SHADOW STUDY

APPENDIX G

Sydney Metro City & Southwest

Pitt Street North Over Station Development

SEARs Shadow Study

Applicable to:	Sydney Metro City & Southwest
Author:	Grant Kolln
Owner	Sydney Metro
Status:	Final
Version:	1
Date of issue:	August 2018
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Table of Contents

1.   SEARs Shadow Study

1.1   Background

This document was prepared by Virtual Ideas and includes a description of the processes used to create the shadow study and illustrate the accuracy of the results.

Virtual Ideas is a highly experienced 3D visualisation company which commonly prepares material for court use, and is familiar with the court requirements to provide 3D visualisation media that will communicate the design and visual impact. Our methodologies and results have been inspected by various court appointed experts in a variety of cases and have always been found to be accurate and acceptable.

In conclusion, it is my opinion as an experienced, professional 3D architectural and landscape renderer that the images provided accurately portray the level of visibility and impact of the built form.

Yours sincerely,
Grant Kolln

1.2 Description of collected data

To create the 3D model and establish accurate reference points for alignment to the photography, a variety of information was collected. This includes the following:

1) Architectural design of proposed building envelope
- Created by: Architectus
- Format: Revit model

2) Surveyed data
- Created by: CMS Surveyors
- Format: DWG file

3) Site photography
- Created by: Virtual Ideas (VI Photos)
- Format: JPEG file

4) Surveyed 3D city model
- Created by: AAM
- Format: 3DS Studio Max file

15) Approved DA building envelopes
- Supplied by: Architectus
- Format: Revit model

Notes on images
The diagram is also showing the indicative building massing at the following addresses for the purpose of visual assessment of the future surrounding city shadowing:

- Greenland Centre, 115 Bathurst Street
- 116 Bathurst Street

1.3   Methodology

3D Model

Using the imported surveyed data into our 3D software (3DS Max), we then imported the supplied 3D model of the proposed building envelope and relevant DA approved building massings.

Alignment

The positions of the real world photography were located in the 3D scene. Cameras were then created in the 3D model to match the locations and height of the position from which the photographs were taken from. They were then aligned in rotation so that the points of the 3D model aligned with their corresponding objects that are visible in the photograph.

Renderings of the building massing were then created from the aligned 3D cameras and montaged into the existing photography at the same location. This produces an accurate representation of the scale and position of the new building envelope with respect to the existing surroundings.

In conclusion, it is my opinion as an experienced, professional 3D architectural and landscape renderer that the images provided accurately portray the level of visibility and impact of the built form.

Yours
sincerely,
Grant Kolln

1.4 CV of Grant Kolln, Director of Virtual Ideas

Personal Details

Name:	Grant Kolln
DOB:	07/09/1974
Company Address:	Suite 71, 61 Marlborough St, Surry Hills, NSW,
2010 Phone Number:	02 8399 0222

Relevant Experience

2003 - Present   Director of 3D visualisation studio Virtual Ideas. During this time I have worked on many visual impact studies for legal proceedings in various different types of industries including architectural, industrial, mining, landscaping, and several large public works projects. This experience has enables us to create highly accurate methodologies for the creation of our visual impact media and report creation.

1999 - 2001   Project Manager for global SAP infrastructure implementation - Ericsson, Sweden

1999 - 1999   IT Consultant - Sci-Fi Channel, London

1994 - 1999   Architectural Technician, Thomson Adsett Architect - Brisbane,QLD

Relevant Education / Qualifications

1997   Advanced Diploma in Architectural Technology, Southbank TAFE, Brisbane, QLD

Pitt Street North OSD Shadow Study · January 21 · 9:00AM

Legend:
- Pitt Street North OSD Envelope
- Additional Shadow cast by Pitt Street North OSD Envelope
- Hyde Park
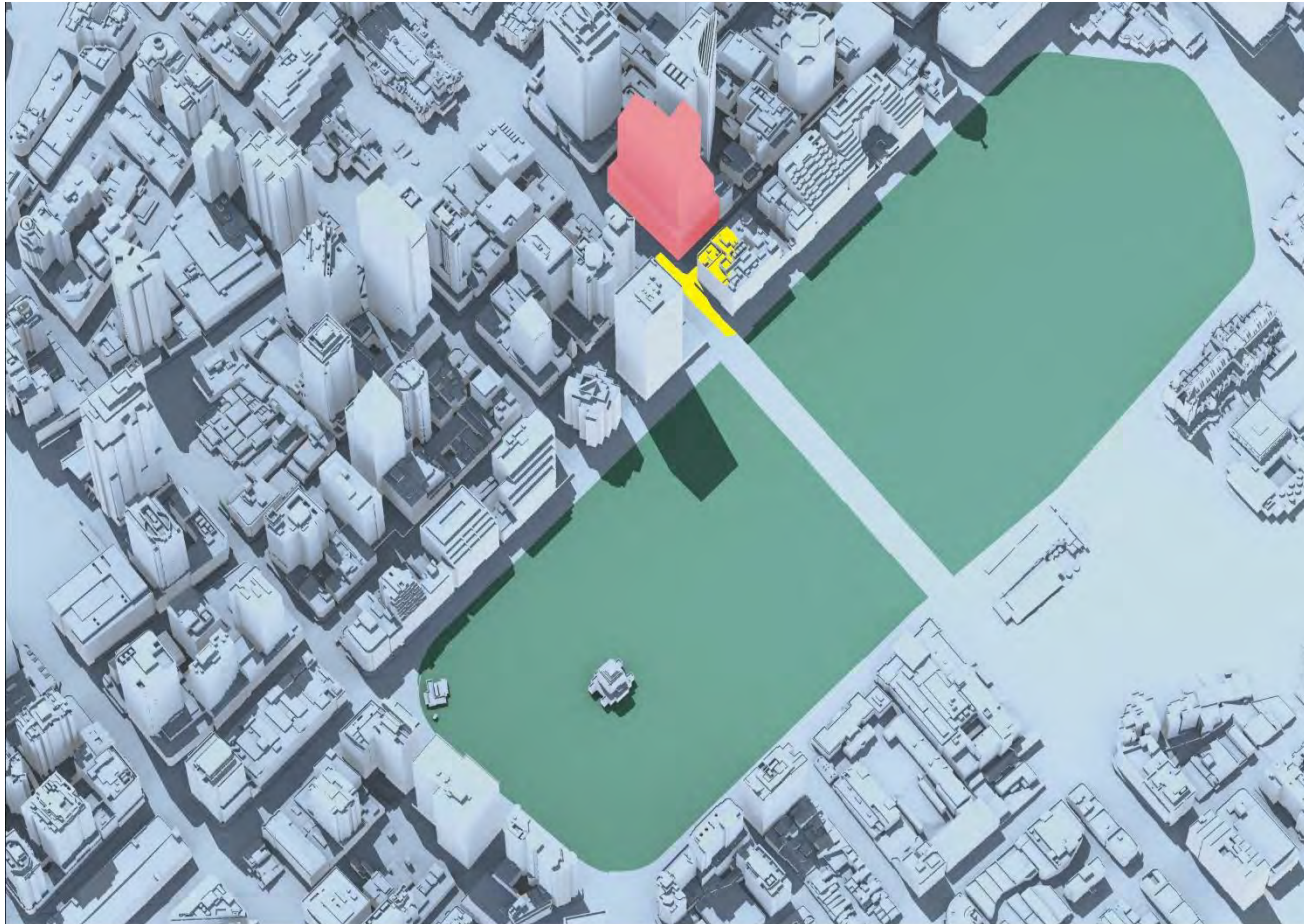- Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   January 21   9:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   January 21   10:00AM

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Pitt Street North OSD Shadow Study   January 21   13:00PM

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Pitt Street North OSD Shadow Study   January 21   14:00PM

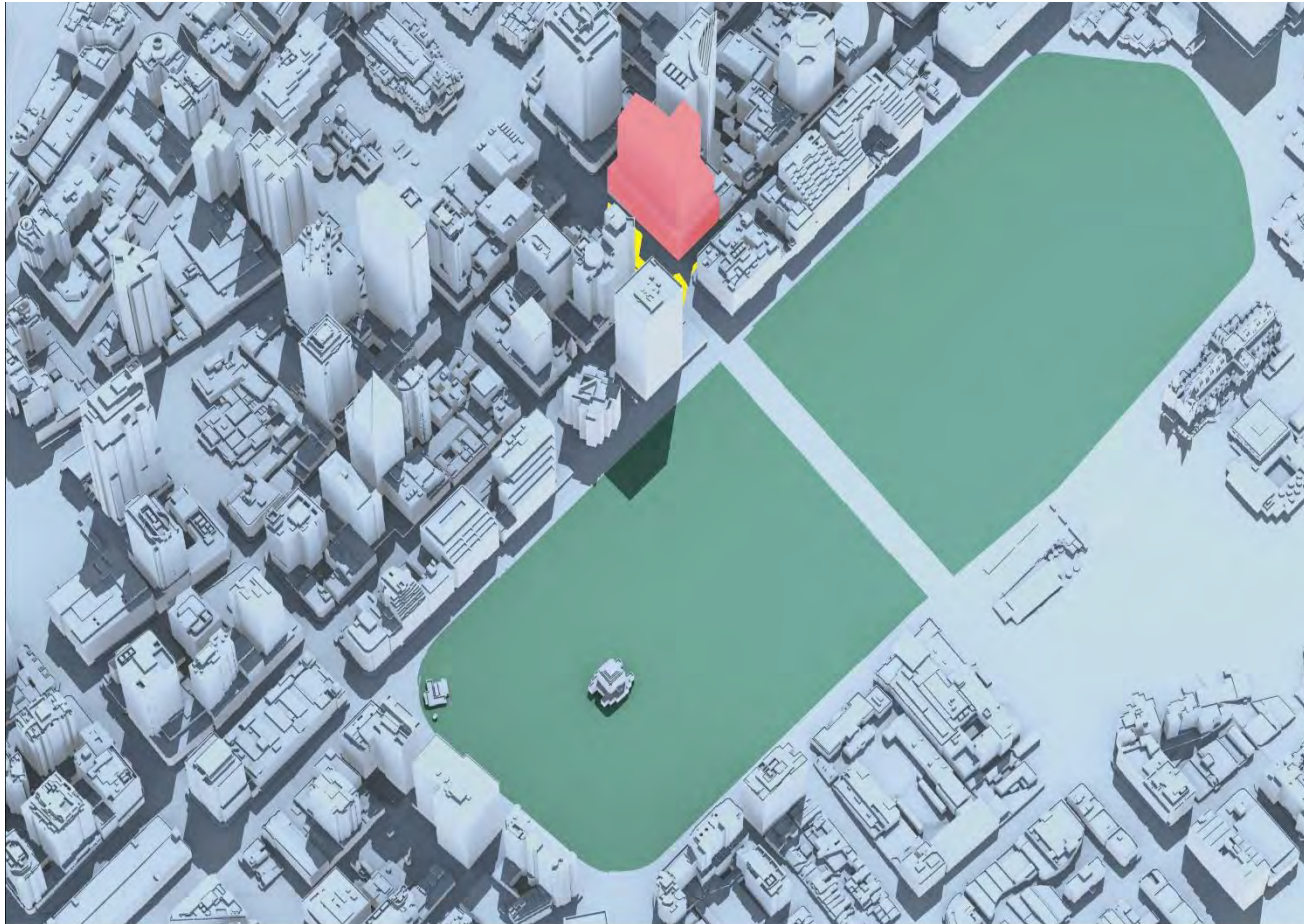| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

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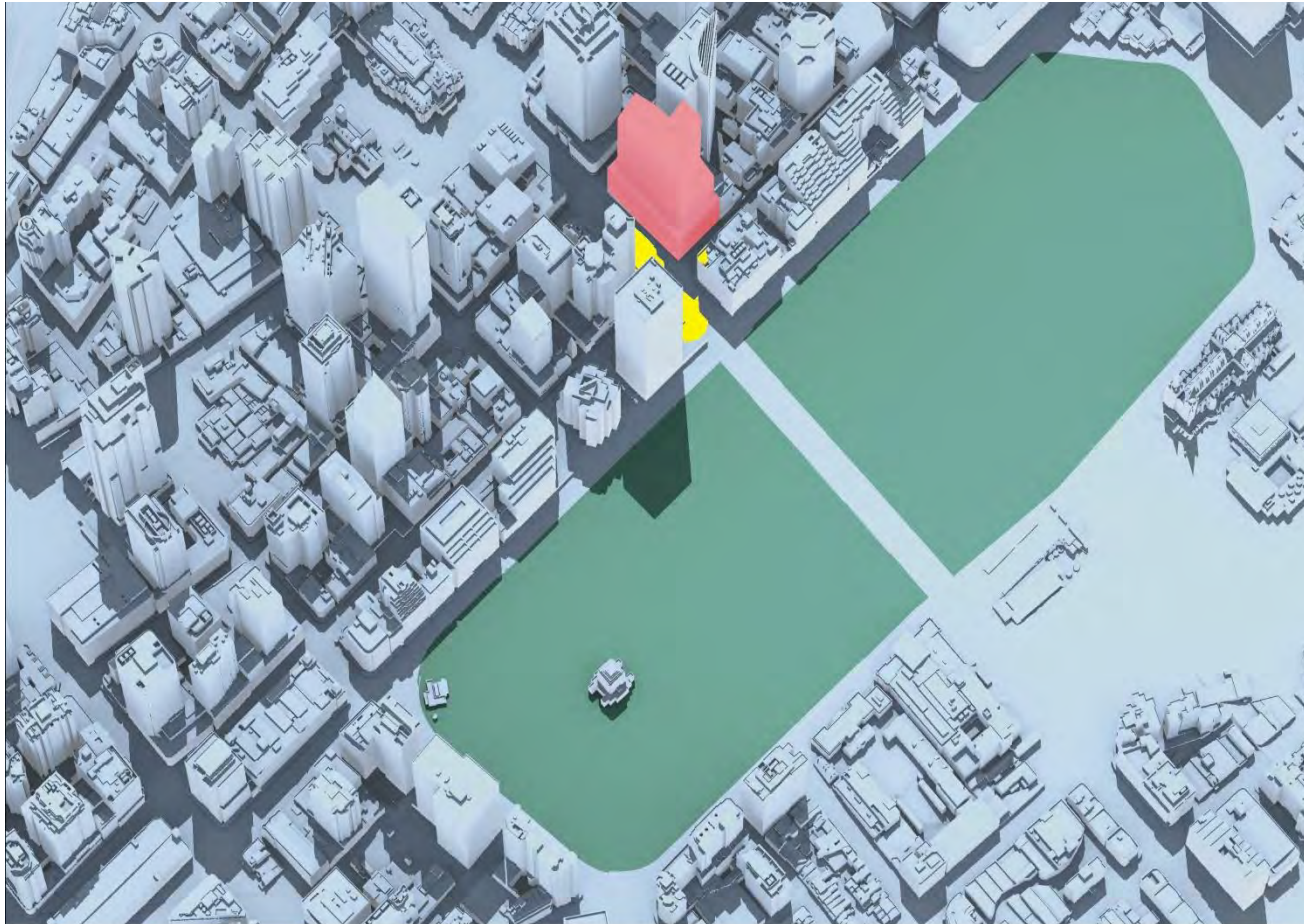|			
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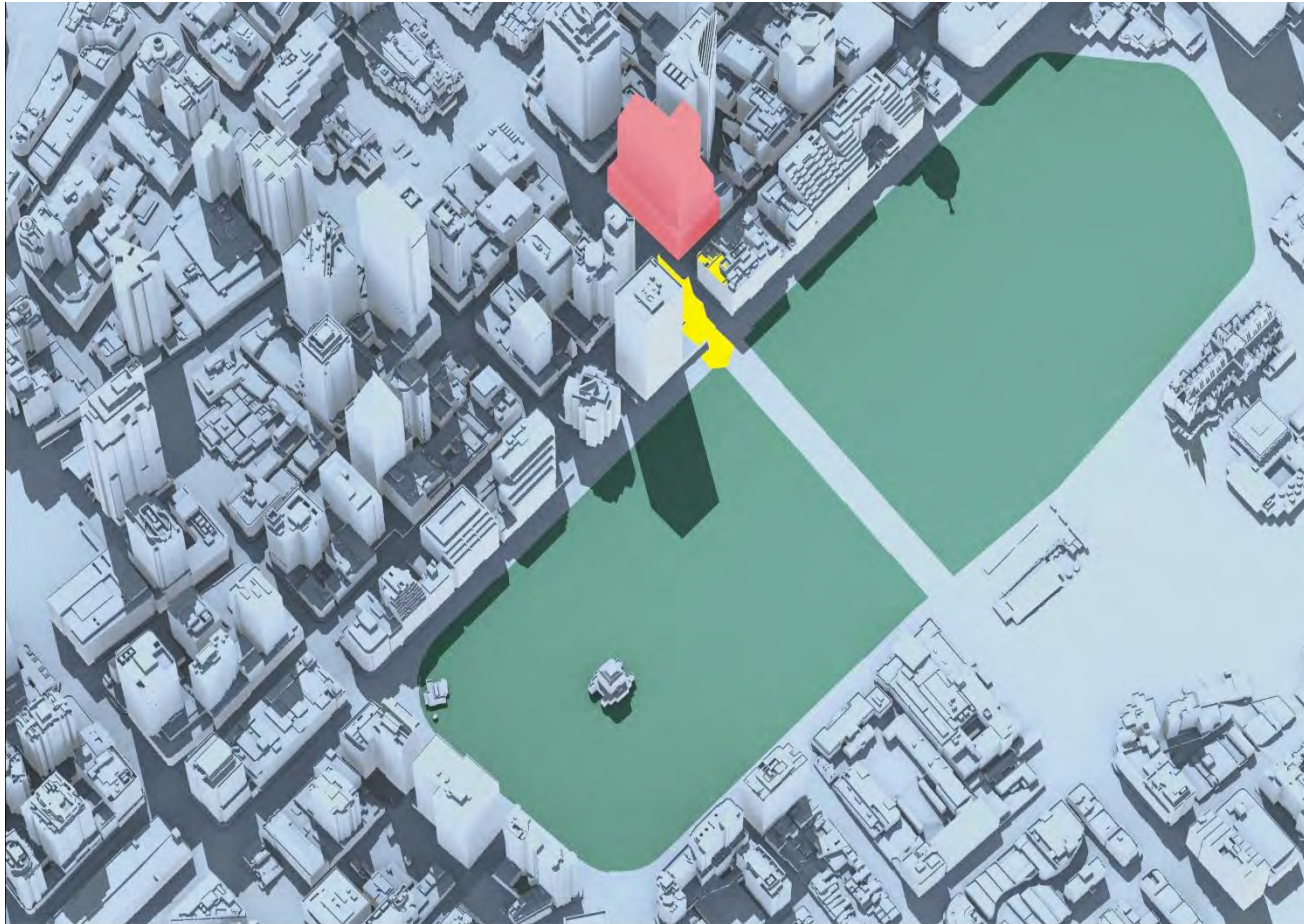
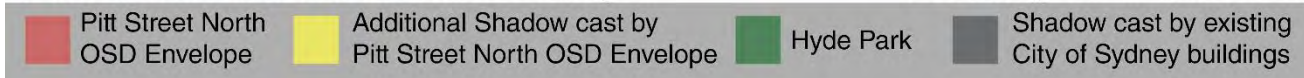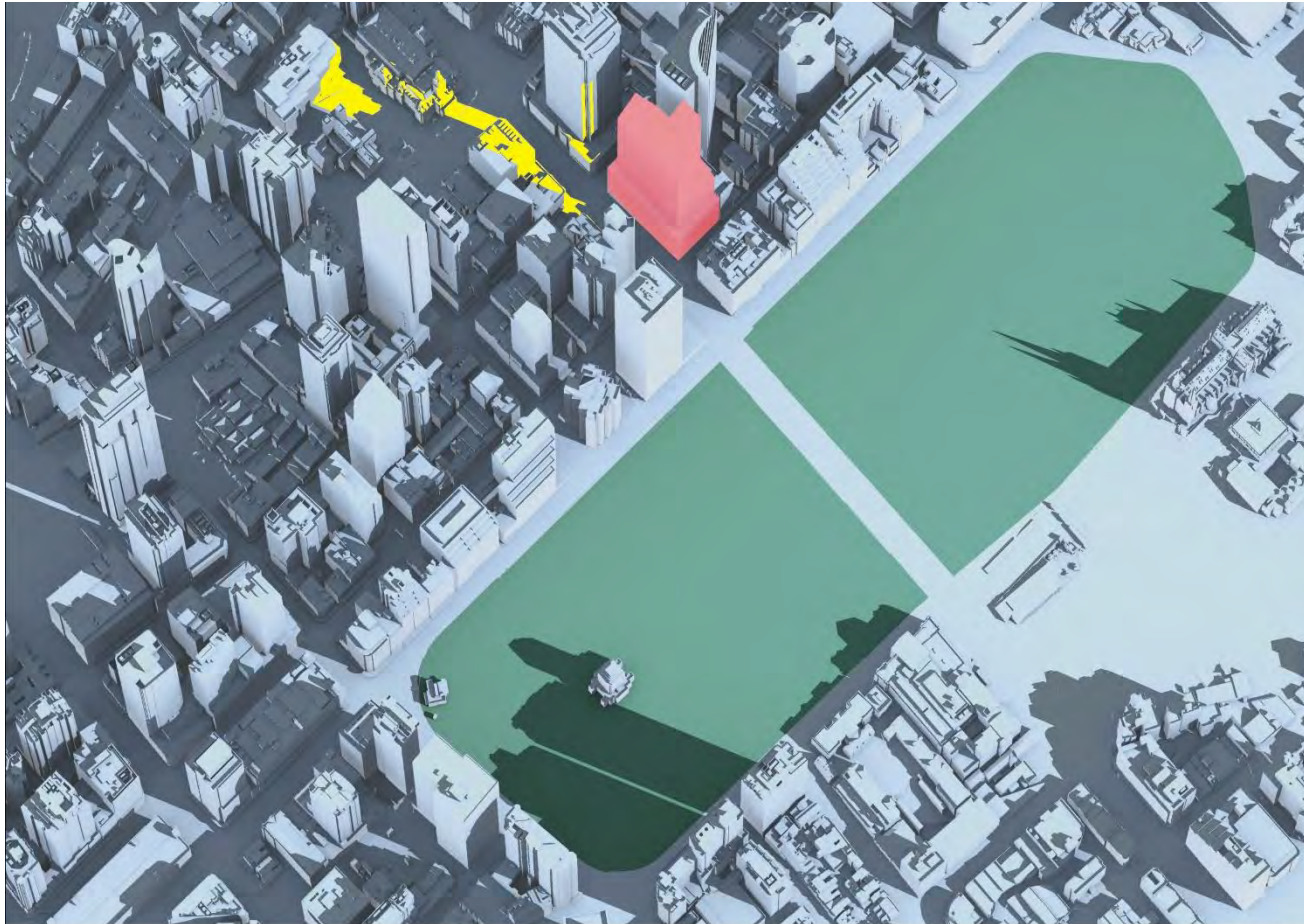|			
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| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

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■ (red) Pitt Street North OSD Envelope	■ (yellow) Additional Shadow cast by Pitt Street North OSD Envelope	■ (green) Hyde Park	■ (grey) Shadow cast by existing City of Sydney buildings

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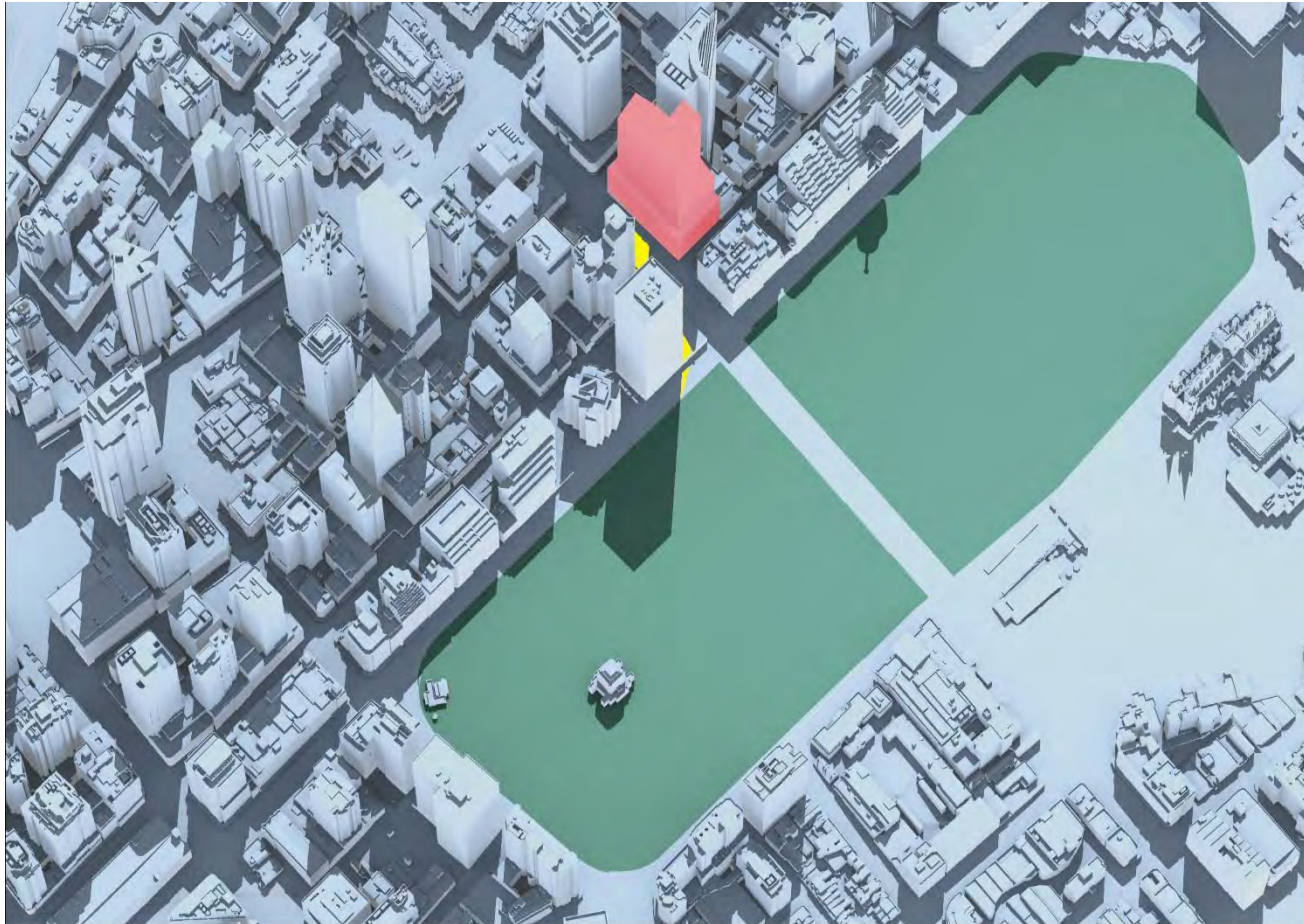| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

