VIEW IMPACT STUDY - BEAU MONDE APARTMENTS





Sydney Metro City & South West

Victoria Cross Over Station Development:

Visual Impact Study - Beau Monde Apartment

Applicable to:	Sydney Metro City & Southwest	
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Owner	Transport for NSW	
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1.0 Introduction

1.1 Purpose of this report

This report supports a concept State Significant Development Application (concept SSD Application) submitted to the Department of Planning and Environment (DP&E) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The concept SSD Application is made under Section 4.22 of the EP&A Act.

Transport for NSW (TfNSW) is seeking to secure concept approval for a commercial office tower above the Victoria Cross Station, otherwise known as the over station development (OSD). The concept SSD Application seeks consent for a building envelope and its use as a commercial premises (office, business and retail), maximum building height, maximum gross floor area, pedestrian and vehicular access, circulation arrangements and associated car parking, future subdivision (if required) and the strategies and design parameters for the future detailed design of development.

TfNSW proposes to procure the construction of the OSD as part of an Integrated Station Development package, which would result in the combined delivery of the station, OSD and public domain improvements. The station and public domain elements form part of a separate planning approval for Critical State Significant Infrastructure (CSSI) approved by DP&E on 9 January 2017.

As the development is within a rail corridor, is associated with railway infrastructure and is for commercial premises with a Capital Investment Value of more than \$30 million, the project is identified as State Significant Development (SSD) pursuant to Schedule 1, 19(2)(a) of the State Environ- mental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

This report has been prepared to analyse the visual impact of the new development and specifically respond to the Secretary's Environmental Assessment Requirements (SEARs) issued for the concept SSD Application on 30th November 2017 which state that the Environmental Impact Statement (EIS) is to be accompanied by a view impact analysis including photomontages of the proposed development.



1.2 Overview of the Sydney Metro in its context

The New South Wales (NSW) Government is implementing Sydney's Rail Future, a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of customers in the future (Transport for NSW, 2012). Sydney Metro is a new standalone rail network identified in Sydney's Rail Future.

Sydney Metro is Australia's biggest public transport project, consisting of Sydney Metro Northwest (Stage 1), which is due for completion in 2019 and Sydney Metro City & Southwest (Stage 2), which is due for completion in 2024 (Refer to **Figure 1**).

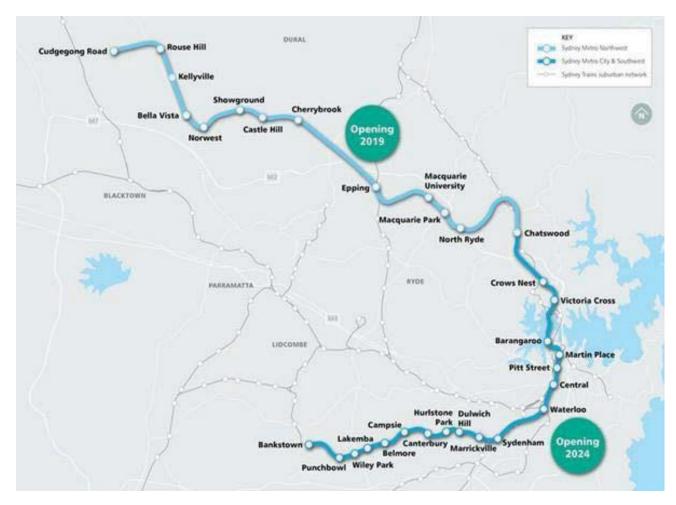


Figure 1: Sydney Metro alignment map.



Stage 2 of Sydney Metro includes the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney's CBD to Sydenham and on to Bankstown through the conversion of the existing line to metro standards.

The project also involves the delivery of seven (7) new metro stations, including at North Sydney. Once completed, Sydney Metro will have the ultimate capacity for 30 trains an hour (one every two minutes) through the CBD in each direction - a level of service never seen before in Sydney.

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham application lodged by TfNSW as a Critical State Significant Infrastructure project (reference SSI 15_7400), hereafter referred to as the CSSI Approval.

The CSSI Approval includes all physical work required to construct the CSSI, including the demolition of existing buildings and structures on each site. Importantly, the CSSI Approval also includes provision for the construction of below and above ground structures and other components of the future OSD (including building infrastructure and space for future lift cores, plant rooms, access, parking and building services, as relevant to each site). The rationale for this delivery approach, as identified within the CSSI application is to enable the OSD to be more efficiently built and appropriately integrated into the metro station structure.

The EIS for the Chatswood to Sydenham component of the City & Southwest project identified that the OSD would be subject to a separate assessment process.

Since the CSSI Approval was issued, Sydney Metro has lodged four modification applications with DP&E to amend the CSSI Approval as outlined below:

- Modification 1 Victoria Cross and Artarmon Substation which involves relocation of the Victoria Cross northern services building from 194-196A Miller Street to 50 McLaren Street together with inclusion of a new station entrance at this location referred to as Victoria Cross North. 52 McLaren Street would also be used to support construction of these works. The modification also involves the relocation of the substation at Artarmon from Butchers Lane to 98 104 Reserve Road. This modification application was approved on 18 October 2017.
- Modification 2 Central Walk which involves additional works at Central Railway Station including construction of a new eastern concourse, a new eastern entry, and upgrades to suburban platforms. This modification application was approved on 21 December 2017.



- Modification 3 Martin Place Station which involves changes to the Sydney Metro Martin Place Station to align with the Unsolicited Proposal by
 Macquarie Group Limited (Macquarie) for the development of the station precinct. The proposed modification involves a larger reconfigured
 station layout, provision of a new unpaid concourse link and retention of the existing MLC pedestrian link and works to connect into the Sydney
 Metro Martin Place Station. It is noted that if the Macquarie proposal does not proceed, the original station design remains approved. This
 modification application was approved on 22 March 2018.
- Modification 4 Sydenham Station and Sydney Metro Trains Facility South which incorporated=s Sydenham Station and precinct works, the Sydney Metro Trains Facility South, works to Sydney Water's Sydenham Pit and Drainage Pumping Station and ancillary infrastructure and track and signalling works into the approved project. This modification application was approved on 13 December 2017.

Given the modifications, the CSSI Approval is now approved to operate to Sydenham Station and also includes the upgrade of Sydenham Station.

The remainder of Stage 2 of the City & Southwest project (Sydenham to Bankstown) proposes the conversion of the existing heavy rail line and the upgrade of the existing railway stations along this alignment to metro standards. This part of the project, referred to as the Sydenham to Bankstown Upgrade, is the subject of a separate CSSI Application (Application No. SSI 17 8256) which is currently being assessed by the DP&E.

1.3 Planning relationship between Victoria Cross Station and the OSD

While the Victoria Cross Station and OSD will form an Integrated Station Development, the planning pathways defined under the Environmental Planning & Assessment Act 1979 require separate approval for each component of the development. In this regard, the approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to the provisions of Part 4 of the EP&A Act.

For clarity, the approved station works under the CSSI Approval include the construction of below and above ground structures necessary for delivering the station and also enabling construction of the integrated OSD. This includes but is not limited to:

- Demolition of existing development
- Excavation
- Station structure including concourse and platforms
- Lobbies
- Retail spaces within the station building
- Public domain improvements
- Pedestrian through-site link
- Access arrangements including vertical transport such as escalators and lifts
- Structural and service elements and the relevant space provisioning necessary for constructing OSD, such as columns and beams, space for lift cores, plant rooms, access, parking, retail and building services.

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The vertical extent of the approved station works above ground level is defined by the 'transfer slab' level (which for Victoria Cross is defined by RL 82), above which would sit the OSD. This delineation is illustrated in **Figure 2** below.

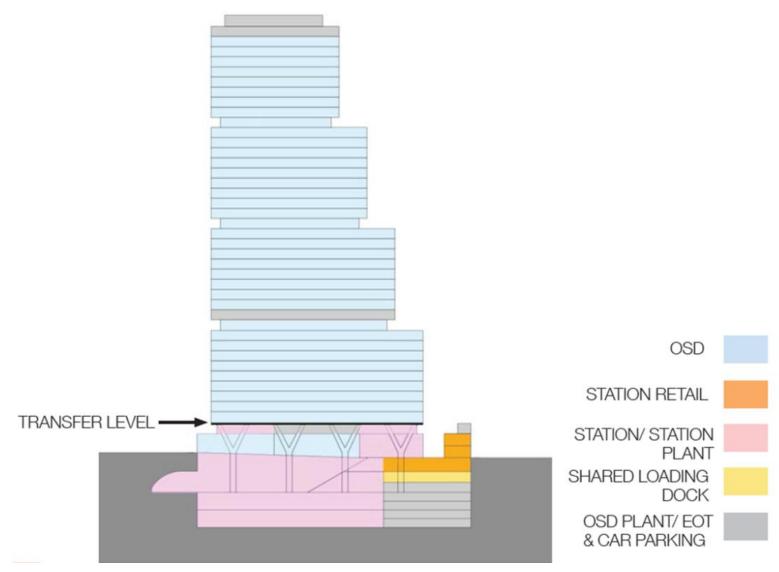


Figure 2: Victoria Cross Station location plan *Source: Sydney Metro*



The CSSI Approval also establishes the general concept for the ground plane of Victoria Cross Station including access strategies for commuters, pedestrians and workers. In this regard, pedestrian access to the station would be from Miller and Denison Streets and the commercial lobby would be accessed from Miller Street. Retail uses (approved under the CSSI Approval) would be located on the ground floor of the development at both the Miller Street and Denison Street levels activating the through-site link. Separate consent would be sought in the future for the fit-out and specific use of this retail space.

Since the issue of the CSSI Approval, TfNSW has undertaken sufficient design work to determine the space planning and general layout for the station and identification of those spaces within the station area that would be available for the OSD. In addition, design work has been undertaken to determine the technical requirements for the structural integration of the OSD with the station. This level of design work has informed the concept proposal for the OSD. It is noted that ongoing design development of the works to be delivered under the CSSI Approval would continue with a view to developing an Interchange Access Plan (IAP) and Station Design Precinct Plan (SDPP) for Victoria Cross Station to satisfy Conditions E92 and E101 of the CSSI Approval.

The public domain improvement works around the site would be delivered as part of the CSSI Approval.



1.4 The Site

The Victoria Cross OSD site is located at the southeast corner of the intersection of Miller and Berry Streets, North Sydney, above the southern portal of the future Victoria Cross Station (refer to **Figure 3**). The site is located in North Sydney Centre which is identified as a "strategic centre" under A Plan for Growing Sydney. It is the third largest office market in Sydney and is a key component of Sydney's Global Economic Corridor.



Figure 3: Victoria Cross Station location plan

The site is located in the North Sydney Local Government Area approximately 3km north of Sydney CBD, 5km southeast of Chatswood and 2km southwest of St Leonards.

The site (refer to **Figure 4**) is irregular in shape, has a total area of approximately 4,815 square metres and has street frontages of approximately 37 metres to Berry Street, 34 metres to Denison Street and 102 metres to Miller Street.



