

No.2/33 Barcom Avenue, DARLINGHURST NSW 2010

Visual Impact Assessment Report May 22, 2024



# urbaine design group

### Visual Impact Assessment Report Development Application at No.2/33 Barcom Avenue, Darlinghurst NSW 2010

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### 1. INTRODUCTION

### 1.1 Scope and Purpose of Report.

This Visual Impact Report has been prepared by Urbaine Design Group for Urban Den in support of a Development Application (DA) to City of Sydney Council (Council) at the site 2/33 Barcom Avenue, Darlinghurst. The report provides an analysis of the proposed development's visual impact in relation to its visual and statutory contexts and is to be read in conjunction with the drawings and other material submitted with the development application.

Urbaine Design Group and its Director, John Aspinall, BA(Hons), BArch(Hons) have been preparing 3d imagery and Visual Impact Assessments, both in Australia and Internationally for over 25 years. Their methods are regularly published in planning and architectural journals and John Aspinall has lectured in Architectural Design at both the University of Technology Sydney and The University of New South Wales



Figure 1 – Site location shown in cross hair

### 1.2 The Proposed Development:

The DA seeks approval for internal and external alterations and additions, including attic level additions to an existing terrace house.

1.2.1 The Site and existing property:

The site is located at 33 Barcom Avenue, Darlinghurst, with works relating to Unit 2. It is legally described as Lot 2 in SP 35683 and located within the City of Sydney Local Government Area.

The site is roughly rectangular shaped with a total site area of approximately 139.1m2. It has a primary (southern) frontage of 4.47m to Barcom Avenue (pedestrian right-of-way access) and a secondary street (northern) frontage to Womerah Lane of 4.45m.

The sites primary frontage fronts a right-of-access pedestrian access way that s located along the rear of sites fronting Barcom Avenue and accessed via Oswald Lane to the east. It services the sites on the south side of Womerah Lane, being No's 21-51 Barcom Avenue.

Currently, the property is occupied by a two-storey terrace house with a metal roof, housing two dwellings. The primary access to these dwellings is through a shared entry on Barcom Avenue. The building also features an existing timber rear deck servicing Unit 2. At the rear of the property, there is a partially paved/landscaped courtyard. However, there is no existing vehicular access to the property.





Figure 2 – Subject site shown in red overlay.

1.2.2 Proposed Land Use and Built Form:

The application seeks consent for the following alterations and additions to the existing dwelling:

• Internal reconfiguration of the first floor including removal of an internal wall, new kitchen and dining room and new bathroom;

• Internal and external alterations and additions to accommodate an enlarged attic level including: Enlarged bedroom with ensuite, sauna; New south-facing trafficable roof deck (measuring 3.3 x 3.9m - 12.87m2); New north-facing pop-out dormer addition with bi-fold windows;

• An eastern side extension to the existing north-facing deck, including new 1.7m high privacy screens to its eastern and western edges;

• New internal stairs; and

• New roller door and pedestrian door at the Womerah Lane boundary contained with a masonry portal surround. Refer to the Architectural Drawings prepared by Urban Den for further details.



Figure 3 – South Elevations of the proposed design by Urban Den

### Methodology of Assessment

The methods used by Urbaine, for the generation of photomontaged images, showing the proposed development in photomontaged context are summarised in an article prepared for New Planner magazine in December 2018 and contained in Appendix A. A combination of the methods described were utilised in the preparation of the photomontaged views used in this visual impact assessment report. This same methodology is currently under review by the Land and Environment Court as a basis for future VIA guidelines to supersede the current instructions.

### 1.3.1 Process:

Initially, a fully contoured 3d wide area model was created of the site using Elevation and Depth - Foundation Spatial data point cloud Lidar data from Intergovernmental Committee on Surveying and Mapping. The model is accurate to 0.3m and is used to generate a ray traced light map of possible locations where the proposal can be seen from, this is used for a guide for site, local area visit and photography locations.



Figure 4 – Light projection from site onto Lidar model with google maps texture overlay indication locations where the building would be visible, in magenta.

The local and district area was then visited for photography, based on the locations from the light maps.

A photogrammetry survey was used to create a detailed site point cloud to understand the site topology and provide reference for the photography alignment.

prepared by Urbaine and aligned to the scene using the survey data.

Virtual cameras were placed into the 3D model to match various selected viewpoints, in both height and position. These locations were measured on-site using a survey provided. From these cameras, rendered views have been generated and photomontaged into the existing photos, using the ground plane for alignment at standing height 1600mm.

The final selection of images shows these stages, including the block montage of the original development application and concluding with an outline, indicating the potential visual impact and view loss. For the purposes of statutory requirements, the images within the report are of a standard lens format.



### 1.1.2 Assessment Methodology:

There are no set guidelines within Australia regarding the actual methodology for visual impact assessment, although there are a number of requirements defined by the Land and Environment Court (LEC) relating to the preparation of photomontages upon which an assessment can be based.

Where a proposal is likely to adversely affect views from either private or public land, Council will give consideration to the Land and Environment Court's Planning Principle for view sharing established in Tenacity Consulting v Warringah Council [2004] NSWLEC 140. This Planning Principle establishes a four-step assessment to assist in deciding whether or not view sharing is reasonable:

Step 1: assessment of views to be affected.

