### **Planning Proposal Urban Design Report** 15-23 Hunter Street

& 105-107 Pitt Street

Milligan Group

Planning Proposal Urban Design Report May 2022

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**Transformative** thinking for the future city.

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### Contents

1.0	INTRODUCTION	04	5.0	ENVELOPE DESIGN	42
	1.1 Site Location	05		5.1 Existing Site	43
	1.2 Site Amalgamation	07		5.2 Sydney 2012 LEP/DCP Envelope	44
	1.3 Site Photographs	09		5.3 CSPS Schedule 11 Envelope	45
				5.4 Proposed Envelope	47
				5.5 Envelope Principles	52
2.0	SITE CONTEXT	10		5.6 Podium Alignments	53
	2.1 Transport Connections	11		5.7 Tower Setbacks	56
	2.2 Topography	12		5.8 Typical Envelope Floorplate Design	60
	2.3 Context Sections	13			
	2.4 Context Elevations	15			
	2.5 Tower Setbacks	17	6.0	ENVELOPE DRAWINGS	62
	2.6 Surrounding Strata Titled Sites	20			
			7.0	ENVELOPE VIEW IMPACT ANALYSIS	78
3.0	EXISTING SITE AND HERITAGE ITEMS	21		7.1 View Impact Analysis	79
	3.1 Heritage Items	22			
	3.2 Tank Stream	23	8.0	ENVELOPE SOLAR ANALYSIS	83
	3.3 Retention of Existing Building	26		8.1 Overshadowing Analysis	84
	3.4 Heritage Assessment of 17-17 Hunter Street	27		8.2 Views from the Sun	8
4.0	PLANNING CONTEXT	29	9.0	REFERENCE DESIGN	9
	4.1 Current Planning Controls	30		9.1 Section	10
	4.2 The Central Sydney Planning Strategy	32		9.2 Plans	102
	4.3 Planning Proposal Envelope	33		9.3 Area Schedule	12
	4.4 Schedule 11 Base Envelope	34		9.4 Precedents	12
	4.5 Tower Height	35			
	4.6 Draft DCP Objectives	39		ARTISTS IMPRESSIONS	130
				APPENDICES	140



### 1.0 Introduction

This document forms part of a planning proposal prepared by Bates Smart for and on behalf of Milligan Group for the site at 15-23 Hunter Street and 105-107 Pitt Street. It describes a planning and massing strategy for a new mixeduse podium and a commercial tower at the corner of Hunter Street & Pitt Street in the centre of Sydney's CBD.

#### **DEVELOPMENT SUMMARY**

Site Area	2,108 m <sup>2</sup>	
Podium Retail GFA	5,465 m²	
Rooftop Bar / Restaurant GFA	2,390 m <sup>2</sup>	
Commercial GFA	43,300 m <sup>2</sup>	
Articulation & Facade Zone Allowa	ince	
Percentage of Envelope	15%+	
Total GFA	51,150 m <sup>2</sup>	
Proposed Above Ground FSR	22.26 : 1	
Proposed Below Ground FSR	2.00 : 1	
Maximum Height	RL 222.5m	
	52 Levels	



### 1.1 Site Location

The site is located on the corner of Hunter and Pitt Street in the central zone of the CBD. It is in close proximity to Wynyard Station, George Street Light Rail, and the Northern Entrance to the Martin Place Metro.

Image: Bates Smart / Base photography by Mark Merton of Sydney Images and commissioned by Milligan Group



The site is well positioned in the heart of the CBD, with Australia Square to the North and Martin Place to the South.



### 1.2 Site Amalgamation

The site is comprised of:

- / 15-17 Hunter Street (City Lodge)
- / 19-21 Hunter Street
- / 23-25 Hunter Street (Currency House)
- / 107 Pitt Street
- / 109 Pitt Street

Combined Site Area: 2,108 m<sup>2</sup> Hunter Street Frontage: 48.2 m Pitt Street Frontage: 39.2 m



The proposed site amalgamates the following isolated sites, as defined by the City of Sydney's Central Sydney Planning Strategy

15-17 Hunter Street,19-21 Hunter Street, and107 Pitt Street

#### **Isolated sites**

Under the planning controls sites smaller than 800 square metres are limited to 55 metres in height to ensure a good urban design outcome. This means those sites need to amalgamate with other sites to achieve the maximum floor space. Sites smaller than 800 square metres and isolated by other excluded properties have been excluded as it is unlikely under existing planning controls that they will amalgamate and achieve their full capacity. Isolated sites are shown on Figure A 08 Isolated sites.



Source: 2020 Draft of The Central Sydney Planning Strategy Document prepared by The City of Sydney



A\_08 Isolated sites

Isolated Sites



Method 35

### **1.3 Site Photographs**



Image source: Bates Smart





(15-17 HUNTER ST) (HUNTER CONNECTION / 9 HUNTER ST) Image source: 9 Hunter Street Prospectus



## Site Context

15-23 Hunter Street and 105-107 Pitt Street Sydney



### **2.1 Transport Connections** Current and Future

The site is exceptionally connected and is in a prime position to link to the Martin Place Metro Station's Bligh Street entrance, in addition to the future Metro West Hunter Street Station located next door.



### 2.2 Topography

The Site is located at the base of several converging slopes. To the West the terrain rises towards Wynyard Park and to the East the terrain rises towards Shakespeare Place.



Image source: The City of Sydney's Central Sydney Planning Strategy



### **2.3 Context Sections** Pitt Street





### **2.3 Context Sections** Hunter Street







### 2.4 **Context Elevations** Hunter Street

The site sits within the central zone of Sydney CBD, and is well sheltered from wind by current and future/approved



Image source: Bates Smart

### 2.4 **Context Elevations** Pitt Street

and Angel Place to the South.



### 2.5 Tower Setbacks

The local context constitutes towers with a range of setbacks, from 0m to 8m. Hunter Street in particular has a number of towers with minimal setbacks.

The proposed tower for this site generally has greater setbacks than others within the surrounding context. This helps reduce sky view impact and potential wind impacts.

#### EXISTING AND APPROVED BUILDINGS 50M AND OVER

Om Setbacks 1m Setbacks 2m Setbacks 3m Setbacks 4m Setbacks 5m-7m Setbacks 8m+ Setbacks

Image source: Bates Smart + Nearmap



### Hunter Street

Setbacks for towers on the southern side of Hunter Street are typically 0m.





Image source: Bates Smart

### Pitt Street

Pitt Street has a collection of different setbacks. Typically taller towers are set back from the street whilst low scale buildings form a street wall.











Image source: Bates Smart



19

### 2.6 Surrounding Strata Titled Sites

Strata-titled sites are difficult to develop due to the number of independent owners.

These sites are clearly constrained in the Central Sydney Planning Strategy for this reason.

#### **Strata titled properties**

All strata titled properties, commercial and residential, are excluded as they are difficult to redevelop under current NSW legislation. Procedures under the *Strata Schemes (Freehold Development)* Act 1973 mean that all owners in the strata plan must agree to redevelop a property. Agreement is very difficult and not expected where there are many owners and interests. There are 195 strata properties in Central Sydney as shown in Figure A\_05 Strata properties.



Source: 2020 Draft of The Central Sydney Planning Strategy Document prepared by The City of Sydney



A\_05 Strata properties

Image source: The City of Sydney's Central Sydney Planning Strategy



Method | 2



# 3.0

### **Existing Site and** Heritage Items





### 3.1 Heritage Items

No part of the site is currently heritage listed, with the exception of The Tank Stream, which runs underneath the site's western edge.

#### Heritage items

Heritage items listed in the planning controls are excluded because the maximum potential floor space may not be able to be achieved due to the significance of the item. There are 270 heritage items in Central Sydney as shown in Figure A\_06 Heritage items.

The City's heritage floor space scheme enables some of the capacity to be on-sold to other development sites. This floor space is captured in the total capacity for other sites as its purchase is a requirement of the 'accommodation floor space' bonus. Therefore the transfer of heritage floor space is not counted in this study.



Source: The City of Sydney's Central Sydney Planning Strategy



A\_06 Heritage items



Method 31

### 3.2 Tank Stream

The tank stream is a former fresh water tributary of Sydney Cove, and is now a heritage listed tunnel structure running underneath much of Sydney's CBD.



Image source: City of Sydney LEP Maps

CITY

FSYDNE

**8** 

Heritage

Cadastre

Item - General

Sydney

Plan 2012

Heritage Map - Sheet HER\_014

Cadastre 03/12/2015 © City of Sydney

Local Environmental

A report by Acor consultants for an earlier approved DA on the subject site (D/2006/2107), suggests the location of the tunnel is roughly 5m below the existing ground line, and that the location corresponds with that shown in the City of Sydney LEP Maps.





THE TANK STREAM

"The surviving fabric of the Tank Stream extends from King St through to Circular Quay in Sydney's CBD. Throughout its history it has served a number of purposes and has undergone a number of alterations. The Tank Stream is classified as having state significant heritage listing. We understand from a review of the available survey and authority's information that The Tank Stream extends below the existing building at No.15-17 Hunter St. It is understood that the crown of the Tank Stream structure is likely at RL3m which is approximately 5m below Hunter St."

- Acor Consultants, 23rd Jan 2019

NOTE: It is possible that the concrete lift cores of the adjacent property, 9 Hunter Street, have truncated a portion of The Tank Stream, as they appear to sit over the top of it.