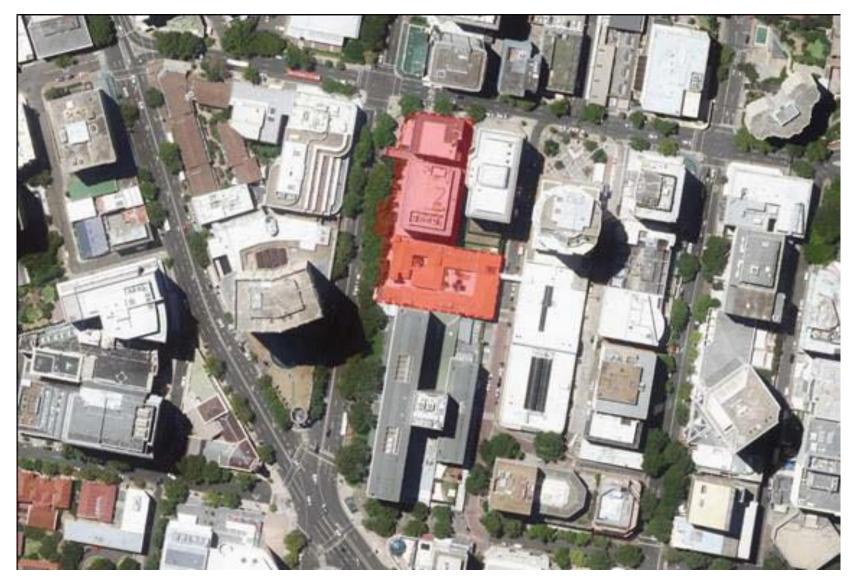


Figure 4: The Site

The site comprises the following properties:

• 155–167 Miller Street SP 35644 (formerly Tower Square)

• 181 Miller Street Lot 15 in DP 69345, Lot 1 & Lot 2 DP 123056

• 187 Miller Street Lot A in DP 160018

• 189 Miller Street Lot 1 in DP 633088

• Formerly part 65 Berry Street Lot 1 in DP 1230458



1.5 Overview of the proposed development

This concept SSD Application comprises the first stage of the Victoria Cross OSD project. It will be followed by a detailed SSD Application for the design and construction of the OSD to be lodged by the successful contractor who is awarded the contract to deliver the Integrated Station Development.

This concept SSD Application seeks approval for the planning and development framework and strategies to inform the future detailed design of the OSD. It specifically seeks approval for the following:

- A building envelope as illustrated in **Figure 5**
- A maximum building height of RL 230 or 168 metres (approximately 42 storeys, compromising 40 commercial storeys and 2 additional storeys for the roof top plant) for the high rise portion of building envelope and RL 118 or 55 metres (approximately 13 storeys) for the lower rise eastern portion of the building envelope
- A maximum gross floor area (GFA) of 60,000 square metres for the OSD component, which is equivalent to a floor space ratio of 12.46:1
- Use of the building envelope area for commercial premises including commercial office, retail and business premises
- Use of the conceptual OSD space provisioning within the footprint of the CSSI Approval (both above and below ground), including the OSD lobby and associated retail space, basement parking, end-of-trip facilities, services and back-of-house facilities
- Car parking for a maximum of 150 parking spaces over four basement levels with an additional 11 parking spaces allocated to the station retail
 approved under the terms of the CSSI Approval
- · Loading, vehicle and pedestrian access arrangements from Denison Street
- Strategies for utility and services provision
- Strategies for the management of stormwater and drainage
- A strategy for the achievement of ecologically sustainable development
- Indicative signage zones
- A strategy for public art
- A design excellence framework
- The future subdivision of parts of the OSD footprint (if required).



The total GFA for the Integrated Station Development including the station GFA (i.e. retail, station circulation and associated facilities) and the OSD GFA is 67,000 square metres and is equivalent to a FSR of 13.9:1.

A drawing illustrating the proposed building envelope is provided in **Figure 5**. The concept SSD Application includes an indicative design for the OSD to demonstrate one potential design solution within the proposed building envelope (refer to **Figure 6**).

Victoria Cross Station is to be a key station on the future Sydney Metro network, providing access to the growing North Sydney Central Business District (CBD). The proposal combines the Metro station with a significant commercial office tower, contributing to the North Sydney skyline. The OSD would assist in strengthening the role of North Sydney as a key component of Sydney's global economic arc and would contribute to the diversity, amenity and commercial sustainability of the CBD.

It is noted that Victoria Cross services building and new station entrance at Victoria Cross North do not form part of the concept SSD Application.

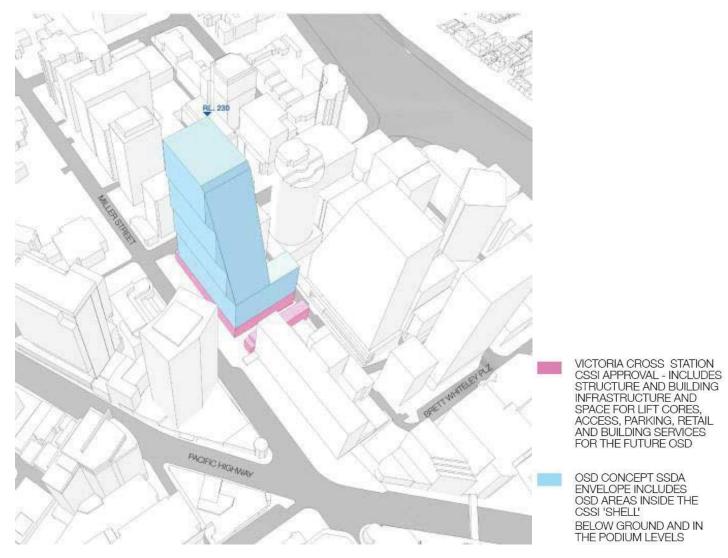


Figure 5: Proposed Victoria Cross OSD building envelope





Figure 6: Victoria Cross indicative OSD design



2.0 Visual Impact Study – Victoria Cross OSD concept state significant development application

2.1 Background

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

Virtual Ideas is an architectural visualisation company that is highly experienced at preparing visual impact assessment media to a level of expertise that is suitable for both council submission and use in court.

Virtual Ideas is familiar with the court requirements to provide 3D visualisation media that will accurately communicate a proposed developments' design and visual impact.

These 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.

This report should be read in conjunction with the 'View and Visual Impact Assessment Report' prepared by Ethos Urban.

2.2 Overview

The general process in creating accurate photomontage renderings involves the creation of an accurate, real world scale digital 3D model. We then take site photographs and place cameras in the 3D model that match the real world position that the photographs were taken on site.

The camera positions are then surveyed to identify the Map Grid of Australia (MGA) coordinates at each position.

By matching the real world camera lens properties to the camera properties in our software and rotating the camera so that surveyed points in 3D space align with the corresponding points on the photograph, we can create a rendering that is correct in terms of position, scale, rotation, and perspective.

The rendering can then be superimposed into the real photo to generate an image that represents accurate form and visual impact.



2.3 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: Bates Smart Sketchup 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 2015 3D North Sydney context model

Created by: AAM

Format: 3DS Studio Max file

5) Approved DA building envelopes Supplied by: Batesmart

Format: Sketchup model

Notes on images

The photomontages are also showing the indicative building massing of the following developments in the vicinity of the site for the purpose of visual assessment of the future surrounding city scape.

Both buildings are currently under construction and are shown in 'white' in the photomontages:

- 100 Mount St, North Sydney
- 1 Denison St, North Sydney



2.4 Methodology

Site Photography

Site photography was taken from predetermined positions as instructed by Bates Smart.

These locations were selected in consultation with North Sydney Council.

Photographs were taken using a Nikon D810 digital camera, using a 14-24mm f/2.8 lens.

The positions of the photographs were surveyed and documented into a DWG drawing supplied by the surveyor.

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 envelope 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.

The new building envelope is shown in 'blue' in the following photomontages, with the indicative building forms for 100 Mount Street and 1 Denison St developments shown in 'white'.

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



2.5 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

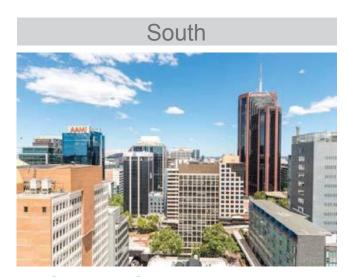
1997 Advanced Diploma in Architectural Technology, Southbank TAFE, Brisbane, QLD



Apartment 1501 - Overview

Original Photograph (Camera Lens 24mm)

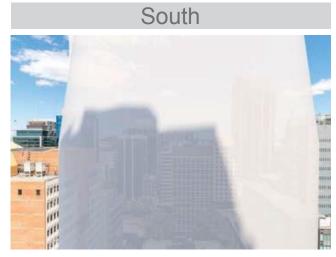






Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal (Camera Lens 24mm)







Proposed Victoria Cross OSD Building Envelope (Camera Lens 24mm)







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2.7 Apartment 1501 - South East

Original Photograph



Camera Height - RL 112.65 Photo Date - 19th October 2016 Photo Lens - 24mm



Proposed building height in North Sydney Council's North Sydney Centre Planning Proposal



100 Mount Street and 1 Denison Street Building Massing

Camera Height - RL 112.65 Photo Date - 19th October 2016 Photo Lens - 24mm



2.8 Apartment 1501 - South

Original Photograph



Camera Height - RL 112.65 Photo Date - 19th October 2016 Photo Lens - 24mm



Proposed building height in North Sydney Council's North Sydney Centre Planning Proposal



100 Mount Street and 1 Denison Street Building Massing

Camera Height - RL 112.65

Photo Date - 19th October 2016

Photo Lens - 24mm



2.9 Apartment 1501 - South West

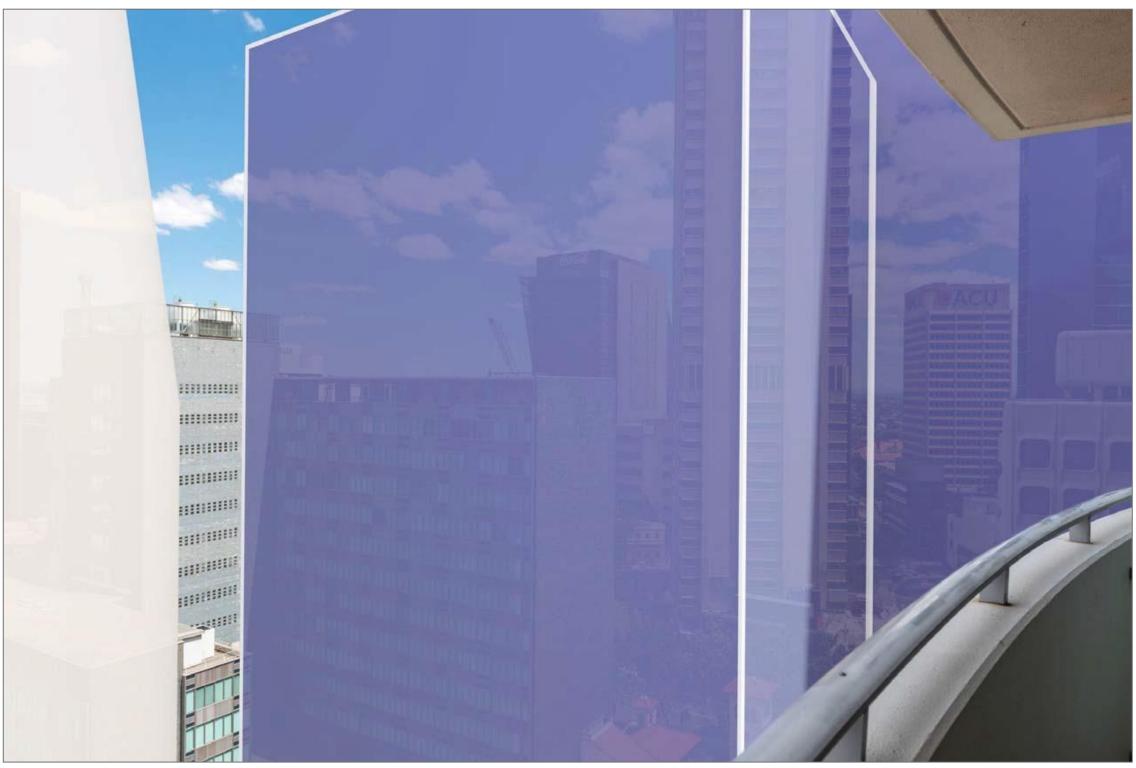
Original Photograph



Camera Height - RL 112.65 Photo Date - 19th October 2016 Photo Lens - 24mm



Proposed building height in North Sydney Council's North Sydney Centre Planning Proposal



