Attachment A7

Urban Design Study and Concept Reference Scheme - 3XN - Part 6

CHAPTER A.3.3

COMMERCIAL TOWER

Aerial impression of the Piccadilly Tower redevelopment. Indicative not to scale

A.3.3 - COMMERCIAL TOWER

KEY OBJECTIVES

HEALTHY WORKPLACE

Create a building that emphasizes the health and wellbeing of the occupants.

LARGE CONTIGUOUS FLOORPLATE

Create large, contiguous commercial floor plates in the central CBD.

OPTIMISE DAYLIGHT

Design with optimal daylight levels in mind.

OPTIMISE VIEWS

Optimise views to the surrounding context.

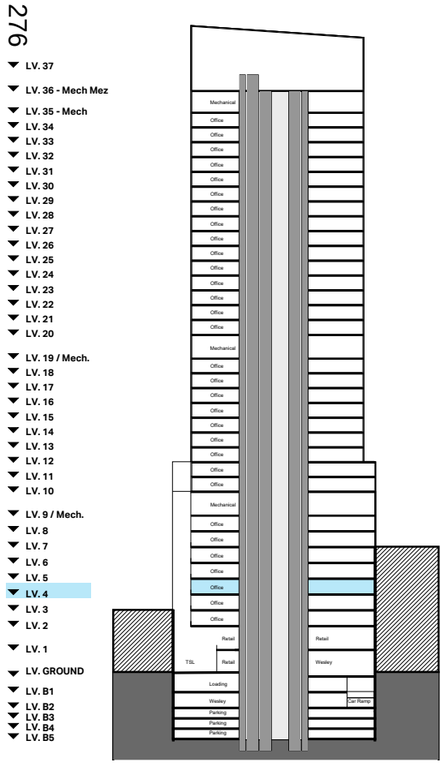
A.3.3 - COMMERCIAL TOWER

TYPICAL COMMERCIAL PODIUM PLAN

Indicative plan illustrates a typical commercial floor plate at podium level.

Plan Legend

- Commercial
- Terraces
- Lift Lobby
- Risers
- Lifts
- Toilettes
- Circulation



Key Legend - Section A

Typical commercial podium plan / Lv. 4 (drawing not to scale).

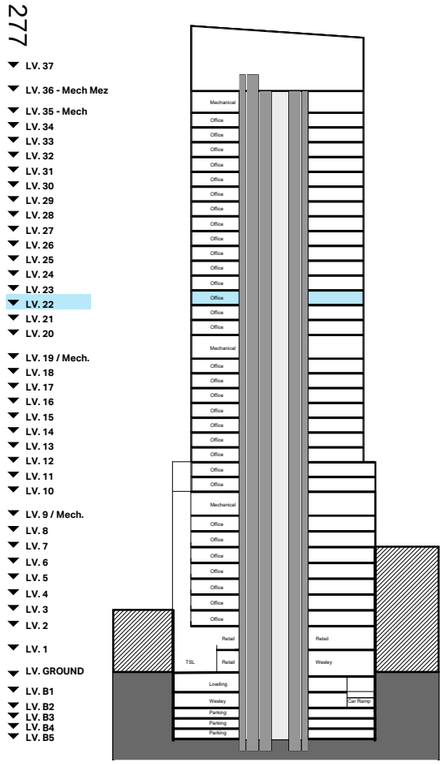
A.3.3 - COMMERCIAL TOWER

TYPICAL COMMERCIAL TOWER PLAN

Indicative plan illustrates a typical commercial floor plate at tower level.

Plan Legend

- Commercial
- Lift Lobby
- Risers
- Lifts
- Toilettes
- Circulation



Key Legend - Section A

Typical commercial tower plan (drawing not to scale).

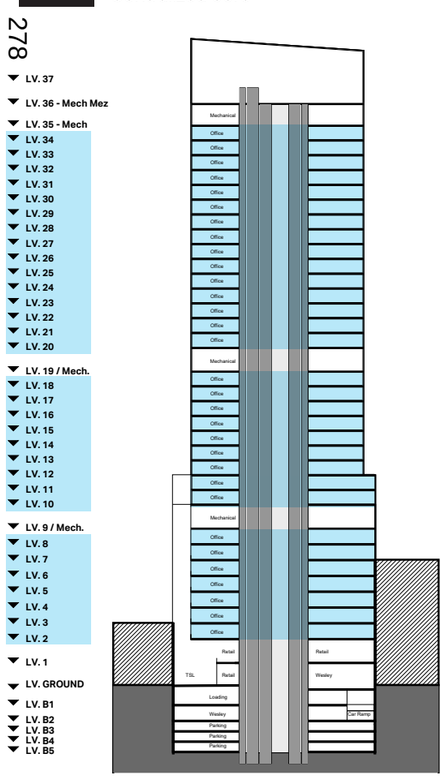
A.3.3 - COMMERCIAL TOWER

ANALYSIS - CORE AND NON-OPTIMAL DAYLIGHT ZONE REDUCTION

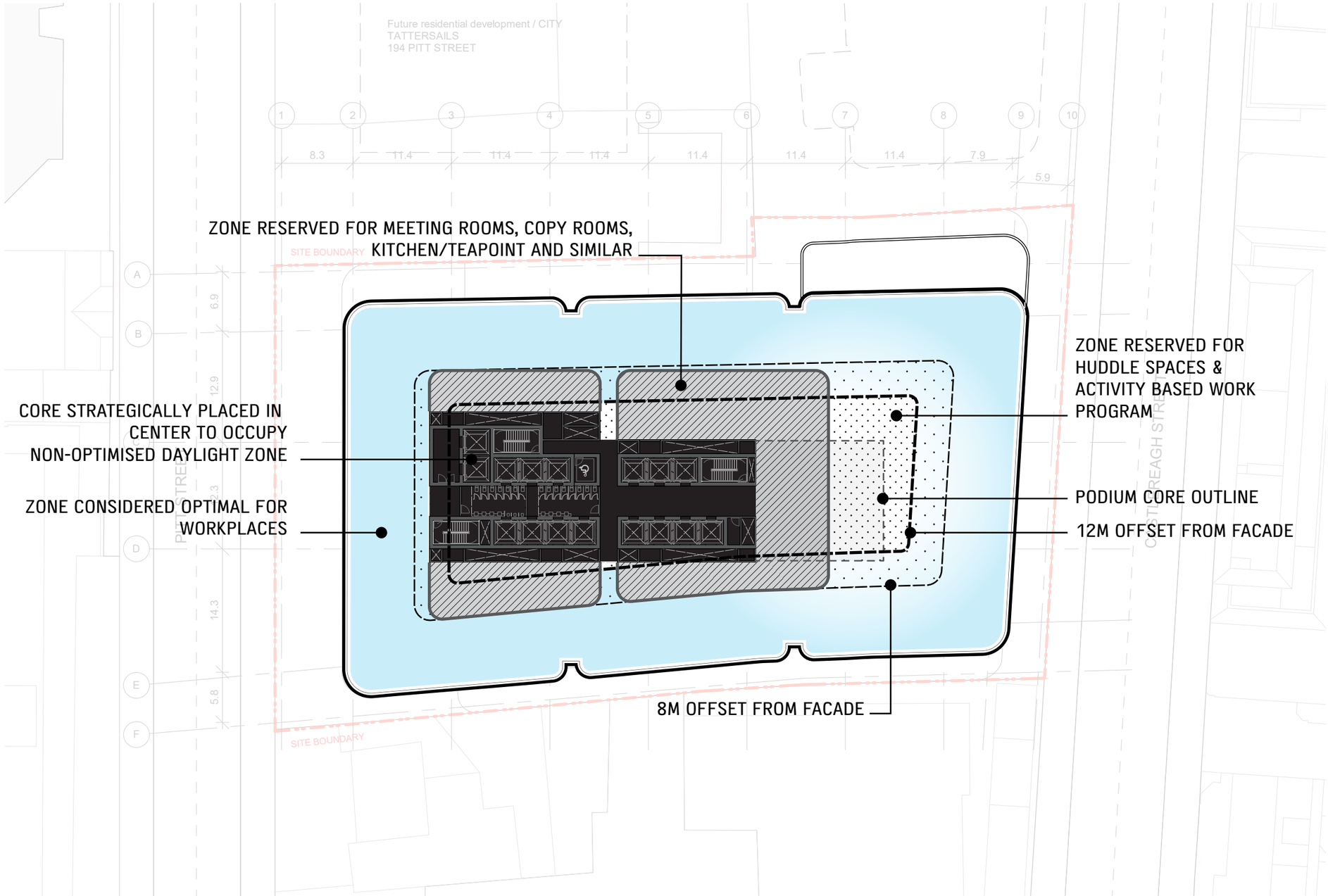
The Reference Design proposes an elongated, central core to reduce deep, floor plate zones within the tower as a means of optimizing the facade to core distance for daylighting purposes.

Legend

- 8m facade offset zone
- 12m facade offset zone
- Optimal workplace daylight zone
- Good workplace daylight zone
- Meeting room zone
- Centralized core



Key Legend - Section A

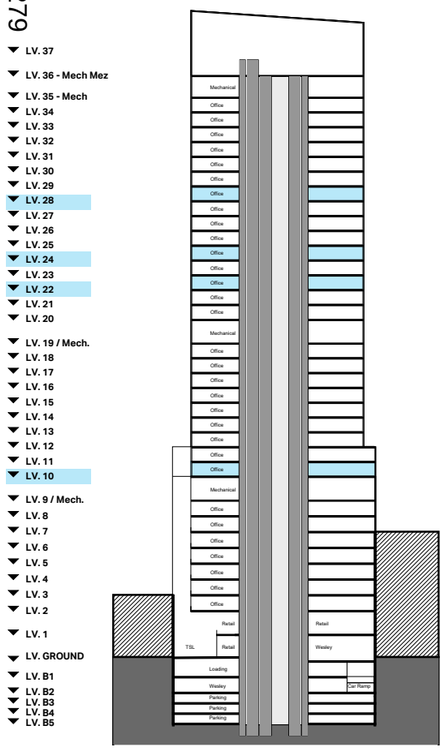


Diagrammatic plan illustrating daylight and non-daylight required programs.

