange new built form to be responsive to the site and its context



Looking north towards the Dr Chau Chak Wing Building and Goods Line.  
Source: John Wardle Architects

### Material Character

New built form on these sites will have regard to the history of the site and the existing heritage on and adjacent to the site. It is the consistency of the precinct's materiality that defines Ultimo's utilitarian and working past.

Ultimo was a working precinct. These buildings are associated with trade. They are not civic buildings and do not exhibit the finery of hand carved sandstone associated with the most civic of Sydney buildings. There is a material honesty to the expression of masonry within the precinct.

While large in scale the facades of the warehouses and Powerhouse Ultimo are elegantly detailed. They exhibit brick, render, pressed terracotta and faience terracotta panels which adorn the playful fenestration patterns of these vast facades.

The UTS Dr Chau Chak Wing Building exhibits a playful interpretation of brickwork in a contemporary form. This is a radical formal interpretation and use of brick – the most pragmatic building material.



Brick details on Powerhouse Ultimo Northern Annex.  
Source: John Wardle Architects



The pressed terracotta facade of the nearby Sydney Technical College.  
Source: John Wardle Architects



Ultimo is a suburb where small terrace houses comfortably sit adjacent to large warehouses.  
Source: John Wardle Architects

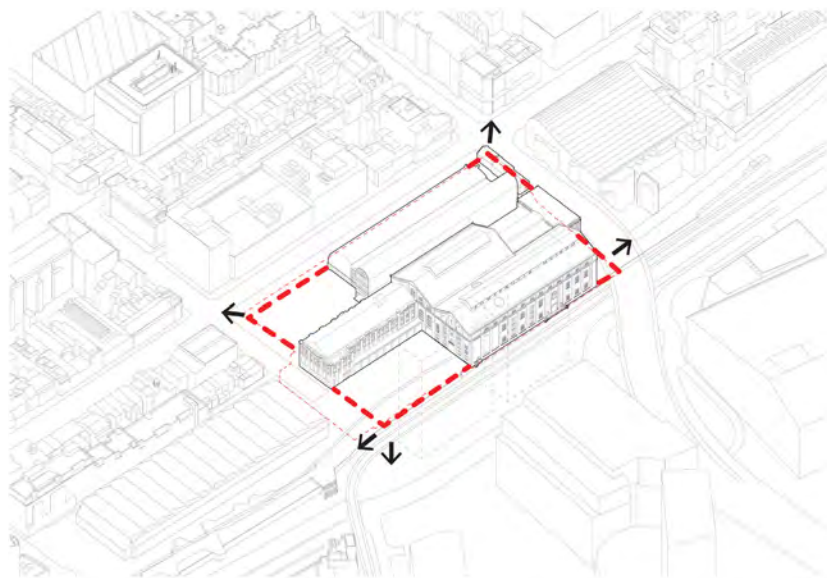
### Large and Small

There is a history of variant built form. Large buildings sit comfortably with small buildings. A Power House next to a Workers Cottage and a variety of scales in-between. What binds these diverse scales is the constancy of material character in the making and construction of these structures.

Nowhere is this history more apparent than along the length of Harris Street – where the Harris Street Heritage Conservation Area meets the mighty bulk of the Powerhouse Ultimo and Harwood Building. To the north of Harris Street, the remnants of industry remain, warehouses with sawtooth roofs once filled with goods have been converted to apartments. Within these residential enclaves the six to eight storey warehouses sit adjacent to two storey residential terraces.

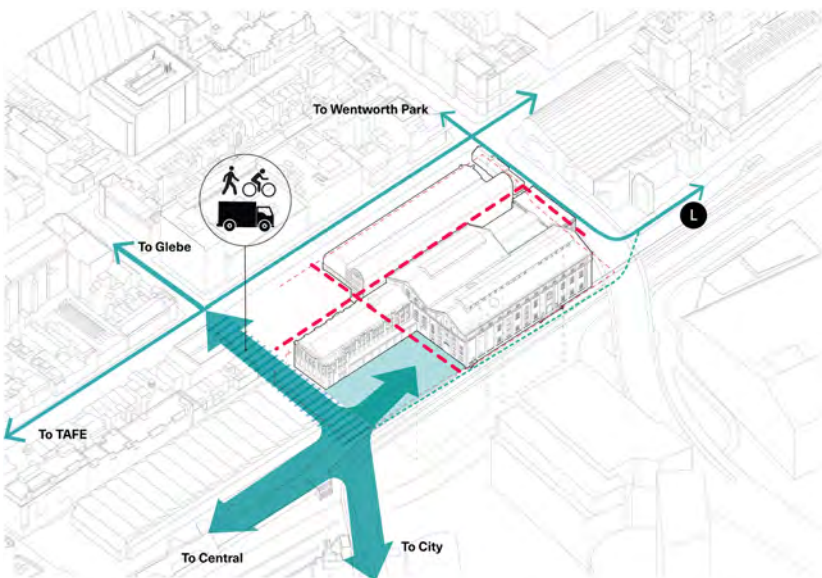


2.8 Key Moves - Public Realm and Open Space



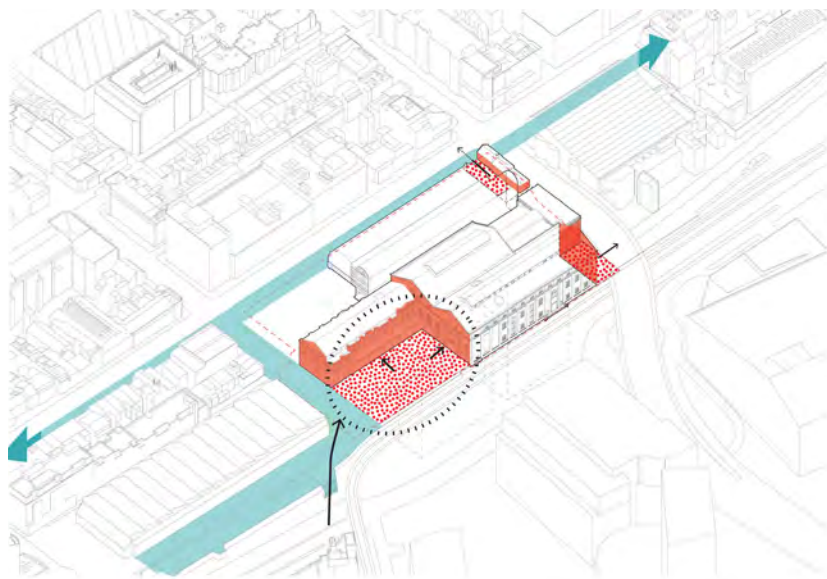
UNLOCK

Remove fences and obstructive structures, open the site to connect to adjacent public domain.



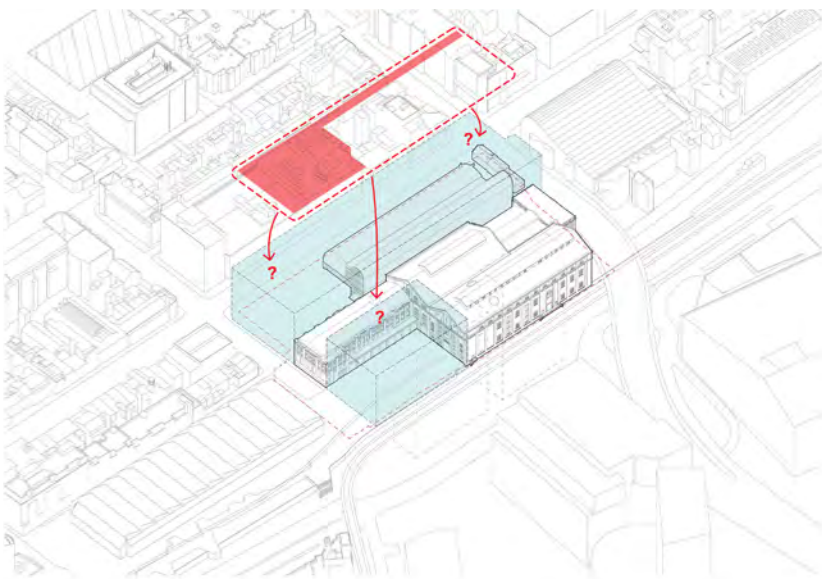
CONNECT

Strengthen connections to the surrounding precinct and public transport. Look for opportunities to integrate accessible connections into the site.



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 REQUIREMENTS

Maintain or increase the quality and quantity of public domain. (minimum of 2,200sqm across the envelopes.)



## 2.9 Unlock

A civic building with a public function should be the centre piece of its community.

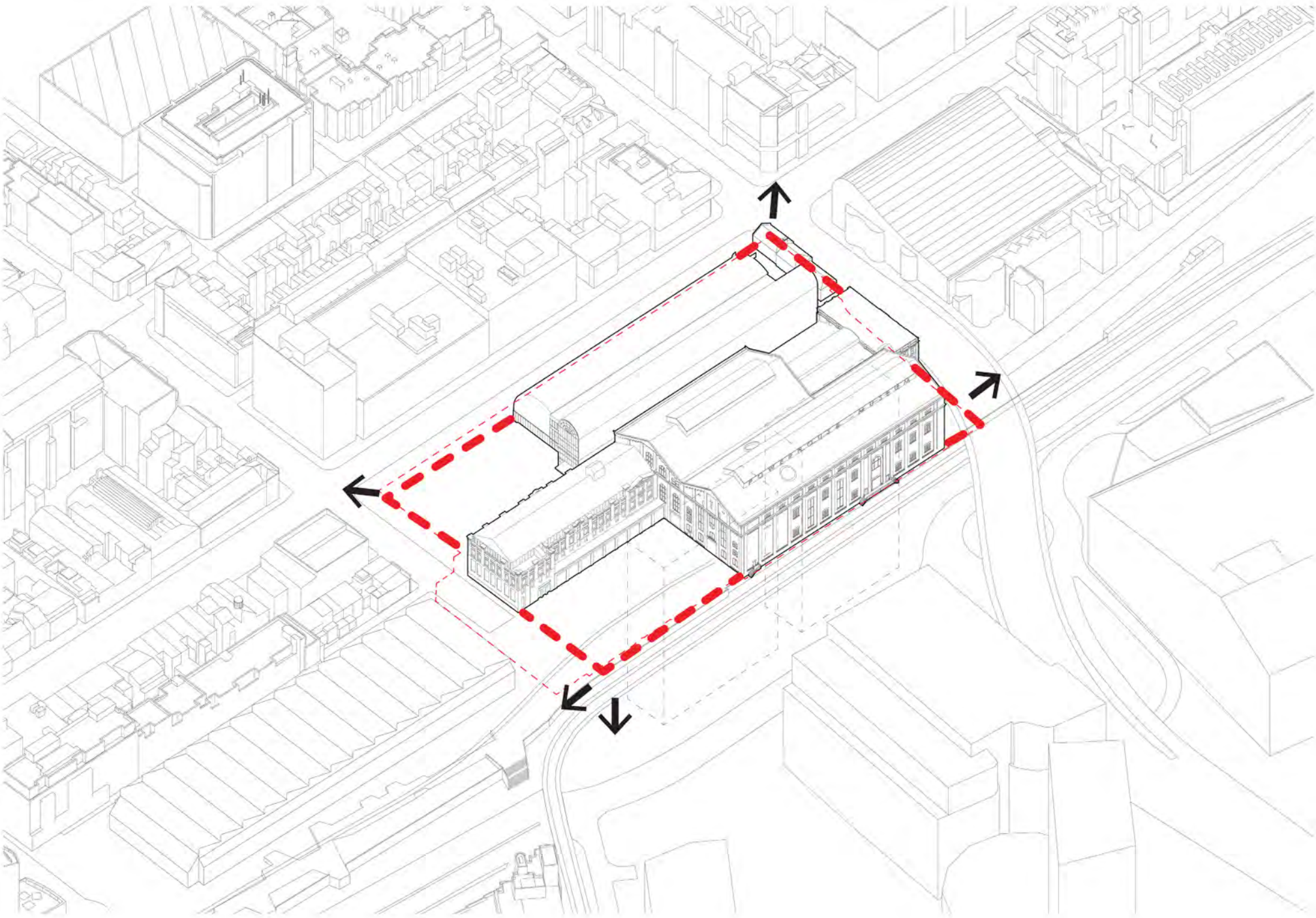
Currently bounded by multiple barriers and obstructive structures, opportunities to unlock the site should be explored to allow the Powerhouse Ultimo to engage with its urban context, opening the site to connect to its neighbourhood.