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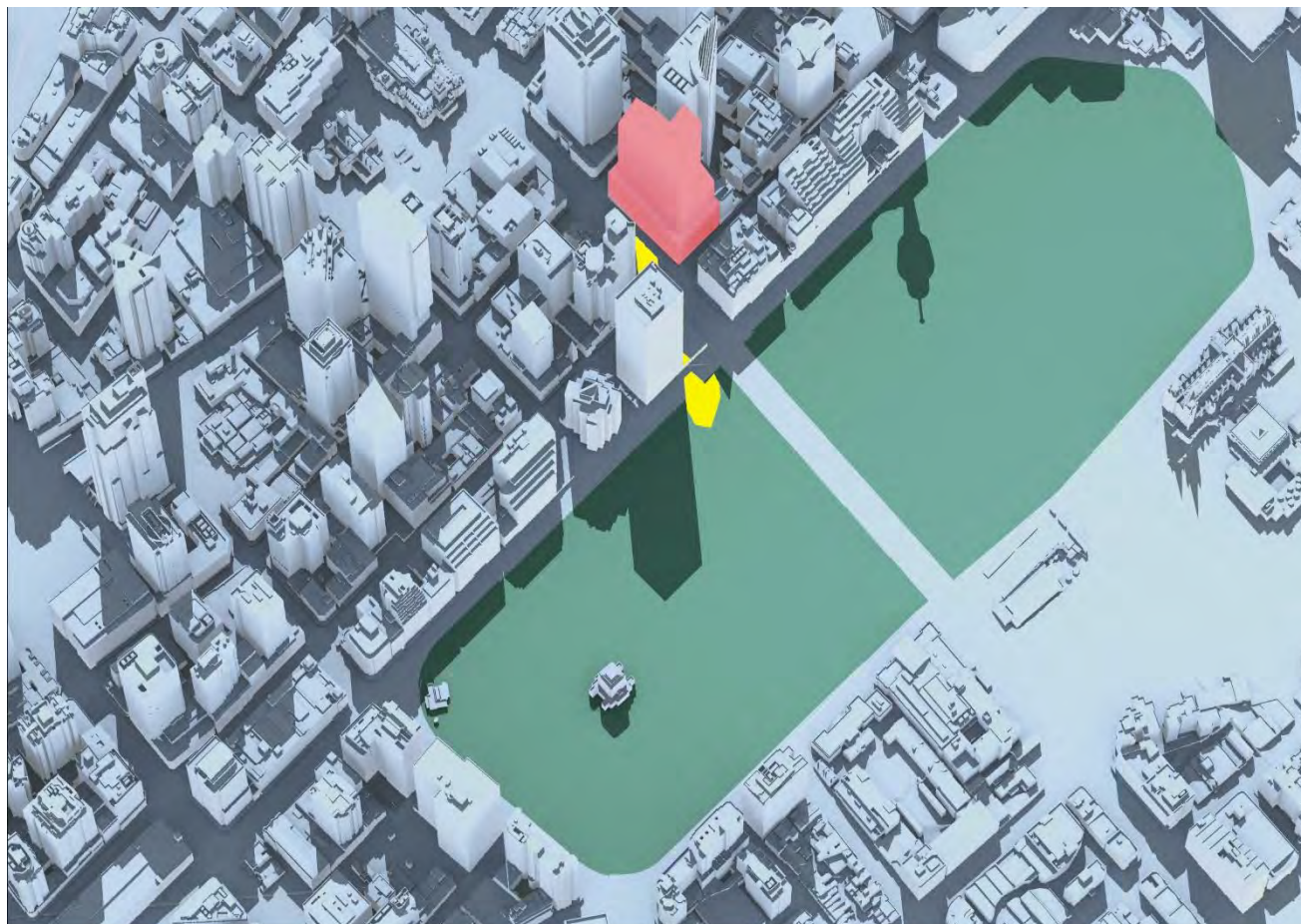| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

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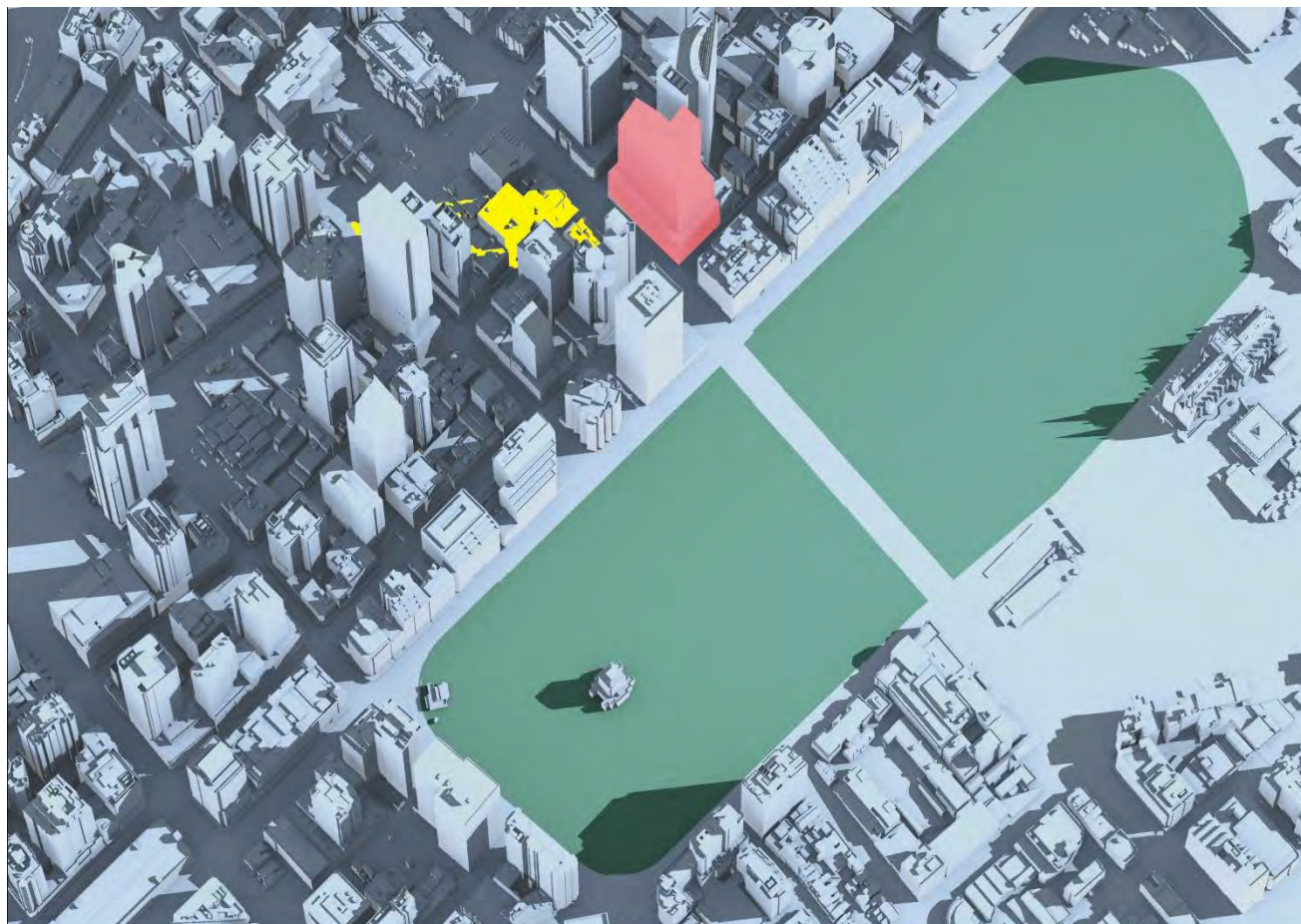| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

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| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

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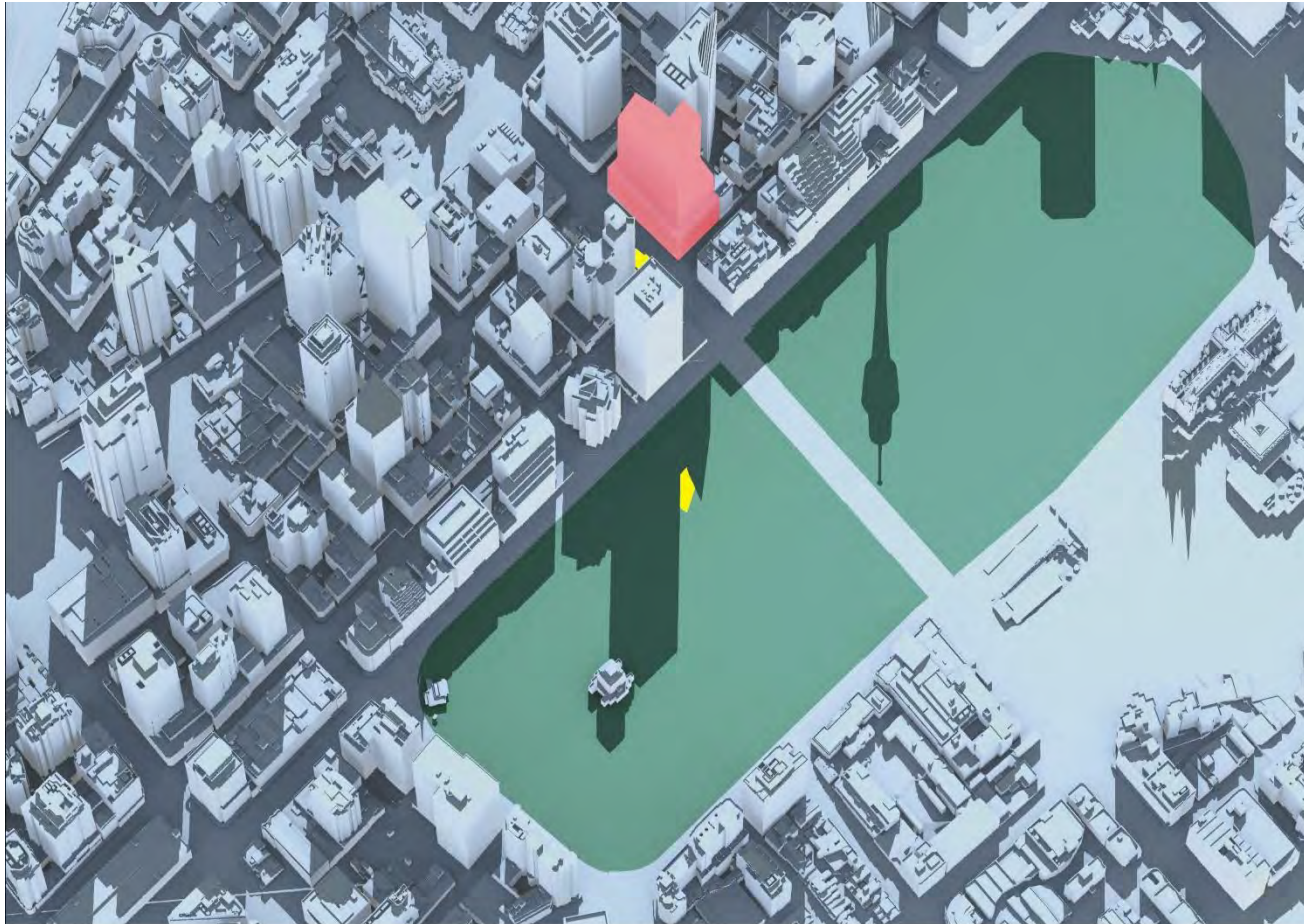|			
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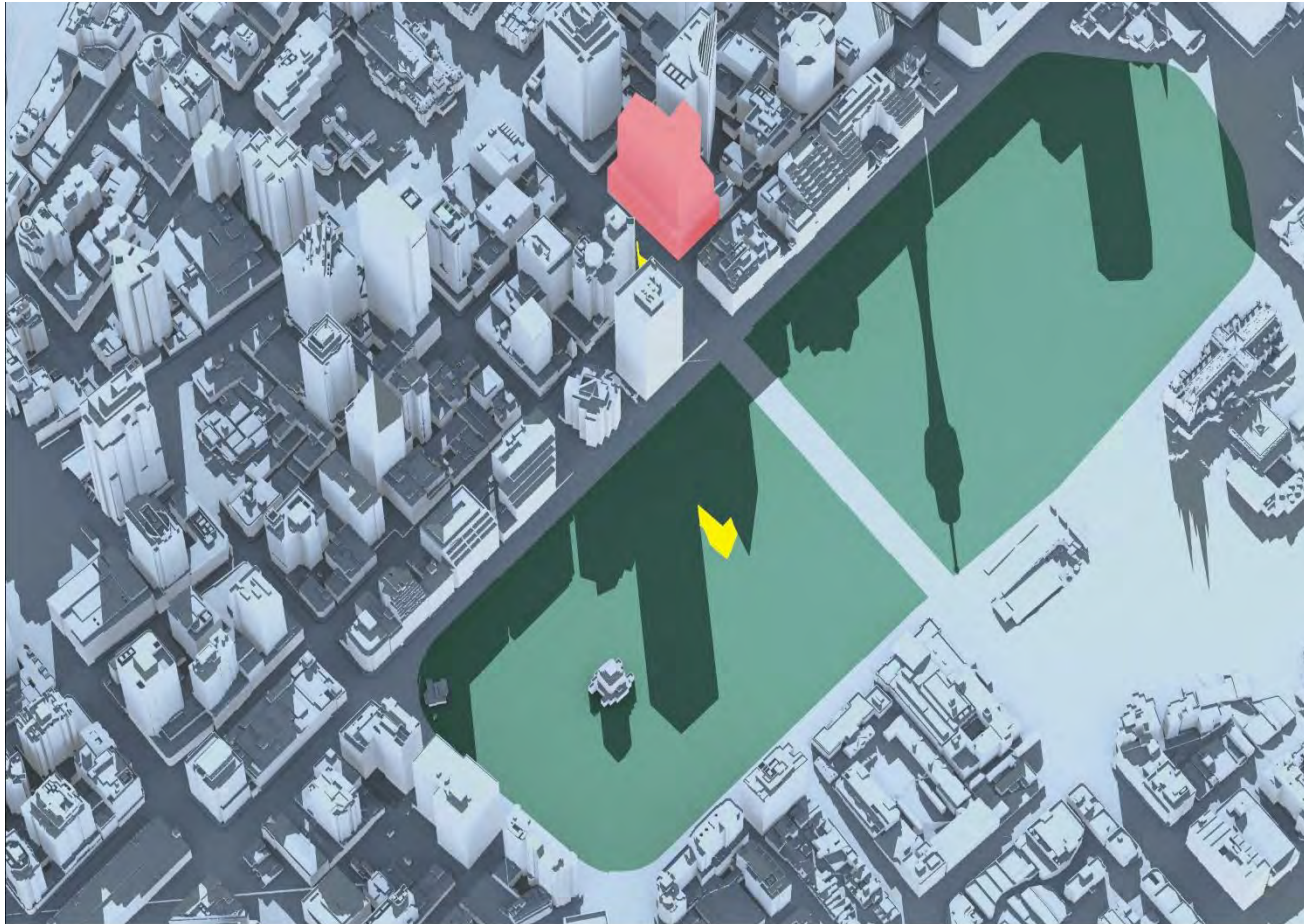Pitt Street North OSD Shadow Study   April 21   10:00AM

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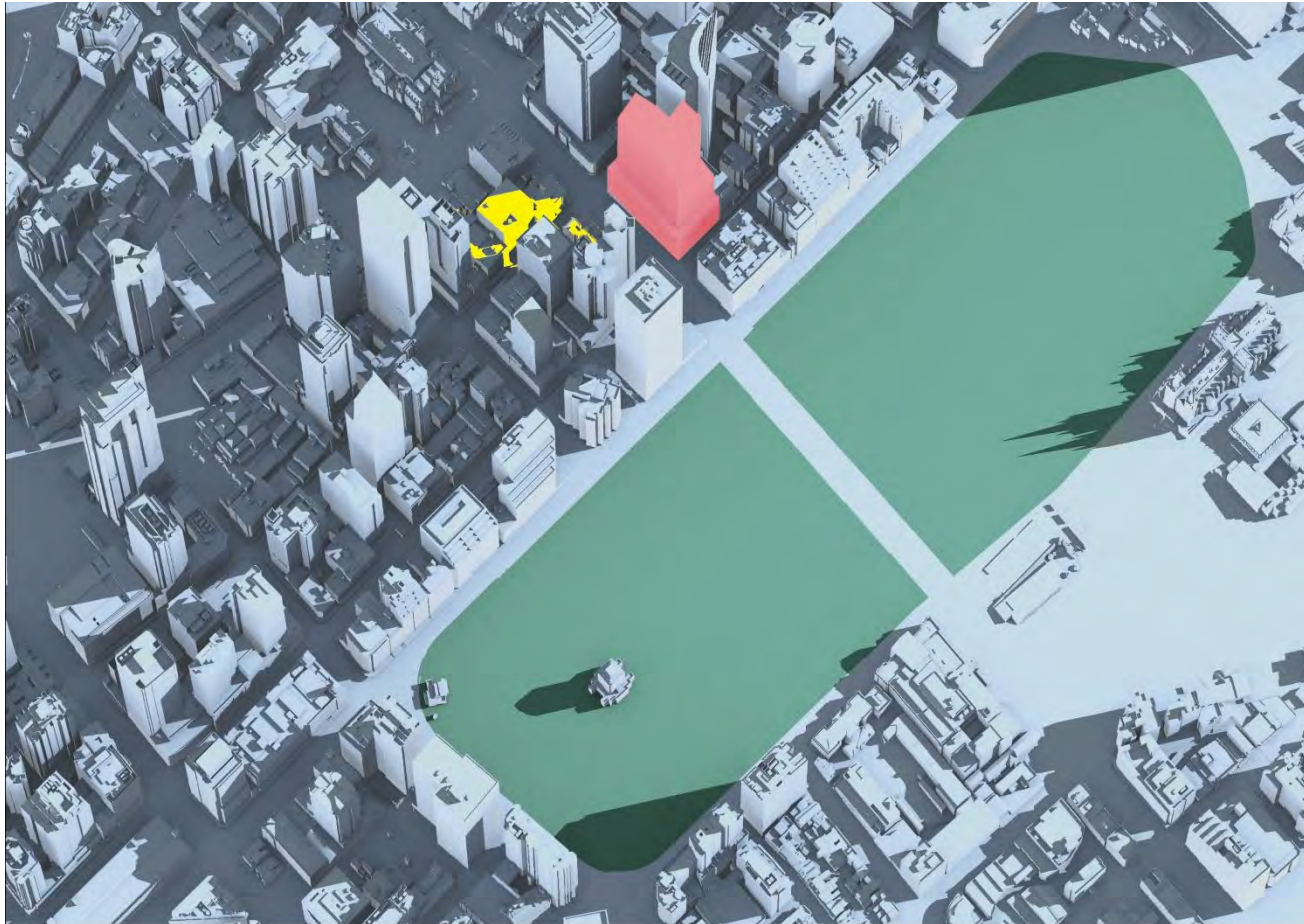Pitt Street North OSD Shadow Study   April 21   12:00PM

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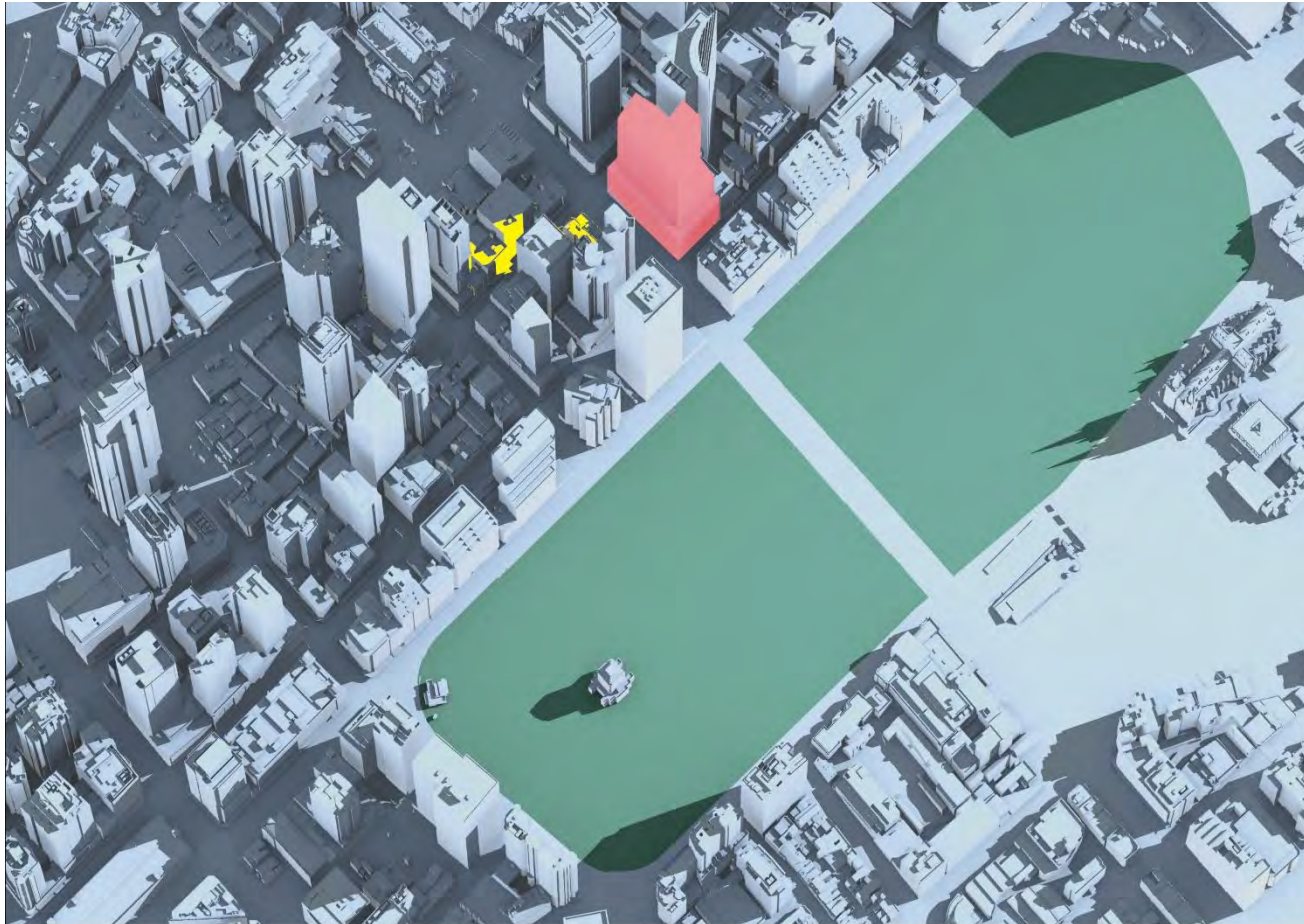Pitt Street North OSD Shadow Study   April 21   12:30PM

