

VIRTUAL IDEAS

Ivanhoe Estate Stage 1 State Significant Development Application
Visual Impact Photomontage Report

BACKGROUND

This document was prepared by Virtual Ideas and includes a methodology 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.

OVERVIEW

The general process of creating accurate photomontage renderings involves the creation of an accurate, real world scale digital 3D model.

We capture site photographs from specified positions on location and then place cameras in the 3D model that match the real world position in which the photographs were taken on site.

The camera positions are surveyed to identify the MGA coordinates at each position. Additional reference points are also surveyed at each camera location to assist in aligning our 3D camera to the real world camera 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.

Please note that this report is not a complete visual impact assessment, but rather an update to the photomontages prepared by Virtual Ideas that accompanies the Masterplan State Significant Development Application. The updated photomontages are intended to demonstrate that the proposed building designs for Stage 1 are consistent with the envelopes and indicative massing presented in the Masterplan photomontages prepared by Virtual Ideas, and the view impacts are consistent with those described in the Masterplan Visual Impact Assessment prepared by Ethos Urban. For confirmation, refer to section 5.7 of the Stage 1 Environmental Impact Statement prepared by Ethos Urban.

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) 3D models of 'Indicative Building Massing' and envelope of 'Buildable Area'

- Created by: Bates Smart Architects
- Format: Sketchup model

2) 3D models of detailed Stage 1 DA buildings

- Created by: Bates Smart Architects
- Format: Sketchup model

3) Camera location and alignment point surveyed data

- Created by: CMS Surveyors
- Format: DWG file

4) Site photography - Positions 1 - 8

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

5) Site photography - Positions 10 - 13

- Created by: FRMEZ
- Format: ARW file

6) Surveyed 3D context model

- Created by: AAM
- Format: 3DS Studio Max file

METHODOLOGY

Site Photography

Site photography was taken from predetermined positions as agreed and instructed by representatives from Citta Property, Frasers Property, Ethos Urban and Bates Smart. Photographs were taken using a Nikon D800 digital camera with a Nikon 14.0-24.0 mm f/2.8 lens and a Sony A7iii with a Zeiss Batis f2.8 18mm lens.

The positions of the photographs were surveyed and then plotted onto a survey drawing in DWG format.

3D Model

Using the imported surveyed data into our 3D software (3DS Max) as reference, we then imported the supplied 3D model of the detailed Stage 1 buildings, the indicative building massings and envelope.

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 models 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



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



Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	14th November 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	19mm

50mm crop of original photograph



Photograph details

Photo Date	14th November 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	18mm

50mm crop of original photograph



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	3rd November 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	14mm