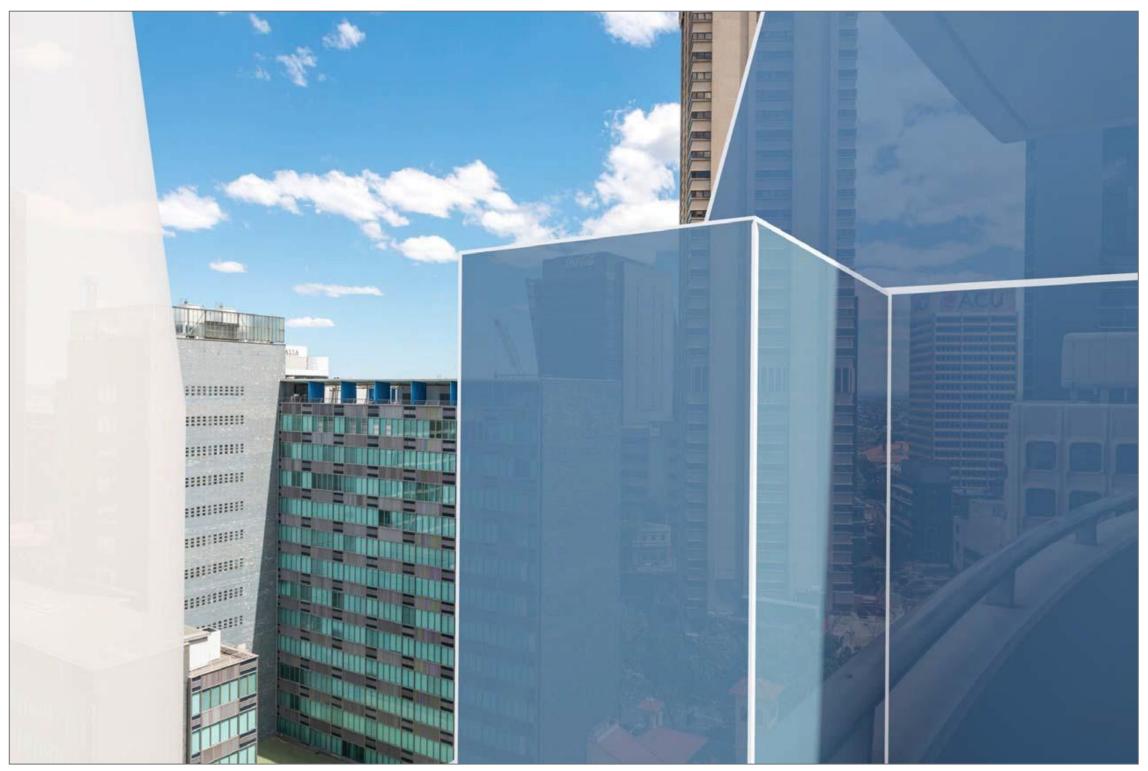
100 Mount Street and 1 Denison Street Building Massing

 $Proposed\ building\ heights\ in\ North\ Sydney\ Council's\ North\ Sydney\ Centre\ Planning\ Proposal$

Camera Height - RL 112.65 Photo Date - 19th October 2016 Photo Lens - 24mm



Proposed Victoria Cross OSD Building Envelope



100 Mount Street and 1 Denison Street Building Massing
Proposed Victoria Cross OSD Building Envelope

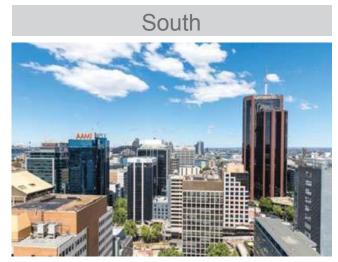
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2.10 Apartment 2001 - Overview

Original Photograph (Camera Lens 24mm)

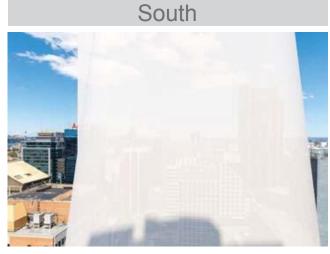






Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal (Camera Lens 24mm)

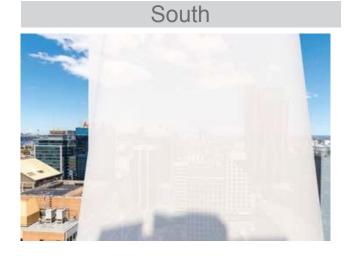






Proposed Victoria Cross OSD Building Envelope (Camera Lens 24mm)





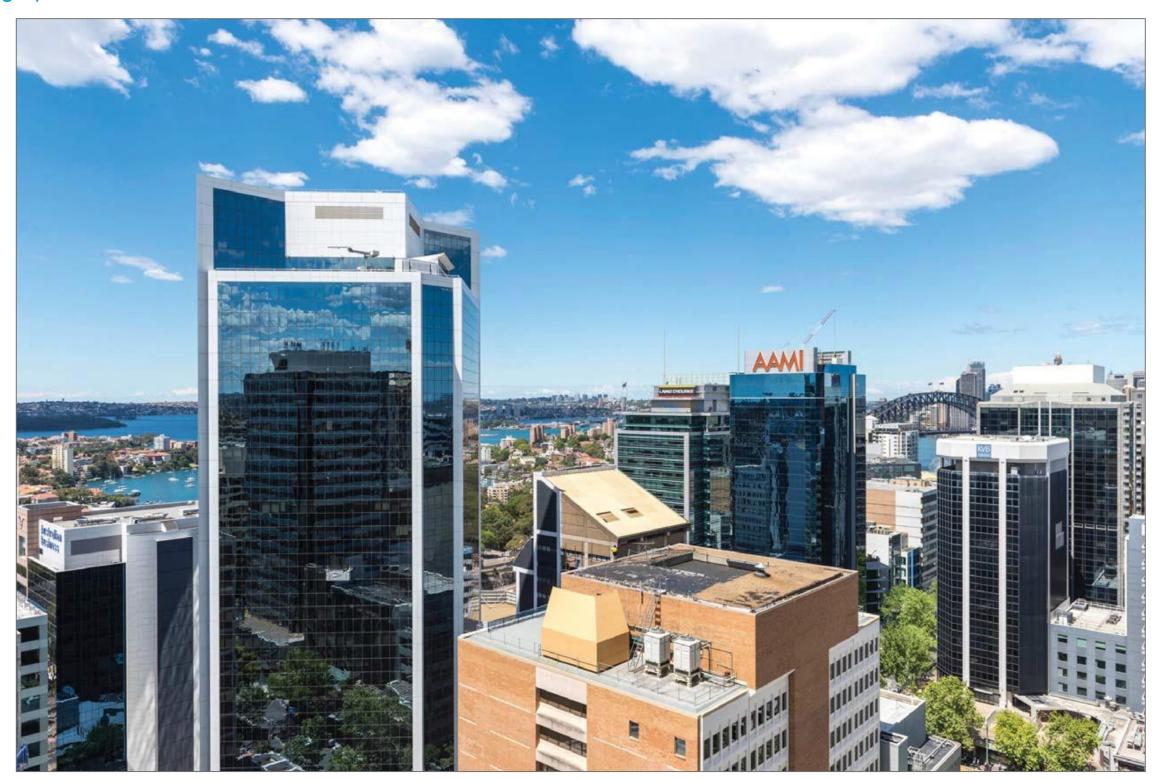


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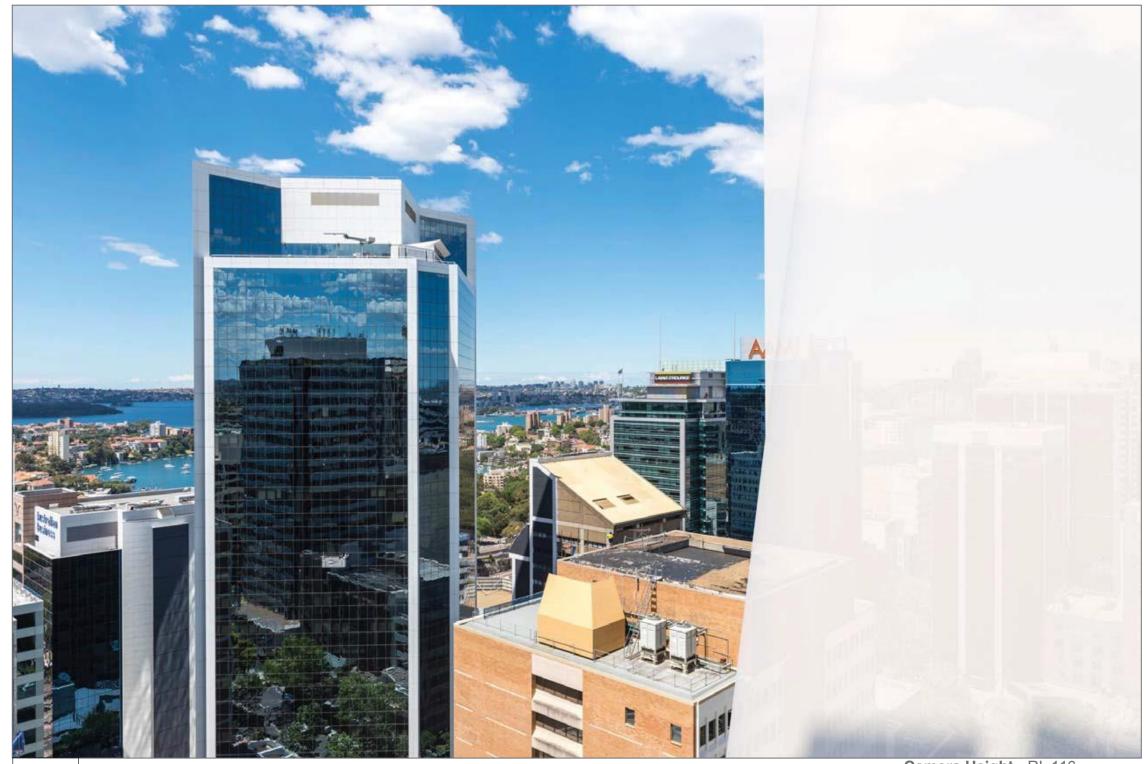
2.11 Apartment 2001 - South East

Original Photograph



sydney METRO

Proposed building height in North Sydney Council's North Sydney Centre Planning Proposal