Step 2: consider from what part of the property the views are obtained.

Step 3: assess the extent of the impact.

Step 4: assess the reasonableness of the proposal that is causing the impact.

However, there is no peer review system for determining the accuracy of the base material used for visual impact assessments. As a result, Urbaine Architectural provides a detailed description of its methodologies and the resultant accuracy verifiability – this is contained within Appendix A.

The methodology applied to the visual assessment of the current design proposal has been developed from consideration of the following key documents:

 Environmental Impact Assessment Practice Note, Guideline for Landscape Character and Visual Impact Assessment (EIA-N04) NSW RMS (2013);

■ Visual Landscape Planning in Western Australia, A Manual for Evaluation, Assessment, Siting and Design, Western Australia Planning Commission (2007);

Guidelines for Landscape and Visual Impact Assessment, (Wilson, 2002);

In order to assess the visual impact of the Design Proposal, it is necessary to identify a suitable scope of publicly accessible locations that may be impacted by it, evaluate the visual sensitivity of the Design Proposal to each location and determine the overall visual impact of the Design Proposal. Accessible locations that feature a prominent, direct and mostly unobstructed line of sight to the Project are used to assess the visual impact of the Design Proposal. The impact to each location is then assessed by overlaying an accurate visualisation of the new design onto the base photography and interpreting the amount of view loss in each situation, together with potential opportunities for mitigation.

Views of high visual quality are those featuring a variety of natural environments/ landmark features, long range, distant views and with no, or minimal, disturbance as a result of human development or activity. Views of low visual quality are those featuring highly developed environments and short range, close distance views, with little or no natural features.

Visual sensitivity is evaluated through consideration of distance of the view location to the site boundary and to proposed buildings on the site within the Proposal. Then, as an assessment of how the Design Proposal will impact on the particular viewpoint. Visual sensitivity provides the reference point to the potential visual impact of the Design Proposal to both the public and residents, located within, and near to the viewpoint locations.

Where views from public viewpoint locations require assessing, the Planning Principle for Public domain views is referenced - Rose Bay Marina Pty Limited v Woollahra Municipal Council (2013). The assessment process from this principle includes:

Identification Stage:

Identify the nature and scope of the existing views from the public domain:

- The nature and extent of any existing obstruction of the view
- Relevant compositional elements of the view

• What might not be in the view - such as the absence of human structures in the outlook across a natural area

• Is the change permanent or temporary. This is followed by identifying the locations in the public domain from which the potentially interrupted view is enjoyed and the extent of obstruction at each relevant location. The intensity of use of this locations is also to be recorded. Finally, the existence of any documents that identifies the importance of the view - i.e.. international, national, state or local heritage recognition is ascertained. Analysis of impacts:



• The analysis required of a particular development proposal's public domain view impact is both quantitative as well as qualitative.

• A quantitative evaluation of a view requires an assessment of the extent of the present view, the compositional elements within it and the extent to which the view will be obstructed by or have new elements inserted into it by the proposed development.

• In the absence of any planning document objective/aim, the fundamental quantitative question is whether the view that will remain after the development (if permitted) is still sufficient to understand and appreciate the nature of and attractive or significant elements within the presently unobstructed or partially obstructed view. If the view remaining (if the development were to be approved) will be sufficient to understand and appreciate the nature of the existing view, the fundamental quantitative question is likely to be satisfied.

• The outcome of a qualitative assessment will necessarily be subjective. However, although beauty is inevitably in the eye of the beholder, the framework for how an assessment is undertaken must be clearly articulated.

Any qualitative assessment must set out the factors taken into account and the weight attached to them. Whilst minds may differ on outcomes of such an assessment, there should not be issues arising concerning the rigor of the process.

• As with Tenacity, a high value is to be placed on what may be regarded as iconic views (major landmarks or physical features such as land/water interfaces).

Other factors to be considered in undertaking a qualitative assessment of a public domain view impact include: • Is any significance attached to the view likely to be altered?

• If so, who or what organisation has attributed that significance and why have they done so?

• Is the present view regarded as desirable and would the change make it less so (and why)?

• Should any change to whether the view is a static or dynamic one be regarded as positive or negative and why?

• If the present view attracts the public to specific locations, why and how will that attraction be impacted?

• Is any present obstruction of the view so extensive as to render preservation of the existing view merely tokenistic?

• However, on the other hand, if the present obstruction of the view is extensive, does that which remains nonetheless warrant preservation (it may retain all or part of an iconic feature, for example)?

• If the change to the view is its alteration by the insertion of some new element(s), how does that alter the nature of the present view?

The principles established by the Court from both cases have been integrated into the approach adopted for this evaluation.



Figure 5: Selected public viewpoint locations for visual impact assessments with site in magenta





Figure 6: Selected private viewpoint locations for visual impact assessments

Site Inspections:

A site inspection was undertaken to photograph the site and surrounding area to investigate:

- The topography and existing urban structure of the local area
- The streetscapes and houses most likely to be affected by the Proposal
- Important vistas and viewsheds
- Other major influences on local character and amenity

The map, see figure 5, indicates chosen locations for site photography.