50mm crop of original photograph



Photograph details

Photo Date	3rd November 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing





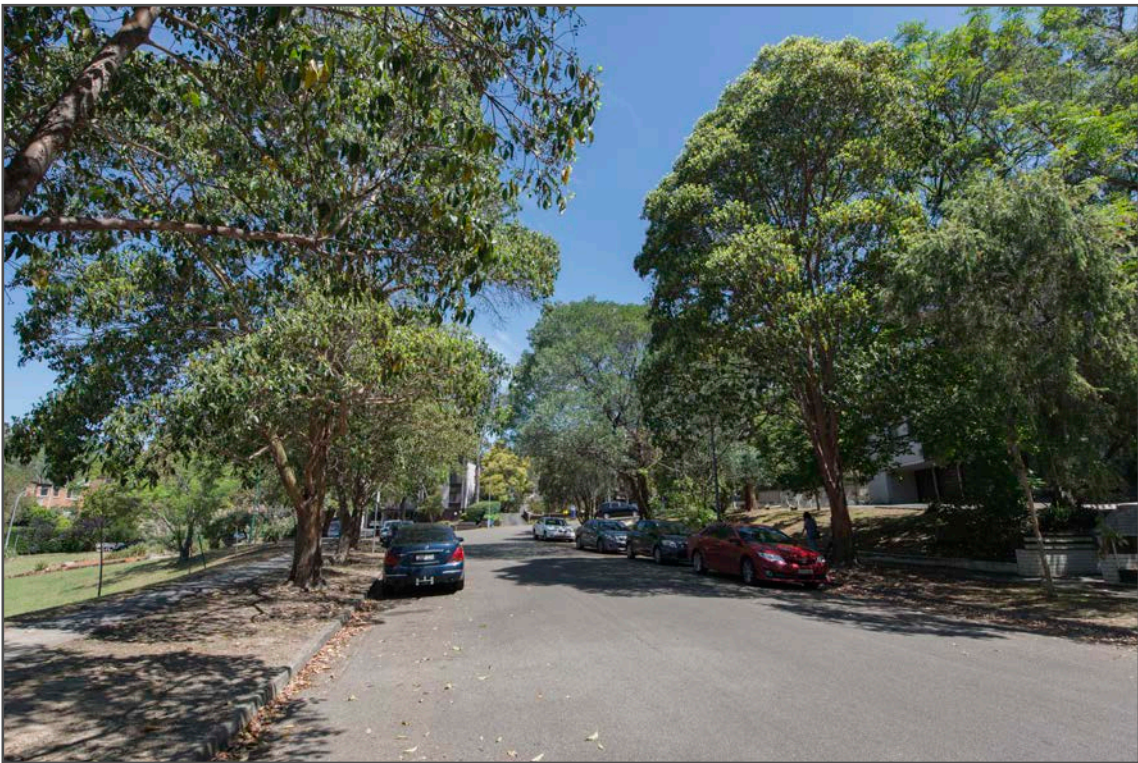




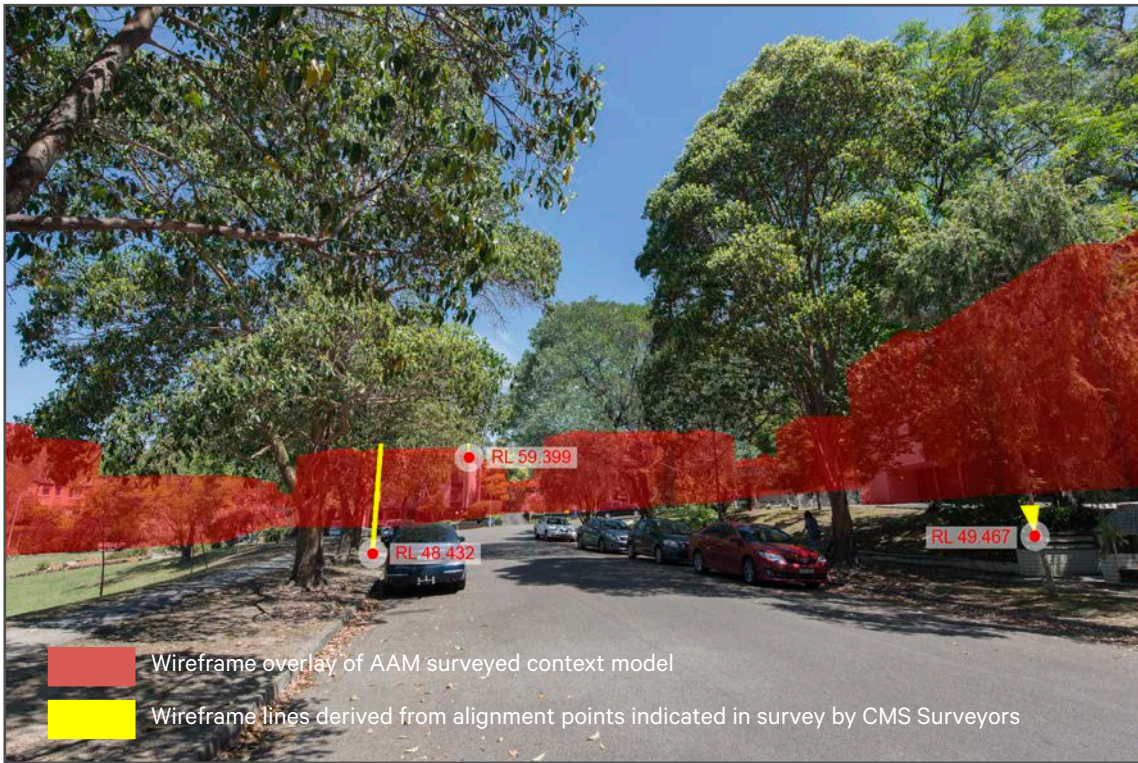




