VIRTUAL IDEAS

Victoria Cross Overstation Development, North Sydney

Response to Submissions - Visual Impact Photomontage Report

221 Miller Street, North Sydney

Visual Impact Photomontages and Methodology Report

Victoria Cross Detailed SSD Overstation Development - Private View Study

Introduction

This report has been prepared to accompany a detailed State Significant Development (SSD) development application (DA) for a commercial mixed-use Over Station Development (OSD) above the new Sydney Metro Victoria Cross Station. The detailed SSD DA is consistent with the Concept Approval (SSD 17_8874) granted for the maximum building envelope on the site, as proposed to be modified.

The Minister for Planning, or their delegate, is the consent authority for the SSD DA and this application is lodged with the NSW Department of Planning, Industry and Environment (NSW DPIE) for assessment.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 6 May 2019. Specifically, this report has been prepared to respond to the following SEARs:

- Outline the proposal's response to view sharing from the adjoining Alexander Apartments to the east including a comparison of existing views, views arising from the proposed modified building envelope and views arising from the proposal. This must include consideration of the Land and Environment Court's view sharing principles.
- In addition, the EIS must include the following:
  - view impact analysis

This report has also been not prepared in response to any identified condition of consent for the State Significant Development Concept (SSD 8874) for the OSD.

The detailed SSD DA seeks development consent for:

- Construction of a new commercial office tower with a maximum building height of RL 230 or 168 metres (approximately 42 storeys).
- The commercial tower includes a maximum GFA of approximately 61,500sqm, excluding floor space approved in the CSSI
- Integration with the approved CSSI proposal including though not limited to:
  - Structures, mechanical and electronic systems, and services; and
  - Vertical transfers;
- Use of spaces within the CSSI 'metro box' building envelope for the purposes of:
  - Retail tenancies;

  - Commercial office lobbies and space;
  - 161 car parking spaces within the basement for the purposes of the commercial office and retail use;
  - End of trip facilities; and
  - Loading and services access.
- Utilities and services provision.
- Signage locations (building identification signs).
- Stratum subdivision (staged).

The Site

- The site is generally described as 155-167 Miller Street, 181 Miller Street, 187-189 Miller Street, and part of 65 Berry Street, North Sydney (the site).

  The site occupies various addresses/allotments and is legally described as follows:

  - 155-167 Miller Street (SP 35644) (which incorporates lots 40 and 41 of Strata Plan 81092 and lots 37, 38 and 39 of Strata Plan 79612)
  - 181 Miller Street (Lot 15/DP 69345, Lot 1 & 2/DP 123056, Lot 10/DP 70667)
  - 187 Miller Street (Lot A/DP 160018)
  - 189 Miller Street (Lot 1/DP 633088)
  - Formerly part 65 Berry Street (Lot 1/DP 1230458)