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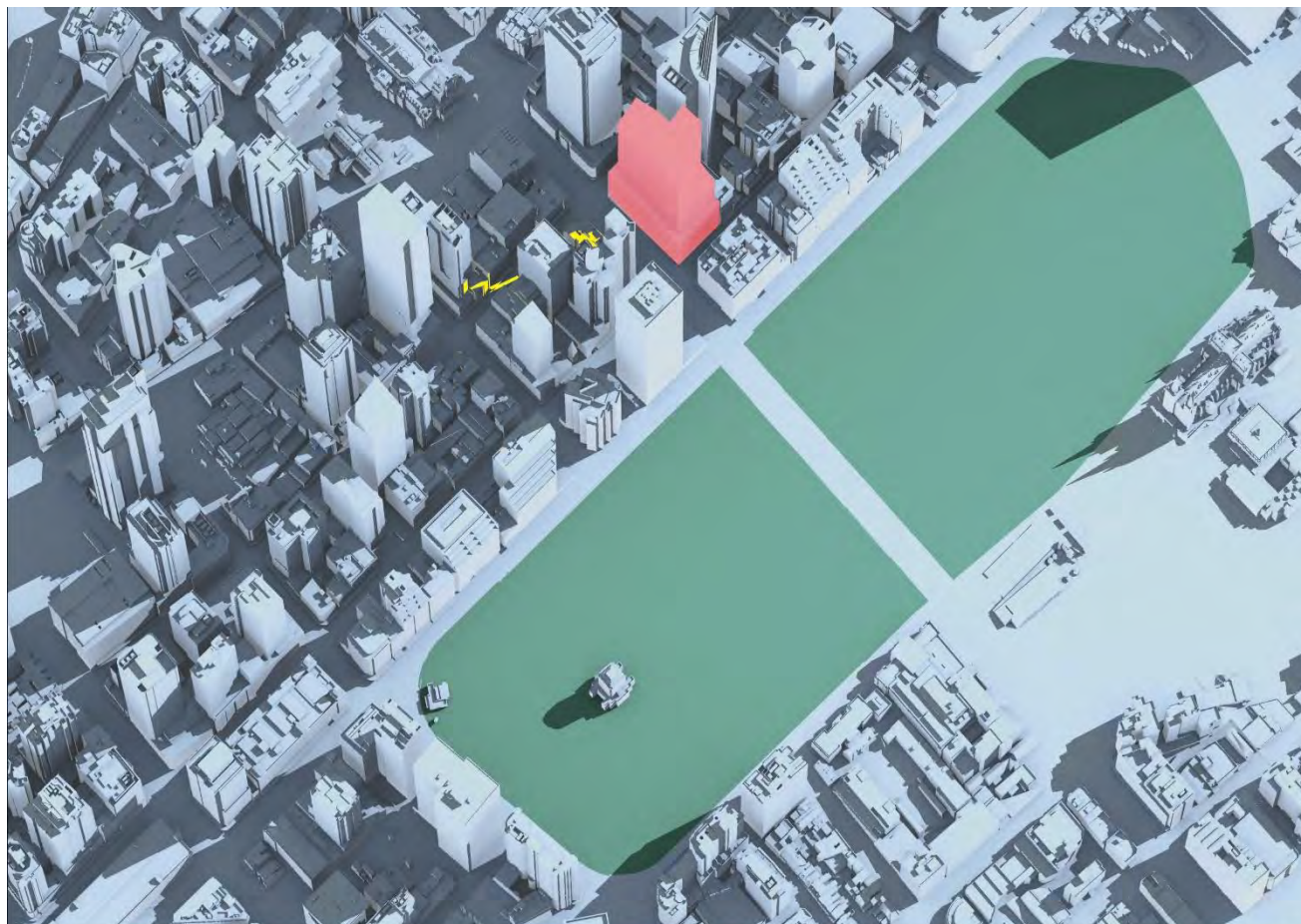
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|			
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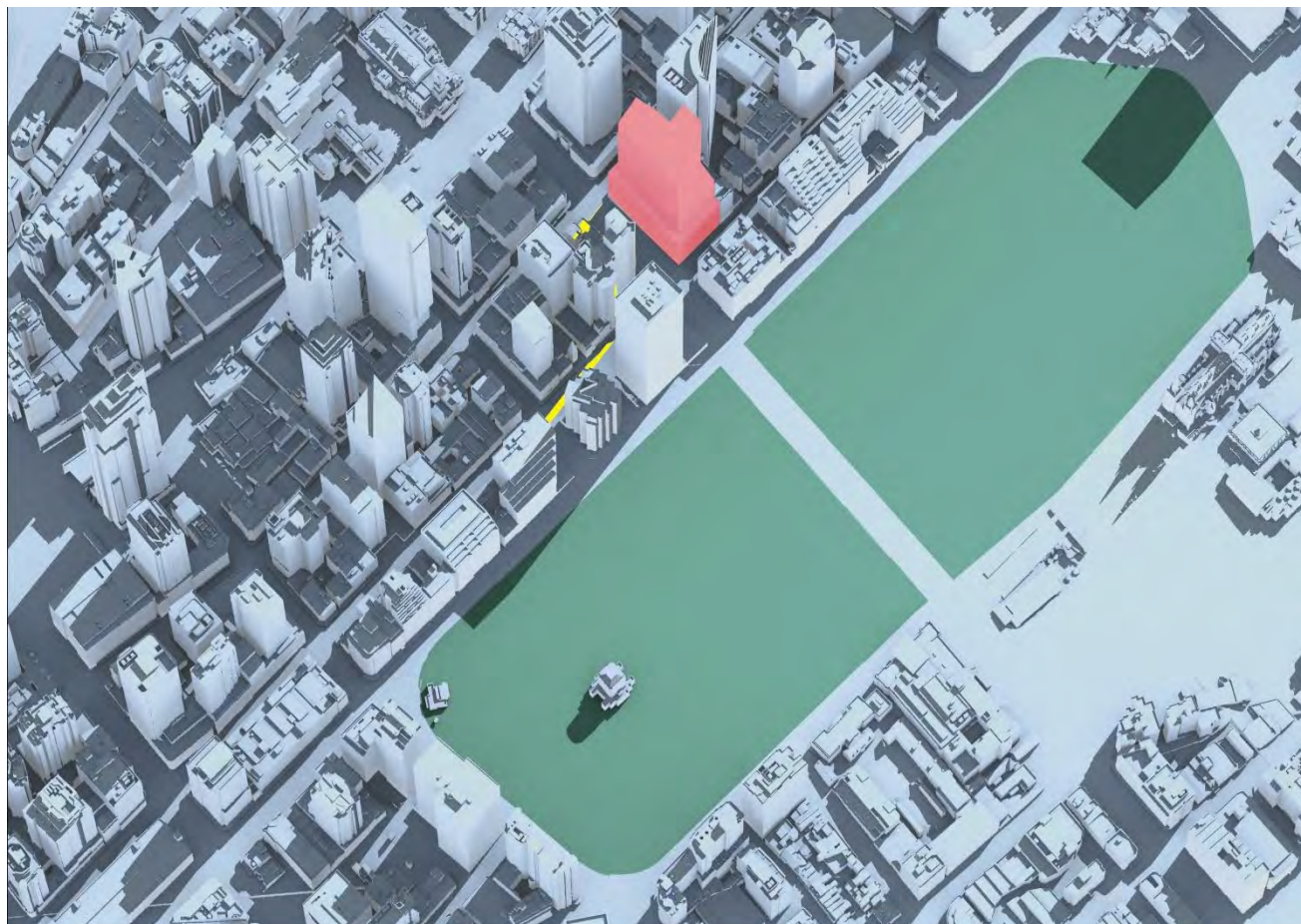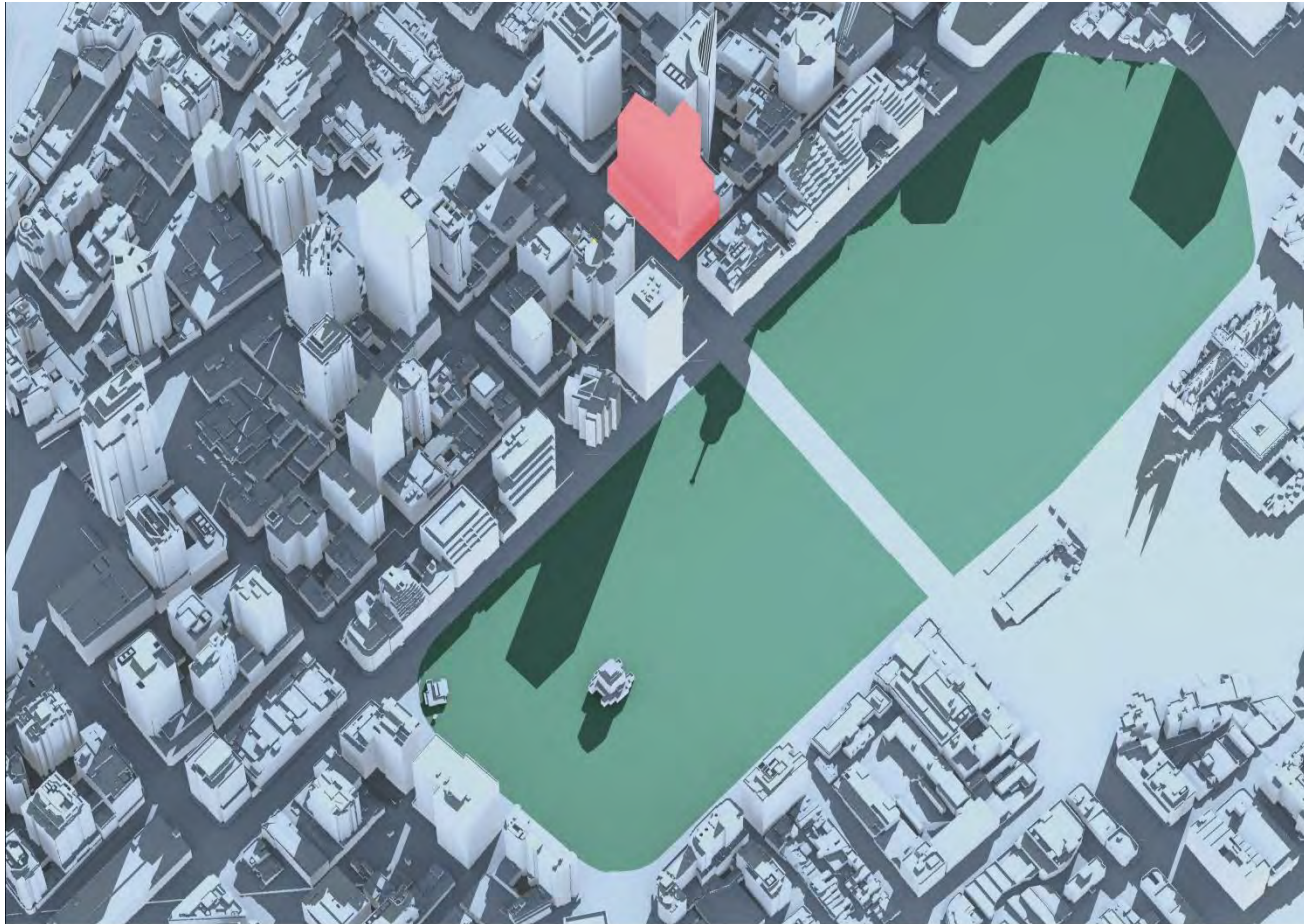|			
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Pitt Street North OSD Shadow Study   May 21   9:00AM

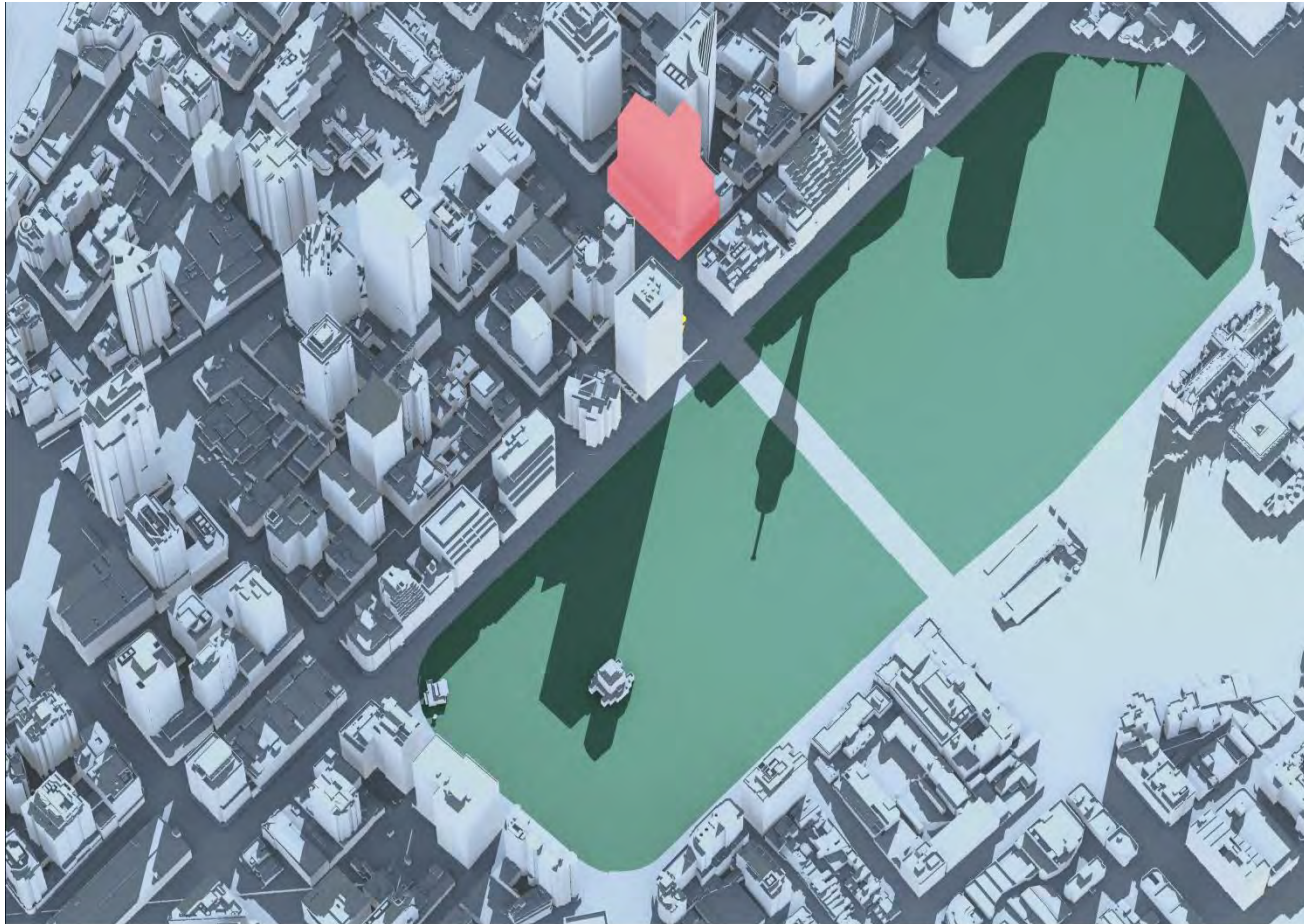| Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

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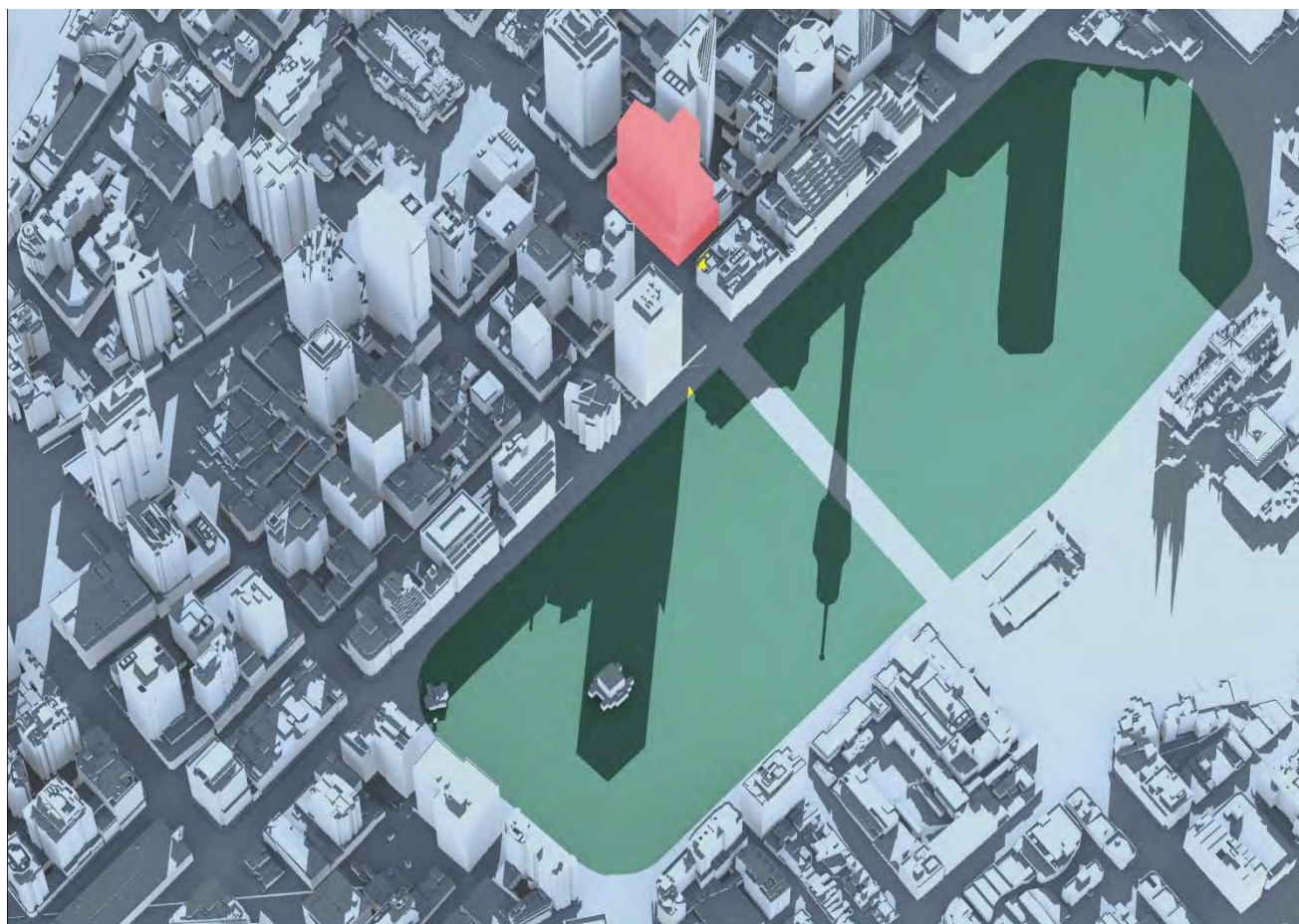| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   May 21   10:00AM

Pitt Street North OSD Envelope

Additional Shadow cast by Pitt Street North OSD Envelope

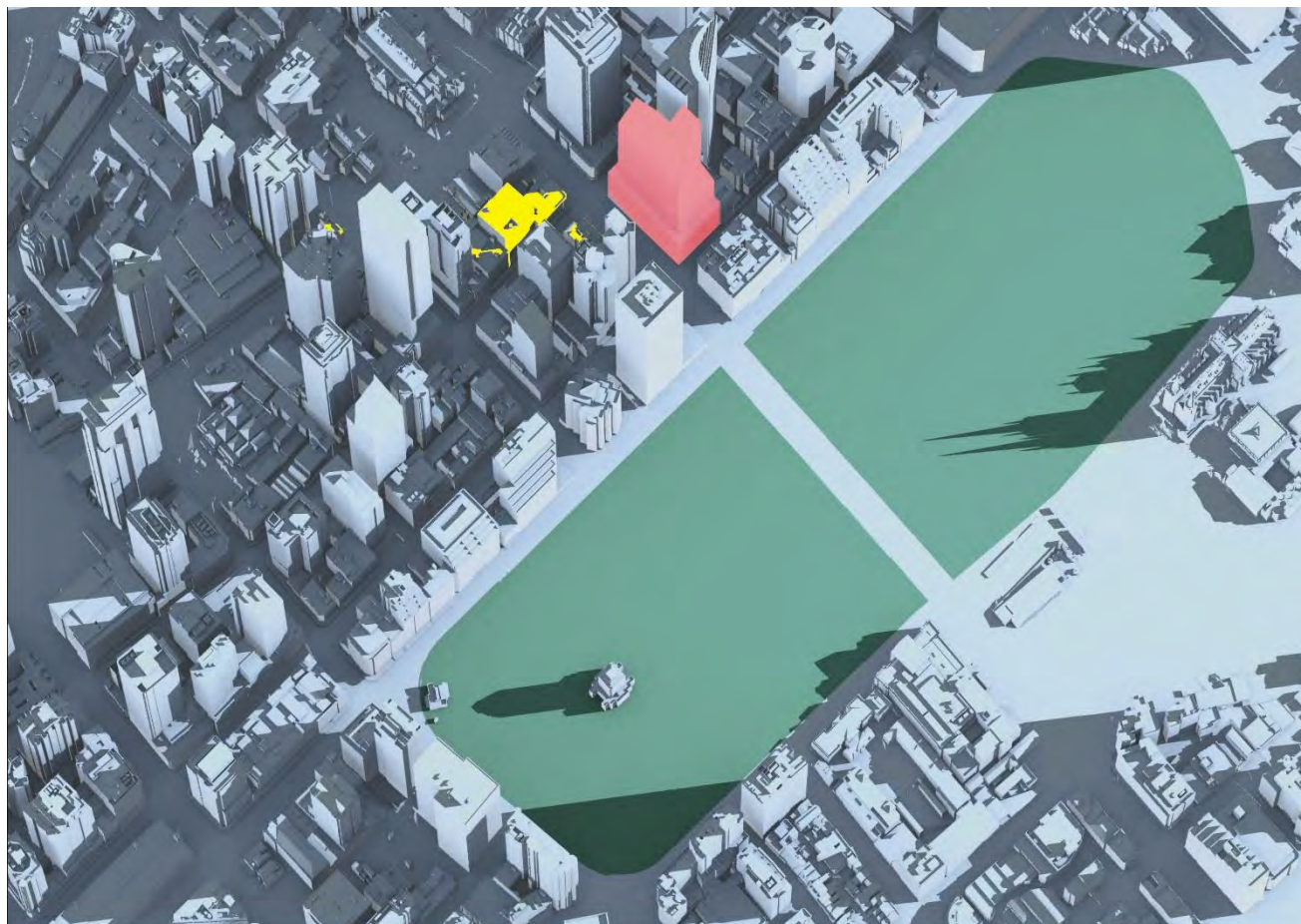Hyde Park

Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   May 21   10:30AM

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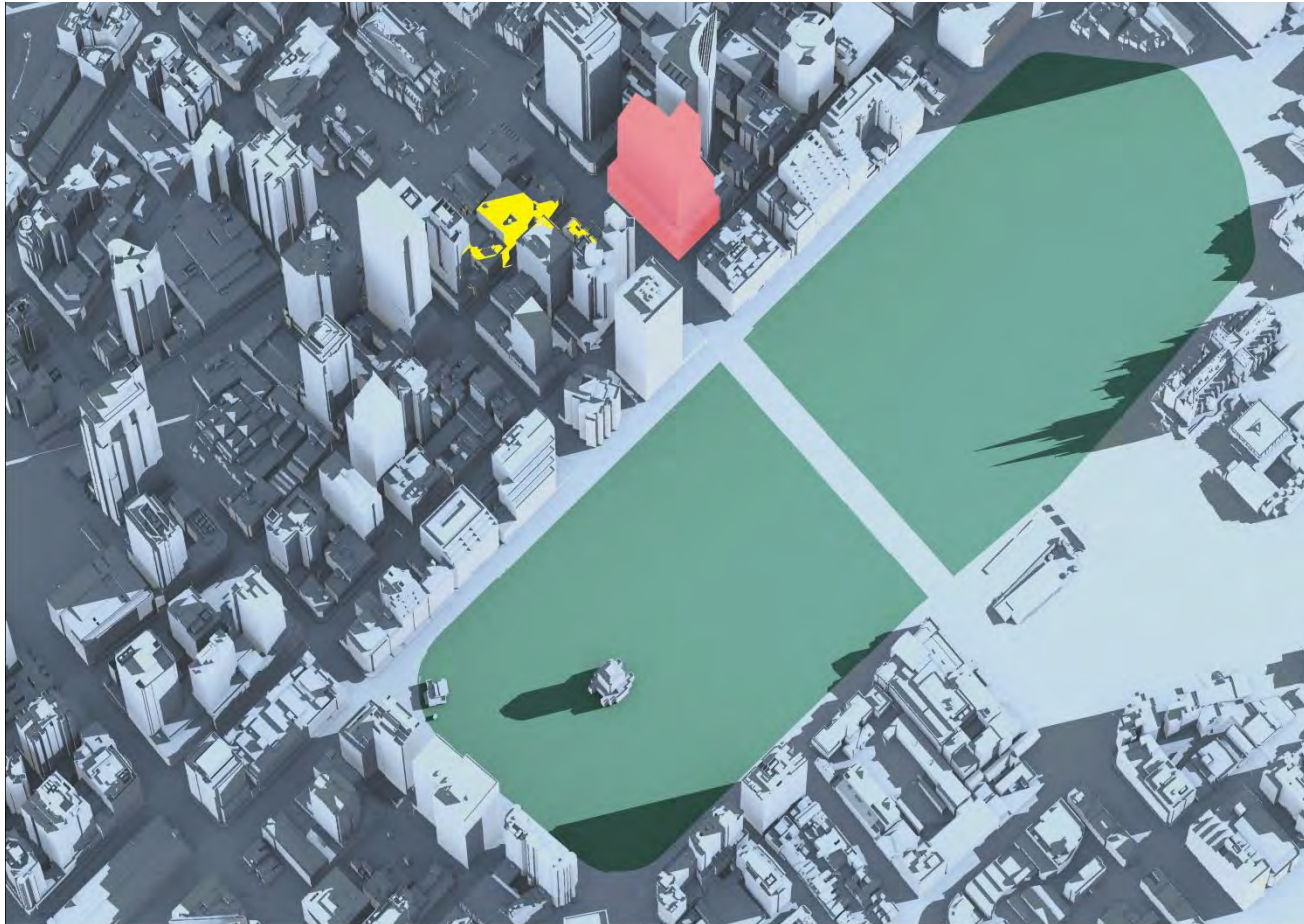|	Pitt Street North OSD Envelope		Additional Shadow cast by Pitt Street North OSD Envelope		Hyde Park		Shadow cast by existing City of Sydney buildings

