

The Star Key Site

Masterplan Report

Prepared for The Star
September 2021

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1.0 Overview

1.0 Introduction

This report has been prepared on behalf of The Star Entertainment Group (The Star) in support of its Key Site Master Plan under the Pyrmont Place Strategy.

The Master Plan is developed under the framework established under the Pyrmont Peninsula Place Strategy (PPPS), where The Star has been identified as one of four 'key sites'. The PPPS creates a 20-year vision and planning framework to support the NSW Government's vision to transform the Pyrmont Peninsula to "be an innovative, creative and cultural precinct and an engine room of the Eastern Harbour CBD" while meeting the aspirations of the business, industry, visitors, local and future residents.

The Master Plan ultimately seeks to inform updated planning controls related to 20-80 Pyrmont Street and 37-69 Union Street, Pyrmont to facilitate redevelopment of both sites and enable the Star's contribution to the Precinct as "a renowned and treasured cultural and entertainment precinct".

In particular this report covers description of the built form proposal that form part of the Key Site Masterplan.

It should be acknowledged this report has been prepared based on the provided information in the PPPS and the technical consultant reports that accompany the document. Assumptions have had to be made in order to make a reasonable assessment of the precinct-wide matters related to proposed built form and any associated environmental impacts.

Pyrmont Peninsula Place Strategy

The PPPS provides a 20-year framework that identifies areas that can accommodate growth in Darling Island, Blackwattle Bay, Tumbalong Park and Ultimo sub-precincts, while enabling more growth in the Pyrmont Village and Wentworth Park sub-precincts. The PPPS is implemented in the statutory planning system by a Ministerial Direction that requires all land use and planning proposals to be consistent with the Place Strategy.

The first phase in implementing the PPPS is the preparation of master plans for each of the seven sub-precincts that make up the Peninsula (Figure 1). As a 'Key Site' located in the Darling Island sub-precinct, The Star has been identified to progress its own Master Plan for its 'Key Site' alongside the broader Precinct-wide master planning being undertaken by the Department, in consultation with the City of Sydney.

The Star

The Star is an ASX 100 listed company that owns and operates The Star Sydney, Treasury Brisbane and The Star Gold Coast.

The Star Sydney is Sydney's leading entertainment, dining and tourism destination. More than 11 million people, including locals, domestic visitors and international tourists visit The Star annually, facilitated by a workforce of approximately 4,500 people (pre-COVID). As Sydney's only integrated resort, The Star Sydney focuses on the development of tourism and entertainment products across four key segments – accommodation, F&B, gaming and entertainment.



1.0 Overview

The Proposal

The Star Key Site Master Plan is proposing to rezone 20-80 Pyrmont Street and 37-69 Union Street, Pyrmont to establish new planning controls to enable redevelopment on the site to accommodate future mixed uses including retail, commercial uses, hotel and residential. The site is outlined in the aerial map to the right.

The rezoning and proposed planning controls have been informed by detailed site planning considerations as well as existing and future local context analysis. The proposed new controls that comprise amendments to the Sydney Local Environmental Plan 2012 (Sydney LEP 2012) and a Design Guide, respond to the objectives for The Star site Master Plan as listed in the PPPS as well as the Strategy's directions, big moves and place priorities.

It should be noted that subsequent development applications will be required in line with the relevant provisions of the Environmental Planning & Assessment Act 1979 to deliver the proposed developments.

The key development outcomes sought to be achieved for The Star site from the proposed Master Plan include:

- Union Street tower (37-69 Union Street)
- Northern Tower (20-80 Pyrmont Street)
- New street level modifications (20-80 Pyrmont Street)
- New roof top modifications (20-80 Pyrmont Street)

In this report, development at 20-80 Pyrmont Street will be referred to as the main Star site and development at 37-69 Union Street be referred to as the Union Street tower site.



1.0 Overview

This report seeks to describe the built form proposed as part of this Key Site Masterplan. These proposals are considered against the available guidelines and the principles as established in the Pyrmont Peninsula Place Strategy (PPPS) and supporting technical documentation.

The location and height of the proposed towers align with the PPPS guidance which noted the following recommendations under 'Special considerations for master planning' as related to the Star site:

- sun access plane not breached so as to ensure solar access to public and open spaces.
- adjust the RL on the "northern" part of the Star's key site up to a maximum of RL 110 specifically for the purpose of a six-star hotel
- reduce the maximum height of development on the "southern" part of the key site to RL 140 to balance development on this part of the site with the greater height now contemplated on the "northern" part of the site.

Illustrative tower forms have been tested in the two identified locations as identified in the PPPS. Environmental impacts for these illustrative tower forms have been tested against the key criteria as identified within the PPPS, including solar access at the Winter Solstice between 10am - 2pm to identified public spaces.

Initial studies demonstrated that solar access to Elizabeth Healey Reserve would require detailed consideration relative to built form on the Union Street tower site, whilst solar access to Pyrmont Park would require detailed consideration relative to the northern tower.

The illustrative tower forms have also been tested relative to their solar impacts on adjacent residential properties. Whilst the Pyrmont Peninsula Place Strategy identifies much of the land to the south of the Union Street tower site as 'Areas capable of change' and suitable for 'Taller Building Clusters' the analysis undertaken as part of this study is relative to the existing context.

Given the identification for these areas as 'Areas capable of change' and designation as potential 'Taller Building Clusters', it is anticipated that the Sub Precinct Masterplan will propose a built form response for these areas together with corresponding environmental impact criteria to facilitate the heights as identified in the PPPS, ie:

- "northern" part of the Star's key site up to a maximum of RL 110
- "southern" part of the key site to RL 140

The scope of this Key Site Masterplan also includes:

- New street level modifications (20 - 80 Pyrmont Street)
- New roof top modifications (20 - 80 Pyrmont Street)

Ethos Urban's documentation that forms part of this submission sets out how these street level modifications respond to the 'Opportunities for additional public benefits' as identified in the PPPS. This document seeks to test these modifications via preliminary design studies and illustrate opportunities for future development. A series of principles are established to guide the next stages of design work.

Preliminary versions of the proposals as illustrated with this document have been presented to DPIE at an alignment workshop on 26 April 2021.

In addition, draft copies of the proposals were presented to the State Design Review Panel (SDRP) on two (2) occasions, ie:

SDRP 1 - 03 June 2021

SDRP 2 - 12 August 2021

The current proposals seek to address and incorporate feedback as received from these sessions.

1.0 Overview

1.1 Proposed Key Elements

Main Star Site

- 1 North Hotel Tower RL 110
- 2 New porte-cochere drop off serving hotel
- 3 Opening up of Pirrama Road frontage to reveal Light Rail and to provide improved connectivity to public realm and waterfront
- 4 Additional built form to Level 5 to facilitate indoor/ outdoor dining facilities and events
- 5 New Through-site Link
- 6 New Lyric Theatre Stairs
- 7 Facade Upgrades to The Star Grand Hotel and Residences
- 8 MUEF Modifications

Union Street

- 9 Southern Mixed-Use Tower RL 140

Public Realm Areas

- 10 Upgrade corner at Union Street and Edward Street
- 11 Upgrade corner at Union Street and Pyrmont Street
- 12 Improve public domain along Edward Street
- 13 Improve public domain along Pirrama Road
- 14 Upgrade to Union St with potential for improved shared zone, including upgrades to walkway and cycleway
- 15 Union Square



Aerial view of The Star Key Site masterplan from the East

1.0 Overview

1.1 Proposed Key Elements

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Aerial view of The Star Key Site masterplan from the West

1.0 Overview

1.1 Proposed Key Elements

Main Star Site

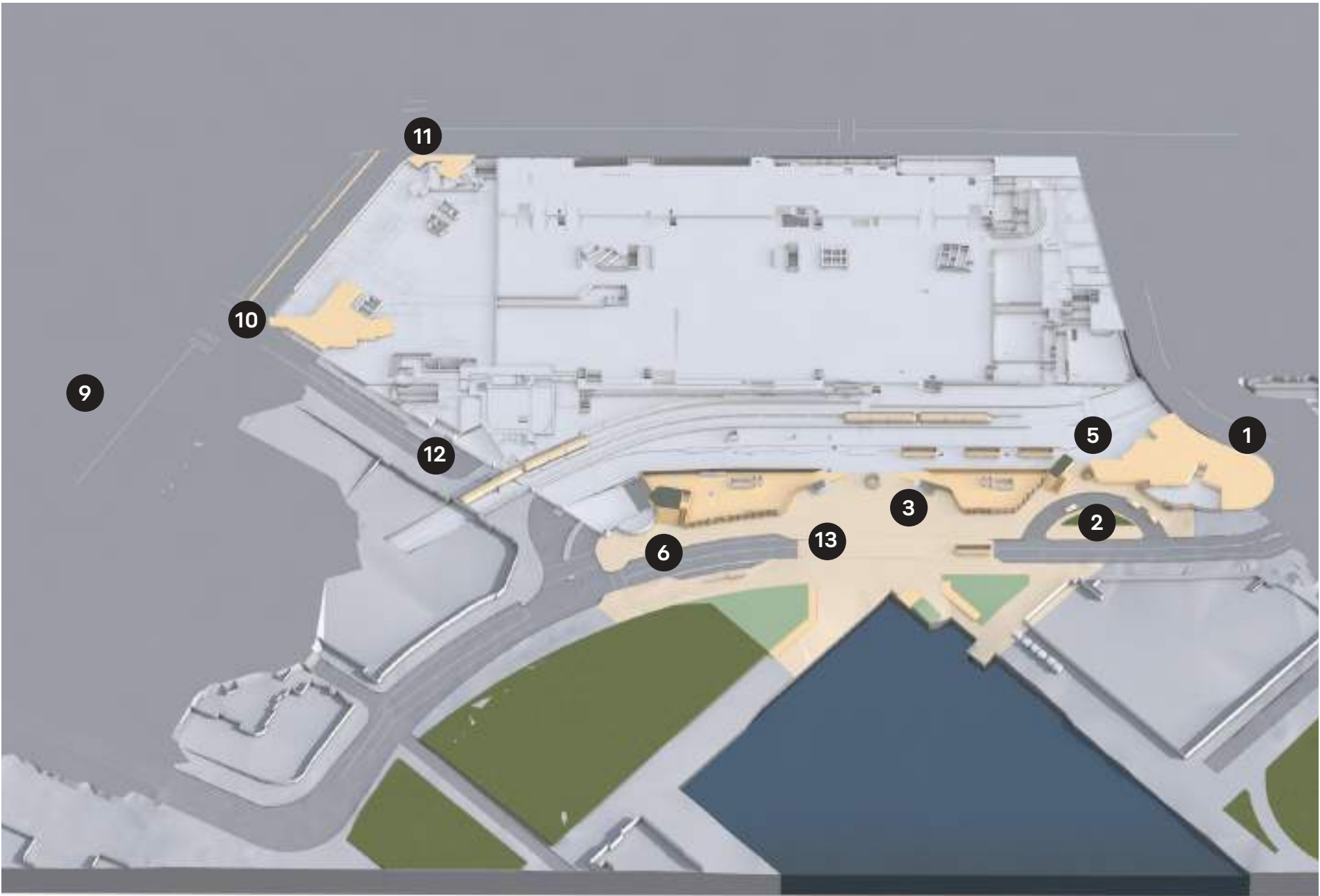
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Axonometric cutaway of lower levels showing Pirrama Road, internal road, Light Rail, porte-cochere and retail

1.0 Overview

1.1 Proposed Key Elements

Main Star Site

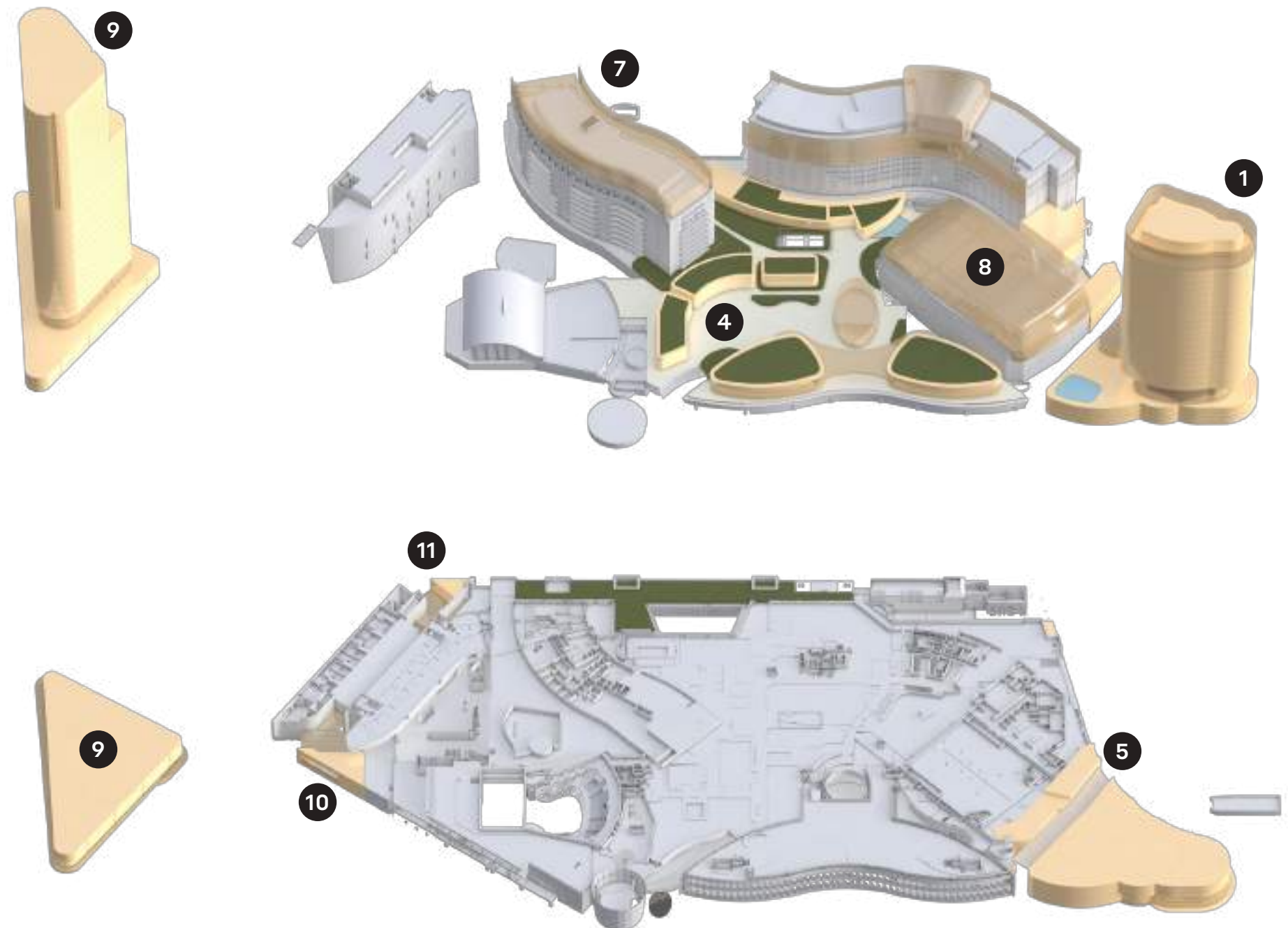
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Exploded Axonometric cutaway of upper levels

1.0 Overview

1.2 Indicative Area and Uses

Union Street Tower

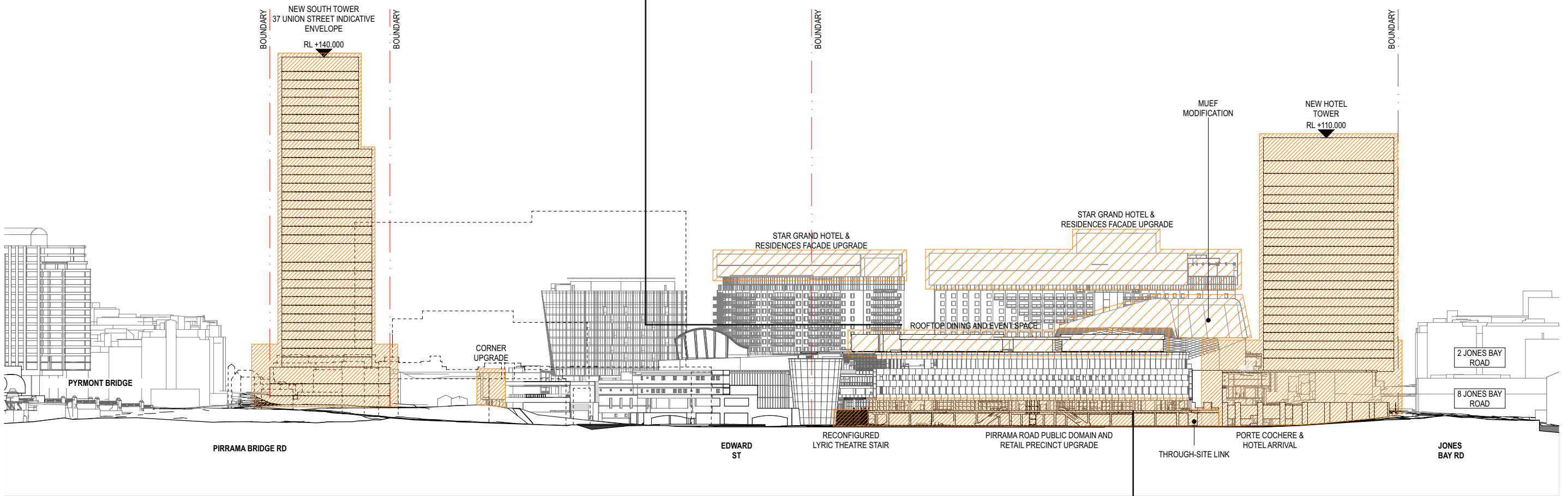
Height	RL 140
Uses	Hotel, Residential and Retail
Approx GFA	Hotel: 15,640sqm, Residential: 15,510sqm, Retail: 850sqm

Level 5 Rooftop Dining and Event Space

Uses	F&B, Event Space, Wellness
Approx GFA	F&B: 1,500sqm (additional to existing) Wellness: 1,150sqm (additional to existing)

North Hotel Tower

Height	RL 110
Uses	Hotel
Approx GFA	Hotel: 16,880sqm, Other GFA (Sports Bar, F&B, Function Space): 9,120sqm, Retail: 340sqm



Pirrama Road

Uses	F&B, Retail, Wellness
Approx GFA	200sqm (additional to existing)

2.0 Ground Plane Street Activation

2.1 Overall Strategy

The overall strategy to activate the ground plane is based on prioritising pedestrianising Pirrama Road and opening up the Pirrama Road retail interface for an improved connection to the existing Light Rail stop.