CREDIT" SYDNEY LIVING MUSEUMS - "Visitors on The Tank Stream Tour"



CREDIT: SYDNEYGPOOURHERITAGE.COM/TANK-STREAM

### Historic Survey Map -1865 City of Sydney

A historic map of Sydney's early CBD dating back to 1865 appears to validate the position of the tank stream as indicated in the Sydney LEP maps and by Acor Consultants.



Image source: City of Sydney - Trigonometrical Survey, 1855-1865 series - City Surveyor's Department



# **3.3 Retention of Existing Building**15 - 17 Hunter Street

#### **KEY NOTES**

The existing building is four-storeys, six-bays, and is built in a Victorian Italianate style.

The building is not currently defined as a heritage item of the Local or State Heritage Registers or in the CSPS.

The interiors have been significantly altered with the removal of much of the original fabric and detail.

The proposal is to restore and largely retain the entire building whilst providing access points to connect with the activated podium.



Image source: Approved DA D/2006/2017





Image source: Bates Smart

### 3.4 Heritage **Assessment of 15 - 17 Hunter St**

The proposal retains the existing 15-17 Hunter Street building. The proponent views the existing structure as an asset and wishes to retain, restore, and celebrate the structure in the proposed development.



"This proposal seeks to heritage list the 19th century commercial building at 15-17 Hunter St (also known as Former Pangas House). Fromer Pangas House is a four-storey, masonry building with a heavily modelled façade, it is example of Late Victorian Italianate commercial architecture in the Sydney CBD. The original 3 stories were constructed in early to mid-1880, and an additional forth story was later added c. 1896."

#### **Front Façade Description**

"The original façade (above the awning) is intact and illustrates the c1896 condition. The facade features two bays, each with three sets of windows flanked with ornate columns. Likewise, the windowsills and window arches also feature decorative moulding."



Image of 15-17 Hunter St Facade

"The first, second and third floors are occupied by the Comfort Hotel, the interiors were reportedly rebuilt in 1986 and then once again in 2007, during which period, the upper floors were converted into a hotel."



Image of Comfort Hotel interior

#### **Ground Level & Awning Description**

"After undergoing an extensive modification, the ground floor currently consists of two contemporary shopfronts and the entrance to the hotel lobby. Also featured is an awning that dates from the mid-20th century. The extent of alterations on the ground floor and its interior ensures that no features of the original structure remain on the ground floor and therefore the ground level of the building has been deemed historically insignificant."



Image of shop front on ground level of 15-17 Hunter St



Source: October 2021 Heritage Impact Statement by Urbis



Image of Comfort Hotel interior



Image of shop front on ground level of 15-17 Hunter St

#### **Rear Empire Lane Façade Description**

"The rear facade is located on Empire Lane. The rear facade is utilitarian in style and characteristic of commercial buildings of the period. Although the façade fenestrations has been modified, partly due to infill, remnants of the original rear loading bays (including original lifting beam and doors) remain."



Image of Rear Facade

Image of Current Empire Lane

#### **Summary and Recommendations**

"In February 2020, the City of Sydney were considering the heritage listing of the former Pangas House. Subsequently, Urbis was engaged by Milligan group to assess the historical significance of 15-17 Hunter St via Heritage Assessment. The report concluded that the building does not meet criteria for inclusion as heritage item. Stating that,

"The former PangasHouse, 15-17 HunterStreet does not meet the criteria for heritage significance. The façade is a good example of the Victorian Italianate style as applied to commercial buildings and presents a well detailed façade, perhaps with the exception of the c.1896 third floor, which truncates the typical vertical proportions of the building. While it is acknowledged that the building façade above the awning is generally intact (to the c.1896 condition), and of some aesthetic and representative merit as a heavily moulded commercial building façade in the Victorian Italianate style, the interiors, ground floor and rear facades have been altered such that the collective value of the place is considered to be compromised. The Italianate style was common for buildings designed in the Victorian period and the building is not considered rare " (Feb 2020, pg 22).

"However, The City of Sydney has decided to proceed with heritage listing of the Former Pangas House (15-17 Hunter St). In support of this decision Milligan Group seeks the heritage listing of the site. Consequently, the proposed redevelopment of the site seeks to retain and celebrate the structure and by facilitating its conservation and improved presentation to Hunter st. It is the only surviving example of 19th century architecture on the south side of Hunter St between George and Pitt St and is a remnant of the 19th century redevelopment of Hunter St."

"Supporting this position, a Heritage Impact Statement (Oct 2021, pg 31) prepared by Urbis argues that the former Pangas House, 'Is of heritage significance for its historic, aesthetic and representative values as a remnant of the 19th century commercial development of the CBD in the boom period of the 1880s.' and therefore advocates for the heritage listing of the former Pangas House and its inclusion on Schedule 5 of the Sydney Local Environmental Plan 2012 (SLEP 2012)."



"Subsequently, the Heritage Impact Statement (Oct 2021, pg 44) prepared by Urbis recommends that future development of 15-17 Hunter St should consider the following:

- the retained commercial building at 15-17 Hunter st.
- Italianate buildings. "



Source: October 2021 Heritage Impact Statement by Urbis



Image of 19th Century Hunter St

 Form scale, materiality, articulation and the facade treatment of the proposed podium to respond to the adjacent building at 15-17 Hunter St.

Extent of evacuation and sub surface works to ensure that there are no impacts to

Opportunities for the conservation and reinterpretation of the retained Victorian

4.0 Planning Context

15-23 Hunter Street and 105-107 Pitt Street Sydney



### 4.1 **Current Planning Controls**

The Site is zoned as Metropolitan Centre (B8) according to the Sydney LEP 2012.

The maximum permissible floor space ratio on the site is 8 : 1. For a commercial development the maximum FSR under the Sydney LEP 2012 is 13.75 : 1 when considering both accommodation floor space and design excellence bonuses.



#### SYDNEY LOCAL ENVIRONMENTAL PLAN 2012 -LAND ZONING







Image source: City of Sydney LEP 2012 Maps



The Maximum Building Height is 235m (H) for the northern part of the site as per the Sydney LEP 2012. The maximum height of the southern part of the site is defined by the Martin Place Solar Access Plane.

No part of the site is listed in the Sydney 2012 LEP as a Heritage Item (1824). The tank stream running below the site is Heritage listed.



#### SYDNEY LOCAL ENVIRONMENTAL PLAN 2012 -HOB

#### SYDNEY LOCAL ENVIRONMENTAL PLAN 2012 -HERITAGE



#### Heritage Item - General Conservation Area - General Cadastre Cadastre 03/12/2015 © City of Sydney

### 4.2 The Central Sydney Planning Strategy

The site is identified as an opportunity site forming part of a future tower cluster within the Central Sydney Planning Strategy prepared by The City of Sydney.

The Central Sydney Planning Strategy (CSPS) unlocks economic opportunities and investment in jobs and supports public improvements that make Sydney an attractive place for business, workers, residents and visitors. The CSPS outlines 10 key moves which prioritize employment growth, increase capacity and ensure infrastructure keeps pace with growth, creating a more sustainable and vibrant public spaces. The CSPS is a 20 year growth strategy that revises previous planning controls and delivers on the City of Sydney's Sustainable Sydney 2030.



Source: The Central Sydney Planning Strategy Document prepared by The City of Sydney

### Provide for employment growth in new tower clusters

4

Introducing a new planning pathway for heights and densities above established maximum limits will increase growth opportunities for employment floor space, promote the efficient use of land, and encourage innovative design. It will also unlock opportunities for the delivery of cultural, social and essential infrastructure and improved public spaces commensurate with growth.

These opportunities are focused in those areas of Central Sydney less constrained by sun access planes. As opportunities are taken up over the next 20 years, new tower clusters will form in Central Sydney to 2036 and beyond.





Images from The City of Sydney's Central Sydney Planning Strategy Document.

#### 4.3 **Planning Proposal** Envelope **Design Process**

The City of Sydney DCP Schedule 11 provides "procedures for demonstrating compliance with variation provisions for setbacks, separations and tapering in Central Sydney."

This planning proposal has followed this procedure.



#### Step 1

identify a site(s) complying with the Guidelines minimum Site Area

#### Step 2

define a podium form in compliance with Sydney DCP

#### Step 3

define a tower form in compliance with the Guideline in relation to maximum height and Sydney DCP in relation to Built Form Controls

#### Step 4

Step 5

test and define a non-compliant podium and tower form in line with Schedule 11 of Sydney DCP and a negotiated Block Agreement with neighbouring sites



Source: Guidelines for Site Specific Planning Proposals in Central Sydney prepared by The City of Sydney



Attachment C: Draft Guideline for Site Specific Planning Proposals in Central Sydney / 2019

determine a density based on the envelope achieved using floor space efficiencies consistent with the Guideline

### 4.4 **Schedule 11 Base Envelope**

As the subject site is greater than 1,000m<sup>2</sup>, the initial step in the procedure is to determine a base case massing for comparison.

#### **NOTES**

The maximum permissible building height includes all other relevant controls including No Additional Overshadowing Controls, ect.

The resulting tower form must be tapered by scaling it horizontally in both horizontal directions (X and Y) by 95% between 120-240m



Source: Sydney Development Control Plan 2012. CSPS Amendment prepared by The City of Sydney





Figure 1.10: Measuring wind speeds and Average daylight level or Sky View Factor measuring minimum distance from the site boundaries.

