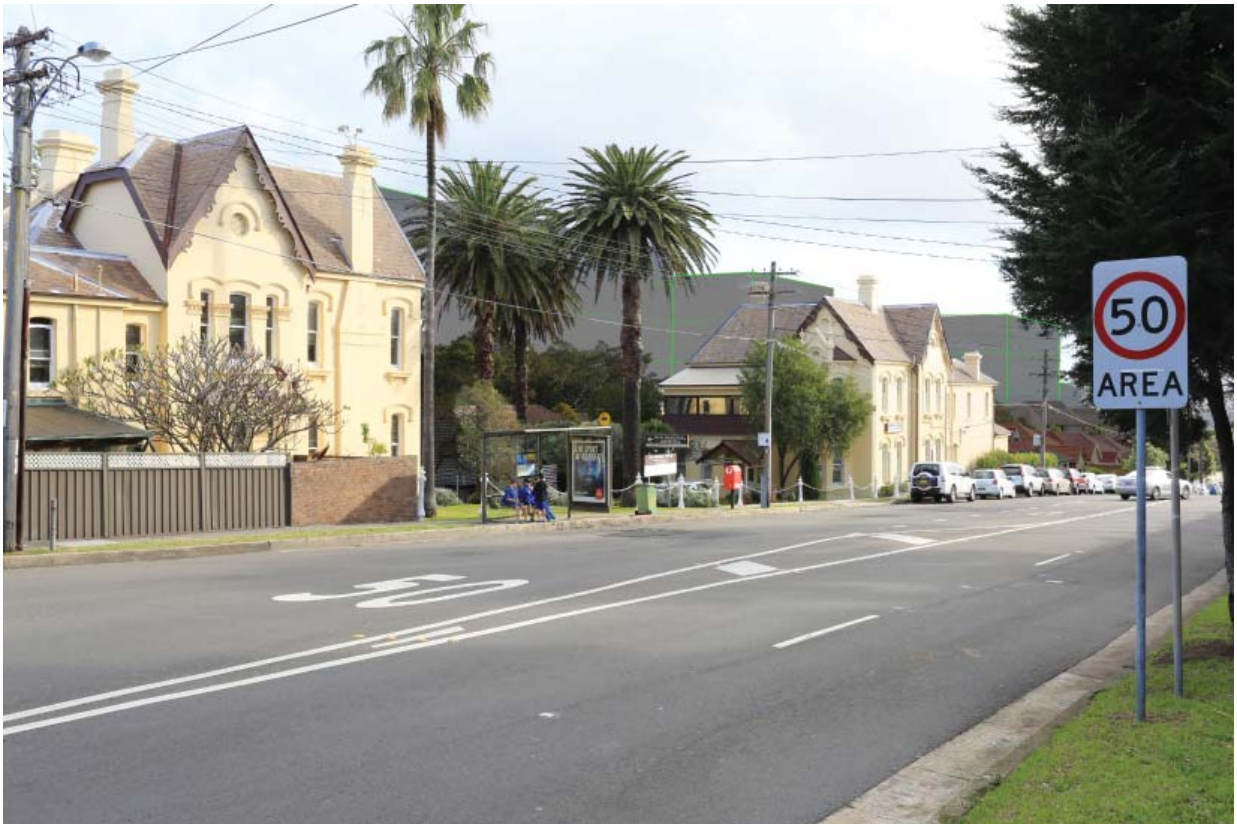
rla
richard lamb & associates

PEER REVIEW AND PHOTOMONTAGE CERTIFICATION
UNITING WAVERLEY CAMPUS
PLANNING PROPOSAL



Report prepared for: Uniting
Prepared by: Dr. Richard Lamb
Date: 11 April, 2017

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1.0 Purpose of Report

Richard Lamb and Associates (RLA) have been engaged by Uniting to peer review a View Analysis Study by Cox Architecture (Cox), urban designers and project architects, and to provide certification of the adequacy and accuracy of block model photomontages which form the basis of the visualisation of the likely built form proposed in the redevelopment of the Uniting Waverley Campus (the Site). Redevelopment of the Site is the subject of a Planning Proposal, in the first instance to Waverley Council and ultimately to the NSW Department of Planning and Environment and the consent authority.

RLA has extensive experience in visual impacts assessment, in which we specialise. The principal and author of this report, Dr Richard Lamb, has over 30 years' experience in the field of visual analysis and assessment of visual impacts, view loss and view sharing.

RLA have been involved in the preparation of visual analysis and heritage view studies in relation to many Major Project Applications, Urban Design studies and Planning Proposals and are familiar with this area. Dr Lamb's CV can be found on our website www.richardlamb.com.au. RLA have been involved in a number of planning proposals in Brookvale, Dee Why, Menangle, Harbord, Somersby, Gosford, Putney Hill, North Ryde, Homebush, Terrigal, Wentworth Point, Shepherds Bay, Gladesville, Yarrawarra and other locations. We have also been involved in a number of projects and planning proposals in which the Department of Planning and Environment or other government authorities have requested view analysis work and photomontage certification, the visualisation work for which we have supervised.

The View Analysis study by Cox addresses potential visibility and visual impacts on the public domain of envelopes for proposed buildings in the redevelopment proposal. The View Analysis study includes a series of block-model photomontages which show the proposed development as viewed from a range of public domain locations in the locality.

The locations from which visualisations in the View Analysis study were prepared were based on a preliminary study by Cox which proposed a number of locations in the public domain for future analysis. RLA were commissioned to review the preliminary study, advise on appropriate methodology for preparation of photomontages and to advise on views that should be given priority. Priority views are important viewing locations in the public domain from which there are both fixed (stationary) views and dynamic (moving) views available. Both kinds of views are important to understanding and assessing the likely visual effects of the building envelopes proposed in the Planning Proposal. It is not necessary for the photomontages to show any details of likely future buildings at this stage, as only the massing of potential future built form is the focus at the Planning Proposal stage.

Following the review and prioritisation of views by RLA, Cox prepared a series of eleven photomontages to assist in analysis of the urban design and visual impacts of the proposed building envelopes. This report concerns the process and methodology of preparation of the photomontages and certification that they are a reasonable representation of the likely bulk and scale of future development, if the proposal, having passed through a gateway determination, proceeds to the design of buildings in accordance with the envelopes.

2.0 Proposed Development

Uniting is to submit a Planning Proposal to Waverley Council to vary the controls on the Site to permit construction of a variety of facilities, including a 5-storey residential aged care facility (RACF) on the south-western corner and residential buildings between 4 and 8-stories in the centre and western parts of the Site. Some existing buildings will be demolished to accommodate new buildings while others will remain but be altered within the existing floorplate, as is the case for the Hospital precinct which exists in the south-east corner of the Site.

3.0 Surrounding Visual Context and External Visibility

The Site has road frontages to Bronte Road to the west, part of Birrell Street to the north-west, Carrington Road to the east and Church Street to the south. A row of residential lots and existing houses are located along part of the northern boundary of the Site on the south side of Birrell Street and also along the south side of the Site on the north side of part of Church Street. Institutional buildings and landscape characterise the remainder of streetscape views of the Site.

The Site contains an existing functioning hospital, aged care facilities and other associated buildings and also contains a number of built items of local heritage significance, along with remnants of original or early landscape fabric, including landmark trees, of which two *Araucaria sp.* are prominent in local and potentially in sub-regional views.

The Site is locally prominent because of the scale and character of the heritage streetscapes on Carrington Street and part of Church Street. The heritage character of the streetscape of the Site is less prominent on the north-western section of Birrell Street and western section of Church Street. The Bronte Road streetscape is predominantly institutional in character.

A part of the remnant vegetation is of local landmark value and the Site, which is in the vicinity of a minor ridge further to its east, can be located by reference to the larger trees, of which the two Araucarias west of the main hospital heritage building complex are visible over a wider catchment than the built form on the Site, most of which is of low visibility.

The Site is relatively elevated in relation to topography to the south, south-west and west of the Site. Land falls in these directions from a ridgeline located north of the Site in the vicinity of Bondi Junction which broadly follows Grafton Road in a west-east alignment. Bronte Road is relatively level between Ebley Road and Birrell Street and begins to fall from a high point at its intersection with Birrell Street to the south-east as it passes the Site. Landform located west of the Site and south of Birrell Street falls to the south and south-west towards Queens Park Road, Queens Park, Darley Road and into Centennial Park. East of the Site, Carrington Road is on part of a smaller local ridgeline which follows a north-south alignment and has a high point in the vicinity of Waverley College, as a result of which the western, largest built form on the college campus has high external visibility from the west and south.

4.0 Selection of View Locations

RLA independently assessed the likely visual exposure of the envelopes to views, adopting our own methods. The preliminary analysis carried out by Cox was shown to encompass all the relevant more distant public domain locations and most of the closer locations from which the likely visual effects of the proposed building envelopes would be perceived.

In consultation with Cox and Uniting, it was determined that the most relevant viewing places for analysis and preparation of photomontages were close to the Site, concentrated around the main intersection from which the composition of views could be assessed. A final number of 11 view places was determined to represent both the overall visual exposure and the more distant and close range effects of the proposed building envelopes. Photomontages were to be prepared to show the effect on view from these.

The locations of the view places are shown on Figure 1. Figure 1 is a screen capture of a Google Earth image showing the locations of view places as yellow pins. The locations of the pins correspond to the UTM coordinates of the photograph locations. The details of the RLA photograph access numbers, notes on view locations and UTM coordinates of the view place locations VP1 to VP11) are shown on Figure 2.

The view locations given priority feature four which represent the more distant visual exposure, which is confined to the west and south west (VP1-VP4). The remainder are concentrated at the most significant intersections at the north of the Site. (ie. the intersections of Birrell Street with Bronte Road and Council/Carrington Streets and the less publicly exposed intersections with Church Street in the south (ie, the intersections with Birrell and Carrington Streets).

The view photographs taken in the locations identified above were orientated toward the Site so as to represent both the sites of the proposed building envelopes, but also the composition of the views, including existing buildings to be retained and new building envelopes proposed. In some cases, for reasons explained in Section 5.0 below, a wider focal length was used for the photographs to ensure that the whole composition of the view would be represented.

