

Development Application, 34-35, South Steyne, Manly. Visual Impact Assessment Report. November 15, 2023





# urbaine design group

# Development Application, 34-35, South Steyne, Manly. Visual Impact Assessment Report. November 15, 2023

# Contents

# 1. INTRODUCTION 3

1.1 Scope and Purpose of Report. 3

3

1.1.1.Process

1.2 References 5

# 2. THE SITE AND THE VISUAL CONTEXT 5

2.1 The Visual Context: 7

2.2 Streetscapes: 7

2.3 The selected view locations for the local view analysis: 7

2.4 Period of View: 7

# 3. VISUAL IMPACT OF THE PROPOSED DEVELOPMENT 8

3.1 Visual Impact Assessments, with reference to the requirements of the Land and Environment Court. 8

3.2 Visual Impact Assessments from 5 neighbouring viewpoint locations – static, private locations: 8

3.3 Method of Assessment: 8

3.3.1.Assessment at selected, private viewpoints 9

# 4. CONCLUSIONS + PLANNING SCHEME PROVISIONS RELATING TO VISUAL IMPACTS245. APPENDICES24



# 1. INTRODUCTION

#### 1.1 Scope and Purpose of Report.

This Visual Impact Report has been prepared by Urbaine Design Group as supporting documentation for the Development Application being submitted for a new, multi-storey commercial building and retail premises at Nos.34-35, South Steyne, Manly NSW 2095 (see Figure 1 for overall site location).

This report has been prepared for Fortis Development Group, The Applicant, and 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.



Figure 1 – site location shown in red.

#### 1.1.1.Process

Initially, a fully contoured 3d model was created of the site and surrounding buildings using survey positions and based on point cloud information with detailed modelling matching the building envelope of the latest Durbach Block Jaggers Architects design of the proposed extension

Virtual cameras were placed into the model to match various selected viewpoints, in both height and position. From these cameras, rendered views have been generated and photomontaged into the existing photos, using the ground plane for alignment.

The rendered views create an accurate interpretation of the visual impact and provide a basis for minimising any view loss by the incorporation of amended building heights and landscape, where appropriate.

The final selection of images shows these stages, concluding with an outline, indicating the potential visual impact. In addition, Appendix A contains larger format versions of these photomontaged assessment views with additional wider angle panorma for additional context with a field of view closer to two human eyes. It is from these that a better understanding can be gained, regarding the visual impact in the overall urban context,





although for the purposes of statutory requirements, the images within the report are of a standard 24mm lens format.



Figure 2: Selected neighbouring property viewpoint locations from no.25, Wentworth Street



Figure 3: Selected neighbouring property viewpoint camera locations from Apartment no.633 no.25, Wentworth Street



November 15, 2023 <sup>NO:</sup> VIA\_4





Figure 4: Selected neighbouring property viewpoint camera locations over point cloud derived model, with site westerly boundary in magenta.

#### 1.2 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 Durbach Block Jaggers Architects, dated July 2023.
- Creating Places for People An Urban Design Protocol for Australian Cities: <u>www.urbandesign.</u> <u>gov.au/downloads/index.as</u>
- State Environmental Planning Policy No.55 Remediation of Land;
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;
- State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017;
- Australia and New Zealand Urban Design Protocol:
- www.mfe.govt.nz/publications/urban/design-protocol-mar05/urban-design-protocol-colour.pdf
- The Value of Urban Design:
- www.designcouncil.org.uk/Documents/Documents/Publications/CABE/the-value-of-urban-design. pdf
- Fifteen Qualities of Good Urban Places:
- www.goldcoast.qld.gov.au/planning-and-building/fifteen-qualities-of- good-urban-places-3774. html
- The Image of the City (1960), Kevin Lynch
- The Environmental Planning and Assessment Act 1979 as amended ("the Act");
- Manly Local Environmental Plan 2013 ("MLEP 2013");
- Manly Development Control Plan 2013 ("MDCP");





# 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 general topographical area map, Figure 5. This shows the steep fall of land from the Eastern hill of Manly towards the flat area on the Manly Peninsula and Manly Beach.

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. This is particularly relevant in this instance, where the scale and form of the proposed development is viewed in context. Within the scope of this report the public realm is 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 5: Subject Site 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 developments 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.

#### 2.1 The Visual Context:

Within the street context, development is a mixture of commercial and retail buildings, together with a wide range of accommodation, both permanent and temporary, all orientated to maximise ocean and district views. The subject property is not heritage listed.