#### **SCHEDULE 11**

#### Procedure B: Equivalent or improved wind comfort and wind safety and daylight levels in adjacent Public Places

In order to demonstrate compliance with Section 5.1.1.1(3)(b) and Section 5.1.1.3(5) in regards to varying Minimum Street Setbacks and Side and Rear Setbacks, Building Form Separations and Tapering provisions respectively, the following procedure must be followed:

- (1) Procedure B can only be used to vary setbacks for sites larger than 1000m<sup>2</sup>.
- (2) Where (1) is satisfied, variation to relevant setbacks may be permitted to building massing that provides equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Height, Street Frontage Heights, Street Setbacks, Side and Rear Setbacks and Tapering.
- (3) The base case building massing with complying Street Frontage Heights, setbacks and tapering is established by modelling 3 dimensional podium and tower components as follows:
  - existing ground level (as it varies around the site perimeter) for buildings up to 120m high and 25m above ground level for taller buildings.
  - (b) The Tower Component is modelled by defining an area set out by the required street, side and rear setbacks, excluding areas over heritage items and Tower external corners. The resultant shape is extruded to the maximum permissible building height as it varies around the site. The resulting tower form must be tapered by scaling it horizontally in both horizontal directions (X and Y) by 95% between 120-240m and by 90% above 240m above ground level. setback controls, View Controls Airport restrictions etc.



(a) The podium is modelled by extruding the subject site boundary vertically 35m above

Component areas narrower than 6m wide. For Tower Components where at least one face is longer than 30m the resultant area is chamfered with a 10m radius at all

Note: the maximum permissible building height excludes architectural roof features but includes all other relevant controls including LEP height controls, Sun Access Planes, No Additional Overshadowing Controls, Special Character Area height and

> exclude areas over heritage items

defined area



#### **4.5 Tower Height** Martin Place Solar Access Plane

Under the City of Sydney Central Sydney Planning Strategy, the maximum heights of both the Schedule 11 Comparison Envelope and the Proposed Envelope are determined by relevant Solar Access Planes and No Additional Overshadowing Controls.

The following image shows the Martin Place Solar Access Plane as constructed using MGA located points and rays set out in the City of Sydney's LEP.

This determines the maximum height allowable of the Schedule 11 Comparison Envelope under the solar access plane.



Image source: Bates Smart

### Martin Place Solar Access Plane

The adjacent image shows the plane sitting within it's context, which is an MGA located 3d model provided under license by professional digital surveyors AAM Group.



Image by Bates Smart, showing a 3d city model provided under license from AAM Group, and the Martin Place Solar Access Plan constructed as per the City of Sydney's suggested methodology.
### Overshadowing

In addition to the Martin Place Solar Access Plane, draft DCP objectives request no additional overshadowing of Martin Place between George Street and Pitt Street, as highlighted in the adjacent image.

Due to existing buildings to the south of the subject site, in particular Angel Place, there is no additional overshadowing to Martin Place when complying with the Martin Place Solar Access Plane.



The No Additional Overshadowing DCP Objective affects adjacent sites along George Street, which have more limited height potential as a result, but does not impact the subject site.



**NOTES** 

### 4.6 **Draft DCP Objectives Podium Height**

Adjacent heritage may impact the desired podium

height. The existing context has a number of

buildings with a 45m street wall height.

#### Sydney DCP 2012 - Central Sydney Planning Review Amendment

Buildings with street frontage heights between 20 and 45m reinforce the characteristic built form of Central Sydney. The maximum street frontage height that may be permitted anywhere in Central Sydney is 45m.

#### Draft April 2013

Sydney DCP 2012 - Central Sydney Planning Review Amendment

wind conditions; create an overwhelming sense of enclosure; and affect growing conditions for street trees.

Setting back higher elements of buildings preserves reasonable levels of daylight at street level and helps minimise wind problems to create a comfortable street environment.

A 10m setback doubles the amount of sky seen on an average 20m street in Central Sydney and significantly reduces wind impacts.



#### Objectives

- (a) Achieve comfortable street environments for pedestrians with high levels of daylight, appropriate scale, sense of enclosure and wind mitigation.
- (b) Encourage flexibility in building design while reinforcing the character of Central Sydney and ensuring built form is compatible with heritage items and the desired streetscape character.
- (c) To recognise the variety and patterns of street wall heights throughout Central Sydney.

Draft April 2013

Draft April 2013

37

- character.
- openness in the street.
- demonstrated.

#### Provisions

#### Table 5.1: Permissible range of Street Frontage Heights

Permissible range of Street Frontage Heights			Proposed total height of building		
			Up to 55m	Greater than 55m up to 120m	Greater than 120m
Context	Non-heritage items outside Special Character Areas	Frontage adjacent to a Public Place with a width greater than 8m wide	20-35m* Or 20-45 for street block corner sites less than 1000sqm	20-35m*	20-25m*
		Frontage adjacent to a Public Place with a width up to 8m wide (eg lanes)	20-45m	20-45m	20-25m*
	Heritage items Special Chara		Existing height	Existing height	Existing height
* up to 45m subject to Section 5.1.1.1(2)					
(2	residential ac	commodation i	ncluding service	-	ontain more than 40% ce, may have a Street shown in the table

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Source: Sydney Development Control

Plan 2012. CSPS Amendment

prepared by The City of Sydney

(d) To ensure that buildings address and define laneways consistent with their special

(e) To provide setbacks above the Street Frontage Height that promote good separation between tall buildings, across streets, maintain views to the sky and create a sense of

(f) To allow flexibility for setbacks above Street Frontage Height but only where better performance in relation to wind mitigation and daylight access to Public Places can be

(g) To protect long, low angle views of open sky and landmark features.

(1) The Street Frontage Height and Street Setbacks of a building must be in accordance with Table 5.1 - Permissible range of Street Frontage Heights and Table 5.2 Minimum Street Setbacks, except for buildings in Special Character Areas that must be in accordance with the Minimum Street Frontage Heights for Special Character Areas in Table 5.3 and the Minimum Street Setbacks and Maximum Street Frontage Heights as shown in the Special Character Area maps at Figures 5.3 to 5.15 in Section 5.1.1.2.

Note: Section 5.1.1.1(2) Street Setback variation provisions do not apply to Heritage Items or in Special Character Areas, unless noted on Special Character Area maps.

### Street Setbacks

Sydney DCP 2012 – Central Sydney Planning Review Amendment

Sydney DCP 2012 - Central Sydney Planning Review Amendment

11.

Draft April 2013

39

#### **NOTES**

Tall buildings should appear in the round.

Side and rear setbacks must be in accordance with Table 5.4



Source: Sydney Development Control Plan 2012. CSPS Amendment prepared by The City of Sydney

Minimum Street Setbacks		Proposed total height of building			
			Up to 55m	Greater than 55m up to 120m	Greater than 120m
Context	Non- heritage items outside Special Character Areas	Frontage adjacent to Public Places with a width greater than 8m wide	8m or 6m where adjoining sites Street Setbacks are less than 6m	8m*	8m*
		Frontage adjacent to Public Places with a width up to 8m wide (eg lanes)	2m	8m*	8m*
	Heritage item Special Char		2-10m on Public	aces greater than 8 Places up to 8m wi eritage values and	de (lanes)

(3) Where noted in Table 5.2 Minimum Street Setbacks and on the Special Character Area maps, variation to Street Setbacks may be permitted to building massing that provides:

- (a) encroachment(s) 2m forward of the minimum Street Setback within the middle third of the frontage to a Public Place and provision of compensating recess(es) of equal to or greater area up to 4m behind the minimum Street Setback; or
- (b) equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Street Frontage Heights and Street Setbacks (i.e. variation to massing is governed by achieving equal or better performance).

Procedures for demonstrating compliance with 5.1.1.1(3)(a) and (b) are set out in Schedule 11.

(4) Notwithstanding Section 5.1.1, greater Street Setbacks may be required through the application of 5.1.1.4 Built form massing, tapering and maximum dimensions, 5.1.4 Development outlook and amenity and/or SEPP 65 (State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development) and the Apartment Design Guide.



Figure 5.2: Setbacks provide building design flexibility - Minimum Street Setbacks may be varied in accordance with Section 5.1.1.1(3) and the procedures for demonstrating compliance at Schedule

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### Side & Rear Setbacks

Sydney DCP 2012 - Central Sydney Planning Review Amendment

Sydney DCP 2012 - Central Sydney Planning Review Amendment

#### Table 5.4: Minimum Side and Rear Setbacks and Building Form Separations

Minimum Side	Proposed total height of building				
and Rear Setbacks and Building Form Separations	Up to 55m	Greater than 55m up to 120m	Greater than 120m up to 240m	Greater than 240m	
Side and Rear Setback above Street Frontage Height	0m	4m	3.33% of the proposed total height of building	8m	
Building Form Separations on the same site	0m	8m	6.66% of the proposed total height of building	16m	

Note: For separation on the same site use the lower building form height to determine the required separation.

(5) Variation to Side and Rear Setbacks and Building Form Separations may be permitted to building massing that provides equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Side and Rear Setbacks (i.e. variation to massing is governed by achieving equal or better performance).

Procedures for demonstrating compliance with 5.1.1.3(4) are set out in Schedule 11.

(6) Notwithstanding 5.1.1.3 Side and Rear Setbacks and Separations, greater setbacks and separation may be required through the application of 5.1.1.4 Built form massing, tapering and maximum dimensions, 5.1.2 Development outlook and amenity and/or SEPP 65 (State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development) and the Apartment Design Guide.

#### 5.1.1.4 Built form massing, tapering and maximum dimensions

#### Value Statement

The impact of tall buildings on the amenity of the public domain increases as building height increases. It is appropriate to manage building dimensions and massing to ensure that buildings are not overwhelming in scale and impact on the amenity of the public domain.