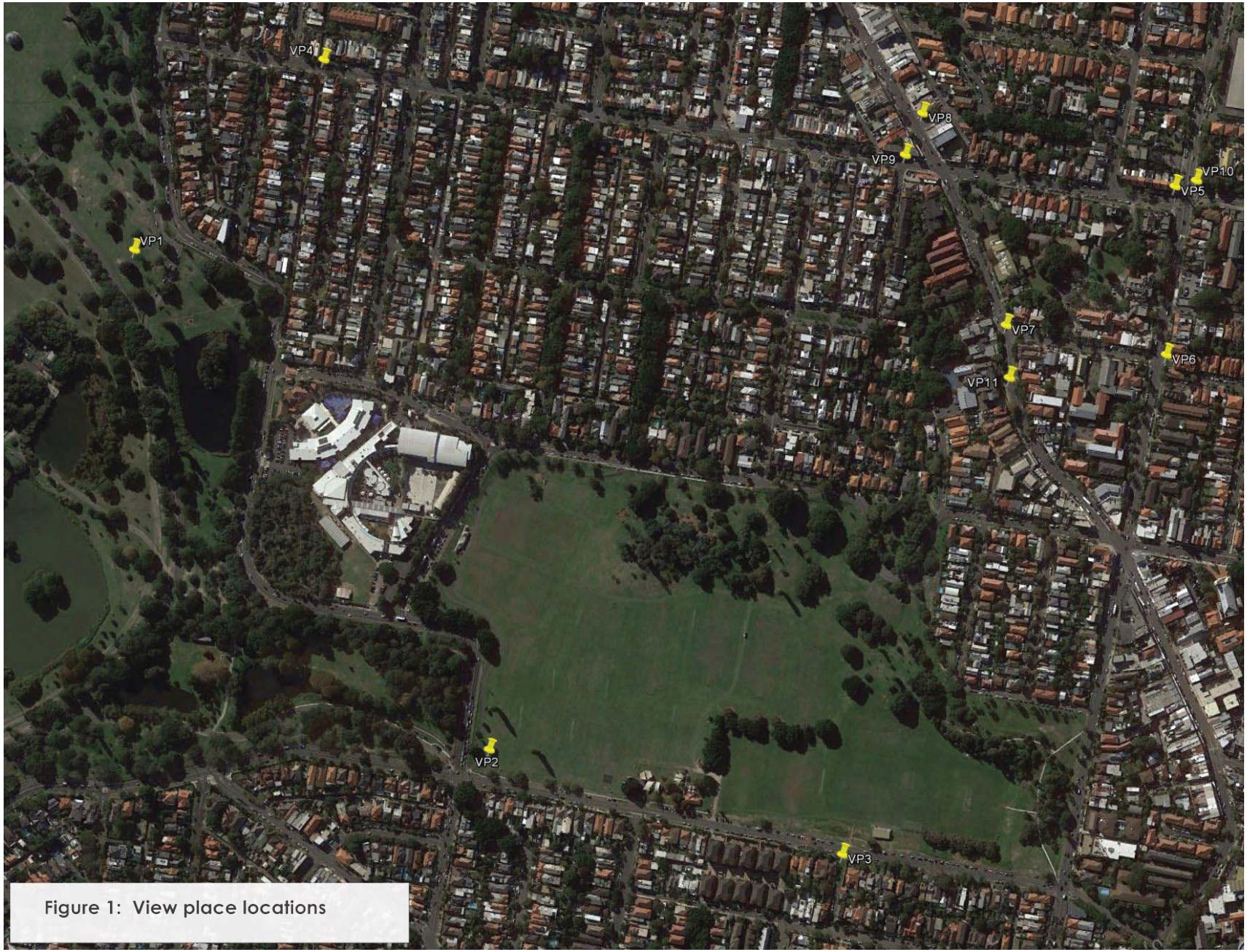


Figure 1: View place locations

Not to Scale

5.0 Verification of Photomontages

RLA were requested by Uniting and Cox to provide guidance as to the preparation of verifiable block model photomontages which could guide assessment of the merits of the proposed building envelopes. The following advice was provided.

5.1 Principles of verification of photomontages

For the certification of photomontages, the fundamental requirement is that there is a 3-dimensional (3D) computer model of the proposed building development envelopes that can be accurately located and merged with representative photographs taken from key viewing places, to produce a photomontage.

RLA have been provided with a 3D model of the proposed buildings created in Autodesk 3D Studio software. The location and height of the 3D model of the building must be verified with respect to surveyed features of the existing development Site and the location of features of the surrounding environment, interpolated from aerial imagery.

A further aid required to assist in verifying the location and height of the proposed building is a 3D wire frame model of visible features of some of the existing buildings on the Site based on the site survey.

The 3D models of the survey information and of the proposed building envelopes are then matched to and merged with digital photographic images of the existing environment.

The key to being able to certify the accuracy of the photomontage resulting from merging the 3D model and photographs is being able to demonstrate that the 3D model of the proposed building envelope has a good fit to known surveyed features of the existing development on the Site and of other fixed features which are visible in the photograph. Such features are either shown on the wire frame models of the survey, or interpretable from aerial imagery.

A single image photograph is the best base onto which to fit the computer model of the building envelopes. This is because the conventions of perspective which are used by the computer software to generate a 3D image of the proposed development are relatively consistent with the geometry of a single photographic image, because both have a flat ground plane and one centre of view.

5.2 Focal length of lens for photographs

The camera images for the photomontages need to be of sufficient resolution for details to be visible at a relevant scale, taken with a lens of low distortion. The focal length of the lens used needs to be appropriate for the purpose and the focal length of the lens used to take the single frame photographs has to be known and standardised as far as is possible.

The reasons for using a specific focal length is determined by the vertical and horizontal scale of the subject of the view. The subject commonly contains elements of vastly different horizontal and vertical scale, for example a narrow road corridor in the foreground and the proposed buildings, all of which must be visible in each photograph.

It is conventional to use a 'normal' lens to take landscape photographs, for example a 50mm lens on a 35mm format film camera, as when reproduced in large format (eg. A3 size prints), the objects in the image appear of 'normal' scale. However, in photographing streetscapes and individual buildings, that convention cannot be adopted other than for relatively distant views. In the current project, distant views are useful to analysing the visual impacts of the proposal, but closer and mid-distant views are also necessary.

It is a common problem in architectural photography that in close views a building, or the appearance of a group of buildings in context, cannot be encompassed in a single image, for the reasons above. That is, the subject of the view is too large or too close to be captured in a single image with a 'normal' lens. It is critical in preparing 3D images, for example for use in photomontages, that the subject can be captured in a single image. This is because a composite image, such as one 'stitched together" electronically out of separate images which can encompass the whole field of view (for example a panorama), has un-reconcilable distortions in it.

A single frame image, on the other hand, has a single centre of focus and perspective. This is critically important, because the 3D model prepared in the computer, which is to be merged with the photographic image, must rely on similar geometry and perspective to the lens used to achieve an acceptable level of fit to the photograph. The focal length of the lens used to take the image from which the photomontage will be derived is not critical, as long as it is known and standardised.

Because a composite image is assembled from individual images with separate centres of focus and differing centres of perspective, a 3D model of a proposed development cannot fit it. The computer software that creates the composite image also creates the parts of the image where individual images are merged. It does not simply join the images together. A significant part of a merged image is therefore totally illusory: it does not exist in the world. It is therefore valid to use a wider-angle lens where there is a constraint on the field of view, as this avoids the problems above. Thus, a focal length of 24mm, or less, is commonly necessary for architectural photography.

A further reason for choice of focal length with regard to visual impacts concerns the composition of the view containing the view subject. It is necessary for images used to demonstrate the principles of visual impact to contain the components of the view that comprise the composition, context or setting of the subject. In this project, the main issues of visual impact concern not only the appearance of the proposed building envelopes, but also the potential scale of each of the relevant building envelopes in relation to each other and often as viewed in an expansive context, for example down a street or across a wide intersection.

As a practical matter, therefore, it is not possible to represent the composition of the views from close range in some relevant viewing places, without using a wide-angle lens. The horizontal and vertical scale relationships are such that a 'normal' lens could not capture the appropriate context.

RLA took the photographs used in the Cox study under standardised conditions, with the camera levelled horizontally and vertically, with the lens 1.6m above ground level. The 35mm focal length photographs used for most of the photomontages (see Figure 2) have a horizontal field of view of approximately 55 degrees, and the 24mm focal length photographs used for some contextual views have a horizontal field of view of approximately 74 degrees.

The focal length of the lens makes no difference to the accuracy of fit of the proposed building envelopes to the photographic images. However, in wide angle images, the items in the photographs appear smaller and further away and the field of view is wider than in higher focal length photographs.

Figure 2: Table of view places, image numbers and coordinate provided to Cox

				Coordinates UTM Zone 56H	
View Place	**RLA location note**	**RLA image**	**Focal length mm/ field of view**	**Easting**	**Northing**
VP 1	Robinson Drive, Centennial Park	6544	35/ 55 degrees	337310.00m E	6247859.00m S
VP2	View north east Queens Park	6561	35/ 55 degrees	337754.43 m E	6247255.24 m S
VP3	View north from Bella Street	6566	35/ 55 degrees	338192.21 m E	6247140.01 m S
VP4	View east along Birrell Street	6573	35/ 55 degrees	337542.94 m E	6248093.79 m S
VP5	View south from Birrell Street	6595	35/ 55 degrees	338577.79 m E	6247949.46 m S
VP6	View west along Church Street	7121	35/ 55 degrees	338571.00 m E	6247749.00 m S
VP7	View east along Church Street	7123	35/ 55 degrees	338379.22 m E	6247782.15 m S
VP8	View south along Bronte Road	7131	35/ 55 degrees	338274.18 m E	6248035.56 m S
VP9	View east along Birrell Street	7186	24/74 degrees	338254.04 m E	6247985.84 m S
VP10	View south west on Birrell Street	7192	24/74 degrees	338602.74 m E	6247956.90 m S
VP11	View north along Bronte Road	7206	24/74 degrees	338384.98 m E	6247719.34 m S

5.3 Checking the montage accuracy

The accuracy of the fit of the computer model to the photographs for the block model montages should be checked in more than one way.

The model is checked for alignment and height with respect to the surveyed fixed features which are visible in the images and with the wireframe model of the existing building.

It is not possible for a perfect fit to occur, because of minor distortions that occur with the camera lens and because of significant differences that occur in the visibility of reference objects caused by the distance between the view place and the item used as a reference point.

6.0 View location documentation

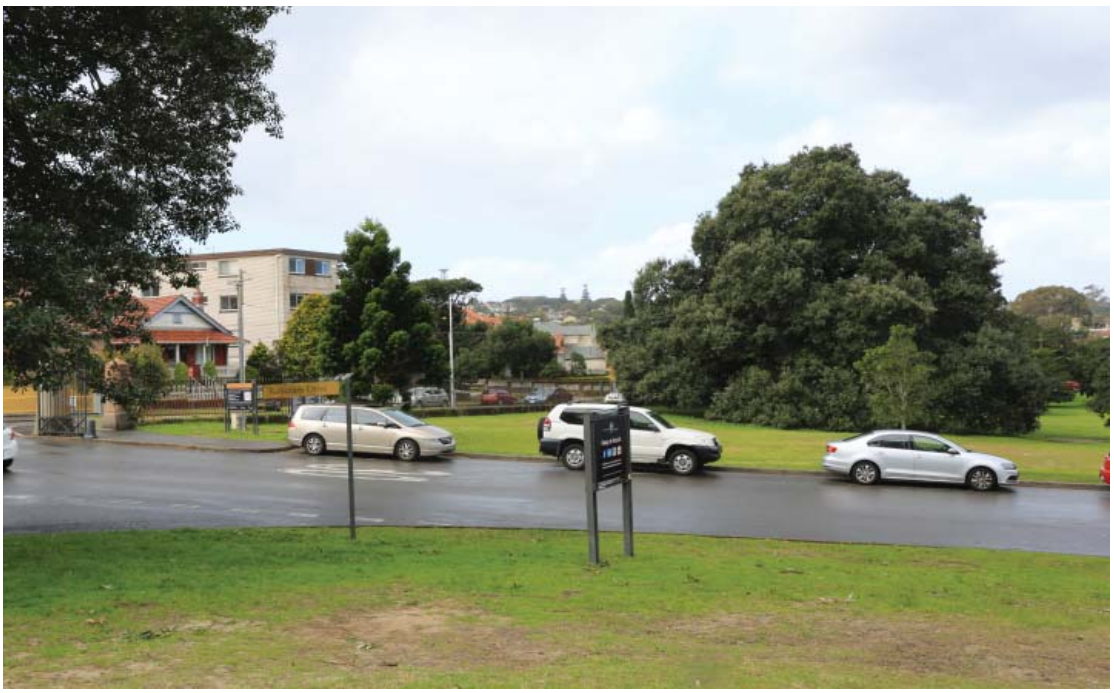
Photographic images were taken from all locations in the Visual Analysis study using a professional quality DSLR camera (Canon EOS 5D Mark 3) with a fixed focal length lens of either 35 or 24mm according to the context photographed, in JPG and RAW image at each viewing place.

The metadata on the electronic files of the photographic images contained the coordinates of the viewing places in WGS 84 format. The locations were also provided in UTM GPS format which matched the default format for Google Earth images. Coordinates could be provided as a result of RLA using a Canon GPS mounted to the camera, which writes the coordinates onto the metadata of the electronic image files. The coordinates of each photograph location were therefore available to Cox as a cross-check in matching the 3D model to existing survey information on features visible in the photographic images.