Fences next to Former Post Office  
Source: ASPECT Studios



Existing condition under Pier Street  
Source: ASPECT Studios





2.10 Connect

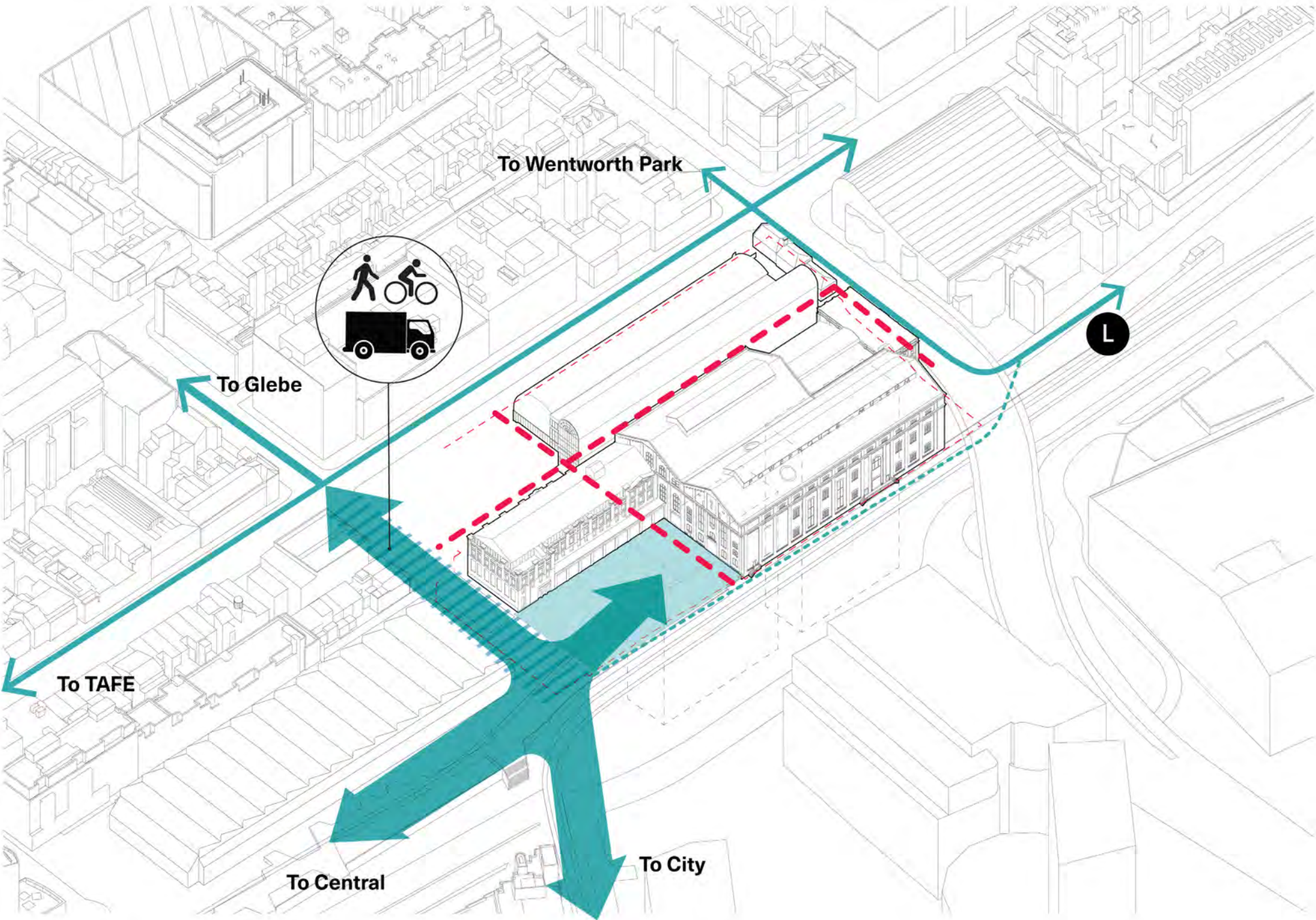
The topography of the site presents challenges with regard to equitable access. A clever, seamless, intuitive and integrated solution to facilitate movement for all should be integrated into the built structure and should allow 24/7 access.

Easy connections should be facilitated to public transport and pedestrian and cycle paths.

The unique qualities of a more direct north/south and meandering east/west connections should be explored and embraced.



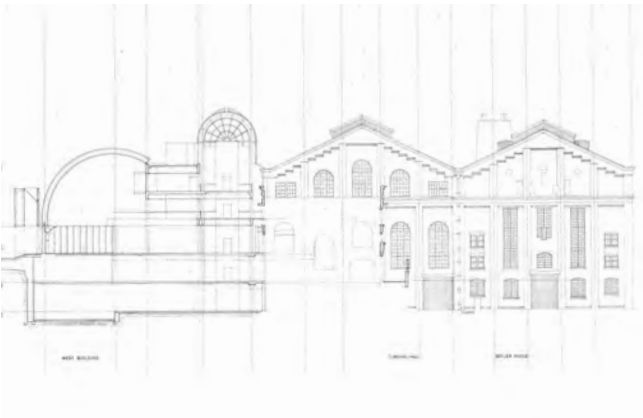
Significant level change on Macarthur Street  
Source: ASPECT Studios



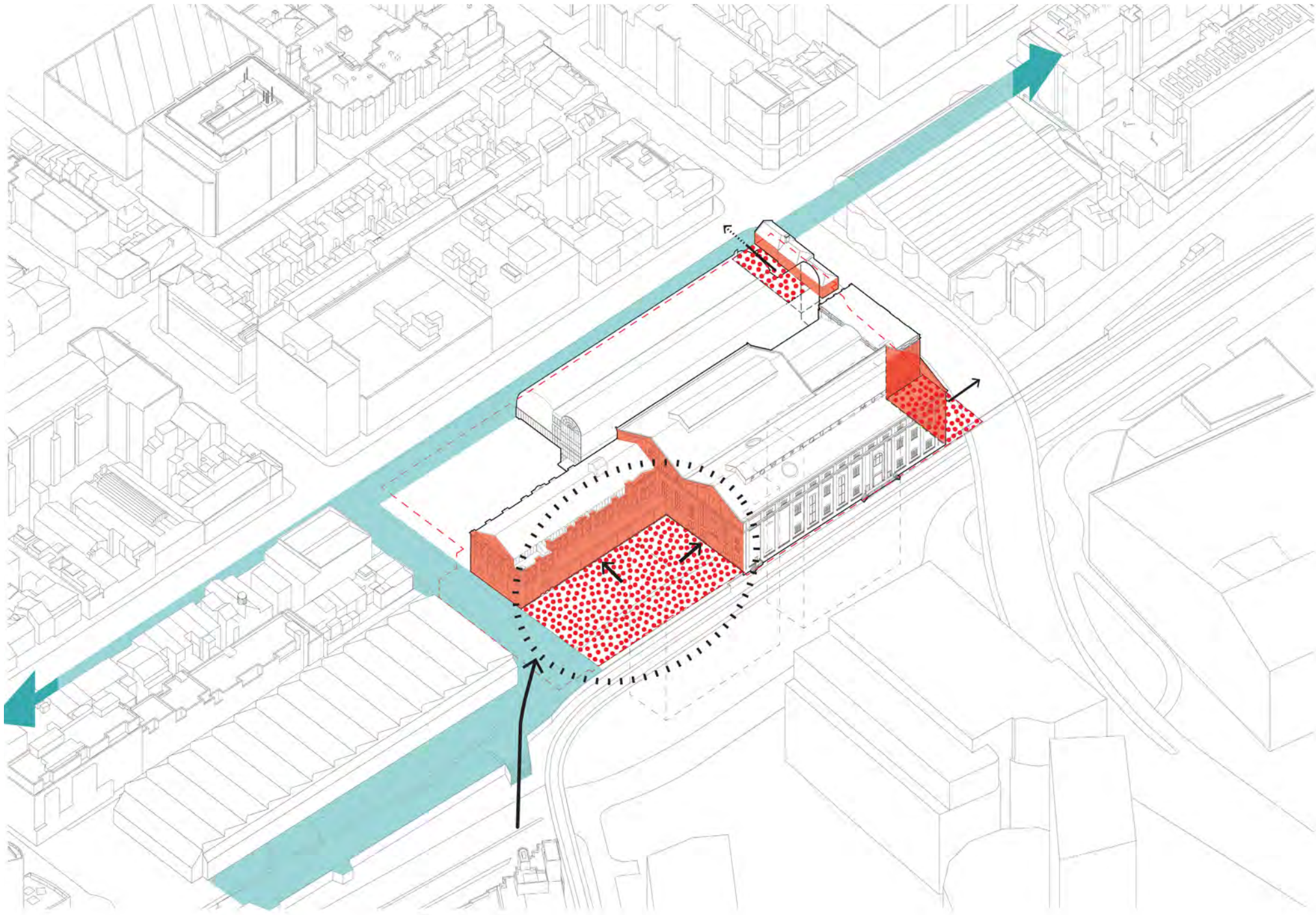


2.11 Unique Character

Reveal and celebrate the rich character of the heritage core and maximise opportunities to create unique public spaces, which celebrate feature facades and enable people to better appreciate the robust beauty of the facade and grand spaces.



An elevation drawing of the Boiler House and Turbine Hall soon after completion of the extensions between 1902 and 1905.



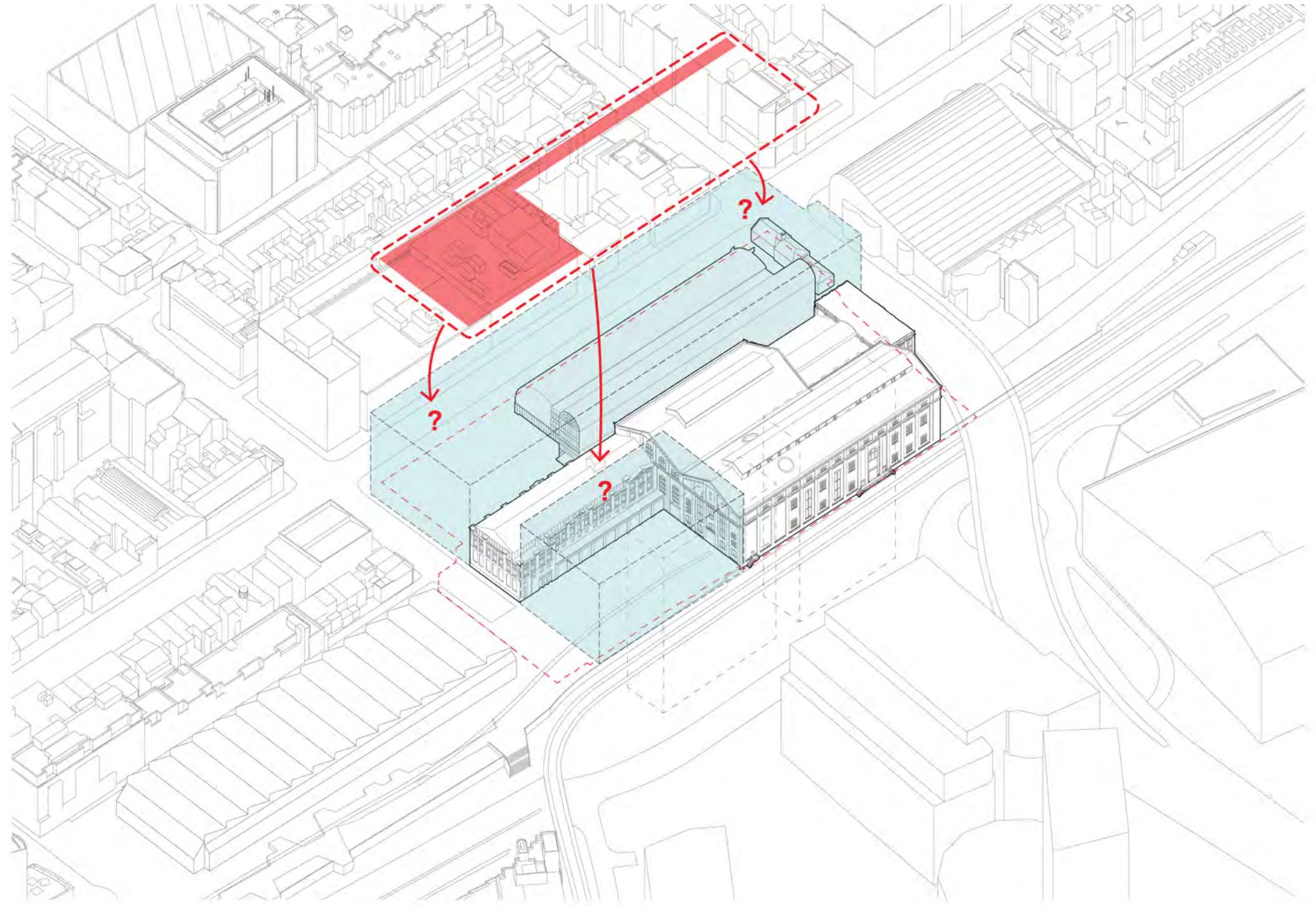


## 2.12 Public Space Requirements

Significant public spaces shall be provided to support the public uses of the museum and surrounds.