In the following pages of this section, we walk around the main Star site, to illustrate and explore what is envisioned for each bounding street and building edge interface for ground plane activation.

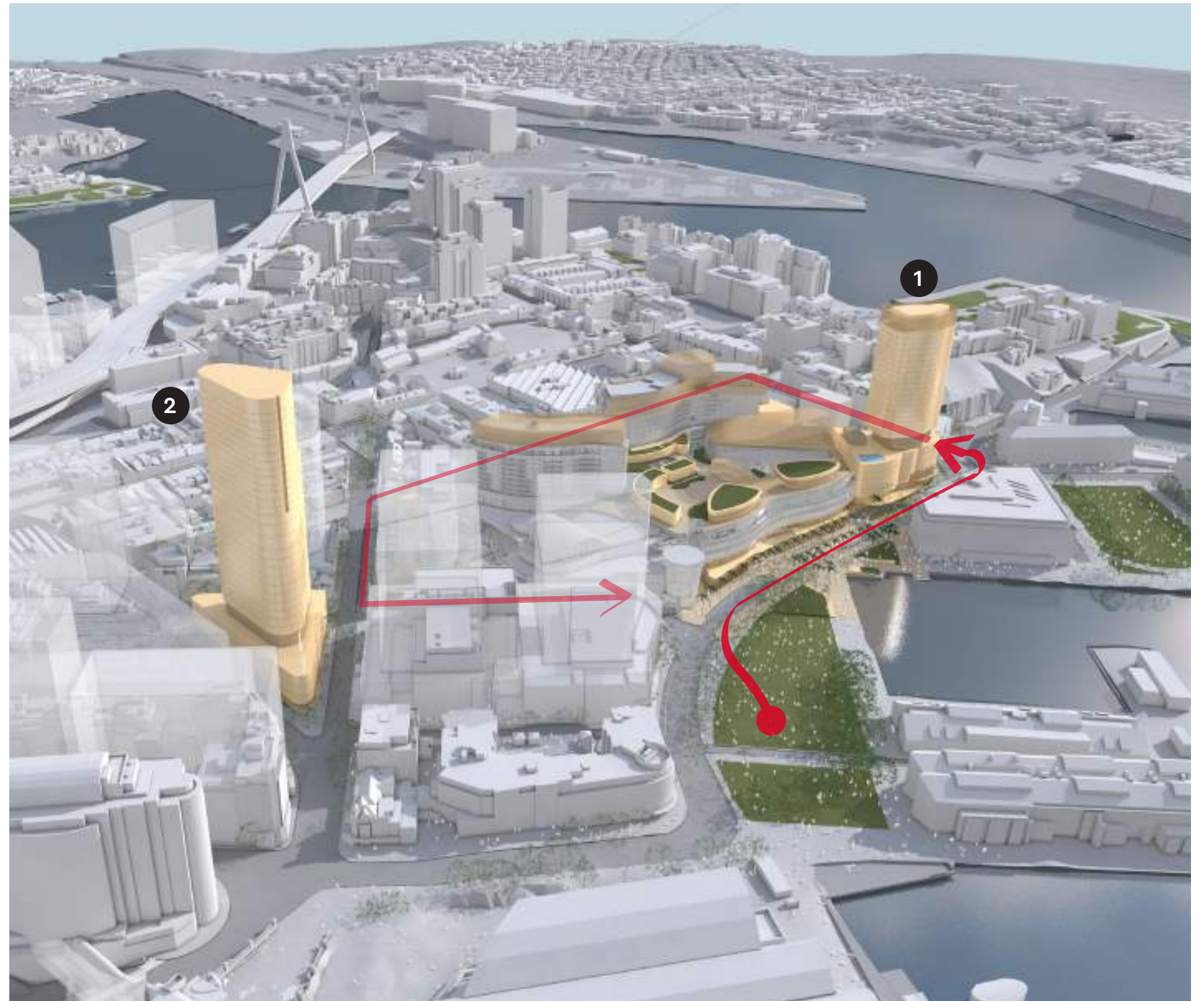
Subsequently, we do the same for the Union Street Tower site.

Main Star Site

- 1 North Hotel Tower RL 110

Union Street

- 2 Southern Mixed-Use Tower RL 140



Aerial view of The Star Key Site masterplan from the South-east

2.0 Ground Plane Street Activation

2.2 Existing Context Photographs



Edward Street / Pirrama Road



Pirrama Road / Jones Bay Road



2.0 Ground Plane Street Activation

2.3 Existing Context Photographs



Jones Bay Road / Pyrmont Street



The former office of the Sydney Electric Lighting Station (SELS Building), constructed in 1904 (and extended in 1922)



Pyrmont Street / Union Street

2.0 Ground Plane Street Activation

2.3 Existing Context Photographs



Union Street



Edward Street / Union Street



Edward Street

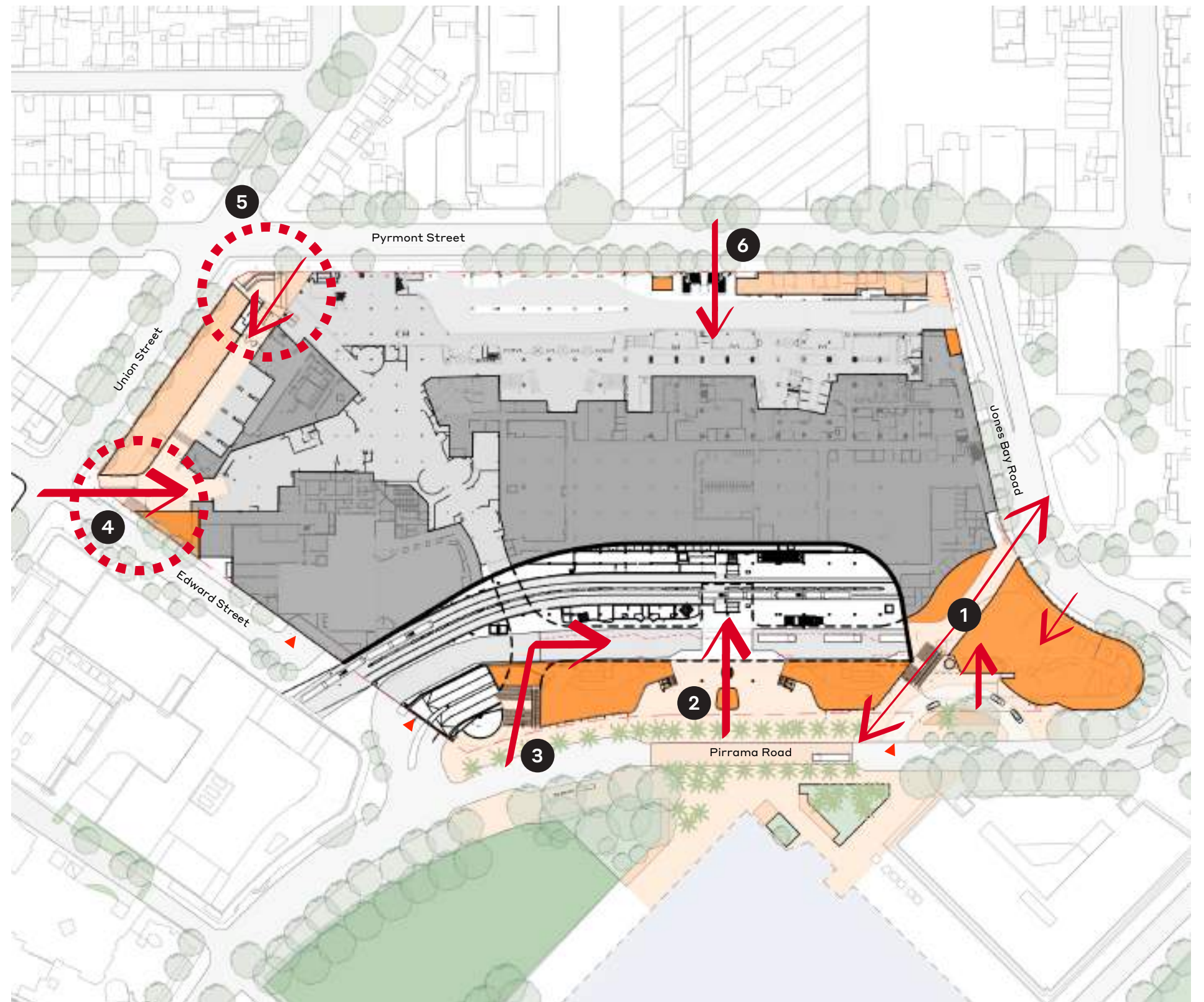
2.0 Ground Plane Street Activation

2.3 Desired Future Character

The Masterplan proposes a series of moves on the ground plane and building interface to:

- improve and activate the existing building edges,
- improve or reinforce the legibility of existing entry points,
- improve the overall porosity of the site
- Pirrama Road frontage opened up to promote high visibility and ease of pedestrian access to the Light Rail

- 1 Proposed Through-site Link, visually open to sky
- 2 Opening up Pirrama Road for improved visual and physical connectivity to Light Rail
- 3 Proposed reconfiguration of Lyric Theatre stair connection to Level 00 Retail tenancies above
- 4 Upgrade to the corner of Union St and Edward St for improved public domain interface and way-finding
- 5 Upgrade to the corner of Union St and Pyrmont St for improved public domain interface and way-finding
- 6 Existing Entry - opportunity for improved legibility



Ground Plane superimposed Plan

2.0 Ground Plane Street Activation

2.3 Desired Future Character

- i. Pirrama Road - view from Pyrmont Bay Park



View from Pyrmont Bay Park

2.0 Ground Plane Street Activation

2.3 Desired Future Character

i. Pirrama Road

Lyric Theatre Connection

The entrance from the south of Pirrama Road to the internal retail precinct is via a set of stairs and escalators adjacent to the Lyric Theatre. The current access is constrained and not publicly inviting. The Key Site Masterplan provides an opportunity for improved access offering a more legible connection from Pirrama Road to the internal retail precinct, Union Street and beyond.

The sketches to the right illustrate how reconfigured stair and escalators can significantly improve this entry point. These initial concepts see the stair reoriented to the line of columns beyond thus allowing visual connectivity deep into the plan.



Image: Existing Lyric Theatre stairs

- 1 Reconfigured existing stair to improve access from Pirrama Road public domain to retail
- 2 Existing Lyric Theatre

- 3 Proposed Pirrama Road retail interface and public domain improvements
- 4 Indicative North Hotel Tower and Podium



View towards Lyric Theatre Connection and Pirrama Road Retail Precinct

2.0 Ground Plane Street Activation

2.3 Desired Future Character

i. Pirrama Road

Pirrama Road Retail Interface

The upper level retail offerings along Pirrama Road are contained within a ribbon that runs from the southern Lyric Theatre connection to the northern through-site link. This retail is somewhat detached from Pirrama Road at present and does not significantly add to the activation of Pirrama Road. The sketches to the right include provision for a new outdoor terrace area with external dining opportunities at this upper level. The newly created space under, i.e. along Pirrama Road offers opportunity for increased retail and wellness activation at street level and possible connection to the larger upper level retail tenancies.

The above works should be undertaken in parallel with the opening up and improved visibility of the Light Rail stop. In the scenario where the light rail stop is relocated to the end of Edward Street this opening up is less important and could give way to increased activation opportunities. Improved signage for the light rail should be incorporated into all scenarios.



Image: Existing Light Rail station

- 1 Barriers removed for improved visual and physical connection to the Light Rail Station from the public domain
- 2 Escalators up to Level 1 Retail
- 3 Proposed Ground Floor retail tenancies with outdoor dining areas for ground plane activation
- 4 Clear signage and way finding to clearly identify and locate Light Rail Station



View from Pirrama Road towards Light Rail station

2.0 Ground Plane Street Activation

2.3 Desired Future Character

ii. Through-site Link (part 1 of 2)

Construction of the northern tower will see much of the northern part of the site demolished and rebuilt. This offers the opportunity to create a new and highly desirable through site link from Pirrama Road to Jones Bay Road. The new northern built form and functions contained within cannot be wholly isolated from the main site and as such there will need to be connecting bridges and platforms to the upper levels. However, a legible and accessible ground level connection can be provided with open to the sky entry points at both Pirrama Road and Jones Bay road. This new through-site connection needs to deal with a substantial level change and will incorporate a combination of stairs, escalators and lifts.

1. Pirrama Road

The alignment of the through-site link is reconfigured for improved sight lines, legibility and way-finding. The entry to the through-site link will have a strong relationship to the new hotel porte-cochere. New stairs, escalators and lifts are to be afforded a high degree of visibility from the public realm to encourage public access. The form of the northern tower and podium should provide a strong visual break between new and existing.



Image: Existing Pirrama Road interface

- 1

Proposed through-site link, visually open to sky where possible
- 2

Footbridge connection to existing Sports Bar
- 3

Porte Cochere
- 4

Proposed Pirrama Road interface
- 5

Proposed Hotel Lobby
- 6

Publicly accessible Lift



View along Pirrama Road towards entrance of new Through-Site Link, Porte-cochere and North Hotel Tower

2.0 Ground Plane Street Activation

2.3 Desired Future Character

iii. Jones Bay Road

There is an approximate 5m level difference between Pirrama Road and Jones Bay Road frontages. The natural topography of the site at the corner of these roads sees a sharp transition between these heights. The current built form addressing this corner takes on a defensive character and appears uninviting for activation or for any pedestrian interaction with the building edge.

The proposed masterplan seeks to rectify this by presenting a continuously activated interface from Pirrama Road to Jones Bay Road. This means that tennacies interfacing with this corner are able to be accessed directly from the footpath, providing opportunities for active retail edges such as cafes or pop-up galleries, to assist with mitigating the sharp level transition along this corner while promoting pedestrian movement and interaction with the building.



Image: Existing corner of Pirrama Rd and Jones Bay Rd



View towards the corner of Pirrama Road and Jones Bay Road

2.0 Ground Plane Street Activation

2.3 Desired Future Character

ii. Through-site Link (part 2 fo 2)

2. Jones Bay Road

The Jones Bay entry should be flush with the external paving and visually open to the sky with a glazed canopy or similar to ensure a suitable level of pedestrian comfort.

A variety of retail offerings shall enrich and activate the ground plane at the entry point and within the through site connection, drawing pedestrians into the broader precinct.

Abundant opportunities exist for exploration of massing, articulation and facade expression to create visual interest and clear way finding.

- 1

Proposed through-site link, visually open to sky where possible
- 2

Footbridge connection to existing Sports B
- 3

Retail offering and active building edges
- 4

Existing pedestrian crossing



Image: Existing Jones Bay Road interface



View towards Through-Site Link from Jones Bay Road and associated Retail Tenancies

2.0 Ground Plane Street Activation

2.3 Desired Future Character

iv. Pyrmont Street

Whilst the majority of opportunities for increased street activation and increased porosity lie to the north and east of the site, more local opportunities for activation along Pyrmont Street should be developed.