100 Mount Street and 1 Denison Street Building Massing

Photo Date - 19th October 2016

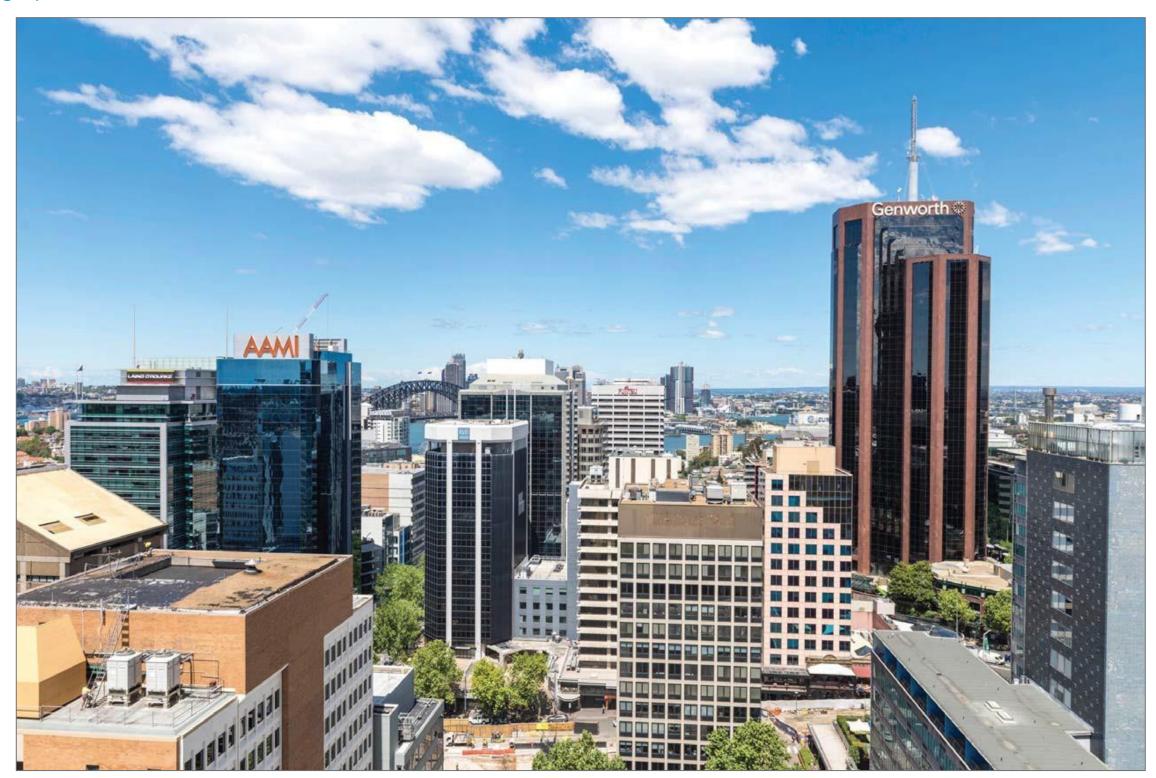
Photo Lens - 24mm

Camera Height - RL 116



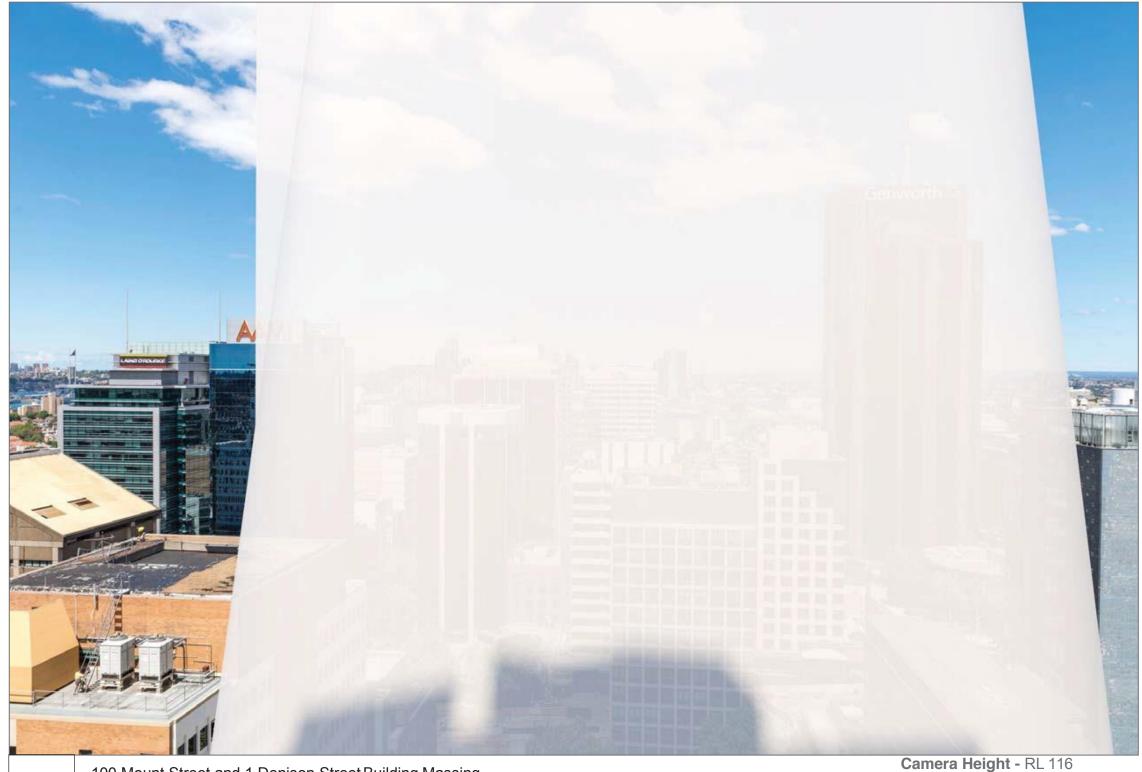
2.12 Apartment 2001 - South

Original Photograph





Proposed building height in North Sydney Council's North Sydney Centre Planning Proposal



100 Mount Street and 1 Denison Street Building Massing

Photo Date - 19th October 2016

Photo Lens - 24mm



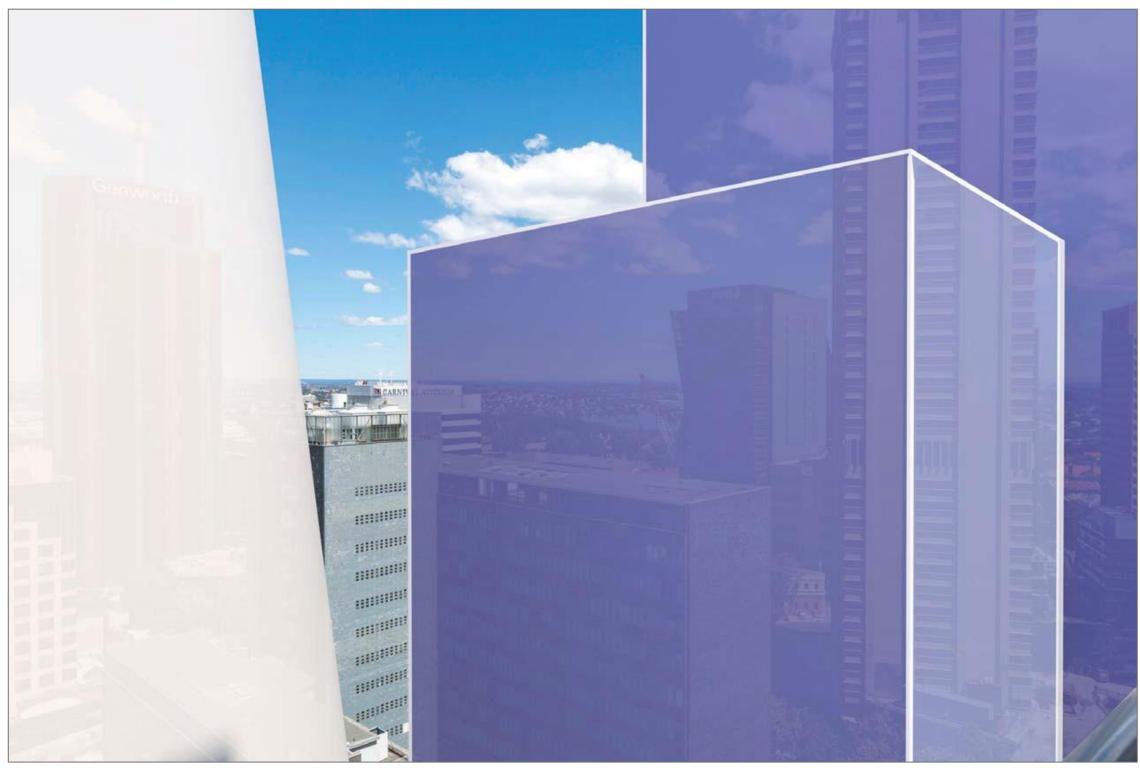
2.13 Apartment 2001 - South West

Original Photograph





Proposed building height in North Sydney Council's North Sydney Centre Planning Proposal



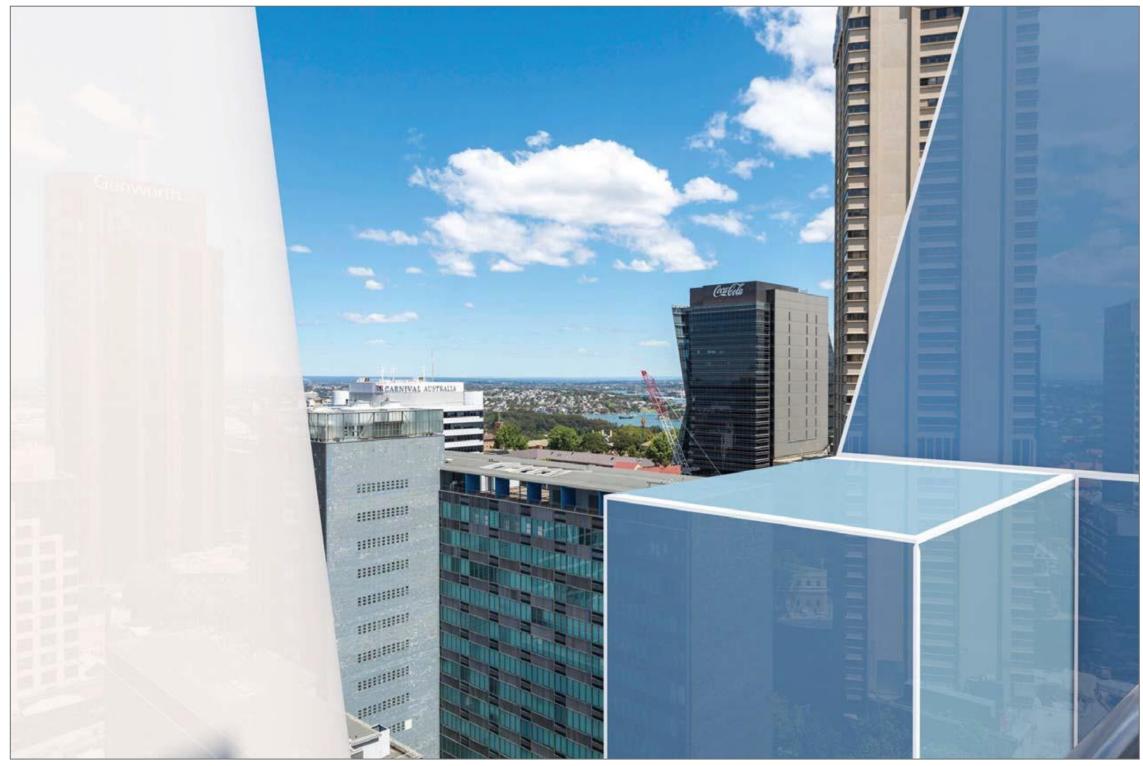
100 Mount Street and 1 Denison Street Building Massing

Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal

Camera Height - RL 116
Photo Date - 19th October 2016
Photo Lens - 24mm



Proposed Victoria Cross OSD Building Envelope



100 Mount Street and 1 Denison Street Building Massing

Proposed Victoria Cross OSD Building Envelope

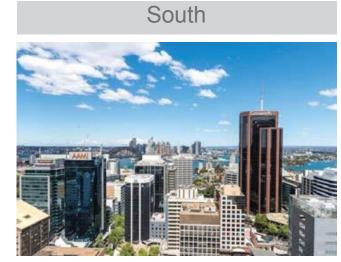
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2.14 Apartment 2701 - Overview

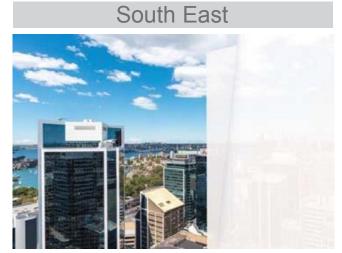
Original Photograph (Camera Lens 24mm)

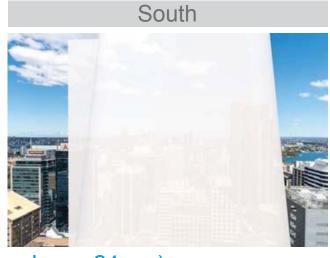






Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal (Camera Lens 24mm)

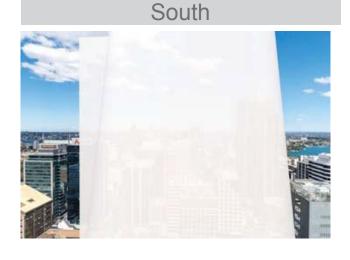






Proposed Victoria Cross OSD Building Envelope (Camera Lens 24mm)