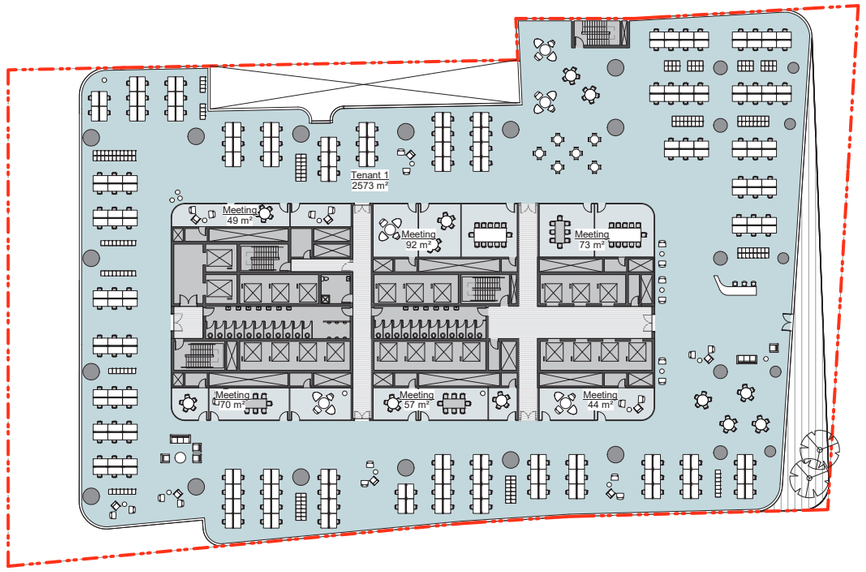
A.3.3 - COMMERCIAL TOWER

COMMERCIAL TEST-FIT SCENARIOS

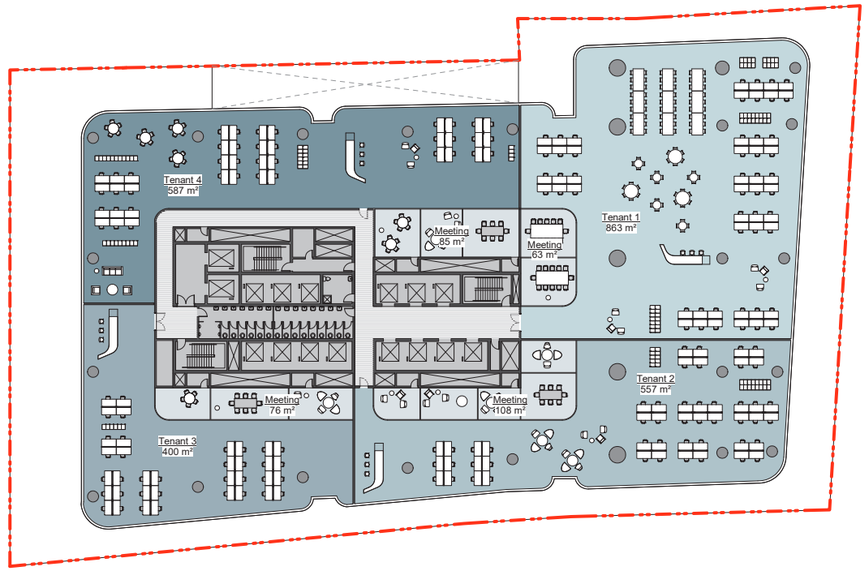
Example of commercial floor plate fit-out scenarios.



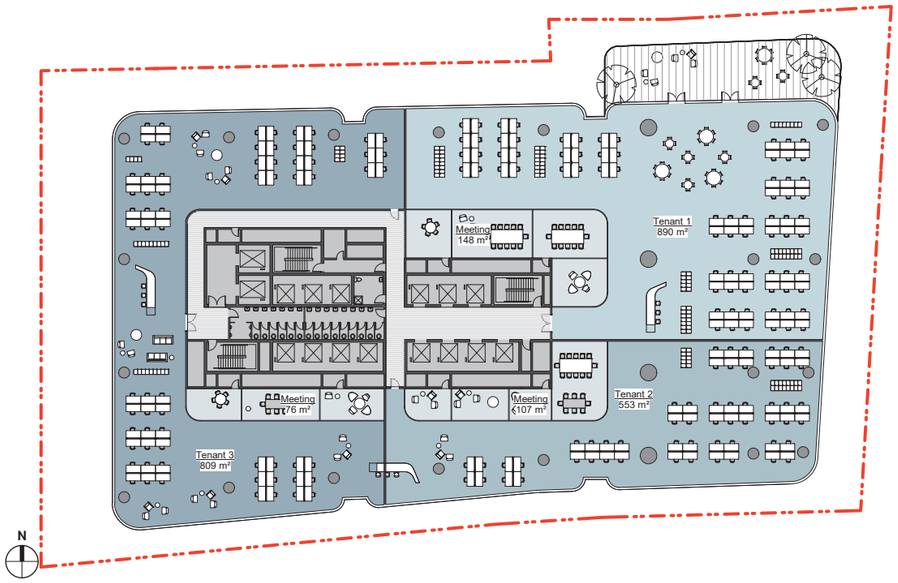
Key Legend - Section A



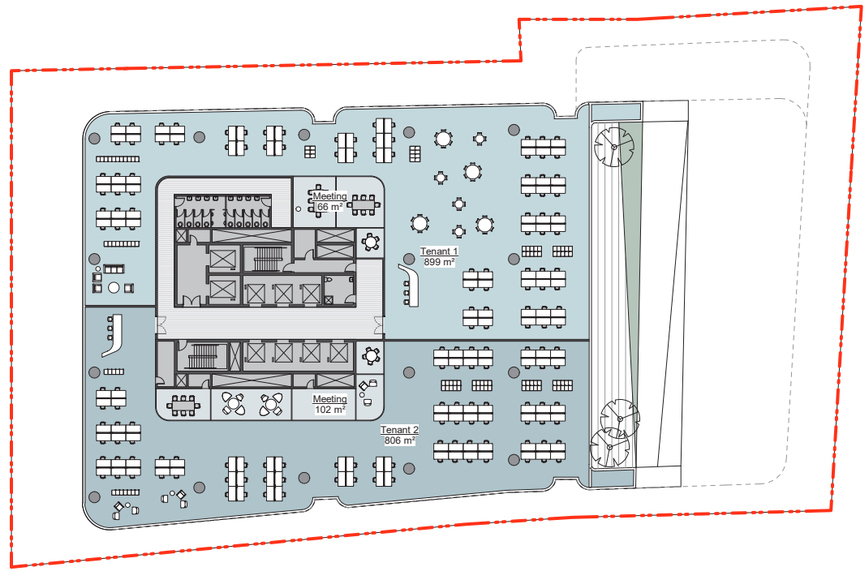
Indicative Level 10 plan - Single tenant.



Indicative Level 22 plan - 4 tenants.



Indicative Level 24 plan - 3 tenants - Sky terrace.



Indicative Level 28 plan - 2 tenants - Sky terrace.