A minimum of 2,200sqm shall be provided within the envelopes.

Public space provided within the Powerhouse Ultimo Renewal site shall be level with adjacent public spaces or pathways and allow gathering for events and programming.





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## 3.0 Urban Design Guidelines



### 3.1 Design Guidelines & Zones

This section of the report provides a series of overarching and zone-specific design guidelines, which apply to the urban design and public realm of the Powerhouse Ultimo Renewal site.

The intention of the design guidelines is to establish a clear and legible framework within which the project will be designed and delivered. The design guidelines should be used as a tool to achieve design excellence and a resultant built form that is appropriate within its context.

Each zone as shown shaded within the site boundary has a corresponding zone of influence (shown with a dashed boundary) for consideration. For example, Zone 2 is the shaded yellow area but the zone of influence includes an adjacent extent of Harris and Macarthur Streets, as well as the Former Post Office.

The zones (and their relevant zones of influence) identified across the Powerhouse Ultimo Renewal are indicated on the adjacent diagram and as follows:

- Heritage Core - comprising North Annex, Engine House, Turbine Hall, Boiler House & Switch House
- Former Post Office
- Zone 1 - comprising the courtyard and site of the existing cafe at the south east corner of the site, at the termination of the Goods Line.
- Zone 2 - comprising the site of the existing Harris Street forecourt and Wran Building.
- Zone 3 - comprising the site of the original Pump House building to the NE corner of the site, adjacent the undercroft of the William Henry overpass.
- Zone 4 - comprising the parcel of land at the eastern end of Macarthur Street, north of the Harwood building and the termination of the Goods Line.

Special guidance has been given for each zone however they are not to be viewed in isolation. The

following overarching design guidelines, apply across the different zones within the Powerhouse Ultimo Renewal site.

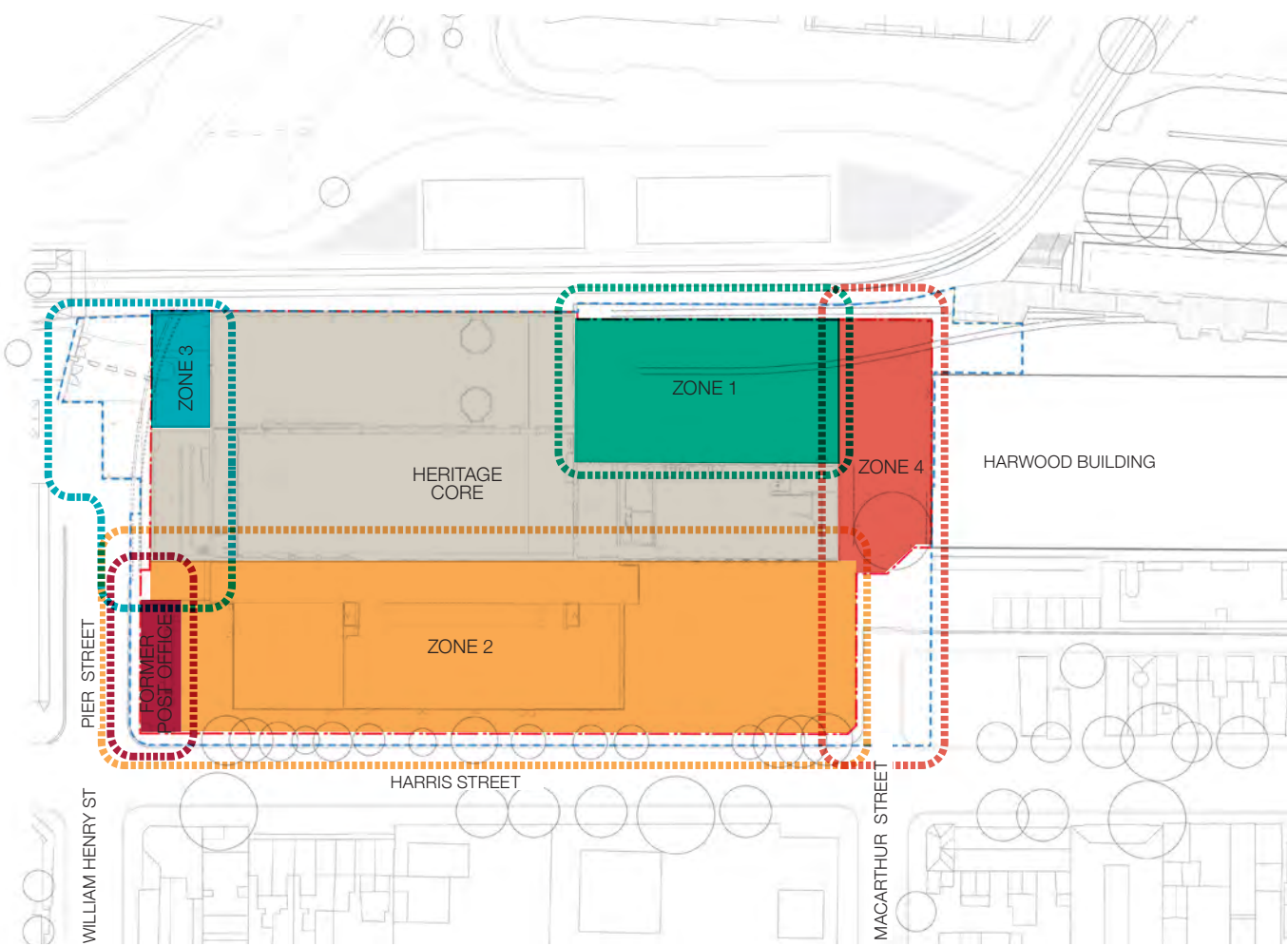
- Public realm and Open Space
- Heritage
- Activation
- First Nations
- Sustainability

Specific guidelines applying to each zone include:

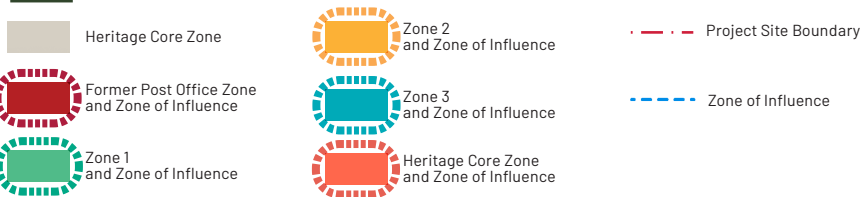
- Revealing Heritage
- Setbacks and Built Form Expression
- Public Realm and Open Space
- Form, Massing and Scale
- Access, Movement and Transport
- Vehicular Access and Servicing
- Street Furniture and Lighting
- Materiality

The following urban design guidelines provide a targeted set of parameters that must be balanced and addressed in the design of Powerhouse Ultimo.

Powerhouse Ultimo Renewal Zoning Diagram



#### Key





## 3.2 Public Realm and Open Space

The following overarching guidelines are set out to inform beneficial public domain outcomes.

Guidelines:

The public domain must:

- Achieve a minimum 2,200sqm of public open space within the Stage 1 SSDA building envelopes. Note this is in addition to zone 4, which remains a public space.
- Provide at least one significant public space of no less than 1800sqm that is connected at grade to an adjacent public space or pathway to allow gathering for events and programming.
- Maintain Zone 4 as public open space providing pedestrian, cycle and vehicular access whilst also reading as a public space.
- Improve the quality of public space and celebrate its unique role within the city.
- Ensure the open space is accessible, available for public use and is welcoming.
- Ensure public open space is meaningfully connected to the broader public domain.
- Provide a safe, intuitive and accessible pedestrian experience.
- Prioritise pedestrian use.
- Minimise conflicts between public use and operational requirements, including loading, back of house operations, precinct circulation and expected crowd movements for programs and events.
- Demonstrate solar access is maximised to public open spaces, balancing the need for shade.
- Provide safer places applying CPTED principles.

- Provide connected canopies and understorey planting on streets.
- Maximise the use of endemic plant species.
- Embed clear and legible way finding and precinct circulation within the design of the spaces.
- Include feature and compliant lighting.
- Provide appropriate solar access throughout the public realm and minimise overshadowing to significant public spaces.
- How the heritage core and any new buildings frames and helps activate the public spaces and street scape.

The design should consider:

- Enabling concurrent activation with museum buildings and ability to operate across the day and into the night.
- Flexibility for the delivery of dynamic utilisation and programming.



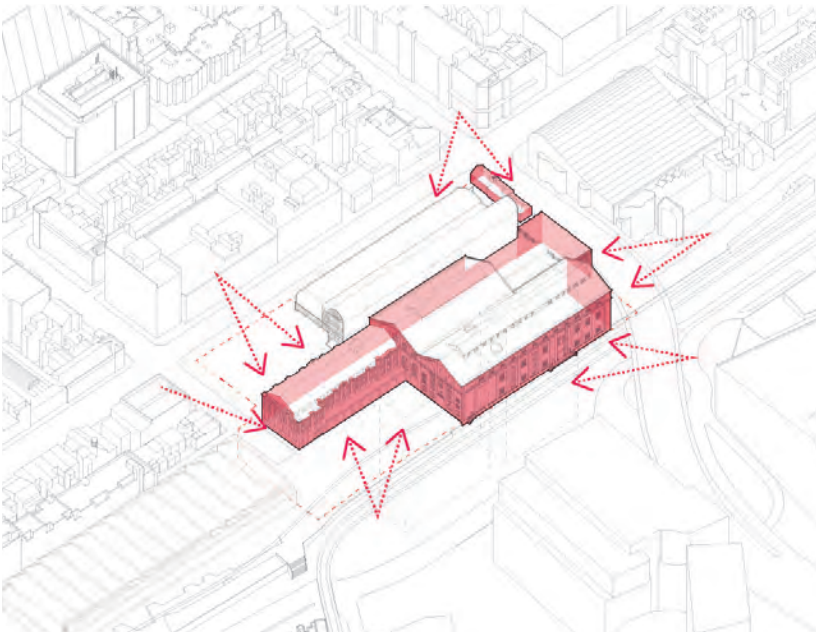
Image: Artist's impression, Powerhouse Ultimo. Source: MOGAMMA



The two key universal principles described on this page apply to all zones across the Powerhouse Ultimo site.

These principles acknowledge the fundamental need for the renewed Powerhouse Ultimo to become a cultural destination which is proud of its built and cultural heritage and which is more active and open to its audience and to its neighbourhood.