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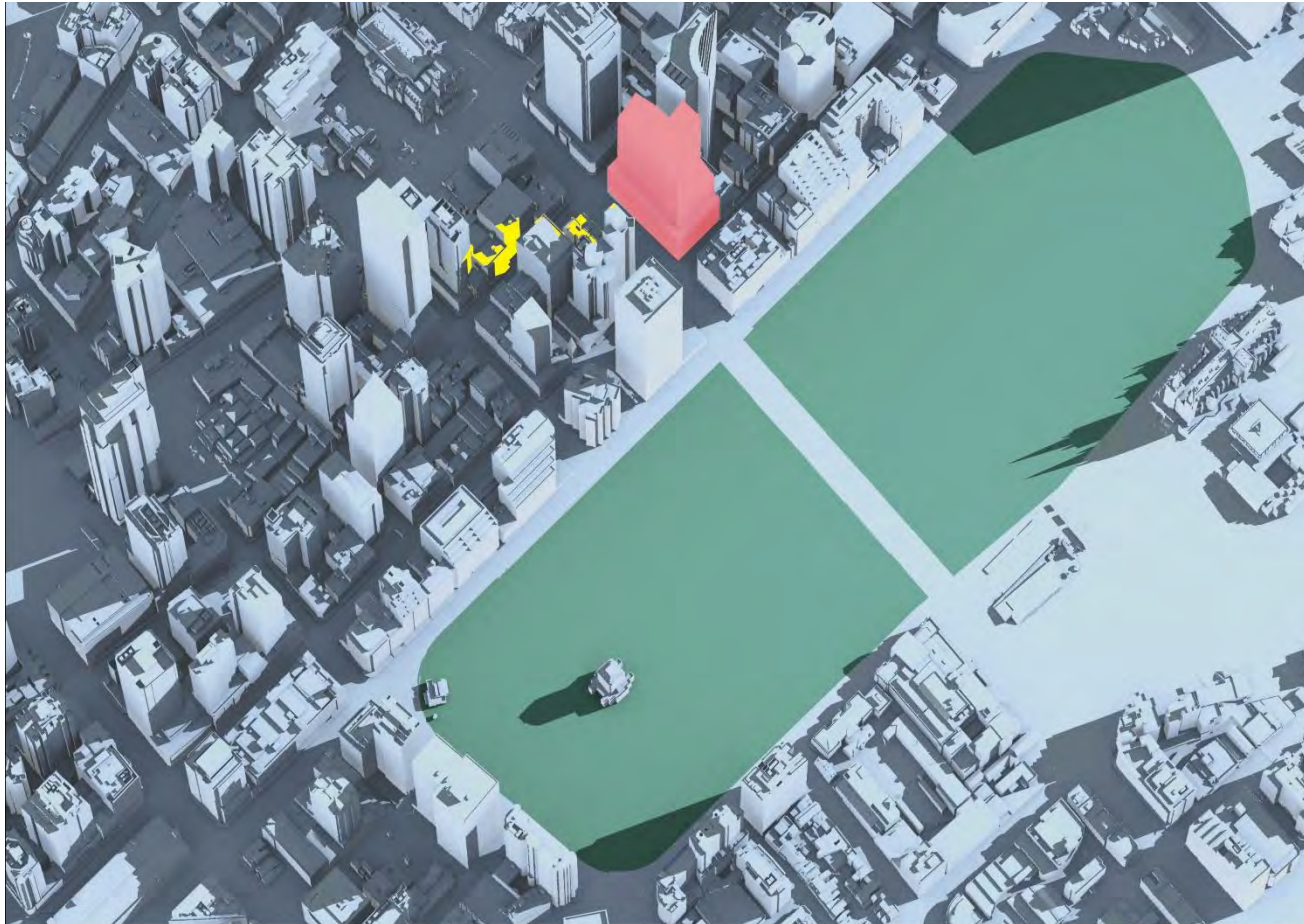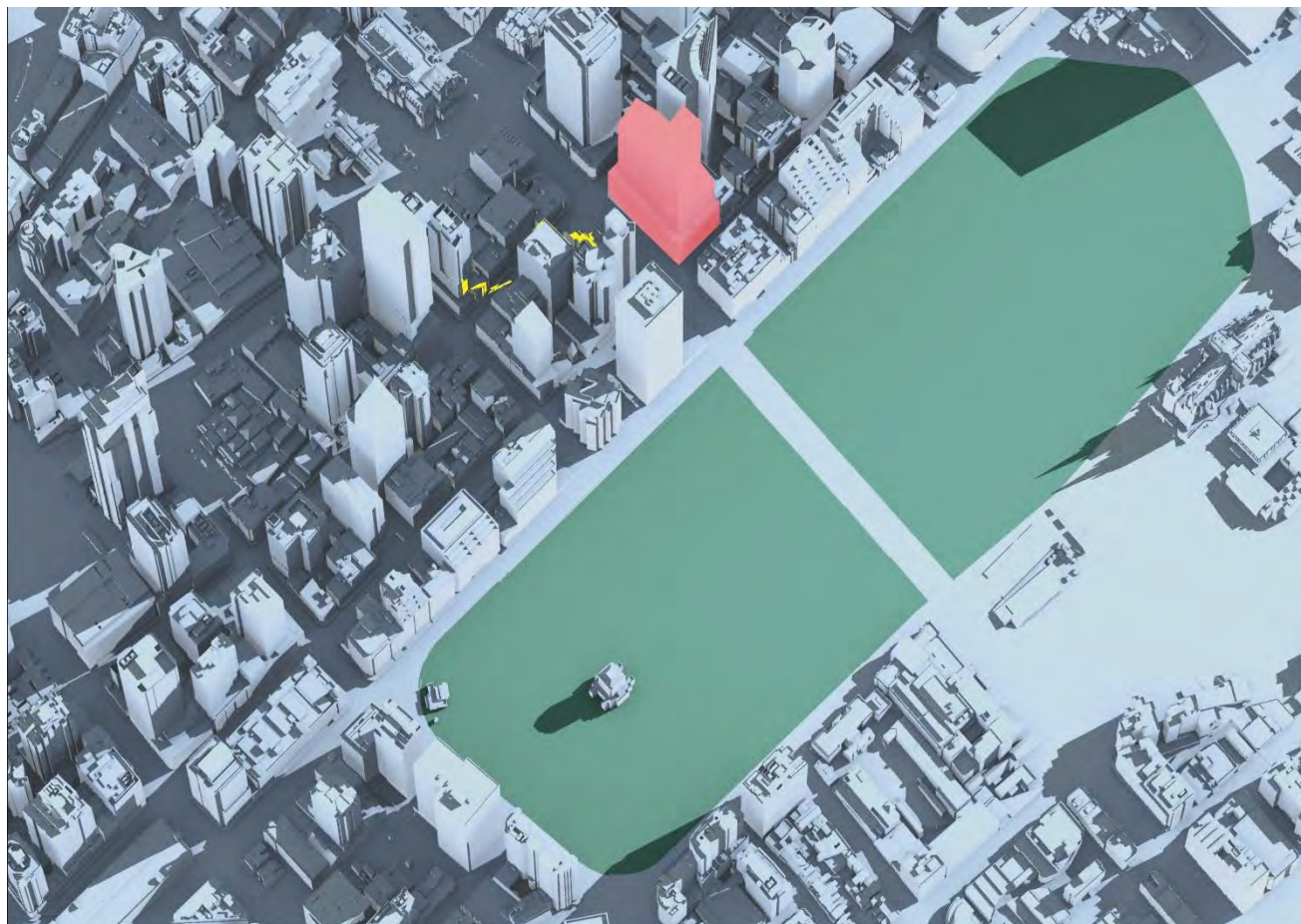|			
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Pitt Street North OSD Envelope

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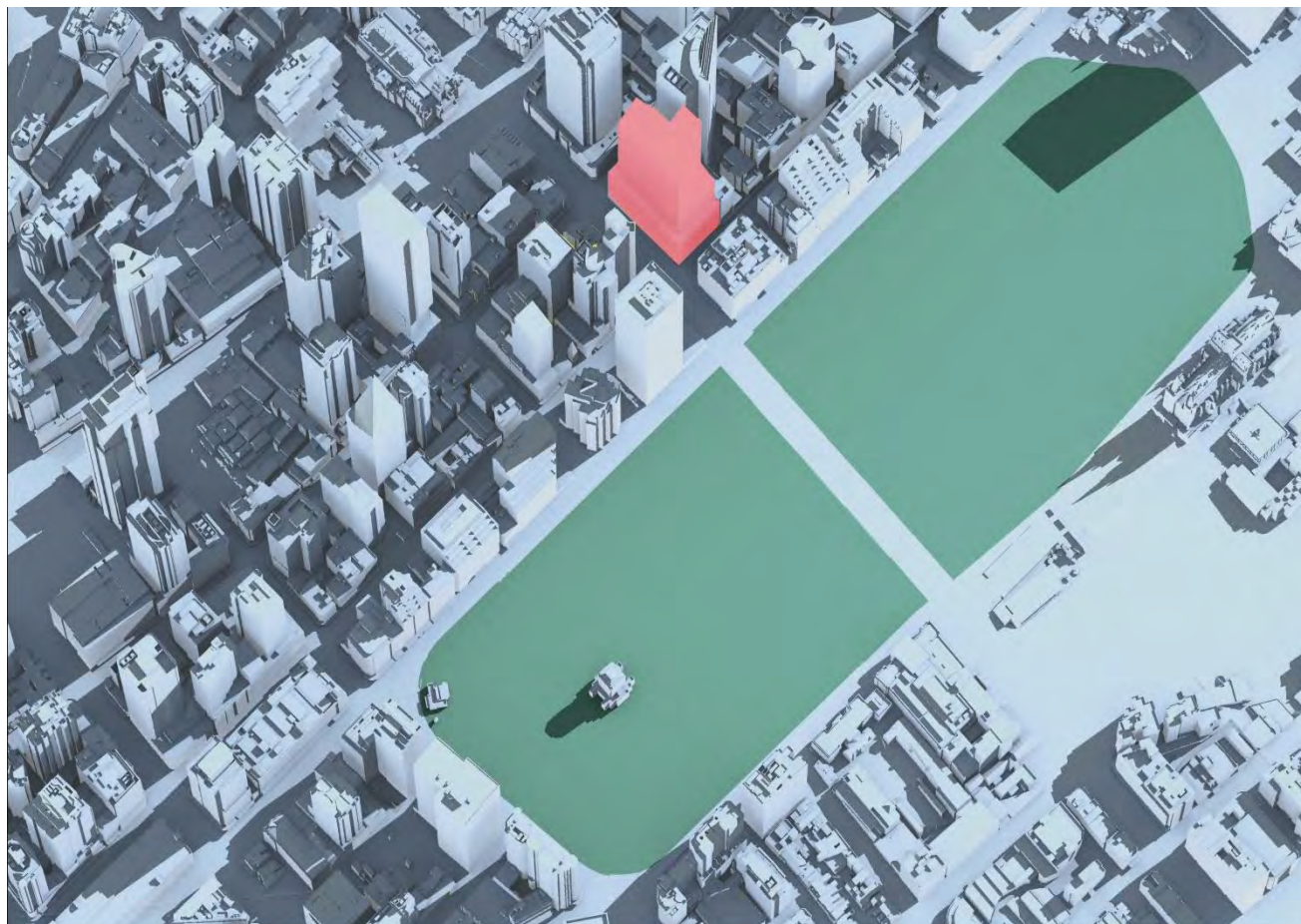| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

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Pitt Street North OSD Shadow Study   May 21   15:00PM

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Pitt Street North OSD Shadow Study   June 21   9:00AM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   June 21   9:30AM

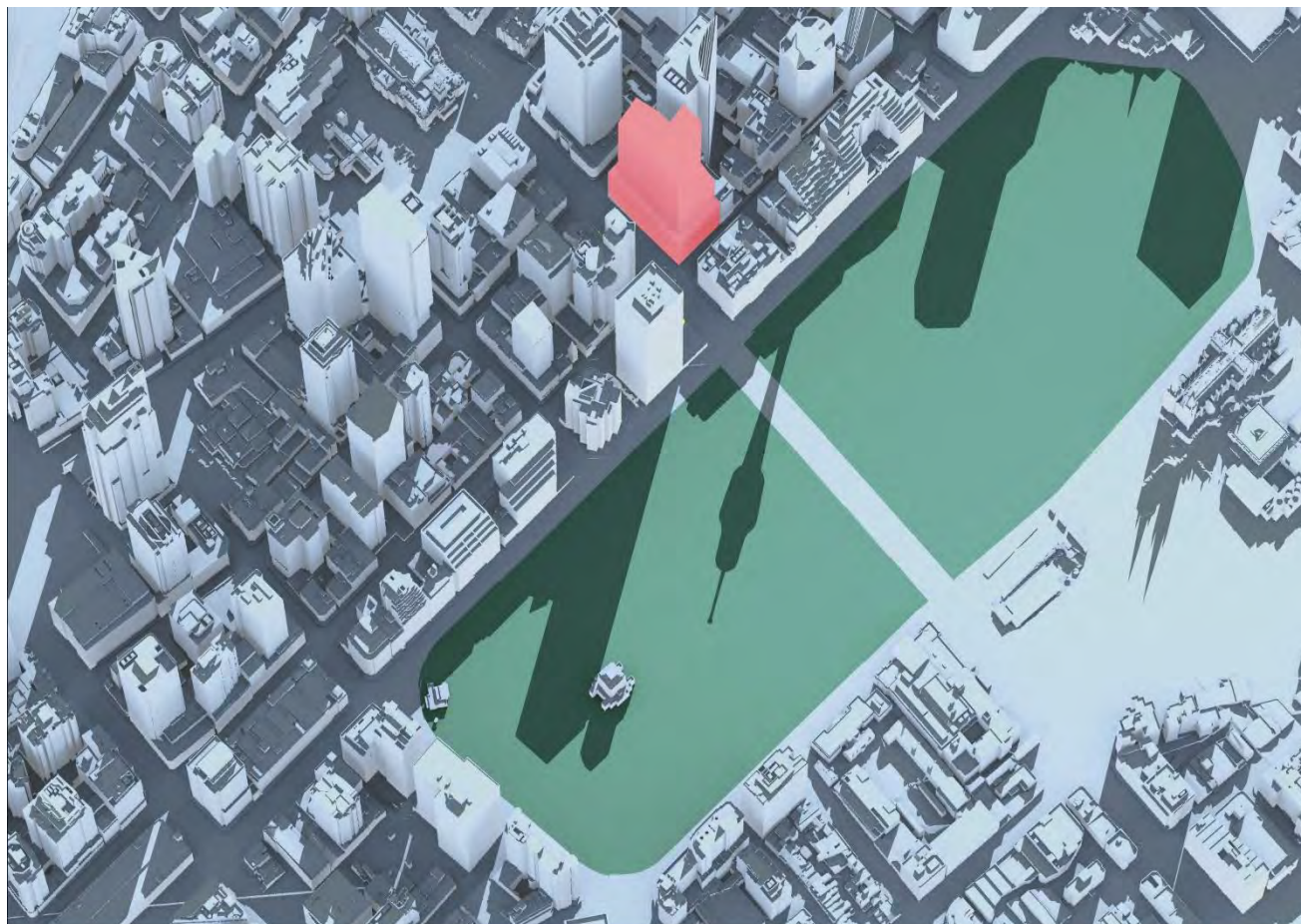|			
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Pitt Street North OSD Shadow Study   June 21   10:00AM

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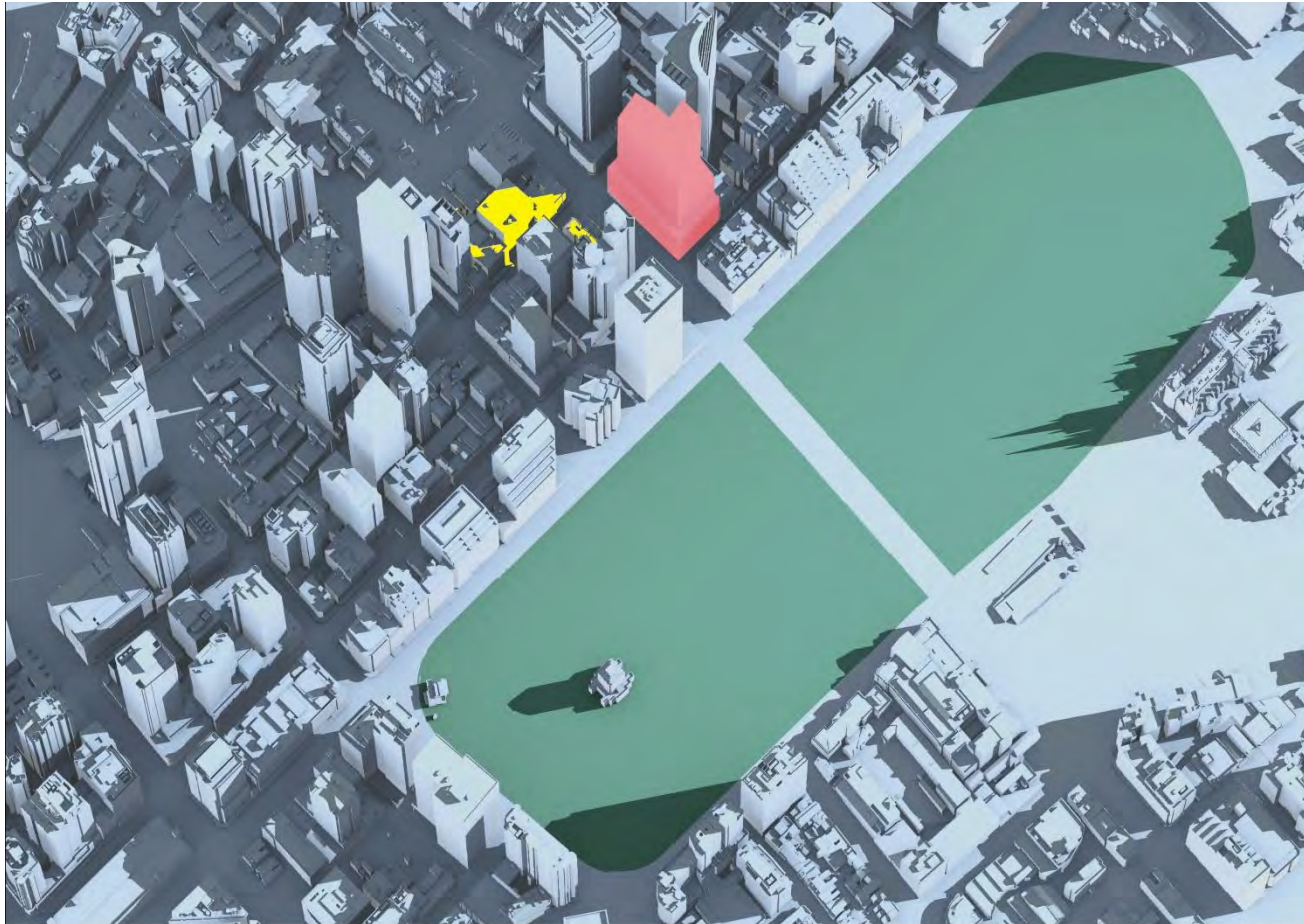| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study — June 21 — 12:30PM

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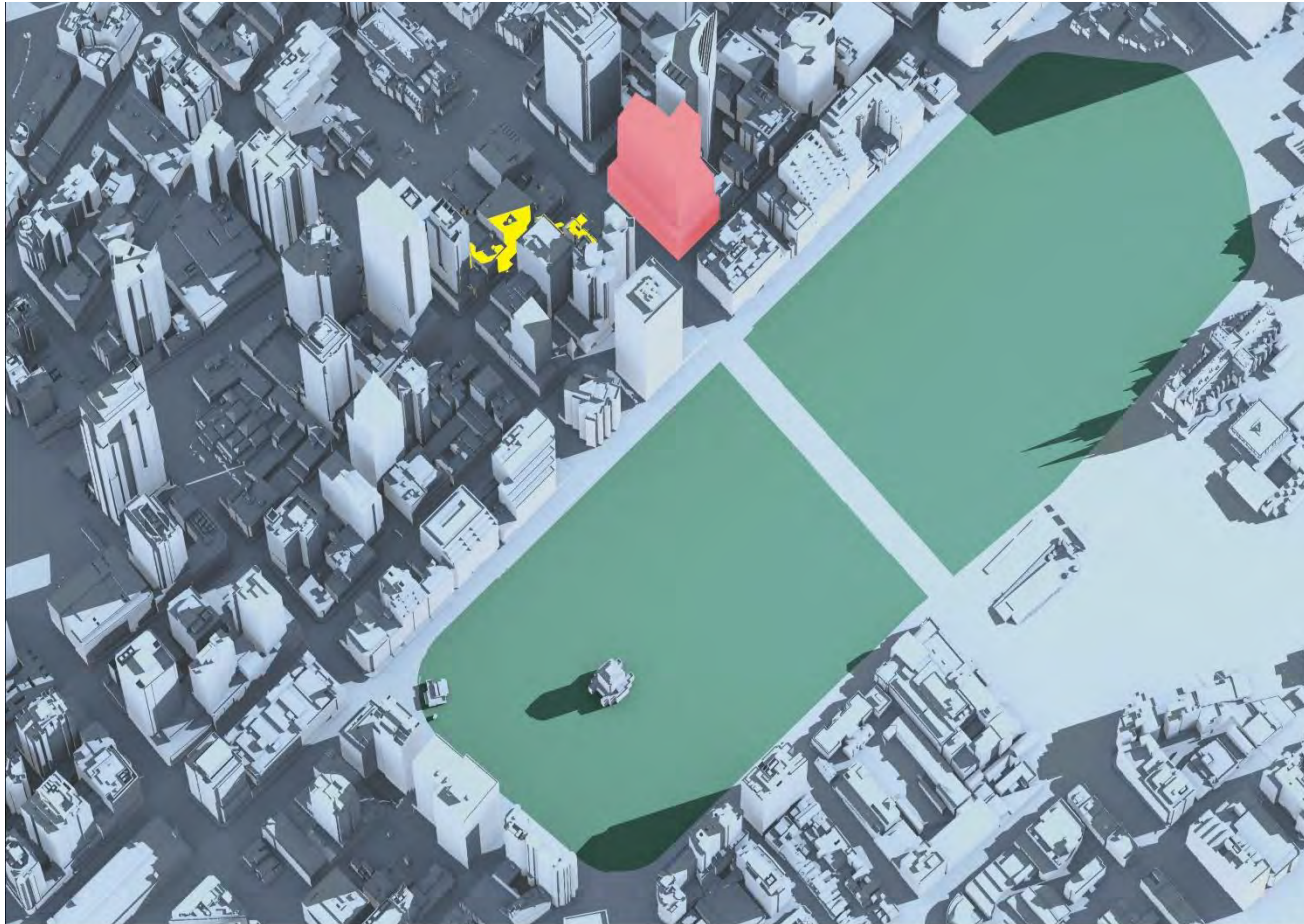
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Pitt Street North OSD Envelope   Additional Shadow cast by Pitt Street North OSD Envelope   Hyde Park   Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   June 21   13:30PM

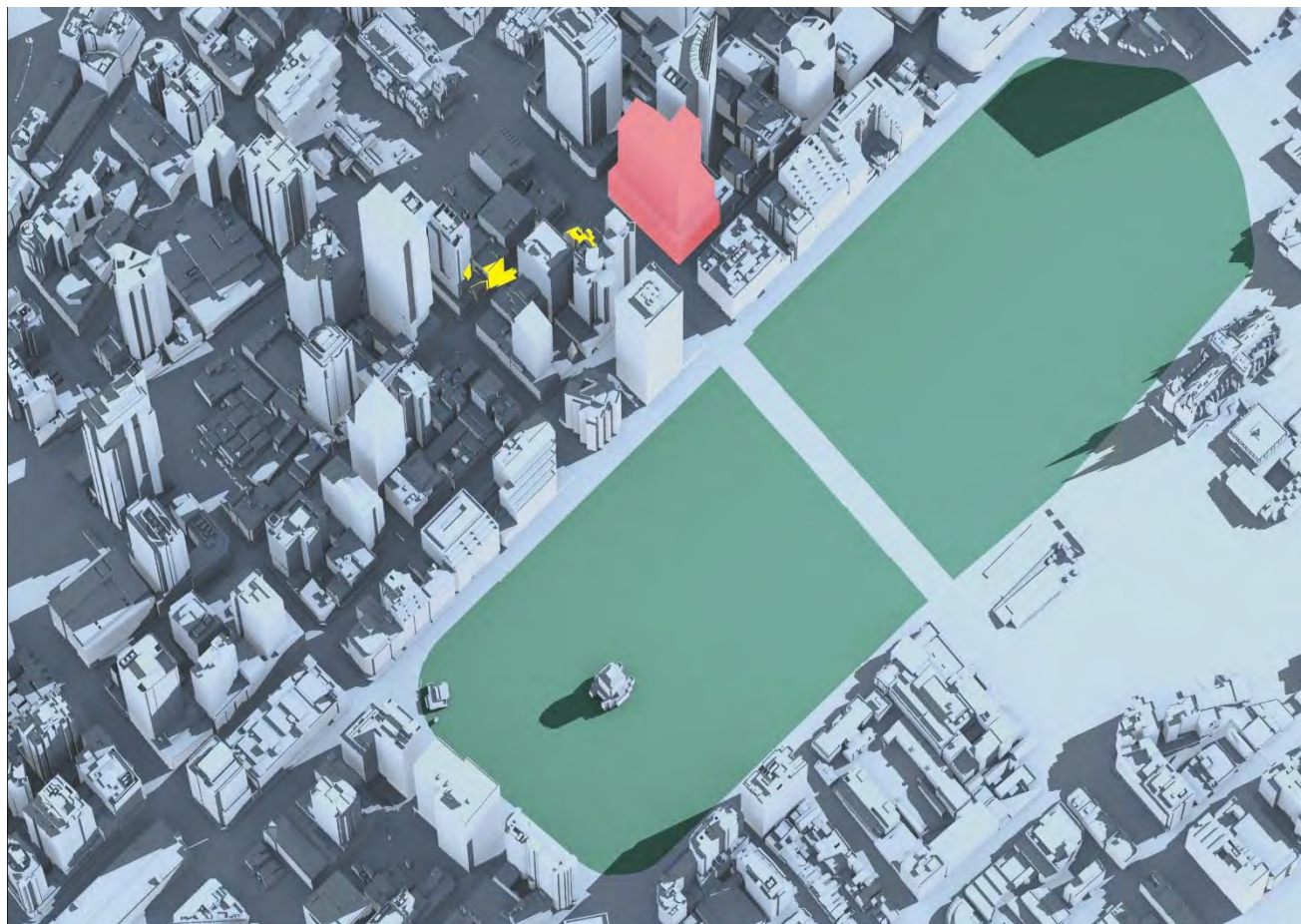| ■ Pitt Street North OSD Envelope | ■ Additional Shadow cast by Pitt Street North OSD Envelope | ■ Hyde Park | ■ Shadow cast by existing City of Sydney buildings |