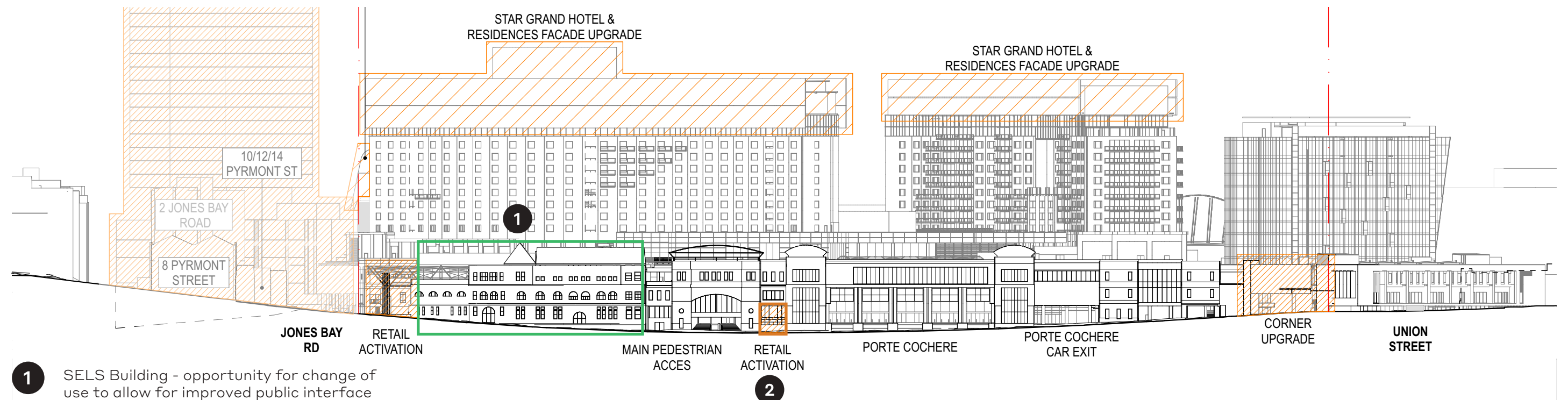
The former offices of the Sydney Electric Lighting Station (SELS building), constructed in 1904 (and extended in 1922), has local historic, associative and aesthetic significance as well as representative and rarity value. The subject site is of local heritage significance. Whilst any proposed modifications must take into consideration the identified significance and must have regard for the total resource, the SELS Building offers opportunity for increased street activation and a change of use.



Image: SELS Building streetscape view from Northwest



Image: SELS Building streetscape view from Southwest



2.0 Ground Plane Street Activation

2.3 Desired Future Character

v. Union Street

Union Street - Key Corners

The pedestrian experience along Union Street is to be improved with increased footpath widths and additional greening. Over time, the Union Street facing tenancies should have increased external engagement to Union Street facilitated by these public realm upgrades.

The major entry points at either end of the Union Street frontage are to be reworked to improve pedestrian access, way finding and street activation. These corner entry points provide access to the internal street network that facilitates through-site connections and easy access to the light rail.

Corner of Union Street and Edward Street

The corner of Union and Edward Streets should have increased activation via additional built form (strengthening the currently unstructured corner), improved permeability and enhanced way finding signage for the Light Rail.

The indicative proposals to the right seek to reorder this corner such that the focus is on improved connectivity to the main Star site, internal street network and light rail beyond, as opposed to orientating pedestrian traffic into the foyer of the Darling.



Image: Existing corner of Union St and Edward St

- 1 Ramp reconfigured
- 2 Steps reorientated for legibility
- 3 Activate/open up street edge interface

- 4 Increase permeability and legibility
- 5 More visible / emphasize Light Rail entry
- 6 Union Street public realm upgrades



View towards corner of Union Street and Edward Street

2.0 Ground Plane Street Activation

2.3 Desired Future Character

v. Union Street

Corner of Union Street and Pyrmont Street

The corner of Union and Pyrmont Street offers the opportunity for an urban scale intervention to mark this entry point while providing improved amenity and encouraging outdoor activation.

The indicative proposals to the right seek to reorder this corner such that the focus is on improved connectivity to the main Star site, internal street network and light rail beyond. The additional built form on the left offers opportunity for further street activation. It is acknowledged that these proposal are indicative only and will be subject to further design post the Key Site Masterplan.

- 1 Ground plane reconfigured
- 2 Indicative built form added to enhance street presence of the corner, and help frame the entry point
- 3 Cafe to assist with ground plane activation
- 4 Awning for legibility and wheather protection
- 5 Activate/open up street edge interface
- 6 Union Street public realm upgrades



Image: Existing corner of Union St and Pyrmont St



View towards corner of Union Street and Pyrmont Street

2.0 Ground Plane Street Activation

2.4 Design Principles

i. General Principles

The following is a set of general design principles that apply to any new development on the main Star site and the Union Street tower site, ie. the overall Star Key Site Masterplan.

1. Future designs should maximise opportunities for activation of Building Edges
2. The materiality of any new works should be of high quality to reinforce that these are accessible spaces
3. Future designs should seek to improve the overall porosity of the site and improve legibility of existing entry points
4. Opportunities for enhancement of through-site connections and new through-site connections should be incorporated where possible.

2.4 Design Principles

ii. Pirrama Road

The following is a set of design principles that apply to any new development on and along Pirrama Road for the main Star site.

1. Pirrama Road frontage should be designed to promote high visibility and ease of pedestrian access to the Light Rail.
2. New built form along Pirrama Road should encourage active uses and improve connectivity to the upper level: Eat Street
3. The materiality of any new works to Pirrama Road should be of high quality materials to reinforce this edge as a publicly accessible space.
4. Level 00 (Eat Street Level) [level naming convention corresponds with DWP Existing GFA Plans 28/07/2017] to accommodate increased outdoor dining opportunities with active surveillance and visual connection to the public realm.
5. New through-site link: a link that is read as an unambiguous public thoroughfare with natural daylight and active edges
6. Porte-Cochere should be highly integrated with the public realm and be designed as a pedestrian friendly space.
7. Only one Porte-Cochere / vehicular drop off to be provided along the length of Pirrama Road
8. The northern corner of the site should be designed to maximise active uses and encourage street activation.

2.4 Design Principles

iii. Jones Bay Road

The new northern tower provides opportunity to reconstruct an improved street edge and podium along the northern portion of Jones bay Road.

Central to this new work is the through-site connection to Pirrama Road. This important connection will link the waterfront to Jones Bay Road, and the walkway to James Atkinson Reserve.

The following is a set of design principles that apply to any new development on and along Jones Bay Road.

1. New through-site link: a link that is read as an unambiguous public thoroughfare with natural daylight and active edges
2. Consider relationship to walkway to James Atkinson Reserve.
3. Activated edges especially at the entry to the new through site link.
4. New podium buildings to relate to the scale of the adjacent built form.

3.0 Rooftop Spaces

3.1 Overall Strategy and Uses

Rooftop Dining and Event Space

The rooftop on Level 5 of the main Star site is envisioned to be a collection of indoor and outdoor spaces with complementary functions that form a rooftop dining and event precinct.

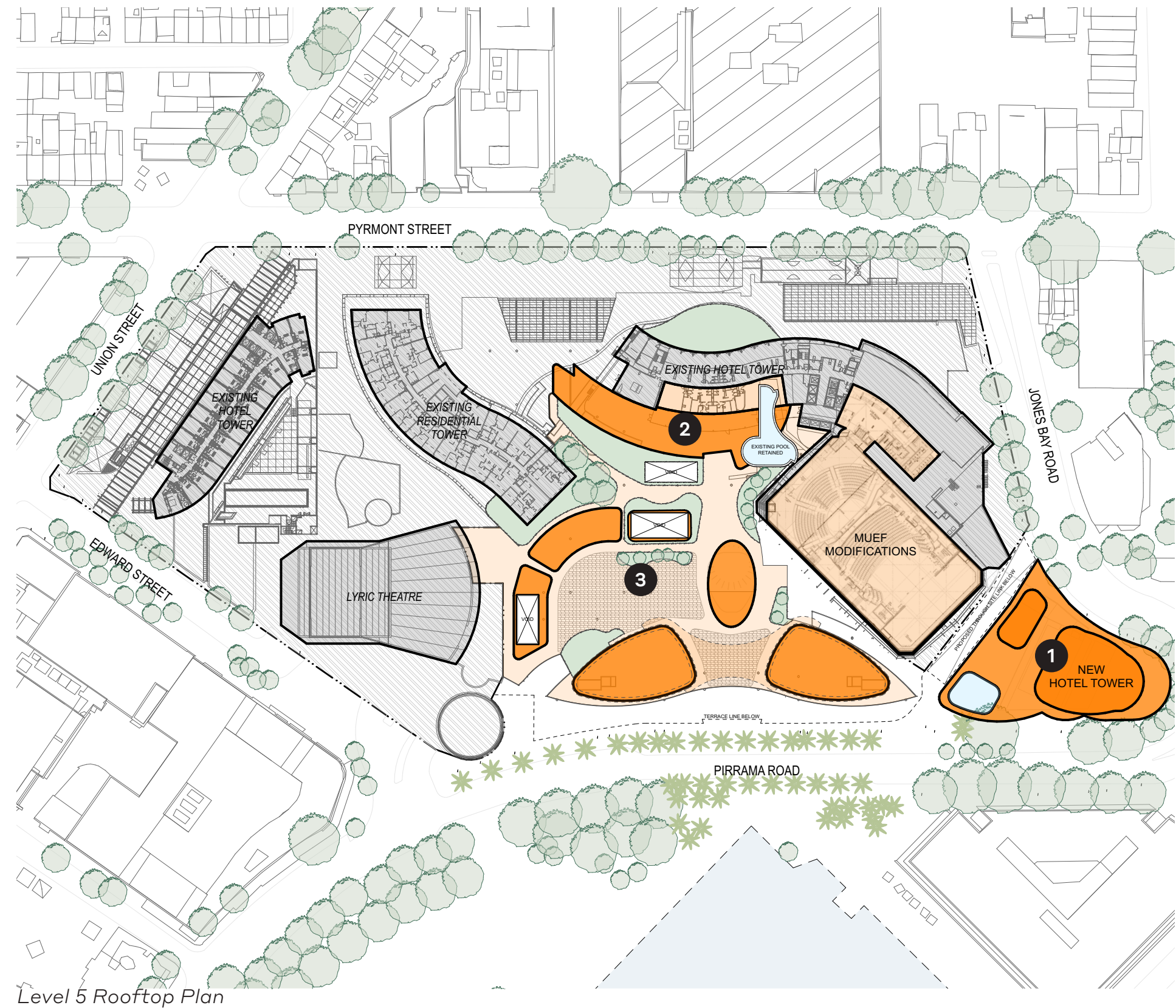
The spaces will include indoor/outdoor dining opportunities, recreational spaces, wellness spaces and hotel amenities, including an existing hotel pool.

The outdoor spaces shown in a lighter shade on the plan to the right, indicate rooftop spaces that are open to the sky. These terraces benefit from carefully considered and high quality landscape design that make the rooftop dining and event space an oasis in the precinct. Additionally, these spaces enjoy excellent outlook towards the Sydney CBD skyline, and water views towards Pyrmont Bay and Barangaroo Reserve.

At the proposed North Hotel Tower, there is a swimming pool and hotel amenities on this level.

Main Star Site

- 1 North Hotel Tower podium, pool and amenities
- 2 Existing hotel amenities, wellness spaces and existing hotel pool
- 3 Landscaped Rooftop Dining and Event Space



3.0 Rooftop Spaces

3.1 Overall Strategy and Uses

Rooftop Dining and Event Space

Opportunities for greening and landscaping present themselves on the roofs of these Level 5 dining pods.

The aerial image on the right show a version of where these green roofscapes are in the overall masterplan.

Further, the greening of nominated rooftops align with overarching sustainability objectives as identified in this masterplan. Refer to the supporting report from WSP for additional details.

Main Star Site

- 1 North Hotel Tower podium, pool and amenities
- 2 Existing hotel amenities, wellness spaces and existing hotel pool
- 3 Landscaped Rooftop Dining and Event Space



Aerial view of The Star Key Site masterplan

3.0 Rooftop Spaces

3.1 Overall Strategy and Uses

Rooftop Dining and Event Space

The images on this page are artistic impressions showing the high caliber of indoor/outdoor spaces envisaged for the rooftop dining and event space.

The spaces are proposed as public accessible, affording tourists, guests and member of the public the opportunity to benefit from the views and amenity.



Image: Artist's impression of indoor and outdoor rooftop spaces



Top: Artist's impression of outdoor dining space with outlook towards Sydney CBD skyline

Bottom: Artist's impression of indoor dining space with outlook towards Sydney CBD skyline

3.0 Rooftop Spaces

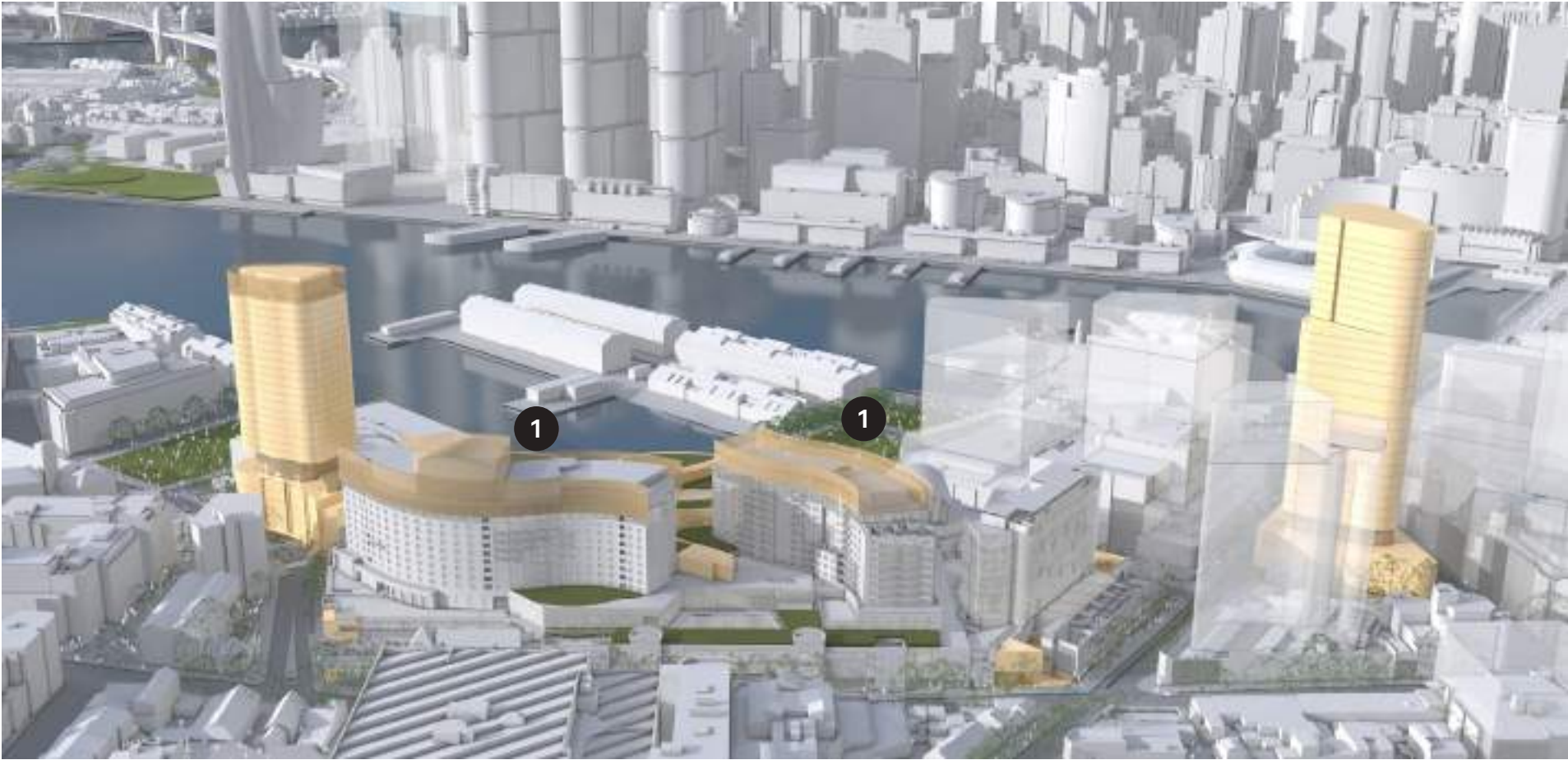
3.1 Overall Strategy and Uses

Facade Upgrade to The Star Grand Hotel and Residences

The Star Key Site Masterplan scope includes the upgrade of the ‘The Star Grand Hotel and Residences’. The indicative proposals to the right show new glazed facade screens or similar to the upper level in lieu of the existing shading systems. These new screens are to be designed to accommodate architecturally integrated signage.

Main Star Site

- 1 Facade Upgrades to The Star Grand Hotel and Residences



Indicative image of proposed facade upgrade



Top: Aerial view of the Star Key Site masterplan from Pyrmont Street

Bottom: Indicative image of proposed facade upgrades to existing The Star Grand Hotel and Residences

3.0 Rooftop Spaces

3.2 Design Principles

The following is a set of design principles that apply to any new development on the rooftop spaces of the main Star site, namely the Level 5 rooftop spaces, including the spaces on top of the North Hotel Tower podium.