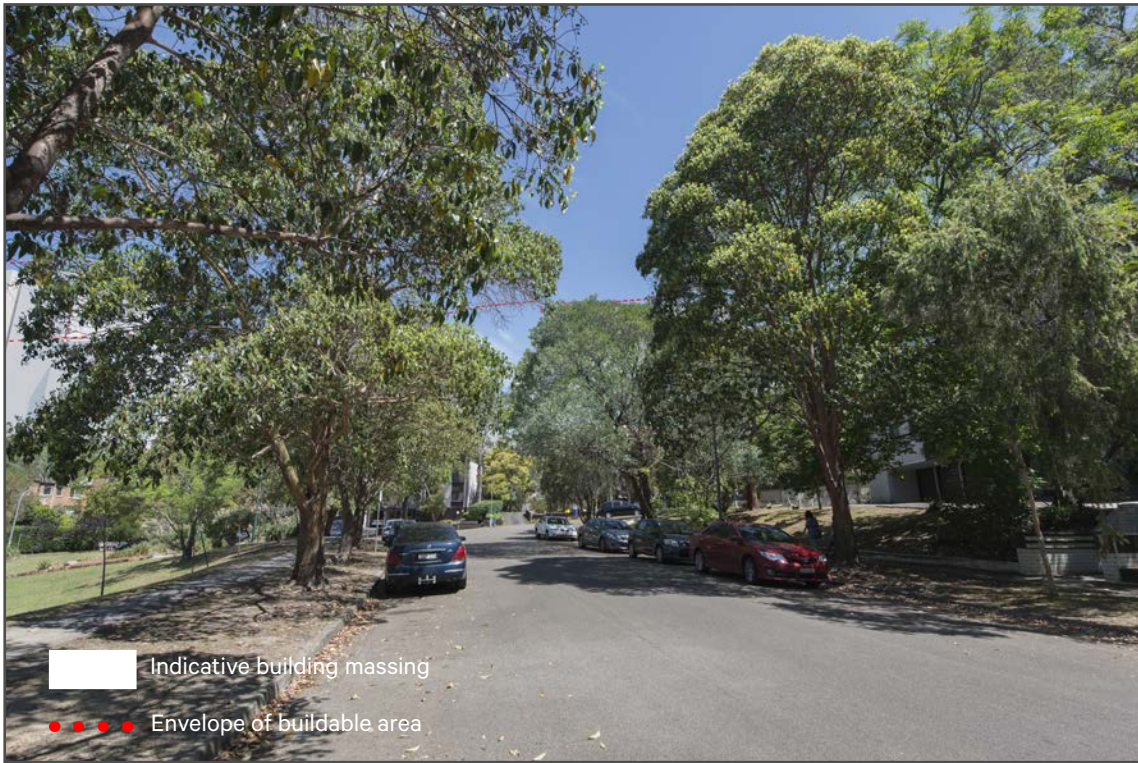
Original photograph



Original photo with wireframe overlay of surveyed elements



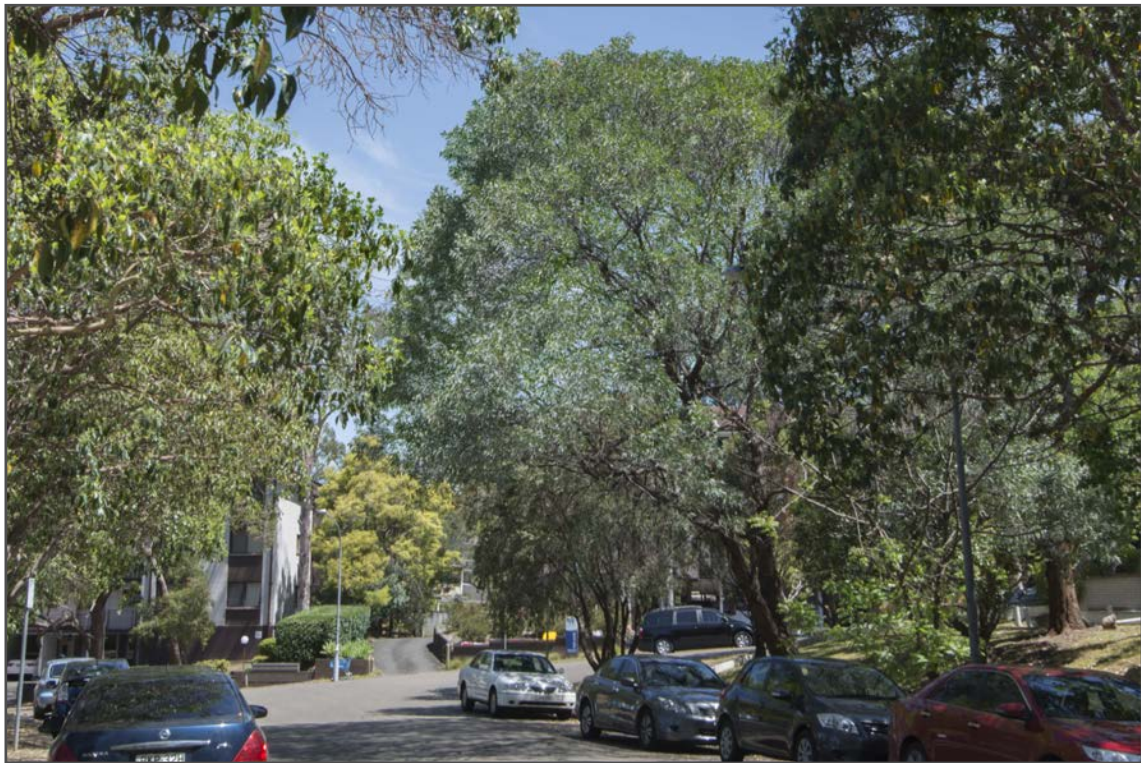
Photomontage of indicative building massing