CHAPTER A.3.4

WESLEY MISSION

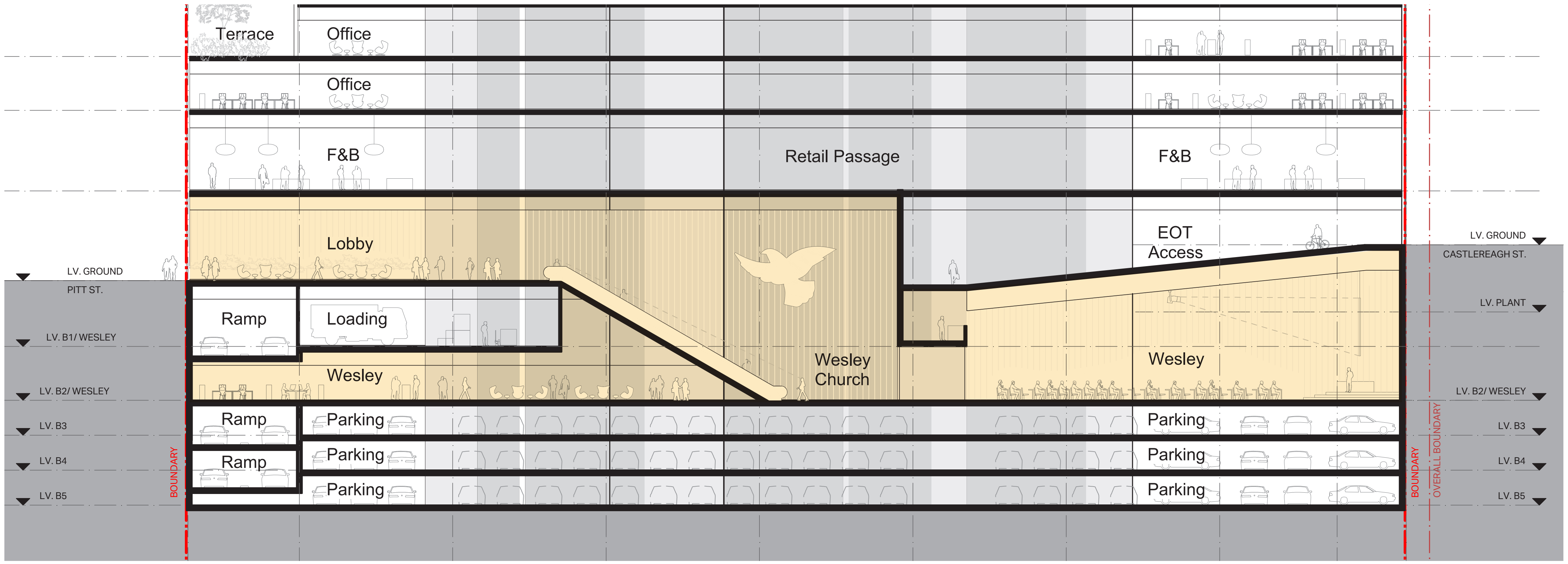
A.3.4 - WESLEY MISSION

OVERVIEW

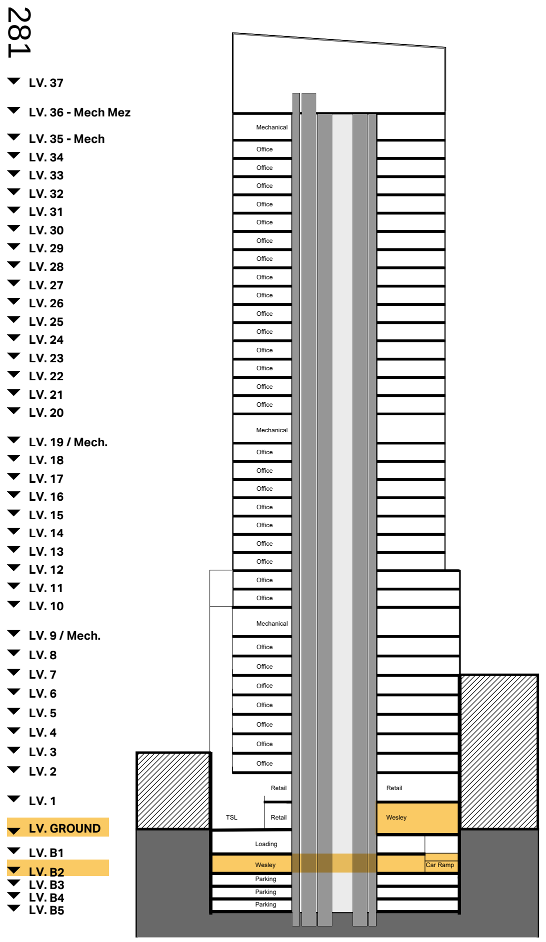
The Concept Reference Design provides an opportunity to locate the Wesley Mission community services functions at ground and basement levels with public access via Pitt Street,

Plan Legend

- Retail
- Commercial
- Wesley Mission



Indicative section.



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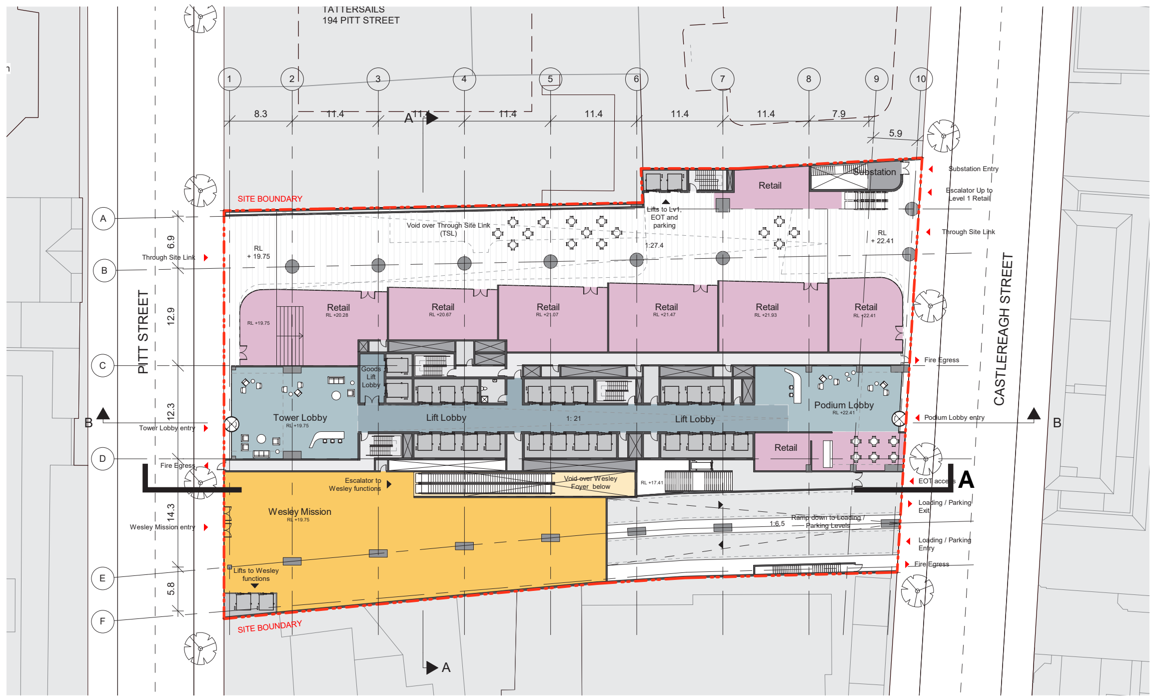
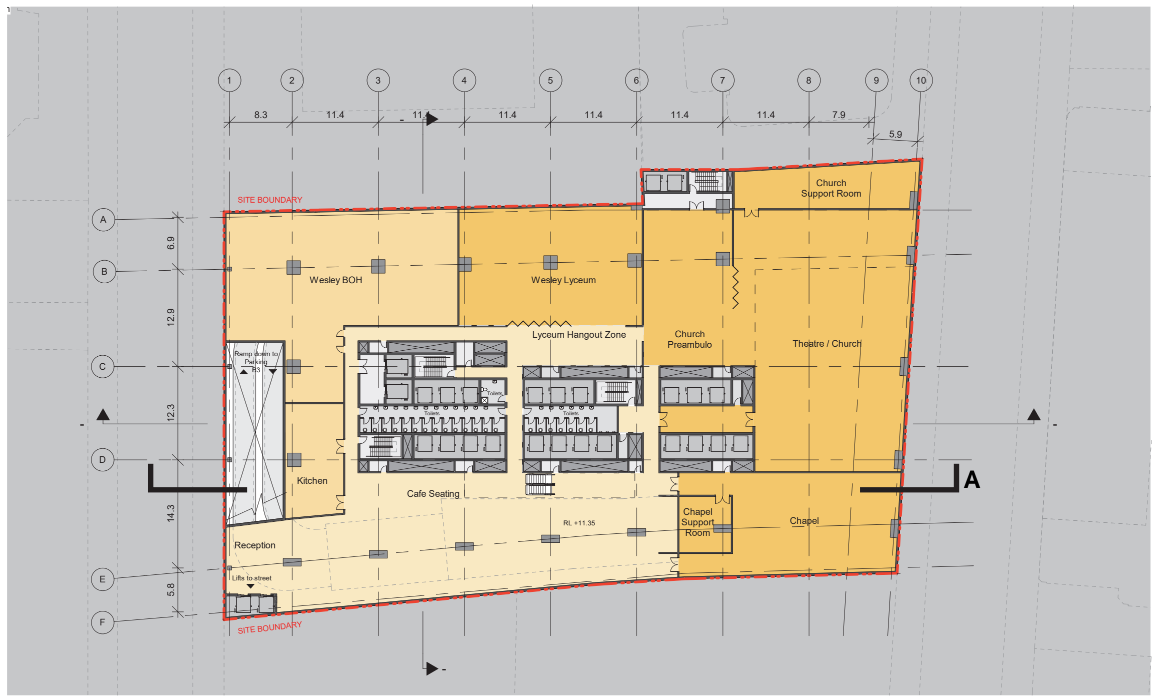


Concept Reference Design Ground level plan (not to scale).



Concept Reference Design B2 plan (not to scale).

CHAPTER A.3.5

BASEMENT

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A.3.5 - BASEMENT

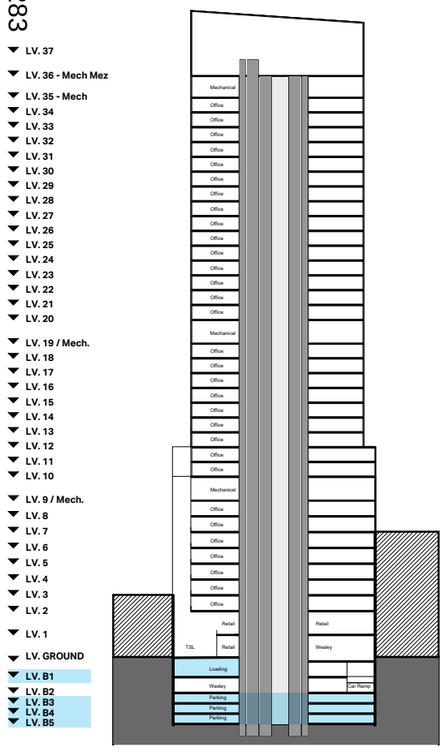
OVERVIEW

The site allows for standard car parking at Level B3 to B5; with additional 6 MRV bays at the loading dock at B1.