#### Objectives

Draft April 2013

- (a) Ensure that tall buildings are slender and do not appear as walls or as overly massive from any direction.
- (b) Ensure residential accommodation, serviced apartment and self-contained hotel developments present as slender buildings.
- (c) Ensure that buildings are slimmest at their peaks so that in the overall city form buildings become less bulky at their upper limits.

Provisions

Figure 5.18) is not to exceed:

(a) 50m for residential accommodation and serviced apartment developments; and

- (b) 100m for all other developments.
- definition).
- setbacks:
- (a) 100% up to 120m above ground;
- (c) 80% above 240m above ground.

- only subtracted once.

permitted.



Source: Sydney Development Control Plan 2012. CSPS Amendment prepared by The City of Sydney

58

Draft April 2013

(1) Above Street Frontage Height the maximum horizontal dimension of a building including all external elements (for example architectural elements like horizontal or vertical fins) measured in any direction (including diagonally across the site - see

(2) For residential accommodation, serviced apartments or self-contained hotels with a height above 55m, the size of any floor plate above the Street Frontage Height must not exceed 1,000 square metres floor space area (as per the Gross Floor Area

(3) Above the Street Frontage Height the total Building Envelope Area may occupy the following proportion of the site area less any areas of heritage items and required DCP

(b) 90% above 120m up to 240m above ground; and

(4) For the purposes of calculating Building Envelope Area:

Building Envelope Area is the area including all internal and external built elements and enclosed voids between that floor level and the next floor level measured in plan.

Note: Where a heritage item or part thereof is within a required setback that area is

Note: Where compliance with Sections 5.1.1.1(2) and 5.1.1.3(5) has been demonstrated in relation to a varied setback, and the resultant Building Envelope Area fails to comply with Section 5.1.1.4(3), the variation to Section 5.1.1.4(3) may be

# **5.0**

## Envelope Design

15-23 Hunter Street and 105-107 Pitt Street Sydney



## 5.1 Existing Site

**BUILDING HEIGHT (MAX.):** 

15-17 Hunter Street

19-21 Hunter Street

23-25 Hunter Street

105 Pitt Street

107 Pitt Street



Ν

1:500 @ A3

#### HUNTER STREET

PITT STREET RL. 40.7



**PODIUM HEIGHT:** 

\*Limited by FSR

### 5.2 Sydney 2012 LEP/DCP Envelope



HUNTER STREET



TOWER SETBACKS:

EFFECTIVE TOWER HEIGHT: 77m\*

Pitt Street	8m
Hunter Street	6m
Western Boundary	4m
Southern Boundary	4m

FSR:

13.75:1

45m

1:500 @ A3

### 5.3 Central Sydney Planning Strategy Schedule 11 Envelope

25m



HUNTER STREET



**PODIUM HEIGHT:** 

This base envelope for comparison complies with Schedule 11 requirements. Refer to Sky View Factor Report for further analysis.

SKY VIEW FACTOR: 14.604%

\*at 150m extents



1:500 @ A3

HUNTER STREET



## 5.4 Proposed Envelope





1:500 @ A3

### **Proposed Envelope**

\_ \_ \_ Schedule 11 envelope dashed shown in yellow

PITT STREET



This is an improvement of 0.001% compared to the Schedule 11 Base Case Envelope with the existing 15-17 Hunter Street building considered as heritage listed.

1:500 @ A3

Ν



### The proposed envelope SVF is "better than" the Schedule 11 Comparison Envelope's SVF.

### SKY VIEW FACTOR: 14.605%

 $\Delta$  = +0.001% better than the Schedule 11 Comparison Envelope at 150m extents

For more detail please see the Sky View Factor Report.

The proposed envelope's wind effects are also deemed to be "better than" the Schedule 11 Comparison Envelope, as indicated in the Wind Report by Mel Consulting.



The proposed envelope is shorter than the Schedule 11 Base Case Envelope. This allows for improved floorplates whilst achieving an equivalent Sky View Factor.



#### Image source: Bates Smart

#### PITT STREET ELEVATION



Image source: Bates Smart

### HUNTER STREET ELEVATION



## 5.5 Envelope Principles

### TO BE UPDATED



#### **1. LANEWAY CREATION, ACCESS AND RETENTION**

Widening of Empire Lane and creation of Hunter Lane adjacent the existing 15-17 Hunter Street, which is to be retained.

Prominent corner volume allows for multiple pedestrian entry points and street activation along both streets.

Vehicular entry is via a speed ramp located along the Southern boundary accessed via Pitt Street.



#### 2. PODIUM ALIGNMENTS

Podium levels align with existing 15-17 Hunter Street features and parapet. Podium parapet to Pitt Street to align with adjacent 109 Pitt Street. Podium radius of 7.5m consistent with Radisson Blu Plaza Hotel.

A 19m high easement protects daylight access to the laneways.



#### **3. RELATIONSHIP TO CONTEXT**

A 5m void above podium buildings to Hunter Street preserves daylight to the laneway and create curtilage to 15-17 Hunter Street.

The tower core is located to the south of the site. 9 Hunter Street is the future site of the Metro West Hunter Sreet Station entry, which will replace the existing adjacent building.



#### 4. TOWER SETBACKS AND ENVELOPE

Setbacks relate to existing context and achieve minimum required size for commercial floorplates. Tower crown setback and curved corner to tower are an effective and necessary strategy in mitigating sky view loss to the street. The curved corner also addresses the unconventional alignment of Pitt and Hunter Streets.

Potential for rooftop terrace with public benefit.

### **5.6 Podium Alignments** Hunter Street

#### HUNTER STREET PODIUM ALIGNMENT

The proposed envelope podium parapet aligns with the cornice of 15-17 Hunter Street, and allows the moulded spires to sail clear of the podium and remain clearly legible. The envelope comfortably allows for future floor levels to compliment and respect the facade of 15-17 Hunter Street, whilst allowing for a substantial L03 outdoor space with wind and noise protection.





### Pitt Street

#### PITT STREET PODIUM ALIGNMENT

The proposed envelope podium parapet steps up to align with 109 Pitt Street, and completes a progressive decent starting with Angel Place and 115 Pitt St. The parapet height is also in keeping with it's neighbour on the opposite side of Pitt street: "Citibank" at 68 Pitt Street.



### CORNER CURVATURE / RELATIONSHIP TO WALES HOUSE (THE RADDISON HOTEL)

The proposed cradius of 7.5m at the corner of Hunter & Pitt Streets matches the radius of the heritage listed Wales House / Raddison Hotel opposite the Site.





### 5.7 Tower Setbacks

#### HUNTER STREET

The provision of an 8m tower setback would create further inconsistency in the Hunter Street wall alignment established to the west and the east. The site is located at a prominent Central Sydney Street corner and will be a defining form in the emerging tower cluster. As such there is urban design merit in anchoring the street corner with a landmark form that sits closer to a primary street frontage.

The radiused tower corners soften the built form edge as opposed to a uniform tower setback with squared off corners.



4M SETBACK SITE (SITE INCLUDES 15-17 HUNTER ST)



#### PITT STREET

The setback is 8m at the Southern Edge of the tower, and reduces to 7m towards Hunter Street. The envelope's acute angle to Pitt Street is consistant with North/South grid alignments of the local context including both 109 Pitt Street and 105 Pitt Street.

The radiused tower corners further increase the effective setback at the southern end of the tower and open up views and daylight to 109 Pitt Street, acheiving an 11m street setback at the mid-point of the curve.

The setback at the corner of Hunter & Pitt is suitable for an urban tower of this prominence and appears contextually appropriate.





#### TOWER SETBACK TO 109 PITT STREET

Any future redevelopment of the 109 Pitt Street site is considered unlikely due to the complex nature of the land holding, comprising 174 individual strata lots. Due to the complexity of purchasing this site for redevelopment, it is reasonable to assume the 10m building separation will be retained into the future.

The intended and most logical core position is to the southern portion of the proposed envelope. As such, it is envisaged that the southern façade will be largely inactive therefore warranting a reduced setback and building separation to the south.

The envelope, including the 4m setback, has been tested against Schedule 11 and has been determined to be of greater benefit to pedestrian amenity when compared to a tower with a uniform 8m setback across the full extent of this frontage.

The typical separation between the the 109 Pitt Street building and the proposed tower envelope is between 10 and 13m.

1:500 @ A3

Ν

**ENVELOPE PLAN** 



ENVELOPE ELEVATION

Image source: Bates Smart

Pitt Street

#### TOWER SETBACK TO 9 HUNTER STREET

It has been widely accepted in the Central Sydney that where an adjoining site presents a party wall or an inactive façade, there is merit in meeting the property boundary to negate 'dead spaces' between buildings.

A Nil setback is only proposed to the inactive portion of the 9 Hunter Street façade. This is the building's secondary façade only, with a glazed tower façade presented to its northern, southern and western boundaries. As such, high levels of commercial amenity will be retained through these outlooks.

Where the proposed tower presents a 5.3m western setback, this corresponds with the partially glazed portion the 9 Hunter Street eastern façade. While this presents a minor variation to the 8m setback provision, the built form relationship with the adjoining building to the west is softened through the radiused north western corner.

The typical setback to 9 Hunter Street is 5m. This reduces to 0m at the dead space of 9 Hunter Street's projecting concrete core.

Ν

1:500 @ A3





**ENVELOPE PLAN** 

#### PHOTOGRAPH OF 9 HUNTER STREET'S EXISTING CORE PROTUSION

As viewed from street level.