Within the wider urban context, there is a diverse fabric consisting of predominantly medium density residential, with wide streets and mature, established landscaping.

The iconic views from properties along Wentworth Street are to the east and the ocean.

#### 2.2 Streetscapes:

Within the local and surrounding areas, the streetscapes are typical of a well-established suburban area, that being focused on public amenity. The residential lots are small to medium and, as a result of the topography, have the option of enabling view sharing throughout the neighbourhood

#### 2.3 The selected view locations for the local view analysis:

As a result of the site's topography, the visual impact is primarily relevant from the residential properties to the west of the subject site and also when observed from the street. The apartment building on the western side of Rialto Lane have the greatest potential for negative visual impact and have been selected as primary assessment locations for visual impact and view loss.

A large number of site photos were taken and a smaller number of local views selected from these, relevant for the private viewing locations, as described above. These are a mixture of static viewpoints, namely, fixed locations, as opposed to locations where viewing from a vehicle may be more likely – dynamic. The selected photos are intended to allow consideration of the visual and urban impact of the new development at both an individual and local level. They incorporate private viewing locations from No.25, Wentworth Street where the subject site falls within direct line of sight and impacts on the neighbouring views and light access.

#### 2.4 Period of View:

The view is either:

(a) Intermittent, or Dynamic if it will be viewed from a car travelling along a road; or

(b) Stationary, or Static if the proposal can be viewed from a fixed location or for an extended period of time. In this instance, most views will be considered as stationary, since the impact is most significant on views from adjoining gardens.

#### Context of View:

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

#### Extent of View:

The extent to which various components of a development would be visible is critical. For example, if the visibility assessment is of a multi-storey development proposal in a low-density context of 2 to 3 storey buildings, it would be considered to have a significant local scale visual impact, whereas if a development proposal is located in an area of a CBD containing buildings of a similar scale and height, it may 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 <u>Visual Impact Assessments, with reference to the requirements of the Land and Environment</u> <u>Court.</u>

When undertaking the assessment of visual impacts, the guidelines stipulated by the Land and Environment Court, NSW, are used as a starting point for compliance.

#### 3.2 Visual Impact Assessments from 5 neighbouring viewpoint locations – static, private locations:

#### 3.3 Method of Assessment:

In order to allow a quantitative assessment of the visual impact, photos were selected that represented relevant private viewing locations from No.25, Wentworth Street.

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

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 3.2.2 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 6 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 10.

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.	Nil
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 Sev

Figure 11 – Urbaine Design Group Visual Assessment Scale

## 3.3.1.Assessment at selected, private viewpoints



Assessment at selected viewpoints.





# **LEVEL6 - UNIT 632**

dwg no: VIA\_11 ▼



# VIEWPOINT 1



Site image

<image>

33 IMG\_1791 r.jpg

## **Current proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in ai or disclosed to any unauthorised person, either wholly, or in part with the express written consent of unbox pty Itd Do not scale form this drawing.



CLIENT:

PROJECT:

ISSUE: November 15, 2023





33 IMG\_1791 dr.jpg

## 500mm Dropped Building Height



33 IMG\_1791 env.jpg

## **Compliant Proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in ai or disclosed to any unauthorised person, either wholly, or in part will the express written consent of urbox pty ltd Do not scale form this drawing.



CLIENT:

ISSUE: November 15, 2023



# **LEVEL6 - UNIT 633**



# VIEWPOINT 2



Site image

29 IMG\_1742 r.jpg

## **Current proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in ai or disclosed to any unauthorised person, either wholly, or in part will the express written consent of unbox pty ltd Do not scale form this drawing.



CLIENT:

PROJECT:

November 15, 2023





# 500mm Dropped Building Height

<image>

29 IMG\_1742 env.jpg

## **Compliant Proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in a or disclosed to any unauthorised person, either wholly, or in part wil the express written consent of unbox pty ltd Do not scale form this drawing.



PROJECT:

ISSUE: November 15, 2023



DWG NO: VIA\_16

# VIEWPOINT 3



Site image

30a IMG\_1754 r.jpg

## **Current proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in air or disclosed to any unauthorised person, either wholly, or in part will the express written consent of unbox pty ltd Do not scale form this drawing.