Figure 01 – Site Aerial

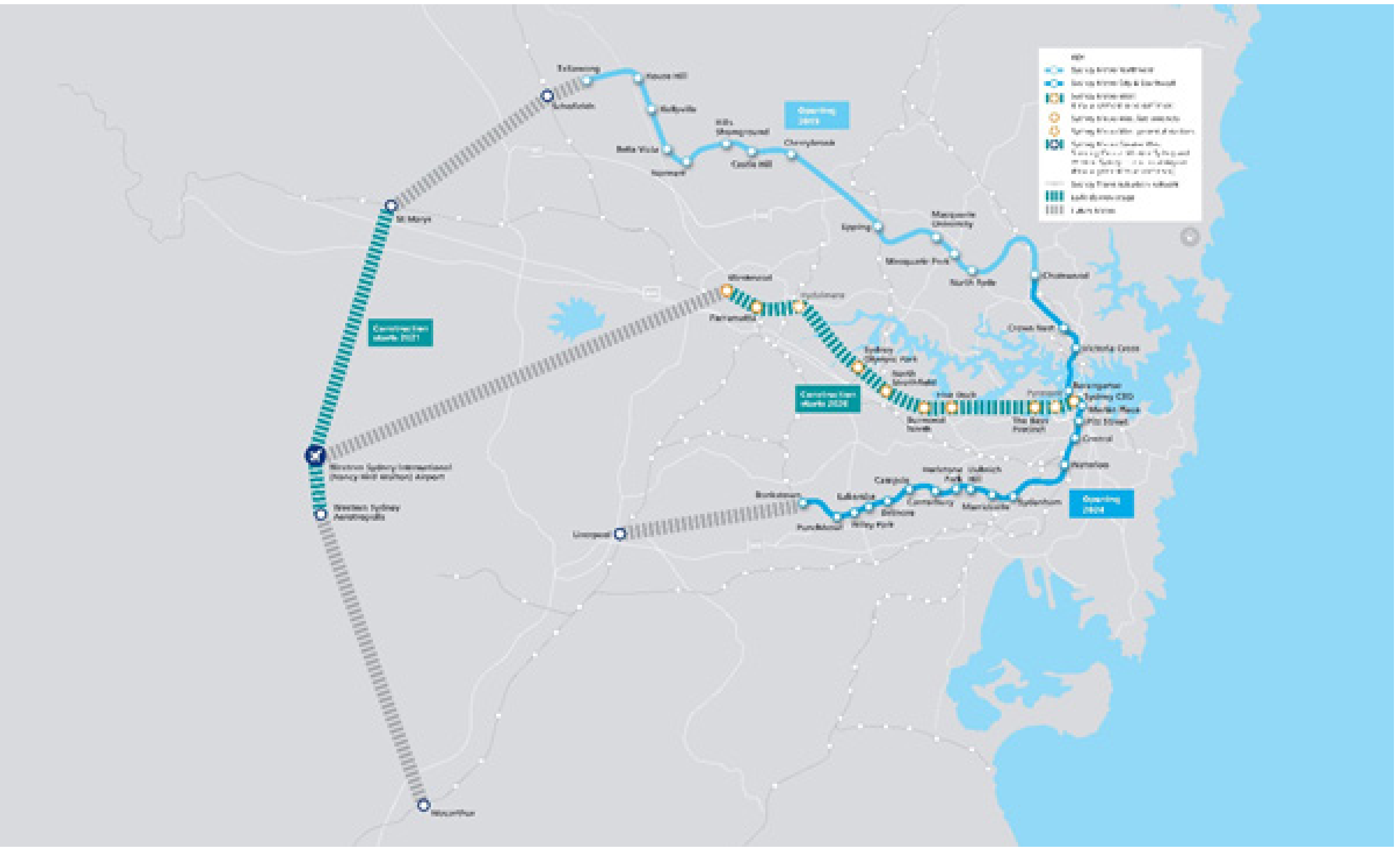
Sydney Metro Description

Sydney Metro is Australia's biggest public transport project. Services started in May 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new metro stations underground at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new metro platforms under Central. In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system - the biggest urban rail project in Australian history. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre. The Sydney Metro project is illustrated in the Figure below.

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham project as a Critical State Significant Infrastructure project (reference SSI 15_7400) (CSSI Approval). The terms of the CSSI Approval includes all works required to construct the Sydney Metro Victoria Cross Station, including the demolition of existing buildings and structures on both sites. The CSSI Approval also includes construction of below and above ground improvements with the metro station structure for appropriate integration with the OSD.

With regards to CSSI related works, any component of the detailed design that is contained within the "metro box envelope" and public domain will be pursued in satisfaction of the CSSI conditions of approval and do not form part of the scope of the Detailed SSD DA for the OSD, unless otherwise specified in the SSD DA.

Figure 02 – Sydney Metro Alignment Map



Source: Sydney Metro

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.

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 SSDA building envelope
   Created by: Bates Smart
   Format: Sketchup model
2) Architectural design of Proposed Detailed SSDA Building
   Created by: Bates Smart
   Format: Sketchup model
3) Surveyed data
   Created by: CMS Surveyors
   Format: DWG file
4) Site photography
   Supplied by: The Department of Planning, Industry and Environment
   Format: JPEG file
5) Surveyed 2015 3D North Sydney context model
   Created by: AAM
   Format: 3DS Studio Max file
6) Approved DA building envelopes
   Supplied by: Batesmart
   Format: Sketchup model

Methodology

Site Photography

Photography was supplied by the Department of Planning, Industry and Environment. The photograph was taken using a Sony E5823 with a 4.2mm focal length.