1. Future designs should take advantage of the excellent outlook in all directions
2. The materiality of any new works should be of high quality to promote the event and dining space as a hub for the overall precinct.
3. Seamless transition between indoor and outdoor spaces that enrich the experience of the event and dining spaces is encouraged.
4. Landscaping on the rooftop should be mindful of existing structure in determining the placement of large soil volumes.
5. Landscaping should provide privacy and shelter with consideration of outlooks from internal spaces
6. Shading devices on the edges of the rooftop pavilions should define building edges
7. Rooftop built form should minimise any overshadowing impacts to Pirrama Road.



Artist's impression: Rooftop Terrace



Exploded axonometric showing rooftop elements



Indicative Rooftop spaces viewed from street level of Pirrama Road

4.0 Union Street Tower

4.1 Overview and Use

The Union Street Tower is situated on the triangular site bounded by Union Street to the north, Edward Street to the west and Pyrmont Bridge Road to the south.

The tower is envisioned to be a mixed-use tower consisting of hotel and residential levels. The ground is activated by hotel lobby and residential lobby entries, F&B offering and retail offerings.

The tower is capped at RL 140.

The following section of the report outline the various factors that contributed to shaping the form of the proposed tower on this site. The factors can be categorised into environmental impact factors and urban response factors.

Environmental impacts include: solar access to public and important open spaces, solar access to existing residential developments, and wind mitigation strategies.

Urban responses include podium heights in alignment with the existing urban fabric, minimizing the tower's perceived visual bulk and implementing appropriate setbacks at the ground plane and for the tower.

The Union Street site was recognised in the final Place Strategy as suitable for a potential mixed-use tower of 140 RL. The site has subsequently been considered as part of the Star Key Site masterplan.



Union Street

1 Southern Mixed-Use Tower RL 140









Aerial view of The Star Key Site masterplan

4.0 Union Street Tower

4.1 Overview and Use

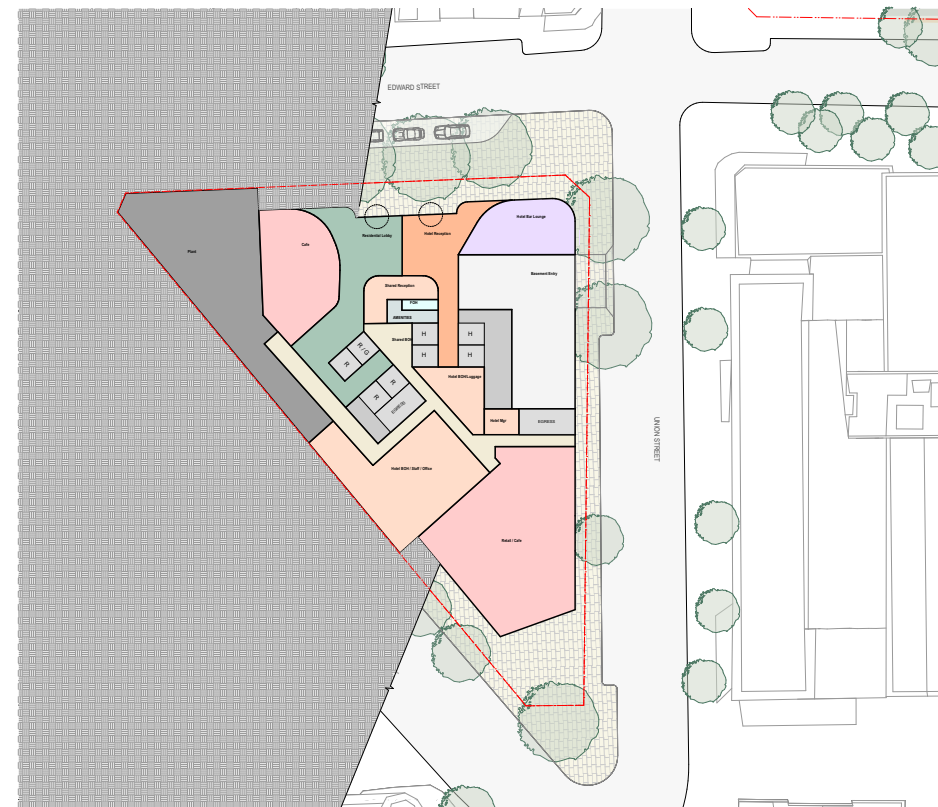
The selection of illustrative plan diagrams on this page demonstrate how the various programme in this tower may function. Included are ground level plans, podium level plans, a typical hotel floorplate and a typical residential floorplate.

Uses

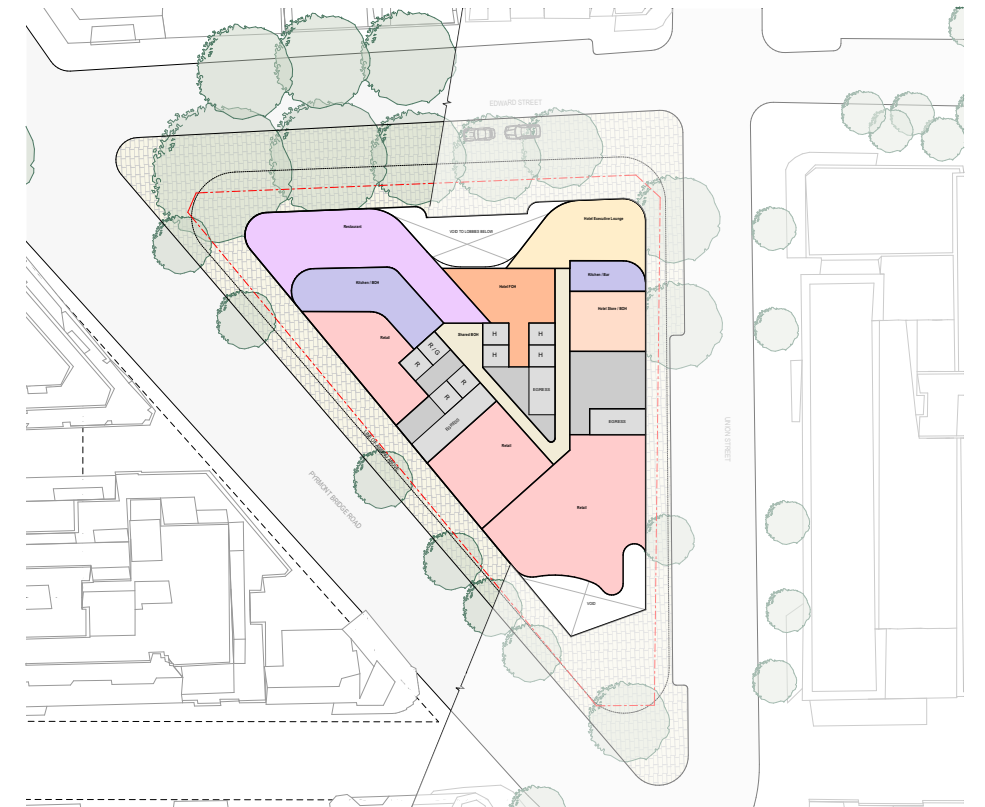
- | | |
|--|--|
|  Residential |  Retail |
|  Hotel: Rooms |  Loading Dock |
|  Hotel: Amenities/ Shared Amenities |  Terrace |
|  Hotel: Lobby |  Plant |



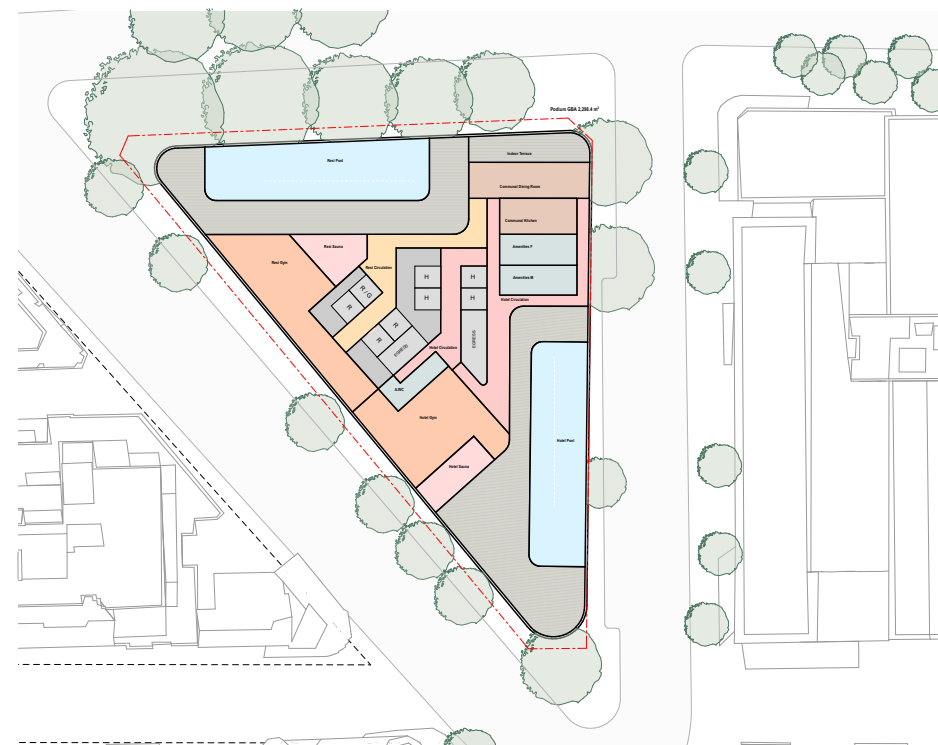
Union Street Tower - Indicative massing



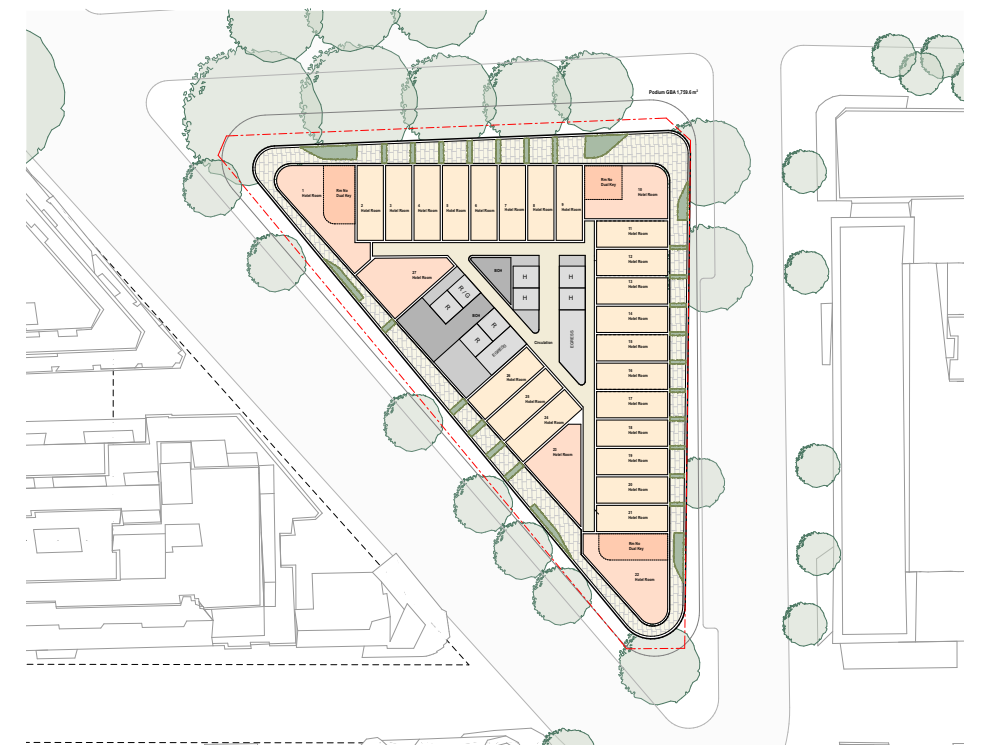
Lower Ground



Upper Ground



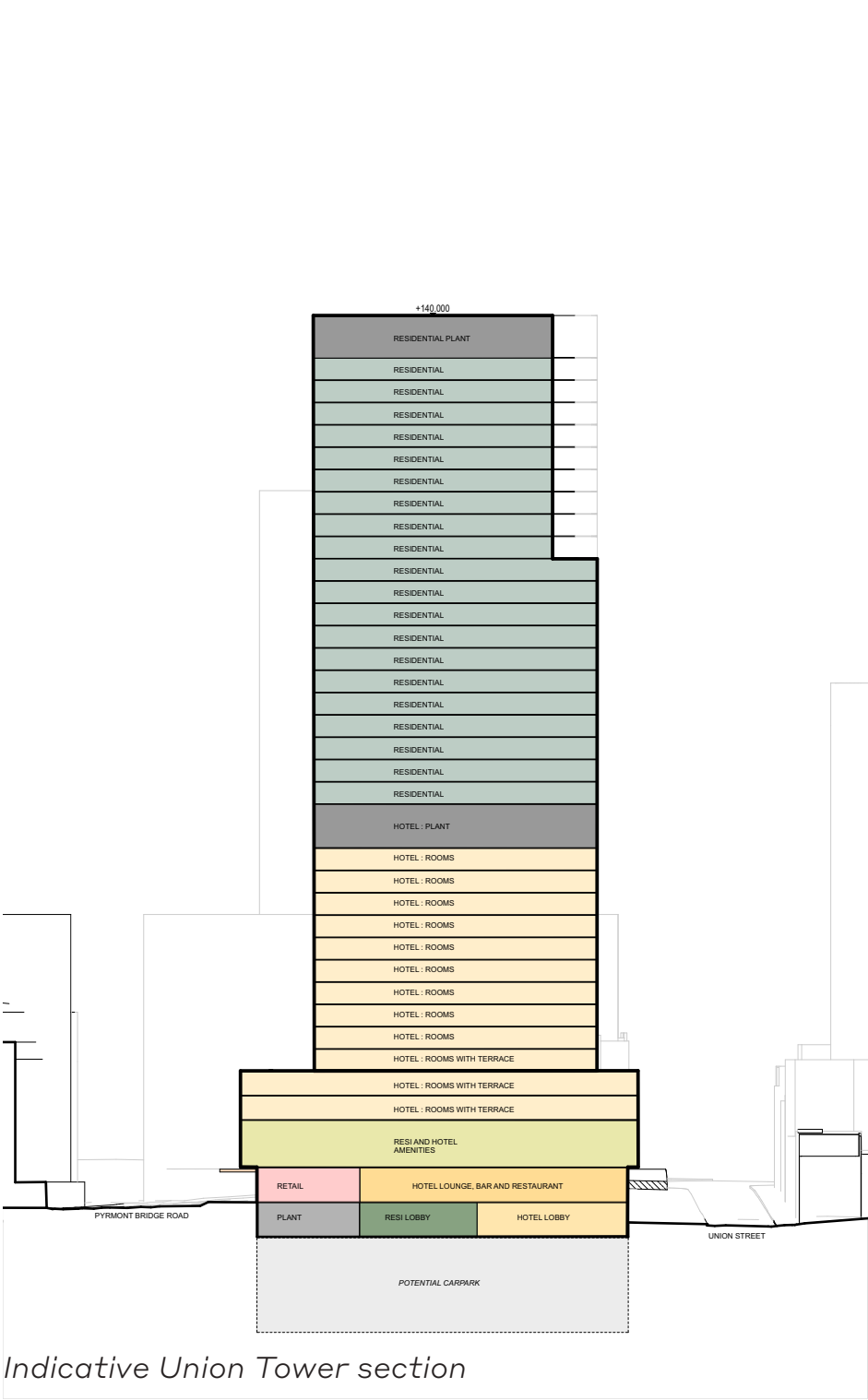
Level 1



Hotel Terrace

4.0 Union Street Tower

4.1 Overview and Use



Typical Hotel Level



Typical Lower Tower Residential Level



Typical Upper Tower Residential Level

The illustrative proposals included in the masterplan adopt a floorplate of circa 1,000 sqm GFA. This is considered appropriate for a mixed use hotel / residential tower and compares with the floorplate sizes as recently approved at Harbourside via a SSDA1 process. The tower has been positioned toward the middle of this site to ensure appropriate 5-7m set backs relative to the podium. The illustrative scheme includes rounded corners to the tower to assist with mitigation of wind impacts and to improve view sharing from adjacent properties. Limiting the length of the southern facade will help reduce overshadowing of properties to the south.

The indicative tower form is consistent with the City of Sydney DCP2012 Section 5.1.5 Building Bulk.