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Pitt Street North OSD Shadow Study   July 21   9:00AM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

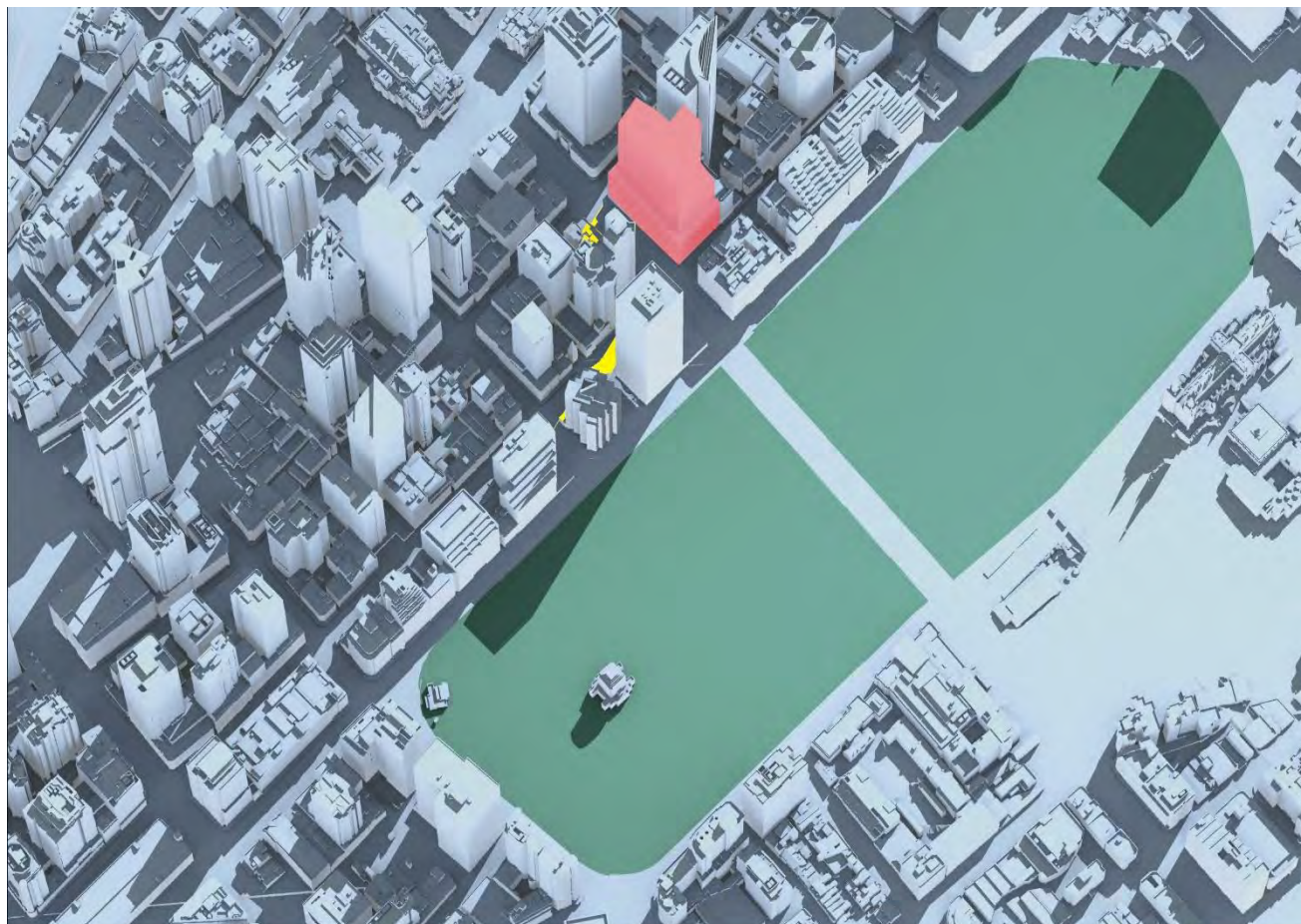Pitt Street North OSD Shadow Study   July 21   9:30AM

Pitt Street North OSD Envelope

Additional Shadow cast by Pitt Street North OSD Envelope

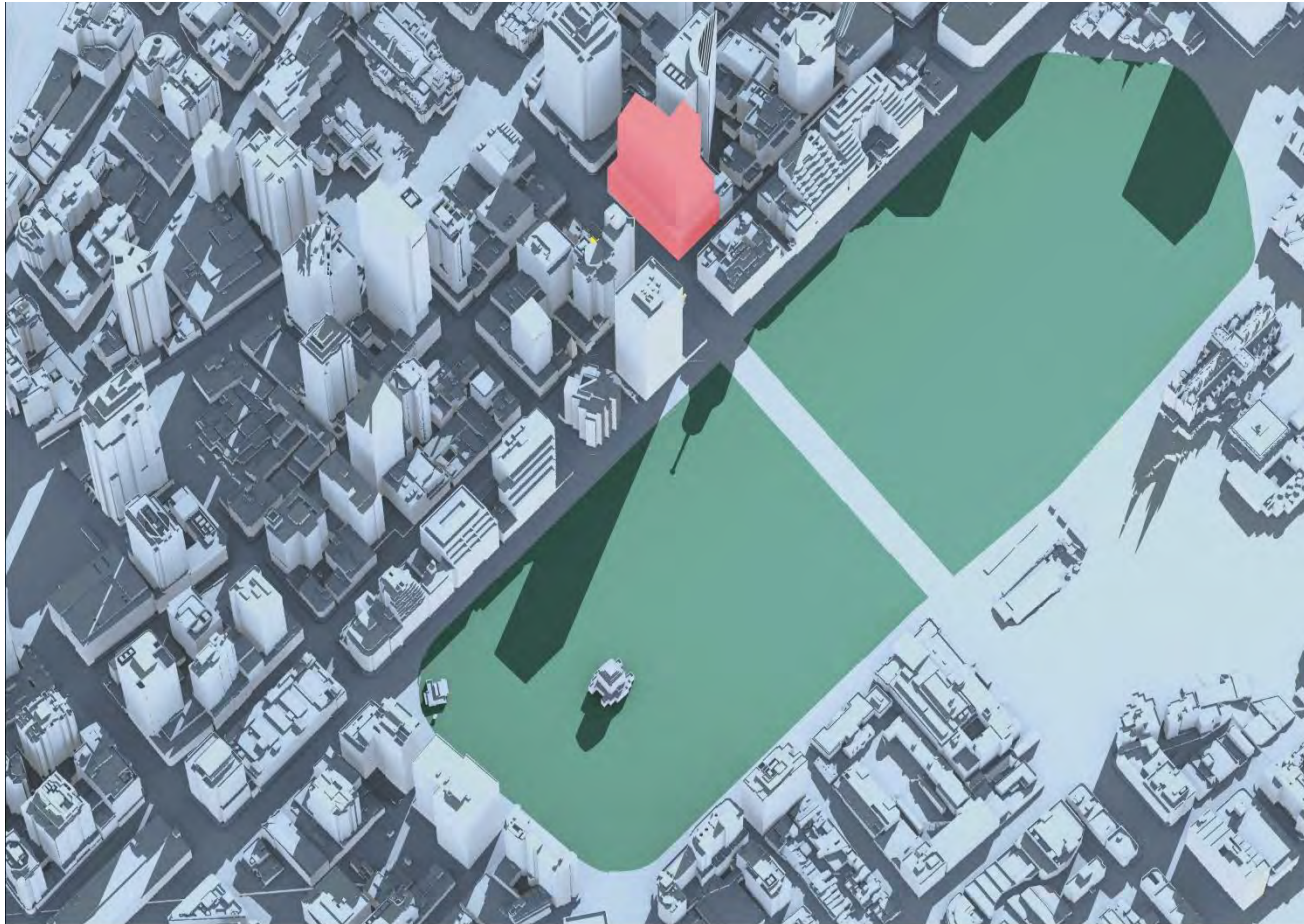Hyde Park

Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   July 21   10:00AM

▨ Pitt Street North OSD Envelope	▨ Additional Shadow cast by Pitt Street North OSD Envelope	▨ Hyde Park	▨ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study — July 21 — 10:30AM

Legend:
- Pitt Street North OSD Envelope
- Additional Shadow cast by Pitt Street North OSD Envelope
- Hyde Park
- Shadow cast by existing City of Sydney buildings
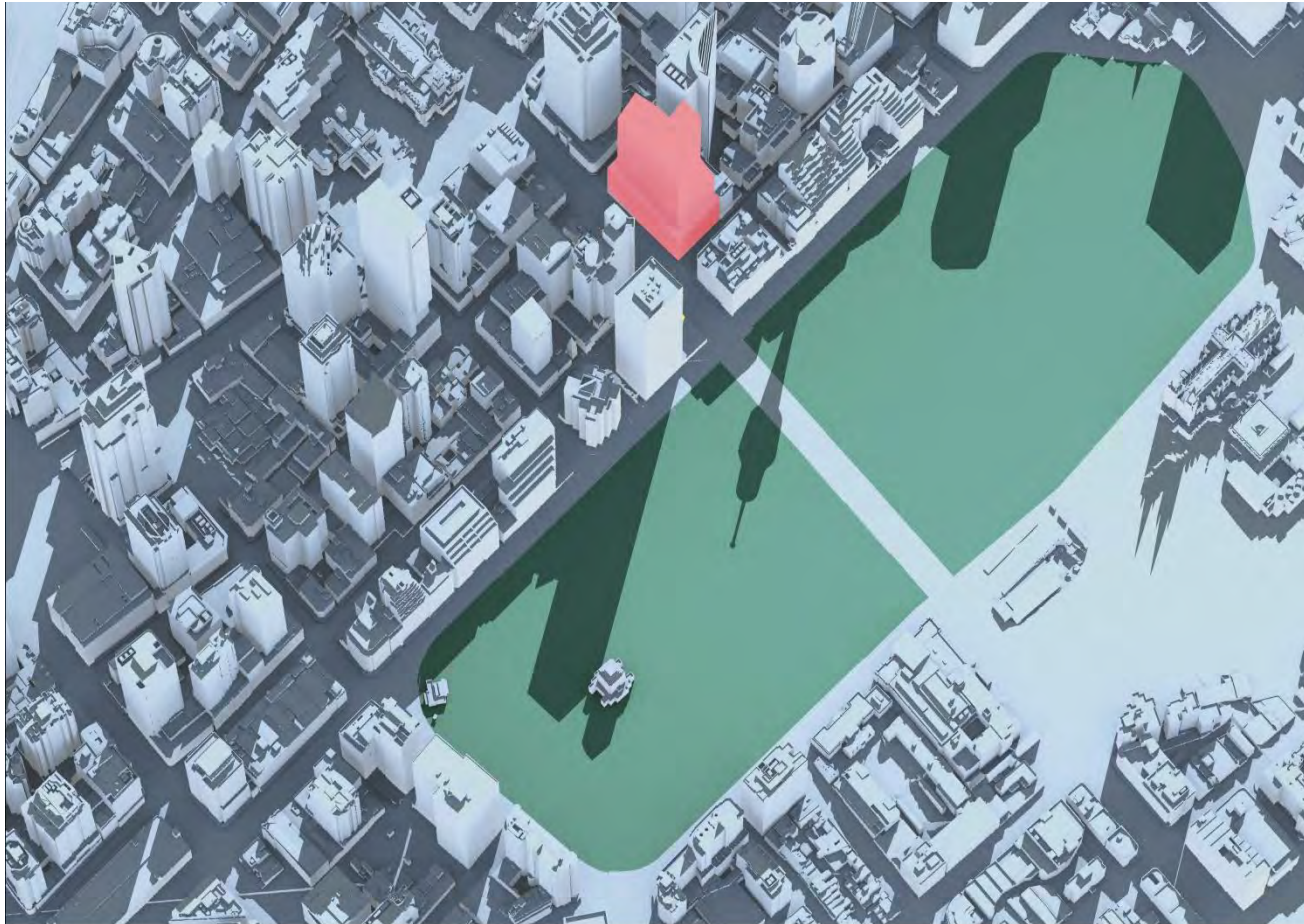
Pitt Street North OSD Shadow Study   July 21   11:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   July 21   11:30AM

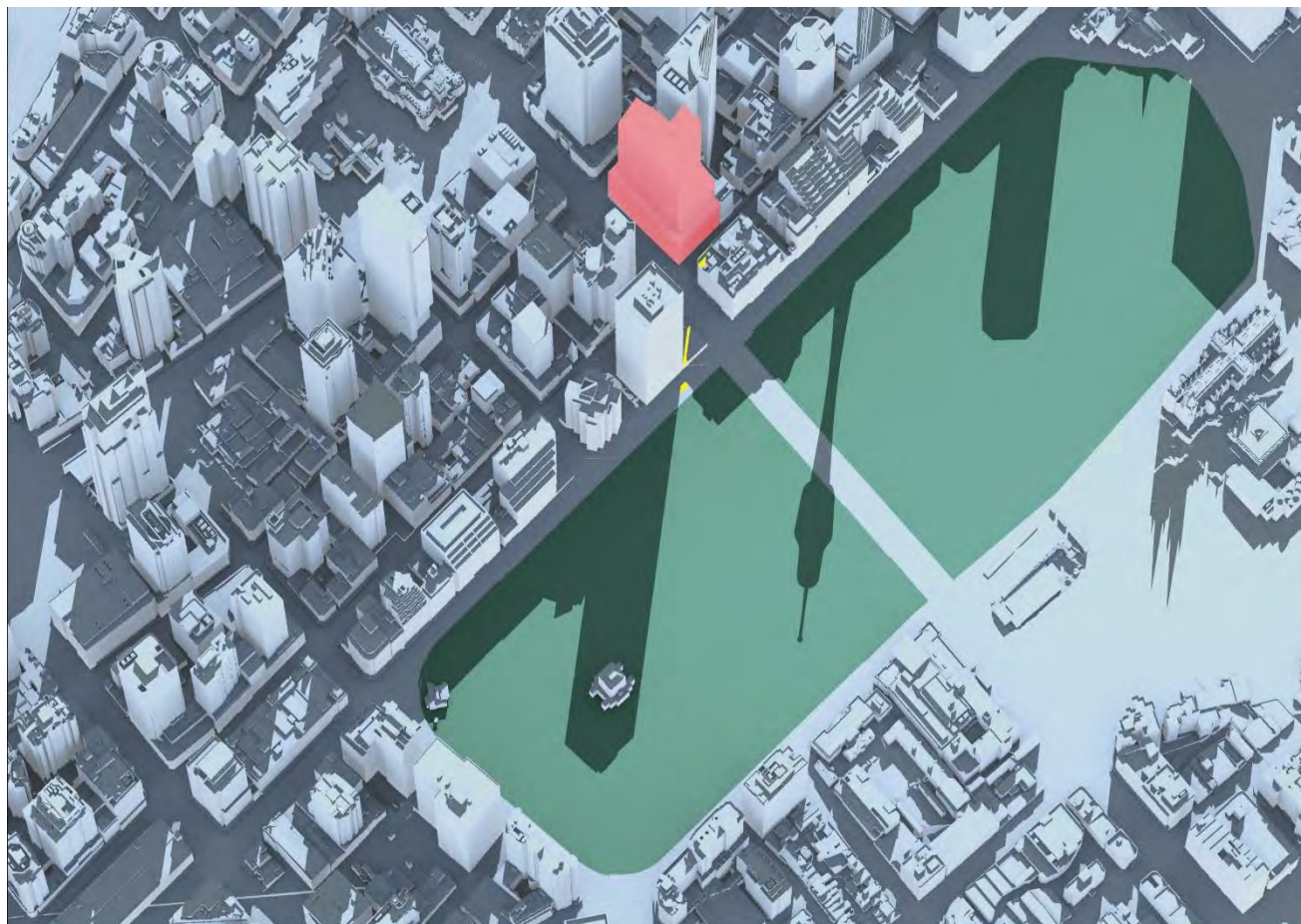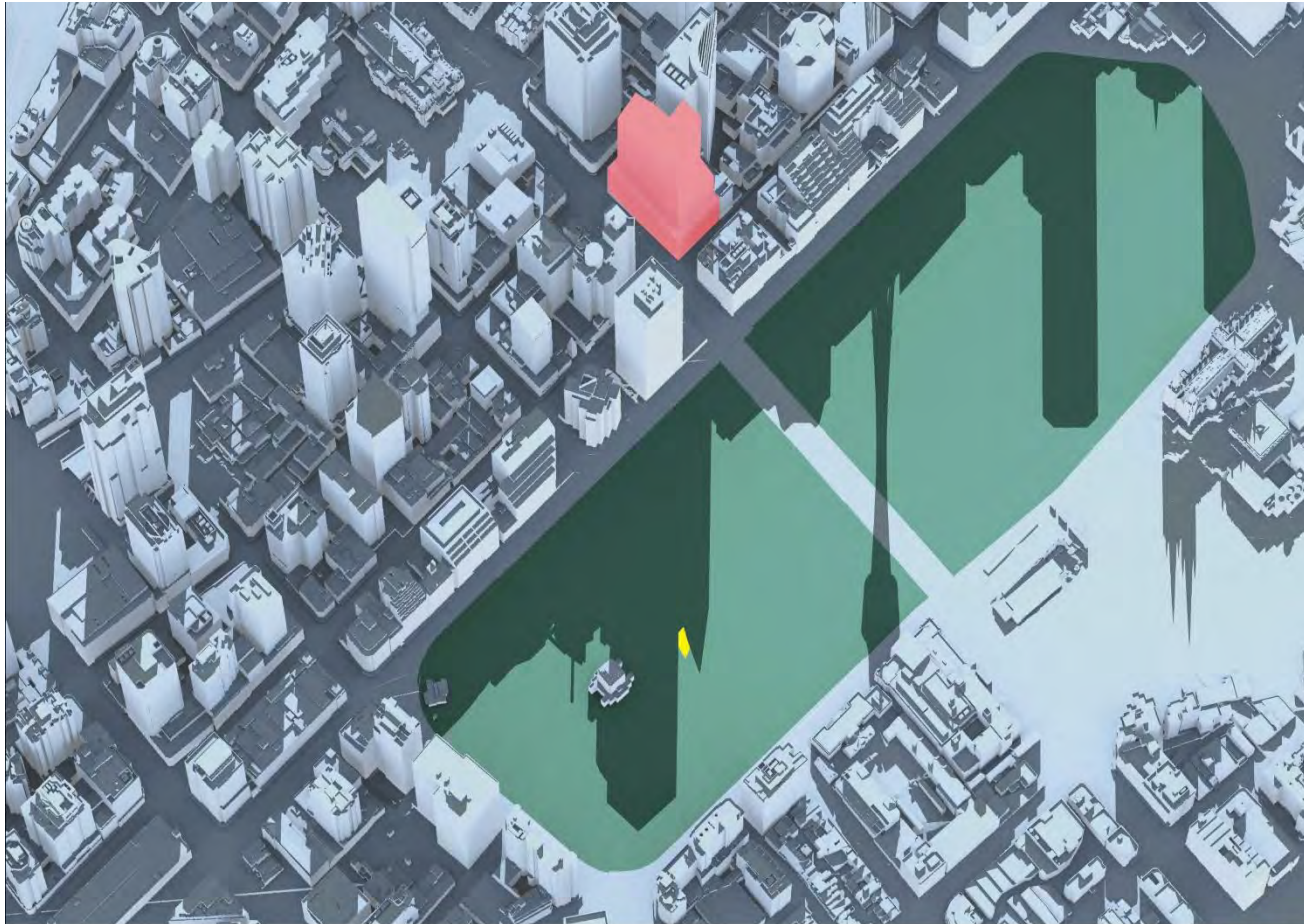| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   July 21   12:00PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   July 21   12:30PM

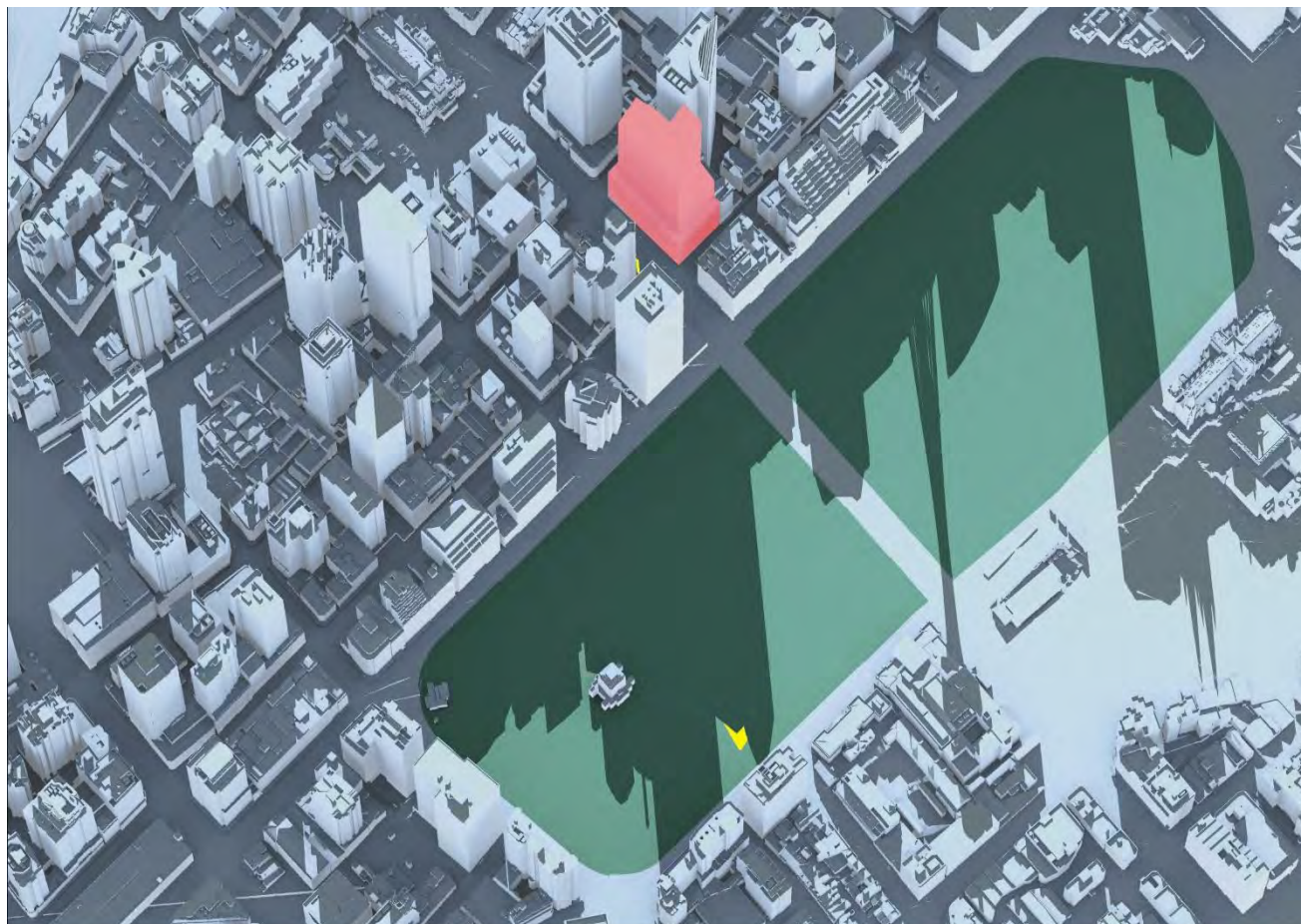| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   July 21   13:00PM