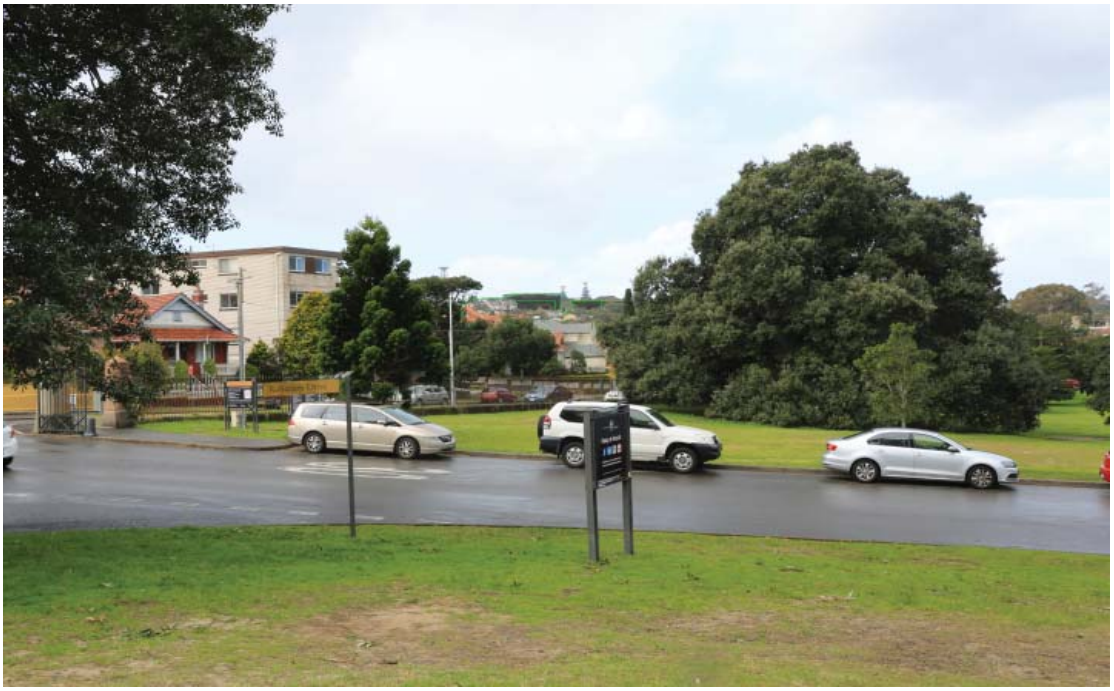
7.0 Conclusion

Based on the information provided to us by Cox, a review of their methodology and the process undertaken for the preparation of block-model photomontages, RLA certify that the proposed development envelopes as shown are as accurate as is reasonable in the circumstances. The block-model photomontages therefore can be relied upon as objective visual aids for the purposes of the assessment of potential visual effects and impacts of the Planning Proposal.

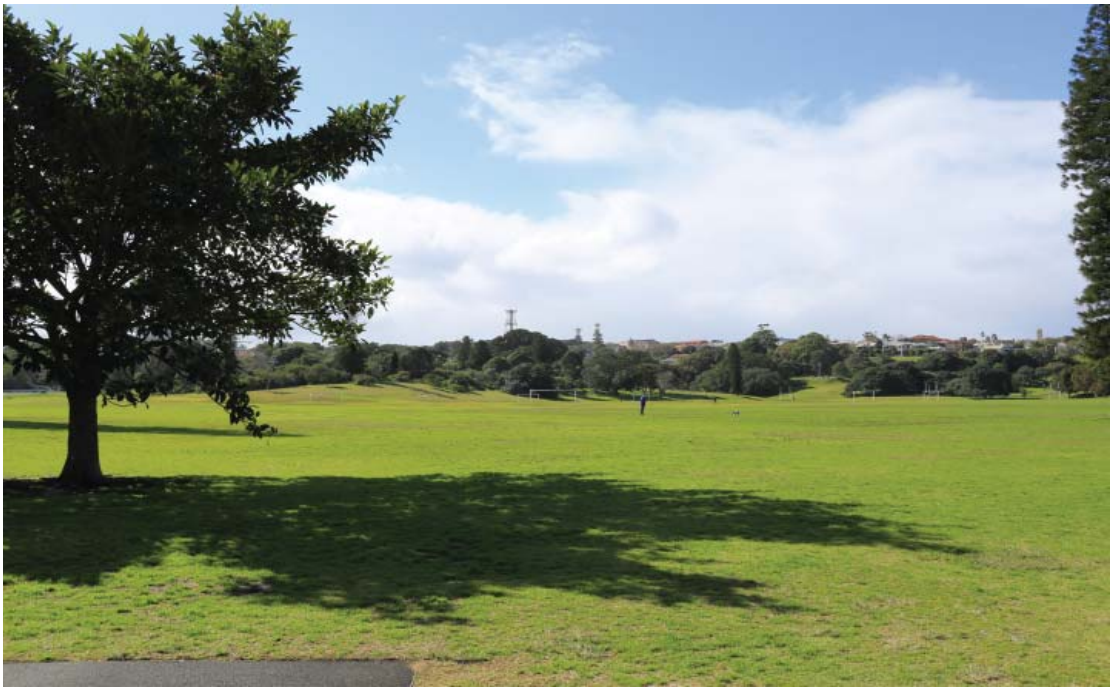
Dr Richard Lamb



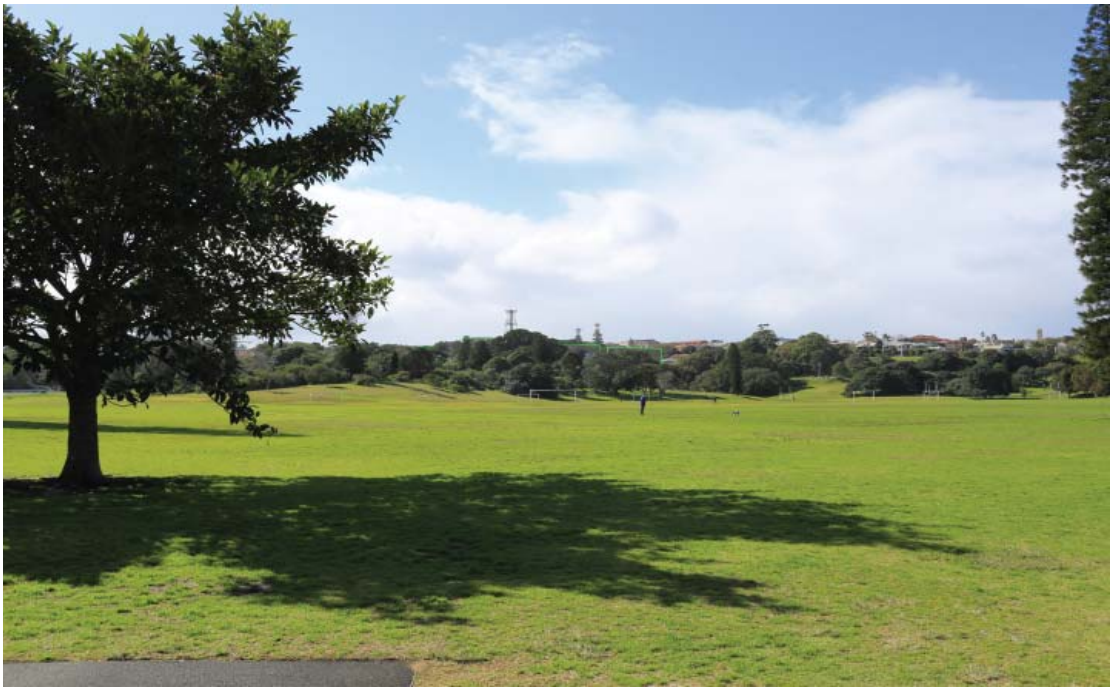
VP1
Robinson Drive, Centennial Park
RLA 6544



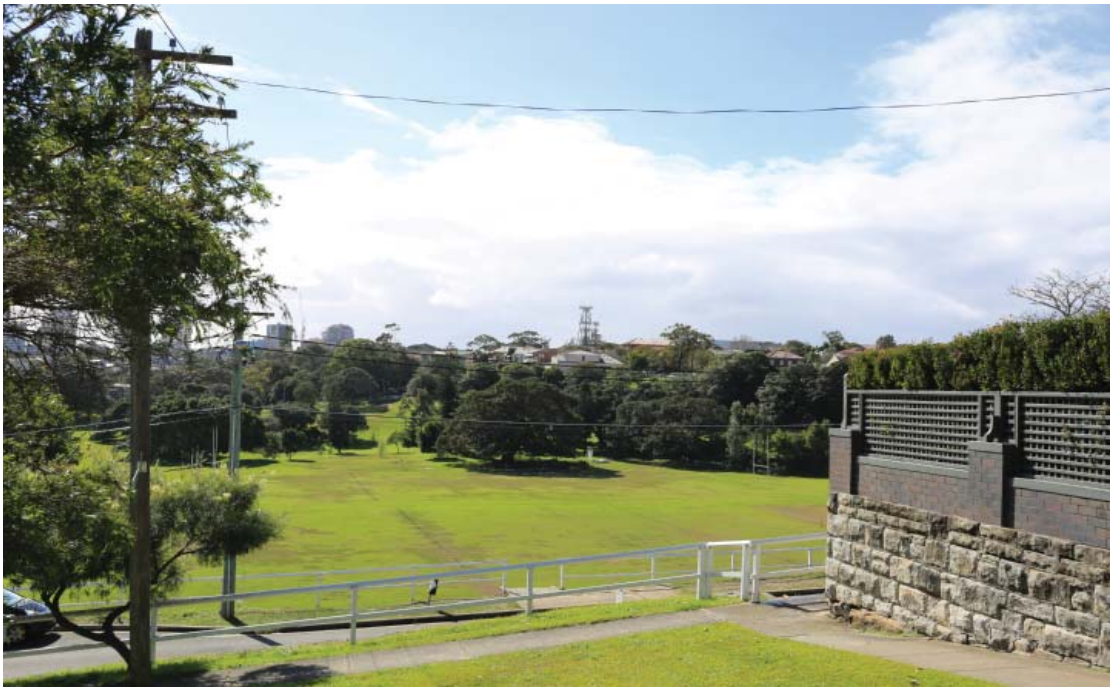
VP1
Photomontage



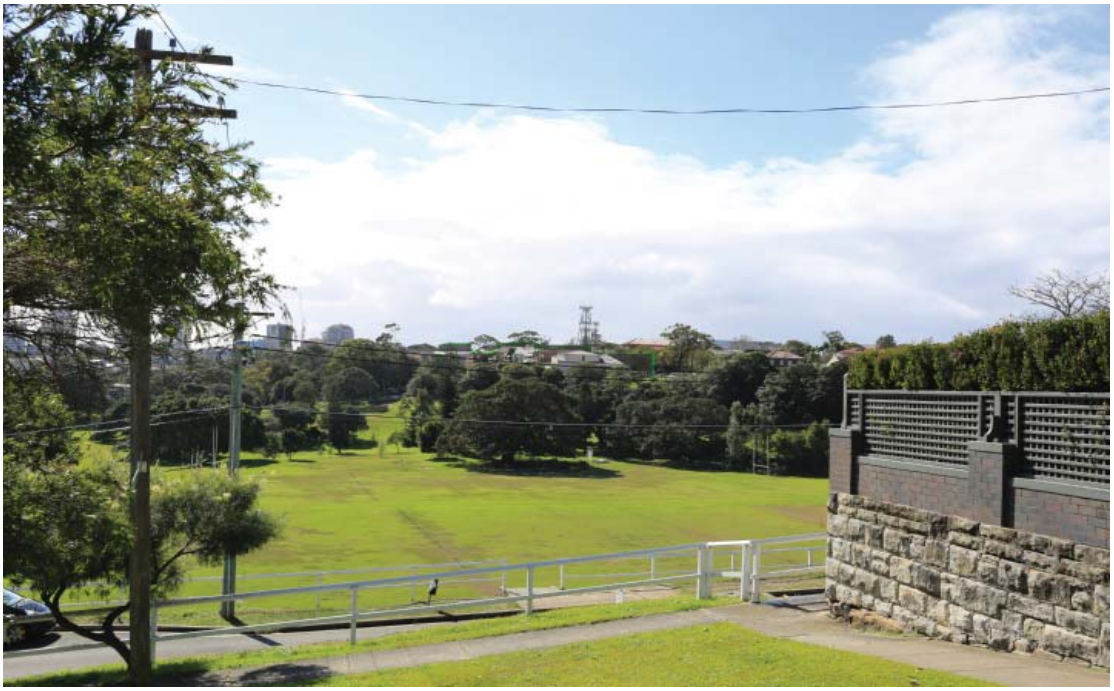
VP2
View north east Queens Park
RLA 6561