"For residential buildings and serviced apartments with a height above the 45m:

(a) the size of the floor plate above the street frontage height must not exceed 1,000sqm GFA, refer to Figure 5.21; and

(b) the maximum horizontal dimension of the building facade parallel to the street frontage is 40m. "

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

- i. Solar Access to Public Open Spaces

Sunlight Protection to Public spaces and important Places

The built form must be designed with consideration of overshadowing objectives as prescribed in the Pyrmont Peninsula Place Strategy: refer to the map on the right. The solar protection applies to Winter Solstice between 10am - 2pm.

Relevant to development on the Union Street Tower site is Elizabeth Healey Reserve. Proposed development on the Union Street tower site must be mindful of ensuring solar protection to Elizabeth Healey Reserve.

Reinforce peninsula scale and character

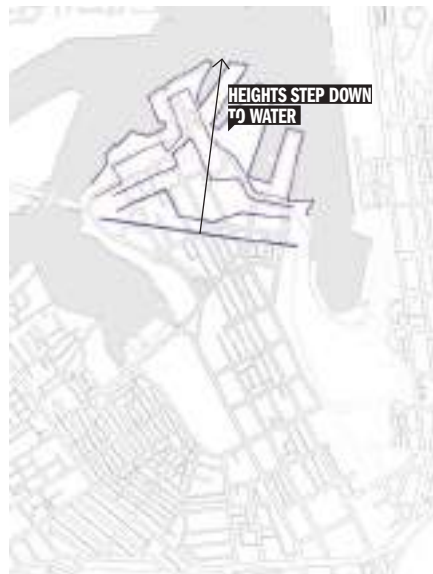


Figure 2.1.2 / Peninsula Character Height Strategy

Protect amenity of streets and spaces



Figure 2.1.3 / Peninsula Amenity Based Height Strategy

Winter Solstice Solar Protection 10-2pm

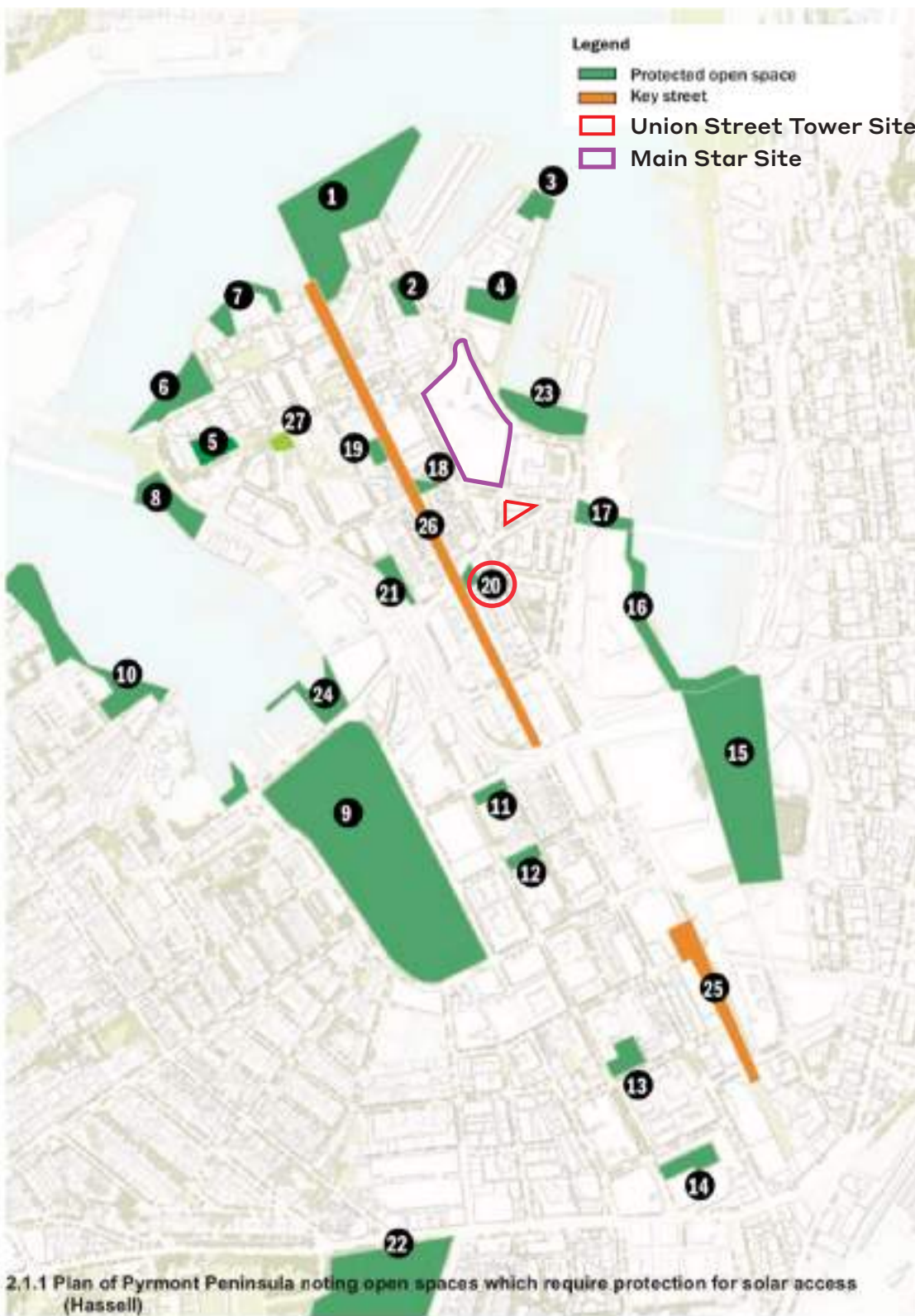
- 1. Pirrama Park and Gibs Park (RL10.08)
- 2. James Watkinson Reserve (RL21.56)
- 3. Ballarat Park (RL2.0)
- 4. Metcaalfe Park (RL3.67)
- 5. Distillery Drive Park/The Knoll (RL36.0)
- 6. Waterfront Park (RL9.81)
- 7. Cadi Park (RL5.04)
- 8. Banks Street Park (RL4.27)
- 9. Wentworth Park (RL3.73)
- 10. Blackwattle Bay Park (RL4.32)
- 11. Fig Lane Park (RL20.77)
- 12. Quarry Green (RL20.43)
- 13. Marry Ann Street Park (RL14.45)
- 14. Alumni Green (RL12)
- 15. Tumbalong Park (RL2.2)
- 16. Darling Harbour Foreshore (RL1.73)
- 17. Pyrmont Bridge Forecourt (RL7.01)
- 18. Union Square (RL15.17)
- 19. Maybanke Park (RL23.75)
- 20. Elizabeth Healey Reserve (RL15.12)
- 21. Paradise Reserve (RL9.13)
- 22. Victoria Park (RL22.99)
- 23. Pyrmont Park (RL1.5)

Winter Solstice Solar Protection 12-2pm

- 24. Sydney Fish Markets Urban Park (RL1.73)
- 25. Goods Line (RL6.5)
- 26. Harris Street (RL12.07)

Winter Solstice Solar Protection 10-12pm

- 27. Carmichael Park (RL23.6) - no additional overshadowing beyond 12pm



2.1.1 Plan of Pyrmont Peninsula noting open spaces which require protection for solar access (Hassell)

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

i. Solar Access to Public Open Spaces

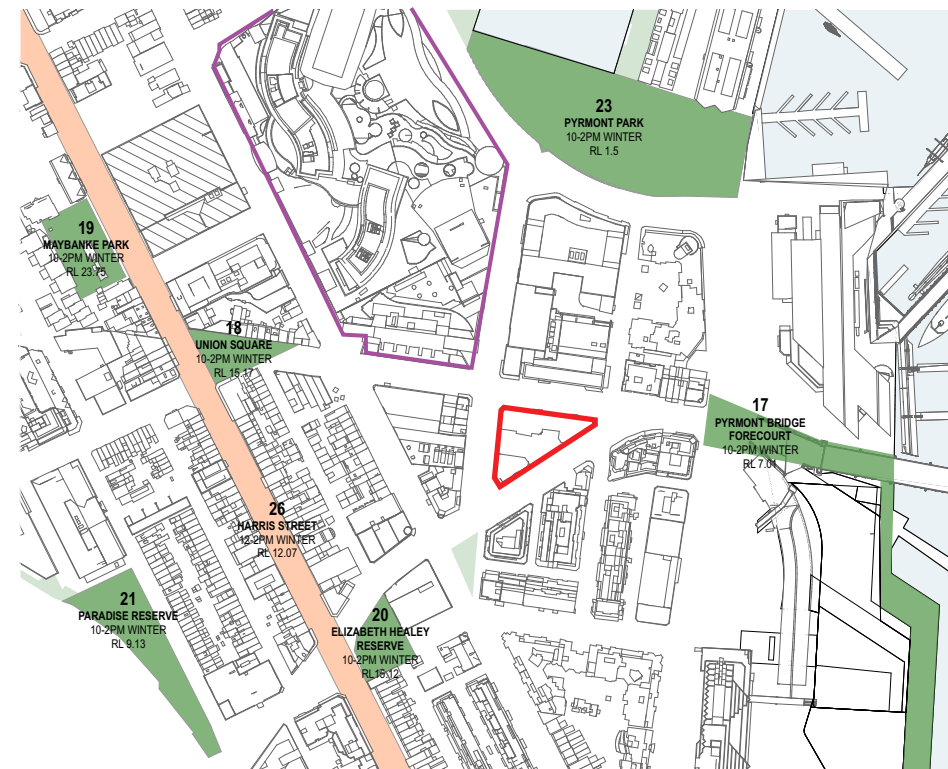
Sunlight Protection to Public spaces and important Places

The solar protection planes shown in the images to the right are generated from the public spaces surrounding the main Star site and the Union Street tower site, as identified in the PPPS.

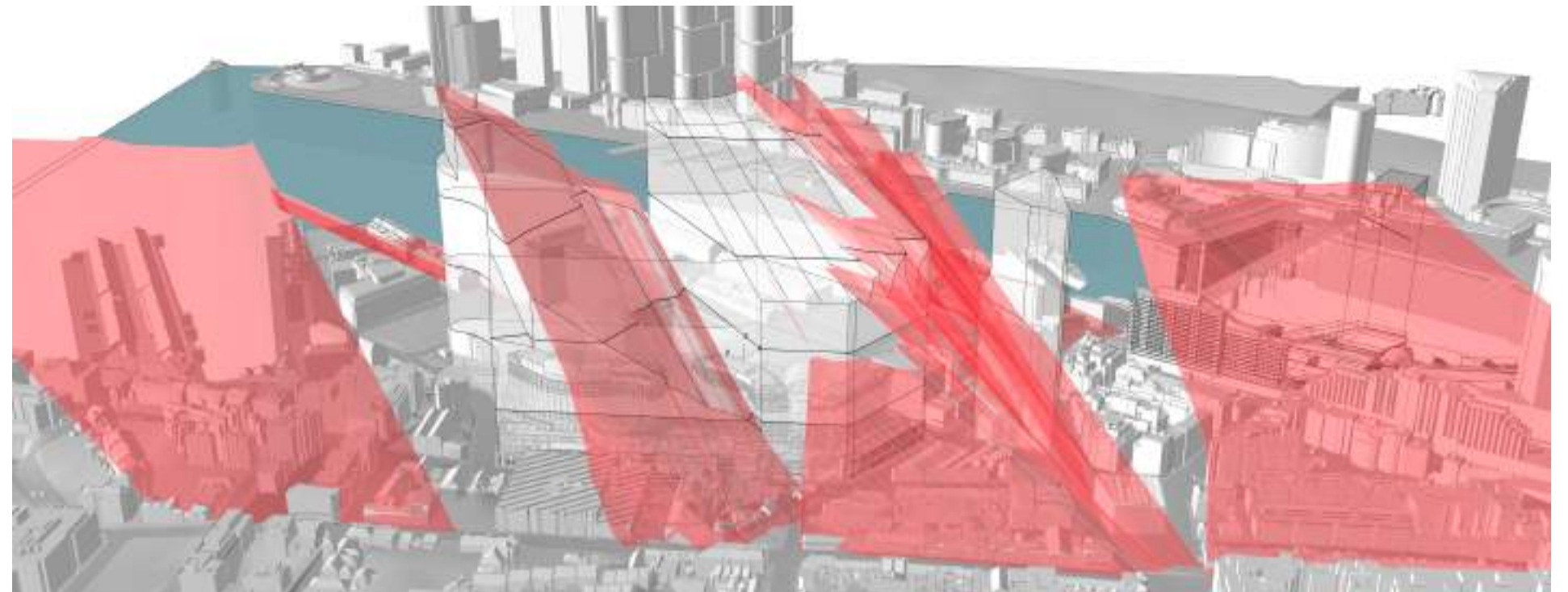
The bottom right image shows the consolidated solar access planes that are applicable to future development on the main Star site and the Union Street tower site.

 Union Street tower site

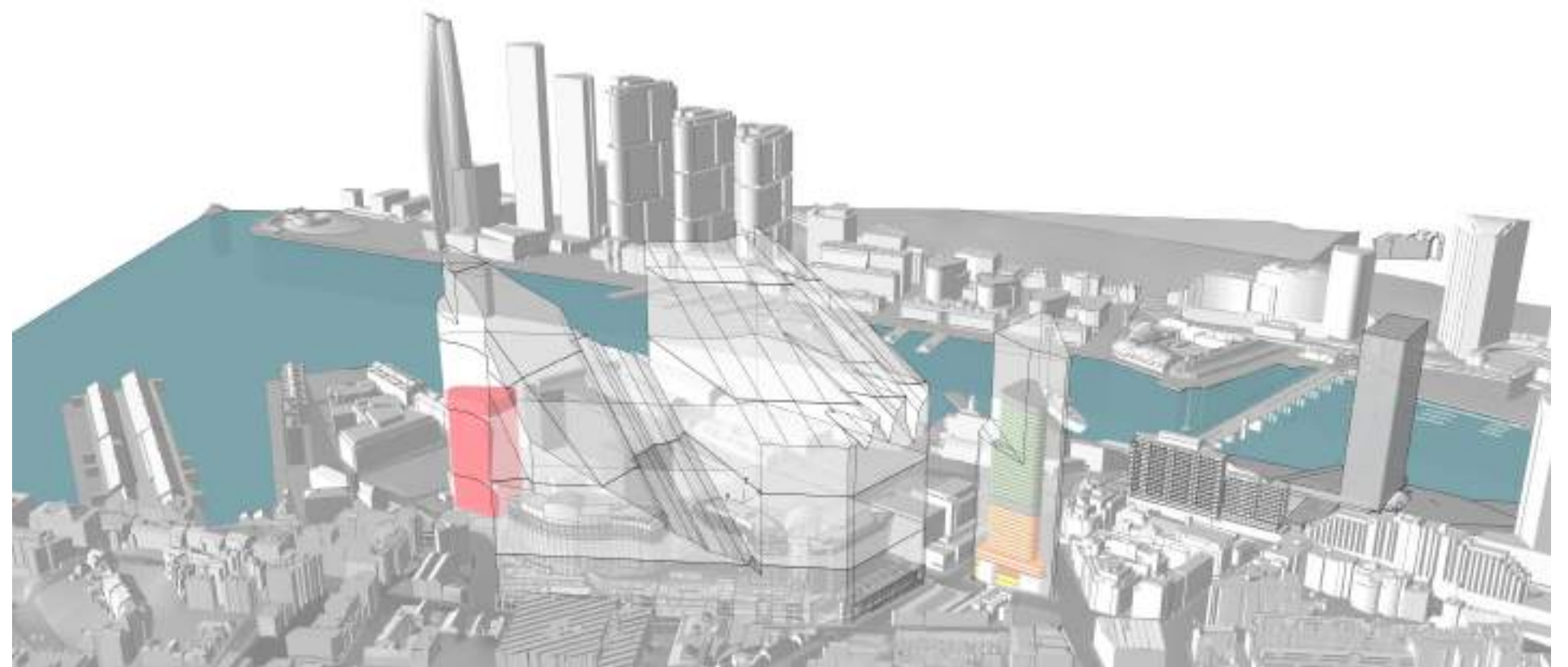
 Main Star site



Extract: PPPS



Solar Protection planes from Public Open Spaces and Important Spaces



Resultant Solar planes relevant to main Star site and Union Street Tower site

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

i. Solar Access to Public Open Spaces

Elizabeth Healey Reserve

On this page is a sample taken from a series of Sun Eye Views taken on June 21, between the times of 9:35am to 11:00am, at five (5) minute intervals.

These illustrate the overshadowing impact of the proposed Union Street tower form on Elizabeth Healey Reserve.

It is important to note that an existing warehouse overshadows the Reserve from 9:35am to 9:55am which means that the proposed tower form complies with winter solar protection to the Reserve during those times.