Contextual Analysis:

An analysis was undertaken of the visual and statutory planning contexts relevant to the assessment of visual impacts in a Development Application.

Visual Impact Analysis:

The visual impacts of the proposed development were analysed in relation to the visual context and assessed for their likely impact upon the local area and upon specific residential properties.

Statutory Planning Assessment:

The results of the local view impact assessment are included in Section 3 of this report.

1.3 References:

The following documentation and references informed the preparation of this report:

**Design Documentation** 

The design drawings and information relied upon for the preparations of this report were prepared by Urban Den Architects.

- Sydney Development Control Plan 2012 (Sydney DCP 2012)
- Section 2 Locality Statements (Darlinghurst East);
- Section 3 General Provisions for all Development;
- Section 4 Development Types (Single Dwellings, Terraces and Dual Occupancies)
- Sydney Local Environmental Plan 2012 (Sydney LEP 2012)
- SEPP (Building Sustainability Index BASIX) 2004





Figure 7: Land zoning map, indicating site with target.

### 2. THE SITE AND THE VISUAL CONTEXT.

Visual impacts occur within an existing visual context where they can affect its character and amenity. This section of the report describes the existing visual context and identifies its defining visual characteristics. Defining the local area relevant to the visual assessment of a proposed development is subject to possible cognitive mapping considerations and statutory planning requirements. Notwithstanding these issues, the surrounding local area that may be affected by the visual impact of the proposed development is considered to be the area identified on in the topographical area map, Figure 8.

Although some individuals may experience the visual context from private properties with associated views, the general public primarily experiences the visual context from within the public realm where they form impressions in relation to its character and amenity. The public realm is generally considered to include the public roads, reserves, open spaces and public buildings.

The visual context is subject to "frames of reference" that structure the cognitive association of visual elements. The "local area" (as discussed above) provides one such frame of reference. Other "frames of reference" include the different contextual scales at which visual associations are established and influence the legibility, character and amenity of the urban environment. Within the scope of this report three contextual scales are considered relevant to the analysis of the visual context and the visual impact of the proposed development.



Figure 8: Subject area topographical map.



The 'Street Context' provides a frame of reference for reviewing the visual relationship of the new development (and in particular its facades) in relation to the adjoining pedestrian spaces and roads. Elements of the development within this frame of reference are experienced in relatively close proximity where, if compatible with the human scale they are more likely to facilitate positive visual engagement and contribute to the "activation" of adjoining pedestrian spaces.

The 'Neighbourhood Context' provides a broader frame of reference that relates the appearance of the development as a whole to the appearance of other developments within the local area. As a frame of reference, it evolves from the understanding gained after experiencing the site context and the low density of development. Within this context the relative appearance, size and scale of different buildings are compared for their visual compatibility and contribution to a shared character from which a unique "sense of place" may emerge. This frame of reference involves the consideration of developments not necessarily available to view at the same time. It therefore has greater recourse to memory and the need to consider development separated in time and space. The neighbourhood context is relevant to the visual 'legibility' of a development and its relationship to other developments, which informs the cognitive mapping of the local area to provide an understanding of its arrangement and functionality.

The 'Town / City Context' provides a frame of reference that relates the significance of key developments or neighbourhoods to the town as a whole. The contribution that distinctive neighbourhoods make (or may potentially make) to the image of the city can be affected by the visual impact of an individual development through its influence on the neighbourhood's character and legibility. Within this context, it is also important to be aware of other proposed developments in the area.

2.1 The Visual Context:

The site and surrounding land uses primarily are residential. The terrace forms part of a row of terraces on the southern side of Womerah Lane. The neighbourhood is built around narrow streets, with street trees throughout.

2.2 Visual Features and Local Landmarks:

Particular elements in the settlement pattern through either their location and/or built form provide visual nodes and landmarks that assist to differentiate locations within the broader visual context. The following visual nodes are considered to be of the greatest significance in terms of their contribution to the character and legibility of the local and surrounding area.

#### 2.3 Streetscapes:

Immediately adjacent to the west and east of the subject site are attached two storey terraces with attic levels and rear decks which front Barcom Avenue and Womerah Lane. Immediately to the south, are two-storey residential buildings.

2.4 The selected view locations for the local view analysis:

As a result of the site's topography, the visual impact is primarily relevant to the upper levels of neighbouring houses to the north and south.

A large number of site photos were taken and a smaller number of specific views selected from these, relevant for public viewing locations, as described above. The selected photos are intended to allow consideration of the visual and urban impact of the new development at a local level and, specifically, from the neighbouring properties and public viewing locations.

Due to the topography and elevation changes the proposal is not generally visible from street level, as shown in the light map, figure 4 and confirmed with the site visit, Appendix A and Additional photos in Appendix E.

2.5 Context of View:

The context of the view relates to where the proposed development is being viewed from. The context is different if viewed from a neighbouring building, or garden, as is the case here, where views can be considered for an extended period of time, as opposed to a glimpse obtained from a moving vehicle.





2.6 Extent of View:

The extent to which various components of a development would be visible is critical. In this case, the proposal is for a two storey development proposal in a low-density rural context. It is therefore considered to have a local scale visual impact. If the development proposal was located in an area containing buildings of a similar scale and height, it would be considered to have a lower scale visual impact.