3.3 Heritage

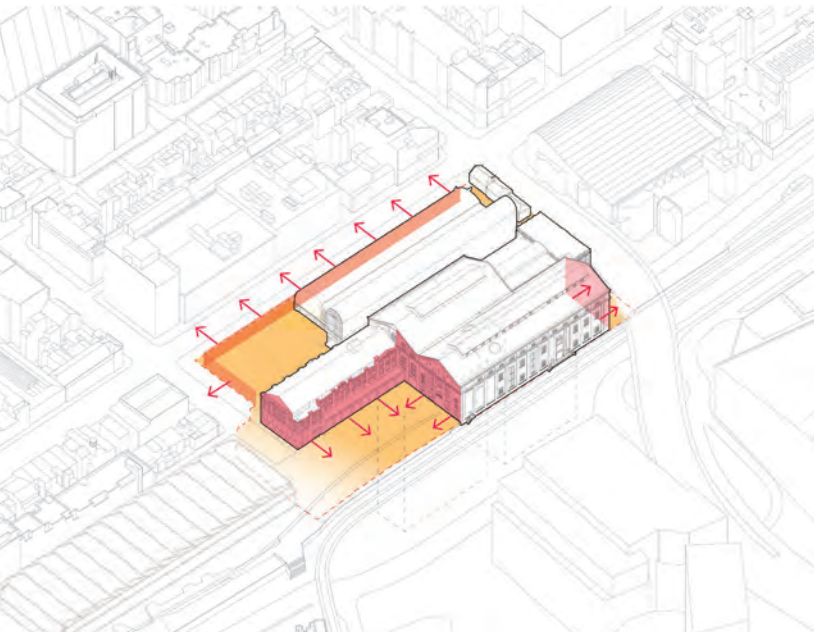


**Key**

- Views
- Heritage facade
- Site Boundary

A key principle for the design is to recognise the urban, cultural and spatial value in the built form heritage fabric across the Powerhouse Ultimo site. The design should seek to protect, celebrate, adapt and reveal the heritage fabric and prioritise greater visual and physical access to it.

3.4 Activation



**Key**

- Activation
- Visual Connection
- Interface
- Site Boundary

The design should be guided by the need for the museum to be a more open and engaging cultural destination for visitors and the local community. The public domain should provide enhanced amenity, be activated at its edges, support intuitive wayfinding and encourage daytime and night time utilisation.

### 3.5 First Nations

Powerhouse Ultimo is situated upon the ancestral homelands of the Gadigal people of the Eora Nation. The word Eora is a word used to describe the coastal Aboriginal people in and around Sydney, translating simply as 'here' or 'from this place'. Aboriginal people in the local area used this word to describe their belonging and custodianship of Country to the British, this word is still used by their descendants today, to express their identity and continuous connection to Sydney.

The Powerhouse recognises Aboriginal connections to this place as a cultural continuum – resilient, resistant and responsive to emerging and receding industries. The Powerhouse site has always been a place of story and gathering and through the renewal it is paramount that Powerhouse Ultimo continues to be a place for broader community and reflects their stories.

The following overarching guidelines apply to all zones:

#### Guidelines

- Recognise Traditional Custodians as well as diasporic First Nations communities that now call Sydney home.
- Recognise that Aboriginal history on the site is continuous.
- Reflect and respect cultural narratives of the site.
- Reinststate the relationship between the Harbour and Pirrama peninsula.
- Create opportunities for First Nations employment, engagement and participation.
- Through its First Nation's Directorate, the Powerhouse will continuously engage with First Nations communities to produce a design that supports Aboriginal and Torres Strait Islander connections to the site and continuing practices.

- All related project briefs will be authored with leadership and participation of the Powerhouse First Nation's Directorate to ensure self determination of Indigenous representation.
- The Design Excellence Strategy and Competition Briefs will be informed by the NSW Government Architect's Connecting with Country Draft Framework (and Designing with Country Discussion Paper) and Torres Strait Islander connections to the site and continuing practices.
- The project is to be undertaken in accordance with recommendations from the Designing with Country discussion paper (GANSW) and Connecting with Country draft framework (GANSW).



Uncle Brendan Kerin conducts a smoking ceremony at First Nations Fashion & Design Powerhouse Hub  
Image credit: Patrick Stevenson



3.5 First Nations

All Powerhouse work whether through day to day operations or in undertaking projects, is guided by its Caring for Country principles.

These principles will be embedded in all facets of the Powerhouse Ultimo project.

POWERHOUSE CARING FOR COUNTRY PRINCIPLES

First Nations peoples hold knowledge and practices stemming from their connection to Country, cultural values and beliefs which have developed over millennia. “Country” means more than just the land on which the Powerhouse sites are located. It includes the literal country being the land and seas, as well as all the tangible and intangible. It is the source of Indigenous’ people cultural and spiritual identity, and helps Indigenous people understand themselves and relate to others.

Knowledge and cultural practices passed down through generation are learned and taught from Country. “Caring for Country” refers to Indigenous people’s symbiotic relationship to their Country and their obligations as traditional custodians to maintain the vitality and integrity of Country, and all that it encompasses.

In consultation with First Nations peoples of the Country on which the Powerhouse sites are situated, the Powerhouse has developed Caring for Country Principles. These principles are the Powerhouse’s acknowledgement to Country in practice and will inform the design process, be expressed throughout the built form and public realm, reminding us of our collective responsibility in creating a place that is held by the First Nations community.

The principles are:

LOCALITY OF PLACE

The obligation to care for Country is inherently defined by the relationship between Country and its custodians, whereby no two groups will have the same practices, knowledge of, or obligation to Country. Powerhouse respects the obligations Traditional Owners have to the different Country its sites are located on.

KNOWLEDGE

Powerhouse will work with First Nations people to develop opportunities, engagement, and strategies to embed caring for Country principles that reflect their perspectives and knowledge.

RESPECT

Powerhouse respects the responsibilities First Nations people have to care for Country, and their role as interpreters of their own culture and custodians of Country. Powerhouse aims to embed these values into its practices with First Nations guidance.

HOLISTIC

Caring for Country is holistic and cyclical. Powerhouse will consider the needs and health of Country – the people, plants and animals, waters, seas, skies, and landscapes – in accordance with a First Nations holistic world view.

VITALITY – PEOPLE AND COUNTRY

The vitality, health and wellbeing of First Nations people and Country are interconnected. Powerhouse will use its resources and knowledge to support First Nations people maintain strong relationships with Country, access to Country and resources, and connect with Mob.

STEWARDSHIP

First Nations people are the custodians of Country and are bound to respect, care and maintain the health of Country. Powerhouse will consider the impact of its activities and practices to ensure it does not damage Country or hinder First Nations peoples’ custodial obligations, including to future generations.

CONTINUING CULTURE

Powerhouse understands the centrality of intergenerational equity in sustainability in Indigenous culture and will work to ensure this forms part of its Sustainability Action Plan.

CULTURAL FLOWS

Cultural flows recognise the rights First Nations people have to access, manage and care for waterways. Powerhouse acknowledges that its sites are located near or on significant rivers and seas and First Nations people have responsibilities to care for these waterways.

LANGUAGE

Language allows First Nations people to connect to identity, Country and culture. Powerhouse will support language revitalisation and connection to Country.

CULTURAL EXPRESSION

Powerhouse will celebrate the diversity in traditional cultural expression and support First Nations people connect and care for Country through cultural practices. Powerhouse is committed to reckoning with its time and place in Australia’s colonial history to better serve, make space and provide opportunities for First Nations empowerment and representation.

Powerhouse recognises and shares the value and importance of preserving, revitalising, and strengthening Aboriginal and Torres Strait Islander cultures, histories, and achievements.

3.6 Sustainability

The following overarching guidelines apply to all zones:

Guidelines

- All aspects of the design, construction and ongoing operation of the precinct will seek opportunities to minimise negative environmental impacts.
  - Implement a triple bottom line approach to sustainability, which addresses environmental, economic and social sustainability impacts.
  - Target Net Zero Operation and create a climate positive, low-carbon, high-performance precinct.
  - Prioritise climate positive, low-carbon, high-performance outcomes.
- Provide a minimum 5 Star Green Star rating with a target for a 6 Star Rating.
  - Align with the following policies:
    - Pyrmont Peninsula Place Strategy.
    - NSW Government Resource Efficiency Policy.
    - NSW Climate Change Policy Framework.
    - National Carbon Offset Standards.
    - NABERS and NCC.
    - Sustainable Sydney 2030.



Green Star categories that represent issues that will define the next decade of the built environment,. Source: GBCA 2022



3.6 Sustainability



Daramu House CLT Structure, Tzannes  
Image credit: Brett Boardman



UTAS Inveresk Library recycled aluminium facade, John Wardle Architects  
Image Credit: Anjie Blair



UTAS Cradle Coast green roof, John Wardle Architects  
Image credit: Adam Gibson



UTAS Inveresk Library with CLT interior, John Wardle Architects  
Image Credit: Anjie Blair

### 3.7 Heritage Core Guidelines

The principle for the design of the Heritage Core is to capitalise on the opportunity to restore the fabric of the existing state heritage listed buildings on site.

Appropriate adaptive reuse of the North Annex, Boiler House, Turbine Hall, Engine Room and Switch House should be achieved through revealing, celebrating and acknowledging the significance of the heritage fabric of the Heritage Core.

#### Revealing Heritage

The design must:

- Remove intrusive elements and adornment that detract from the heritage fabric.
- Reveal the heritage fabric and spaces with minimal detailing, to enable the heritage items and fabric to be retained, conserved and celebrated. (CMP Policies 5.1, 7.1, 7.4, 7.5, 7.6 and 7.8)
- Minimise alterations or additions to significant heritage structures (CMP Policy 4.3).
- Enable better visual, physical and interpretive connections to the heritage fabric.
- Retain the readability and presentation of the interior open space of the Engine House, Turbine Hall, and Boiler House (CMP Policies 5.2 and 5.3).
- Ensure any adaptive reuse of heritage items makes use of design elements and techniques that are lightweight, fully reversible, and commensurate with the heritage character and attributes of the heritage item (CMP Policy 16.1)

#### Setbacks and Built Form Expression

The design must:

- Include and/or facilitate the main museum entrance.
- Create and/or support an active frontage to the Heritage Core.
- For any new built form within the building envelope over the Switch House - be a contemporary response to the site and its context.

#### Public Realm and Open Space

The design must:

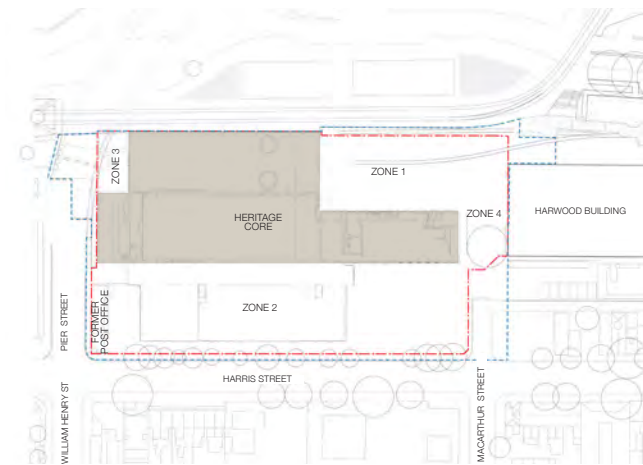
- Provide legible connections to the public realm.

#### Access, Movement and Transport

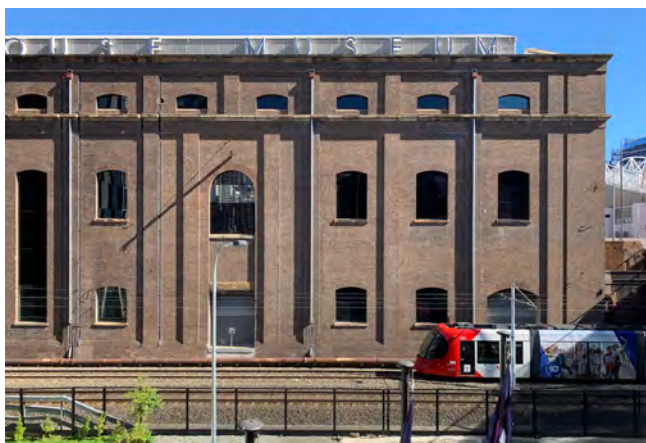
The design must:

- Allow for loading (particularly Very Large Object (VLO) loading) directly into the Turbine Hall and Boiler House, providing a safe, secure and efficient loading ability that can enable concurrent operations across the precinct.
- Provide improved and legible access to the Heritage Core.
- Provide equitable access to the Heritage Core for people of all abilities including safe accessible drop off and pick up on MacArthur Street close to the Heritage Core for pedestrians, cyclists and vehicles.
- Provide direct, legible connections to public transport nodes, pedestrian and cycle connections
- Ensure private vehicle access requirements are met for local properties and easements of adjacent properties are not blocked.

#### Key Plan



The Ultimo Power House soon after completion of the Turbine Hall  
Source: Ultimo Creative Industries Precinct MAAS Powerhouse Museum  
Final Business Case Heritage Planning Report Draft, 2018, p.4



Current building alignment with the light rail corridor.  
Image credit: John Wardle Architects



New built forms should be sensitive and responsive to the significance of the Powerhouse Ultimo building forms. Image credit: John Wardle Architects



Access, Movement and Transport (cont.)