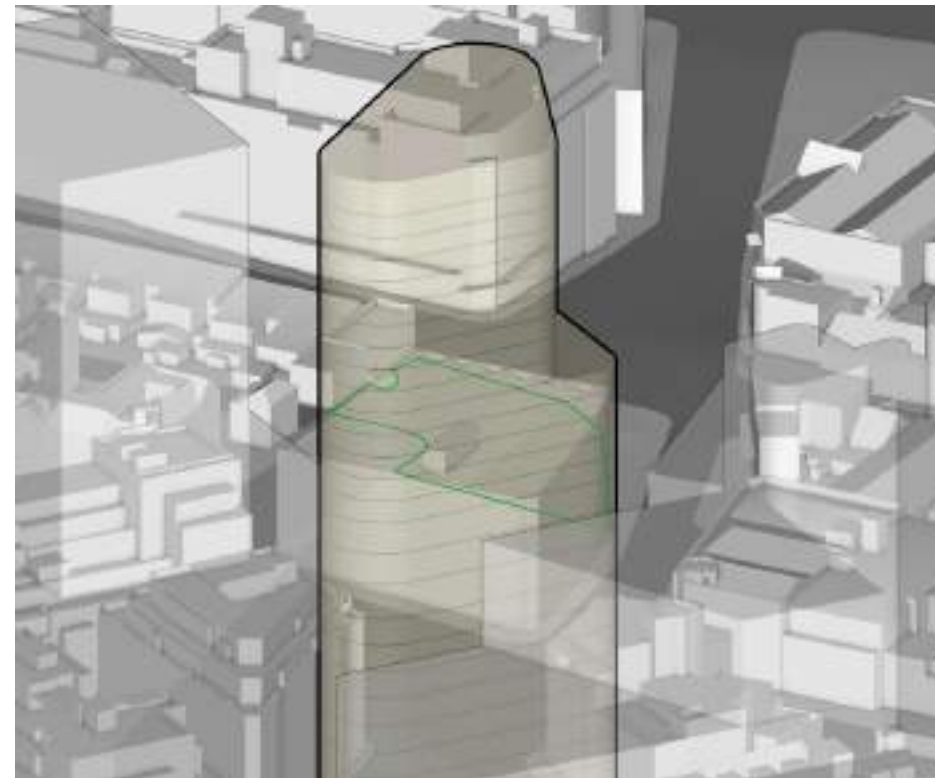
At 10:00am, the proposed tower form is adjusted to preserve solar access to the Reserve, shown circled in the corresponding Sun Eye View.

By 10:20am, the proposed tower form no longer has an overshadowing impact on the Reserve.

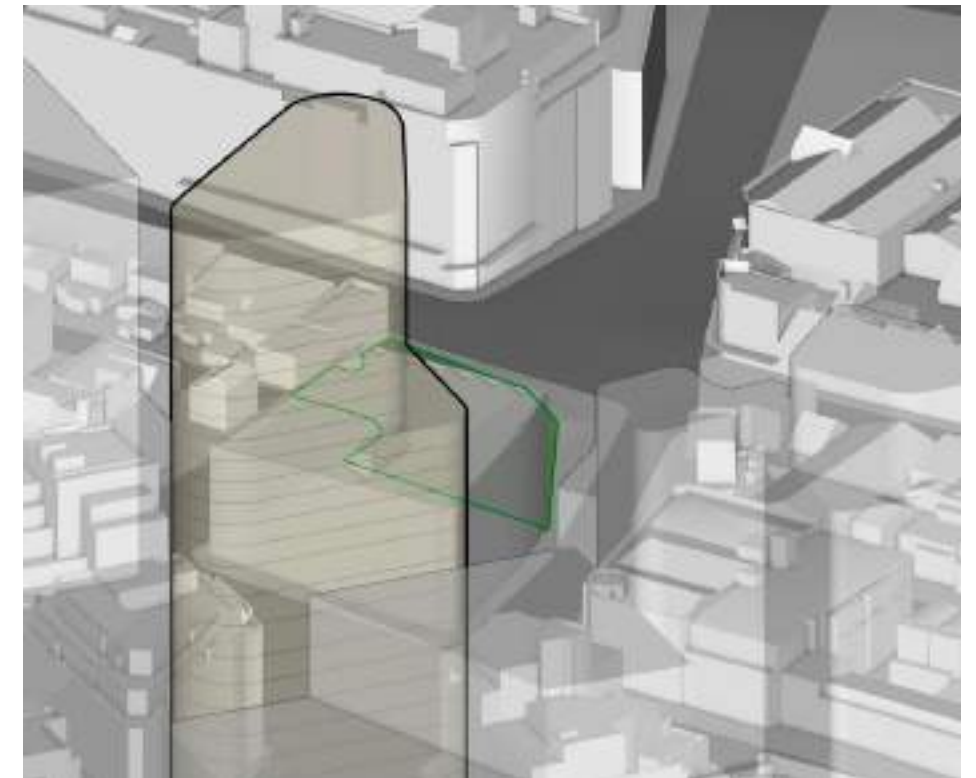
The full suite of sun eye views can be found in the Appendices section, 7.2 Sun Eye Views, located at the end of this report

The above methodology follows that as set out in the Pyrmont Peninsula Place Strategy (PPPS), ie: protection of mid winter solar access. The control for winter solar protection for the Reserve is specified to be between 10am - 2pm.

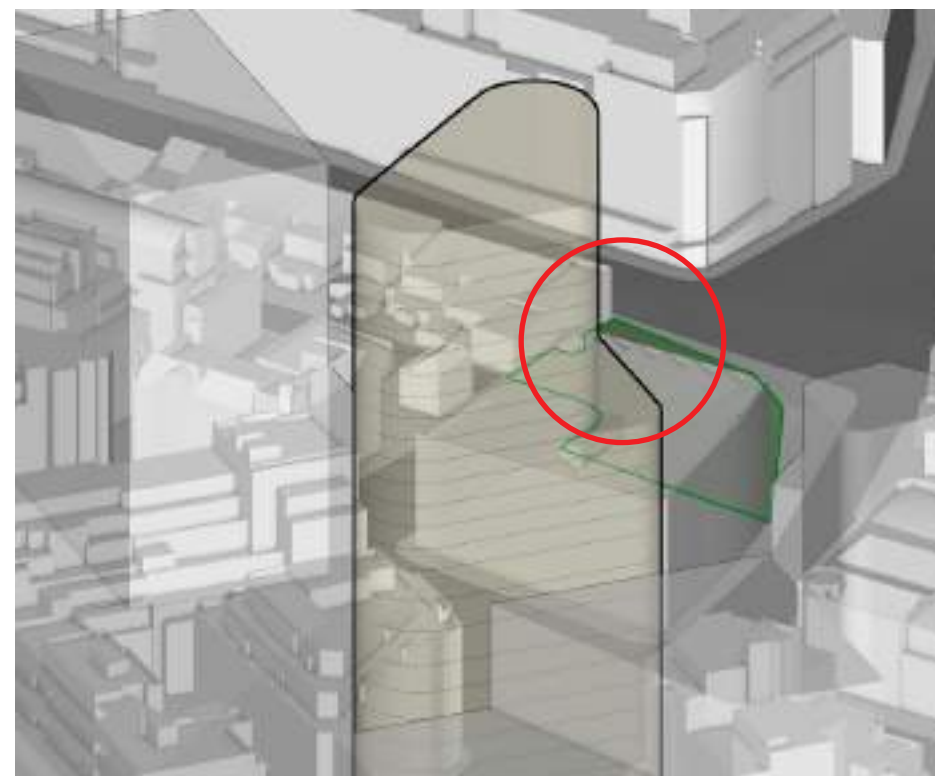
Potential additional overshadowing controls are discussed in the following pages of this report.



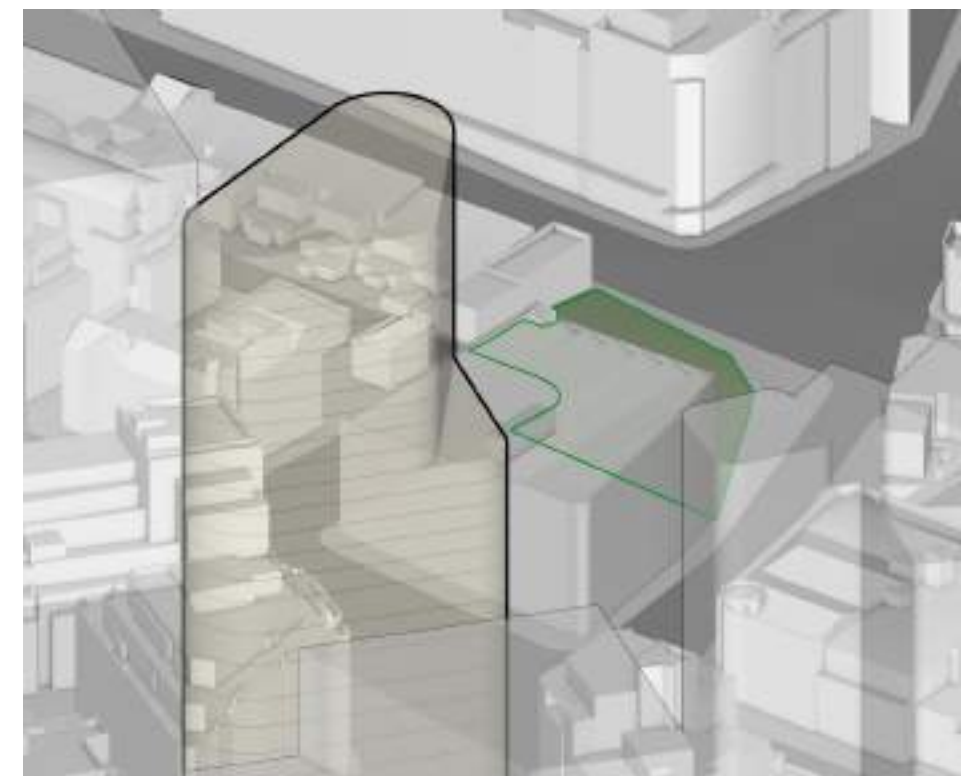
Union Street Tower Sun Eye View - 9:35am



Union Street Tower Sun Eye View - 9:55am



Union Street Tower Sun Eye View - 10:00am



Union Street Tower Sun Eye View - 10:20am

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

i. Solar Access to Public Open Spaces

Extent of Public Space

The boundary of Elizabeth Healey Reserve as shown in the Pyrmont Peninsular Place Strategy is shown in the left image in black.

The boundary of Elizabeth Healey Reserve as based on Cadastral information excludes the roadway at the corner of Gipps and Experiment Streets.

The indicative Union Street tower form has been shaped to ensure mid-winter solar access to Elizabeth Healey Reserve (to meet either definition as above) in accordance with the Pyrmont Peninsula Place Strategy.

Regardless of which definition of Elizabeth Healey Reserve is adopted, mid winter solar access is maintain in accordance with the requirements in the PPPS.

DPIE indicated at a meeting on 08 September, 2021 that future studies will be based on a combination of mid-winter solar access together with consideration of equinox solar access. DPIE noted that the intent of broadening the parameters for solar amenity was to ensure greater alignment with City of Sydney CSPS.

CSPS identifies two types of controls:

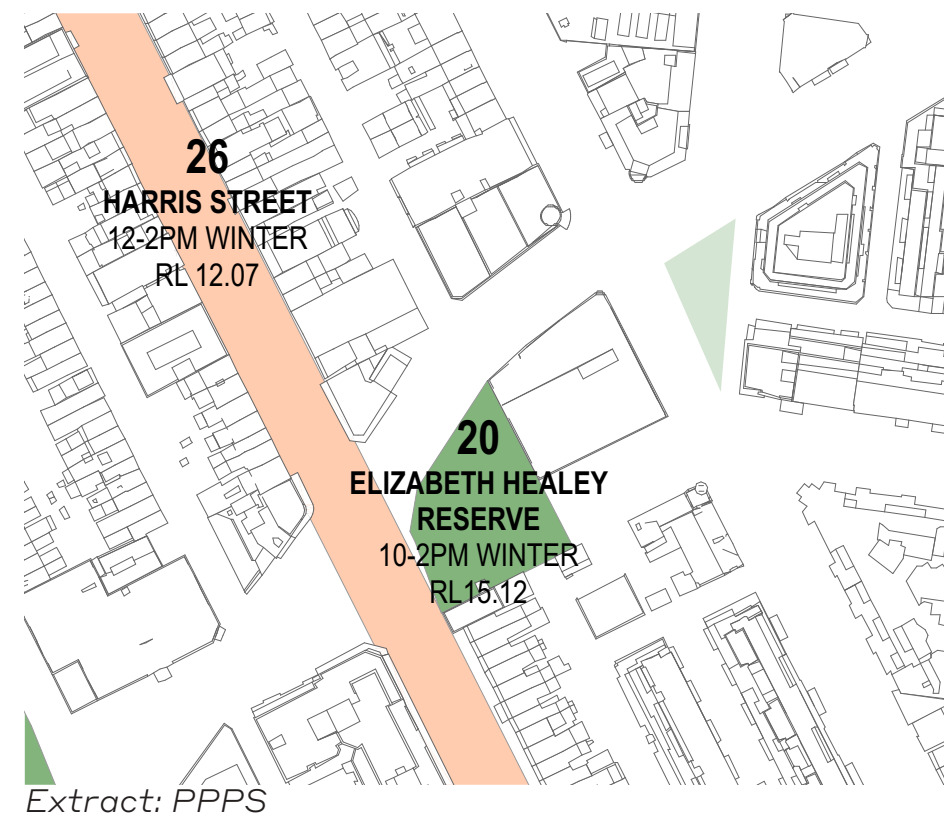
1. Sun Access Planes (SAP)
2. Overshadowing of Certain Public Places (No Additional Overshadowing - NAO)

Elizabeth Healey Reserve is more typical of open space that the CSPS protects via the use of SAPs.

SAPs typically set the control date at June 21 except when “certain parks or community places located in the midst of relatively tall city buildings and where substantial development has already occurred to the north of these areas, the nominated control date is 14 April which

will allow sun access during the lunchtime hours for eight months of the year. [i.e from August to April over summer]”

Given Elizabeth Healey Reserve is not located in such a context, this study adopts the mid-winter solar access controls as originally identified in the PPPS.



Boundary of Elizabeth Healey Reserve as shown in PPPS
Source: Nearmaps



Boundary of Elizabeth Healey Reserve based on Cadastral information. Source: Nearmaps

4.0 Union Street Tower

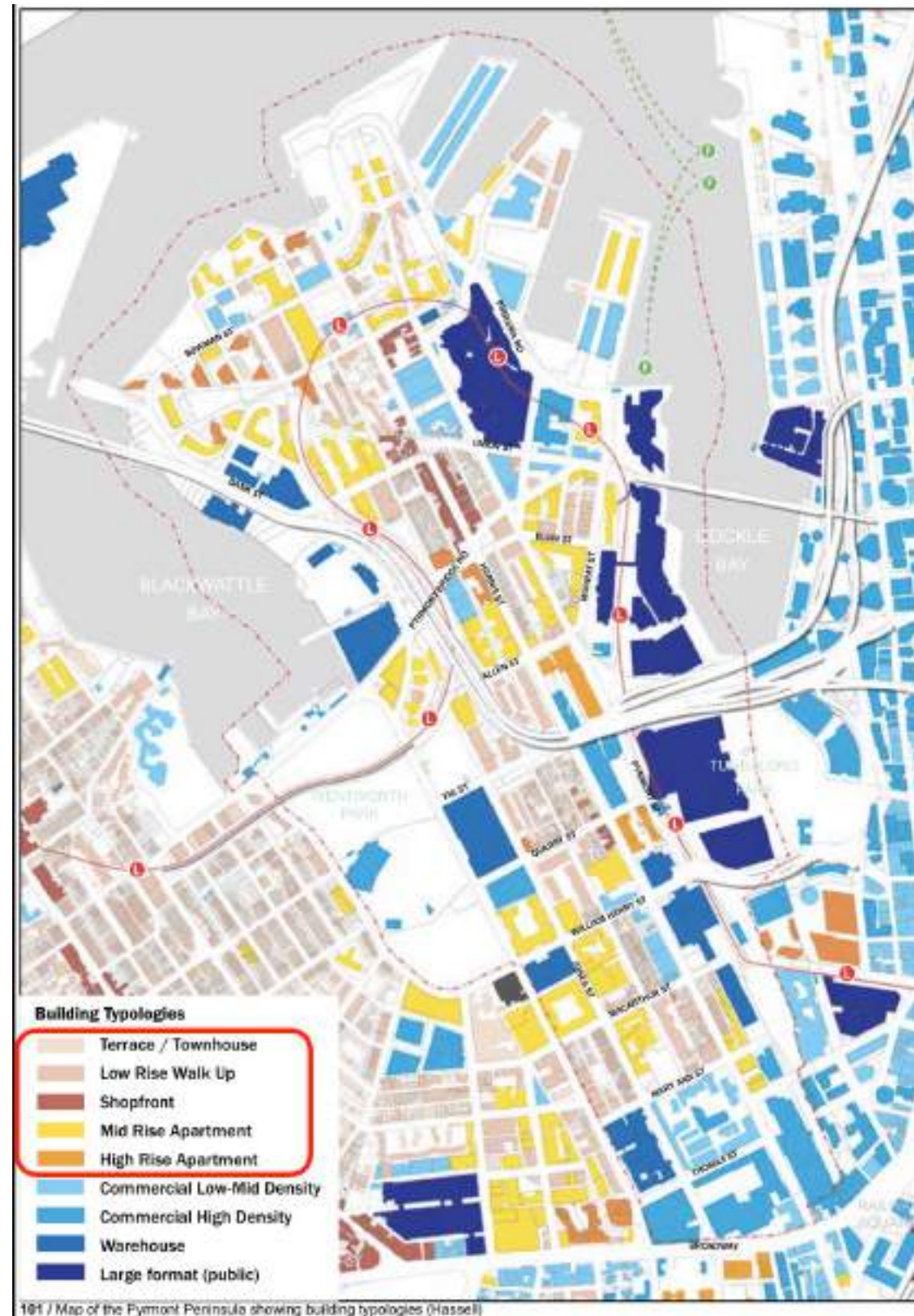
4.2 Consideration of Environmental Impacts