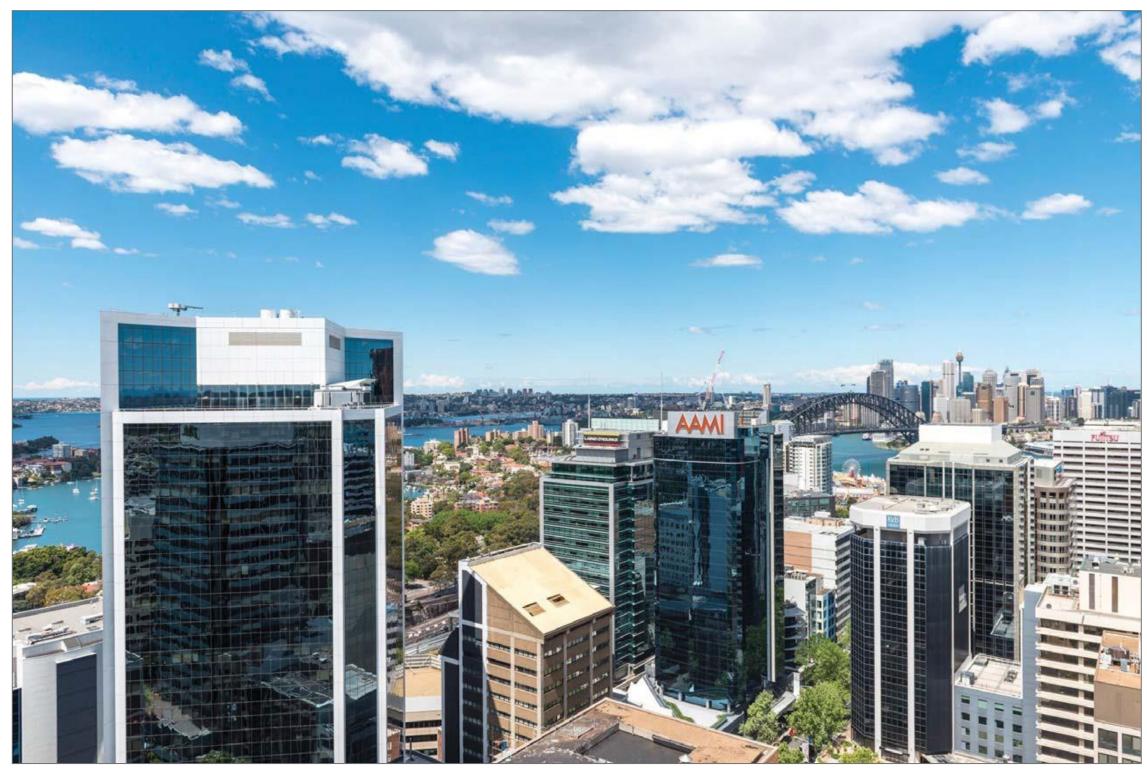




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2.15 Apartment 2701 - South East



Camera Height - RL 145.25 Photo Date - 19th October 2016 Photo Lens - 24mm

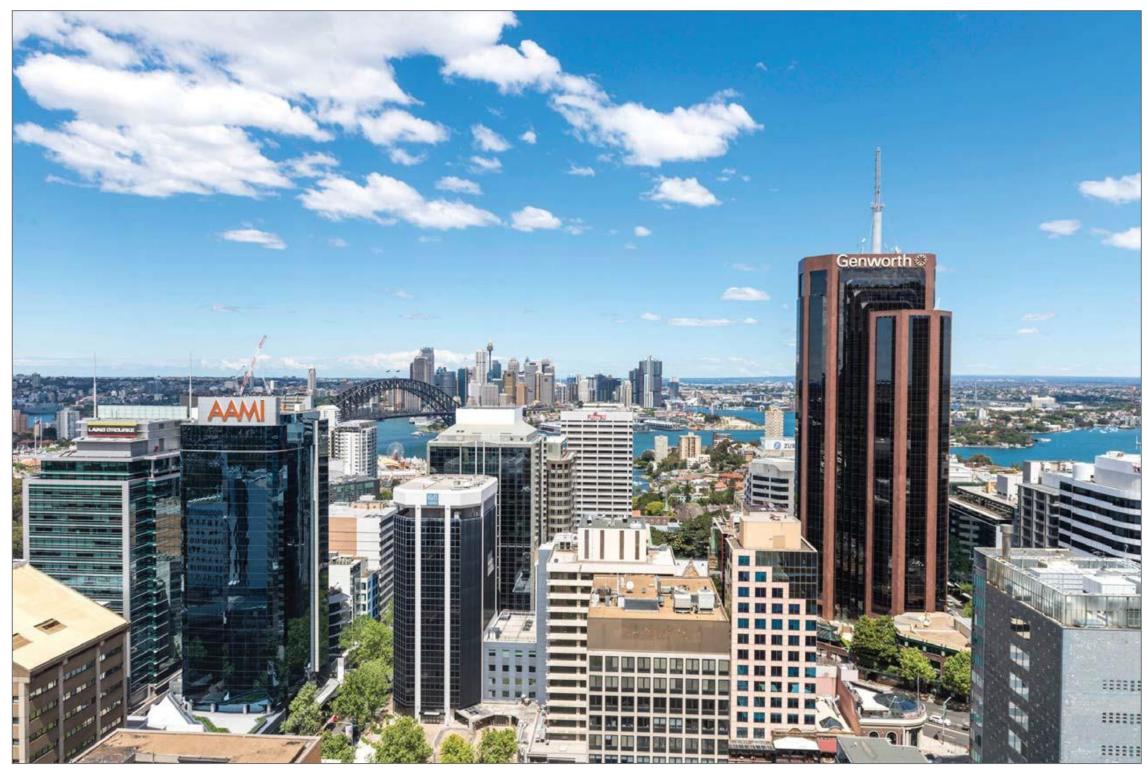




100 Mount Street and 1 Denison Street Building Massing

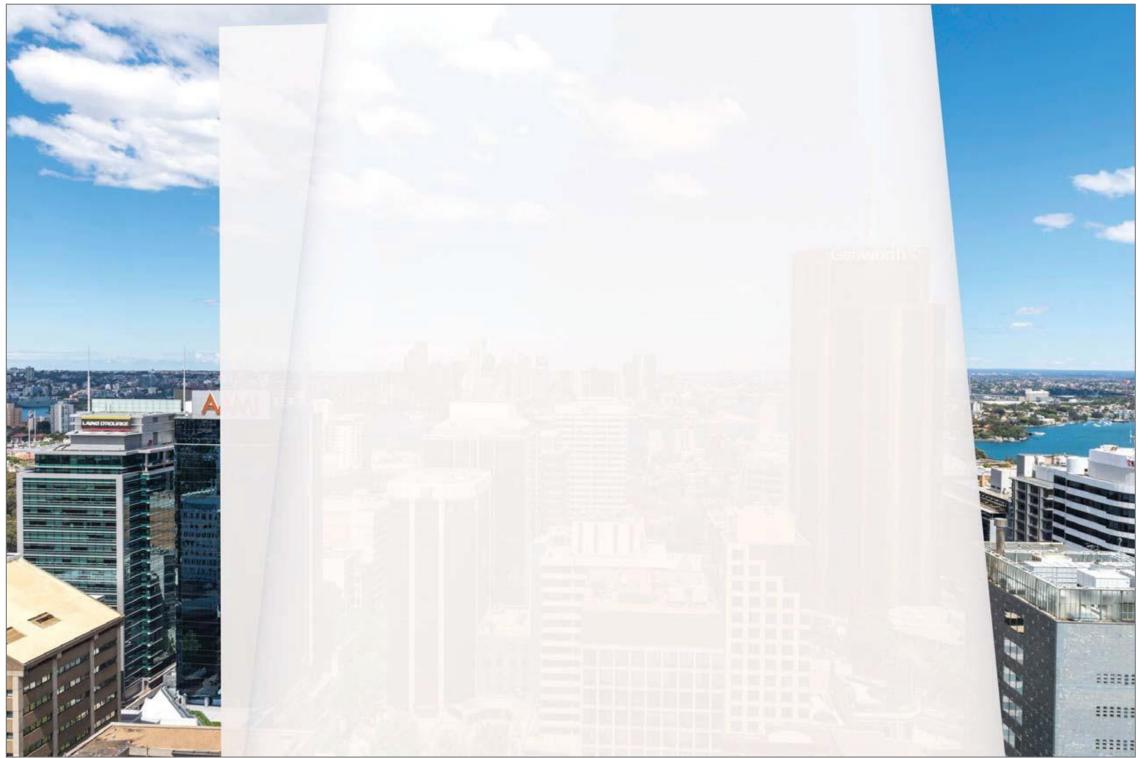


2.16 Apartment 2701 - South



Camera Height - RL 145.25 Photo Date - 19th October 2016 Photo Lens - 24mm





100 Mount Street and 1 Denison Street Building Massing



2.17 Apartment 2701 - South West



Camera Height - RL 145.25 Photo Date - 19th October 2016 Photo Lens - 24mm





100 Mount Street and 1 Denison Street Building Massing



Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal



Proposed Victoria Cross OSD Building Envelope



100 Mount Street and 1 Denison Street Building Massing

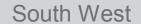


Proposed Victoria Cross OSD Building Envelope

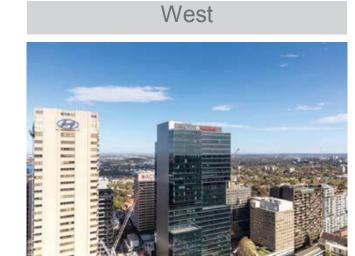


2.18 Apartment 3701 - Overview

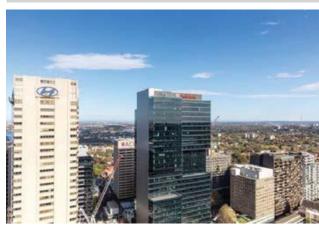
Original Photograph (Camera Lens 24mm)







North West



Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal (Camera Lens 24mm)

South West



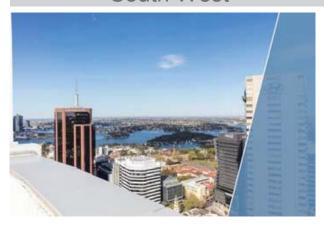


North West



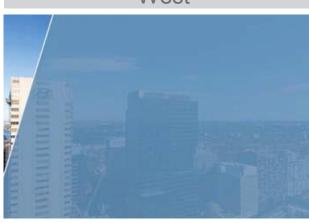
Proposed Victoria Cross OSD Building Envelope (Camera Lens 24mm)

South West

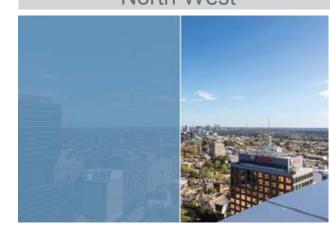


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North West





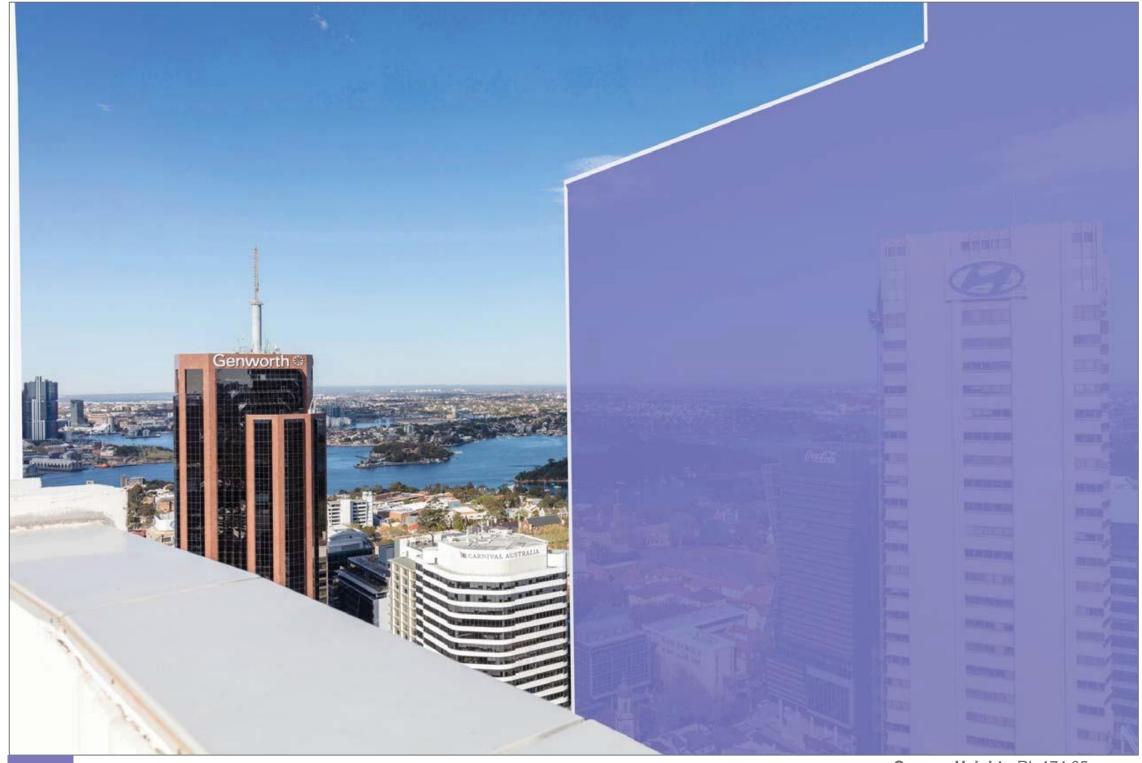
2.19 Apartment 3701 - South West

Original Photograph



Camera Height - RL 174.05 Photo Date - 13th September 2017 Photo Lens - 24mm





Proposed building heights in North Sydney Council's North Sydney Centre Planning Proposal