CLIENT:

ISSUE: November 15, 2023

dwg no: VIA\_17 ▼





## 500mm Dropped Building Height



30a IMG\_1754 env.jpg

#### **Compliant Proposal**

ot to be ed in a



PROJECT:

ISSUE: November 15, 2023 DWG NO: VIA\_18



# VIEWPOINT 4



Site image

31a IMG\_1774 a.jpg



31a IMG\_1774 r.jpg

## **Current proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in a or disclosed to any unauthorised person, either wholly, or in part will the express written consent of unbox pty ltd Do not scale form this drawing.



PROJECT:

ISSUE: November 15, 2023

DWG NO: VIA\_19





500mm Dropped Building Height

31a IMG\_1774 dr.jpg



31a IMG\_1774 env.jpg

# **Compliant Proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in ai or disclosed to any unauthorised person, either wholly, or in part will the express written consent of unbox pty ltd Do not scale from this drawing.



CLIENT:

PROJECT:

ISSUE: November 15, 2023

DWG NO: VIA\_20



# LEVEL 7 - UNIT 732





# VIEWPOINT 5



33 IMG\_1791 a.jpg

## Site image



36 IMG\_1818 r.jpg

## **Current proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in ai or disclosed to any unauthorised person, either wholly, or in part with the express written consent of unbox pty ltd Do not scale form this drawing.



PROJECT:

ISSUE: November 15, 2023





500mm Dropped Building Height

36 IMG\_1818 env.jpg

## **Compliant Proposal**

This drawing is the copyright of urbaine pty ltd It is issued on condition that it is not to be copied or reproduced in ai or disclosed to any unauthorised person, either wholly, or in part will the express written consent of unbox pty ltd Do not scale form this drawing.



CLIENT:

PROJECT:

ISSUE: November 15, 2023



## 4. CONCLUSIONS + PLANNING SCHEME PROVISIONS RELATING TO VISUAL **IMPACTS**

The proposed development seeks to demolish an existing 2 storey building, to be replaced with the construction of a 3-4 storey commercial building above 2 basement levels.

The new proposal is non-compliant in some areas, relative to the Manly DCP and it is predominantly in these areas that the visual impact is most significant.

The non-compliance would invoke stage 4 of the Tenacity ruling, requiring consideration to be given to the relative skillfulness of the design and whether a more skillful design would result in a diminished visual impact. In this situation, since the view loss is relatively minor, it can be reasonably argued that this would not be the case and the parapet alignment with the neighbouring buildings creates an improved urban planning outcome, in terms of consistency.

Views of Manly Beach are available from the subject site in an easterly direction. These views are also enjoyed by upper-level apartments of buildings to the west of the subject site, particularly from No.25, Wentworth Avenue. As demonstrated in the accompanying Visual Impact Assessment, the proposed development has been designed to align with the levels of adjoining buildings, with views of the ocean and the Norfolk Island Pines that line the foreshore significantly maintained over the top of the proposed development.

In this respect, Council can be satisfied that the disruption of views from nearby properties has been reasonably minimised and that view sharing between properties is achieved, consistent with the objectives and requirements of clause 3.4.3 of MDCP 2013.

Durbach Block Jaggers, the project architects, have responded to the client brief to design a contextually responsive building of exceptional quality with high levels of amenity for future occupants of the commercial spaces. In this regard, the scheme has been developed through detailed site analysis to identify the constraints and opportunities associated with the future development of this site, whilst having regard to the height, scale, proximity, use and orientation of surrounding buildings and the flood vulnerability of the land.

It is considered that this Development Application is appropriate on merit, in relation to its visual impact and potential to cause view loss, and is worthy of the granting of development consent for the following reasons:

The apparent height and bulk of the proposed development is compatible with that of surrounding development. and consistent with the desired future character of the locality.

View loss and visual impact has been skillfully minimised, whilst the contextual appropriateness, when observed alongside the neighbouring buildings, will result in a more coherent streetscape, particularly when viewed from the pedestrian areas adjoining South Steyne and Manly Beach.





#### **5. APPENDICES**

- 5.1 APPENDIX A: Full Panoramic Photomontages of the Proposed Development from local viewpoints + verification diagrams.
- 5.2 APPENDIX B: Land and Environment Court: Guidelines for Photomontages.
- 5.3 APPENDIX C: Aspinall CV and Expert Witness experience.
   Methodology article Planning Australia, by Urbaine Design Group



# **APPENDIX B:**

Land and Environment Court: Guidelines for Photomontages





# 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:**

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: Boy Chariton Swimming pool Competition, Sydney, 200

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 deci-



sions from the earliest stages of concept design. Because much of URBAINE'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.







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.

November 15, 2023