### 5.8 **Typical Envelope Floorplate Design**

Larger floorplates are generally preferred by Tenants as they achieve greater connectivity between staff all being on the one floor. They are also generally more efficient in terms of the number of staff who can share amenities on the floor.

The Ideal Floorplate has a broad range, but in general multi-floor tenant's prefer a minimum of 100x people per floor (often structured as two smaller hoods (2x smaller hoods of 50 people), and going below this could be a barrier to attracting tenants.

The Proposed Envelope provides significantly better usuable space per level compared to the Schedule 11 Comparison Envelope.







WORKSHOP **21 HARRIS STREET, PYRMONT BATES SMART AND MILLIGAN GROUP** Images by Brett Boardman (above) and Anson Smart (below)

#### SCHEDULE 11 ENVELOPE

After allowing for a 750mm facade zone and other factors, the Net Usable Area of the Schedule 11 Envelope floorplate is nearly half the size of the Proposed Envelope floorplate.

This increase offers considerable benifit to prospective multi-level tennants.





PROPOSED ENVELOPE



#### **KEY WORKPLACE METRICS:**

#### **SCHEDULE 11 ENVELOPE**

NLA :	557m <sup>2</sup>
NUA:	488m <sup>2</sup>
Tenancy Efficiency:	88%

#### **PROPOSED ENVELOPE**

NLA:	962m <sup>2</sup>
NUA:	850m <sup>2</sup>
Tenancy Efficiency:	88%

Image source: Bates Smart

#### **CONTIGUITY & CONNECTIVITY**

 $\bigcirc$ 

A contiguous space is one in which all occupants have direct visual connection to each other. A large contiguous zone maximizes space planning flexibility and can accommodate large teams in visually connected space to support team and cultural integration.

**TO BE UPDATED** 

Each proposed floorplate has large contiguous zones in both directions, such that there is excellent visibility across the entire floorplate and flexibility in the layout of the floorplate and organisation of teams. Whilst the Schedule 11 floorplate does have a clear contiguous zone, the floor space area is significantly smaller and therefore is not able to accommodate larger tenants.

#### TENANT CIRCULATION EFFICIENCY

Tenant Efficiency is a measure of the tenant's ability to make best use of the available space, and as such it relates to rental value. Tennant Efficiency is the ratio of Net Usable Area (NUA) to Net Lettable Area (NLA) expressed as a percentage. NUA is calculated as NLA less the circulation space required at 1.5m width such that no part of the floor is further than 7.5m from a circulation path.

Both the Schedule 11 and the proposed floorplates have a Tenant Efficiency of 88%, being excellent. The overall NUA of the proposed floorplate is significantly higher, at 850m<sup>2</sup>, than the 488m<sup>2</sup> floorplate of the Schedule 11 envelope.

#### **EFFICIENCY: 88%**

The proposed floorplate can be readily sub-divided into two tenancies, which can be easily adjusted in area. Due to the small size of the Schedule 11 envelope floorplate, it is unlikely that it would be divided into multiple tenancies, making the floorplate less flexible.





#### SUB-DIVISIBILITY

Sub-divisibility is the capability to divide a floorplate into two secure tenancy compartments without losing a large amount of Net Tenancy Area. Each compartment should have a reasonable address with respect to lifts, and meet regulatory requirements in terms of amenities and fire egress.

# 6.0

## Envelope Drawings

15-23 Hunter Street and 105-107 Pitt Street Sydney



### **Proposed Envelope**

Schedule 11 envelope dashed shown in yellow

7.5m

7m

8m

PITT STREET

Gm

21.95m

RL. 30.7m

3m





Envelope at 150m extents with the existing 15-17 Hunter Street building

considered as heritage listed.















ENVELOPE
ISOLATED STRUCT SERVICES ELEMEN EXTERIOR FACADE PERMITTED WITHIN







A 31.07.2020 INFORMAL LODGEMENT EOS DS/GL

Initial Checked

Description

LEGEND:

--- SITE BOUNDARY

PROPOSED

ISOLATED STRUCTURE, BUILDING SERVICES ELEMENTS, AND MINOR EXTERIOR FACADE ELEMENTS PERMITTED WITHIN THIS ZONE.

ENVELOPE

consultants documents. Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification. All drawings may not be reproduced or distributed without prior permission from the architect

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LEGEND:



Envelope Isometric View 22.05.2022 PLANNING PROPOSAL DS GL 18.03.2022 PLANNING PROPOSAL DS GL 18.02.2022 PLANNING PROPOSAL DS GL 28.10.2021 PLANNING PROPOSAL SH DS/GL 31.07.2020 INFORMAL LODGEMENT EOS DS/GL Initial Checked

#### Status Plot Date k all dimensions and site conditions prior to commencement of a vase or ordering of any materials, fittings, plant, services or equip ration of shop drawings and/or the fabrication of any conservice and/or to be next. ment and the nsions only. Any dis efer to figured dime pancies shall

ssion from the

Plot File Drawing No.



# 7.0

# **Envelope View Impact Analysis**





## 7.1 View Impact Analysis

The Sydney Development Control Plan identifies several key views from within Central Sydney that new development should not encroach on, as outlined in the Public Views Protection Map. The view corridor along Pitt Street to Sydney Harbour runs adjacent to our site.

The following view impact analysis has been undertaken to demonstrate that the proposed envelope does not obstruct the view down Pitt Street to Sydney Harbour.

See APPENDIX A for additional comparative pedestrian view analysis.



Figure 5.44: Public Views Protection Map 2

Image source: Sydney DCP 2012 - Central Sydney P from Public Places

Image source: Sydney DCP 2012 - Central Sydney Planning Review Amendment Section 5.1.8 - Views

#### PITT STREET CORRIDOR - VIEW 1

Model view from King Street looking north down Pitt Street.

The proposed envelope does not obstruct the view corridor down Pitt Street. The crown of the tower is visible above adjacent buildings and a clear view of the Sydney Harbour Bridge is retained.

#### **KEY PLAN**

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope





Proposed envelope coloured blue in view studies.

#### PITT STREET CORRIDOR - VIEW 2

Model view from Martin Place looking north down Pitt Street.

The proposed envelope has a minimal impact on the existing view and does not obstruct the view corridor down Pitt Street. A small proportion of the tower and podium is visible amongst the surrounding context.

#### **KEY PLAN**

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope





Proposed envelope coloured blue in view studies.

#### **PITT STREET CORRIDOR - VIEW 3**

Model view from Angel Place looking north down Pitt Street.

The proposed envelope does not obstruct the view corridor along Pitt Street. The podium massing relates to the adjacent built context and the tower creates a relatively small impact on the proportion of sky visible.

#### **KEY PLAN**

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope





Proposed envelope coloured blue in view studies.

# 8.0

# Envelope Solar Analysis

15-23 Hunter Street and 105-107 Pitt Street Sydney



## 8.1 Overshadowing Analysis

The proposed envelope complies with clause 6.19 of the Sydney Local Environmental Plan (LEP) 2012 and has been designed to prevent additional overshadowing to public places specified in the plan.

The only location outlined in the LEP that the subject site could impact upon is Martin Place, between George Street and Pitt Street.

An LEP Objective requests that no new development may cause additional overshadowing to Martin Place between the hours of 12pm and 2pm from 14th April to 31st August.

The following shadow impact analysis has been undertaken on 14th April and 31st August at the above specified times to demonstrate the compliance of the proposed envelope, noting that the intended period of protection is outside the winter months. We have also included a worst case analysis on the 21st of June.

The analysis takes into consideration all existing site context as well as built forms that have been granted development consent. These include:

/ 20 O'Connel Street DA

- / Martin Place Metro North DA
- / Wynyard Place DA



#### 14<sup>TH</sup> APRIL - OVERSHADOWING ANALYSIS

#### KEY

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope

(T)

Additional Overshadowing

Reduced Overshadowing

Locations requiring no additional overshadowing as per Sydney LEP 2012

Image source: Bates Smart, created using a 3d city model provided under license from AAM Group













#### 14TH APRIL - OVERSHADOWING ANALYSIS

#### KEY



Ν  $(\mathsf{T})$ 

13:00

Additional Overshadowing

Reduced Overshadowing

Locations requiring no additional overshadowing as per Sydney LEP 2012

Image source: Bates Smart, created using a 3d city model provided under license from AAM Group





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#### 14<sup>TH</sup> APRIL - OVERSHADOWING ANALYSIS

#### KEY

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope

(T)

Additional Overshadowing

Reduced Overshadowing

Locations requiring no additional overshadowing as per Sydney LEP 2012

Image source: Bates Smart, created using a 3d city model provided under license from AAM Group













## 8.2 **Views From The Sun**

#### 14<sup>TH</sup> APRIL - VIEWS FROM THE SUN

KEY

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope

Existing massing on site



Image source: Bates Smart, created using a 3d city model provided under license from AAM Group



#### 21<sup>st</sup> JUNE - WINTER SOLSTICE - VIEWS FROM THE SUN

KEY



15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope

Existing massing on site





14:00

#### 31<sup>st</sup> AUGUST - VIEWS FROM THE SUN

KEY

15-23 Hunter Street and 105-107 Pitt Street Proposed Envelope

Existing massing on site





# 9.0

## Reference Design

15-23 Hunter Street and 105-107 Pitt Street Sydney





### **Reference Design** Drawing Set

The indicative reference design is a potential scheme used to demonstrate an appropriate outcome can be delivered within the proposed envelope. This is an indicative reference only, and it will be superseded by an architectural design competition.

Particular attention is paid to access requirements, potential yield, and the envelope's relationship to it's context.