ii. Solar Access to Existing Residential Developments

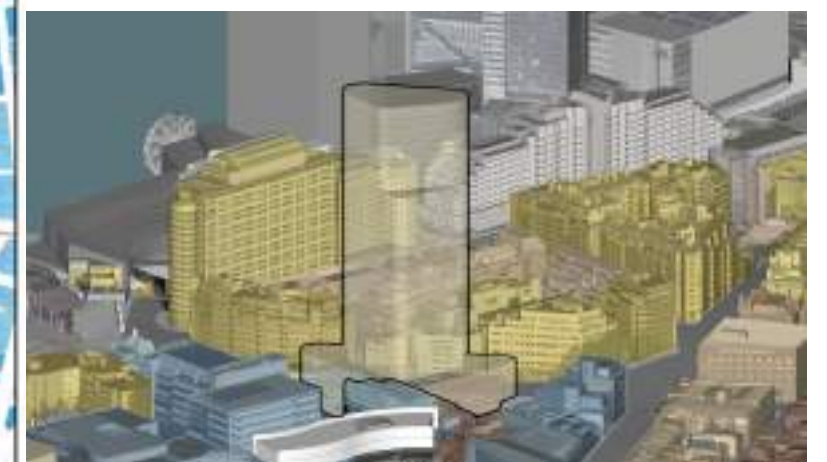
As identified at the 26 April 2021 alignment check with DPIE and subsequently at the SDRP presentations, a tower located at 37 Union Street will cast shadow on adjacent residential properties. The scale and usage of future buildings to the south is subject to ongoing DPIE sub-precinct masterplan studies. Any detailed assessment can therefore only be based on the existing built form and land usage.

An assessment has been undertaken to identify those portions of adjacent residential buildings that will have their solar access reduced from above 2 hours to below 2 hours (between 9.00am to 3.00pm mid winter). This analysis has been undertaken using detailed sun eye view studies, examples of which are illustrated to the right.

The surrounding buildings illustrated in the sun eye view diagrams are colour coded according to building typologies. The typologies and colours are referenced from Pymont Peninsula Place Strategy, in the map shown to the left. The building typologies that fall under the “residential” category are circled in the legend.



Map of the Pymont Peninsula showing building typologies (PPPS)



Sample of sun eye views adopting the building typology legend per PPPS

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

- ii. Solar Access to Existing Residential Developments

Future Context

The Pyrmont Peninsula Place Strategy identifies sites that require development in order to realise the PPPS. When considering solar access to existing residential developments, we should also identify if the site is identified as a site for future development and therefore capable of change.

Identify sites that enable the structure plan



Figure 2.1.5 / Identify sites where development is required to realise the strategy (Hassell)

In defining zones that could accommodate taller buildings, an analysis of the structure plan against sites identified sites where realisation of the place strategy outcomes are reliant upon site redevelopment and aligned to projected government investment in Metro, other public and active transport infrastructure, open space and community facilities.

These site clusters will be the subject of further analysis through the sub-precinct master plan process to determine appropriate maximum heights that will enable the desired land use of the EDS, implement the structure plan and deliver on the Place Strategy vision.

Indicative renewal zones and taller building clusters

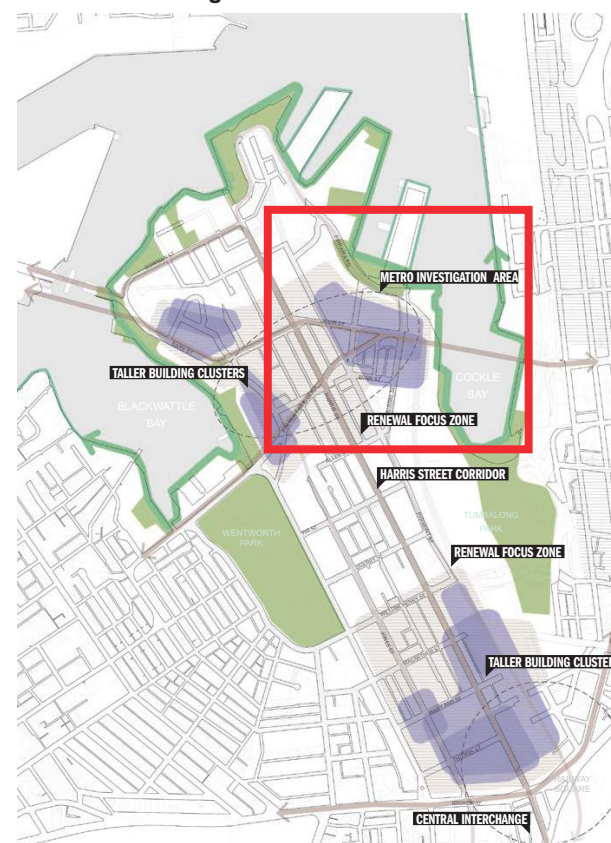
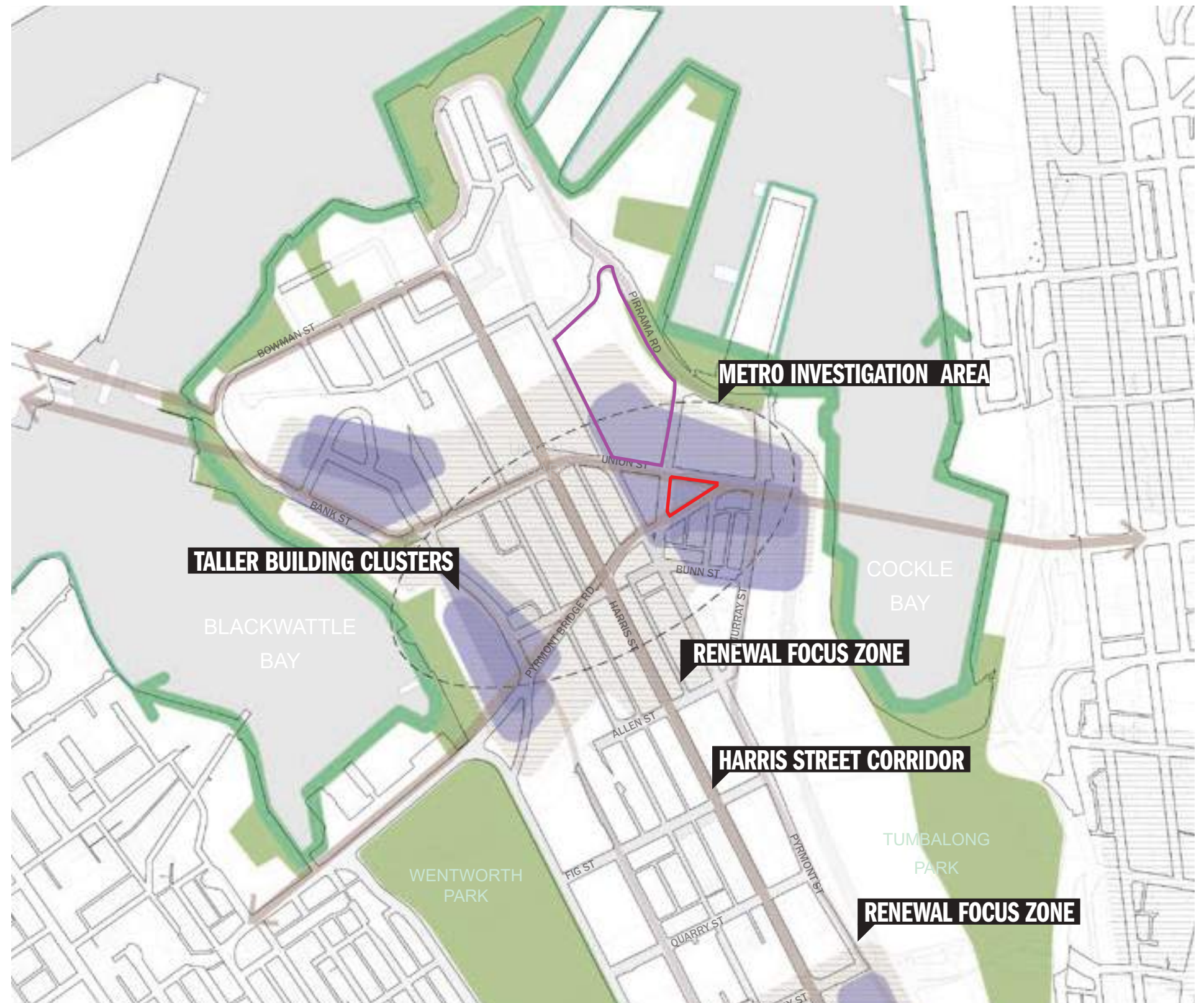


Figure 2.1.6 / Renewal focus zones and tall building cluster

NOTE: These areas are indicative only and do not relate to specific sites or building heights. The confluence of sites of an appropriate size, restrictions on open space overshadowing



Extract from Pyrmont Place Peninsula Strategy Volume II Strategic Framework pg 29

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

- ii. Solar Access to Existing Residential Developments

Future Context - Sites Capable of Change

In addition to tall building clusters, the PPPS sets a framework for the future of the Peninsula with indicative movement and open space networks linking distinct neighbourhoods and places.

Growth and change have been distributed based on the forecast (ie. the future potential floor space that could be required based on assumptions) in the Economic Development Strategy, an amenity-led urban design analysis to consider potential capacity and a character-led analysis to consider those special and important elements of the Peninsula that should be protected or enhanced.

Note that the main Star site and the Union Street tower site, and the built context to the east and south of these sites, are identified as “Areas capable of change.”

Legend

Regional harbour parkland

World class harbour foreshore walk

High street/intermediate transport corridor

Strategic active transport route

Green walkable streets

Metro investigation area

Transport interchange

Inner west light rail corridor

Local open spaces

Areas capable of change



Extract from Pyrmont Place Peninsula Strategy, pg 43

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

- ii. Solar Access to Existing Residential Developments

Relationship to “Taller Building Clusters” and “Sites Capable of Change”

The Sun eye view on the top right summarizes the information in the 3 maps referenced from the PPPS. The building / site that is highlighted in red is 32-34 Bunn Street, the proposed future development on this site is detailed on the following pages.

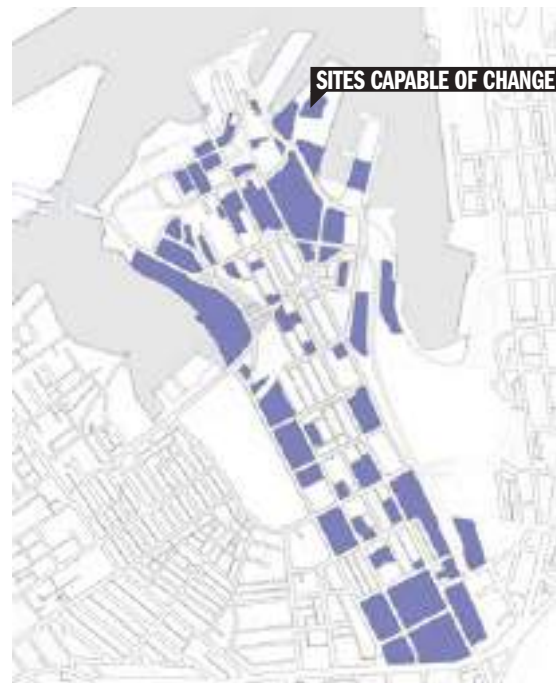


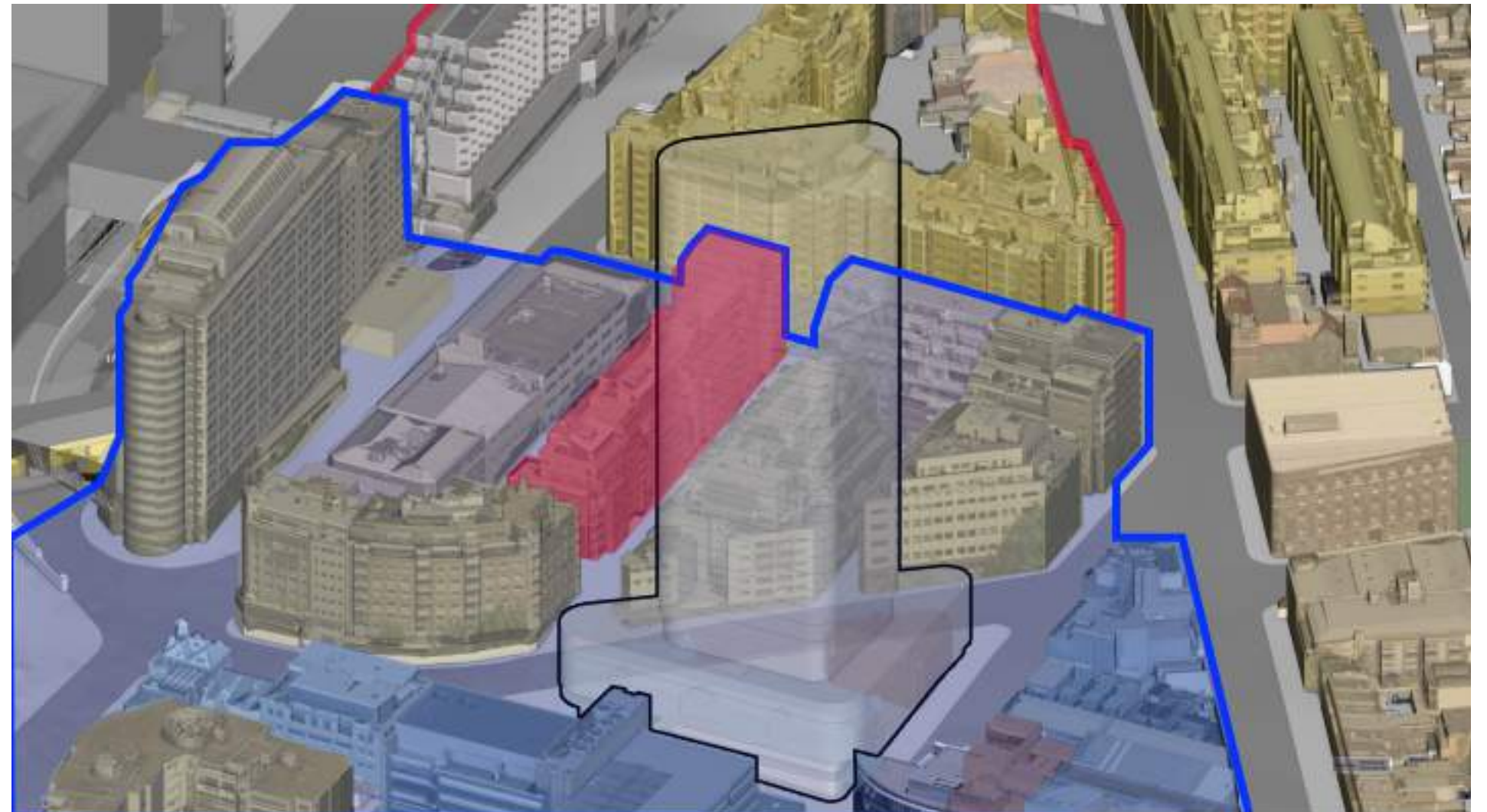
Figure 2.1.4 / Sites capable of change

Above: Sites Capable of Change

Top Right Union Tower Site Sun Eye View - Overlay of the information in the 3 maps referenced from PPPS

Bottom Left: Taller Building Clusters

Bottom Right: Areas Capable of Change



4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

ii. Solar Access to Existing Residential Developments

Detailed Overshadowing Study to Affected Residential Developments

This study is a closer examination of the identified affected existing residential developments to quantify approximately how many apartments are impacted by the proposed Union Street tower development.

This analysis is based on ADG requirements, i.e: Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9am and 3pm at mid winter in the Sydney Metropolitan Area.