- Minimising conflicts between public use and operational requirements, including loading and expected crowd movements
- Ensuring public use and operational requirements, including loading, tenants, local residents, visitors and the general public are safe and DDA accessible experiences.
- Enhancing the pedestrian connection alongside the Boiler House, connecting the Goods Line to Pymont Street and creating better connections to existing and proposed public transport as per the Pymont Peninsula Place Strategy (PPPS).
- Integration of any vehicular entry points and minimization of their visual impact.



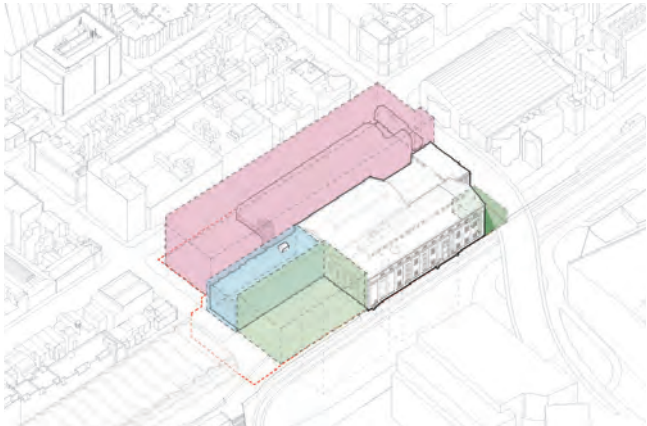
British Museum, Foster and Partners.  
Image credit: Nigel Young

Form, Massing and Scale

The design must:

- For the North Annex, Boiler House, Turbine Hall and Engine room- be contained within the existing extent of the built form.
- For the Switch House - be contained within the Stage 1 SSDA building envelope

Building Envelope Diagram



Refer to Stage 1 SSDA Building Envelope drawings for building envelope extents and heights

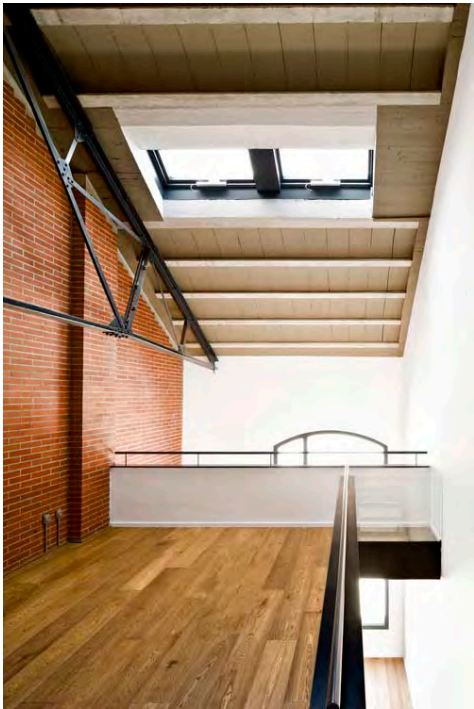
Materiality

The design should consider:

- A sympathetic response for the introduction of any new materials within the zone.
- Robustness and durability with quality materials- long life, low maintenance.
- Use appropriate materials and finishes, commensurate with, but not in imitation of, the original materiality of the heritage listed building (CMP policy 13.2)
- All previously unpainted face brickwork must remain unpainted (CMP Policy 13.3)



Preservation of XIX Century Factory in Lodz  
Image credit: Kamil Powel Kawalski



Habitatges no convencionals, Garces De Seta Bonet Arquitectes  
Image source: <https://www.garces-deseta-bonet.com/projets/29-logements-non-conventionnels/>

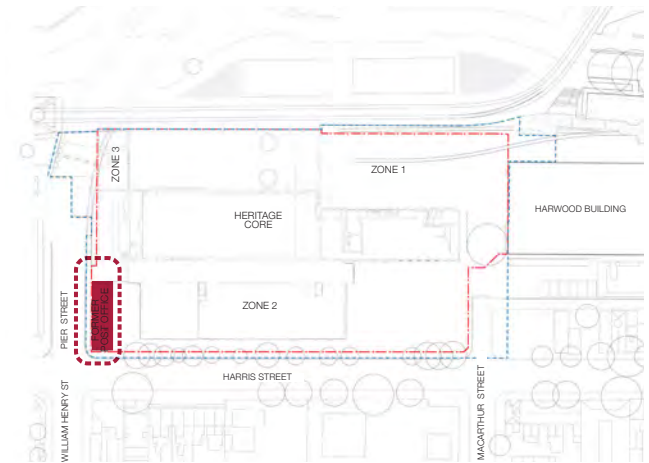
### 3.8 Former Post Office Guidelines

The principle guiding the design of the Former Post Office zone is to restore, reveal and celebrate the heritage fabric through adaptive reuse that truly integrates the building within the museum precinct.

The zone of influence to this area extends to the curtilage of Harris Street and Pier Street, directly in front of the Former Post Office. Generous, safe and intuitive pathways, which allow for legible transition from the Zone 2 street curtilage shall be provided.

Coordination with landholders and stakeholders will be necessary within the zone of influence for the street frontages, outside of the building envelope.

#### Key Plan



#### Revealing Heritage

The design must:

- Remove intrusive elements and adornment that detract from the heritage fabric.
- Reveal heritage fabric and spaces with minimal detailing, to enable the heritage items to be retained, conserved and celebrated. (CMP Policies 5.1, 7.1, 7.4, 7.5, 7.6 and 7.8)
- Minimise alterations or additions to significant heritage structures (CMP Policy 4.3).
- Enable better visual, physical and interpretive connections to the heritage fabric.
- Retain the readability and presentation of original interior open space of the Former Post Office (CMP Policies 5.2 and 5.3).
- Ensure any adaptive reuse of heritage items makes use of design elements and techniques that are lightweight, fully reversible, and commensurate with the heritage character and attributes of the heritage item (CMP Policy 16.1)
- Ensure adaptive reuse of the Ultimo Post Office that would allow restoration of public access to this State Significant building. (CMP Policy 16.3)



The Ultimo Post Office c1905 (NSW State Archives)  
Source: Ultimo Creative Industries Precinct MAAS Powerhouse Museum  
Final Business Case Heritage Planning Report Draft, 2018, p.13

#### Setbacks and Built Form Expression

The design must:

- Provide appropriate curtilage around the built form and ensure any introduced elements do not dominate, distort, obscure or negatively detract from the significance of the heritage item.
- Create and/or support an active frontage to Harris Street.
- Explore how to re-establish the original visual and physical relationship between the Ultimo Post Office and the former Ultimo Power House buildings (CMP Policy 6.3).



Portico detailing to Former Post Office.  
Source: John Wardle Architects

#### Public Realm and Open Space (surrounding the Former Post Office)

The design must:

- Assist in achieving a minimum of 2,200sqm open space (together with other zones) (Note minimum is more than existing)
- Incorporate hard and soft landscaping in a design that creates a unique space.
- Provide appropriate solar access throughout the public realm that matches the existing as a minimum.
- Meaningfully connect to the broader public domain.
- Create connections through the zone to adjacent zones and public spaces
- Incorporate CPTED principles in the design of all open space
- Maximise the use of endemic plant species.

The design should consider:

- Legible connection points at the boundary allowing for primary and secondary connections and circulation.
- Providing a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.



Form, Massing and Scale

The design must:

- Be contained within the existing extent of the built form.

Access, Movement and Transport

The design must:

- Prioritise pedestrian movement and provide a safe and accessible pedestrian experience.
- Provide safe and easy access to people of all abilities.
- Provide direct, legible connections to public transport nodes, pedestrian and cycle connections.
- Minimise conflicts between public use and operational requirements, including loading and expected crowd movements.
- Ensure public use and operational requirements, including loading, tenants, local residents, visitors and the general public are safe and DDA accessible experiences.
- Provide improved and legible access to the Former Post Office and Heritage Core.
- Provide a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.
- Increase visibility and legibility of cycling routes and major pedestrian connections.
- Improve connections east/west enabling a pedestrian link to be provided under Pier Street.

Lighting

The design must:

- Include feature and statutory lighting that are designed cohesively.
- Use lighting to assist in achieving CPTED.

Materiality

The design should consider:

- A sympathetic response for the introduction of any new materials within the zone.
- Robustness and durability with quality materials- long life, low maintenance.
- Use appropriate materials and finishes, commensurate with, but not in imitation of, the original materiality of the building (CMP policy 13.2)



Kensington Street by Turf Design Studio and Jeppe Aagaard Andersen, Image credit: Simon Wood <<https://www.foreground.com.au/culture/street-performer/>>.



High Line Park, New York, Diller Scofidio + Renfro. Image credit: Iwan Baan

### 3.9 Zone 1 Guidelines

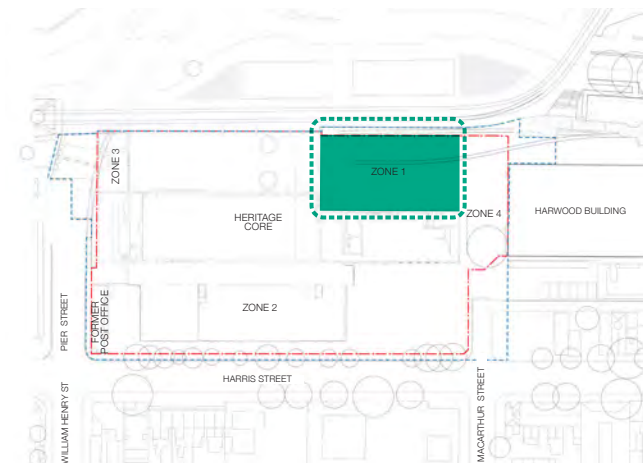
The principles guiding the design of Zone 1 adjacent to the north end of the Goods Line, is to explore opportunities for sympathetic new built form that respects the heritage significance of the Heritage Core (including Turbine Hall, Boiler House and Switch House) whilst providing a significant opportunity for creation of public realm at the northern terminus of the Goods Line.

While public space may be distributed across the site, due consideration should be given to this area as it has been identified within the Pyrmont Peninsula Place Strategy (PPPS) as a key public space connecting the city to the Goods Line, through Hay Street and on to Darling Square and Chinatown.

The grand scale of the heritage architecture provides a frame for a unique public space which could provide an intuitive entry to the Powerhouse. Opportunities for pedestrian connections along or over the rail corridor are not included in this project, however, any proposed work should not prejudice this being part of a future project.

Note there is a strip of land approximately 3.6m wide to the east of this zone that is located outside of the site boundary but within the zone of influence.

#### Key Plan



#### Revealing Heritage

The design must:

- Enhance views to heritage-listed items through the zone.
- Enable better visual, physical and interpretative connections to the heritage fabric.
- Reinforce the relationship of the heritage items to the suburb of Ultimo through visual, interpretive and physical connections (CMP Policies 6.1 and 6.2)

#### Setbacks and Built Form Expression

The design must:

- Include and/or facilitate the main museum entrance (Concierge).
- Create and/or support an active frontage to the plaza.
- Be a lightweight, primarily reversible contemporary response to the site and its context.
- Complement the state heritage items and ensure new development does not detract from the heritage significance of the place including significant heritage items, fabric, views and vistas both within and to the site (CMP Policy 19.1)

#### Public Realm and Open Space

The design must:

- Assist in achieving a minimum of 2,200sqm public open space (together with other zones) (Note minimum is more than existing).
- Incorporate hard and soft landscaping in a design that supports large crowds as well as spaces for passive recreation.
- For any public plaza / gathering space, be suitable for public events and gatherings that can operate at any time of the day or night
- Provide appropriate solar access throughout the public realm
- Provide clear and legible point of entry and a clear path of entry to the main museum entrance.
- Create connections through the zone to adjacent zones and public spaces
- Ensure public realm is publicly accessible at all times and meaningfully connected to the broader public domain.
- Incorporate CPTED principles in the design of all open space
- Maximise the use of endemic plant species.
- Address the eastern edge to the light rail line (in respect of topography and infrastructure).
- Celebrate this primary location at the end of the Goods Line.