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	18mm

50mm crop of original photograph



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	18mm

50mm crop of original photograph



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	18mm

50mm crop of original photograph



Photograph details

Photo Date	25th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing













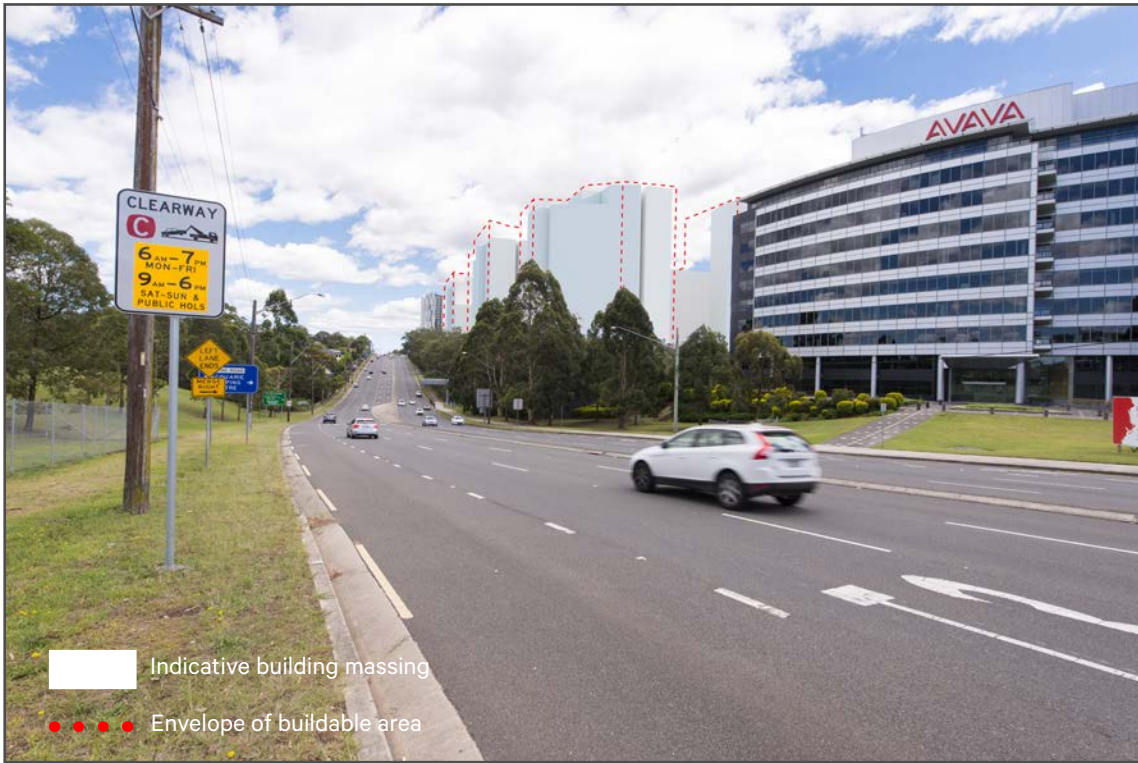
Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	24th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	18mm

50mm crop of original photograph



Photograph details

Photo Date	24th October 2017
Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	50mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

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Camera Used	Nikon D800
Camera Lens	14.0-24.0 mm f/2.8
Focal length in 35mm Film	18mm

50mm crop of original photograph



Photograph details

Photo Date 24th October 2017
Camera Used Nikon D800
Camera Lens 14.0-24.0 mm f/2.8
Focal length in 35mm Film 50mm