Camera Height - RL 174.05

Photo Date - 13th September 2017 Photo Lens - 24mm

sydney METRO

Proposed Victoria Cross OSD Building Envelope



Proposed Victoria Cross OSD Building Envelope

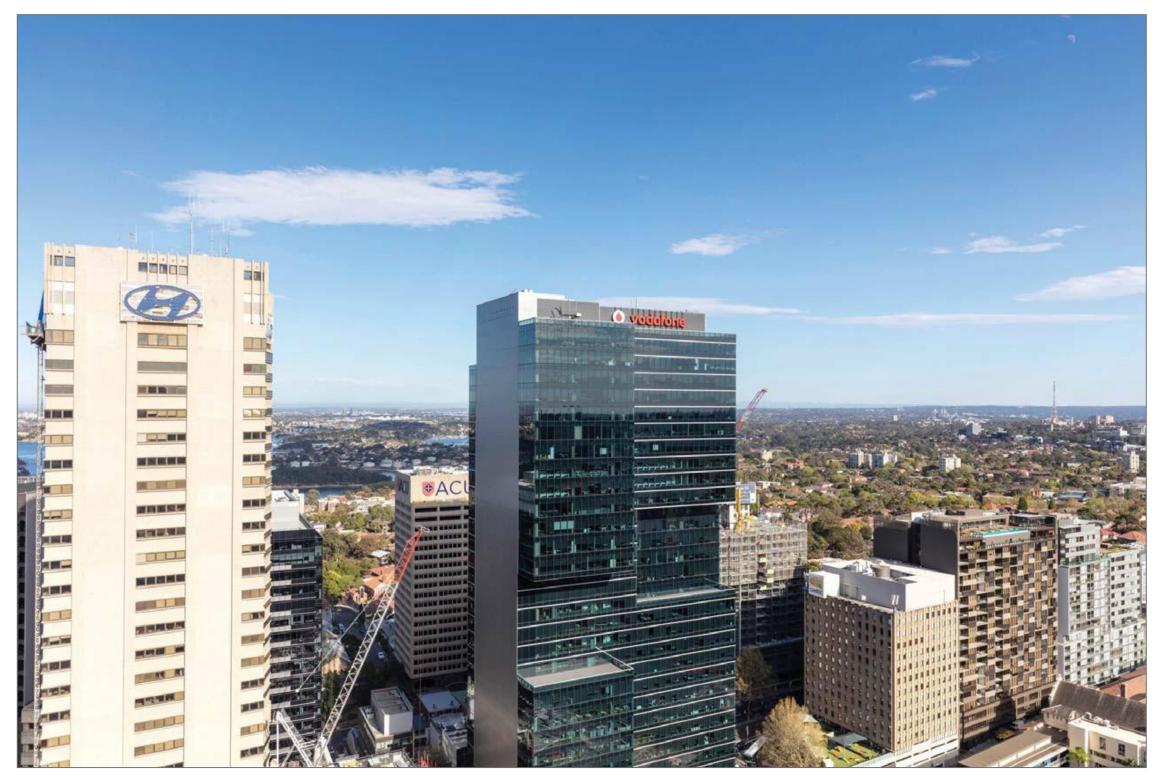
Camera Height - RL 174.05

Photo Date - 13th September 2017 Photo Lens - 24mm



2.20 Apartment 3701 - West

Original Photograph



Camera Height - RL 174.05 Photo Date - 13th September 2017 Photo Lens - 24mm



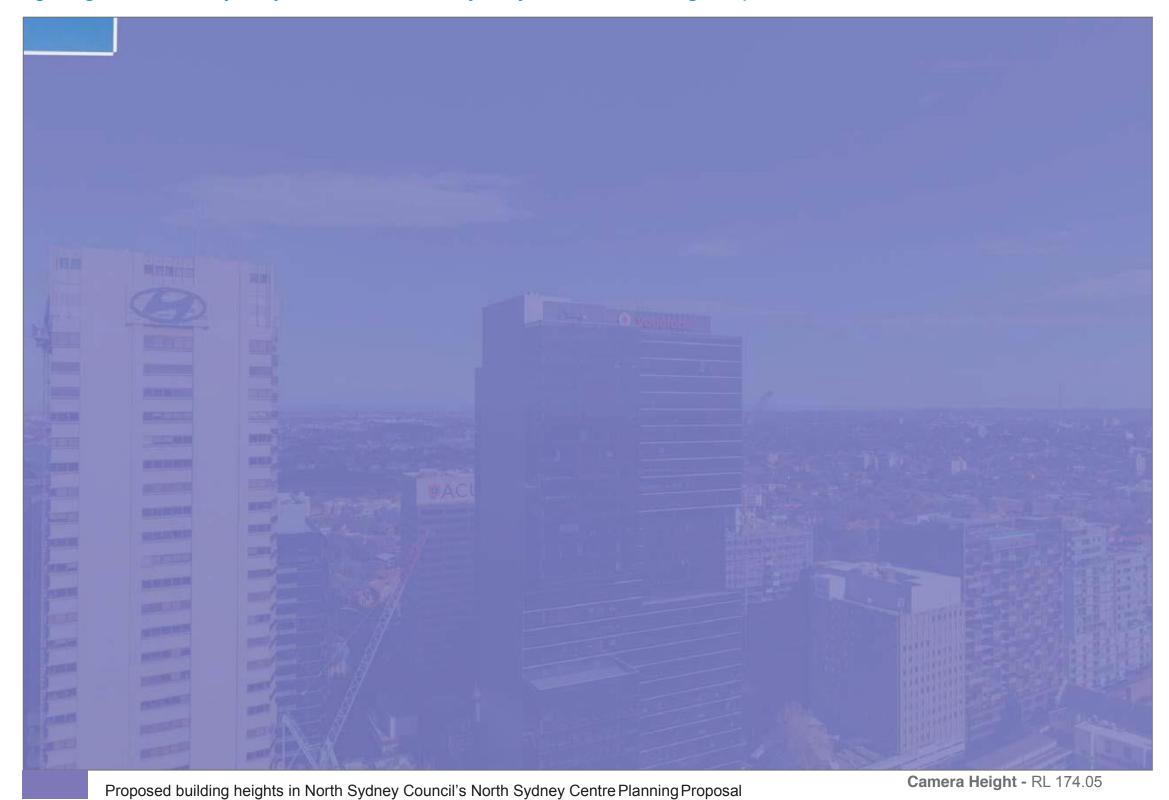


Photo Date - 13th September 2017

Photo Lens - 24mm

© Sydney Metro 2018

Appendix Z - View Impact Study - Beau Monde apartments

sydney METRO

Proposed Victoria Cross OSD Building Envelope

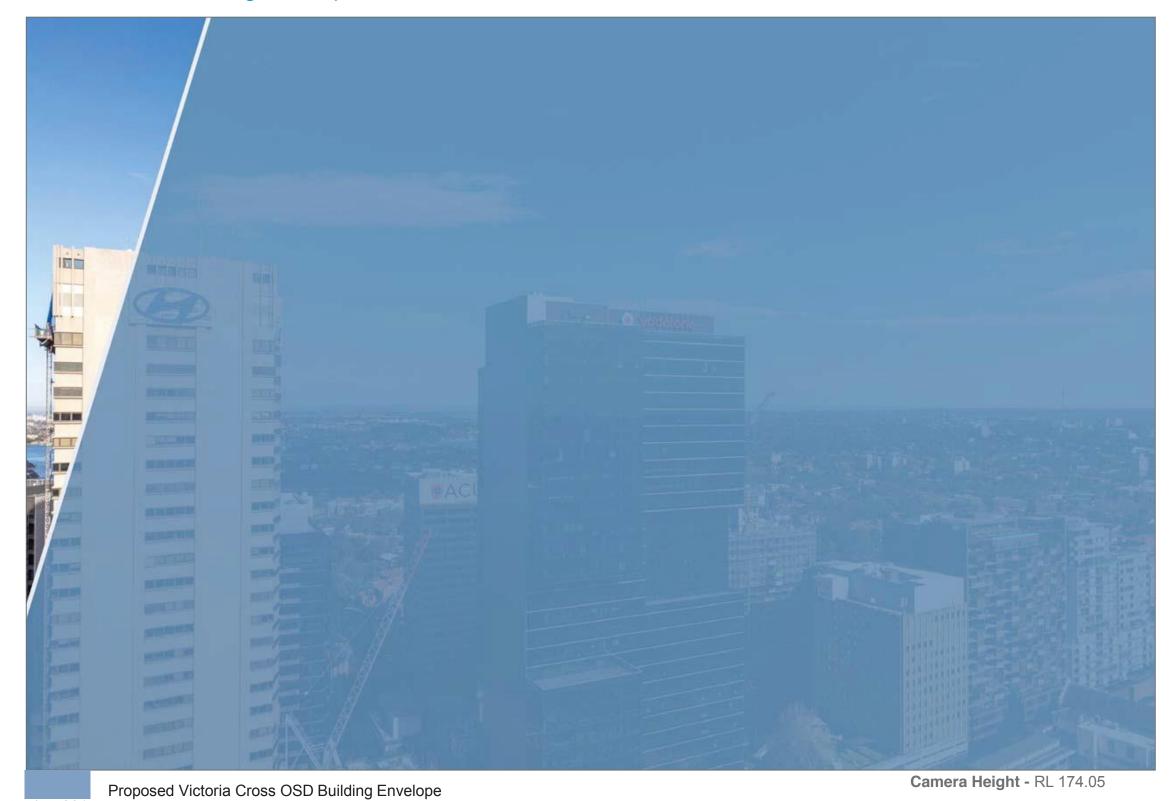


Photo Date - 13th September 2017

Photo Lens - 24mm



2.21 Apartment 3701 - North West





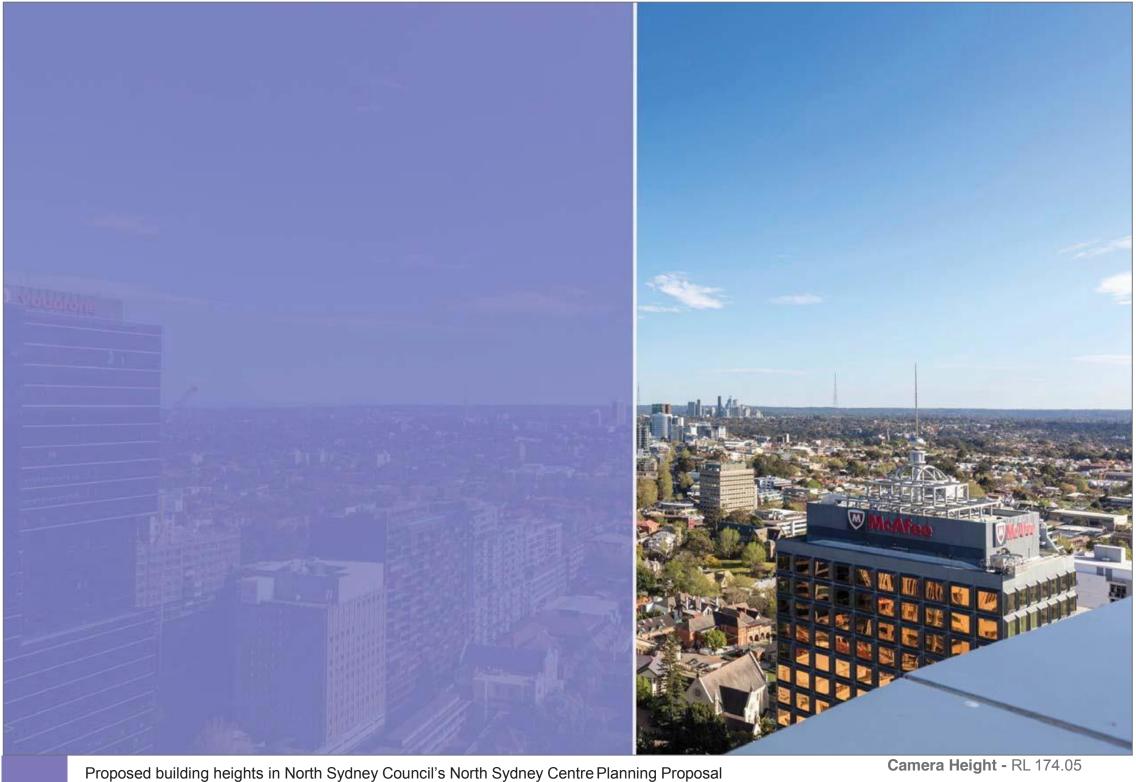


Photo Date - 13th September 2017

Photo Lens - 24mm

sydney METRO