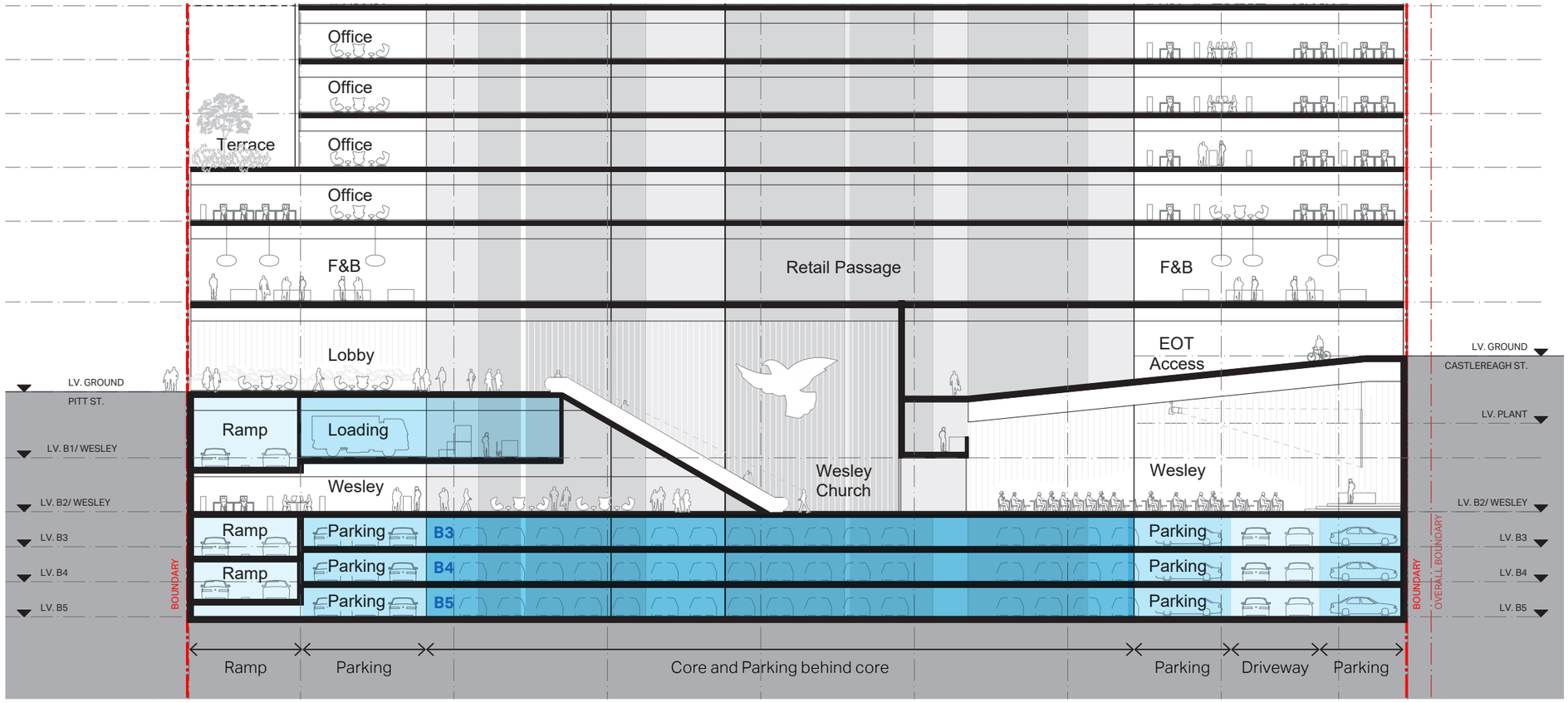
- 250 standard car parking bays. (B3-B5)
- 12 accessible car parking bays. (B3-B5)
- 10 courier bays. (B3)
- 1 Wesley courier loading bay. (B5)
- 4 contractor bays. (B3)

Plan Legend

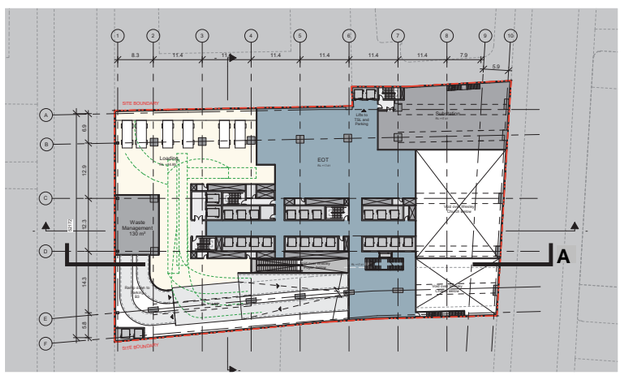
- Parking/ Driveway
- Plant
- End of Trip (EOT) Facility
- Storage/ Back of house
- Loading



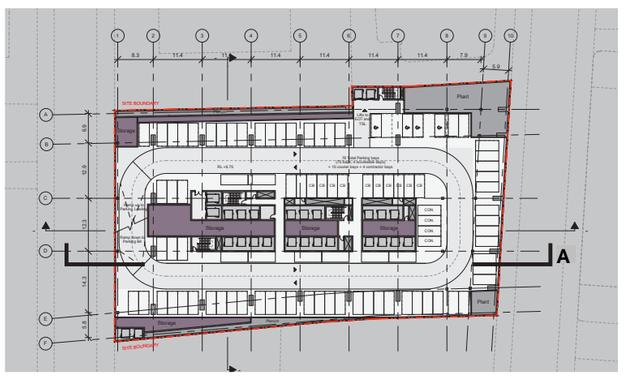
Key Legend - Section A



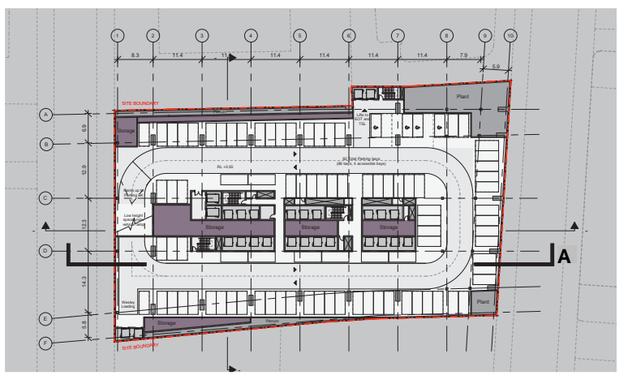
Indicative section.



Concept Reference Design B1 plan (not to scale).



Concept Reference Design B3 plan (not to scale).



Concept Reference Design B5 plan (not to scale).

CHAPTER A.3.6

AREA SCHEDULE

A.3.6 - AREA SCHEDULE

CONCEPT REFERENCE DESIGN AREAS

	RL (m)	Flr to Flr (m)		Flr Height from Grade (Pitt St.)	Level	Program	Area m*		Efficiency
							GBA	GFA	GFA/GBA
Tower									
	184.31			163.50		Roof			
	167.92		6.00	148.17	36	Plant	579	0	0.0%
	162.42		5.50	142.67	35	Plant	1,094	0	0.0%
	158.67		3.75	138.92	34	Commercial	1,094	981	89.7%
	154.92		3.75	135.17	33	Commercial	1,545	1,202	87.0%
	151.17		3.75	131.42	32	Commercial	1,753	1,431	90.2%
	147.42		3.75	127.67	31	Commercial	1,960	1,617	91.2%
	143.67		3.75	123.92	30	Commercial	2,127	1,821	92.1%
	139.92		3.75	120.17	29	Commercial	2,203	2,047	92.9%
	136.17		3.75	116.42	28	Commercial	2,568	2,216	93.4%
	132.42		3.75	112.67	27	Commercial	2,773	2,433	94.0%
	128.67		3.75	108.92	26	Commercial	2,978	2,637	94.4%
	124.92		3.75	105.17	25	Commercial	3,157	2,859	94.8%
	121.17		3.75	101.42	24	Commercial	3,458	2,968	90.3%
	117.42		3.75	97.67	23	Commercial	3,453	3,135	90.8%
	113.67		3.75	93.92	22	Commercial	3,453	3,186	92.3%
	109.92		3.75	90.17	21	Commercial	3,453	3,186	92.3%
	106.17		3.75	86.42	20	Commercial	3,453	3,186	92.3%
	100.17		6.00	80.42	19	Plant/ Comm.	3,453	1,603	46.4%
	96.42		3.75	76.67	18	Commercial	3,453	3,186	92.3%
	92.67		3.75	72.92	17	Commercial	3,453	3,186	92.3%
	88.92		3.75	69.17	16	Commercial	3,453	3,186	92.3%
	85.17		3.75	65.42	15	Commercial	3,453	3,186	92.3%
	81.42		3.75	61.67	14	Commercial	3,453	3,186	92.3%
	77.67		3.75	57.92	13	Commercial	3,453	3,186	92.3%
	73.92		3.75	54.17	12	Commercial	3,847	3,096	89.7%
	70.17		3.75	50.42	11	Commercial	3,834	3,460	90.2%
	66.42		3.75	46.67	10	Commercial	3,973	3,460	90.2%
Podium	60.42		6.00	40.67	9	Plant	4,104	0	0.0%
	56.42		4.00	36.67	8	Commercial	4,104	3,731	90.9%
	52.42		4.00	32.67	7	Commercial	4,104	3,731	90.9%
	48.42		4.00	28.67	6	Commercial	4,339	3,731	90.9%
	44.42		4.00	24.67	5	Commercial	4,336	3,963	91.4%
	40.42		4.00	20.67	4	Commercial	4,559	3,963	91.4%
	36.42		4.00	16.67	3	Commercial	4,558	4,185	91.8%
	32.42		4.00	12.67	2	Commercial	4,558	4,185	91.8%
	26.42		6.00	6.67	1	Retail	3811	3427	89.9%
	22.41	6.67	4.00	2.67	0	Retail	4704	2656	89.9%
	19.75		6.67	0.00	0				
Basement	15.10		4.65	-4.65	B1	EOT/Loading	3,951	1,045	
	11.35		3.75	-8.40	B2	Wesley	4,791	4,126	
	8.75		2.60	-11.00	B3	Parking	4,791		
	6.15		2.60	-13.60	B4	Parking	4,791	7.563**	
	3.55		2.60	-16.20	B5	Parking	4,791		
						Total Areas without Basement	120,103	99,212	
						Total Areas with Basement	143,218	103.338*	

* Total GFA excluding EOT & Carparking

** 168 of the total 250 cars (65%) are non-ancillary to the development. Therefore, the GFA attributed to non-ancillary car parking is equal to 65% of all car parking-related GFA across Levels B3, B4, and B5.

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Artist's impression of the Piccadilly Tower redevelopment. Indicative not to scale.