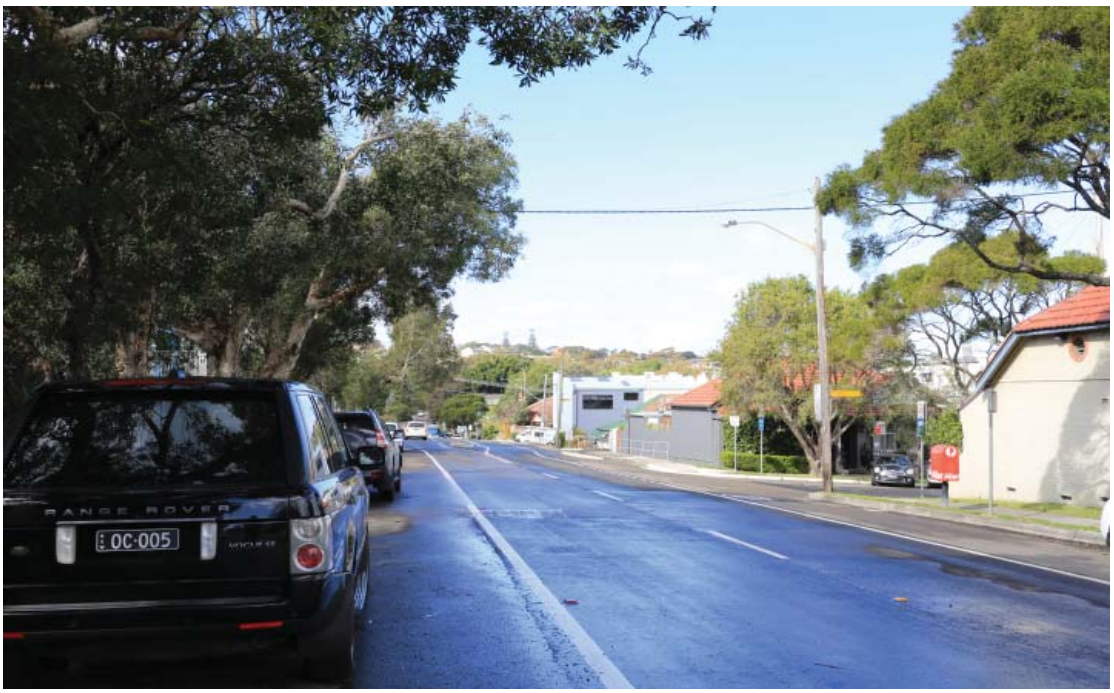
VP2
Photomontage



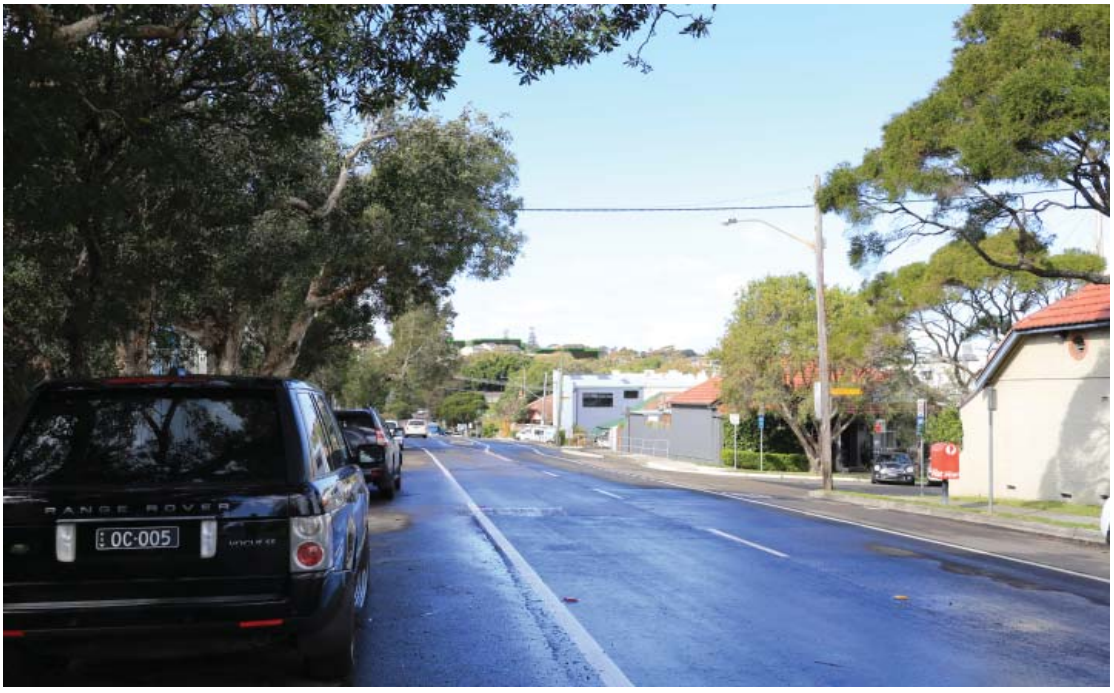
VP3
View north from Bella Street
RLA 6566



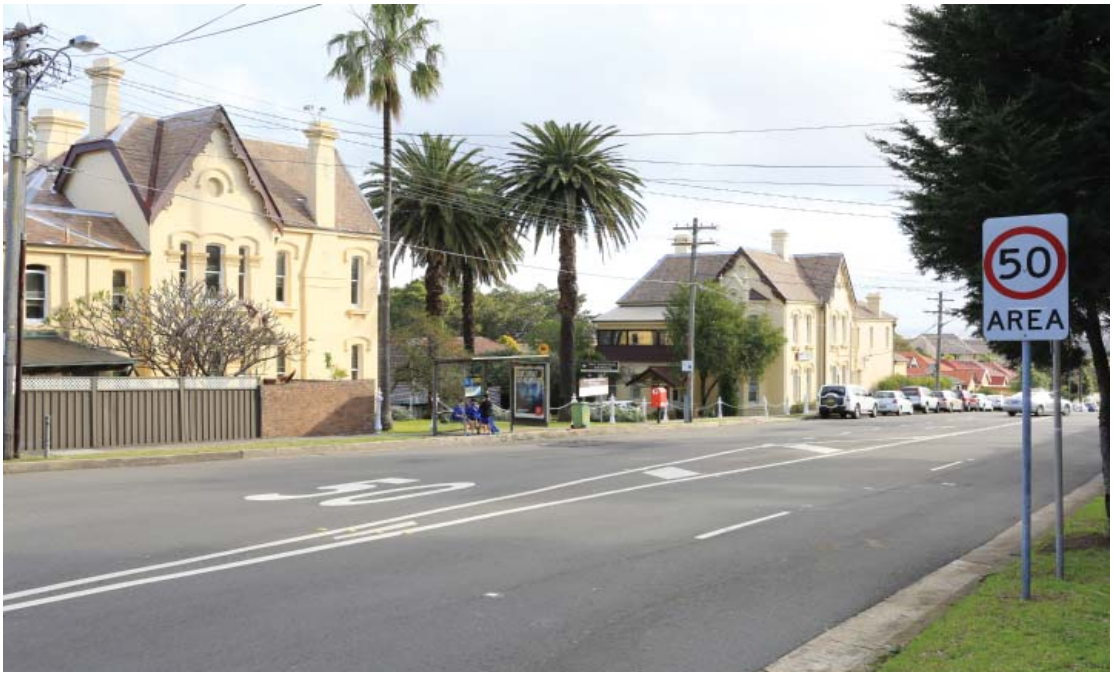
VP3
Photomontage



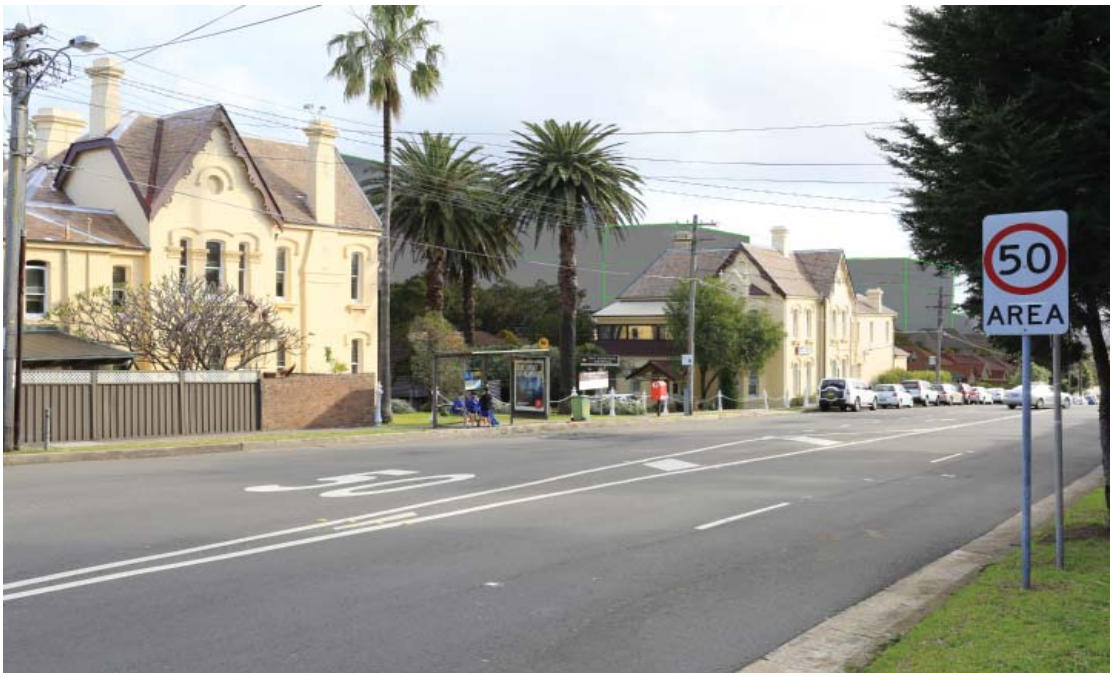
VP4
View east along Birrell Street
RLA 6573