50mm crop of photomontage of indicative building massing





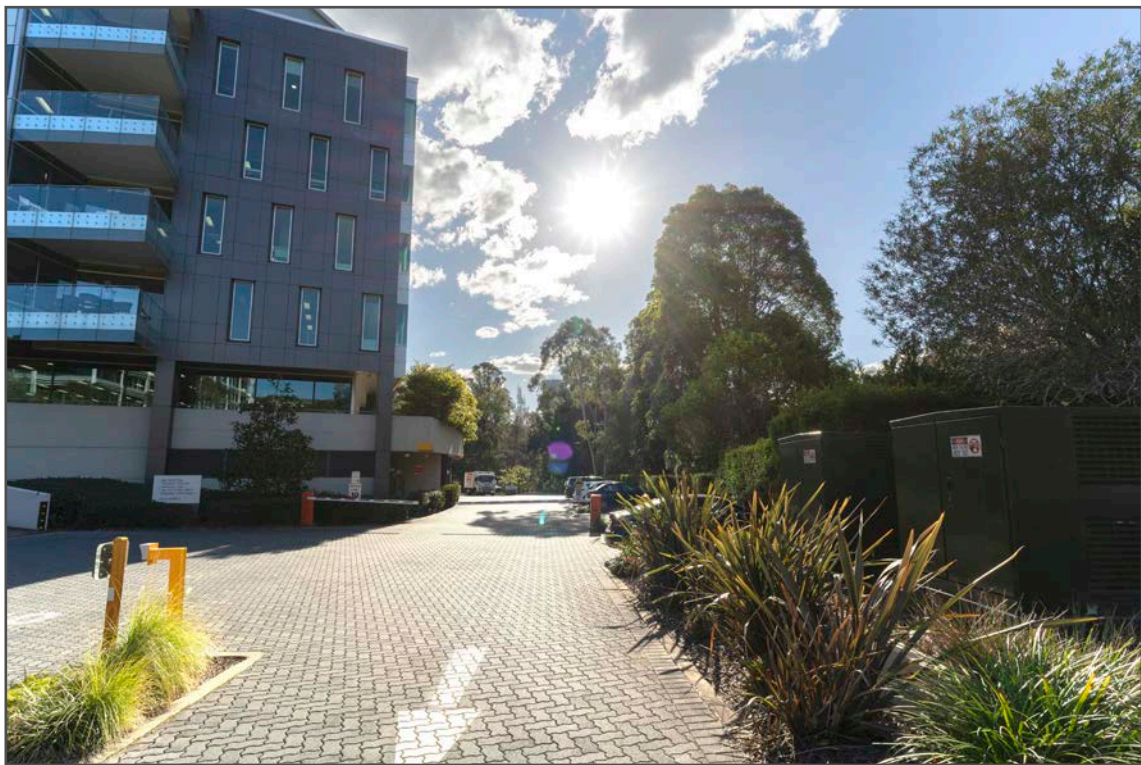








Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	1st August 2018
Camera Used	Sony A7iii
Camera Lens	Zeiss Batis f2.8 18mm
Focal length in 35mm Film	18mm

50mm crop of original photograph



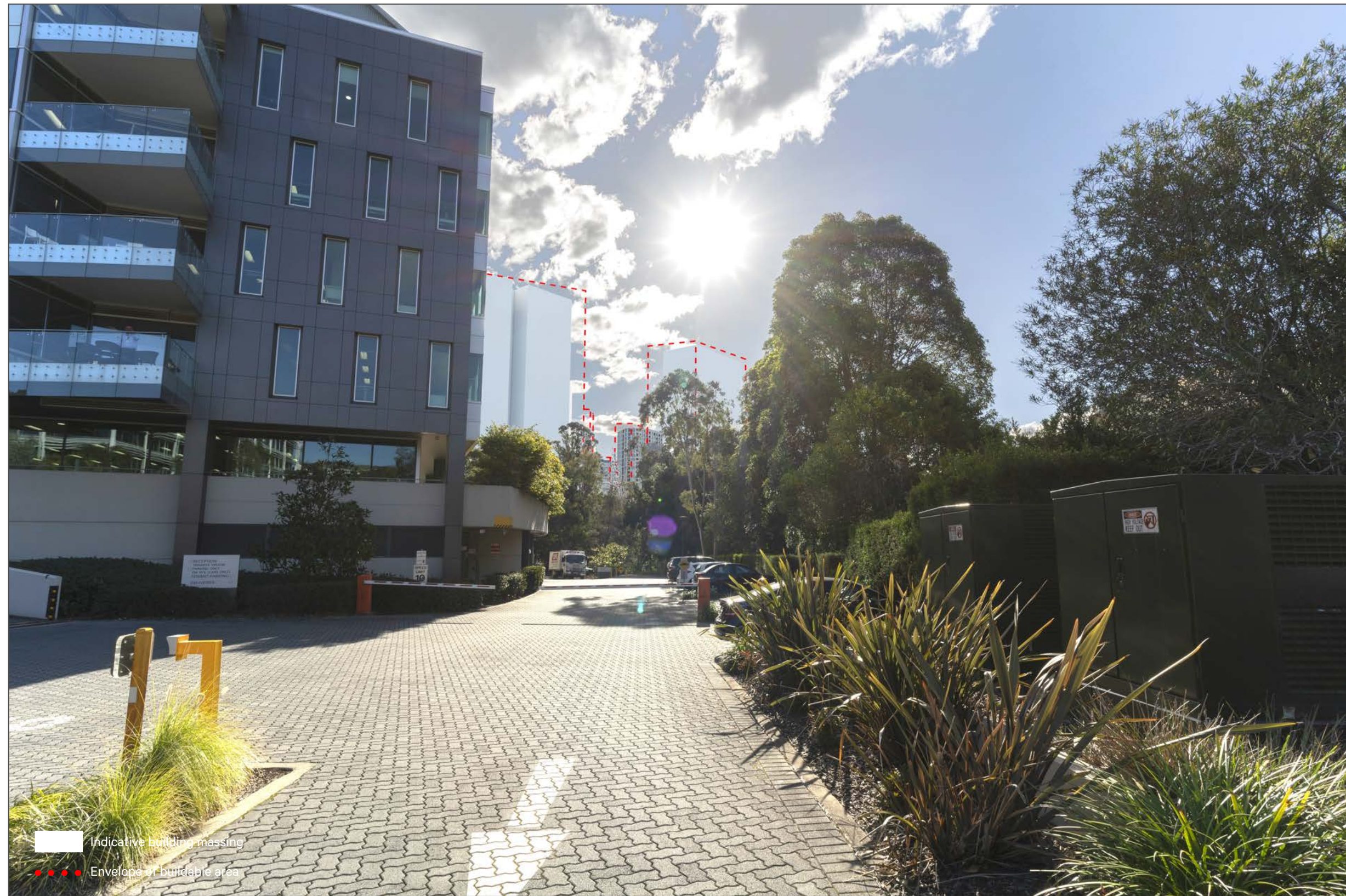
Photograph details

Photo Date	1st August 2018
Camera Used	Sony A7iii
Camera Lens	Zeiss Batis f2.8 18mm
Focal length in 35mm Film	18mm - cropped to 50mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