A4 - ENVIRONMENTAL IMPACT STUDY

URBAN STUDY REPORT

STOCKLAND / PICCADILLY COMPLEX
133 - 145 CASTLEREAGH STREET, SYDNEY CBD

A.4.0 INTRODUCTION

CONTENT

Chapter A.4 - Environmental Impact Study

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Wind Impact 97
Shadow Analysis 98
Key Vantage Views 99
Heritage Impact 100
Public Domain and Pedestrian Activity 101
Public Art 102

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Document Revision : 01

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ABN 40 610 404 530

Version	Description	Date of Issue
01	Request for Planning Proposal	25.09.2020

CHAPTER A.4.1

ENVIRONMENTAL IMPACT STUDY OVERVIEW

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

SKY VIEW ASSESSMENT

The Sky View assessment prepared by BIM Consulting provides analysis of the extent of sky visible above various points in proximity to the site as a proportion of the total possible sky hemisphere above the point. SVF is calculated as the proportion of sky visible when viewed from the ground up. SVF is provided as value that ranges from 0 to 1, where SVF of 0 denotes no sky visible and SVF of 1 denotes that the sky is completely visible to the horizon in all directions.

A total of 5,577 test points were analysed at a distance 50m from the site boundary along Pitt St & Castlereagh St. The analysis finds there will be an increased sky visibility between the Draft DCP envelope and the proposed envelope when averaged across all test points. The Draft DCP envelope provides a SVF value of 0.103035395 and the proposed envelope provides a SVF value of 0.107163421, resulting in an overall SVF value difference (improvement) of +0.004128026.

Sample analysis was run using only 6 test points to create some clear circular 'dome view' visualisations for illustrative purposes. These representative visualisations are provided in Image 3. The 'dome views' show the extent of sky observed above a point as a proportion of the total possible sky hemisphere above the point.

Image 1 - Maximum permissible Draft DCP envelope

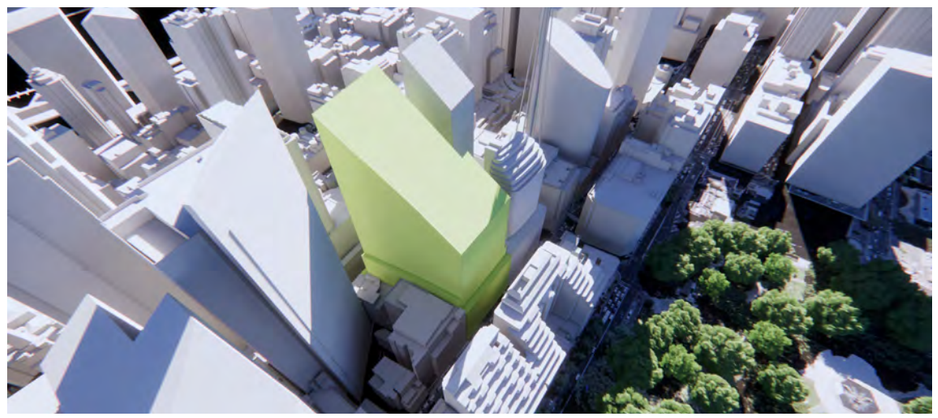


Image 2 - Proposed Site Specific DCP Envelope

Image 3 - Analysis Points 1 to 6

Source: Sky View Factor Report for planning proposal | Stockland Piccadilly Complex | Stockland, 23 September 2020.

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

WIND IMPACT

The Pedestrian Wind Environment Impact Assessment provides discussion around wind equivalence for the proposed envelope at assessing wind conditions for comfort and safety around the site. The wind tunnel testing was conducted by Windtech, with the data analysed by Arup.

The equivalence testing between the Draft DCP compliance and Proposed building envelope meets the equivalence criteria for wind conditions as described in Schedule 11, Section 5.1.1.4), Procedure B of Draft Sydney DCP 2012, dated February 2020.

The majority of the area is classified as suitable for pedestrian standing type activities meeting the target criteria as transient space.

From a safety perspective all locations pass the safety criterion in both configurations. The current tests have shown that the wind conditions around the site are suitable for the intended use of the spaces.

Legend:

Comfort Rating		**Safety Rating**	
<2	Outdoor Dining	<24	Pass
>2 to 4	Pedestrian Sitting	>24	Fail
>4 to 6	Pedestrian Standing		
>6 to 8	Pedestrian Walking		
>8 to 10	Business Walking		
>10	Uncomfortable		

Source: Stockland Piccadilly Complex Environmental Wind Assessment, 5 August 2020.

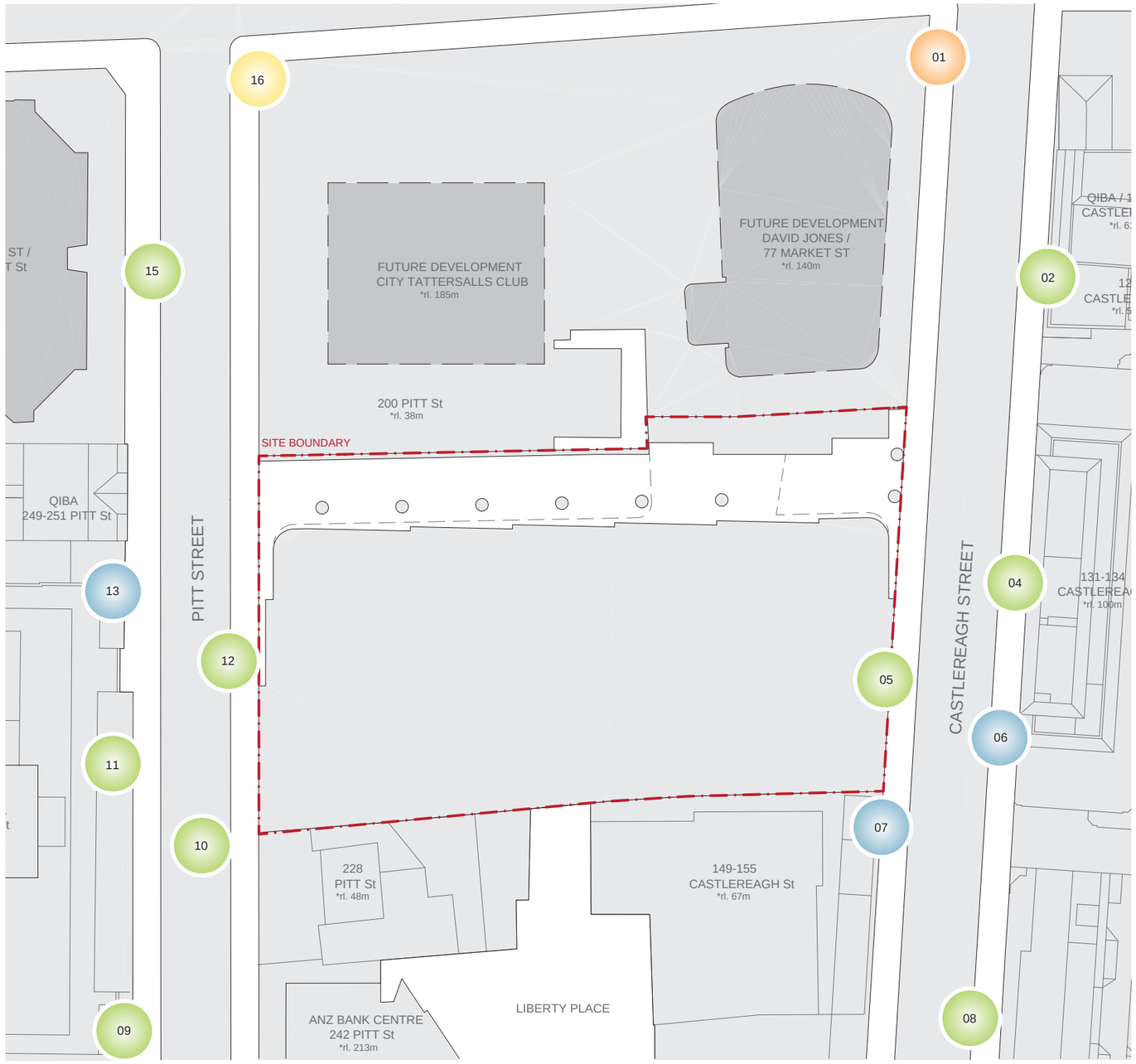


Image 1 - Measurement Point Location and Classification

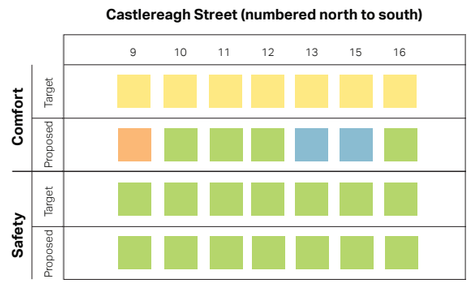


Image 2 - Summary of wind tunnel results (Castlereagh Street)

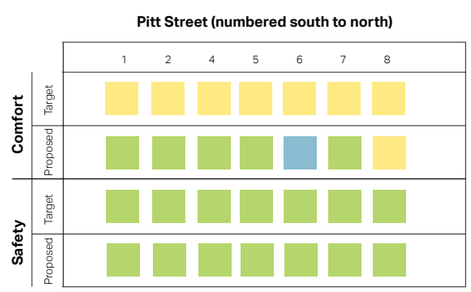


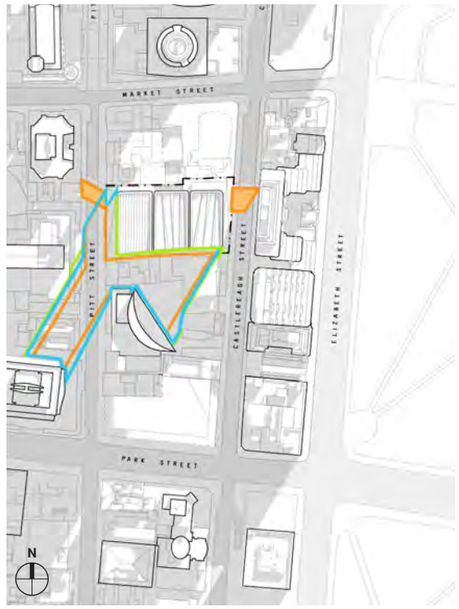
Image 3 - Summary of wind tunnel results (Pitt Street)