The capacity of the landscape to absorb the development is to be ranked as high, medium or low, with a low ranking representing the highest visual impact upon the scenic environmental quality of the specific locality, since there is little capacity to absorb the visual impact within the landscape.

### 3. VISUAL IMPACT OF THE PROPOSED DEVELOPMENT.

3.1 Visual Impact Assessments from viewpoint locations - in and around Barcom Ave

3.1.1 Method of Assessment:

In order to allow a quantitative assessment of the visual impact locations where view impact and view loss

A Canon EOS Full Frame Digital Camera with fixed focal length 24mm lens was used to take all viewpoint photos, at an eye level of 1600mm.

Camera positions were measured using a RTK GNSS rover with NTRIP corrections verified with local control points to PM and SS. Positions coordinates were recorded in GDA2020 and AHD in Appendix D.

The photos include location descriptions, to be read in conjunction with the site map, contained in Appendix A. Additionally, information is supplied as to the distance from the site boundary for each location and the distance to the closest built form is provided in Section 3.1.2 below.

To assess the visual impact, there are 2 relevant aspects - view loss of actual substance (landscape, middle and distance view elements etc.) and also direct sky view loss. To a large extent, the value associated with a view is subjective, although a range of relative values can be assigned to assist with comparing views. Figure 9 is a scale of values from 0 to 15, used to allow a numeric value to be given to a particular view, for the purposes of comparison.

On the same table are a series of values, from zero to 15, that reflect the amount of visual impact.

The second means of assessment relates to assigning a qualitative value to the existing view, based on criteria of visual quality defined in the table – see figure 9.

The % visual content is then assessed, together with a visual assessment of the new development's ability to blend into the existing surroundings.



Scale	Value	Visual Quality	Visual Impact	Tenacity Value
0	Negligible	N/A	No negative impact on the pre-existing visual quality of the view.	Ĩ
1 2 3 4 5	Low	Predominant presence of low quality manmade features. Minimal views of natural formations (e.g. cliffs, mountains, coastlines, waterways, ridges etc). Uniformity of land form.	<ul> <li>A minor negative impact on the pre-existing visual quality of the view.</li> <li>Examples: <ul> <li>Minor impacts on natural landscapes.</li> <li>No impact on iconic views</li> <li>Impacts on a small number of receivers.</li> <li>Significant distance between the development and receiver.</li> </ul> </li> </ul>	Minor Negligible
6 7 8 9 10	Medium	Presence of some natural features mixed with manmade features. Some views of distinct natural formations (e.g. cliffs, mountains, coastlines, waterways, ridges etc).	<ul> <li>A medium negative impact on the pre-existing visual quality of the view:</li> <li>Examples: <ul> <li>Moderate impacts on iconic views or natural landscapes.</li> </ul> </li> <li>Impacts on a moderate number of receivers.</li> <li>Located nearby the receiver.</li> </ul>	ere Moderate
11 12 13 14 15	High	Predominantly natural features. Minimal manmade features, however if present of a high architectural standard. Significant views of distinct natural formations (e.g. cliffs, mountains, coastlines, waterways, ridges etc). Presence of iconic regional views or landmark features.	<ul> <li>A high negative impact on the pre-existing visual quality of a view:</li> <li>Examples: <ul> <li>Loss of iconic views.</li> <li>Impacts on a significant number of receivers.</li> <li>Overshadowing effect.</li> <li>Directly adjacent the receiver.</li> </ul> </li> </ul>	Devastating Severe

Figure 9 – Urbaine Architectural Visual Assessment Scale



3.1.2: Assessment at selected viewpoints.



### Viewpoint 01



Existing site photo - Road junction - Barcom Avenue and Womerah Lane.

P03 IMG\_4232 a.jpg

From standing position, on Barcom Avenue, looking northwest towards the subject site. RL + 19.67m Distance to centre of subject site: 48.11



Photomontage of proposal

P03 IMG\_4232 c.jpg







## Extent of development's visual impact indicated with cyan overlay and lack of impact in yellow with red outline.

### Visual impact:

Visual impact – Amount of new building visible in view – 3% Visual impact ratio of view loss to sky view loss in visible portion. 0%: 100% Existing Visual Quality Scale no: 3 /15 Visual Impact Assessment Scale no: 1/15

This is a static and dynamic public viewpoint from the southern pavement of Barcom Avenue, looking northwest across Barcom Avenue to the property on the corner of Barcom Avenue and Womerah Lane, being No.21a, Barcom. Beyond this is the entry to Womerah Lane, which travels to the north and the side elevation of Nos.23-29, Barcom.

The proposal can be partially observed above the roofline of the existing roofs of Nos.23 to 29. There is also a multitude of other elements, creating visual obstructions to the proposal - power and telecom cables.

The visual impact of the new proposal, from this location, is assessed as negligible and there is no significant view loss.

### Rose Bay Marina v Woolahra Council (2013) Assessment:

Value of view: Low. View location: Road and pavement. Extent of impact: Negligible Reasonableness of proposal: This is a compliant development that integrates well into the scale of its surroundings and is only partially visible from this location.