VP4
Photomontage



VP5
View south from Birrell Street
RLA 6595



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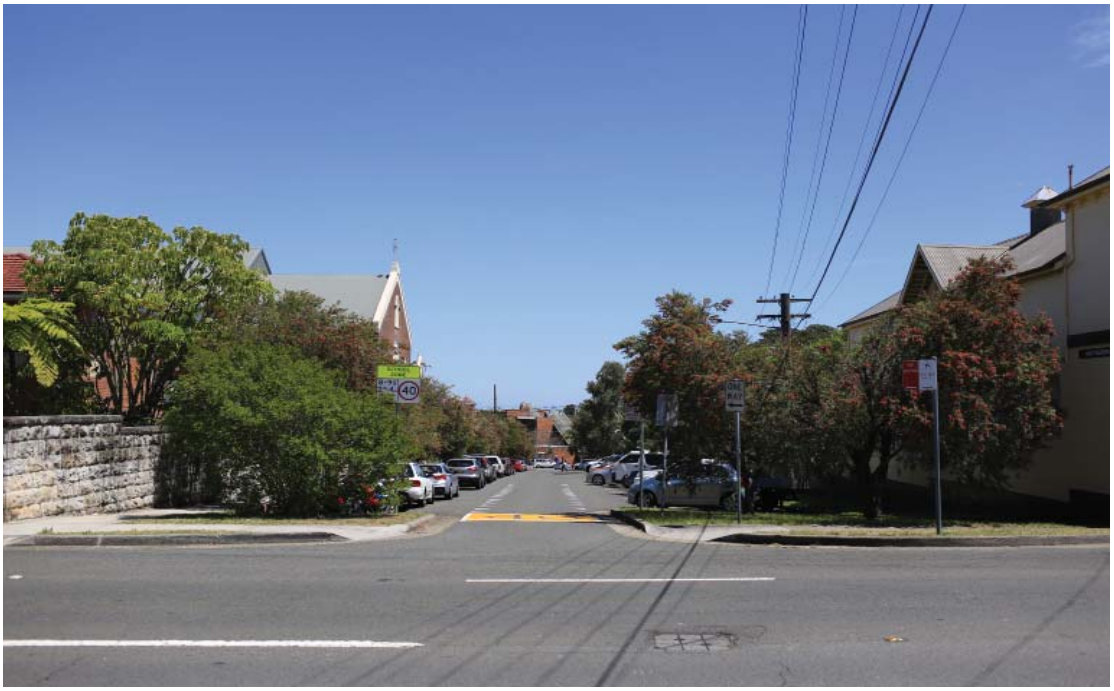
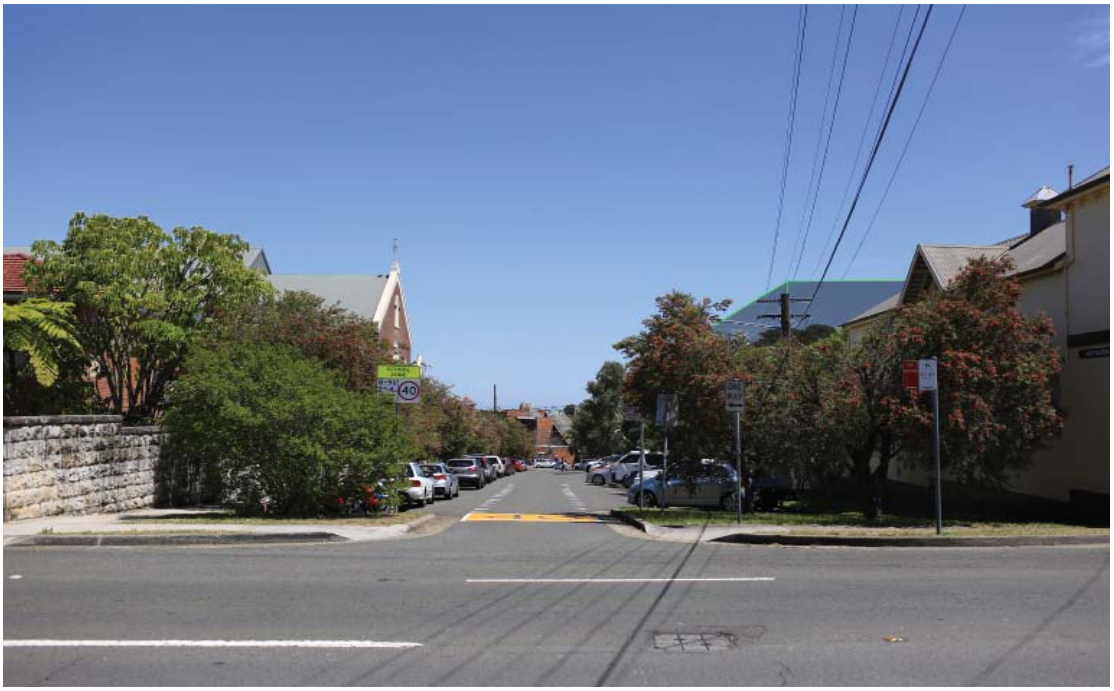


VP6
View west along Church Street
RLA 7121



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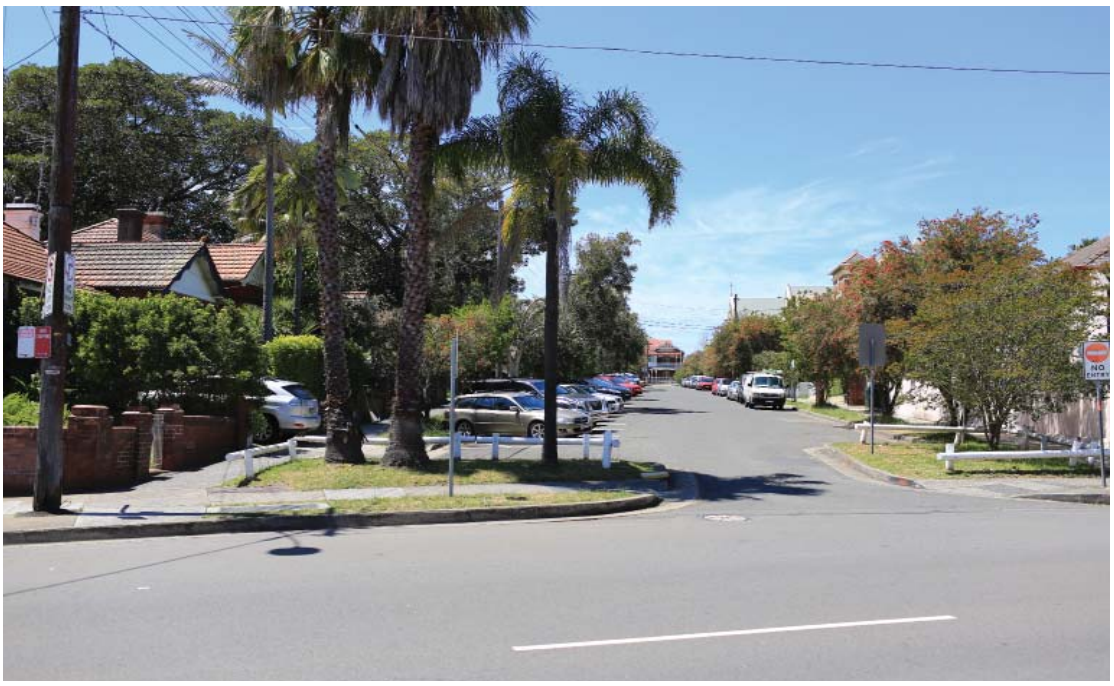

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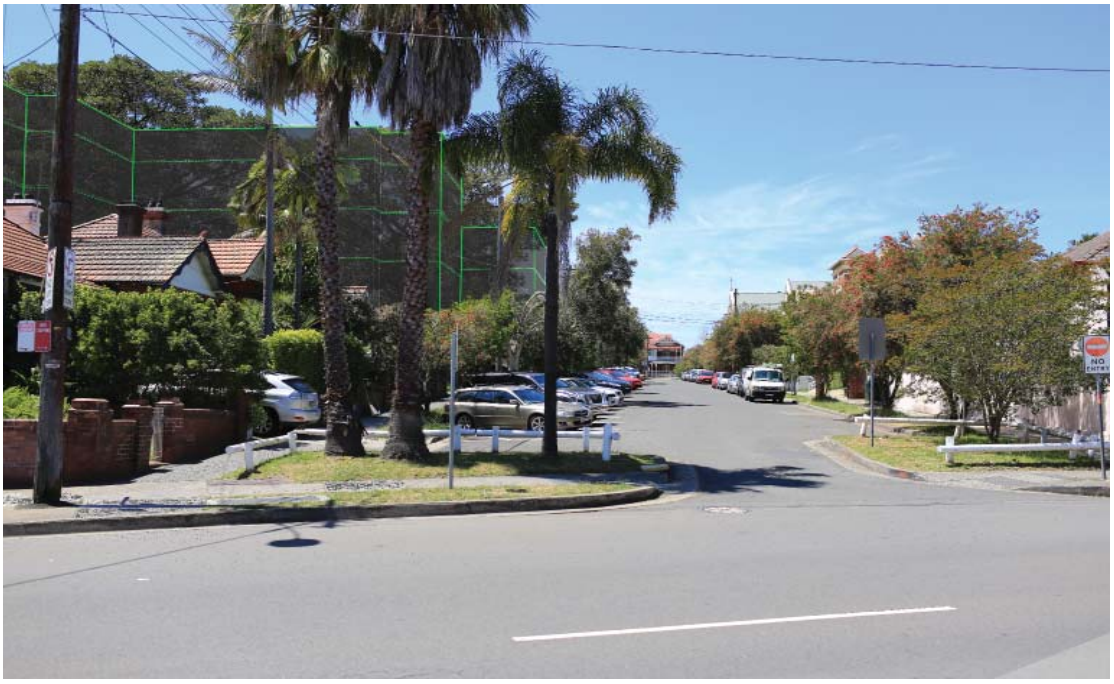
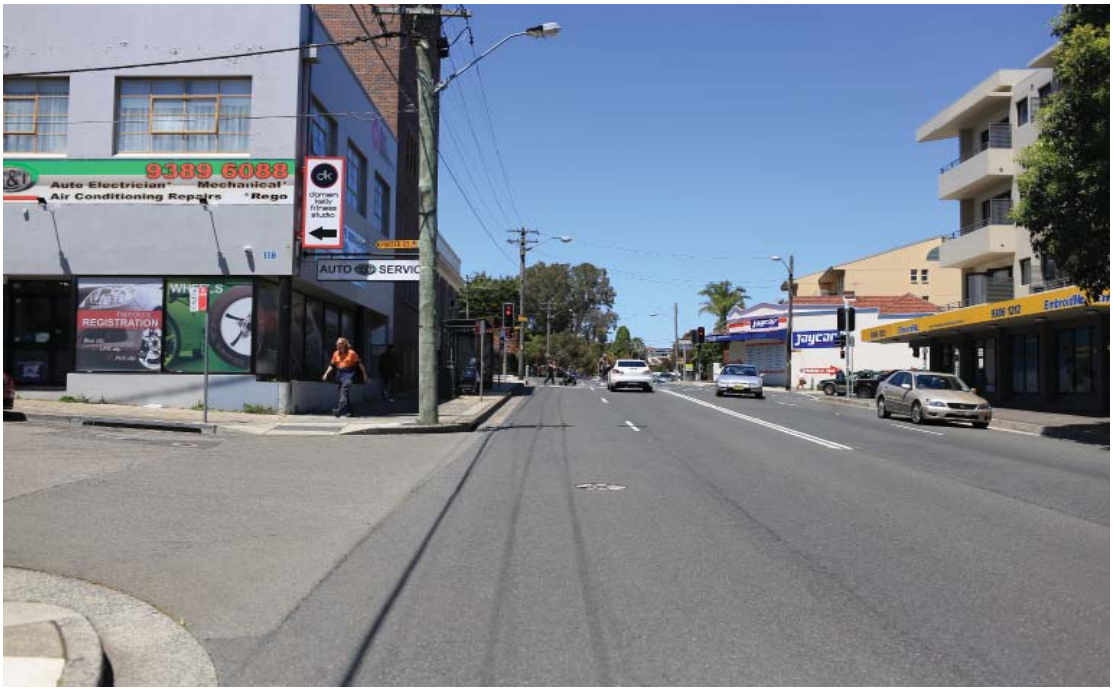
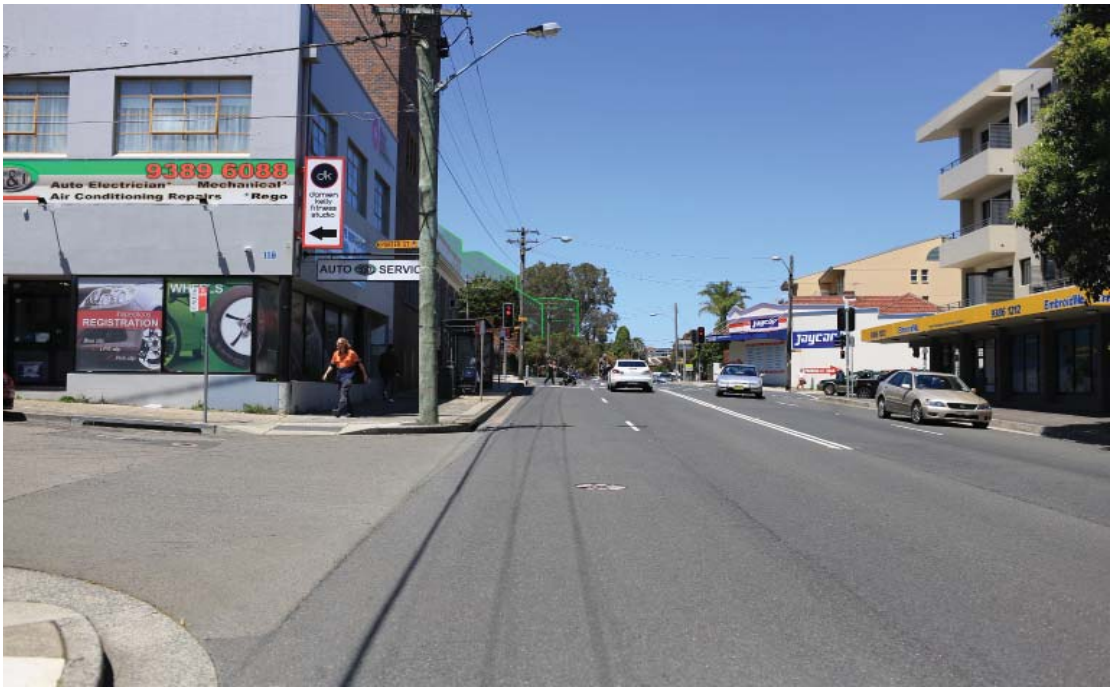
View east along Church Street
RLA 7123