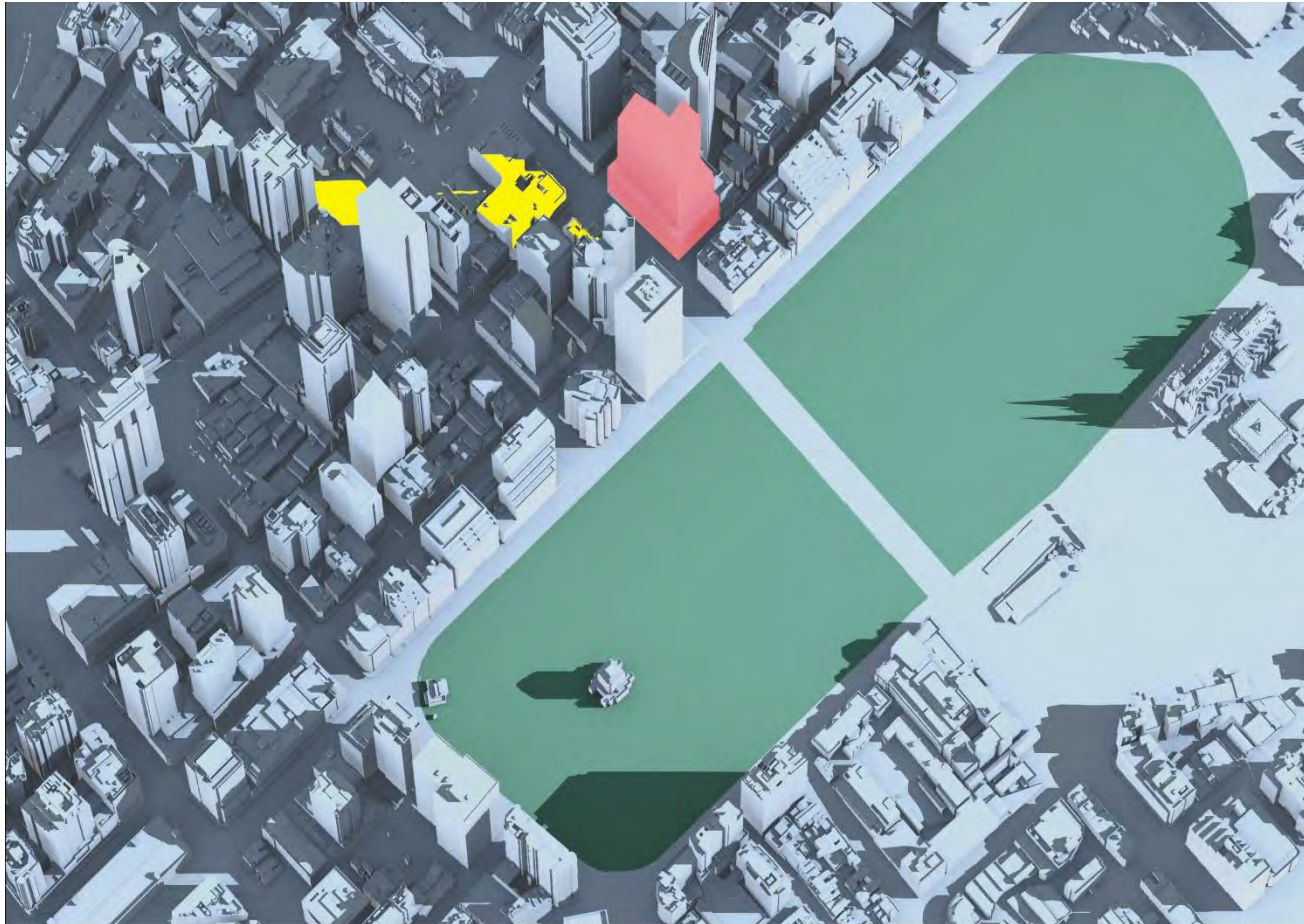|		
■ Pitt Street North OSD Envelope	■ Additional Shadow cast by Pitt Street North OSD Envelope	■ Hyde Park ■ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   July 21   13:30PM

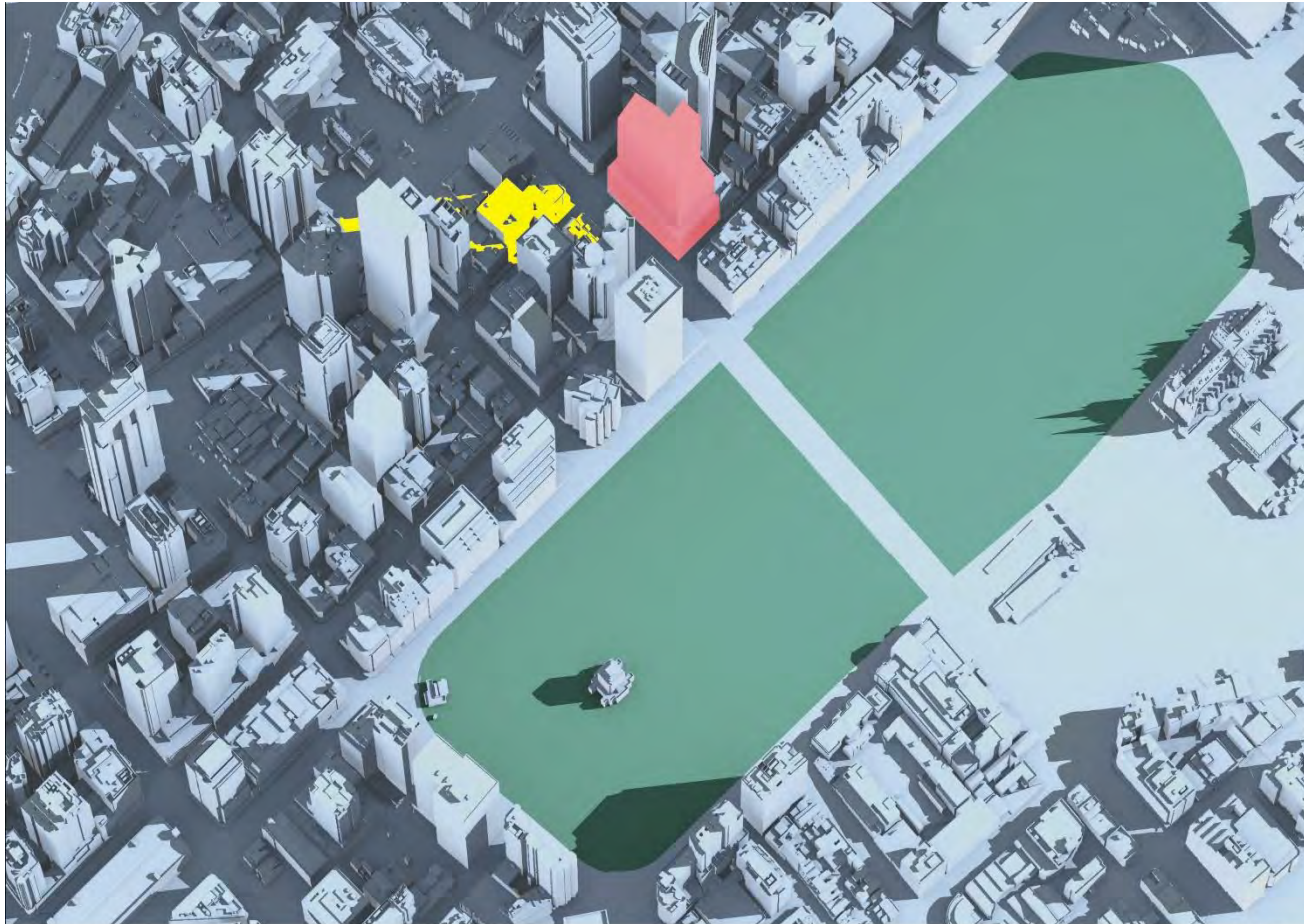| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study
July 21
14:00PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   July 21   14:30PM

🟥 Pitt Street North OSD Envelope	🟨 Additional Shadow cast by Pitt Street North OSD Envelope	🟩 Hyde Park	⬛ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   July 21   15:00PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   9:00AM

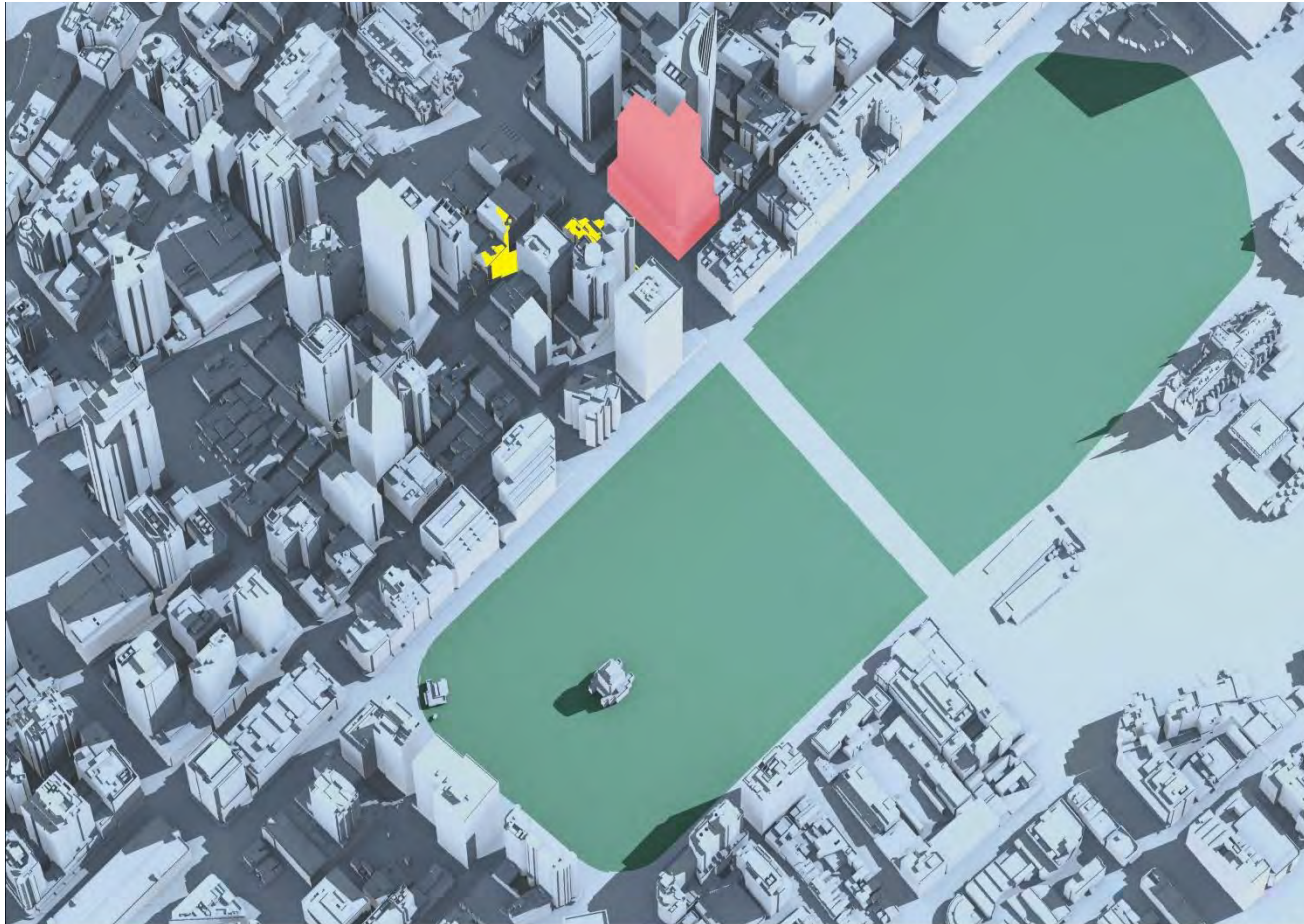| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   9:30AM

Pitt Street North OSD Envelope

Additional Shadow cast by Pitt Street North OSD Envelope

Hyde Park

Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   August 21   10:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study
August 21   10:30AM

Pitt Street North
OSD Envelope

Additional Shadow cast by
Pitt Street North OSD Envelope

Hyde Park

Shadow cast by existing
City of Sydney buildings

Pitt Street North OSD Shadow Study   August 21   11:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   11:30AM

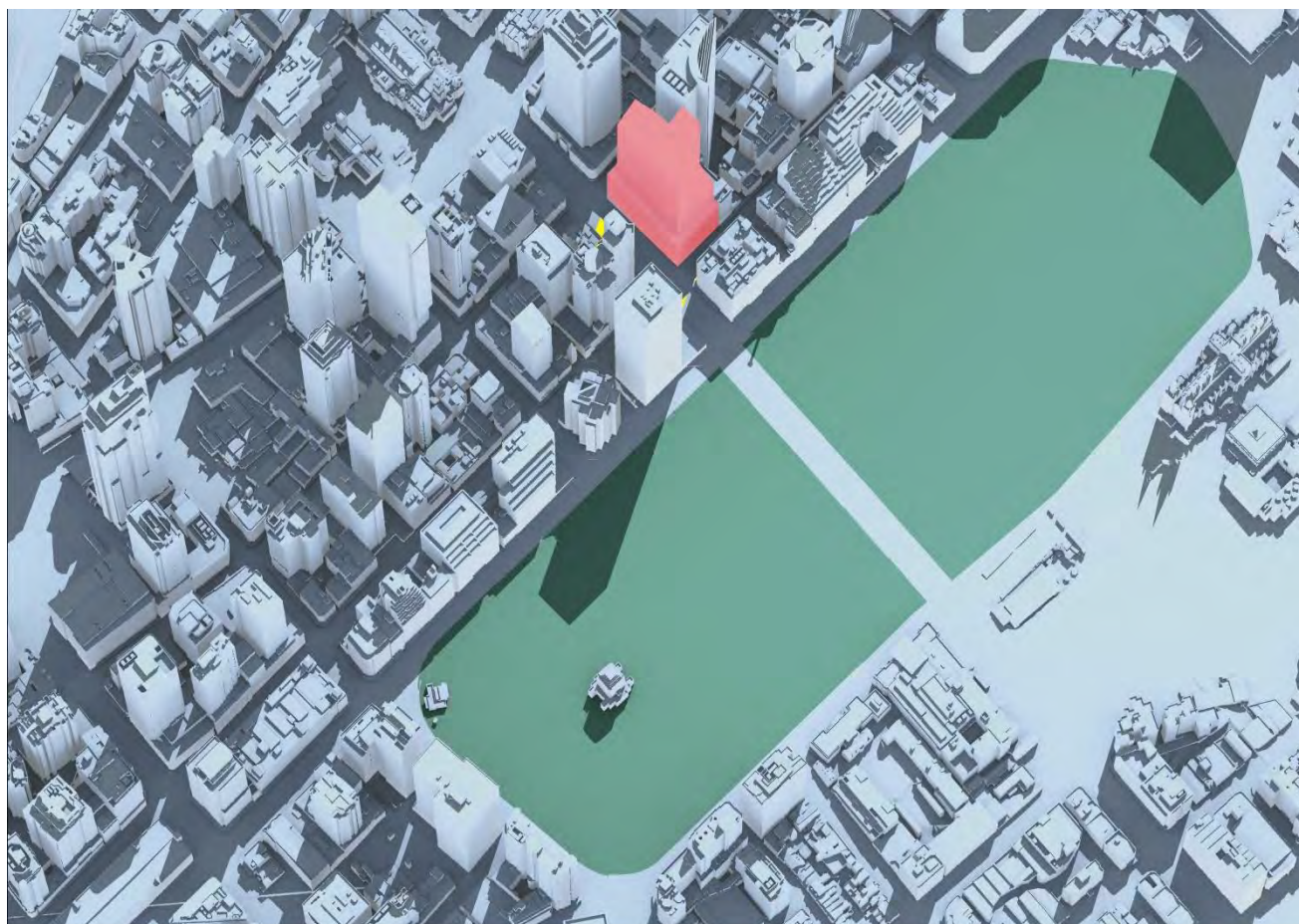| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   12:00PM

Pitt Street North OSD Envelope	**Additional Shadow cast by Pitt Street North OSD Envelope**	**Hyde Park**	**Shadow cast by existing City of Sydney buildings**

Pitt Street North OSD Shadow Study   August 21   12:30PM

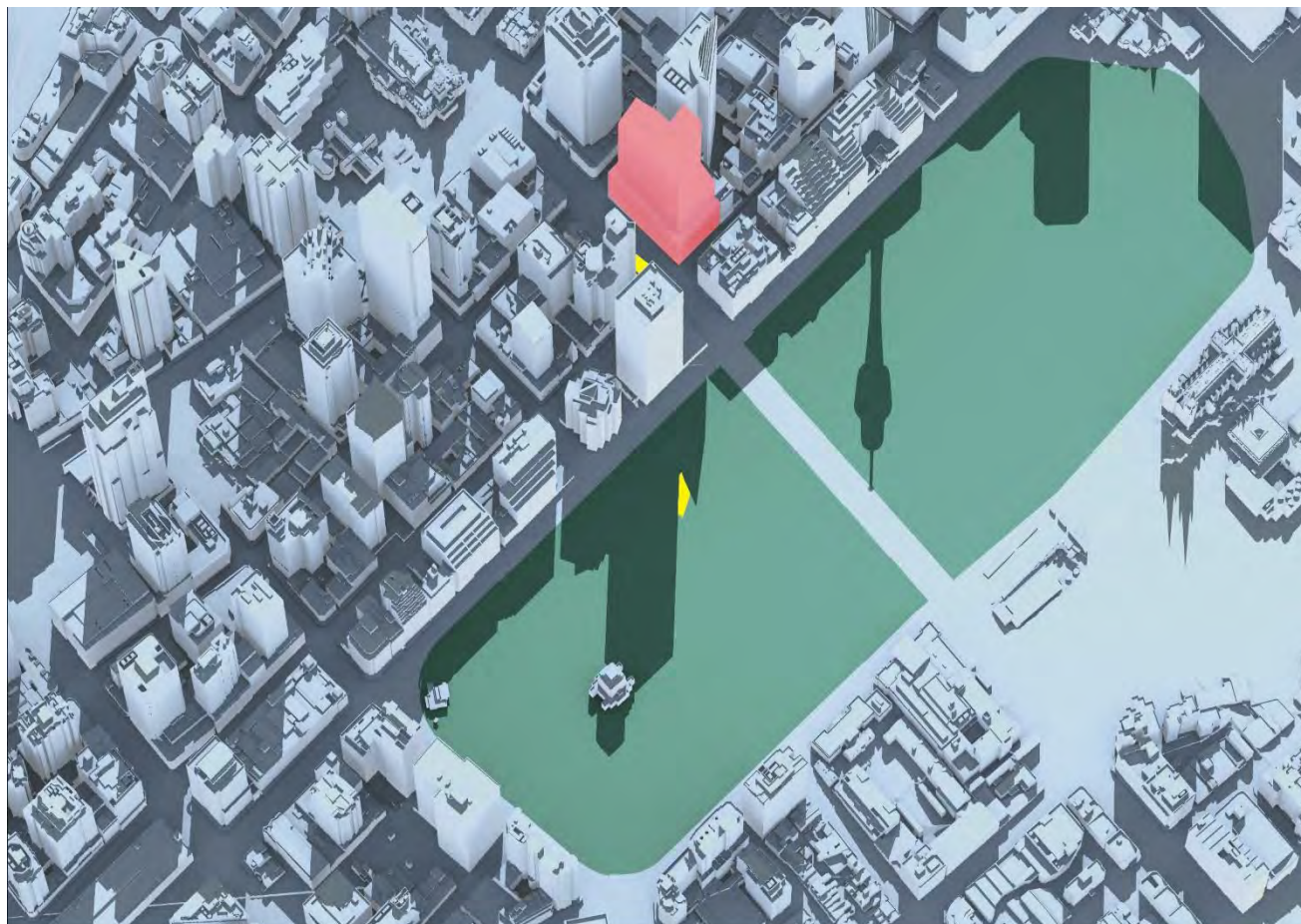| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   13:00PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   13:30PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   August 21   14:00PM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   August 21   14:30PM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

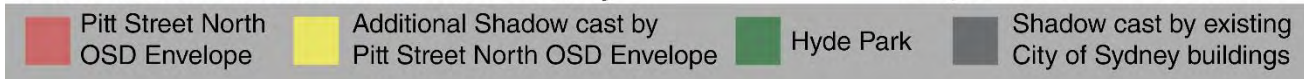Pitt Street North OSD Shadow Study   August 21   15:00PM

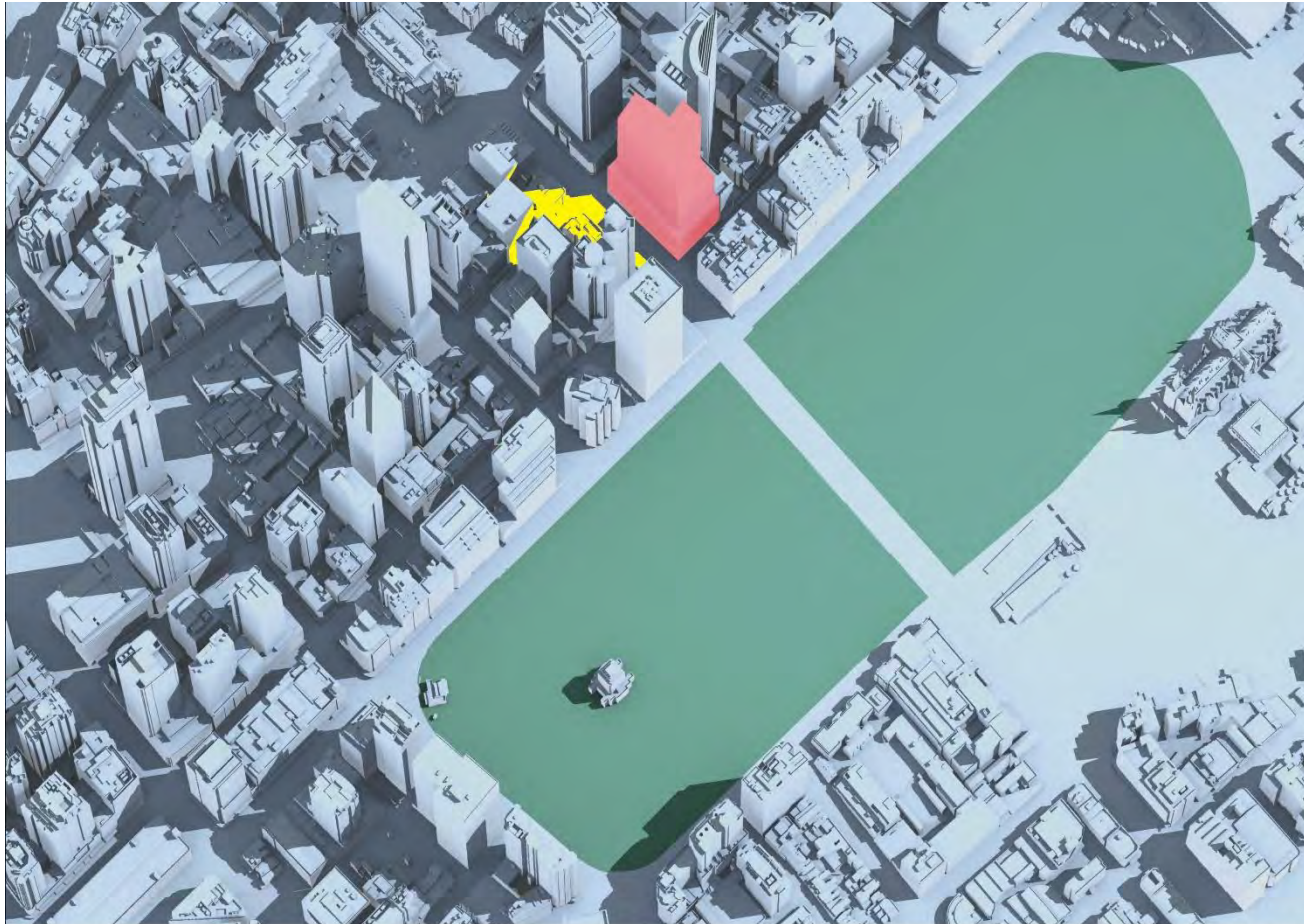|			
■ Pitt Street North OSD Envelope	■ Additional Shadow cast by Pitt Street North OSD Envelope	■ Hyde Park	■ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   September 21 9:00AM

|			
Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   September 21   9:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   September 21   10:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   September 21 10:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   September 21 11:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

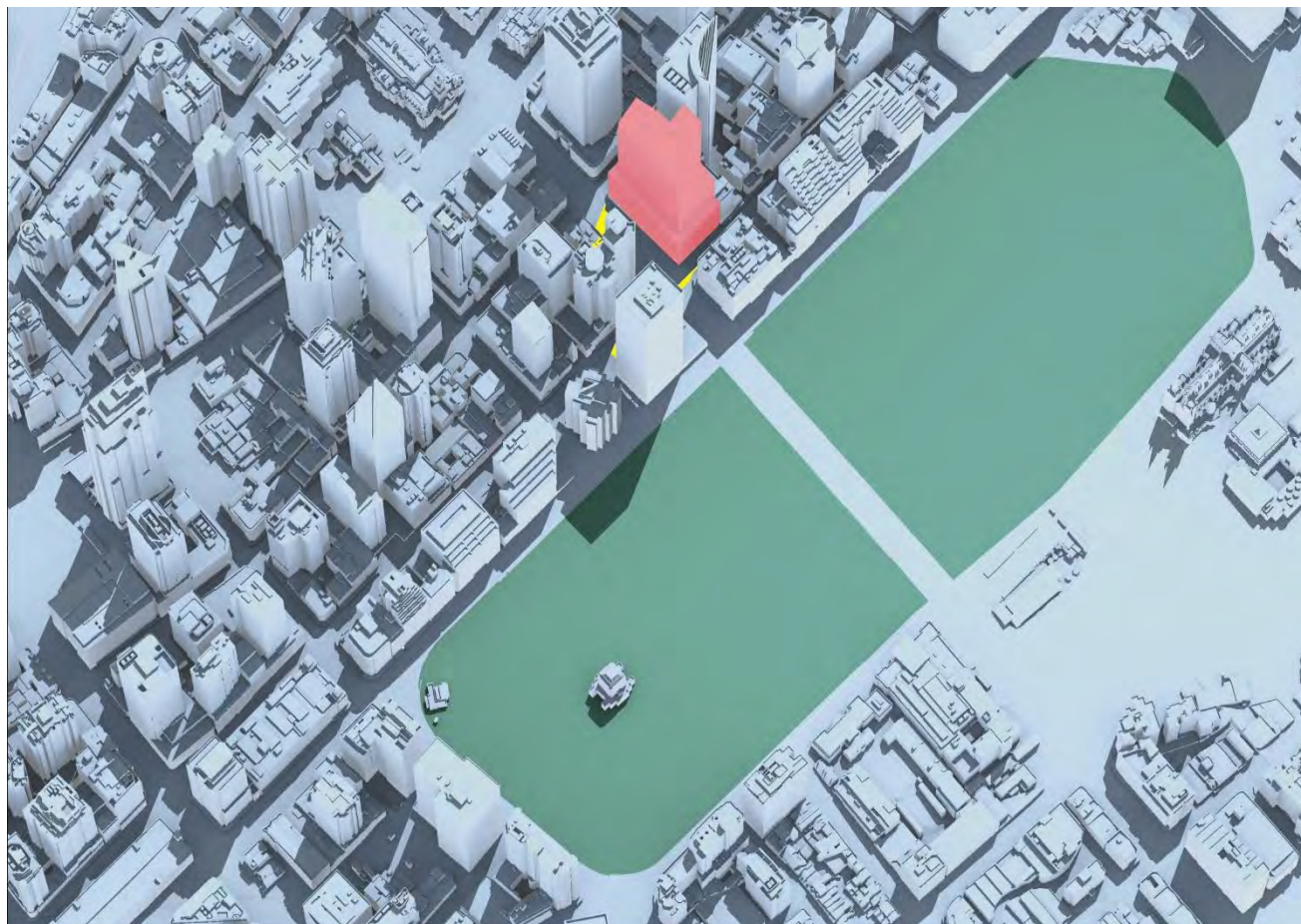Pitt Street North OSD Shadow Study   September 21 11:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