It is noted that in CoS's Sydney DCP 2012 – Central Sydney Planning Review Amendment, Clause 5.1.2 notes:

“Central Sydney’s dynamic and dense development environment certainty for the protection of private amenities such as sunlight and views cannot be guaranteed. The maintenance of sunlight access and private views to existing development should not unduly restrict the economic performance and economic growth of Central Sydney, where proposed development has demonstrated compliance with Sydney LEP 2012, in relation to height and FSR, and Sydney DCP 2012 Section 5.1.1 Built Form Controls. This is especially the case for proposed employment related developments that impact on existing residential and serviced apartment developments.”

Given the overarching aspiration for carefully managed change as contained within PPS, it may reasonably be anticipated that a similar approach is taken for those areas identified as ‘Areas capable of change’ and as having potential ‘Taller Building Clusters’.



1 32-34 Bunn Street

32-34 Bunn Street

Whilst considering the broader renewal of the precinct in line with its identification as an area identified for renewal and ‘capable of change’, we have also analysed solar impacts to 32-34 Bunn Street as part of this study. This site is approximately 2,200sqm in area, and currently accommodates a nine (9) storey residential flat building with 87 strata titled apartments, all held in single ownership. The owner made a submission on the draft Pyrmont Peninsula Place Strategy (PPPS) that set out the landowner’s vision to transform the

medium scaled residential building into a high-density mixed employment and residential use building. Given its ownership structure, initial discussions with DPIE on 08 September 2021 concluded that the renewal of this site would allow it to respond to a tower form on the Union Street site and as such, the ADG solar access requirements to this property would not determine the final envelope for 37 Union Street.

We are of the opinion that this approach should apply to all sites within the ‘renewal focus zone’, which should consider the desired future character of the precinct.

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

- ii. Solar Access to Existing Residential Developments

Future Context - Built Form

32-34 Bunn Street: future development submission to the draft Pymont Peninsular Place Strategy.

The owners of this property provided a submission during exhibition of the draft Pymont Peninsula Place Strategy. Its is included here as an example of a potential future proposal which would substantially alter the assessment of environmental impacts.

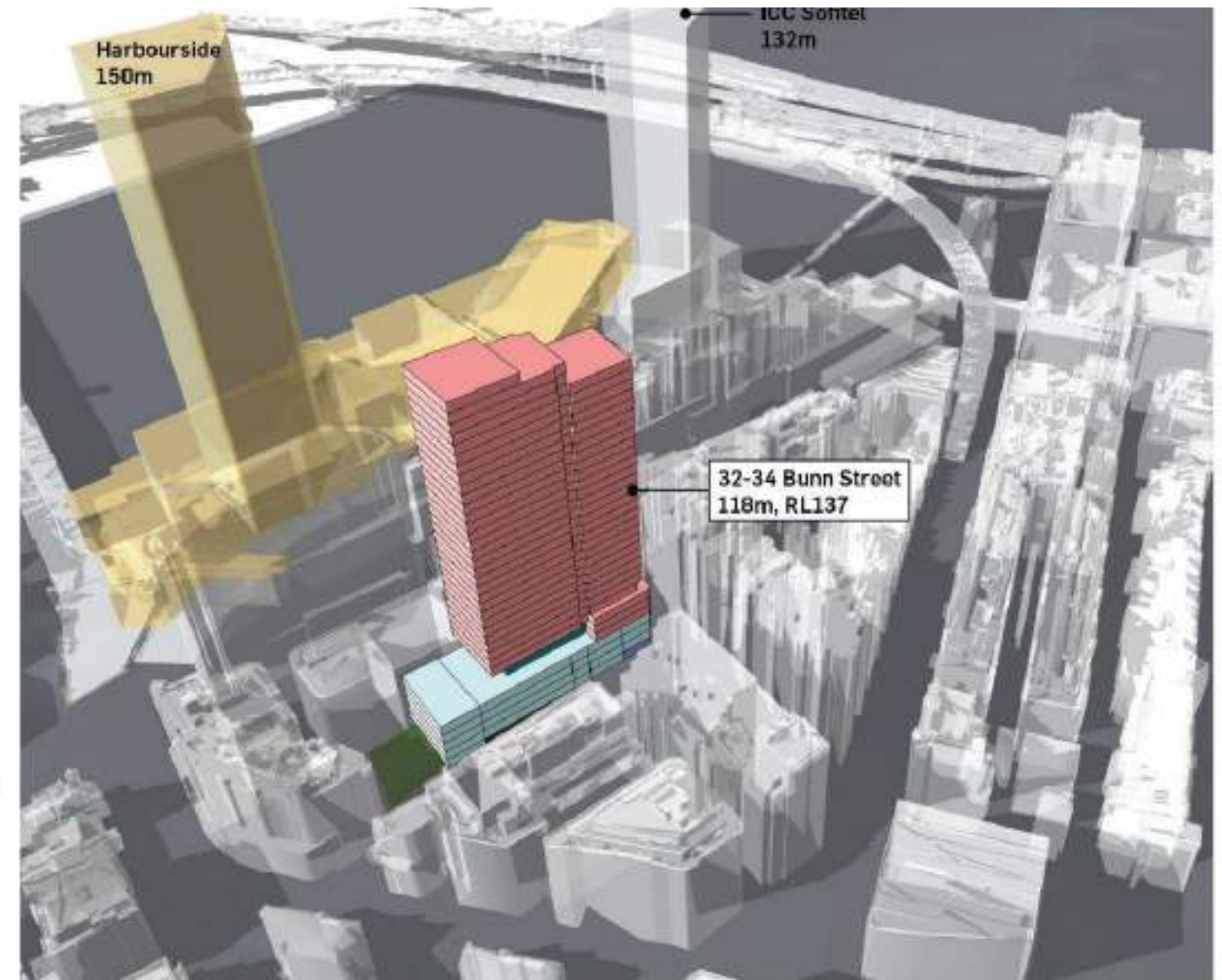


Table 2 32-34 Bunn Street, Pymont Development Yield - Option 2

BUILT FORM	STOREYS	HEIGHT (M)	GFA (SQM)	LAND USE
Podium	5	19	5,917	Commercial
			587	Communal Facilities
	2	6	737	Residential
Tower	30	93	22,783	Residential
TOTAL	37	118	30,023	
		FSR	13.7	

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

- ii. Solar Access to Existing Residential Developments

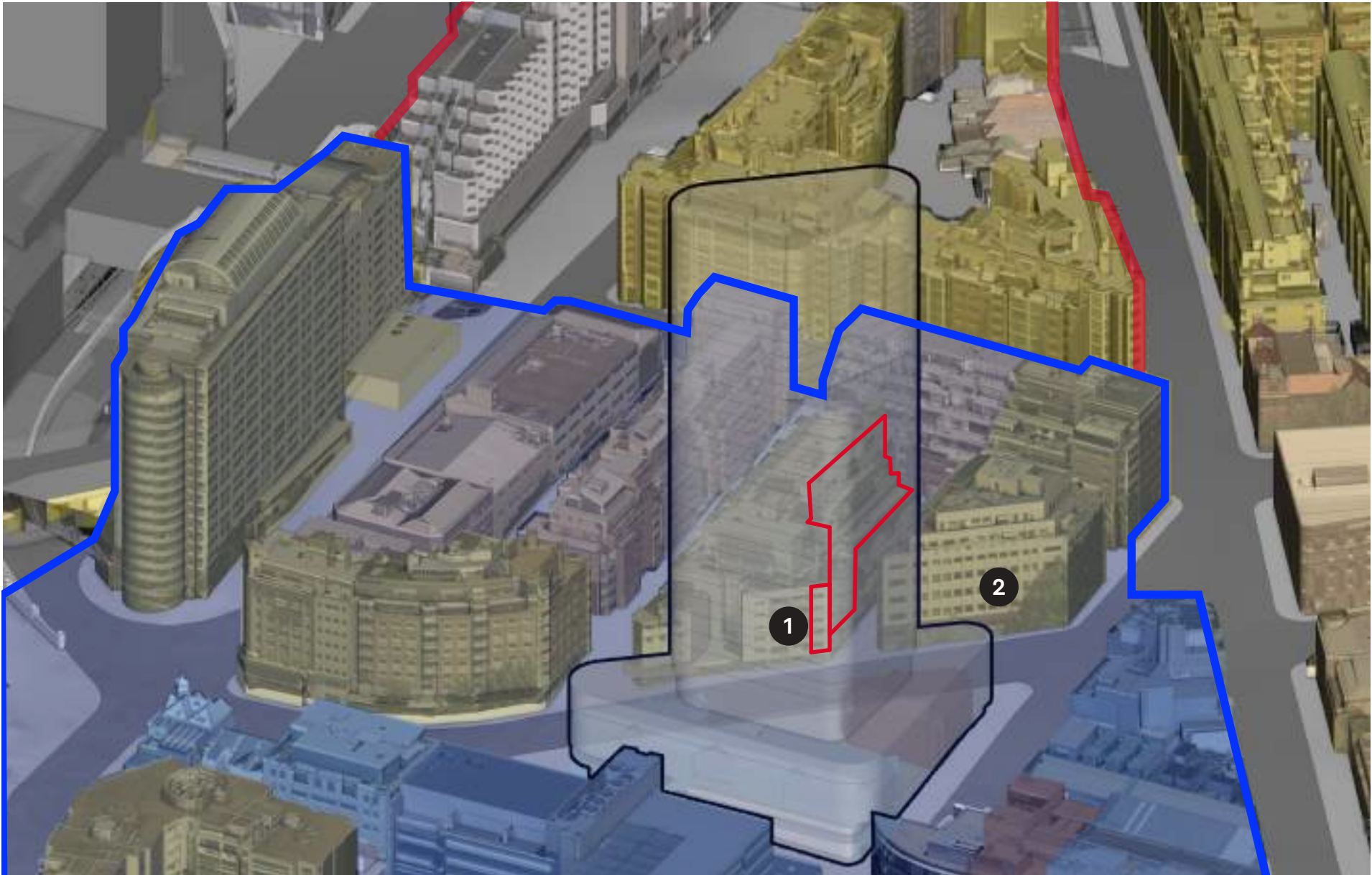
Sun Eye View - Summary for Afternoon 12pm-3pm

Affected residential developments

- 1 1-5 Harwood Street
 - 2 17-21 Pymont Bridge Road
- Sun Eye View analysis indicates that north facing apartments along Pymont Bridge Road will maintain greater than 2 hours solar access via a combination of morning and afternoon sun.



Red line denotes critical edges of living space/balcony for solar access



Existing residential facades currently receiving >2 hours solar access which will be reduced to less than 2 hours between 9am - 3pm, June 21



“Taller Building Clusters” zone as nominated in PPPS.

4.0 Union Street Tower

4.2 Consideration of Environmental Impacts

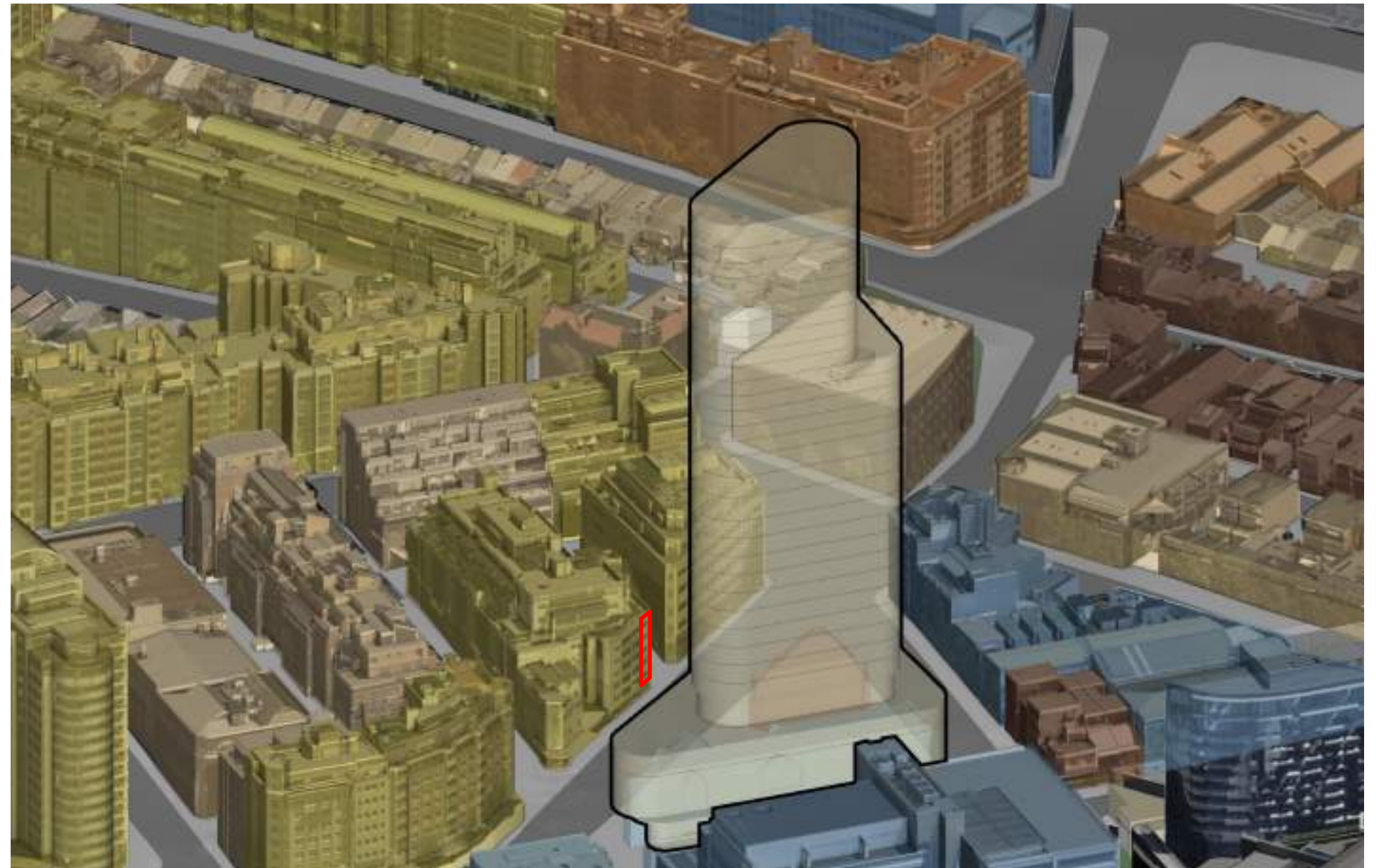
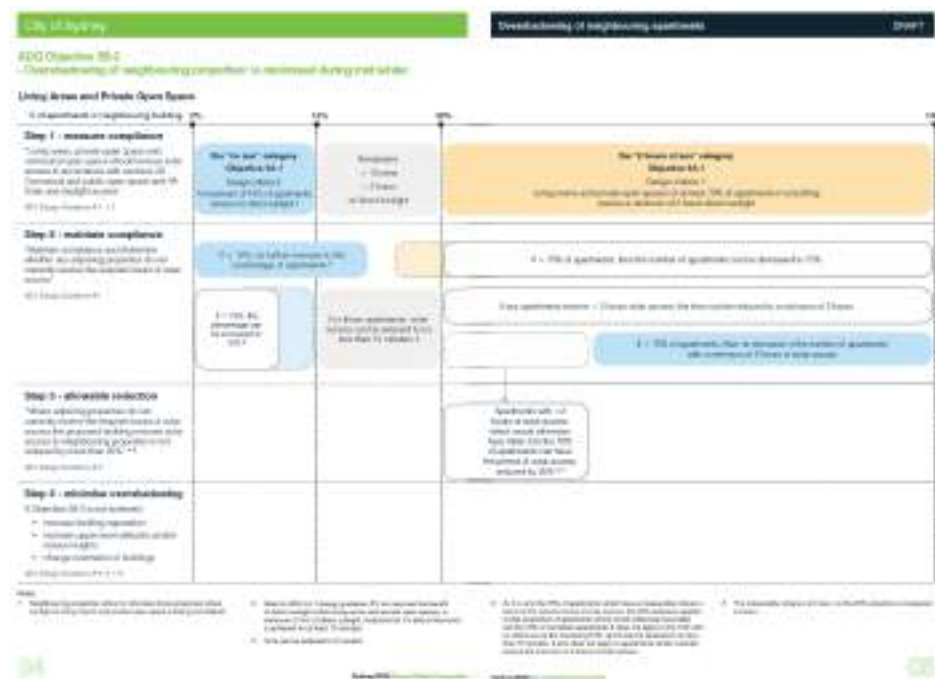
- ii. Solar Access to Existing Residential Developments

Sun Eye View - Summary for Morning 9am-12pm

The overshadowing impacts of the Union Street tower development on existing residential developments is quantified in these two summary images, divided into morning and afternoon periods of June 21st.

The full suite of sun eye views can be found at the end of this report in the Section 7 - Appendices.

Source: draft Minimizing Overshadowing of Neighbouring Apartments



Existing residential facades currently receiving >2 hours solar access which will be reduced to less than 2 hours between 9am - 3pm, June 21



Source: Google Earth - Affected residential facades