Proposed Victoria Cross OSD Building Envelope

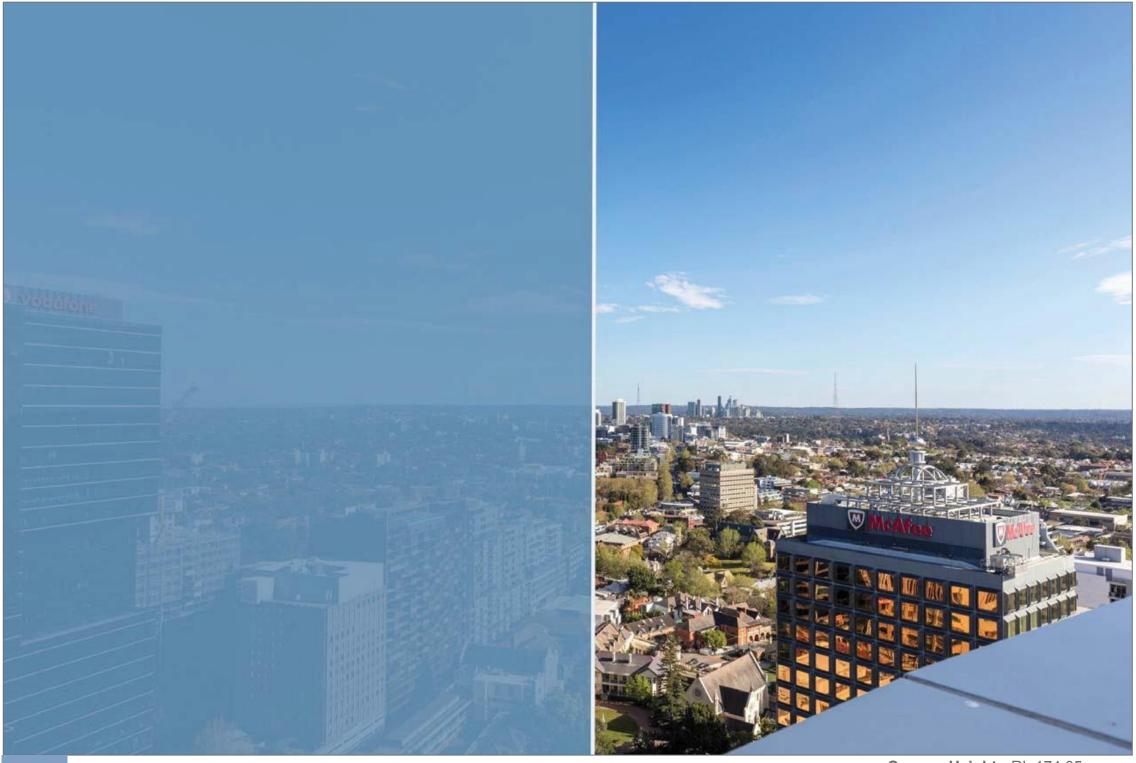


Photo Date - 13th September 2017

Proposed Victoria Cross OSD Building Envelope

Photo Lens - 24mm

Camera Height - RL 174.05



Appendix A – Documentation of Proposed Building Envelope





VICTORIA CROSS OSD BUILDING ENVELOPE

A01.001	Indicative Ground Floor Plan
A01.002	Miller Street Elevation
A01.003	East West Section
A01.004	North West Axonometric
A01.005	South West Axonometric

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Clock all dimensions and alive conditions prior to commencement of any victoria Cross OSD

TO compare any components

Cover Page
Cover Page
District in figure dimensions and alive conditions prior to commencement of any victoria Cross OSD

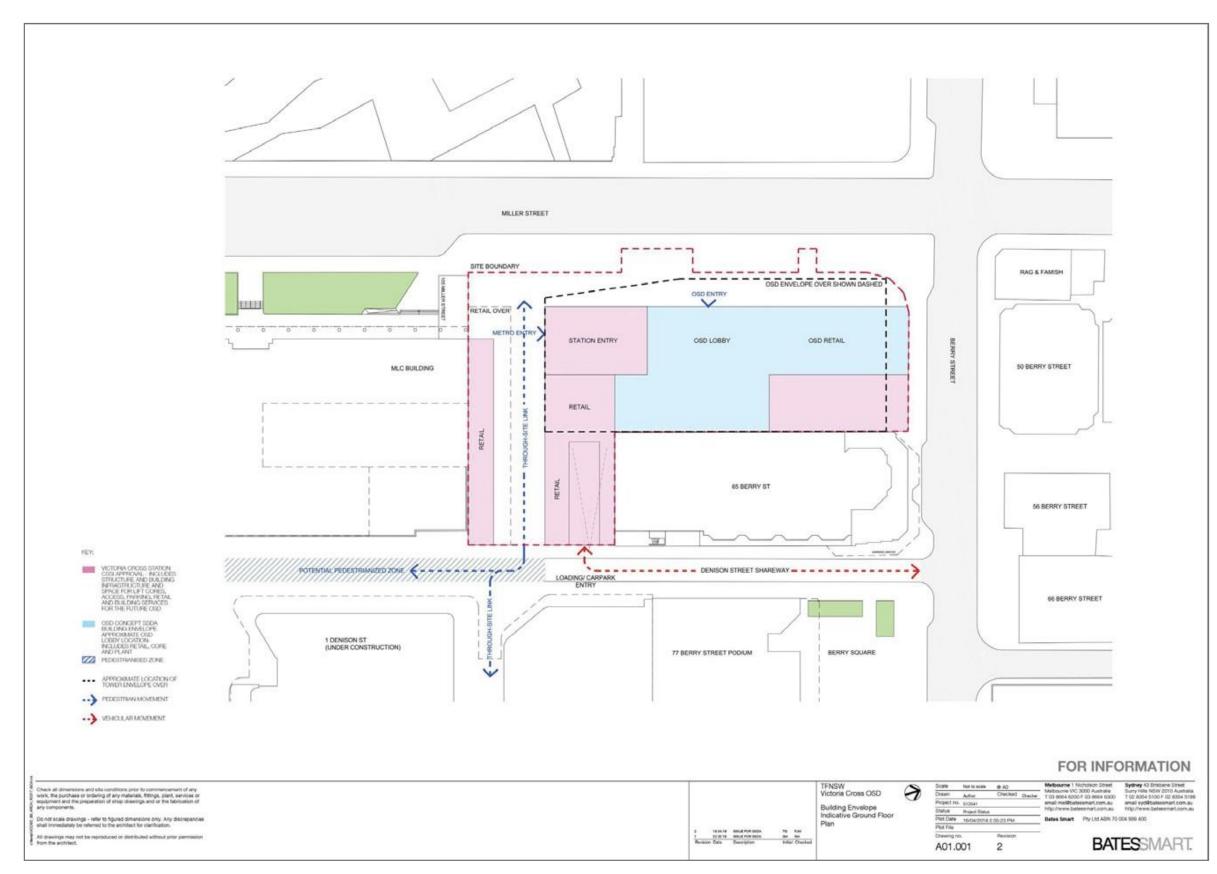
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District in figure dimensions and alive conditions prior to commencement of any victoria Cross OSD