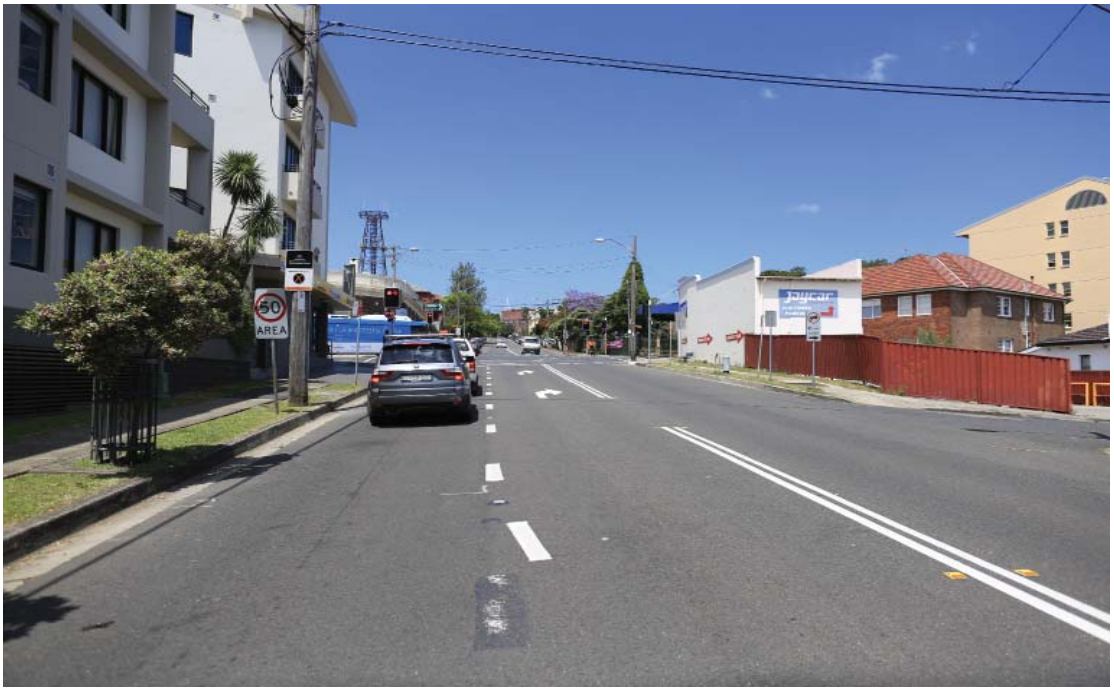
IP7
Photomontage



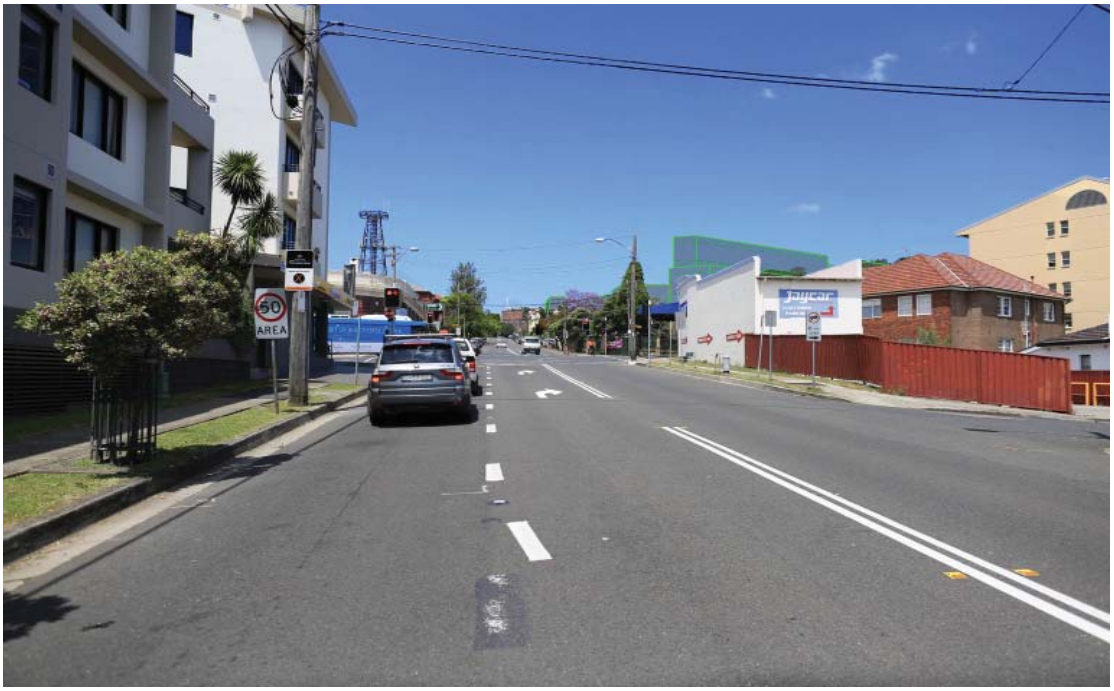
VP8
View south along Bronte Road
RLA 7131



VP8
Photomontage



VP9
View east along Birrell Street
RLA 7186



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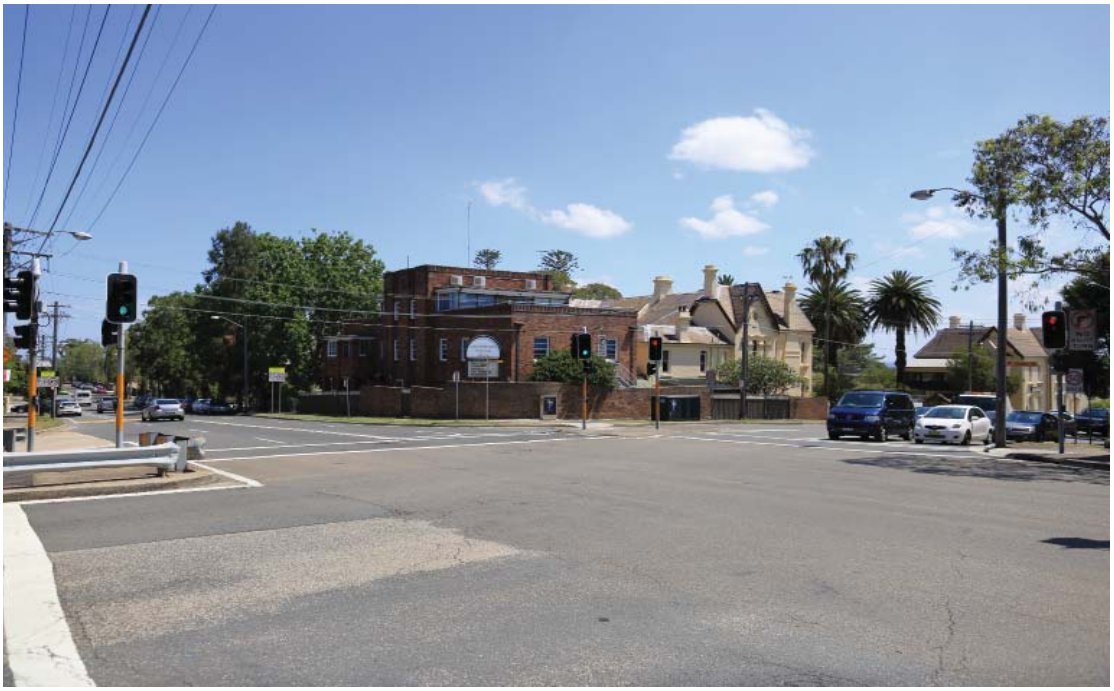
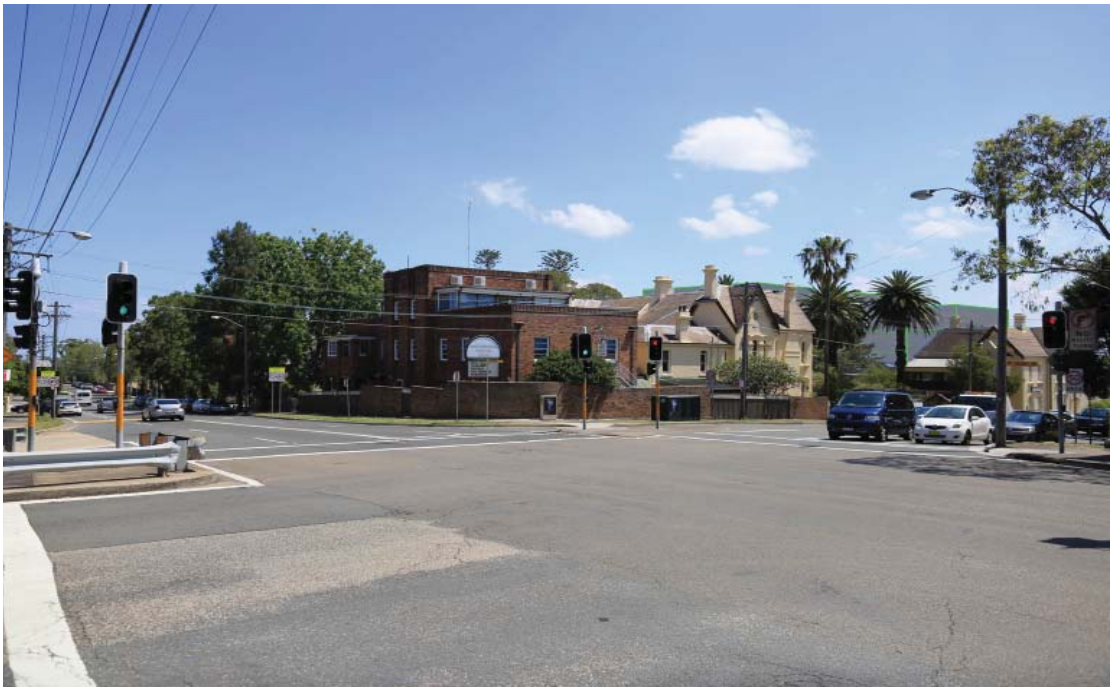
Photomontage