Ballarat GovHub, John Wardle Architects.  
Image credit: Peter Bennetts



New built forms should be sensitive and responsive to the significance of the Powerhouse Ultimo building forms. Image credit: John Wardle Architects



Public Realm and Open Space (cont.)

- Legible connection points at the boundary allowing for primary and secondary connections and circulation.
- The aspirations set out in the Pyrmont Peninsula Place Strategy (PPPS)
- Providing a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.
- How accessible connections can be provided between the Harris Street and the Goods Line levels.
- Weather protection, particularly at the main museum entrance (Concierge).



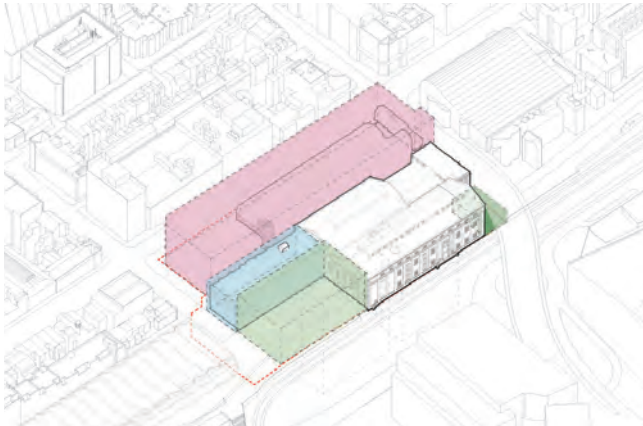
Public spaces of civic importance: Tumbalong Boulevard.  
Image credit: Aspect Studios

Form, Massing and Scale

The design must:

- Be contained within the Stage 1 SSDA building envelope
- Assist with the revealing and celebration of adjacent State heritage listed items.
- Consider amenity impacts on the precinct and surrounds in terms of overshadowing, privacy and noise.

Building Envelope Diagram



Refer to Stage 1 SSDA Building Envelope drawings for building envelope extents and heights



Conservatorium The Set Hotels, Lissoni & Partners + MVSA Architects  
Image credit: Amit Geron

### 3.9 Zone 1 Guidelines (cont.)

#### Access, Movement and Transport

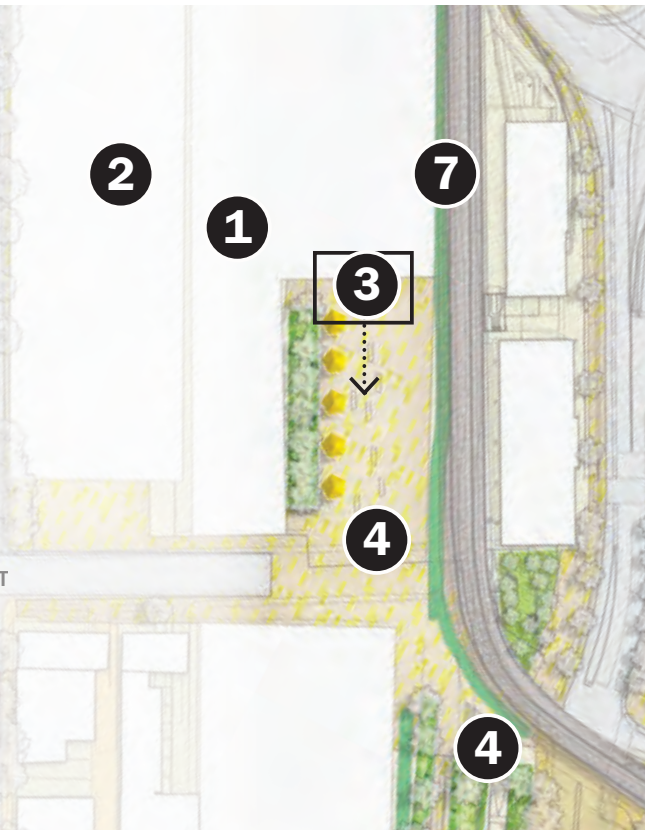
The design must:

- Prioritise pedestrian movement and provide a safe and accessible pedestrian experience.
- Provide safe and easy access to people of all abilities.
- Provide pedestrian and cyclist connectivity through the site in both east-west and north-south directions.
- Improve the pedestrian experience on Macarthur Street to provide for a more welcoming environment for pedestrians to Powerhouse Ultimo
- Emphasise pedestrian priority and minimise movement conflicts on Macarthur Street.
- Fully integrate any new vehicle access driveway to the adjoining footpath at one continuous level, and provide appropriate pavement treatment for pedestrians, across which vehicles can pass slowly.
- Provide loading (particularly Very Large Object (VLO) loading) directly into the Turbine Hall and Boiler House, providing a safe, secure and efficient loading ability that can be separated from main pedestrian thoroughfares.
- Provide a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.
- Ensure private vehicle access requirements are met for local properties and easements of adjacent properties are not blocked.

#### Access, Movement and Transport (cont.)

- Utilise traditional and existing routes as a priority over introducing new access locations. New access paths should avoid making additional penetrations in heritage fabric. (CMP Policy 18.1 and 18.2)
- Include good quality bicycle parking and end of trip facilities for staff and visitors to the site including provision for bicycle parking spaces within the public domain.
- Minimise conflicts between public use and operational requirements, including loading and expected crowd movements
- Ensure public use and operational requirements, including loading, tenants, local residents, visitors and the general public are safe and DDA accessible experiences.
- Enable better connectivity to existing and proposed public transport.
- Enhance existing pedestrian connections, acknowledging the significance of The Goods Line and the east-west connection between Darling Harbour Precinct and Pyrmont.
- Ensure visibility and legibility of cycling routes and major pedestrian connections.
- Not prohibit potential future links to the light rail as proposed by the PPPS.
- Integrate any vehicular entry points and minimise their visual impact.

#### Pyrmont Peninsula Place Strategy Extract



4. Give consideration to improve the relationship between the museum and the Goods Line, reorientating the museum towards the city



The Goods Lines by Aspect Studios.  
Image credit: Florian Groehn.



Street Furniture and Lighting

The design must:

- Include feature and statutory lighting that are designed cohesively.
- Provide a coherent palette with City of Sydney and the Goods Line street furniture and lighting at the edges of the site.
- Use lighting to assist in achieving CPTED principles.

Materiality

The design must:

- Use materials that connect the built form and public realm to its surrounds and ensure compatibility with the remnant significant heritage fabric and spaces (CMP Policy 15.4)



Tate Modern & the Switchhouse, Herzog de Meuron Architects.  
Image credit: Luv Boegly & Sergio Grazia



Boola Bardip Western Australian Museum, Hassell & OMA.  
Image credit: Peter Bennetts



Habitatges no convencionals, Garces De Seta Bonet Arquitectes  
Image source: <https://www.garces-deseta-bonet.com/projets/29-logements-non-conventionnels/>

### 3.10 Zone 2 Guidelines

The principles guiding the design of Zone 2 is to enhance the streetscape of Harris Street through a diversity of built form, whilst respecting the heritage significance of the Heritage Core (North Annex, Turbine Hall, Boiler House and Switch House) and the Former Post Office.

This area extends the length of the site fronting Harris Street excluding the Former Post Office, the location of the Wran building and the existing public space on the corner of Harris and Macarthur Streets.

Opportunities for built form as well as public domain exist along this extent however key considerations should be observed- compliant with the CMP, building envelope and Overarching Guidelines for Public Realm and Open Spaces. This key civic building should have commensurate public spaces and active and/or engaging edges to the street.

Use high-quality enduring materials applying a 'long life loose fit' approach to the architecture. Provide generous entries that are intuitive and welcoming.

Appropriate setbacks with generous, safe and intuitive pathways shall be provided. Pathways need to enable bus connections and drop-offs as well as future pedestrian movements - both public and associated with Powerhouse programming.

It is challenging to achieve an accessible connection between Harris Street and Zone 1 within the public domain (due to severe level changes) but would be of community benefit should it be provided within the building footprint.

Further opportunities exist to create a pedestrian connection consistent with the Pyrmont Peninsula Place Strategy (PPPS) (adjacent to the Former Post Office, under Pier Street and on to Exhibition Centre Light Rail Stop) to improve east west connections and to give better access to public transport.

Coordination with landholders and stakeholders will be necessary within the zone of influence for the street frontages, outside of the building envelope.

#### Revealing Heritage

The design must:

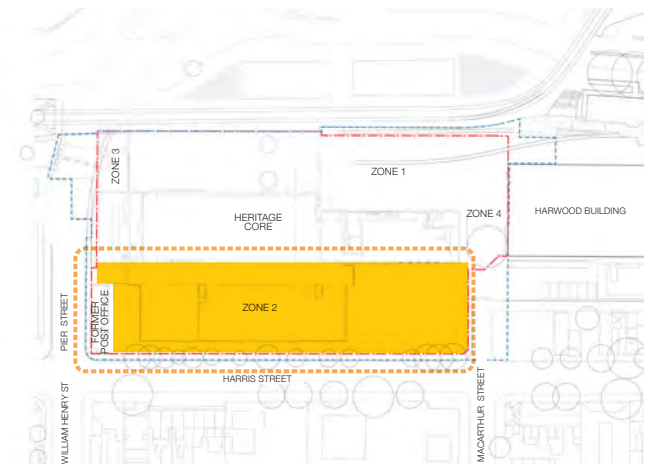
- Consider visual, physical and interpretive connections to the heritage fabric.
- Consider the intent of the 1988 Design Principles, their post modern built forms and their application to the zone.
- Enhance views and connections to heritage-listed items through the zone. (CMP Policies 15.2 and 19.6)
- Reinforce the relationship of the heritage listed items to the suburb of Ultimo through visual and physical connections (CMP Policies 6.1 and 6.2)

#### Setbacks and Built Form Expression

The design must:

- Align built form with the existing dominant Harris Street building lines in both plan and section.
- Create an active frontage to Harris Street.
- Be a contemporary response to the site and its context.
- Complement the state heritage listed items and important elements of the 1988 adaptive re-use.
- Provide diversity in the elevations through articulation of the facade.
- Complement the state heritage items and ensure new development does not detract from the heritage significance of the place including significant heritage items, fabric, and significant views and vistas both within and to the site (CMP Policy 19.1)
- Create fine-grain activation along Harris Street.

#### Key Plan



Habitatges no convencionals, Garces De Seta Bonet Arquitectes  
Image source: <https://www.garces-deseta-bonet.com/projets/29-logements-non-conventionnels/>



Phoenix Central Park, John Wardle Architects & Durbach Block Jagers.  
Image credit: Trevor Mein



Public Realm and Open Space

The design must:

- Assist in achieving a minimum of 2,200sqm public open space (together with other zones) (Note minimum is more than existing).
- Be suitable for public events and gatherings that can operate at any time of the day or night
- Provide appropriate solar access throughout the public realm
- Provide clear and legible point of entry and a clear path of entry to the main museum entrance.
- Create connections through the zone to adjacent zones and public spaces
- Ensure public realm is publicly accessible at all times and meaningfully connected to the broader public domain.
- Incorporate CPTED principles in the design of all open space
- Incorporate hard and soft landscaping in a design that creates a unique space.
- Maximise the use of endemic plant species
- Enable accessible connections between Zone 1 and Zone 2.
- A secondary entrance to the museum from Harris Street (that does not detract from the main museum entry)
- The aspirations set out in the Pyrmont Peninsula Place Strategy (PPPS)
- Legible connection points at the boundary allowing for primary and secondary connections and circulation.
- Provide a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.
- How accessible connections can be provided between the Harris Street and the Goods Line levels.
- Integrate green roofs where possible.



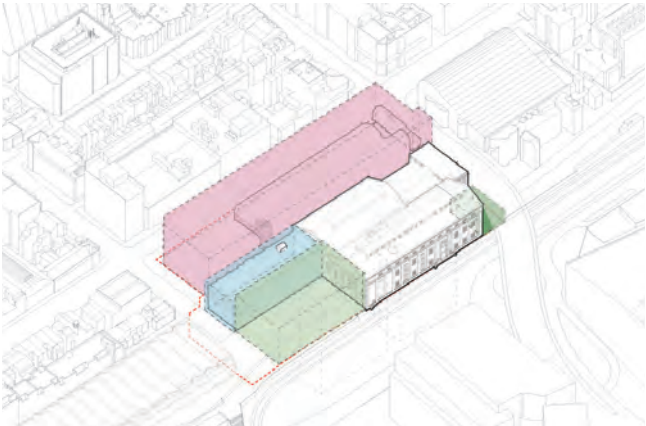
Summer Streets on Crown Street,  
Image credit: Leticia Almeida: < <https://www.broadsheet.com>.