The drawings and artist's impressions are indicative and are not suggested to constitute a final product.





### **Laneway Concept**

### **BRIEF: LETTER FROM CITY OF SYDNEY:**

The treatment of 15-17 Hunter Street within the proposal requires careful consideration, including the impacts of any proposed cantilever over the building and its improved integration, and recognition, within the reference design.

Retaining and activating the current private 'laneway' that extends into the site from Pitt Street could help improve integration of 15-17 Hunter Street and improve the integration of future development into the surrounding urban fabric.

The proposal should strive to protect the prevalent fine grain character of Hunter and Pitt Streets.

### LANEWAY / THROUGH-SITE LINK PRECEDENTS:



161 Castlereagh Street Image: John Gollings



161 Clarence Street Image: Martin Siegner



151 Clarence Street Image: Brett Boardman



161 Collins Street Melbourne Image: Jefferson Protomartir

MAY 2022 | URBAN DESIGN REPORT

## **Below Ground Concept** Health / Wellness / Lifestyle

UNDERGROUND FOOD HALL PRECEDENTS



David Jones Food Hall Bondi Junction

MAY 2022 | URBAN DESIGN REPORT

UNDERGROUND FOOD MARKET HALL



Dexus And Frasers Central Place Sydney

GYM / SPA / EOT PRECEDENTS



161 Collins Street Melbourne

21 Harris Street Pyrmont



21 Harris Street Pyrmont



Little National Hotel Sydney

Little National Hotel Sydney

### **Summary** Ground Level And **Basement Plans**

B01 is a Food Market and act as an extension of the Empire Lane entertainment tenancies above. It allows for a potential connection to Martin Place Metro's Bligh Street Station.

B02 is a reception for a world class Health and Wellness facility, encompassing treatment rooms, meditation, physiotherapy & yoga studios on B03, and fitness facilites including swimming pool, gym, and sauna on B04.

The Health & Wellness centre is designed to supplement to the EOT facilities below

B05 will be a dedicated EOT offering.





GROUND LEVEL

15-17 HUNTER STREET ABOVE







HEALTH AND WELLNESS CENTRE FITNESS, POOL, & SAUNA





**BASEMENT 03** 

1:600 @ A3

**BASEMENT 04** 

**BASEMENT 05** 

### **BASEMENT 06**



### **BASEMENT 02**



## **Interface with Metro Site** Diagrammatic Cross Section

### DAP COMMENTS ADDRESSED

Pedestrians are prioritized with vehicular traffic entirely removed from the laneway. A clear connection to the Metro West concourse is maintained.

Flood levels: Empire Lane must crest at RL 10.70, And Hunter Lane must crest at RL 10.10 .

Basement levels are considered and purposeful, with clear wayfinding and access. The B01 F&B floor is envisaged as a designed food market with connections through to Metro Bligh Street.

B02 is a reception for a world class Health and Wellness facility, encompassing treatment rooms, meditation, physiotherapy & yoga studios on B03, and fitness facilites including swimming pool, gym, and sauna on B04.

B05 will be a dedicated EOT offering, supplemented by the Health & Wellness Centre.



### **Summary** Mitigating Potential Flood Impact

A desire to mitigate potential flood impacts has led to raised ground floor & laneway levels.

The Metro West concourse may potentially be immediately next door at ~ RL 6.6; as such flood protection to the concourse from an entry located in the laneway must be considered. As such, levels have been raised to ensure adequate protection to the potential station concourse.



PMF LEVELS

1%AEP LEVELS

1:500 @ A3



## **Reference Design** Drawing Set

**INDICATIVE SECTION** 



#### 1:1000 @ A3



**BASEMENT 06** 



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BATES SMART





#### MAY 2022 | URBAN DESIGN REPORT




LEVEL 01



LEVEL 02

1:200 @ A3

PITT STREET



**LEVEL 03** Hunter Street Podium Landscaped Terraces

1:200 @ A3

PITT STREET



LEVEL 04

1:200 @ A3

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# PITT STREET



**LEVEL 05 PLANT** 

1:200 @ A3

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LOW RISE



**LEVEL 18 LIFT TRANSFER** 



**LEVEL 19 TERRACE** & WINTERGARDEN VOID







LEVEL 34 LIFT TRANSFER

 $\overset{\mathsf{N}}{\mathcal{T}}$ 



**LEVEL 35 OVER RUN FLOOR** 

1:200 @ A3

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**HIGH RISE** 

 $\overset{\mathsf{N}}{\frown}$ 











LEVEL 51 PLANT

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#### MAY 2022 | URBAN DESIGN REPORT



**INDICATIVE SECTION** 

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#### MAY 2022 | URBAN DESIGN REPORT

AREAS SCHEDUL
---------------

					Envelope		Com	nbined AA + FZ	G	BA	CORE	E	GFA
R. L.	DESCRIPTION	LEVEL	HEIGHT	Area	Volume	layered	Area	Volume layered	Area	Volume	Allowance	GFA	Area
			m	m²	m <sup>3</sup>	volume	m²	m <sup>3</sup> volume	m²	m <sup>3</sup>	(Excl. GFA) m <sup>2</sup>		m²
				GEA	(	(eg. part levels /		(eg. Tapering & soffits /					
						/ roof of 15-17)		envelope ∆ / roof of 15-17)					
222.50	TOP OF ENVELOPE Glazing Setback to Hunter St:												
214.90	Above Plant (Above RL 216.0)		7.60	567,		6.50 , 1.10	567	4,646	0	0			
208.90	PLANT 10.50m	51	6.00	873	5,239		132	793	741	4,446			
205.15	Lounge Upper Level / Mezzanine 9.30m	50	3.75	1,196 ,			388,	65 475 layered	808	3,030	143	78	666
201.40	Lounge Roof Terrace (2m Balustrade) 8.70m	49	3.75	1,264 , 1		2.80 , 0.95	-	356 1,544 layered	840	3,152	143	78	698
197.65		48	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
193.90		47	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
190.15		46	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
186.40		45	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
182.65		44	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
178.90		43	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
175.15		42	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
171.40	4.75 = 4m + 750mm Façade Zone	41	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
167.65	Glazing Setback to Hunter St:	40	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
163.90	4.75m typical	39	3.75	1,264	4,742		82	309	1,183	4,433	143	80	1,040
160.15	5.35m ∆ 0.60m	38	3.75	1,264	4,742		102	380 layered	1,162	4,361	143	80	1,010
156.40	HIGH RISE OFFICE 5.95m △ 0.60m	37	3.75	1,264	4,742		102	459 layered	1,142	4,283	143	80	999
158.40		36	3.75	1,264	4,742		123		1,142	4,203	143	78	998
							-		-				
148.90	Lift Over Run / Void 9.00m △ 2.45m	35	3.75	1,264	4,742		507	1,698 layered	757	3,043	174	75	563
145.15	Terrace / Lift Tranfer Level 9.00m △ 0.00m	34	3.75	1,264	4,742		507	1,901	757	2,840	172	102	570
141.40		33	3.75	1,264 1,264	4,742 4 742		82 82	309	1,183	4,433	183	78	999
137.65 133.90		32 31	3.75 3.7	1 1264	4 749		82	309 309	1,183 1,183	4,433 4,433	183 183	78 78	999 999
130.15		30	3.7					309	1,183	4,433	183	78	999
									-	-			
126.40		29	3.7					309	1,183	4,433	183	78	999
122.65		28	3.7			<b>PD</b>		309	1,183	4,433	183	78	999
118.90		27	3.7	UD	EU	PDF		309	1,183	4,433	183	78	999
115.15		26	3.7					309	1,183	4,433	183	78	999
111.40	4.75 = 4m + 750mm Façade Zone	25	3.7					309	1,183	4,433	183	78	999
107.65	Glazing Setback to Hunter St:	24	3.7					309	1,183	4,433	183	78	999
103.90	4.75m typical	23	3.7	1				309	1,183	4,433	183	78	999
100.15	MID RISE OFFICE 5.35m \( \Delta \) 0.60m	22	3.75	1,264	4,742		102	380 layered	1,162	4,361	183	78	979
96.40	Fire stair transfer level 5.95m △ 0.60m	21	3.75	1,264	4,742		123	459 layered	1,142	4,283	193	90	949
90.40	Plant / Lift MR 6.55m △ 0.60m / 7.15m △ 0.60m	20	6.00	1,287	7,725	layered	153	904 layered	1,134	6,821	000	447	50
86.65	Meeting Rooms 9.00m △ 1.85m	19	3.75	1,311	4,998	layered	504	1,688 layered	807	3,310	263	117	591
82.90	Terrace / Lift Tranfer Level 9.00m △ 0.00m	18	3.75	1,341	5,027		504	1,890 layered	837	3,137	268	117	591
79.15		17	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
75.40		16	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
71.65		15	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
67.90		14	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
64.15	LOW RISE OFFICE	13	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,033
60.40		12	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
56.65	4.75 = 4m + 750mm Façade Zone	11	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
52.90	Glazing Setback to Hunter St:	10	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,032
49.15	4.75m typical	9	3.75	1,341	5,027		82	309	1,259	4,718	223	79	1,03
45.40	5.25m 🛆 0.50m	8	3.75	1,341	5,027		103	383 layered	1,238	4,644	223	79	1,01
41.65	6.00m \( \Delta \) 0.75m	7	3.75	1,341	5,027		128	478 layered	1,212	4,549	223	79	989
37.90	6.90m ∆ 0.90m	6	3.75	1,341	5,027		159	593 layered	1,181	4,434	223	79	958
31.90	Podium Plant 8.00m △ 1.10m / 9.50m △ 1.50m	5	6.00	1,341	7,737		188	1,532 layered	1,153	6,204			50
28.15	Podium Level 04 Meeting Rooms	4	3.75	1,622	6,526		766	2,746 layered	856	3,780			62
	6	4											
24.40	Terrace / L03 Hunter St Podium Roof Terrace		3.75	2,101	6,653		1,186	2,939 layered	915	3,714			67
20.40	Podium Level 02 Co-working	2	4.00	2,101	8,262		513	2,054	1,587	6,209			1,37
15.40	Podium Level 01 Commercial Lobby	1	5.00	2,101	10,609		554	2,772 layered	1,546	7,837			1,35
10.40 *	Ground Level Laneway Retail	GL	5.00	2,101	10,503	layered	584	2,921 layered	1,517	7,583			1,04
6.10	Basement B01 Food Market & Bligh Metro / Loading	B01		1,647					1,775				55
2.00	Basement B02 Health + Wellness Reception	B02		1,647					1,775				68
-2.00	Basement B03 Health + Wellness Treatments & Stud	ios B03		1,647					1,549				1,33
-6.00	Basement B04 Health + Wellness Gym	B04		1,647					1,549				1,33
-9.50	Basement B05 End of Trip	B05		1,647					1,549				1,33
-15.00	Basement B06 Commercial Car Stacker	B06		808					952				.,50
	sting footpath RL outside vehicular entry zone is RL 10.40, and lowest existing footpath RL is			000			I		902				
		NL 0./U.											