VP10
View south west on Birrell Street
RLA 7192



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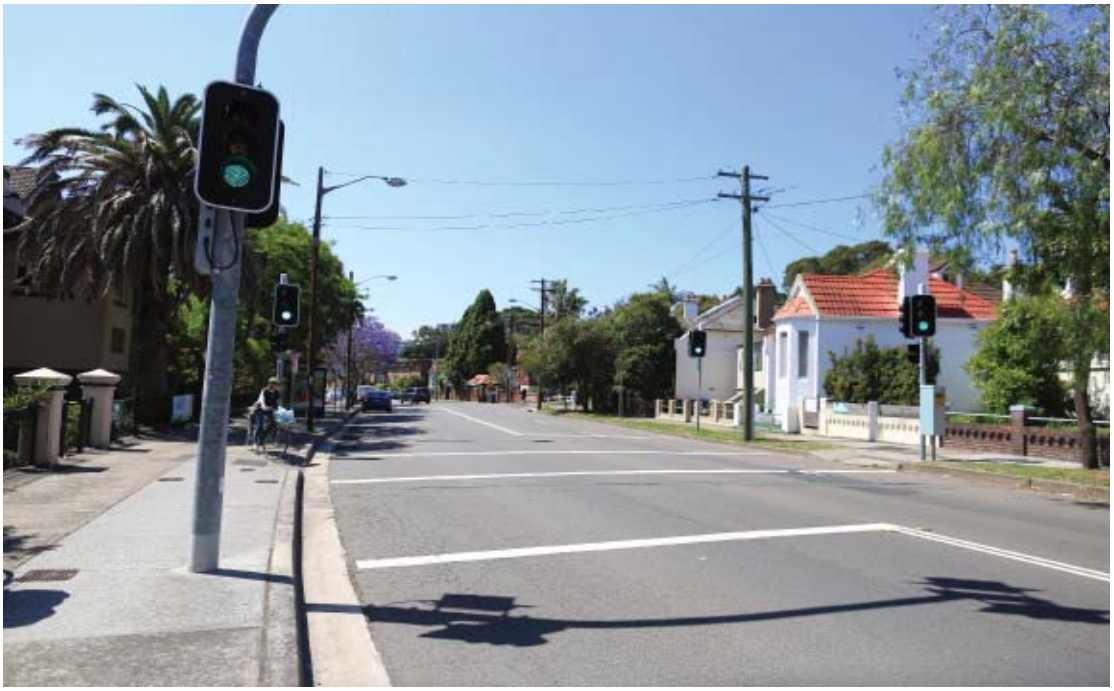
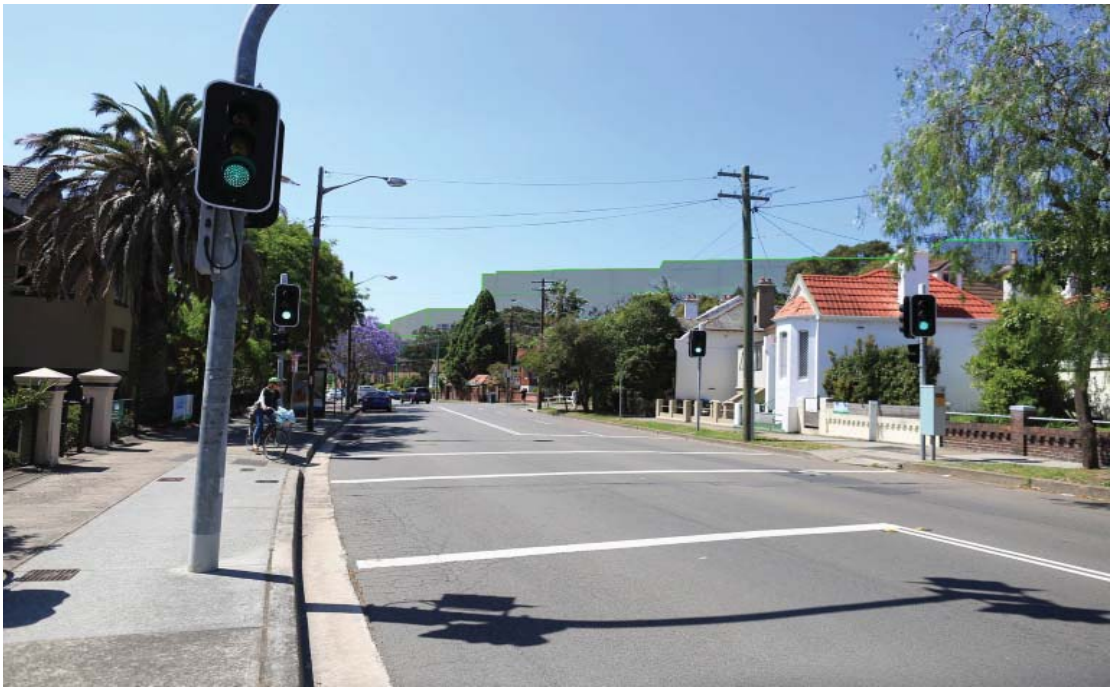
Photomontage



VP11
View north on Bronte Road
RLA 7206



VP11
Photomontage

Appendix 2: CV Dr Richard Lamb

Summary

I am a professional consultant specialising in visual impacts and landscape heritage and assessment and the principal of Richard Lamb and Associates (RLA). I was a senior lecturer in Landscape Architecture, Architecture and Heritage Conservation in the Faculty of Architecture, Design and Planning at the University of Sydney for 28 years and was Director of the Master of Heritage Conservation program. I have taught and specialised in environmental impact assessment and visual perception studies for 30 years.

As the principal of RLA I provide professional services, expert advice and landscape heritage and aesthetic assessments in many different contexts. I carry out strategic planning studies to protect and enhance scenic quality and heritage values, conduct scenic and aesthetic assessments in contexts from rural to urban, provide advice on view loss and view sharing and conduct landscape heritage studies. I act for various client groups on an independent basis, including local councils, government departments and private clients to whom I provide impartial advice. I provide expert advice, testimony and evidence to the Land and Environment Court of NSW on visual and landscape heritage matters. I have appeared in over 240 cases and made submissions to several Commissions of Inquiry. I have been the principal consultant for over 600 consultancies concerning the visual impacts and landscape heritage area of expertise during the last ten years.

At the University of Sydney I had the responsibility for teaching and research in my areas of expertise, which are landscape assessment, visual perception, aesthetic assessment, and conservation of heritage items and places. I taught undergraduate architecture and postgraduate students in these areas and also gave specialised elective courses in aesthetic heritage assessment. I supervised postgraduate research students undertaking PhD and Masters degree academic research in the area of heritage conservation and Environment Behaviour Studies (EBS). The latter field is based around empirical research into human aspects of the built environment.

I have a number of academic research publications in local and international journals that publish research in EBS, environmental psychology and cultural heritage management.

I have developed my own methods for visual and landscape heritage assessment, based on my education, knowledge from research and practical experience.

Qualifications

Bachelor of Science, First Class Honours, University of New England (botany and ecology double major).

Doctor of Philosophy, University of New England in 1975.

Principal of Richard Lamb and Associates and Director of Lambcon Associates Pty Ltd.

Employment History

Tutor and Teaching Fellow, Botany and Ecology, School of Botany, UNE (1968-1974)

Lecturer in Resource Management, School of Life Sciences, NSW Institute of Technology (UTS)(1975-1980)

Lecturer, Foundation Program in Landscape Architecture, Faculty of Architecture, University of Sydney (1980-

1989)

Lecturer and Senior Lecturer, Architecture and Heritage Conservation, University of Sydney (1989-2011)

Since 1975 I pursued research related to my teaching responsibilities and professional practice. My main research works are in:

Plant ecology

Visual perception

Social and aesthetic values of the natural and built environment

Journals for which papers have been refereed

Landscape & Urban Planning

Journal of Architectural & Planning Research

Architectural Science Review

Journal of the Australian and New Zealand Association for Person Environment Studies

Journal of Environmental Psychology

Australasian Journal of Environmental Management

Ecological Management & Restoration

Urban Design Review International

Assessing Visual Impacts of Urban Developments

Assessment and Advice

Private Clients

- Advice and advocacy concerning the impacts on views and streetscape character caused by proposed landscape scheme for former BP Site, Waverton.
- Advice and statement of visual impacts for residential subdivision, Bantry Bay Road, Frenchs Forest.
- Advice and submission to Council in relation to potential visual and related amenity impacts of neighbouring development, Mitchell Street, Greenwich
- Advice and submission to Council on potential visual and related amenity effects of proposed covered outdoor space on neighbouring properties, Dalley Avenue, Vaucluse.
- Advice and submission to Pittwater Council on potential visual and related amenity effects of proposed seniors living development on neighbouring site, Cabarita Road, Avalon.

- Advice concerning visual impact and view sharing issues, proposed new residential development, Onslow Avenue, Elizabeth Bay.
- Advice concerning visual impact of proposed residential refurbishment, Wentworth Park Road, Glebe.
- Advice concerning visual impacts of proposed development for aged accommodation, Lindfield Gardens Retirement Village, East Lindfield.
- Advice concerning visual impacts, proposed residential alterations, Hopetoun Avenue, Vaucluse.
- Advice on potential for urban development as part of South West Urban Release Area, Oran Park 'Tidapa' Cobbitty.
- Advice on potential streetscape, visual and related amenity effects, proposed redevelopment of Crows Nest Shopping Centre, Willoughby Road, Crows Nest.
- Advice on potential streetscape, visual and related amenity impacts, proposed mixed use development, Araluen Drive, Hardys Bay
- Advice on privacy and visual impacts; submission to Wollongong City Council in relation to proposed adjacent development, Wellington Drive, Balgownie.
- Advice on urban design and visual resources strategic planning for Material Change of Use application to Gold Coast Shire Council, Emerald Lakes, Carrara, Queensland.
- Advice on view loss and advocacy with Pittwater Council on behalf of client, proposed new dwelling, Riverview Road, Clareville.
- Advice on visual constraints and issues related to proposed apartment development, St Pauls Street, Randwick.
- Advice on visual impacts of DA for adjacent dwelling, Newtown, with submission to Council on development assessment.
- Advice on visual impacts of proposed development on foreshore building lines and views from the waterway, Kareelah Road, Hunters Hill.
- Advice on visual impacts, additions and alterations to dwelling, Cameron Street, Edgecliff.
- Advice regarding potential visual impacts of proposed new dwelling, Merewether.
- Advices on potential visual impact assessment of a proposed mixed use development, Cross Street, Double Bay.
- Analysis and advice on planning and visual amenity issues surrounding proposed demolition, Edinburgh Road, Castlecrag.
- Analysis and assessment of potential visual impacts for residential development, Girilang Avenue, Vaucluse.
- Assessment and advice with regard to the potential visual, streetscape and view blocking effects of the proposed shopping centre, The Princes Highway, Corrimal.
- Assessment of visual impacts of Planning Proposal, East Quarter Stage 3, Jack Brabham Drive, Hurstville.
- Certification of accuracy of photomontages of development options, Putney Hill sites, Stages 1 and 2, North Ryde
- DA advice and advocacy with Sydney City Council, proposed additions and alterations to existing warehouse building, Riley Street, East Sydney.