Form, Massing and Scale

The design must:

- Be contained within the Stage 1 SSDA building envelope
- Assist with the revealing and celebration of adjacent state heritage listed items.
- Consider amenity impacts on the precinct and surrounds in terms of overshadowing, privacy and noise.
- Consider street noise and its impact to museum presentation and event spaces and programming.

Building Envelope Diagram



Refer to Stage 1 SSDA Building Envelope drawings  
for building envelope extents and heights



Boola Bardip Western Australian Museum, Hassell & OMA.  
Image credit: Peter Bennetts

### 3.10 Zone 2 Guidelines (cont.)

#### Access, Movement and Transport

The design must:

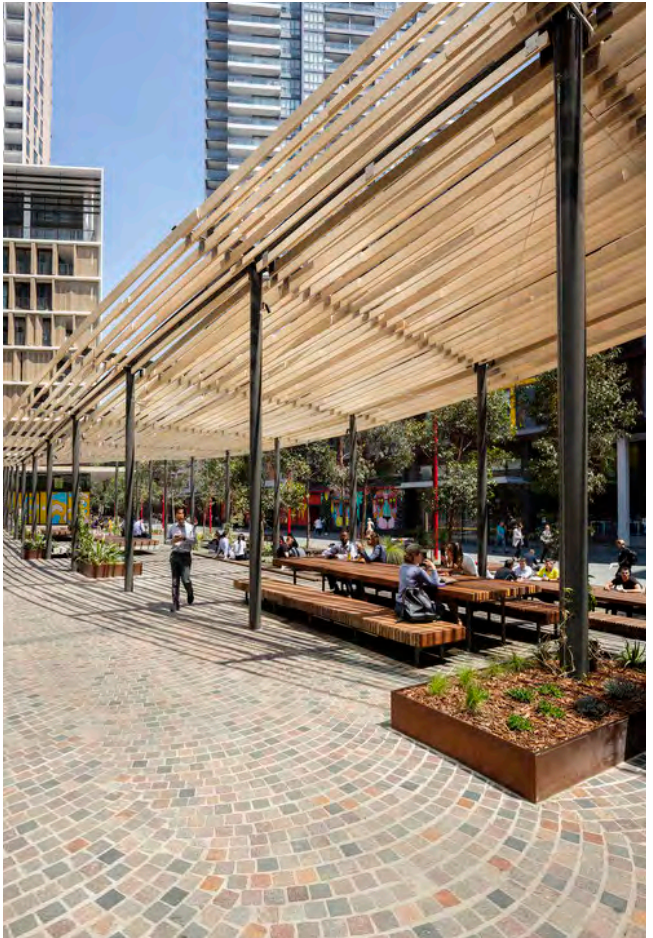
- Prioritise pedestrian movement and provide a safe and accessible pedestrian experience.
- Provide safe and easy access to people of all abilities.
- Provide direct, legible connections to public transport nodes, pedestrian and cycle connections
- Provide pedestrian and cyclist connectivity through the site in both east-west and north-south directions.
- Improve the pedestrian experience on Macarthur Street to provide for a more welcoming environment for pedestrians to Powerhouse Ultimo
- If a loading dock is contained within this zone, provide a safe, secure and efficient loading facility separated from main pedestrian thoroughfares.
- Macarthur Street is a local street and provides an opportunity for access to an on-site loading area. Any future vehicle access point on Macarthur Street should be set back a minimum of 20m from the existing traffic lights on Harris Street so as to minimise impacts to traffic movements on this key road corridor.
- Provide and integrate public bus and coach drop-off/pick-up facilities (i.e bus stops) with sufficient pedestrian queuing space on Harris Street as well as path space for pedestrian access.
- Ensure private vehicle access requirements are met for local properties and easements of adjacent properties are not blocked.

#### Access, Movement and Transport (cont.)

- Emphasise pedestrian priority and minimise conflicts on Macarthur Street.
- Fully integrate any new vehicle access driveway to the adjoining footpath at one continuous level, and provide appropriate pavement treatment for pedestrians, across which vehicles can pass slowly.
- Utilise traditional and existing routes as a priority over introducing new access locations. New access paths should avoid making additional penetrations in heritage fabric. (CMP Policy 18.1 and 18.2)
- Provide improved and legible access to the Heritage core.
- Minimise conflicts between public use and operational requirements, including loading and expected crowd movements
- Ensure public use and operational requirements, including loading, tenants, local residents, visitors and the general public are safe and DDA accessible experiences.
- Integrate of any vehicular entry points and minimization of their visual impact.
- Harris Street is a State Classified road and therefore any new direct vehicle access (including service vehicle access) should be prioritised from other frontages wherever possible.
- Include good quality bicycle parking and end of trip facilities for staff and visitors to the site including provision for bicycle parking spaces within the public domain.

#### Access, Movement and Transport (cont.)

- Provide a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.
- Enhance existing pedestrian connections, acknowledging the significance of The Goods Line and the east-west connection between Darling Harbour Precinct and Pyrmont and creating better connections to existing and proposed public transport (integrate with the PPPS).
- Increase permeability of the site through building set back and through-site-links.
- Ensure visibility and legibility of cycling routes and major pedestrian connections.
- Integrate and minimise visual impact of vehicular entry points.



Darling Square, Aspect Studio. Image credit: Brett Boardman



Street Furniture and Lighting

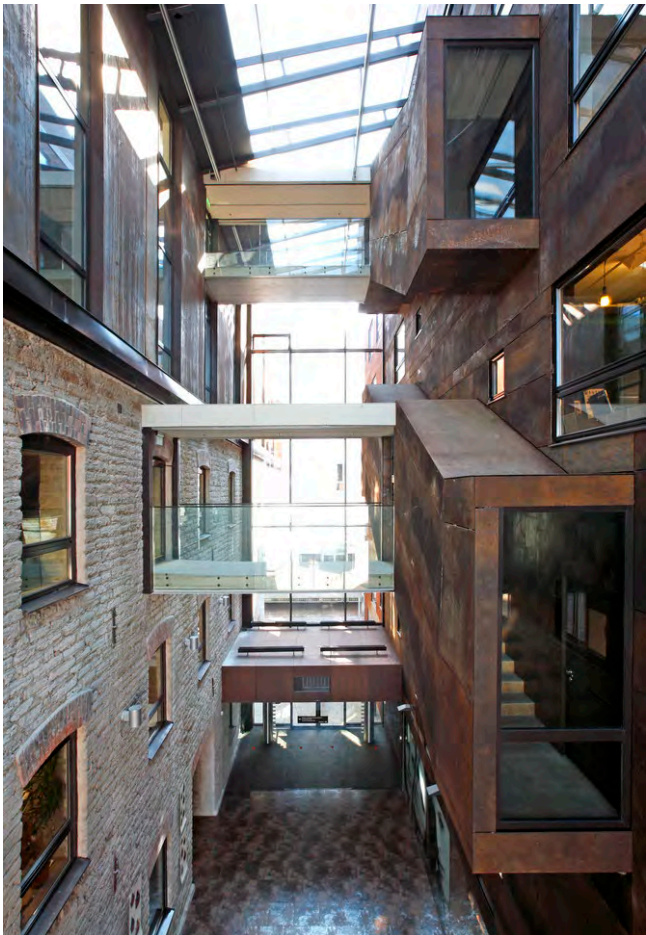
The design must:

- Include feature and statutory lighting that are designed cohesively.
- Provide a coherent palette with City of Sydney street furniture and lighting at the edges of the site.
- Use lighting to assist in achieving CPTED principles.

Materiality

The design must:

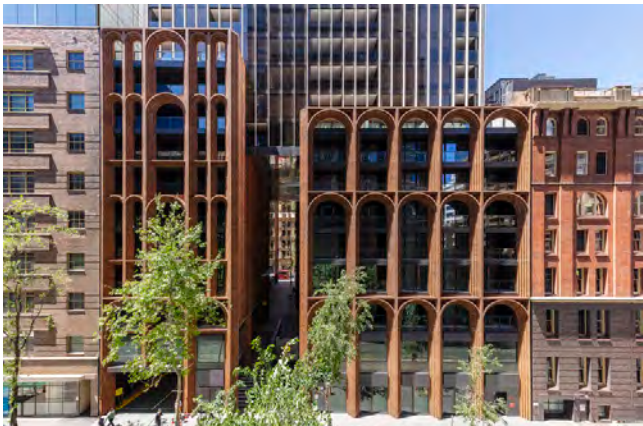
- Robustness and durability with quality materials-long life, low maintenance.
- Use of materials that connect the built form and public realm to its surrounds
- Use of materials that connect the built form and public realm to its surrounds and ensure compatibility with the remnant significant heritage fabric and spaces (CMP Policy 15.4)



Rotermann's Old and New Flour Storage, HGA  
Image Credit: Reio Avaste



Darling Drive by Aspect Studios,  
Image credit: Brett Boardman.



ARC Building, Sydney, Koichi Takada Architects.  
Image Credit: Tom Ferguson Photography, Martin Siegner

### 3.11 Zone 3 Guidelines

The principle guiding the design of Zone 3 is to transform an underutilised space as a connector whilst respecting the significance of the Heritage Core (including North Annex, Turbine Hall, Boiler House and Switch House) and the Former Post Office.

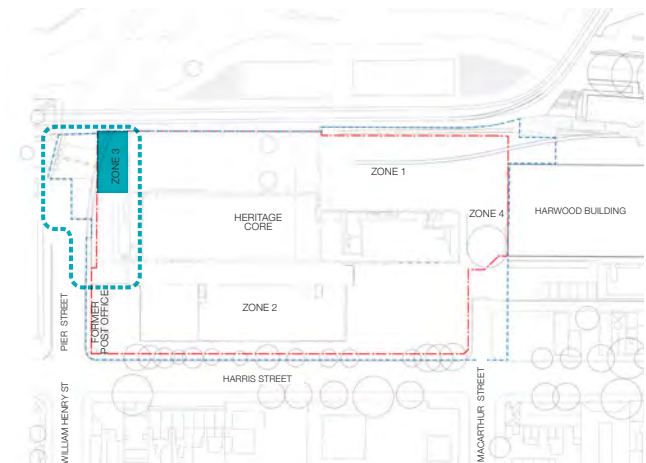
Zone 3 includes the site of the former Power House Pump House, and provides an opportunity to directly connect to the Pier Street Underpass. This zone provides an opportunity for the creation of additional public domain or built form to the north of the Boiler House and east of the North Annex.

This site provides unexpected views of and connections to otherwise obscured heritage buildings. A new entry could provide access to and from the adjacent light rail and an extended path would increase permeability across the site.

A collection of unusual and more intimate spaces presents opportunity for a landscaped space which may also allow a public connection to the adjacent light rail stop.

Coordination with landholders and stakeholders will be necessary within the zone of influence for the street frontages and land beneath the overpass, outside of the building envelope.

#### Key Plan



#### Revealing Heritage

The design must:

- Enhance views to heritage items through the zone.
- Re-establish and enhance the physical and visual connection between the heritage buildings on site. (CMP Policy 6.1, 6.2)
- Reveal heritage fabric and spaces with minimal detailing, to enable heritage items to be retained, conserved and celebrated. (CMP Policies 5.1, 7.1, 7.4, 7.5, 7.6 and 7.8)
- Retain the remnant fabric and integrate with programmatic interpretation (CMP Policy 26— Interpretation and Education).
- Retain visibility to the supporting arches and flues in the brickwork between the Pump House and the Boiler House (CMP Policy 26— Interpretation and Education).



Powerhouse Ultimo heritage buildings facing north.  
Image credit: Katherine Lu

#### Setbacks and Built Form Expression

The design must:

- Be a lightweight, primarily reversible contemporary response to the site and its context.
- Complement the materiality, design and form of the surrounding state heritage items.
- Consider a more legible, porous, street facing area.