### Virtual Viewpoint A



### Site image - from attic floor of new proposal

P01 IMG\_4208.jpg

From standing position - equivalent to event room 1m back from study window in new proposal. RL +32.27m Distance to centre of subject site: 6.41m



### Virtual viewpoint montage

VirtualCam\_Inside01.jpg





### Aerial Viewpoint Location.

### Visual impact:

Visual impact – Amount of new building visible in view – 6% (roof deck) Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0% Existing Visual Quality Scale no: 3 /15 Visual Impact Assessment Scale no: 1/15

This is a static, private viewpoint from the equivalent of the attic level study area, looking south-southeast across the roof deck. The glass balustrades ensure there is minimal visual impact from this location, both looking out from, and towards the new proposal

The visual impact of the new proposal, from this location, is assessed as negligible and there is no significant view loss. The purpose of this virtual view is to assist in determining private viewing locations from which the new proposal may be observed, since there are very few public viewpoints available - see Appendices for surrounding site photos.

### Tenacity v Warringah Assessment Summary:

Value of view: Low-to-Medium.

View location: Secondary living space - attic study room.

Extent of impact: Negligible. From within and when observed.

Reasonableness of proposal: This is a largely compliant development that integrates well into the scale of its surroundings and within the overall future development character of the subject site. This amount of view loss is negligible and the proposal can be considered reasonable.



### Virtual Viewpoint B



### Site Reference Image

P01 IMG\_4218-Pano.jpg

From standing position, at centre of outside deck at attic level. RL +32.27m Distance to centre of subject site: 7.85m



### Vrtual image

NEW\_Virtual\_Cam1\_NE.jpg







### Aerial Viewpoint Location.

### Visual impact:

Visual impact – Amount of new building visible in view – 4% (glass balustrade) Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0% Existing Visual Quality Scale no: 4 /15 Visual Impact Assessment Scale no: 1/15

This is a static, private viewpoint from the equivalent of the attic level roof deck, looking east-northeast across the neighbouring roofs of the adjoining terraces. The glass balustrades ensure there is minimal visual impact from this location, both looking out from, and towards the new proposal. Neighbouring properties with similar attic extensions can also be observed.

The visual impact of the new proposal, from this location, is assessed as negligible and there is no significant view loss. The purpose of this virtual view is to assist in determining private viewing locations from which the new proposal may be observed, since there are very few public viewpoints available - see Appendices for surrounding site photos.

### Tenacity v Warringah Assessment Summary:

Value of view: Low-to-Medium.

View location: Secondary outdoor living space - attic roof deck

Extent of impact: Negligible. From the deck and when observed from neighbouring properties. Reasonableness of proposal: This is a largely compliant development that integrates well into the scale of its surroundings and within the overall future development character of the subject site. This amount of view loss is negligible and the proposal can be considered reasonable.



### Virtual Viewpoint C



### Site Reference Image

P01 IMG\_4218-Pano.jpg

From standing position, at centre of outside deck at attic level. RL +32.27m Distance to centre of subject site: 7.85m



### Virtual image

NEW\_Virtual\_Cam1\_SW.jpg





### Aerial Viewpoint Location.

### Visual impact:

Visual impact – Amount of new building visible in view – 4% (glass balustrade) Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0% Existing Visual Quality Scale no: 4/15 Visual Impact Assessment Scale no: 1/15

This is a static, private viewpoint from the equivalent of the attic level roof deck, looking west-southwest across the neighbouring roofs of the adjoining terraces. The glass balustrades ensure there is minimal visual impact from this location, both looking out from, and towards the new proposal. Neighbouring properties with similar attic extensions can also be observed.

The visual impact of the new proposal, from this location, is assessed as negligible and there is no significant view loss. The purpose of this virtual view is to assist in determining private viewing locations from which the new proposal may be observed, since there are very few public viewpoints available - see Appendices for surrounding site photos.

### Tenacity v Warringah Assessment Summary:

Value of view: Low-to-Medium.

View location: Secondary outdoor living space - attic roof deck

Extent of impact: Negligible. From the deck and when observed from neighbouring properties. Reasonableness of proposal: This is a largely compliant development that integrates well into the scale of its surroundings and within the overall future development character of the subject site. This amount of view loss is negligible and the proposal can be considered reasonable.



### 4. SUMMARY ASSESSMENT.

This Visual Impact Assessment from Urbaine Design seeks to provide an objective approach to the likely visual impact on any views to and from the upper level addition to the property at No.2/33, Barcom Avenue.

This Visual Impact Assessment has undertaken a review of the proposal, within its future setting and concludes that,

- The light map in figure 4 matches our real world impressions from the site and local area analysis inspection which shows very limited views of the proposal from any public viewing location within the vicinity of the subject property.
- Any visual impact would be local in nature and from the vicinity of the upper levels of neighbouring properties to the north and south.
- It can be observed from the virtual images that similar rooftop additions to properties on the same terrace row are largely imperceptible, in terms of their visual impact. The new proposal is very similar to these, in terms of scale and location.

Based on our 3D analysis, photography, drone photography and site visit, it would be my recommendation that the Development Application be approved on the grounds of minimal, acceptable visual impact and negligible view loss.

John Aspinall, Director, Urbaine Design Group Pty Ltd.