ume
,442 r
5.6%
-

ion	GBA		CORE A.	FSR	GFA
	Area	Volume	Area		
3	59,781 m²	235,769 m <sup>3</sup>	8,127	22.43:1	<b>47,284</b> m <sup>2</sup>
			16.1%		
	9,149 m²		uding EoT uding EoT:	<b>1.86 : 1</b> 2.49 : 1	<b>3,912</b> m <sup>2</sup> <b>5,247</b> m <sup>2</sup>
	68,930 m²	Abov	e & Below:	24.92 : 1	<b>52,531</b> m <sup>2</sup>

### **Timber Casette Construction Precedents**





- 1. Adidas North American Headquaters, Portland
- 2. Adidas North American Headquaters, Portland
- 3. New Industrial Revolution Centre Biotech Labs, Portland
- 4. New Industrial Revolution Centre Biotech Labs, Portland
- 5. Adidas North American Headquaters, Portland



3.



5.



Floor Detail of NIR's Innovative Structural System









## **Design Advisory Panel Feedback**

#### PEDESTRIAN PRIORITY IN THE LANEWAYS

DAP was concerned that the creation of a pedestrian priority laneway with outdoor dining is not compatible with the constraints of vehicle access and servicing requirements, and compounded by issues of flooding and universal access. It is noted that the revised reference scheme ground floor plan provided on 10 December 2021 removes the pedestrian and vehicle shared laneway arrangement.

Retail activation would be required within the lanes to ensure these spaces are attractive and do not appear as a 'back of house' area. This should be detailed on updated reference plans.

#### PARKING AND SERVICE VEHICLE SPACE

The revised ground floor plan increases the service vehicle spaces from 4 to 6 (potentially 7) spaces, however this is still considered to be too low, noting the DCP requires 17 spaces. This suggests the proposal is trying fit on the ground floor what would normally be provided below ground.

DAP recommended a review of the cycle access and amenity proposed. Potential conflicts between vehicles, pedestrians and cyclists need to be minimised, and any lifts to the end of trip facilities need to be of an appropriate size to accommodate bikes. The location of the end of trip facilities, and how these will be accessed, are not clear on the updated ground floor plan and this information will need to be provided in revised documentation.

#### **BASEMENT DESIGN**

DAP was concerned about the proposed five levels of underground retail/gym, and how the underground levels interface with the Tank Stream tunnels. DAP questioned the viability of the underground retail if they are not connected to the Metro station and associated underground access. It was also noted that the five levels of underground retail exacerbate the loading and servicing issues.

Updated plans would need to be provided to detail any changes to this proposed arrangement. Any through-site pedestrian links to the future Metro to the west will need careful coordination regarding access widths and levels. This is not yet evident.

It is also recommended that if there are discussions with Metro regarding potential connections with this site, these should be provided to us so we understand this and can incorporate these into our considerations of controls for the site.

#### HERITAGE

DAP supported the heritage listing of 15-17 Hunter Street, although further investigation is needed on the interface between new and old at ground floor, and heritage objects in the building. There is also a need to acknowledge the Tank Stream in the public domain.

Details should be provided for the treatments of the ground and upper floors of the rear of this building, including the hoists , which should be visible due to their heritage significance. It is also unclear how this building would relate to the flood planning levels in the laneway.

#### **ARTICULATION ALLOWANCE**

DAP recommended that refinement of the building envelope should provide the previously recommended 15% articulation provision.

#### **ADDRESSED**

Laneway is completely pedestrianized. flooding requirements, it is not possible go down fast enough to go under the la

 $\checkmark$ 

 $\checkmark$ 

#### **ADDRESSED**

16 spaces for service vehicles / couriers are provided. This is comprised of: five spaces at LOO (including two MRV bays), four spaces at BO1, & seven spaces at BO2. Traffic engineers at WSP have reviewed the proposed design and believes the revised layouts will provide a succesful level of amenity & service.

#### **ADDRESSED** $\checkmark$

A clear ground level link is provided to Metro Hunter Street. A direct B01 connection to Metro's Bligh Street entrance is envisaged. Only 2 levels are considered to be F&B. B03 & B04 are Gym / Spa, with EOT at B05.

#### **ADDRESSED**

The rear of 15-17 Hunter Street is predominantly retained in the current proposal. Specifically the upper levels with be retained in their current configuration. The lower two levels of the rear will include strategic openings to allow pedestrain flow to the metro concourse. The hoists and arches will be retained, and reference to the original function of the rear as a warehouse style loading area will be provided.

**ADDRESSED**  $\checkmark$ 

The requested articulation level has been adopted.

 $\checkmark$ 

All vehicular traffic is via Pitt Street. Due to
e to use a conventional ramp to go up, crest, and
aneway. As such, vehicular lifts are used.



## **ARTISTS' IMPRESSIONS**

15-23 Hunter Street and 105-107 Pitt Street Sydney







### Hunter Lane



## **Empire Lane**

Corner of Hunter & Pitt Streets



Hunter Street Looking East



Pitt Street Looking North





### MAY 2022 | URBAN DESIGN REPORT









States I























## **Appendix A** Comparative **Pedestrian View** Analysis Photomontages of Existing, Schedule 11,

15-23 Hunter Street and 105-107 Pitt Street Sydney

## and Proposed Setbacks





**EXISTING SITE CONTEXT** 





VIEW 1 - Looking east along Hunter Street



#### SCHEDULE 11 ENVELOPE TOWER SETBACKS

Pitt Street	8m
Hunter Street	8m
Western Boundary	8m
Southern Boundary	7.15m





VIEW 1 - Looking east along Hunter Street



#### PROPOSED ENVELOPE TOWER SETBACKS

Pitt Street	7.5m average
Hunter Street	4m
Western Boundary	5.5m max.
Southern Boundary	4m





VIEW 1 - Looking east along Hunter Street


### **REFERENCE DESIGN TOWER SETBACKS**

Pitt Street	8.25m average
Hunter Street	4.75m
Western Boundary	6.25m max.
Southern Boundary	4m







**EXISTING SITE CONTEXT** 







### SCHEDULE 11 ENVELOPE TOWER SETBACKS

Pitt Street	8m
Hunter Street	8m
Western Boundary	8m
Southern Boundary	7.15m







### PROPOSED ENVELOPE TOWER SETBACKS

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**EXISTING SITE CONTEXT** 







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**EXISTING SITE CONTEXT** 







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Pitt Street	8m
Hunter Street	8m
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**EXISTING SITE CONTEXT** 







### SCHEDULE 11 ENVELOPE TOWER SETBACKS

Pitt Street	8m
Hunter Street	8m
Western Boundary	8m
Southern Boundary	7.15m







### PROPOSED ENVELOPE TOWER SETBACKS

Pitt Street	7.5m average
Hunter Street	4m
Western Boundary	5.5m max.
Southern Boundary	4m







### **REFERENCE DESIGN TOWER SETBACKS**

Pitt Street	8.25m average
Hunter Street	4.75m
Western Boundary	6.25m max.
Southern Boundary	4m





# **Appendix B**

# Additional Information

15-23 Hunter Street and 105-107 Pitt Street Sydney State State Street Street State



# 10.1 Building Articulation Study

The following images and diagramatic plans have been prepared to aid discussion of the appropriate requirements for facade zone depth & articulation allowance for this particular site. They illustrate possible massing outcomes with a 750mm supplied facade zone in addition to 6% architectural articulation.

### **OPTION 1:**

750mm Facade Zone to North

Closed Cavity facade to East, West and South

Balance of Architectural Articulation plus Facade Zone equates to the same overall GFA as other options.