#### Public Realm and Open Space

The design must:

- Explore the opportunity of providing a publicly accessible space under Pier Street with managed access, allowing for connection between the adjacent light rail stop and Harris Street.
- Incorporate hard and soft landscaping in a design that creates a unique space.
- Provide appropriate solar access throughout the public realm
- Meaningfully connect to the broader public domain.
- Create connections through the zone to adjacent zones and public spaces
- Incorporate CPTED principles in the design of all open space
- Maximise the use of endemic plant species.
- Legible connection points at the boundary allowing for primary and secondary connections and circulation.
- The aspirations set out in the Pyrmont Peninsula Place Strategy (PPPS).
- Provide a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.



Farum Midtpunkt, BY Ramboll Architecture and Urban Development  
Image credit: <<https://landezine.com/farum-midtpunkt-by-ramboll-architecture-and-urban-development/>>.



Form, Massing and Scale

The design must:

- Be contained within the Stage 1 SSDA building envelope
- Assist with the revealing and celebration of adjacent state heritage listed items.

Access, Movement and Transport

The design must:

- Prioritise pedestrian movement and provide a safe and accessible pedestrian experience.
- Provide safe and easy access to people of all abilities.
- Provide direct, legible connections to public transport nodes, pedestrian and cycle connections
- Enable better connectivity to existing and proposed public transport and integrate with Pyrmont Peninsula Place Strategy (PPPS).
- Explore space under Pier Street to provide a pedestrian connection through to Pyrmont Street to connect with the Exhibition Centre light rail stop.
- Provide improved and legible access to the Former Post Office and Heritage Core.
- Ensure public use and operational requirements, including loading, tenants, local residents, visitors and the general public are safe and DDA accessible experiences.

Street Furniture and Lighting

The design must:

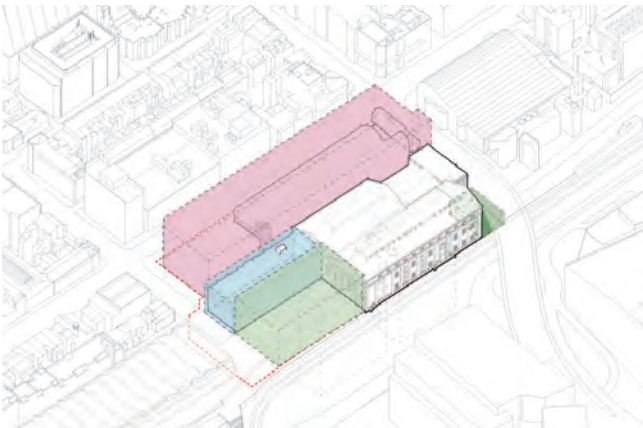
- Include feature and statutory lighting that are designed cohesively.
- Provide a coherent palette with the City of Sydney street furniture and lighting at the edges of the site.
- Use lighting to assist in achieving CPTED principles.

Materiality

The design must:

- Consider robustness and durability with quality materials- long life, low maintenance.
- Use materials that connect the built form and public realm to its surrounds
- Use appropriate materials and finishes, commensurate with, but not in imitation of, the original materiality of the building (CMP policy 13.2)
- All previously unpainted face brickwork must remain unpainted (CMP Policy 13.3)

Building Envelope Diagram



Refer to Stage 1 SSDA Building Envelope drawings for building envelope extents and heights



Shinjuku-Gyoen National Garden  
Image credit: unknown: < <https://www.haarkon.co.uk/explore-blog/shinjuku-gyoen-tokyo>>



Zollhallen Plaza,  
Image credit: B Doherty: < <https://landezine.com/flood-zone-on-public-plaza-design-atelier-dreiseitl-landscape-architecture/>>.

3.12 Zone 4 Guidelines

This is a key node connecting north south via The Goods Line and east west via Macarthur Street and Hay Street. This 'knuckle' binds the city to the Powerhouse site and surrounding sites . It is a key connector and reveals unexpected views and vistas which should be celebrated.

Macarthur Street has been reconfigured to be a shared pedestrianised zone to assist the museum operations. This reconfiguration would benefit from further design intervention to ensure this zone can become a key benchmark of the east-west pedestrian connection between Harris Street Village and the Ultimo/Darling Harbour Precinct.

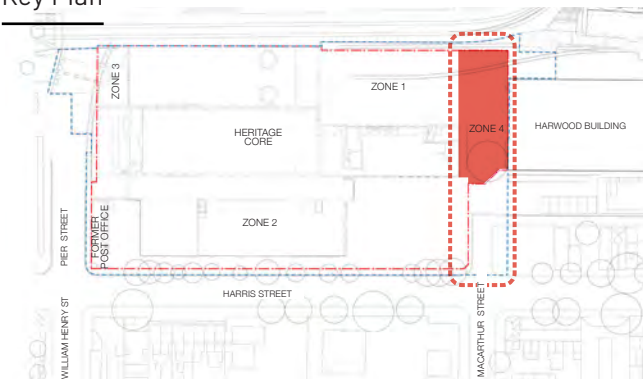
There is further opportunity to create generous, intuitive and safe pedestrian paths with a clear separation between front of house and back of house operations.

Use shared way treatment and restrict/ slow vehicular movement while enabling local residents access as required.

Maximise pedestrian only spaces and retain the existing mature London Plane tree. Additional seating, planting and trees should be considered in the context of museum use and sympathetic to the precinct utilisation.

Coordination with landholders and stakeholders will be necessary within the zone of influence for street frontages, outside the building envelope.

Key Plan



Revealing Heritage

The design must:

- Enhance views to heritage items through the zone.
- Enable better connections to the heritage fabric.
- Reinforce the relationship of the heritage items to the suburb of Ultimo through visual and physical connections (CMP Policies 6.1 and 6.2)

Setbacks and Built Form Expression

The design must:

- Not include any architectural built form within Zone 4

Public Realm and Open Space

The design must:

- Connect to the wider precinct pedestrian network. Note this area is not to be included within the requirement for a minimum of 2,200 sqm of public space.
- Retain the existing mature London Plane tree.
- Respect the existing the Goods Line and reinforce street hierarchies.
- Provide clear and legible connection and wayfinding to the site and surrounding landmarks/amenities.
- Provide improved pedestrian experience with safe, accessible and intuitive connections
- Provide appropriate solar access throughout the public realm and minimise overshadowing to significant public spaces.
- Ensure public realm is publicly accessible at all times and meaningfully connected to the broader public domain.
- Incorporate CPTED principles in the design of all open space
- Incorporate hard and soft landscaping in a design that creates a unique space.
- Maximise the use of endemic plant species.
- Incorporate materials sympathetic to the palette of the Goods Line, Museum and City of Sydney.



Chinatown Laneways by Aspect Studios, Image credit- Simon Wood.



Public Realm and Open Space (cont.)	Access, Movement and Transport	Access, Movement and Transport (cont'd)	Materiality
<ul style="list-style-type: none"> <li>Maximise street trees to enhance the existing canopy cover and mitigate urban heat island effect.</li> <li>The aspirations set out in the Pymont Peninsula Place Strategy (PPPS)</li> <li>Legible connection points at the boundary allowing for primary and secondary connections and circulation.</li> <li>Providing a safe and comfortable street environment using soft landscaping and planting, to encourage pedestrian activity and active edges.</li> </ul>	<p>The design must:</p> <ul style="list-style-type: none"> <li>Prioritise pedestrian movement and provide a safe and accessible pedestrian experience.</li> <li>Provide safe and easy access to people of all abilities.</li> <li>Provide direct, legible connections to public transport nodes, pedestrian and cycle connections</li> <li>Provide pedestrian and cyclist connectivity through the site in both east-west and north-south directions.</li> <li>Improve the pedestrian experience on Macarthur Street to provide for a more welcoming environment for pedestrians to Powerhouse Ultimo</li> <li>Ensure private vehicle access requirements are met for local properties and easements of adjacent properties are not blocked.</li> <li>Utilise traditional and existing routes as a priority over introducing new access locations. New access paths should avoid making additional penetrations in heritage fabric. (CMP Policy 18.1 and 18.2)</li> </ul>	<p>The design should consider:</p> <ul style="list-style-type: none"> <li>Minimising conflicts between public use and operational requirements, including loading and expected crowd movements</li> <li>Integration of any vehicular entry points and minimisation of their visual impact.</li> <li>Including provision for bicycle parking spaces within the public domain.</li> <li>Providing improved and legible access to the Powerhouse Ultimo site.</li> <li>Ensure visibility and legibility of cycling routes and major pedestrian connection.</li> </ul> <p>Street Furniture and Lighting</p> <p>The design must:</p> <ul style="list-style-type: none"> <li>Include feature and statutory lighting that are designed cohesively.</li> <li>Consider the City of Sydney street furniture and lighting palette at the edges of the site to ensure integration.</li> <li>Use lighting to assist in achieving CPTED principles.</li> </ul>	<p>The design must:</p> <ul style="list-style-type: none"> <li>Robustness and durability with quality materials-long life, low maintenance.</li> <li>Use materials that connect the built form and public realm to its surrounds</li> <li>Use appropriate materials and finishes, commensurate with, but not in imitation of, the original materiality of the building (CMP policy 13.2)</li> </ul>
<p>Form, Massing and Scale</p> <p>The design must:</p> <ul style="list-style-type: none"> <li>Not include any architectural built form within Zone 4</li> </ul>			

## 4.0 Additional Landscape Detail



4.1 Indicative Planting Selection

Proposed Primary Trees from City of Sydney Street Tree Master Plan 2011

Naturally occurring species identified in the CoS LGA, Urban Ecology Strategic Action Plan

Street Planting Mix				
Botonical name	Common name	Mature Size H x W (m)	Rate (plants/	Exotic/ Native
Trees				
<div>●</div> <i>Platanus × acerifolia</i>	Plane Tree	14 x10	n/a	Exotic
<div>●</div> <i>Lophostemon confertus</i>	Brush Box	15 x 12	n/a	Native
Shrubs + Ground Covers				
<i>Dianella caerulea</i>	Blue-Flax Lily	1 x 1.5	6/sqm	Native
<div>●</div> <i>Dichelachne crinita</i>	Longhair Plume Grass	1 x 0.2	6/sqm	Native
<i>Lomandra hystrix</i>	Mat Rush	1.5 x 1	4/sqm	Native
<i>Lomandra Tanika</i>	Mat Rush	0.6 x 0.7	6/sqm	Native
<i>Viola hederacea</i>	Native Violet	0.15 x 1	11/sqm	Native

Native Rainforest Mix				
Botonical name	Common name	Mature Size H x W (m)	Rate (plants/	Exotic/ Native
Trees				
<div>●</div> <i>Acacia implexa</i>	Hickory Wattle	15 x 7	n/a	Native
<div>●</div> <i>Banksia integrifolia</i>	Coast Banksia	15 x 8	n/a	Native
<i>Cythea cooperi</i>	Lacy Tree Fern	6 x 4	n/a	Native
<i>Flindersia australis</i>	Crow's Ash	12 x 7	n/a	Native
<div>●</div> <i>Glochidion ferdinandi</i>	Cheese Tree	8 x 5	n/a	Native
Shrubs + Ground Covers				
<div>●</div> <i>Adiantum aethiopicum</i>	Maidenhair Fern	0.5 x 0.7	6/sqm	Native
<i>Asplenium nidus</i>	Birds Nest Fern	1.5 x 0.9	4/sqm	Native
<div>●</div> <i>Asplenium flabellifolium</i>	Necklace fern	0.2 x 1	11/sqm	
<i>Acacia cognata 'Limelight'</i>	Limelight Wattle	1 x 1.2	2/sqm	Native
<i>Blechnum gibbum</i>	Silver Lady	1.2 x 1	4/sqm	Native
<div>●</div> <i>Gleichenia dicarpa</i>	Tangle Fern	1.5 x 1.5	2/sqm	Native
<div>●</div> <i>Dichondra repens</i>	Kidneyweed	0.3 x 1.5	11/sqm	Native
<div>●</div> <i>Davallia solida var. pyxidata</i>	Hare's Foot Fern	0.5 x 0.5	6/sqm	Native
<i>Doryanthes excelsa</i>	Gymea Lilies	3 x 3	Specimen	Native
<i>Microsorium punctatum</i>	Fishtail Fern	0.8 x 0.3	6/sqm	Native

Street Planting Mix



Plantanus x acerifolia



Lophostemon confertus



Flindersia australis



Cythea cooperi



Dianella caerulea



Viola hederacea



Asplenium nidus



Microsorium punctatum



Lomandra hystrix



Lomandra Tanika



Acacia cognata 'Limelight'



Blechnum gibbum

Native Rain Forest Mix