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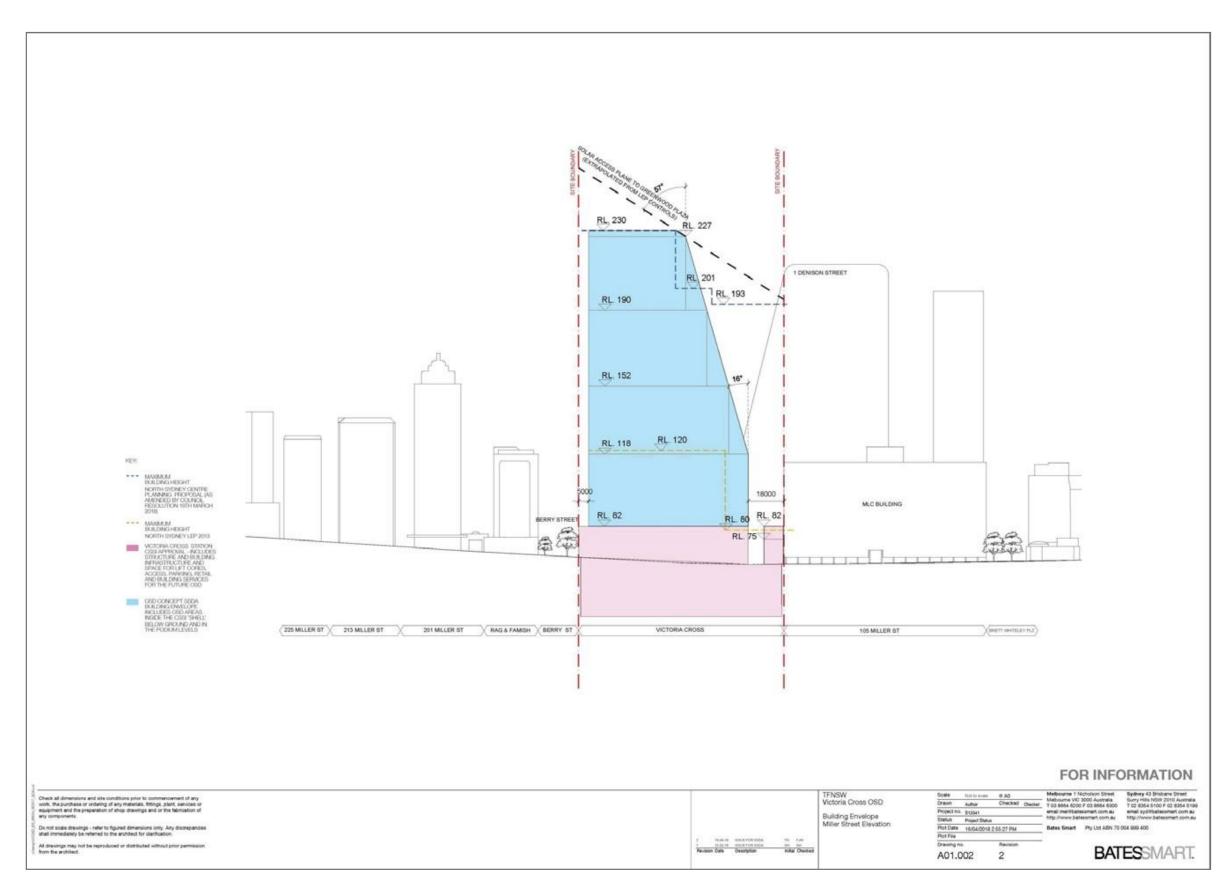
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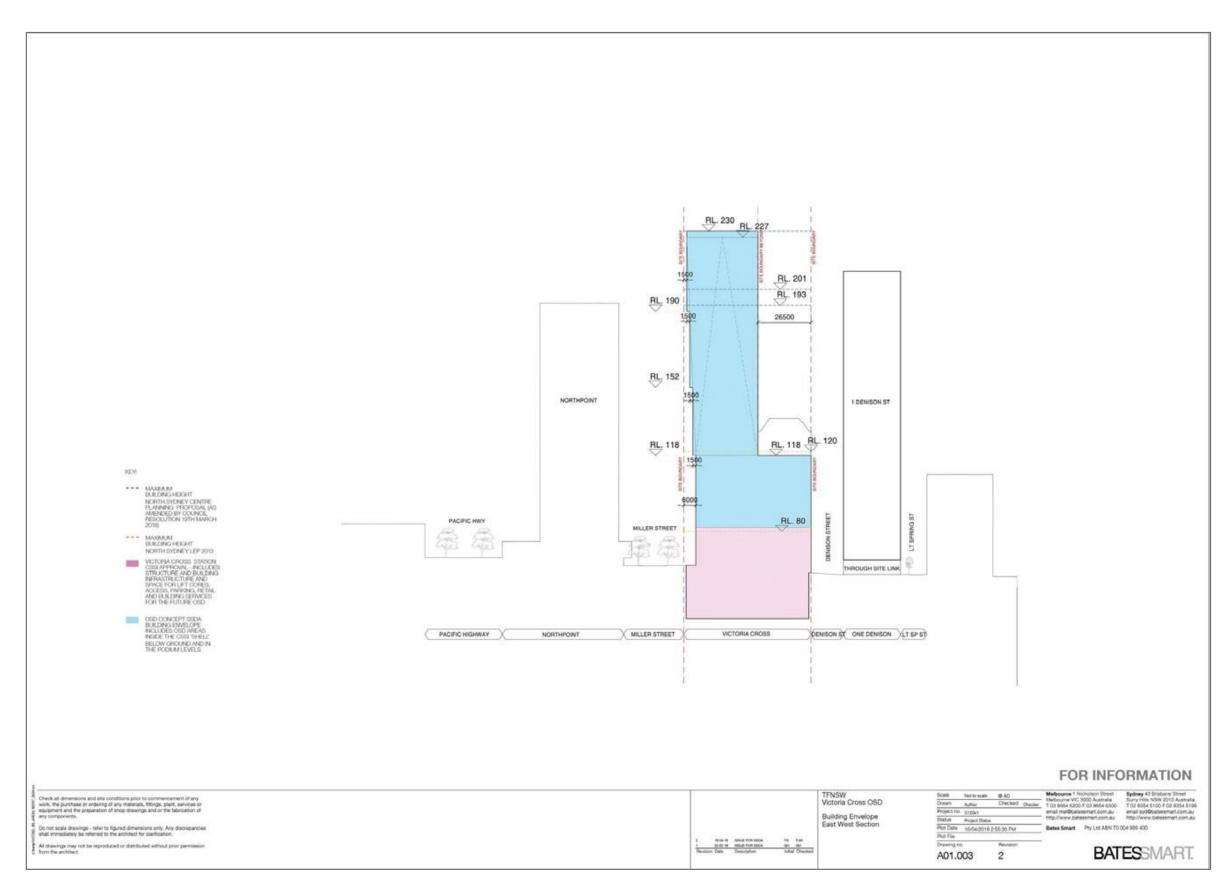




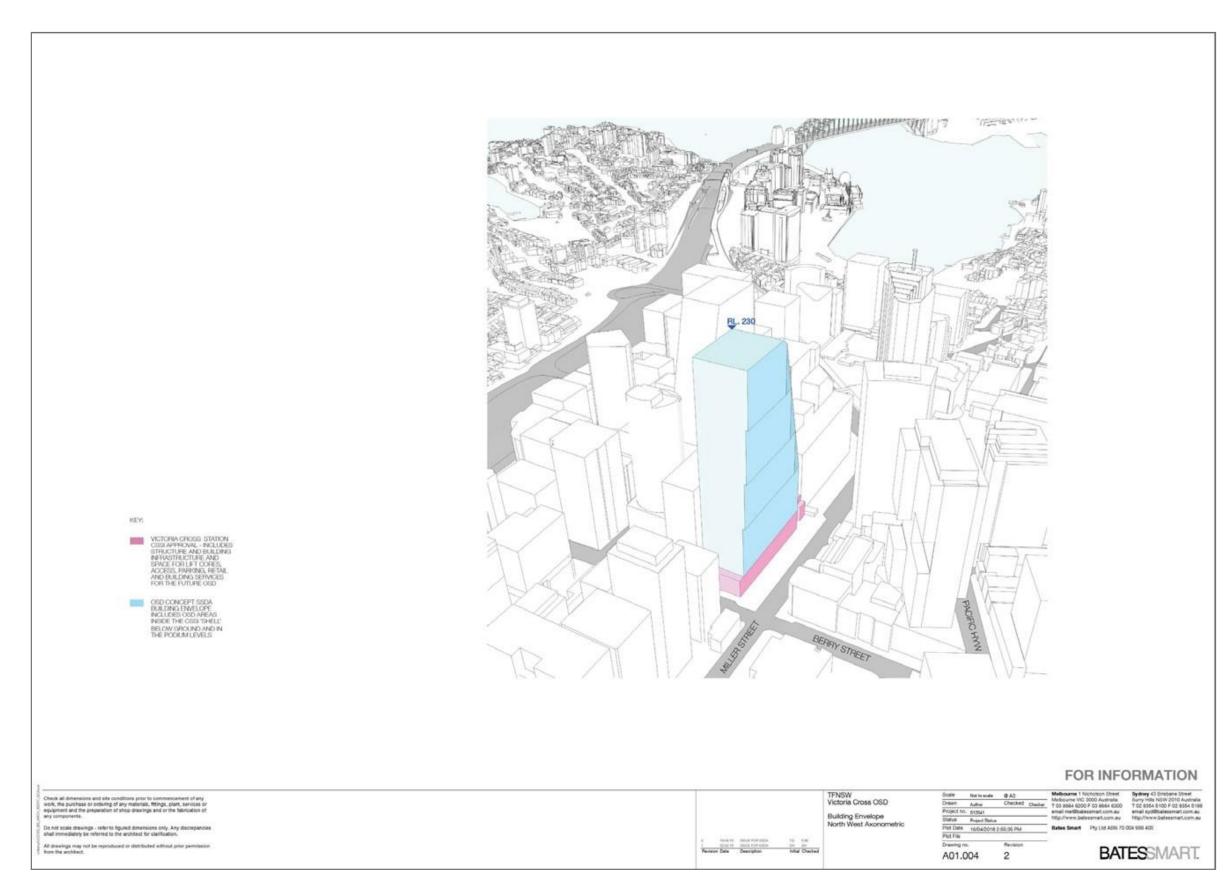




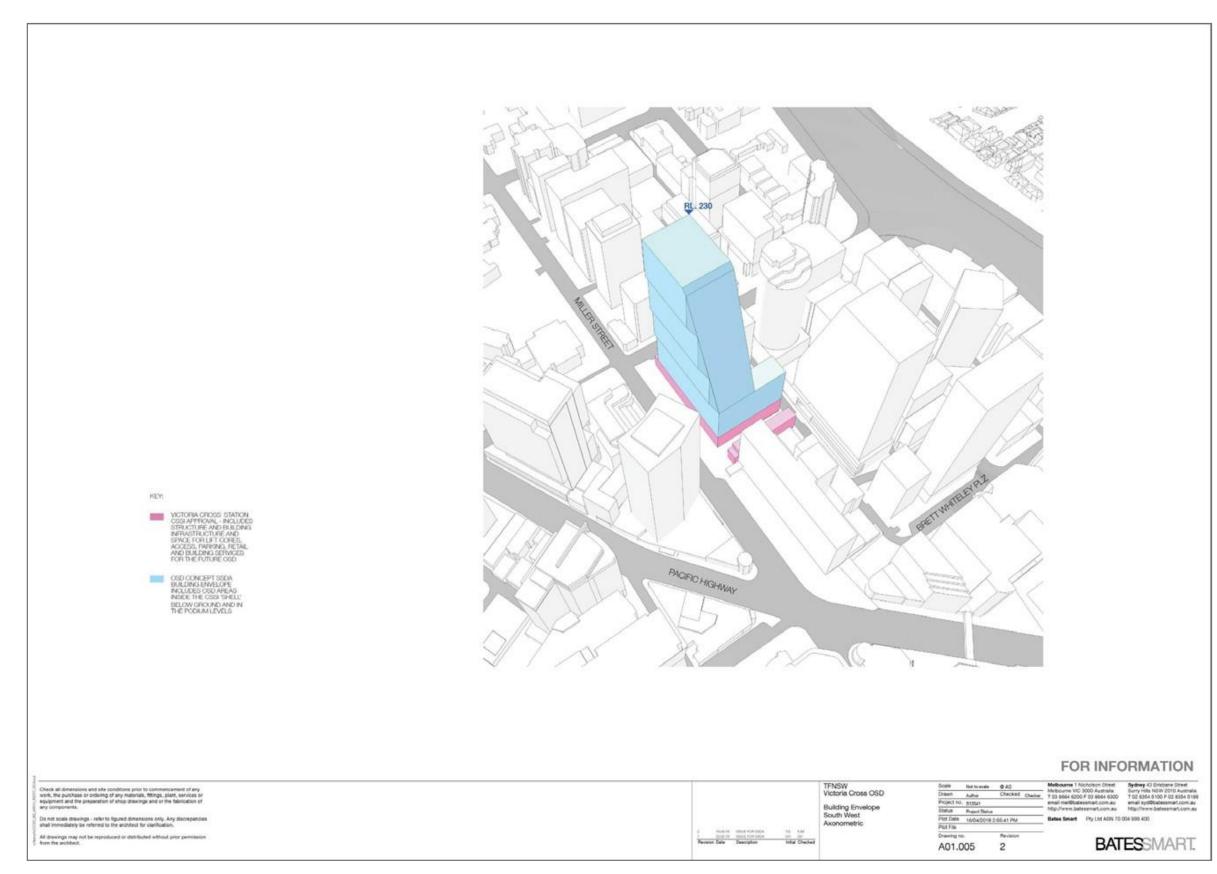














Appendix B – Camera Lenses for Photomontages

Digital camera lenses for photomontages and visual impact assessments

The intention of a photomontage rendering is to visually communicate how proposed built form sits in respect to its surroundings. To achieve this, a digitally rendered image from a digital 3D model is accurately superimposed into a digital photograph to provide an accurate representation in terms of light, material, scale, and form.

Camera lens selection also plays an important part in creating a photomontage that communicates visual impact. There are several things to consider with respect to lens selection.

Field of View of the Human Eye

The field of view of the human eye is a topic that varies depending on the source of information. In many cases, the field of view of the eye is stated to be 17mm. Other opinions claim a smaller field of view of around 22-24mm.

Whichever the case, it is accepted that the human eye has a wide field of view. When a person stands close to a subject - for instance a building - their field of vision can potentially read all of the top, sides and bottom of the building simultaneously in a single glance.

In addition to this, the human eye can change focus and target direction extremely rapidly, allowing a person to view a large structure in a very short period of time, effectively making the perceived field of view even larger.

The Perspective of the human eye

It is difficult to accurately reproduce what the human eye sees by the means of a printed image. The eye's image sensor - the retina - is curved along the back surface of the eyeball, whereas the sensor on a camera is flat. Consequently, the perspective of a photograph can look quite different to how a person views a scene in the real world, especially when comparing to a photo captured with a wide camera lens.

In digital photography circles, it is widely accepted that using a longer lens (approximately 50mm) reduces the amount of perspective in an image and therefore more closely replicates what the human eye would see in reality. This, however, only addresses how the eye perceives perspective and does not consider the field of view of the eye.



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