Photo Date	1st August 2018
Camera Used	Sony A7iii
Camera Lens	Zeiss Batis f2.8 18mm
Focal length in 35mm Film	18mm

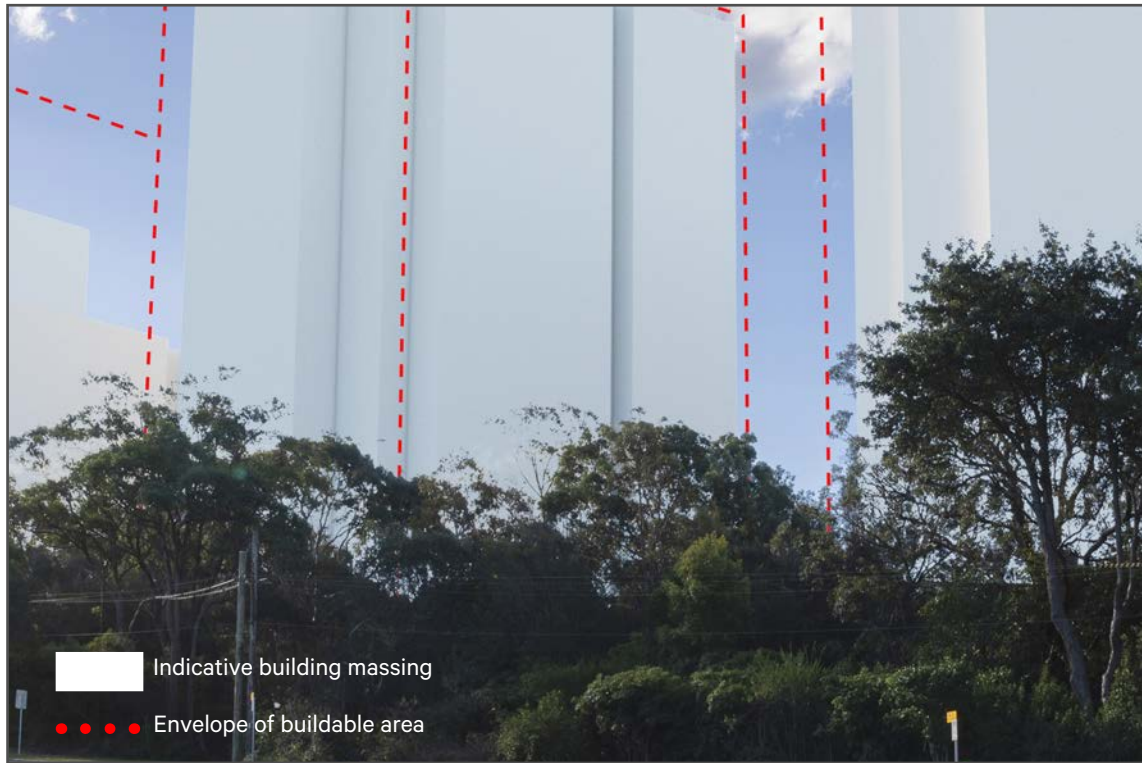
50mm crop of original photograph



Photograph details

Photo Date	1st August 2018
Camera Used	Sony A7iii
Camera Lens	Zeiss Batis f2.8 18mm
Focal length in 35mm Film	18mm

50mm crop of photomontage of indicative building massing













Original photograph



Original photo with wireframe overlay of surveyed elements



Photomontage of indicative building massing



Photograph details

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Focal length in 35mm Film	18mm

50mm crop of original photograph



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CMS Surveyors Pty Limited
A.B.N. 79 096 240 201
LAND SURVEYING, PLANNING & DEVELOPMENT CONSULTANTS



Date: 7 December 2017
Our Ref: 17350 North Ryde Photo Locations

Studio 71/161 Marlborough Street
Surry Hills
NSW 2010

Dear Mr Rick Mansfield.

As requested we have attended site and measured the Co-ordinates and Elevation of the ground level at the below sites. Co-ordinate's are MGA 56 and elevation to Australian Height datum (AHD).
Measurements were taken by GNSS Smartnet observations.
DWG of locations has also been supplied.

RE: North Ryde Photo Locations

Point No.	Easting	Northing	Ground Elevation	Photo Point
1	325748.427	6260946.998	54.853	6
3	325763.291	6260915.624	54.452	BOTTOM POLE
4	325728.586	6260934.644	54.820	BOTTOM POLE
5	325755.531	6260891.947	64.855	ROOF RIDGE
7	325755.224	6260896.054	63.065	BUILDING CORNER
24	325721.517	6260599.226	47.932	4B
25	325711.906	6260578.928	48.106	4A
26	325703.918	6260553.160	48.432	POLE
27	325676.365	6260504.467	59.399	BUILDING CORNER
28	325693.567	6260573.702	49.467	TOP MAIL BOX
29	325669.980	6260557.322	61.129	LEFT BUILDING CORNER
30	325675.369	6260563.555	61.110	RIGHT BUILDING CORNER
43	325520.141	6260619.662	76.518	ROOF RIDGE
44	325515.758	6260622.426	74.343	TOP BUILDING
45	325497.655	6260570.112	79.470	ROOF RIDGE
46	325495.682	6260583.258	75.756	TOP BUILDING
47	325491.514	6260638.368	67.246	BOTTOM POLE
48	325459.811	6260623.426	70.822	TOP CORNER FENCE
49	325491.114	6260653.845	66.709	5
102	325779.375	6260342.946	43.338	3
104	325765.528	6260330.600	44.319	TOP RAMP
105	325786.727	6260343.627	41.830	GROUND LEVEL CENTRE OF SOFA