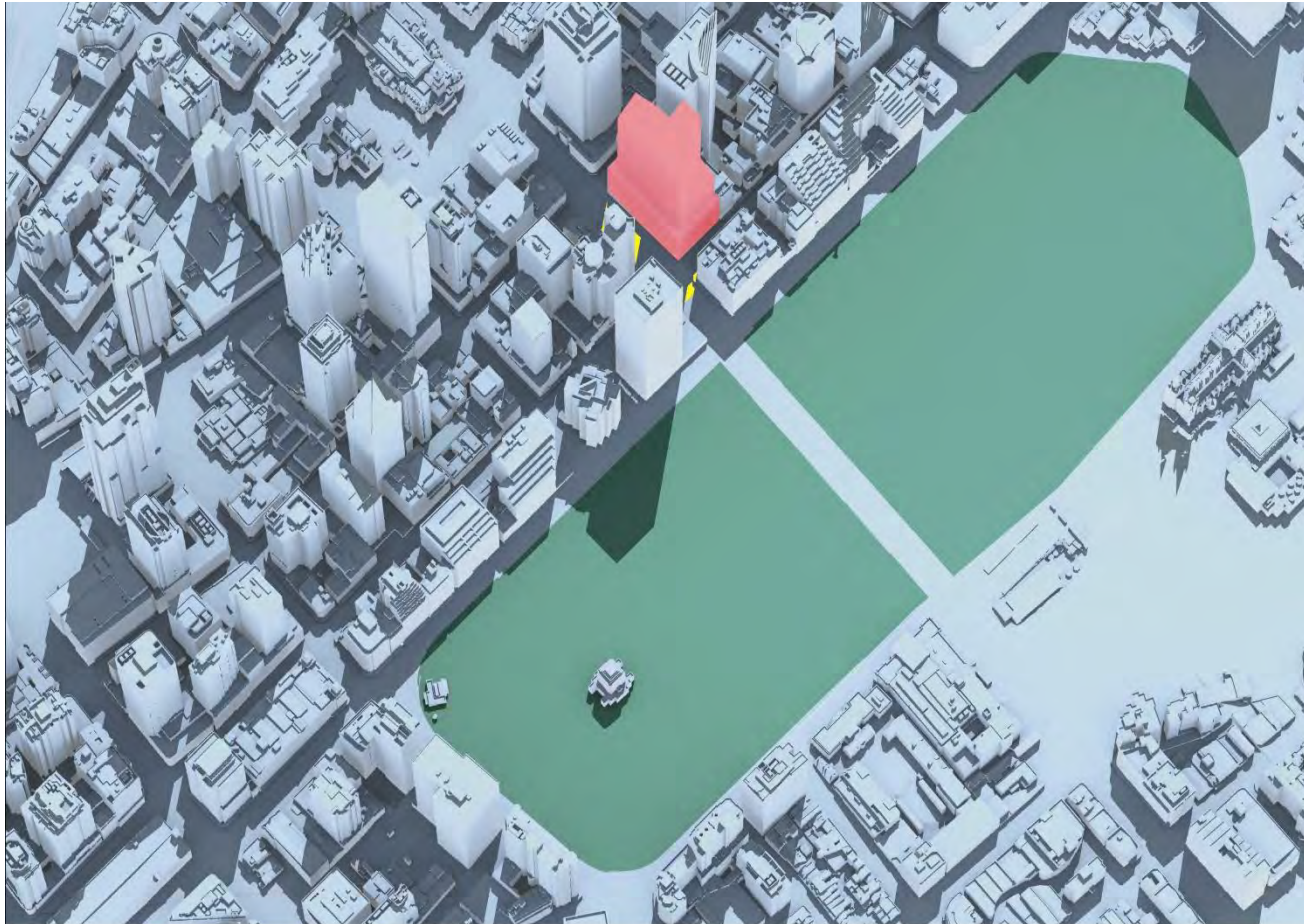Pitt Street North OSD Shadow Study   September 21 12:00PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   September 21 12:30PM

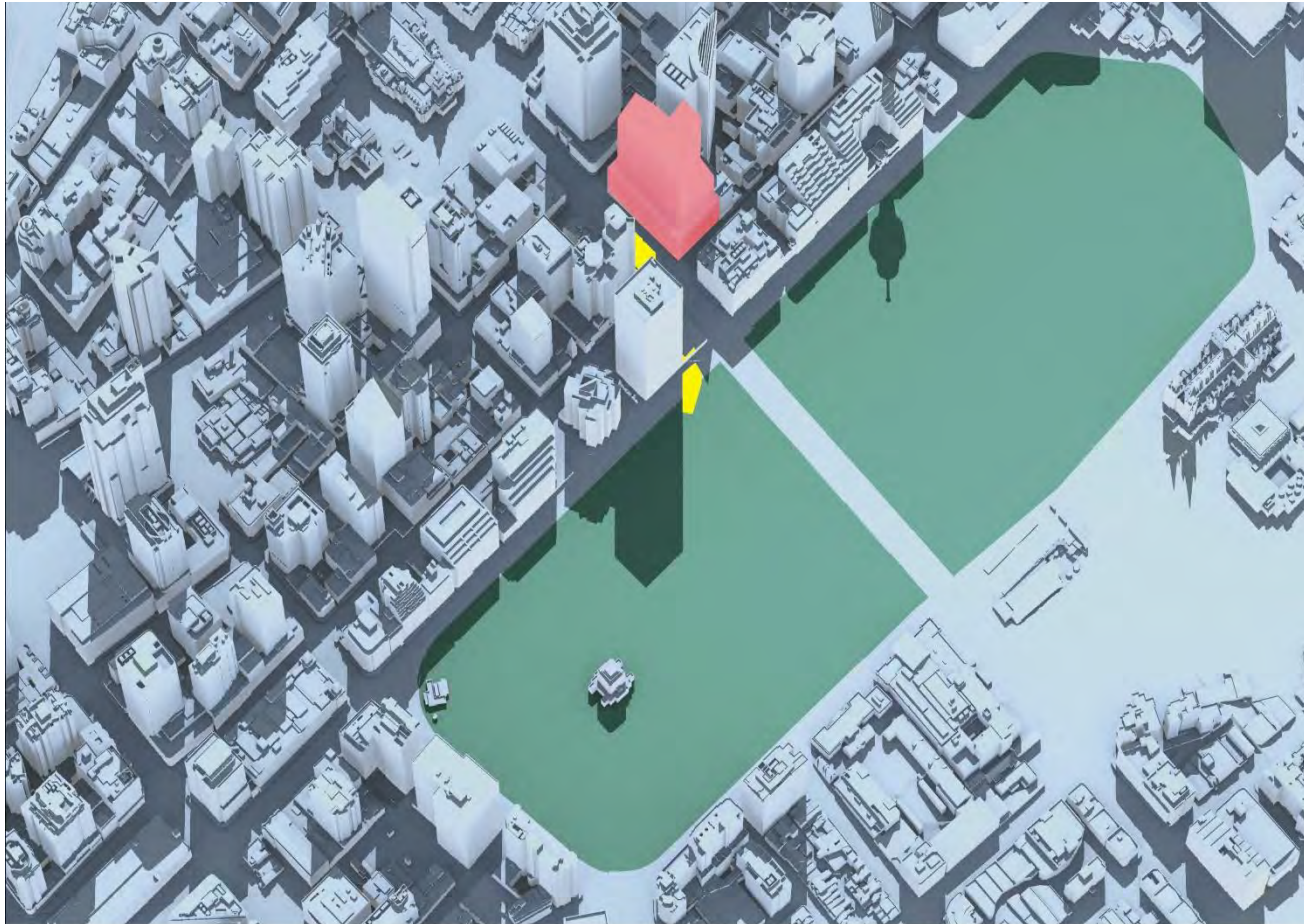| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   September 21 13:00PM

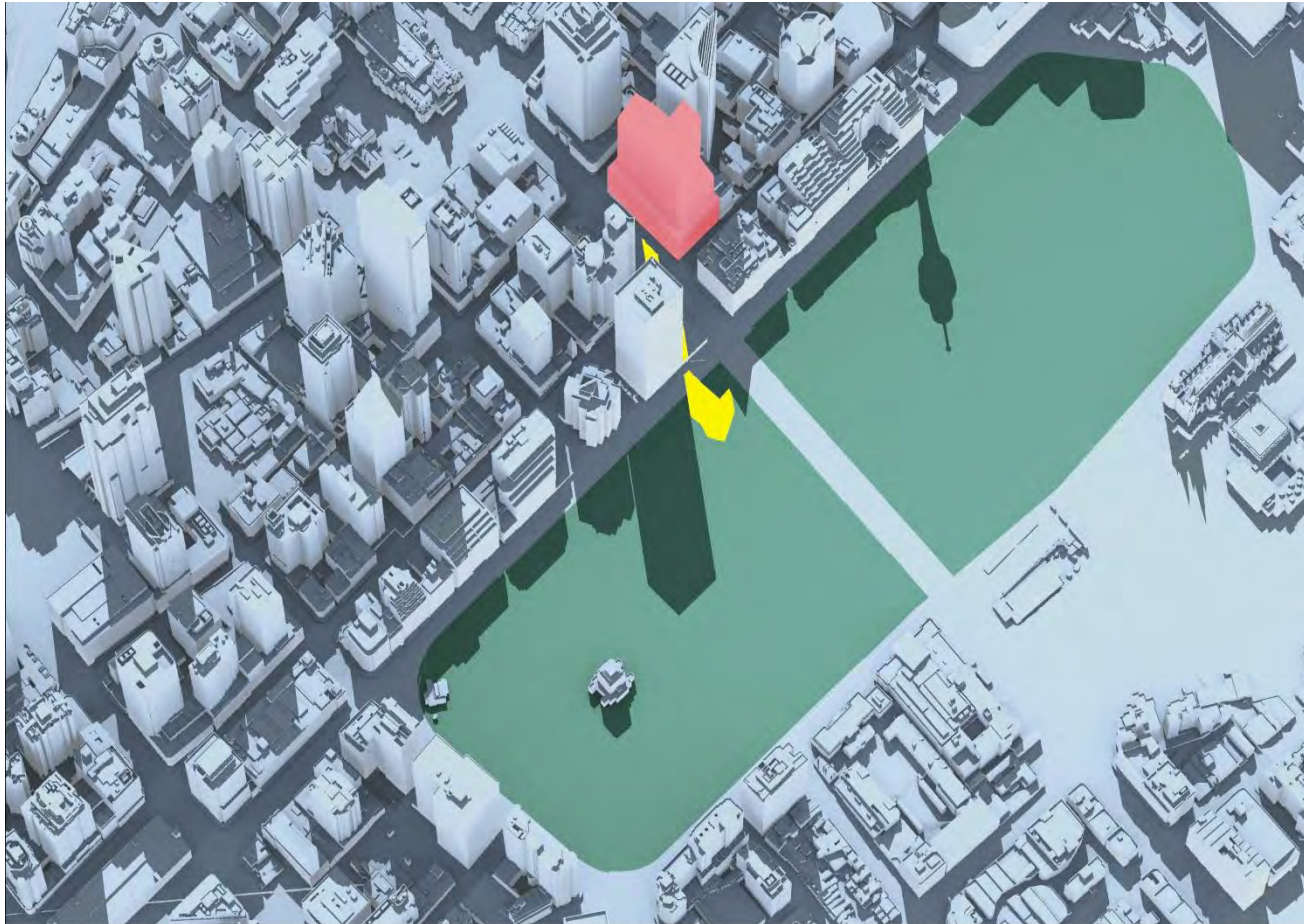|			
■ Pitt Street North OSD Envelope	■ Additional Shadow cast by Pitt Street North OSD Envelope	■ Hyde Park	■ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   September 21 13:30PM

▮ Pitt Street North OSD Envelope	▮ Additional Shadow cast by Pitt Street North OSD Envelope	▮ Hyde Park	▮ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   September 21 14:00PM
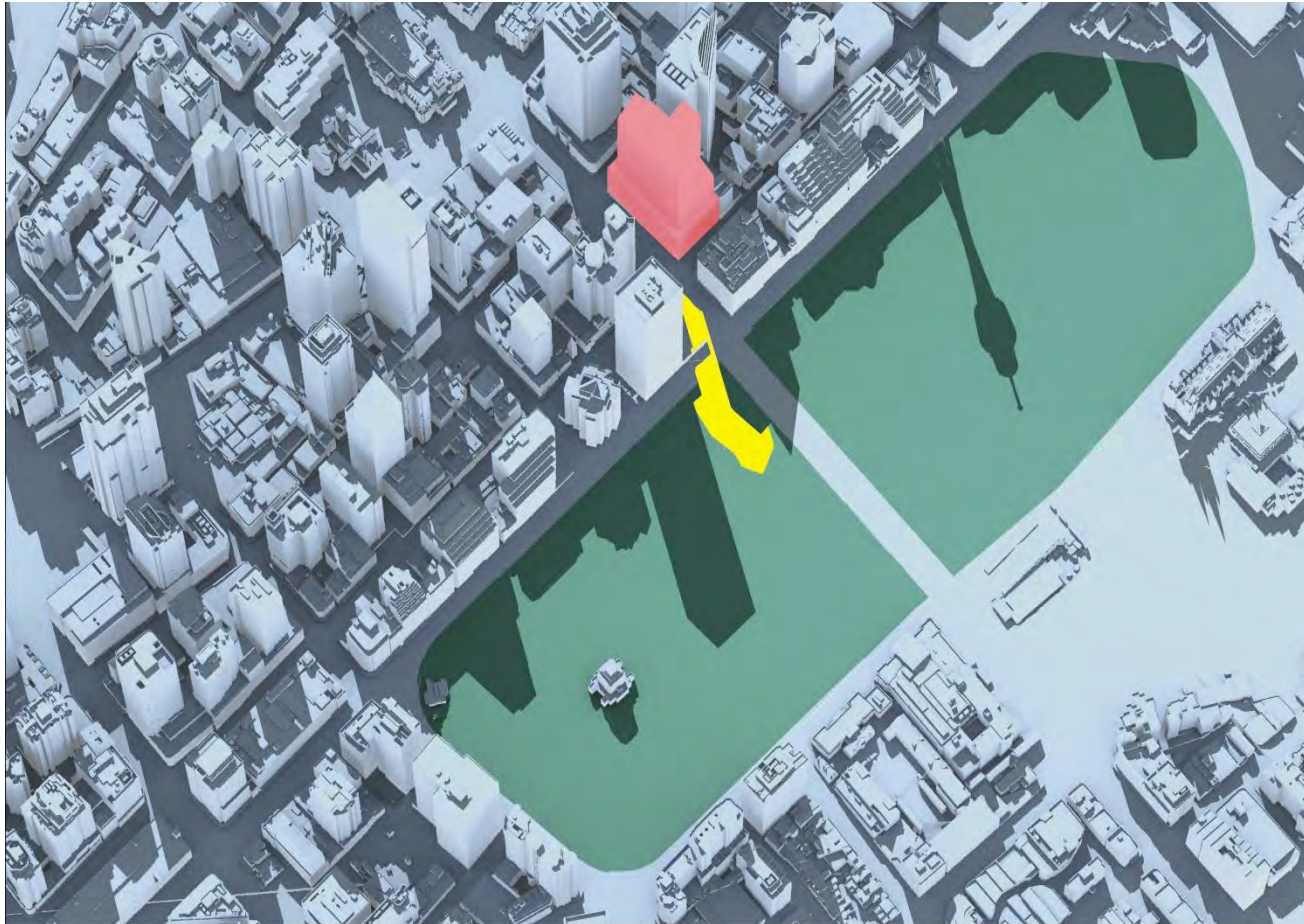
| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   September 21 14:30PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

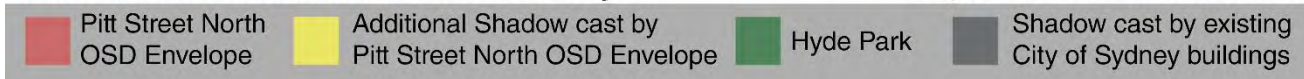Pitt Street North OSD Shadow Study   September 21 15:00PM

Pitt Street North
OSD Envelope

Additional Shadow cast by
Pitt Street North OSD Envelope

Hyde Park

Shadow cast by existing
City of Sydney buildings

Pitt Street North OSD Shadow Study   October 21   9:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   9:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   10:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   10:30AM

🟥 Pitt Street North OSD Envelope	🟨 Additional Shadow cast by Pitt Street North OSD Envelope	🟩 Hyde Park	⬛ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   October 21   11:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   11:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   12:00PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   12:30PM

Pitt Street North
OSD Envelope

Additional Shadow cast by
Pitt Street North OSD Envelope

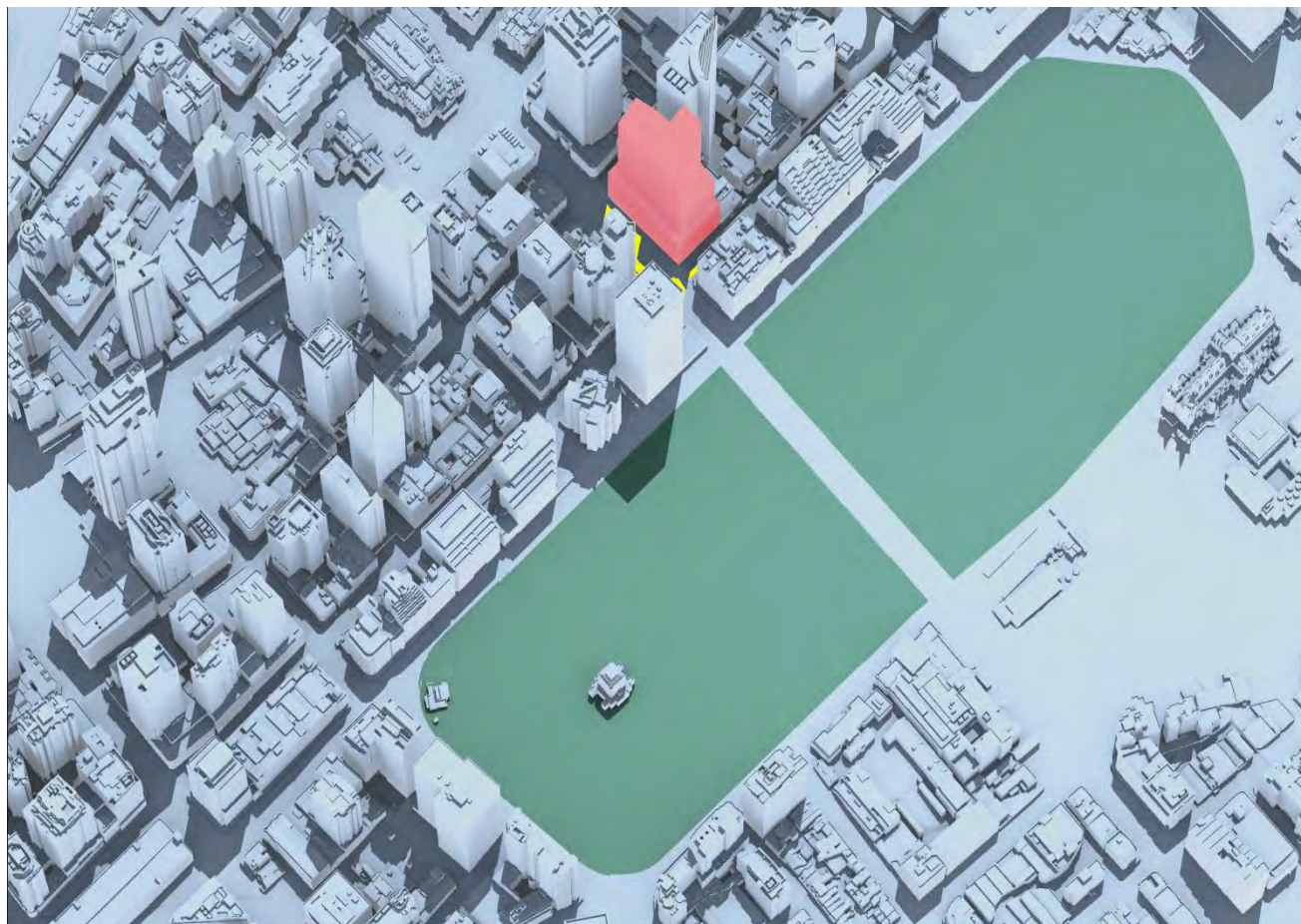Hyde Park

Shadow cast by existing
City of Sydney buildings

Pitt Street North OSD Shadow Study   October 21   13:00PM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

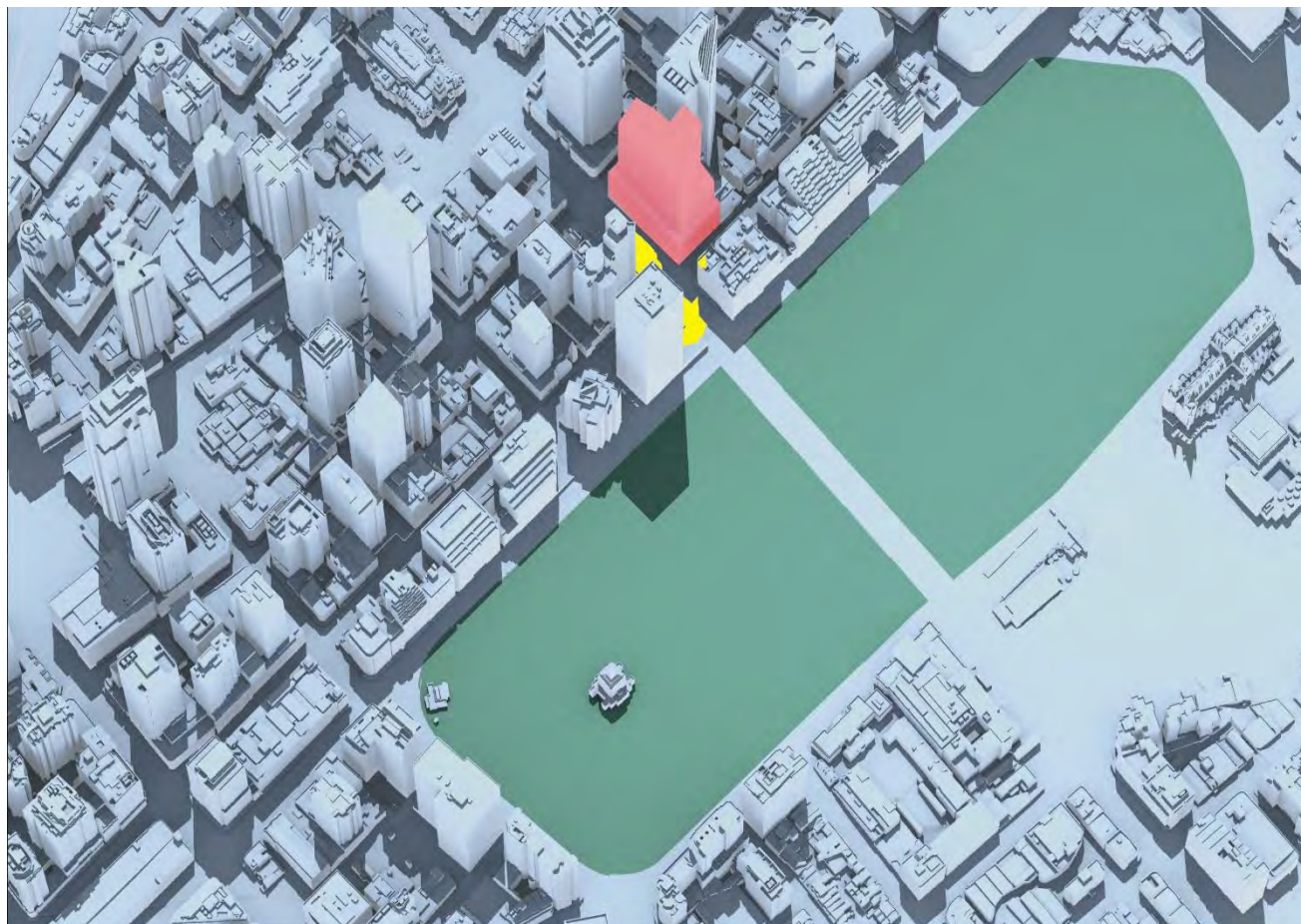Pitt Street North OSD Shadow Study   October 21   13:30PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   14:00PM