- DA advice on potential visual impacts, view loss, and streetscape character, and recommendations for modifications to the proposed development, Greenknowe Avenues, Potts Point.
- DA advice on urban design, potential impacts on streetscape character and recommendations for modification of design for industrial building, Burrows Road, St Peters.
- Design advice and visual impact assessment, proposed residential flat building, Beach Street, Coogee.
- Design stage advice and visual impact assessment of proposed seniors living development, former OLSH site, Centennial Road, Bowral.
- Gateshead Industrial Estate Development Proposal; visual resources management plan.
- Heritage and streetscape assessment of proposed new residential development, Grosvenor Street, Wahroonga.
- Opinion, advice and advocacy with Pittwater Council on visual impacts of proposed alterations and additions to existing dwelling, Princes Street, Newport.
- Potential view loss analysis for neighbouring residents, submitted to Independent Hearing and Assessment Panel, approved seniors living development, Pittwater Road, Dee Why.
- Pre DA advice and Statement of Environmental Effects to accompany DA, potential visual impacts of proposed mixed use redevelopment, The Entrance Road, The Entrance.
- Pre DA advice concerning potential visual and heritage streetscape impacts, proposed mixed development, Coles site, The Corso, Manly.
- Pre DA advice concerning potential visual and streetscape impacts of proposed mixed development, Landmark Charlestown development.
- Pre DA advice on demolition and construction, Fernleigh Road, Caringbah.
- Pre DA advice on visual impact of design, urban design and setbacks, industrial warehouse and showroom building redevelopment, Dunning Avenue, Rosebery.
- Pre-DA advice and visual impact assessment, proposed residential development, Parkview Road, Chiswick.
- Pre-DA advice regarding potential building envelope scale and location for proposed residential subdivision, Windang.
- Pre-DA advice, visual impacts assessment and contribution to statement of environmental effects, proposed seniors living development, Oxford Falls Road, Frenchs Forest.
- Pre-design advice and DA stage visual impact assessment , proposed medium density residential development, Shepherd and Ocean Streets, Mollymook
- Statement of visual impacts to accompany application for proposed extension of portion of unmade road to access existing house, Birrell Street, Tamarama (2007).
- Statement of visual impacts to accompany application for proposed extension of portion of unmade road and for new dwelling, Birrell Street, Tamarama (2009).
- Submission of objection to and advocacy with Lane Cove Council regarding potential view loss effects of a neighbouring development, Kellys Esplanade, Northwood.
- Submission of Objection to and advocacy with Woollahra Council on potential visual and view loss impacts of a proposed neighbouring development, Kings Road, Vaucluse.

- View analysis and assessment of the proposed redevelopment of the existing shopping Centre, Parke and Waratah Streets, Katoomba.
- Visual and landscape impact assessment of the proposed redevelopment of the north and south paddocks, Manly Golf Club
- Visual and streetscape analysis, proposed redevelopment of Lower Queenwood School for Girls, Balmoral.
- Visual impact assessment, proposed Queenwood Arts School campus, Esther Road, Balmoral
- Visual assessment and advice for proposed shopping centre development, Argyle Street, Camden.
- Visual assessment and streetscape assessment of visual significance of tree, Colbourne Avenue, Glebe.
- Visual assessment of proposed mixed use development, Queen Street, St Marys.
- Visual assessment of proposed multi-unit housing development, Beach and Arden Streets, Coogee.
- Visual impact advice of proposed development, Brighton Avenue, Toronto.
- Visual impact and streetscape character evaluation of mixed retail and residential development, proposed, Collins Street, Kiama.
- Visual impact assessment and advice for proposed amendment to proposed seniors living development, Old Bowral Road, Mittagong.
- Visual impact Assessment and advice whether provisions of Woollahra Development Control Plan 2003 have been properly considered in regard to consent issued for adjoining property, Tivoli Avenue, Rose Bay.
- Visual Impact Assessment and Advices for residential property Oswald Street, Mosman.
- Visual Impact Assessment and advices on residential development Nott Lane, Longueville
- Visual Impact Assessment and Advices, design of proposed additions and alterations to existing building, Henry Lawson Avenue, Blues Point.
- Visual Impact Assessment and Advices, Queens Avenue, Vaucluse.
- Visual impact assessment and advice to Pittwater Council, proposed neighbouring development, The Pinnacle, Bilgola.
- Visual impact assessment and analysis of mitigation strategies, Chelmsford Road, Asquith.
- Visual impact assessment and Statement of Environmental Effects, proposed Plaza West development, Church Street and Victoria Road, Parramatta.
- Visual impact assessment and statement of environmental effects for proposed redevelopment, Kirribilli Club, Milsons Point.
- Visual impact assessment and statement of environmental effects to accompany subdivision application, Orchard Street, Warriewood.
- Visual impact assessment of glare off adjacent building, Linton Retirement Village, Yass.
- Visual impact assessment of proposed additions to neighbouring property, Norma Road, Palm Beach.
- Visual Impact Assessment of proposed refurbishment and additions, South Steyne.
- Visual impact assessment of s96 Application to vary conditions of consent, Yarranabbe Road, Darling Point.
- Visual impact assessment of the proposed Concept Plan for residential apartment development, Planning

Proposal, Shepherds Bay, Meadowbank.

- Visual Impact Assessment to form part of DA for subdivision of land, Harcourt Place, North Avoca.
- Visual impact assessment, design advice and advocacy with Sydney City Council concerning proposed alterations and additions, Walter Street, Paddington.
- Visual impact assessment, statement of environmental effects and advocacy with Pittwater Council on proposed alterations, Rednal Street, Mona Vale.
- Visual Impact Assessment, view and amenity impacts, renovations and additions, Fermoy Avenue, Bayview
- Visual impact evaluation, advice and advocacy, proposed commercial development, Orange.
- Visual impacts and visual amenity assessment, proposed residential flat building, Frazer Street Collaroy.
- Visual impacts and visual amenity assessment, proposed seniors living development, Pittwater Road, Bayview.
- Visual impacts assessment of a proposed residential flat building, Spit Road, Mosman.
- Visual impacts, constraints assessment and design advice, proposed mixed development, Palm Beach.
- Visual resources, streetscape analysis and tree significance survey, former Ormond site, Duffy Avenue, Westleigh.
- Visual impact and view loss advice, building refurbishment application, Lavender Street, Lavender Bay.
- Visual, streetscape and heritage impacts assessment of the proposed residential apartment development, Nijong Drive, Pemulwuy.
- Visual assessment and development strategy for proposed conversion of existing commercial building to mixed use, Bolton Street, Newcastle.
- Advice concerning visual impacts of proposed development of aged accommodation, Georges River Road, Jannali.
- Advice on potential view loss effects of potential residential development, Marine Parade, Watsons Bay.
- Visual impact assessment for Compatibility Certificate for proposed seniors living development, Old Saddleback Road, Kiama.
- Visual impacts assessment of a Planning Proposal to rezone land for residential development, Dee Why.
- Visual impacts assessment of a Planning Proposal to rezone land for mixed uses and residential development, Brookvale.
- Visual impacts assessment of a Planning Proposal to rezone land for mixed use and residential development, Freshwater.
- Visual impacts assessment of a Planning Proposal to rezone land for residential development, Gladesville Shopping Village, Gladesville.
- Visual impacts assessment of a Planning Proposal to rezone land for residential development, East Quarter, Hurstville.
- Visual impacts assessment of a Planning Proposal to rezone land for residential development, Station Street, Menangle.
- Visual impacts assessment of a Planning Proposal to rezone land for use as a cemetery, St Andrews Road,

Varroville.

- Visual impacts assessment of a Planning Proposal to rezone land for use as a cemetery, Luddenham.
- Visual impacts assessment of a Planning Proposal to rezone land for residential use, Columbian Preicinct, Homebush
- Visual impacts and visual amenity assessment and submission to JRPP, proposed residential development, Pinnacle development, Mann Street, Gosford.
- Visual impacts and visual amenity assessment and submission to JRPP, proposed mixed use development, Waterside development, Mann Street, Gosford.
- Visual impacts and view sharing assessment, Wenona School Project Archimedes, North Sydney
- Visual impacts assessment of a Planning Proposal to rezone land for a waste water treatment facility, Cooranbong
- Visual impact assessment of proposed mixed use development, Pittwater Road and Mooramba Road, Dee Why.
- Landscape and visual assessment for proposal to rezone land for various uses, proposed Ingleside Urban Release Area.
- Visual impacts assessment of a Planning Proposal to rezone land for mixed use development, Gladesville Shopping Village.
- Visual impacts assessment of a Planning Proposal to rezone land for mixed use development and vary development controls, Victor and Pittwater Roads, Brookvale.
- Visual impacts and view sharing assessment of an urban redevelopment proposal, “Waterside”, Mann Street, Gosford.
- Visual impacts assessment of a Planning Proposal to rezone land for mixed use and uplift height controls, Darlinghurst Road, Kings Cross.
- Visual impacts assessment of a Planning Proposal to rezone land for residential use, former Bushells Factory, Concord.
- Visual analysis and certification of the accuracy of photomontages, Pacific Highway, St Leonards.
- Visual analysis and certification of the accuracy of photomontages, Shepherds Bay, Meadowbank.

Government Clients

- Department of Planning and Infrastructure

Preparation and certification of photomontages of proposed developments. Flyers Creek Wind Farm

- Department of Urban Affairs and Planning

Advice and advocacy with Manly Council concerning visual impacts, proposed additions to neighbouring property, Jenner Street, Seaforth.

- Bankstown Council

Assessment of visual and streetscape impacts of development application for low and medium density residential development, Grandview Estate, Stacey Street, Bankstown.

- Blue Mountains City Council

Visual impacts, view loss and view share analysis as part of development assessment, residence at Wilson Street, Katoomba.
Visual impact assessment as part of development assessment, proposed SEPP 5 Development, San Jose Avenue, Lawson.

- Department of Planning and Infrastructure, Urban Growth NSW and Pittwater Council

Visual and landscape analysis study for Ingleside Urban Release Area Master Plan

- Gosford City Council

Development assessment, proposed subdivision and new dwelling, Ascot Avenue, Avoca.
Development assessment, proposed development, Scenic Highway, Terrigal.
Development assessment, proposed development, Karalta Road, Erina.
Development assessment, proposed new dwelling, Calais Road, Wamberal

- Growth Centres Commission of NSW

Landscape and visual assessment to inform the strategic planning of development footprint and urban form analysis of North Kellyville precinct identified as an urban release area forming part of North West Growth Centre, North Kellyville.

- Hunters Hill Council

Advice, analysis, assessment and redrafting of Foreshore Building Line, Kareela Road, Hunters Hill.

- Leichhardt Council

Visual impacts assessment from waterway and streetscape, proposed residential development complex, Blackwattle Studios site, Glebe Point Road, Glebe.

- Planning and Assessment Commission of NSW

Assessment of potential visual impacts on thoroughbred studs of proposed open cut coal mine, Drayton South, Jerrys Plains.

- Roads and Maritime Services NSW;

Certification of accuracy of photomontages of development options, Wentworth Point urban activation precinct, Homebush.

- TransportforNSW and Department of Planning and Infrastructure

Visual impact assessment of proposed mixed use development and DCP for rezoning of land, North Ryde Station Precinct.

- Urban Growth NSW

Visual impact assessment for planning proposal to re-zone land at Mooney Mooney for various uses.