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

SHADOW ANALYSIS

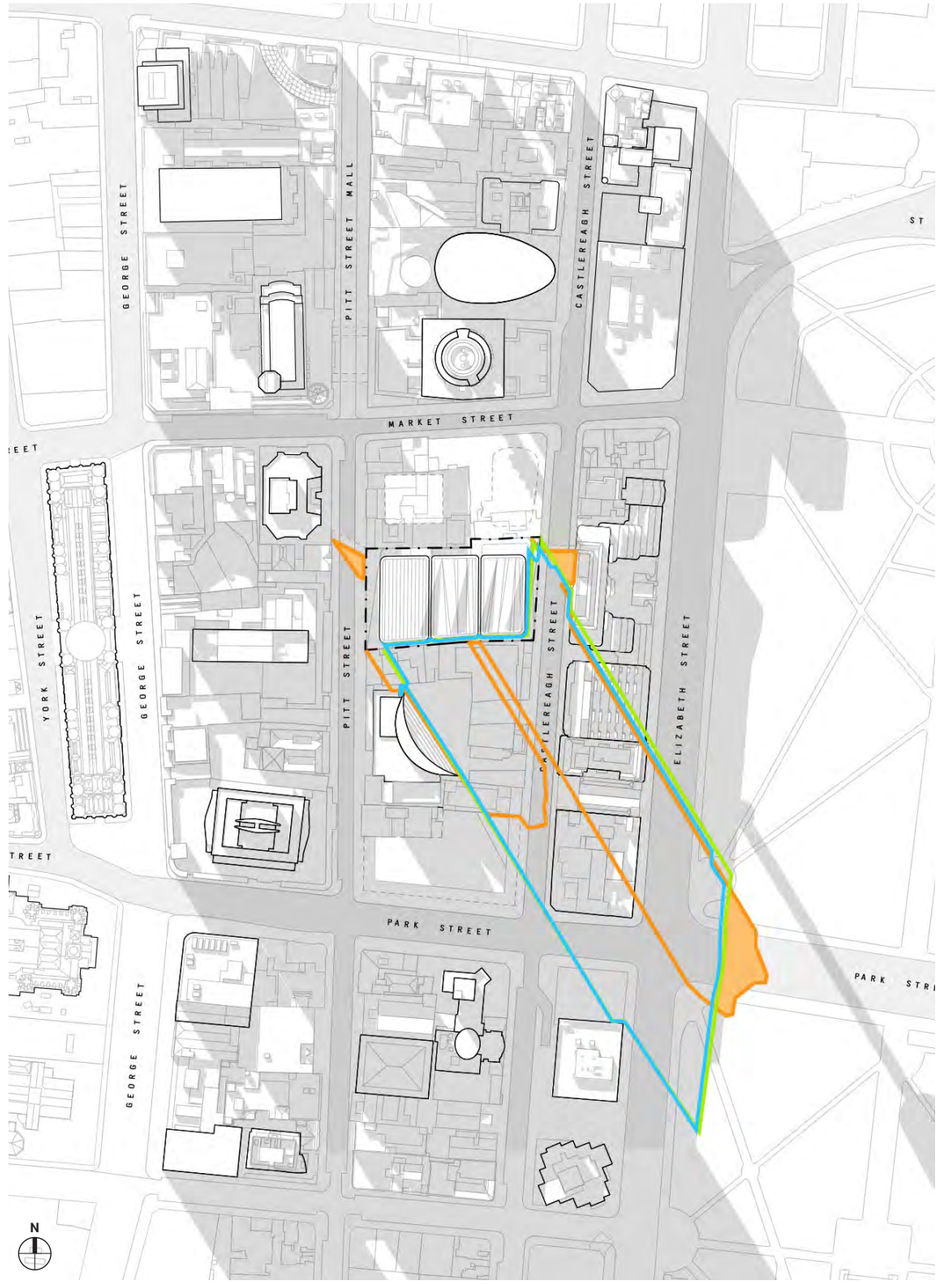
The Concept Reference Design complies with the Sun Access Plane (SAP) by achieving the objective of minimising overshadowing on the western edge of Hyde Park. This is illustrated in the following shadow analysis diagram, specifically at 2pm during the winter solstice.

Additionally, although not part of the SAP, the removal of the Castlereagh and Pitt Street pedestrian bridges eliminates additional overshadowing of public domain; and improved sky view thereby enhancing the ground level experience for people.

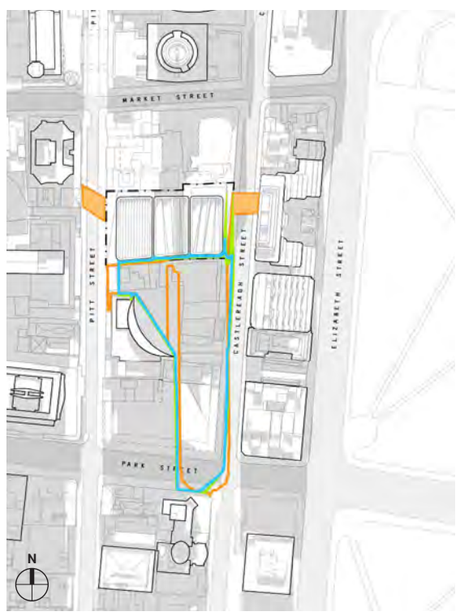


June 21st winter solstice, 10 a.m.

June 21st winter solstice, 11 a.m.



June 21st winter solstice, 2 p.m.



June 21st winter solstice, 12 p.m.

June 21st winter solstice, 1 p.m.

Legend

- Site boundary
- Existing building overshadowing At Hyde Park and cross street bridges
- Shadow outline : Existing
- Shadow outline : Site specific envelope
- Shadow outline : Indicative reference scheme

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

KEY VANTAGE VIEWS

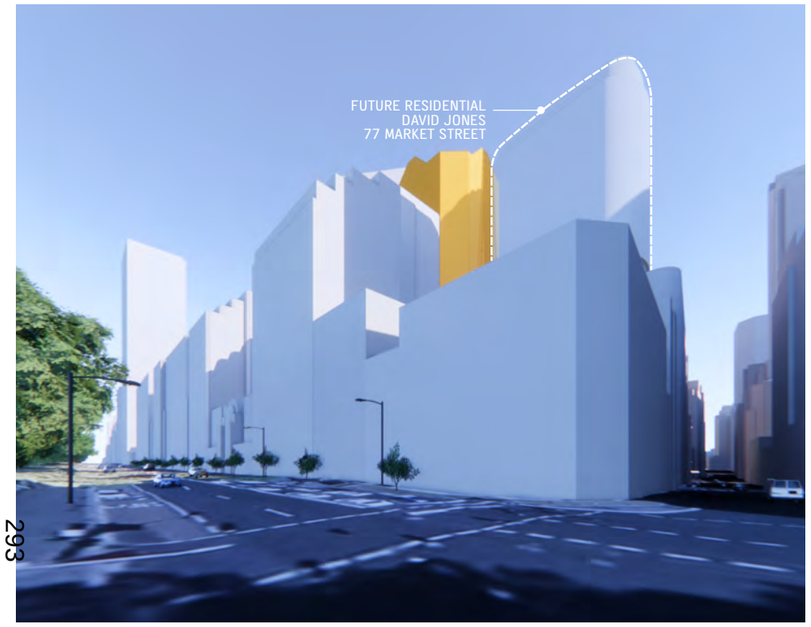


Image 1 - Existing Stockland HQ - View from Elizabeth St / Market St.

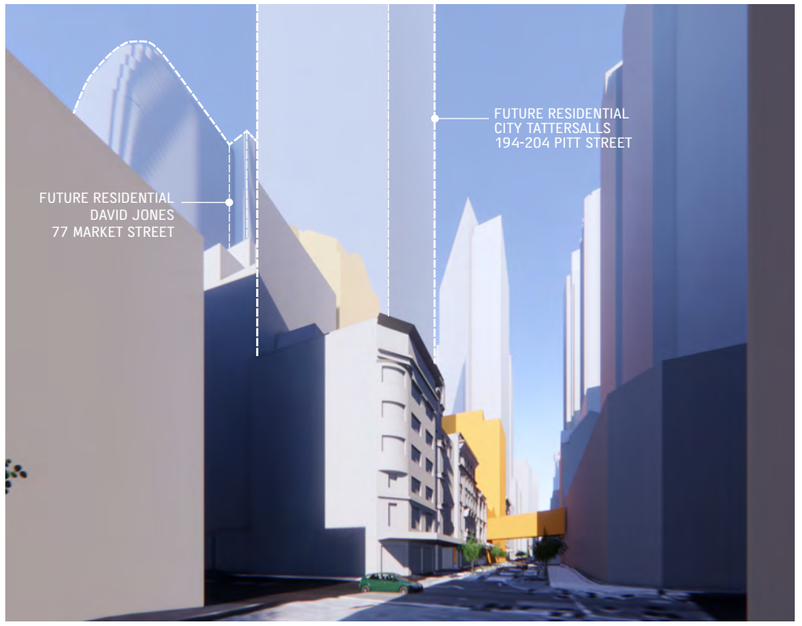


Image 2 - Existing Stockland HQ - View from Pitt St / Market St looking south.