3D Model

The 3D model was created by importing the supplied 3D model of the proposed building into our 3D software (3DS Max) and positioning this in reference to the corresponding reference points derived from the imported survey data.

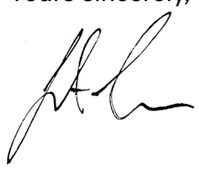
Alignment

A 3D camera was then created in the 3D model with an equivalent lens to that used to capture the photo. The 3D camera position was matched with the real world camera position by using the supplied AAM surveyed North Sydney model and aligning the visible 3D elements with corresponding objects visible in the photograph.

Renderings of the proposed building were then created from the aligned 3D camera and montaged into the existing photograph taken 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



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

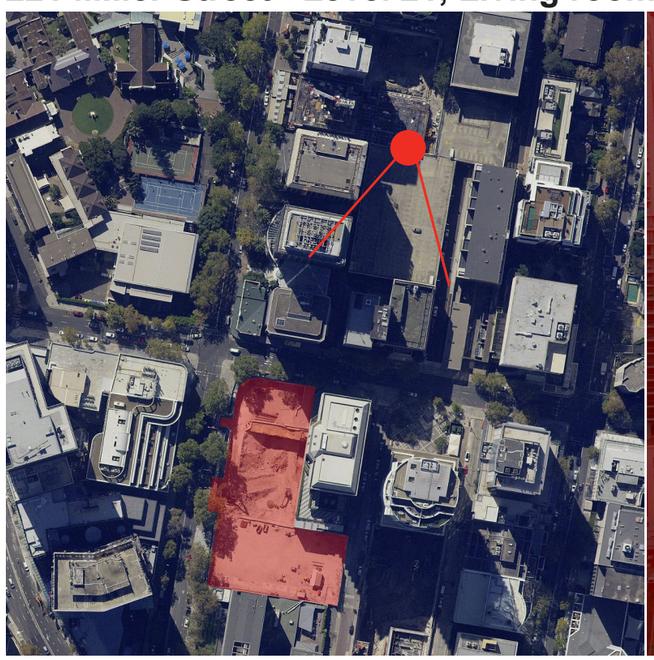
1994 - 1999
Architectural Technician, Thomson Adsett Architect, Brisbane QLD.

Relevant Education / Qualifications

1997

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

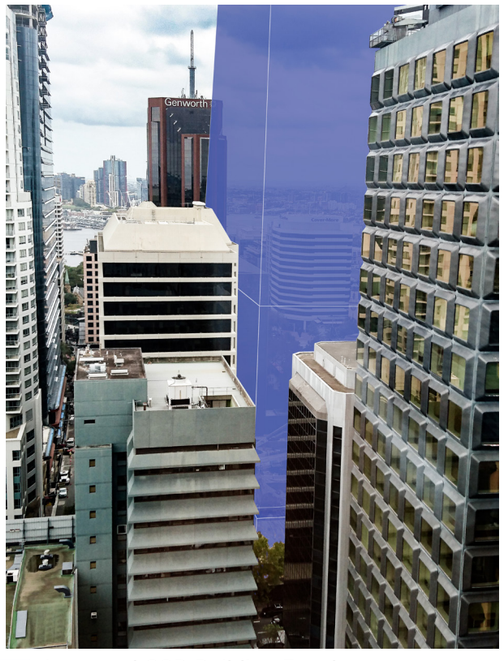
221 Miller Street - Level 21, Living room window, southern view - Overview