### 5. APPENDICES.

- Appendix A: Photomontages and Virtual Viewpoints ٠
- Appendix B: Aspinall CV and Expert Witness experience. Methodology article Planning • Australia,by Urbaine Architecture Appendix C: Wireframe / Point cloud alignment
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- Appendix D: Survey PDF •
- Appendix E: Site photography •
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**Appendices** 2/33 Barcom Avenue, Darlinghurst May 27, 2024 Appendix A: Photomontages



Light map - projection from proposal to show possible viewpoints







Local area with site highlighted in yellow



Light projection from proposal ammendments to show possible viewable locations

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May 27, 2024



**VIEWPOINT 01** 



Site images

P03 IMG\_4232 A.JPG



### Photomontage of proposal

P03 IMG\_4232 C.JPG

PROJECT:

CLIENT:







Visual impact in cyan with red outline

P03 IMG\_4232 D.JPG



Panorama to show wider viewpoint of human eyes with nested photomontage in white frame

PROJECT:

CLIENT:





**Virtual viewpoints** 







**VIEWPOINT 01** 

VIRTUALCAM\_INSIDE01.JPG



### **VIEWPOINT 02**

NEW\_VIRTUAL\_CAM1\_NE.JPG

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**VIEWPOINT 03** 

NEW\_VIRTUAL\_CAM1\_SW.JPG



### Appendix B: Photomontages

Aspinall CV and Expert Witness experience. Methodology article – Planning Australia, by Urbaine Architecture





### JOHN ASPINALL. director: urbaine design group

UK Qualified Architect RIBA BA(Hons) BArch(Hons) Liverpool University, UK.

24 years' architectural experience in London and Sydney. Halpin Stow Partnership, London, SW1 John Andrews International, Sydney Cox and Partners, Sydney Seidler and associates NBRS Architects, Milsons Point Urbaine Pty Ltd (current)

### **Design Competitions:**

UK 1990 – Final 6. RIBA 'housing in a hostile environment'. Exhibited at the Royal Academy, London UK Design Council – innovation development scheme finalist – various products, 1990. Winner: International Design Competition: Sydney Town Hall, 2000 Finalist: Boy Charlton Swimming pool Competition, Sydney, 2001 Finalist: Coney Island Redevelopment Competition, NY 2003

### Design Tutor: UTS, Sydney, 1997 - 2002

This role involved tutoring students within years 1 to 3 of the BA Architecture course. Specifically, I developed programs and tasks to break down the conventional problem-solving thinking, instilled through the secondary education system. Weekly briefs would seek to challenge their preconceived ideas and encourage a return to design thinking, based on First Principles.

### Design Tutor: UNSW, Sydney 2002 - 2005

This role involved tutoring students within years 4 to 6 of the BArch course. Major design projects would be undertaken during this time, lasting between 6 and 8 weeks. I was focused on encouraging rationality of design decision-making, rather than post-rationalisation, which is an ongoing difficulty in design justification.

### Current Position: URBAINE GROUP Pty Ltd

Currently, Principal Architect of Urbaine - architectural design development and visualisation consultancy: 24 staff, with offices in: Sydney, Shanghai, Doha and Sarajevo.

Urbaine specialises in design development via interactive 3d modelling.

Urbaine's scale of work varies from city master planning to furniture and product design, while our client base consists of architects, Government bodies, developers, interior designers, planners, advertising agencies and video producers.

URBAINE encourages all clients to bring the 3D visualisaton facility into the design process sufficiently early to allow far more effective design development in a short time frame. This process is utilised extensively by many local and international companies, including Lend Lease, Multiplex, Hassell, PTW, Foster and Partners, City of Sydney, Landcom and several other Governmental bodies. URBAINE involves all members of the design team in assessing the impact of design decisions from the earliest stages of concept design. Because much of UR-BAINE's work is International, the 3D CAD model projects are rotated between the various offices, effectively allowing a 24hr cycle of operation during the design development process, for clients in any location.

An ever-increasing proportion of URBAINE"S work is related to public consultation visualisations and assessments. As a result, there has also been an increase in the Land And Environment Court representations. Extensive experience in creating and validating photomontaged views of building and environmental proposals. Experience with 3D photmonages began in 1990 and has included work for many of the world's leading architectural practices and legal firms.

### Co-Founder Quicksmart Homes Pty Ltd. , 2007 - 2009



Responsible for the design and construction of 360 student accommodation building at ANU Canberra, utilising standard shipping containers as the base modules.

### Design Principal and co-owner of Excalibur Modular Systems Pty Ltd: 2009 to present.

High specification prefabricated building solutions, designed in Sydney and being produced in China. Excalibur has developed a number of modular designs for instant delivery and deployment around the world. Currently working with the Cameroon Government providing social infrastructure for this rapidly developing country.

The modular accommodation represents a very low carbon footprint solution

### Expert Legal Witness, 2005 to present

In Australia and the UK, for the Land and Environment Court. Expert witness for visual impact studies of new developments.

Currently consulting with many NSW Councils and large developers and planners, including City of Sydney, Lend Lease, Mirvac, Foster + Partners, Linklaters.

Author of several articles in 'Planning Australia' and 'Architecture Australia' relating to design development and to the assessment of visual impacts, specifically related to the accuracy of photomontaging.