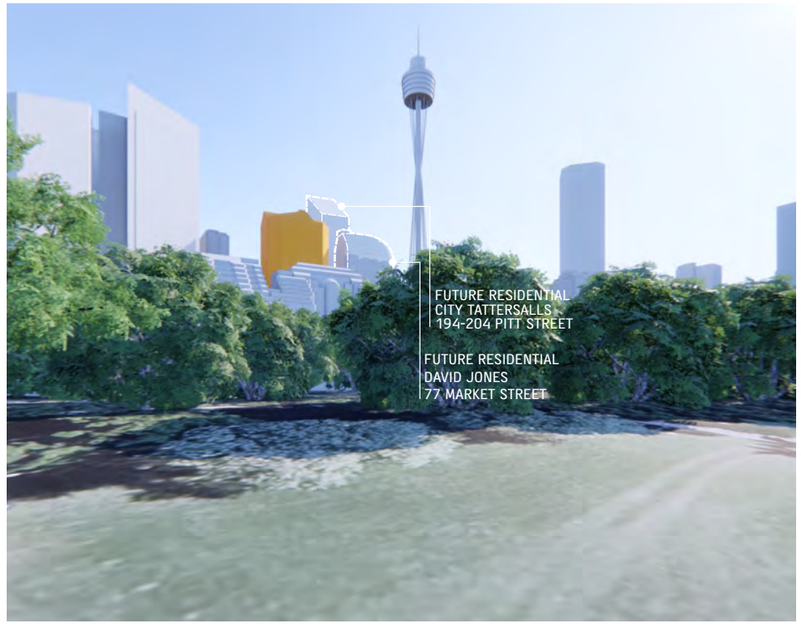


Image 3 - Existing Stockland HQ - View from Hyde Park.

Image 4 - Concept Reference Design - View from Elizabeth St / Market St.

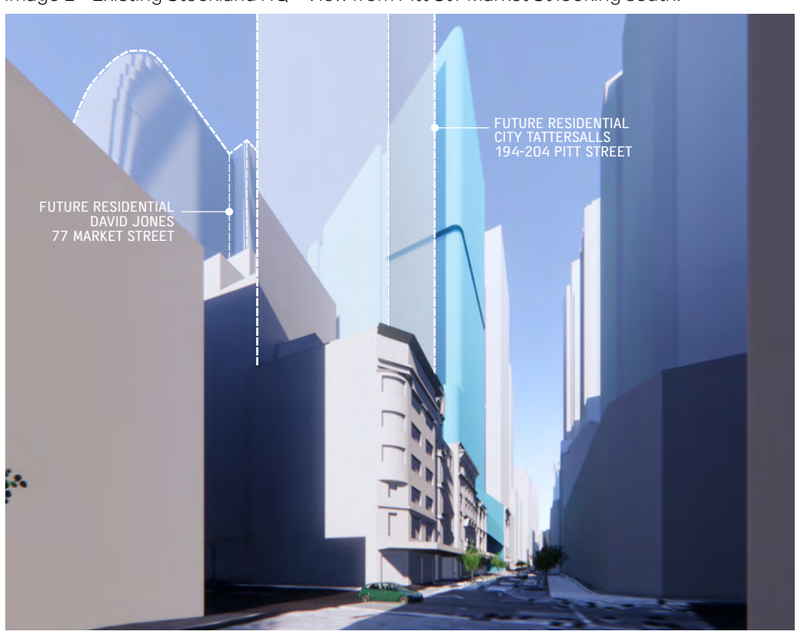


Image 5 - Concept Reference Design - View from Pitt St / Market St looking south.

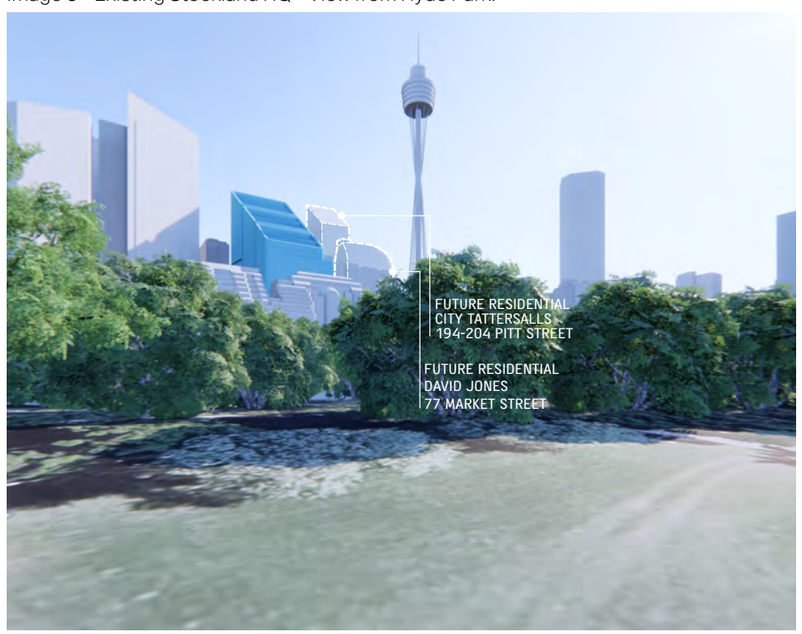


Image 6 - Concept Reference Design - View from Hyde Park.

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

HERITAGE IMPACT

With several heritage-listed buildings adjacent to the site, the key objective is to align and respond to the character of these existing buildings and reinforce the established character of Central Sydney.

The Concept Reference Design complies with the aforementioned objective by formally aligning and reinforcing the continuity of the urban facade.

On Pitt street, the podium aligns with City Tattersalls Club at RL39.75 and the Bank of New South Wales at RL46.75.

On Castlereagh Street, the podium aligns with David Jones at RL67.41.

The removal of the existing skybridges allows unobstructed street views and enhances legibility of the street character further reinforcing the urban continuity.

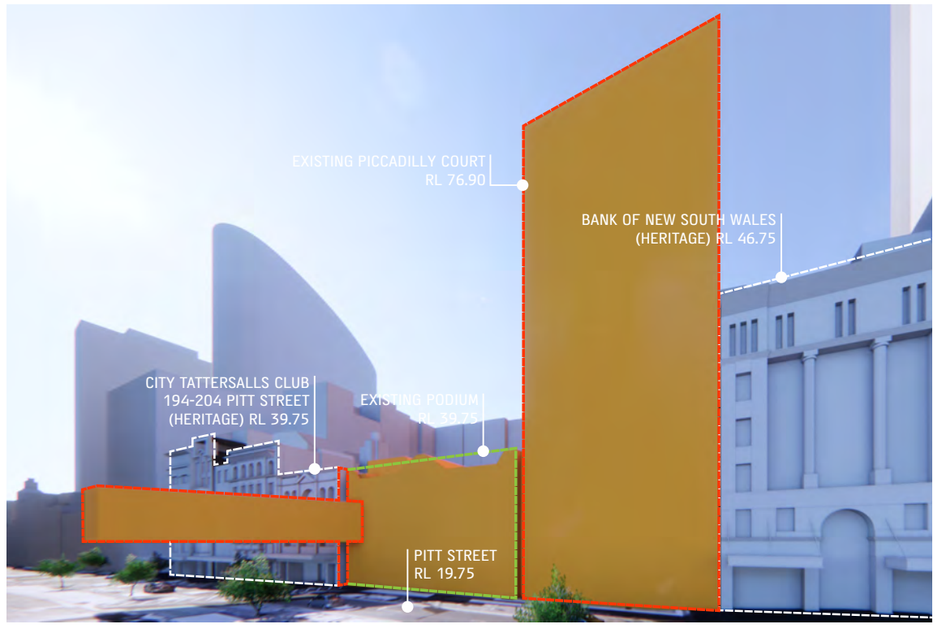


Image 1 - Existing Stockland HQ - Pitt Street.

Image 2 - Existing Stockland HQ - Castlereagh Street.

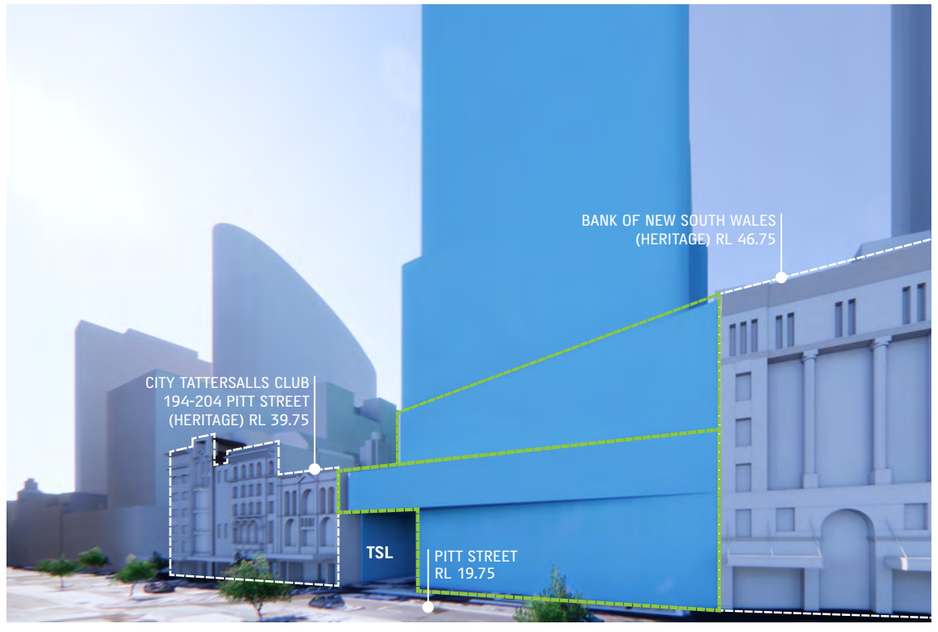


Image 3 - Indicative Concept Reference Design - Pitt Street.