Location plan

AAM surveyed model for alignment

Original Photograph



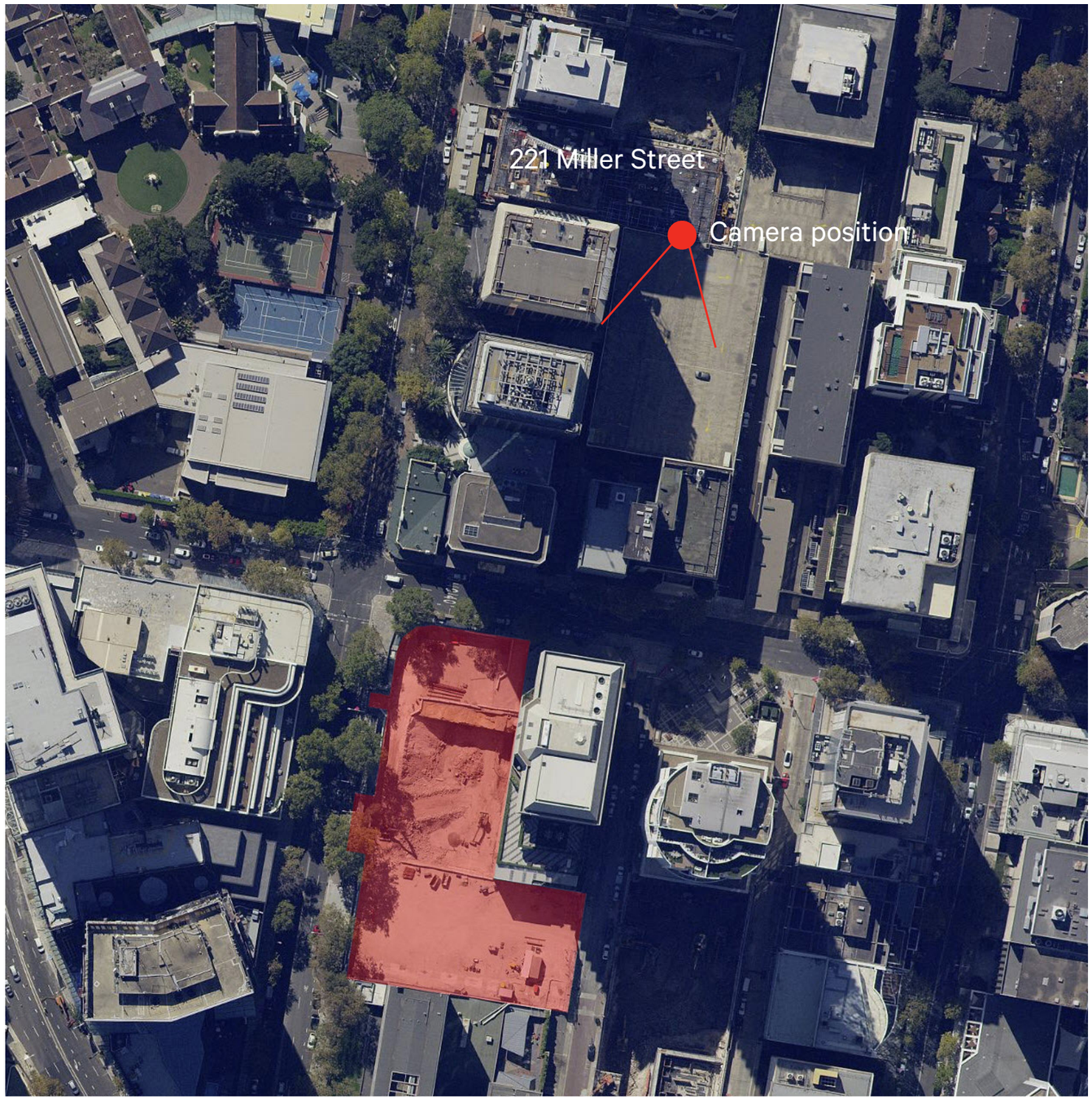
Approved OSD Building Envelope

Proposed OSD Building Envelope

Proposed OSD Building Envelope with Detailed SSDA indicative building design

Proposed OSD Detailed SSDA indicative building design

221 Miller Street - Level 21, Living room window, southern view - Location plan



221 Miller Street - Level 21, Living room window, southern view

Original Photograph

AAM surveyed model for Alignment

221 Miller Street - Level 21, Living room window, southern view

Original Photograph

Approved Victoria Cross OSD Building Envelope

221 Miller Street - Level 21, Living room window, southern view

Approved Victoria Cross OSD Building Envelope

Proposed Victoria Cross OSD Concept Plan Modification Building Envelope

221 Miller Street - Level 21, Living room window, southern view

Approved Victoria Cross OSD Building Envelope

Proposed Victoria Cross OSD Concept Plan Modification Building Envelope with Detailed SSDA indicative building design

221 Miller Street - Level 21, Living room window, southern view

Approved Victoria Cross OSD Building Envelope

Proposed Victoria Cross OSD SSDA indicative building design

Appendix A – 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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