Currently preparing a set of revised recommendations for the Land and Environment Court relating to the preparation and verification of photomontaged views for the purposes of assessing visual impact



### VISUAL IMPACT ASSESSMENTS: A REALITY CHECK.

### **BY JOHN ASPINALL.**



Photomontaged views of new apartment building at Pyrmont: Urbaine

Australia's rapid construction growth over the past 10 years has coincided with significant advances in the technology behind the delivery of built projects. In particular, BIM (Building Information Modelling). Virtual Reality and ever-faster methods of preparing CAD construction documentation.

Alongside these advances, sits a number of potential problems that need to be considered by all of those involved in the process of building procurement. Specifically, the ease with which CAD software creates the appearance of very credible drawn information, often without the thoroughness and deliberation afforded by architects, and others, in years past.

Nowhere is this more apparent than in the area of visual impact assessments, where a very accurate representation of a building project in context is the starting point for discussion on a project's suitability for a site. The consequences of any inaccuracies in this imagery are significant and far- reaching, with little opportunity to redress any errors once a development is approved.



Photomontaged views of new Sydney Harbour wharves: Urbaine

Urbaine Architecture has been involved in the preparation of visual impact studies over a 20 year period, in Australia and Internationally. Urbaine's Director, John Aspinall, has been at the forefront of developing methods of verifying the accuracy of visualisations, particularly in his role as an expert witness in Land and Environment Court cases.

In Urbaine's experience, a significant majority of visualisation material presented to court is inaccurate to the




point of being invalid for any legal planning decisions. Equally concerning is the amount of time spent, by other consultants, analysing and responding to this base material, which again can be redundant in light of the frequent inaccuracies. The cost of planning consultant reports and legal advice far exceeds that of generating the imagery around which all the decisions are being made.

Over the last 10 years, advances in 3d modelling and digital photography have allowed many practitioners to claim levels of expertise that are based more on the performance of software than on a rigorous understanding of geometry, architecture and visual perspective. From a traditional architect's

training, prior to the introduction of CAD and 3d modelling, a good understanding of the principles of perspective, light, shadow and building articulation, were taught throughout the training of architects.

Statutory Authorities, and in particular the Land and Environment Court, have attempted to introduce a degree of compliance, but, as yet, this is more quantitative, than qualitative and is resulting in an outward appearance of accuracy verification, without any actual explanation being requested behind the creation of the work.

Currently, the Land and Environment Court specifies that any photomontages, relied on as part of expert evidence in Class 1 appeals, must show the existing surveyed elements, corresponding with the same elements in the photograph. Often, any surveyed elements can form such a small portion of a photograph that, even by overlaying the surveyed elements as a 3d model, any degree of accuracy is almost impossible to verify. For sites where there are no existing structures, which is frequent, this presents a far more challenging exercise. Below is one such example, highlighted in the Sydney Morning Herald, as an example of extreme inaccuracy of a visual impact assessment. Urbaine was engaged to assess the degree to which the images were incorrect – determined to be by a factor of almost 75%.



The No Lewisham Towers residents' action group claims the original images were so misleading that the corrected ones should go on public exhibition before the Planning Assessment Commission makes its determination next week.

SMH article re inaccurate visualisations



Key visual location points on site: Urbaine



Photomontage submitted by developer



Assessment of inaccuracy by Urbaine

Urbaine has developed a number of methods for adding verification data to the 3d model of proposed buildings and hence to the final photomontages. These include the use of physical site poles, located at known positions and heights around a site, together with drones for accurate height and location verification and the use of landscaped elements within the 3d model to further add known points of references. Elements observed in a photograph can be used to align with the corresponding elements of the new building in plan. If 4 or more known positions can be aligned, as a minimum, there is a good opportunity to create a verifiable alignment.

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Every site presents different opportunities for verification and, often, Urbaine is required to assess montages from photographs taken by a third party. In these cases, a combination of assessing aerial photography, alongside a survey will allow reference points to be placed into the relevant 3d model prior to overlaying onto the photos for checking.

The following example clearly demonstrates this – a house montaged into a view, by others, using very few points of reference for verification. By analysing the existing photo alongside the survey, the existing site was able to be recreated with a series of reference elements built into the model. A fully rendered version of all the elements was then placed over the photo and the final model applied to this. As can be seen, the original montage and the final verified version are dramatically different and, in this case, to the disadvantage of the complainant.



Photomontage submitted by developer



Key visual location points on site: Urbaine



Key points and 3d model overlaid onto existing photo



Final accurate photomontage: Urbaine

Often, Urbaine's work is on very open sites, where contentious proposals for development will be relying on minimising the visual impact through mounding and landscaping. In these cases, accuracy is critical, particularly in relation to the heights above existing ground levels. In the following example, a business park was proposed on very large open site, adjoining several residential properties, with views through to the Blue Mountains, to the West of Sydney. Urbaine spent a day preparing the site, by placing a number of site poles, all of 3m in height. These were located on junctions of the various land lots, as observed in the survey information. These 3d poles were then replicated in the 3d CAD model in the same height and position as on the actual site. This permitted the buildings and the landscaping to be very accurately positioned into the photographs and, subsequently, for accurate sections to be taken through the 3d model to assess the actual percentage view loss of close and distant views.