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106	325735.707	6260303.250	53.088	ROOF RIDGE
107	325731.253	6260302.500	53.234	ROOF RIDGE
108	325736.179	6260303.191	50.878	TOP GUTTER
109	325727.930	6260323.260	53.265	ROOF RIDGE
150	325756.312	6260373.612	44.240	BASE TREE
151	325740.325	6260407.503	45.713	TOP OF SEAT
152	325723.047	6260398.760	53.529	ROOF RIDGE
153	325736.793	6260439.943	45.968	TOP OF SEAT
154	325763.588	6260430.548	42.752	PAINT MARK ON GROUND
155	325762.359	6260435.535	42.848	PHOTO POINT
200	325311.723	6260452.520	75.593	1A
202	325300.343	6260455.133	75.818	1B
203	325401.568	6260463.102	82.289	ROOF RIDGE
204	325332.689	6260437.343	74.654	BOTTOM POLE
205	325338.580	6260476.320	74.568	BOTTOM POLE
300	325041.111	6260681.584	67.247	7
302	325091.524	6260684.951	66.992	BOTTOM POWER POLE
303	325082.550	6260648.069	67.653	BOTTOM POWER POLE
304	325058.120	6260667.539	66.908	BOTTOM POLE
305	325053.874	6260667.645	66.696	BOTTOM POLE
400	325672.314	6260136.996	48.321	2A
402	325653.246	6260152.666	47.528	BOTTOM POLE
403	325616.842	6260230.407	49.340	BOTTOM POLE
404	325647.814	6260201.024	47.523	BOTTOM POLE
405	325676.803	6260179.838	47.175	BOTTOM POLE
406	325659.899	6260146.801	47.752	2B
450	325767.560	6260073.070	55.296	F1
451	325791.550	6260060.544	56.832	F1-1
452	325757.284	6260077.434	54.618	BOTTOM OF POWER POLE
453	325688.817	6260124.084	49.391	BOTTOM OF POWER POLE
454	325724.807	6260103.89	63.420	TOP OF LIGHT POLE
455	325642.297	6260195.839	55.662	TOP CORNER OF SIGN
456	325748.168	6260125.585	62.032	TOP OF LIGHT POLE
457	325758.010	6260179.978	98.116	TOP OF BUILDING CORNER
460	325758.075	6260077.687	54.668	F5
461	325767.834	6260058.776	55.837	F3
462	325773.795	6260062.663	56.020	F5A
463	325805.209	6260053.534	57.549	F4
501	326283.878	6259913.769	66.484	8A
502	326268.199	6259920.307	66.851	8B
503	326269.674	6259921.234	66.795	BOTTOM POLE
504	326249.650	6259938.558	65.445	BOTTOM LIGHT POLE
505	326256.763	6259961.143	76.644	TOP LIGHT POLE
506	326288.331	6260000.246	72.521	TOP BUILDING



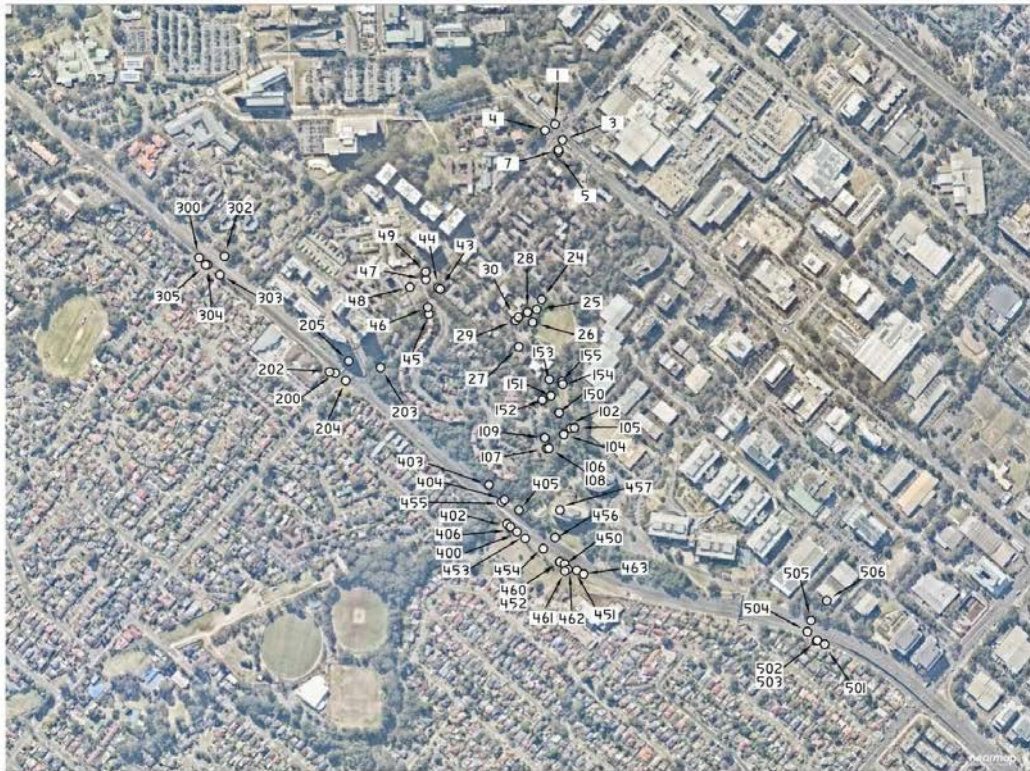
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Page 3 of 3