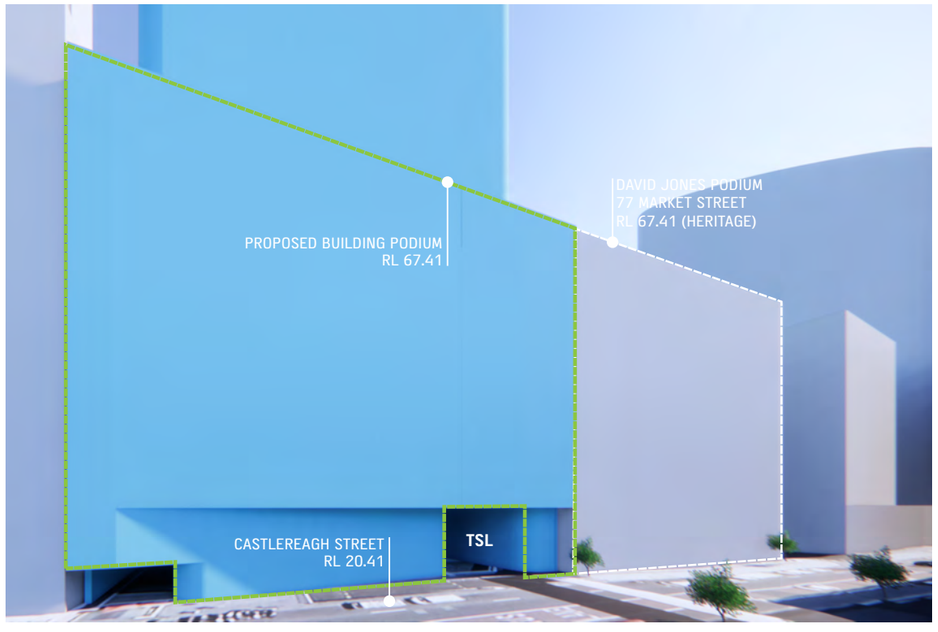


Image 4 - Indicative Concept Reference Design - Castlereagh Street.

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

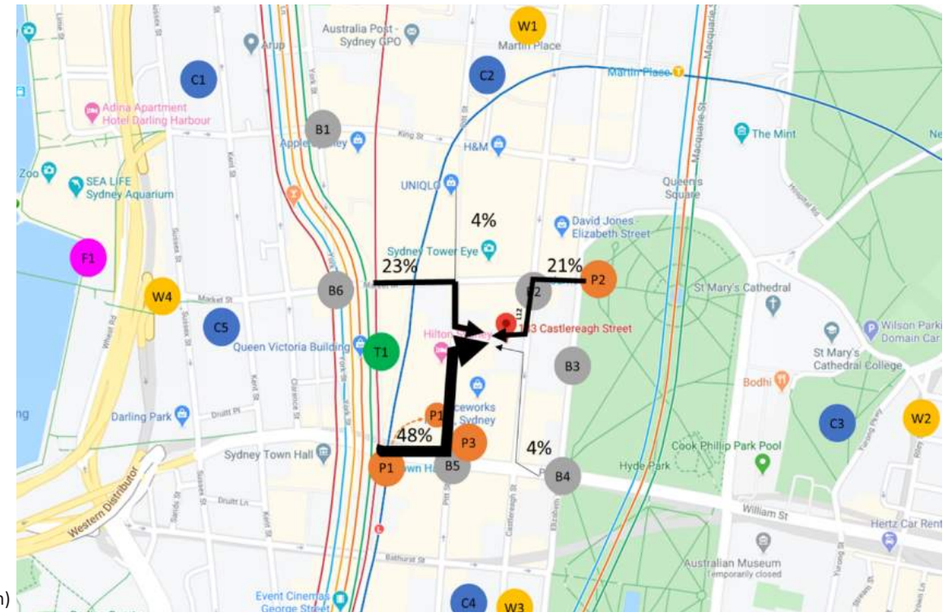
PUBLIC DOMAIN AND PEDESTRIAN ACTIVITY

Key findings of the footpath assessment include:

- The footpaths on Pitt Street are estimated to experience a moderate uplift in demand but have the potential to increase the effective width through the conversion of parking bays to footpath width.
- Pitt Street footpath width will depend on the level of existing demand, in addition to the increase of foot traffic due to the Pitt Street Metro Station and other developments in the nearby precinct.
- The proposed design removes the parallel driveway on Castlereagh Street and replaces it with a traditional perpendicular driveway. It is a substantial improvement in terms of pedestrian experience and continuity of shoreline for people with disabilities.
- The proposed development includes a substantially improved through-site link that is wider, straight and has gentle ramps connecting Pitt Street and Castlereagh Street. It has the potential to take pedestrian traffic off busy Market Street, especially those coming from St James Station and heading south-west.

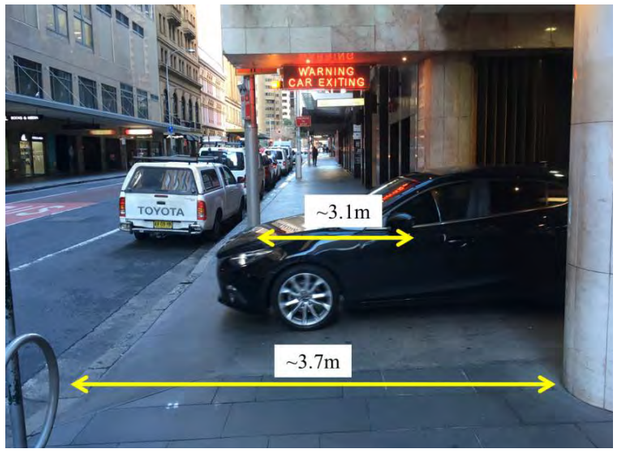
Transport Node allocation diagram

Diagram above shows the allocation of transport nodes that provide access to the development site at 133 Castlereagh Street. It is assumed that 50% of passengers using Town Hall Station will use the underground and in building links through the Galleries Victoria Site.

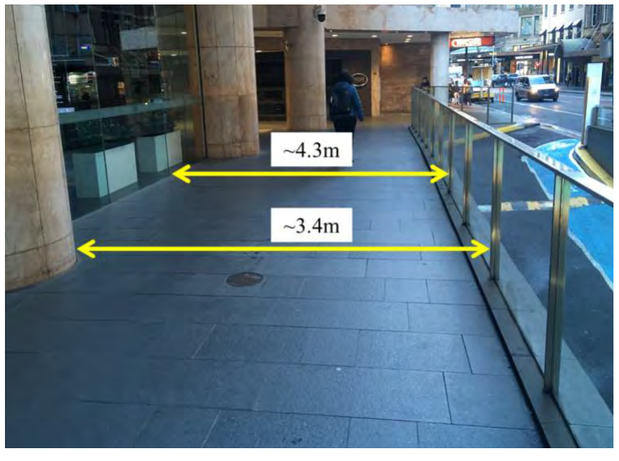


Estimated Approach directions diagram

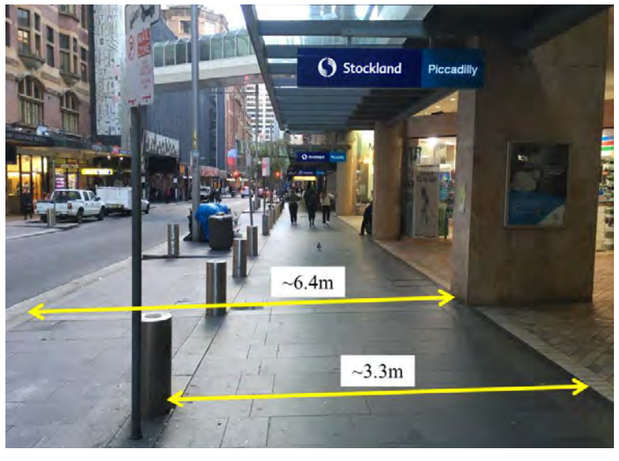
Diagram above provides a summary of the estimated approach directions based on the Transport Node analysis. This shows that the dominant approach is the south-west which is driven by Town Hall and Pitt Street Stations. The north easy and north west approaches are estimated to be similar in size, while the south east is a very minor approach direction.



Site observation image 1.
Castlereagh Street west, looking south, just south of the proposed development



Site observation image 2.
Castlereagh Street, looking north, adjacent to the basement vehicular ramp entrance.



Site observation image 3.
Pitt Street, looking north, adjacent to the podium shopping centre entrance.

Source: Footpath Analysis for Planning Proposal Stockland Piccadilly Complex, Arup, Version 2, July 2020.

A.4.1 - ENVIRONMENTAL IMPACT STUDY OVERVIEW

PUBLIC ART

The preliminary public art strategy for the Stockland Piccadilly Complex is prepared by Barbara Flynn of Barbara Flynn Pty Ltd, an art advisor to the project.

The creation of a newly vital, well-designed, well-considered, comfortable, safe and inviting place is the objective of architecture and public art for the project. These values are basic to the vision for public art:

- ensuring that art is visible and accessible to people, enabling experiences that are meaningful to them
- starting to work in close cooperation with artists as early as possible, helping them realise their proposed artworks
- encouraging openness, showing artists respect, and giving them free rein to think deeply about the project.

As the project reimagines the important through-site link that connects Pitt and Castlereagh Streets, art will contribute its unique quality to bringing it new life and activating the ground plane.

Public domain art opportunity. Local reference: James Angus. Day in day out, 2011. 1 Bligh Street, Sydney. Photo by Hans Georg Esch.

Public art opportunity for through site link/ lobby.
Local reference: Michael Thomas Hill, Forgotten Songs, 2011. Bird cages, sound Angel Place, Sydney.

Public art opportunity for through site link/ lobby.
Local reference: Jenny Holzer. LED sign with blue, green and red diodes. 8 Chifley Square, Sydney. Photo by I Stay Ngaya Ngalawa

Public art opportunity for through site link/ lobby.
Local Reference: Sabine Hornig. Shadows, 2019. Coloured print on glass. International Towers, Barangaroo. Photo by Mark Pokorny.

Source: Preliminary Public Art Strategy for the Stockland Piccadilly Complex, Barbara Flynn, 30 July 2020.

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