**OPTION 1 - TYPICAL PLAN** 



**OPTION 1** Orthogonal corners





750mm Facade Zone to North, East, and West + 6% of GEA for Architectural Articulation



**OPTION 2 - TYPICAL PLAN** 



OPTION 2 Interlocking Volumes





**OPTION 3** Undulating

## OPTION 3:

750mm Facade Zone to North, East, and West + 6% of GEA for Architectural Articulation



**OPTION 3 - TYPICAL PLAN** 



### **OPTION 4:**

750mm Facade Zone to North, East, and West + 6% of GEA for Architectural Articulation



**OPTION 4 - TYPICAL PLAN** 

**OPTION 4** Tapers at bottom

### **REFERENCE DESIGN:**

750mm Facade Zone to North, East, and West + 6% of GEA for Architectural Articulation



**REFERENCE DESIGN - TYPICAL PLAN** 



REFERENCE DESIGN Stacked Volumes

## 10.2 Tall Towers

### Effect of Tower Shape

The plan shape of a tower will greatly influence the wind loading to be resist well as the dynamic response and accelerations. Below presents in very sim terms the relative 'drag factors' for different shapes. As a general rule:-

- A square shape is not ideal
- Sharp corners are best avoided.
- Chamfered or rounded corners greatly reduce wind loading.
- Overall rounded forms typically behave better.

The shape of a tower in elevation is also a factor in influencing its performance under wind. In the case of tall towers, or towers with high slenderness, departures from a pure extruded form can greatly improve the dynamic response by 'confusing the wind' and reducing the effects of vortex shedding. A gentle taper over the height of the building is effective in this respect, or as an extreme, a non symmetric elevational profile. The worlds tallest tower, the Burj Khalifa in Duba uses this latter effect to benefit the performance of the tower and the comfort of occupants within.







Source: Central Sydney Palnning Strategy prepared by The City of Sydney





The above data comes from Arups database on towers in Asia. It comprises a range of structural systems (influenced by height) and also includes mixed use towers. The core area shown is that for the low levels of the tower, as opposed to that in the higher levels where the lifts 'drop-off' and core sizes typically reduce.

### **Cores Sizes**

The size of cores for tall buildings vary significantly depending on the approach to vertical transportation, escape stairs and how the building is serviced. While the core will typically make a significant contribution to the strength and stiffness of the tower, invariably its size is dictated by the space requirements of the services and egress provision within. Indicative breakdown of services within the core for high rise commercial tower are as follows:

	Approx Percentage of floor plate area	Approx percentage of core Area
Building Services	3.5%	10.5%
Fire stair	2.0 %	7%
Lifts	10.5 %	35%
Lobbies	8 %	24%
WCs	2.5 %	8%
Total	26.5 %	85%

and miscellaneous.

### **Plant floors**

Typically there will be a plantroom every twenty (20) to twenty eight (28) floors. Plant floors will typically be between 5.5m and 6.0m floor to floor. Total building services plant requirement will be between 9.5 and 10.0% of gross floor area (GFA). Depending on the specifics of the design, there could be two plant floor levels at 20-28 storey intervals, and it may be that the floor to floor height matches that of the typical floors (for reasons of external aesthetics).

### **External skin allowances**

For typical towers NLA is measured to the inside face of the glazing. Overall glazing thickness is typically 30mm for a high rise tower.



Source: Central Sydney Palnning Strategy prepared by The City of Sydney

The figures above exclude the 'structure' of the core. It is for this reason that the total is 85%. The residual area making up the core can be considered as stricture Tall Buildings | The implications of increasing height

## Tall Buildings | The Implications of Increasing Height

Impact of height

### **Typical Building Services Systems**

### Mechanical

- Key issues in the consideration of mechanical systems:
- Air verses chilled water circulation
- Central plant
- Efficiency of risers sizing
- Stack Effect issues.
- Environmental impact on the design.
- Plant replacement and maintenance.
- Tenant plant flexibility.





20 FL



# [2016 DRAFT] APPENDIX J Appendices Central Sydney Strategy

Source: Central Sydney Palnning Strategy prepared by The City of Sydney

### Mechanical Plant (Commercial Buildings)

Taller buildings are more energy intensive and require more power the taller the building becomes. The graphs on the right show the typical floor area requirements for different mechanical systems. One is all water system (eg. chilled beam approach) where as the other is all air without water on the office floors (eg. Variable Air Volume (VAV) approach).

AHU Distribution (Chilled Beam) Maximum 14 Floors per AHU Plant

### Vertical Risers

Typically as follows:

- 1. Mechanical Air No variation with height assuming distributed plant.
- Mechanical Water Negligible difference albeit minor penalty due to hydraulic break.
- Electrical Penalty with height to reticulate HV up the building and communications.
- 4. Fire Services and Hydraulics Penalty with height for multiple rising mains.



Total typical area of risers as a percentage of floor area.

### Tall Buildings | The Implications of Increasing Height

Impact of height

### **Design Arrangements (Stacking)**

As towers increase in height, the vertical transportation design must respond to achieve the required performance and enable the seamless flow of tenants and visitors throughout the building.

While increasing the number, size and speed of elevators is possible, there comes a point where this is no longer an effective design strategy in order to maintain the floor plate efficiencies required to make a development viable. At this point the design of vertical transportation systems must adopt design strategies and equipment technologies different to those the Sydney market may be familiar with.

To maximise floor plate efficiencies elevators are arranged in groups. Subject to the number of elevators in each group (low, mid, high rise etc) the below stacking arrangements are typical.



1 group of 2 groups of lifts services lifts services approximately approximately 20 floors 20 - 35 floors

lifts services matel approximately app 30 - 45 floors 40 - 55 floors

3 groups of

4 groups of lifts services developed, sky lobbies can be introduced as depicted below. Sky lobbies require the use of shuttle elevators to transport passengers to the sky lobby where they transfer to local elevator groups.

As commercial towers increase in height or where mixed use towers are being



Sky lobbies can provide a number of design benefits to the development such as: - Increased core efficiency by stacking "local passenger elevators" atop each

- other.
- Ability to quickly transport a large percentage of the buildings occupants.
- A location for social amenity particularly in residential towers where a local township can be created.
- A line of security between commercial, residential & hotel components of mixed use developments.
- In comparison to a conventional single deck system with all elevators serving from the ground floor, sky lobbies can reduce the core size by up to 25%.

#### **Equiptment Technology**

As towers increase in height, it is necessary to consider the use of various equipment technologies to achieve the required performance levels. There are several equipment technologies that have been specifically developed to maximise the handling capacity of each elevator shaft. These include:



Double Deck elevators comprise two permanently connected passenger cars, positioned one above the other and connected to a common suspension and drive system. The upper and lower decks are therefore limited to serving two adjacent floors simultaneously.

The Twin system is unique to ThyssenKrupp and has 2 elevator cars running independently in the same elevator shaft. Each car has its own ropes, counterweight, safety, control and drive equipment while sharing common guide rails and landing entrance doors.

Multi-car elevator systems have been specifically developed to increase the handling capacity of each elevator shaft. This in turn provides the opportunity to reduce the overall number of elevator shafts while achieving comparable levels of service to a traditional single deck system.



[2016 DRAFT]

Source: Central Sydney Palnning Strategy prepared by The City of Sydney

There are a number of similarities between Double Deck and TWIN elevator systems, with the most important being:

Both require Destination Control Service to maximise efficiencies. On Double

Deck elevators, DCS is used to minimise non-coincidental calls and on Twin to



Sky



Approximately 55-80 floors



40-90 floors





Approximatel 100-180 floors

maintain safe operational distances between elevator cars;

- Both require dual lobby loading to allow the upper and lower cars to load simultaneously;
- Increase handling capacity of each elevator shaft;
- Fewer elevator shafts;
- In comparison to a conventional single deck system with all elevators serving from the ground floor, the use of multicar elevator systems combined with sky lobbies can reduce the core size by up to 35%.

When considering a multi-car vertical transportation system in conjunction with the use of sky lobbies the below stacking arrangements are made possible.





70-120 floors



# 10.3 Survey



ł		REVISION No.	REVISION DATE:	COMMENT:	LEGEND:	)		PLAN SHOWING DETAIL & LEVELS	JOB No.: 192625	LGA: SYDNEY
	TSS TOTAL SURVEYING				EB - EDGE OF BITUMEN EC - EDGE OF CONCRETE	TG - TOP OF GUTTER RR - ROOF RIDGE		AT THE CORNER OF PITT STREET AND HUNTER STREET	PLAN No.: 192625-1	DATUM: AHD
BATES SMA	SOLUTIONS		15-23 HU	NTER STREET AND 105-107 PI	TTSTREET		PROPOSAL URBAN DESIGN REPORT	CLIENT: MILLIGAN GROUP	DATE: 15/11/2019	SCALE: 1:200@A1 172
	LANE COVE   CAMDEN   MANLY VALE   CENTRAL COAST				TW - TOP OF WINDOW	ELEC - ELECTRICAL PIT	PLOTTED SCALE 1:200 (A1 SIZE SHEET)	PROJECT: SYDNEY	DRAWN: RA	CONT. INTERVAL: 0.25m
l					BW - BOTTOM OF WINDOW	Ø.4/S10/H16 - DIAMETER/SPREAD/HEIGHT		ADDRESS: CORNER PITT & HUNTER, SYDNEY	↓ снк: wн	SHEET 1 OF 1





LEGEND					
BENCH MARK					
TELSTRA PIT		TEL			
ELECTRIC LIGHT POLE	÷	LP			
POWER POLE	Ø	PP			
SIGN POST	-	SP			
SEWER INSPECTION PIT	•	SI₽			
SEWER VENT	$\oplus$	SEWER			
MANHOLE	۲	мн			
SEWER MANHOLE	S	SMH			
STOP VALVE	M	SV			
WATER HYDRANT		HYD			
WATER METER	М	WM			
GAS METER	G				
STATE SURVEY MARK		SSM			

#### William Hamer Registered Surveyor Nº 1606

















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