Yours faithfully,

Damon Roach
CMS Surveyors Pty Limited



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LAND SURVEYING, PLANNING & DEVELOPMENT CONSULTANTS



Date: 2/08/2018
Our Ref: 17350 North Ryde Photo Locations 2 rev.2

Studio 71/161 Marlborough Street
Surry Hills
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Dear Mr Richie Cohen.

As requested we have attended site and measured the Co-ordinates and Elevation of the ground level at the below sites. Co-ordinate's are MGA 56 and elevation to Australian Height datum (AHD).
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RE: North Ryde Photo Locations

Point No.	Easting	Northing	Ground Elevation	Photo Point
1	325892.018	6260235.213	48.796	PHOTO 1
100	325867.738	6260248.337	52.728	TOP OF WALL
101	325870.512	6260255.242	49.875	TOP OF SIGN POST
102	325831.461	6260277.753	48.691	TOP OF SIGN POST
2	325772.846	6260323.1	44.398	PHOTO 2
200	325744.047	6260331.466	44.8	BASE OF TREE
201	325741.29	6260325.368	47.269	TOP OF FENCE POST
202	325755.962	6260318.576	45.356	TOP OF POST
3	325572.1	6260223.565	51.157	PHOTO 3
300	325584.177	6260253.97	54.342	BUS STOP ROOF RIDGE
301	325576.95	6260259.468	52.808	BASE OF SIGN
302	325582.254	6260265.693	58.927	FORK IN TREE
4	325422.337	6260356.082	67.229	PHOTO 4
400	325440.656	6260380.765	66.967	BASE OF SIGN
401	325452.173	6260377.574	75.564	TOP OF TELEGRAPH POLE
402	325465.701	6260395.042	76.785	TOP OF GUTTER
5	325652.321	6260194.93	47.498	PHOTO 5
500	325679.133	6260221.101	47.372	TOP OF SIGN POST
501	325669.918	6260212.654	44.578	TOP OF POST
502	325659.004	6260206.633	49.589	FORK IN TREE



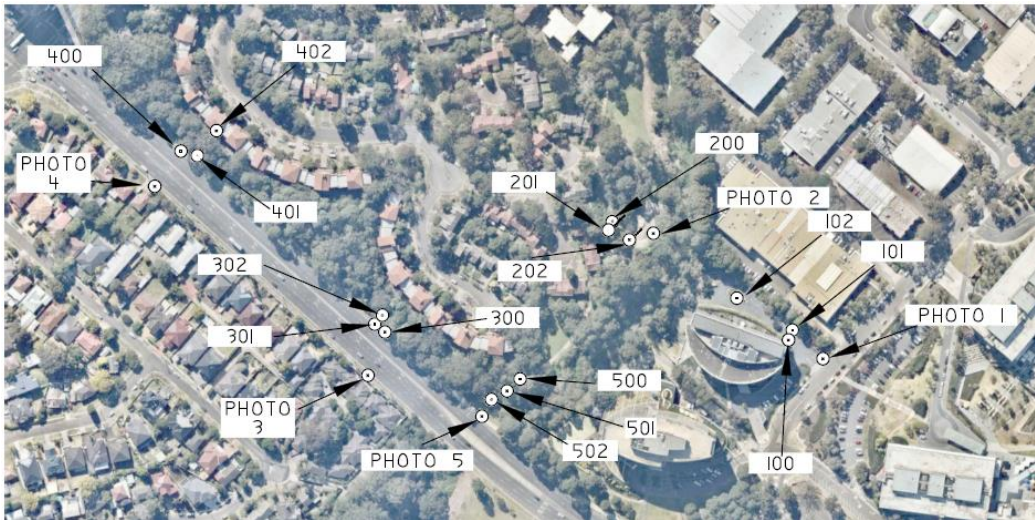
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