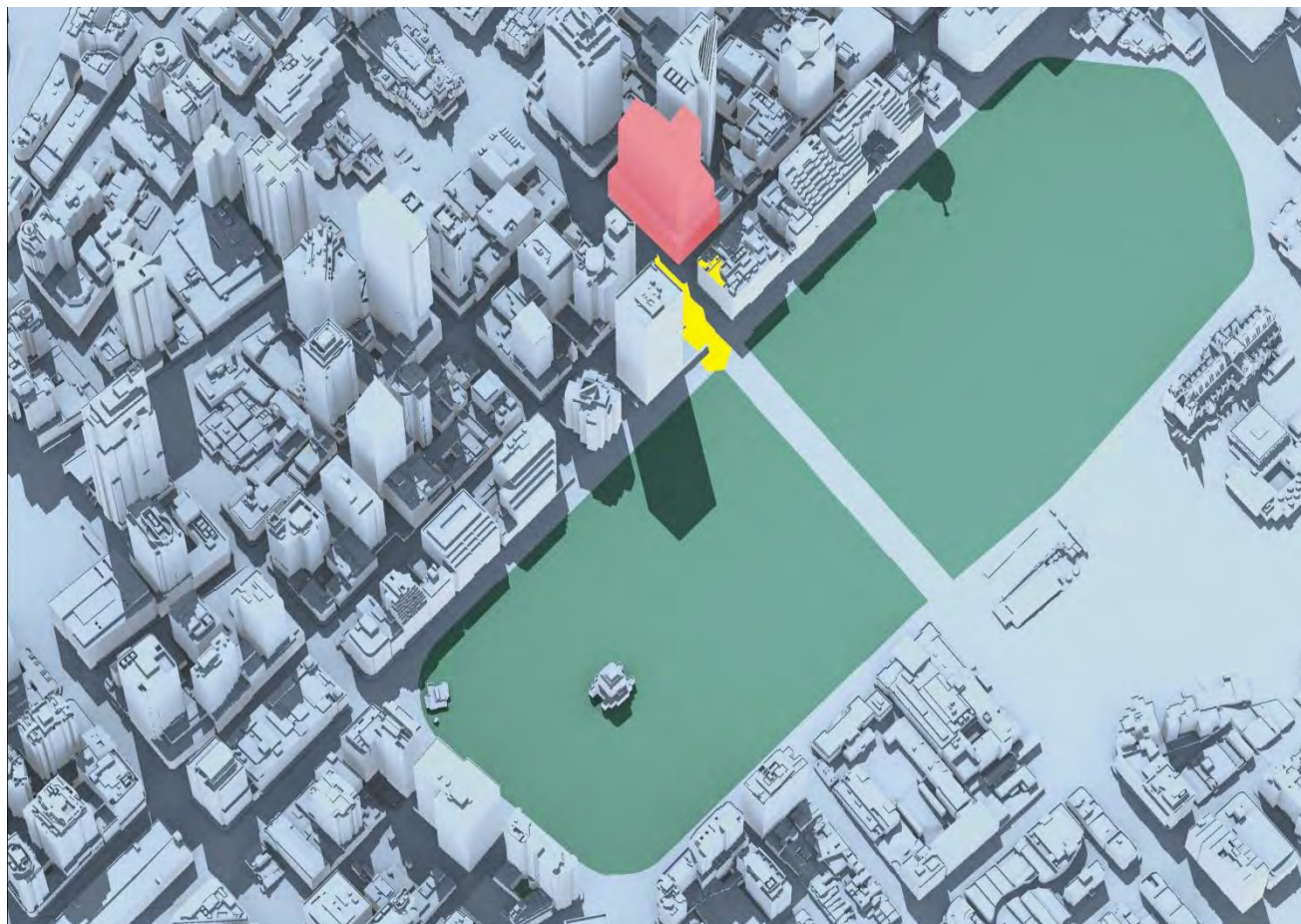| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   14:30PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   October 21   15:00PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   9:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   9:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   10:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   10:30AM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   11:00AM

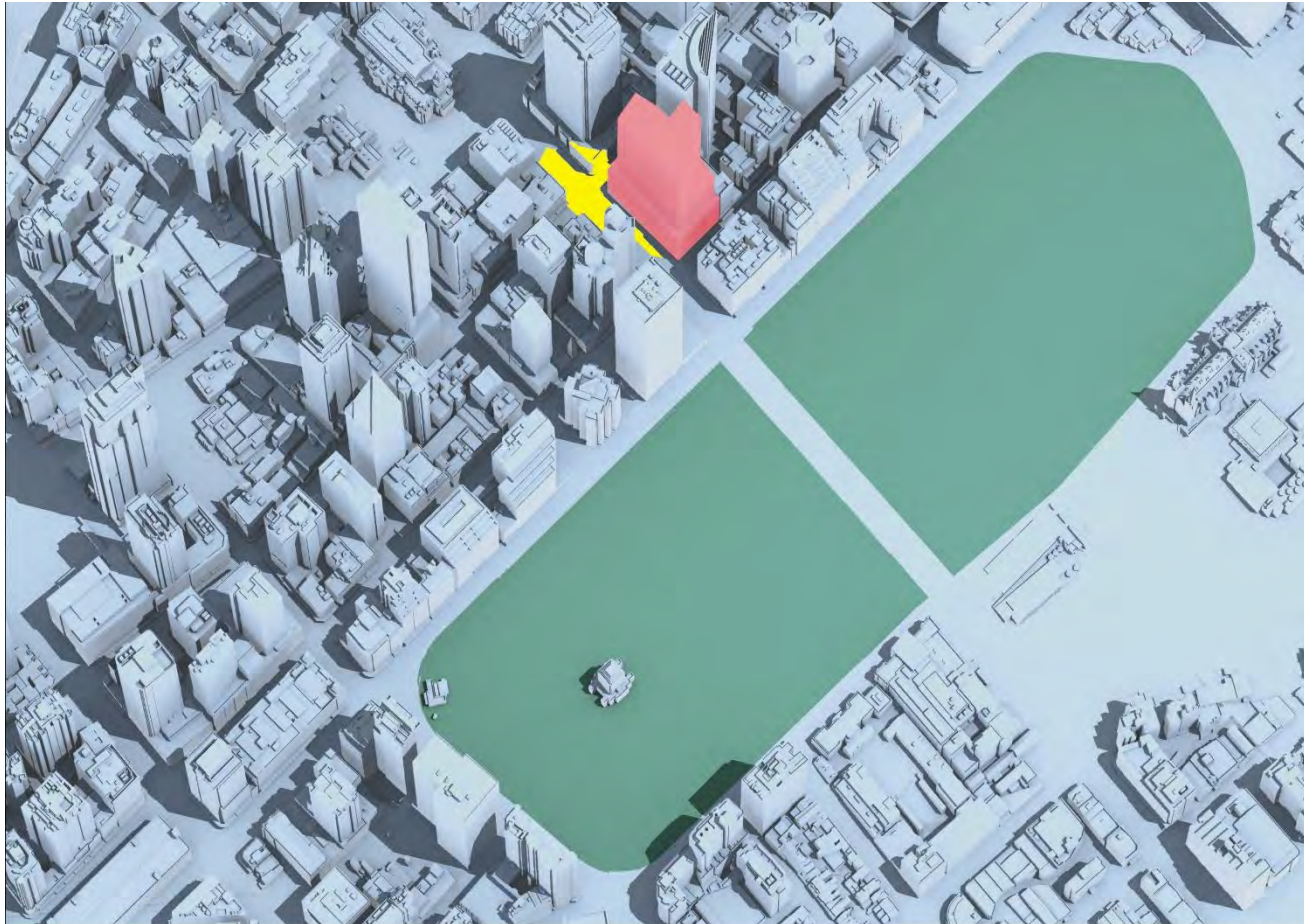|			
Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   November 21   11:30AM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   12:00PM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   November 21   12:30PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   13:00PM

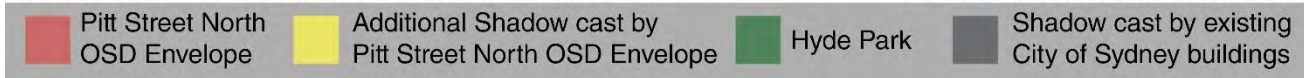|			
Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   November 21   13:30PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

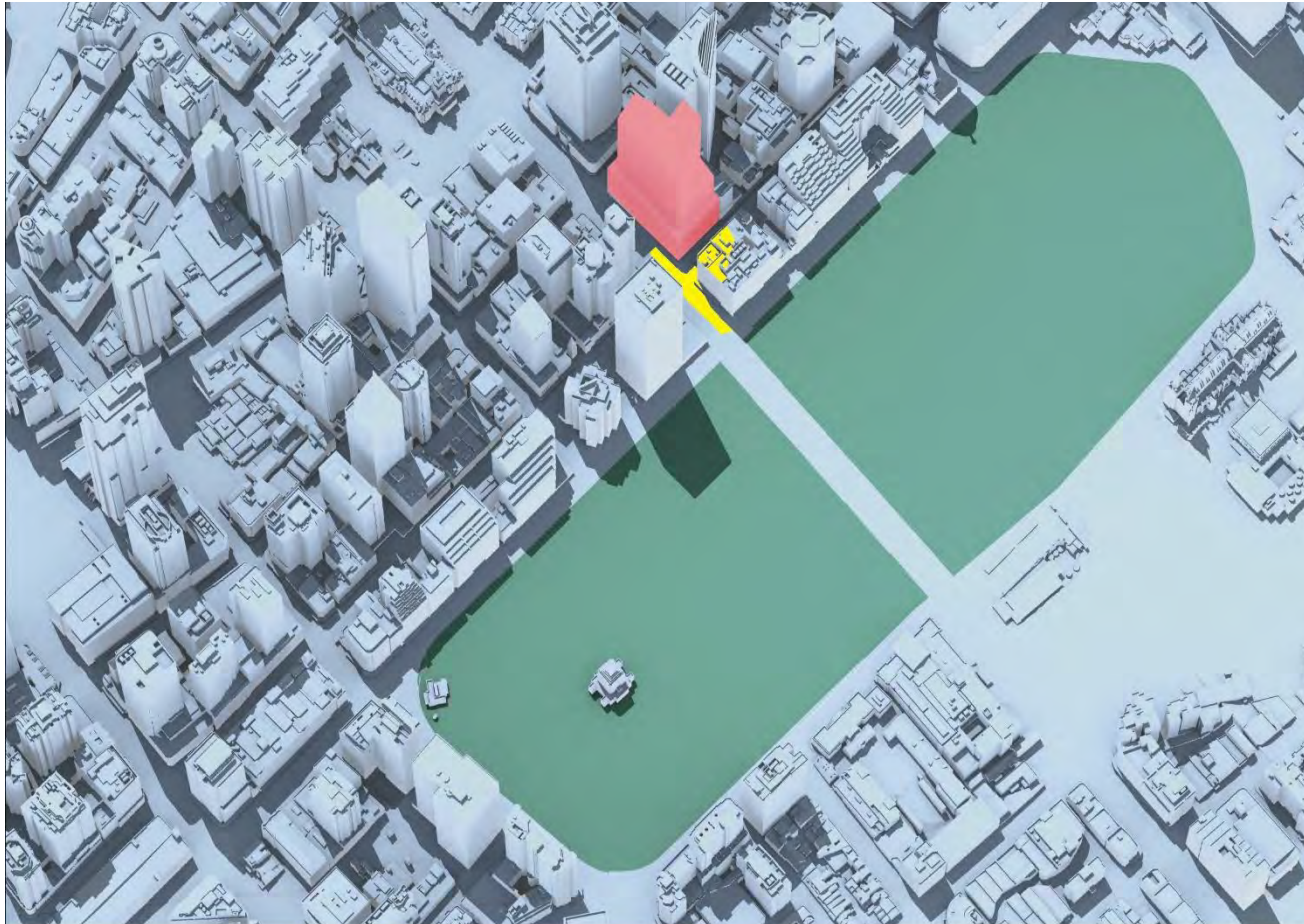Pitt Street North OSD Shadow Study   November 21   14:00PM

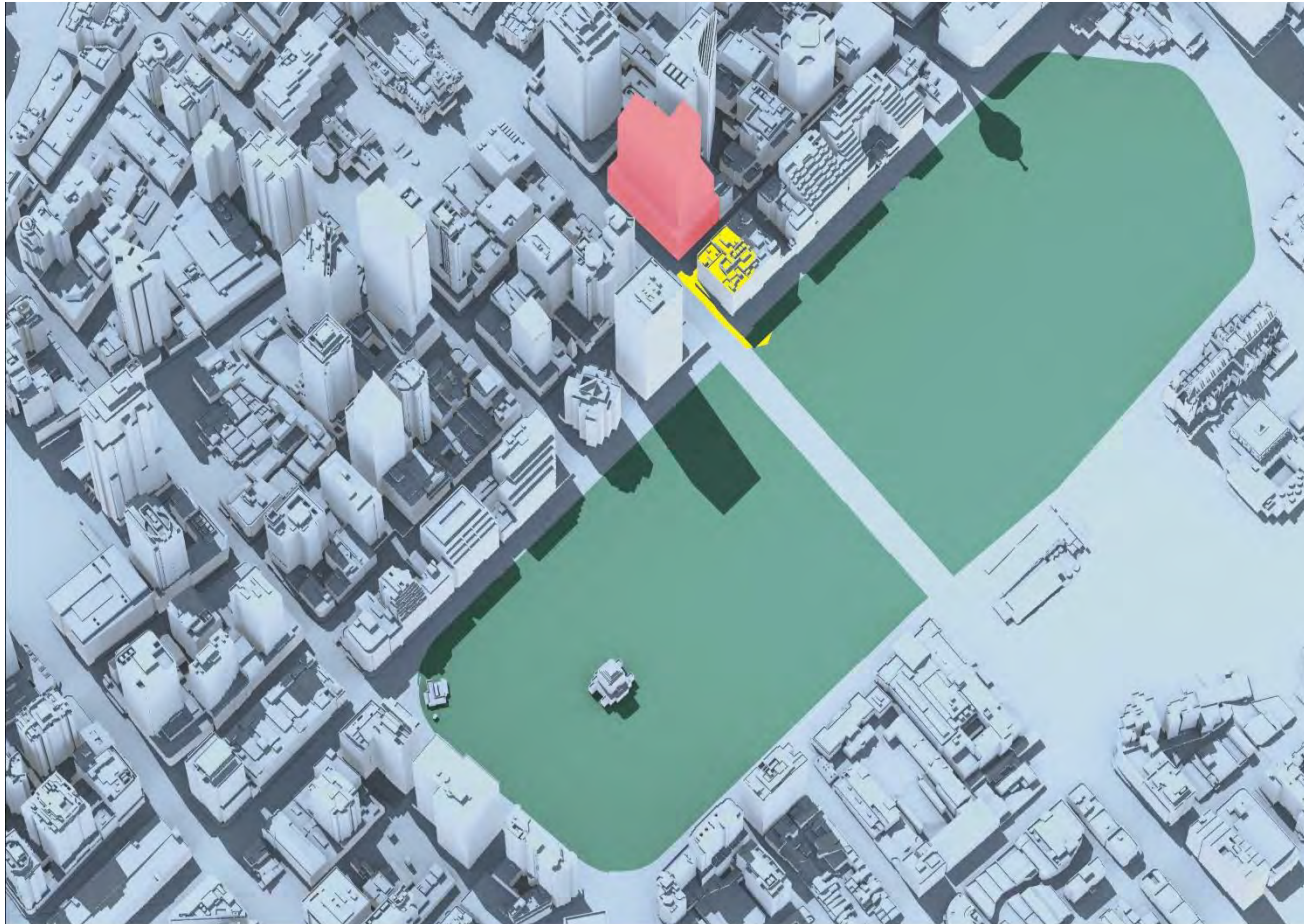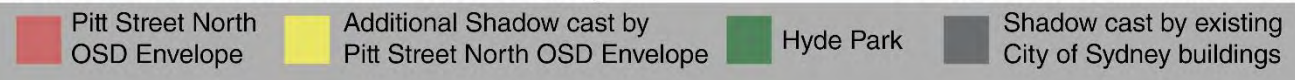| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   November 21   14:30PM

🟥 Pitt Street North OSD Envelope	🟨 Additional Shadow cast by Pitt Street North OSD Envelope	🟩 Hyde Park	⬛ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   November 21   15:00PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study

December 21   9:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   9:30AM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   10:00AM

|			
🟥 Pitt Street North OSD Envelope	🟨 Additional Shadow cast by Pitt Street North OSD Envelope	🟩 Hyde Park	⬛ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   December 21   10:30AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   11:00AM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   11:30AM

Pitt Street North OSD Envelope	Additional Shadow cast by Pitt Street North OSD Envelope	Hyde Park	Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study   December 21   12:00PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   12:30PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   13:00PM

▮ Pitt Street North OSD Envelope	▮ Additional Shadow cast by Pitt Street North OSD Envelope	▮ Hyde Park	▮ Shadow cast by existing City of Sydney buildings

Pitt Street North OSD Shadow Study

December 21   13:30PM

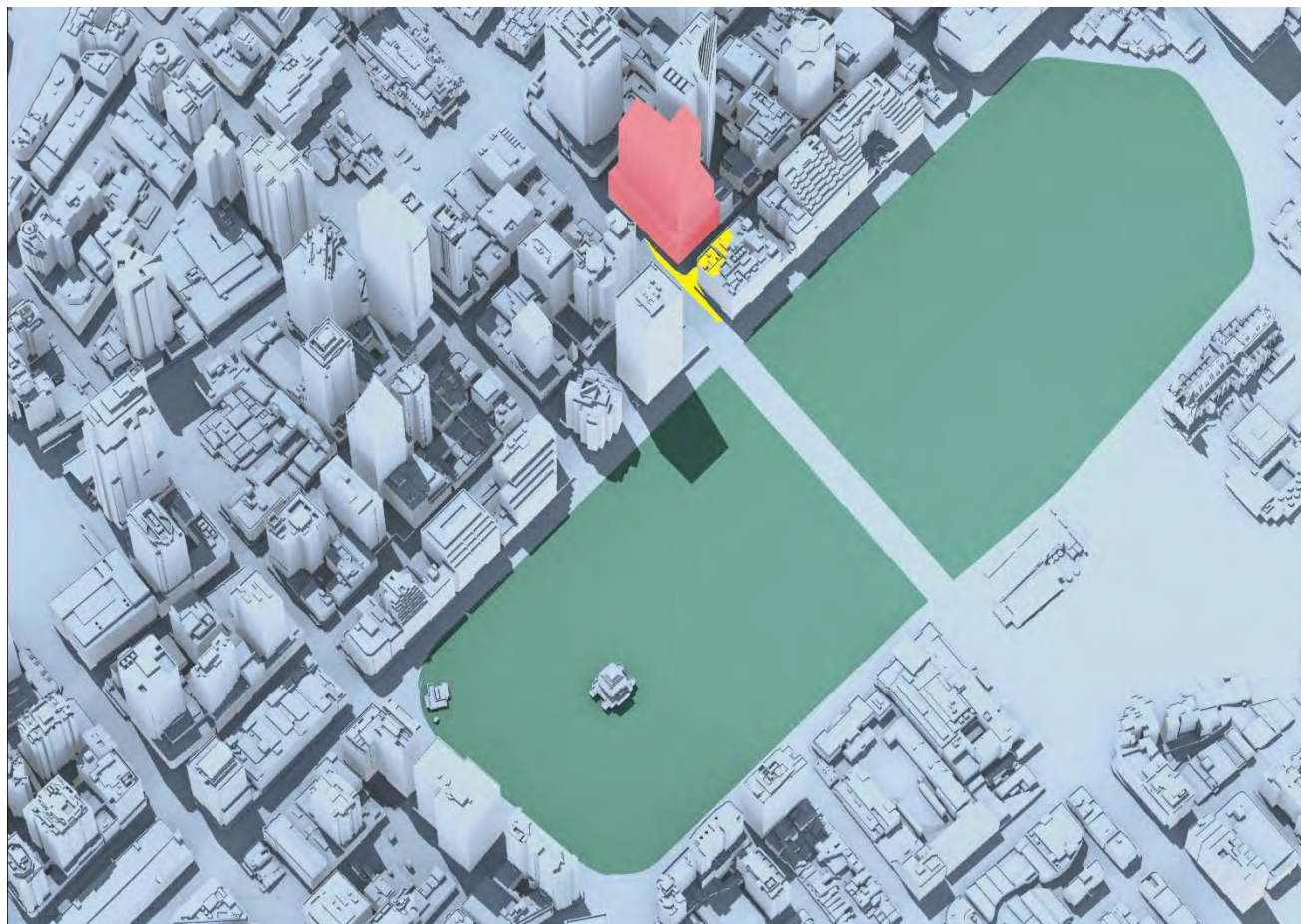| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   14:00PM

| | Pitt Street North OSD Envelope | | Additional Shadow cast by Pitt Street North OSD Envelope | | Hyde Park | | Shadow cast by existing City of Sydney buildings |

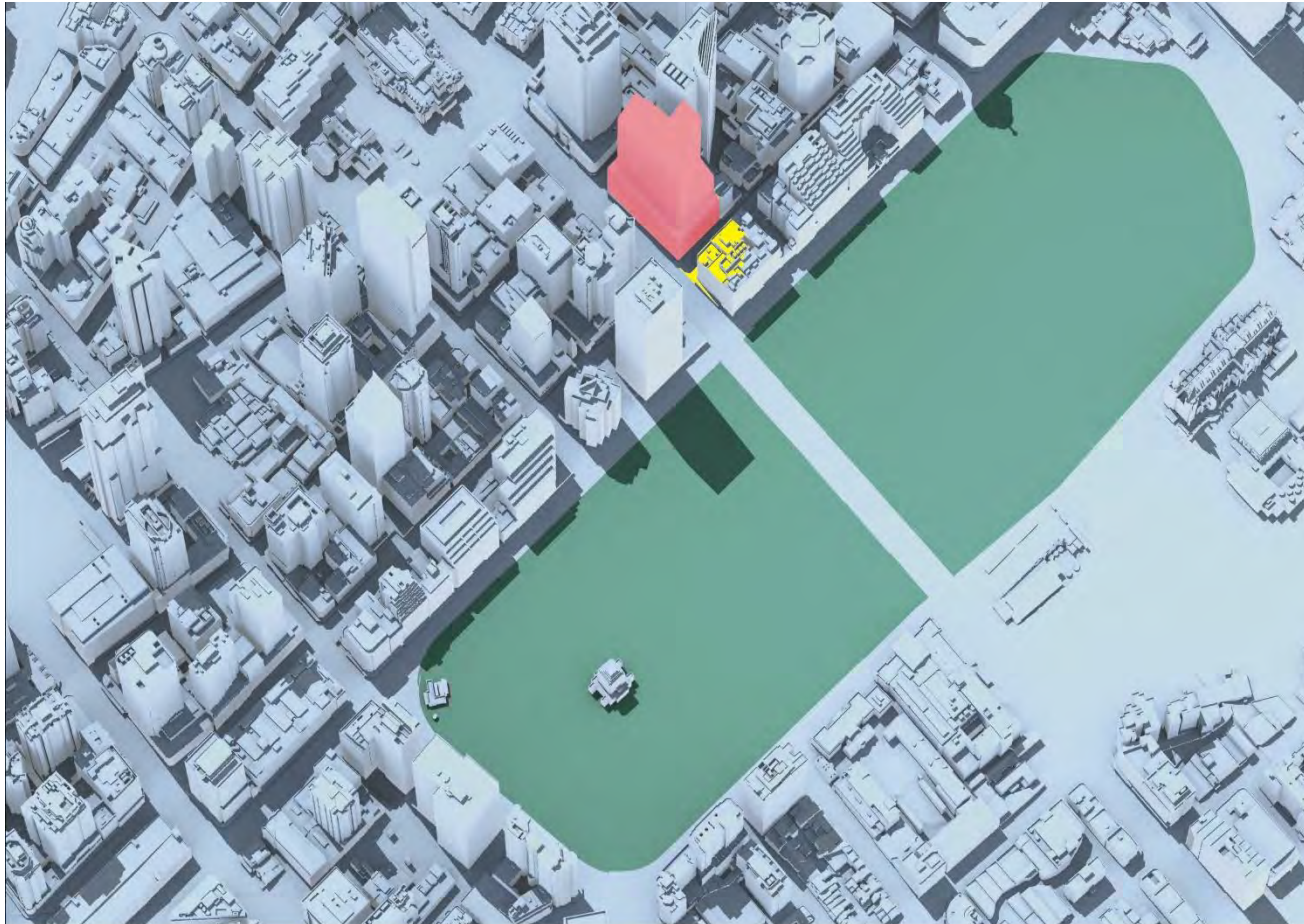Pitt Street North OSD Shadow Study   December 21   14:30PM

| Pitt Street North OSD Envelope | Additional Shadow cast by Pitt Street North OSD Envelope | Hyde Park | Shadow cast by existing City of Sydney buildings |

Pitt Street North OSD Shadow Study   December 21   15:00PM

Colour	Legend
🟥	Pitt Street North OSD Envelope
🟨	Additional Shadow cast by Pitt Street North OSD Envelope
🟩	Hyde Park
⬛	Shadow cast by existing City of Sydney buildings