Physical 3000mm site poles placed at lot corners 3d poles located in the 3d model and positioned on photo





Proposed buildings and landscape mounding applied

Proposed landscape applied - shown as semi-mature



Final verified photomontage by Urbaine

Further examples, below, show similar methods being used to give an actual percentage figure to view loss, shown in red, in these images. This was for a digital advertising hoarding, adjoining a hotel. As can be seen, the view loss is far outweighed by the view gain, in addition to being based around a far more visually engaging sculpture. In terms of being used as a factual tool for legal representation and negotiation, these images are proving to be very useful and are accompanied by a series of diagrams explaining the methodology of their compilation and, hence verifying their accuracy.







Photomontage of proposed building for digital billboard

Existing situation – view from adjoining hot





Photomontage of view from hotel

View loss – green = view gain / red = view loss

There are also several areas of assessment that can be used to resolve potential planning approval issues in the early stages of design. In the case below, the permissible building envelope in North Sydney CBD was modelled in 3d to determine if a building proposal would exceed the permitted height limit. Information relating to the amount of encroachment beyond the envelope allowed the architect to re-design the plant room profiles accordingly to avoid any breach.



3d model of planning height zones Extent of protrusion of proposed design prior to re- design

Urbaine's experience in this field has place the company in a strong position to advise on the verification of imagery and also to assist in developing more robust methods of analysis of such imagery. As a minimum, Urbaine would suggest that anyone engaging the services of visualisation companies should request the following information, as a minimum requirement:

1. Height and plan location of camera to be verified and clearly shown on an aerial photo, along with the sun position at time of photography.

2. A minimum of 4 surveyed points identified in plan, at ground level relating to elements on the photograph and hence to the location of the superimposed building.



A minimum of 4 surveyed height points to locate the imposed building in the vertical plane.
A series of images to be prepared to explain each photomontaged view, in line with the

4. A series of images to be prepared to explain each photomontaged view, in line with the above stages.

This is an absolute minimum from which a client can determine the verifiability of a photomontaged image. From this point the images can be assessed by other consultants and used to prepare a legal case for planning approval.



## Land and Environment Court guidelines for photomontages:

## Use of photomontages

The following requirements for photomontages proposed to be relied on as or as part of expert evidence in Class 1 appeals will apply for proceedings commenced on or after 1 October 2013. The following directions will apply to photomontages from that date:

## **Requirements for photomontages**

1. Any photomontage proposed to be relied on in an expert report or as demonstrating an expert opinion as an accurate depiction of some intended future change to the present physical position concerning an identified location is to be accompanied by:

Existing Photograph.

a) A photograph showing the current, unchanged view of the location depicted in the photomontage from the same viewing point as that of the photomontage (the existing photograph);

b) A copy of the existing photograph with the wire frame lines depicted so as to demonstrate the data from which the photomontage has been constructed. The wire frame overlay represents the existing surveyed elements which correspond with the same elements in the existing photograph; and

c) A 2D plan showing the location of the camera and target point that corresponds to the same location the existing photograph was taken.

Survey data.

d) Confirmation that accurate 2D/3D survey data has been used to prepare the Photomontages. This is to include confirmation that survey data was used:

i. for depiction of existing buildings or existing elements as shown in the wire frame; and

ii. to establish an accurate camera location and RL of the camera.

2. Any expert statement or other document demonstrating an expert opinion that proposes to rely on a photomontage is to include details of:

a) The name and qualifications of the surveyor who prepared the survey information from which the underlying data for the wire frame from which the photomontage was derived was obtained; and

b) The camera type and field of view of the lens used for the purpose of the photograph in (1)(a) from which the photomontage has been derived.



Appendix C: Wireframe / Point cloud alignment







**VIEWPOINT 01** 

P03 IMG\_4232 B.JPG

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Appendix D: Survey and Camera position











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Appendix E: Site photography







**Camera positions** 











P02 IMG\_4227-PANO.JPG



P03 IMG\_4235-PANO.JPG



P04 IMG\_4240-PANO.JPG

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DES



P01 IMG\_4208.JPG



P02 IMG\_4226.JPG



P03 IMG\_4232.JPG



CLIENT:

P04 IMG\_4242.JPG



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P05 IMG\_4249-PANO.JPG



p06 img\_4253-pano.jpg



p07 img\_4268-pano.jpg



ISSUE:

DWG NO:

May 27, 2024

P08 IMG\_4274-PANO.JPG



P05 IMG\_4246.JPG



p06 img\_4254.jpg



P07 IMG\_4269.JPG



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P08 IMG\_4275.JPG



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p10 img\_4291-pano.jpg



p11 img\_4297-pano.jpg



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DWG NO:

May 27, 2024

p11a img\_4308-pano.jpg

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P09 IMG\_4283.JPG



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P11A IMG\_4307.JPG



p12 img\_4317-pano.jpg



P13 IMG\_4325-PANO.JPG



p15 img\_4337-pano.jpg



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p16 img\_4345-pano.jpg



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p15 img\_4337.jpg



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p17 img\_4354-pano.jpg



p17 img\_4355.jpg

DWG NO:



Appendix F: Local visual impact examples







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dji\_0247.jpg



dji\_0241.jpg



dji\_0252.jpg

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