Attachment C4

View Impact Analysis - CSPC 18 October 2018

Prepared for
KGH Co Pty Ltd

Date
21 August 2018

~~243~~

View Impact Assessment

700 George Street, Haymarket

architectus™

Architectus Group Pty Ltd
ABN 90 131 245 684

Adelaide
Lower Ground Floor
57 Wyatt Street
Adelaide SA 5000
Australia
T +61 8 8427 7300
adelaide@architectus.com.au

Melbourne
Level 25, 385 Bourke Street
Melbourne VIC 3000
Australia
T +61 3 9429 5733
F +61 3 9429 8480
melbourne@architectus.com.au

Sydney
Level 18, MLC Centre
19 Martin Place
Sydney NSW 2000
Australia
T +61 2 8252 8400
F +61 2 8252 8600
sydney@architectus.com.au

architectus.com.au

This report is considered a draft unless signed by a Director

Michael Harrison, Director Urban Design and Planning

Report Contact

Taylar Vernon
Senior Urban Planner
Taylar.Vernon@architectus.com.au

Quality Assurance

Jane Fielding
Senior Associate, Planning
Jane.Fielding@architectus.com.au

21 August 2018

Revision history

Issue Reference	Issue Date	Issue Status
A	9 August 2018	Draft for Client Review
B	20 August 2018	Revised Draft for Client Review
C	21 August 2018	Final Issue

Contents

Figures & tables

List of figures

List of tables

Appendices

Appendix A – Visual Impact Photomontages, prepared by Virtual Ideas

Executive summary

This View Impact Assessment (VIA) has been prepared by Architectus on behalf of KGH Co Pty Ltd for the site at 700 George Street, Sydney. This Report supports a Stage 1 Concept Development Application (DA) for a development comprising a forty (40) storey mixed use building including loading dock with vehicular access from Goulburn Street; lower ground floor retail; retail, hotel residential lobbies at the ground floor; twenty-three (23) levels of hotel rooms and facilities; and nineteen (19) levels of residential apartments.

This Report provides analysis of the extent of view impacts in relation to private views from the Inmark building that may be impacted by the proposed development at the corner of George and Goulburn Streets, Haymarket (698-704 George Street, 43-49 Goulburn Street, and 51-57 Goulburn Street, Haymarket).

The impact on private views is considered reasonable given the proposal will generally only obscure existing parts of the city skyline which are not ascribed importance under the planning framework or Land and Environment Court planning principles for private view sharing. The high quality wide angle north west views are changed marginally by the proposal. Generally, private north west views that include views of land, water, land-water interface, sky, and land sky interface are generally left unobstructed.

In this instance, private view impact for the Inmark residences from the proposed development is considered to be of overall minor environmental impact as there is no specific requirement for retention of private views under the planning framework, and moderate impacts are restricted to a limited number of apartments, and the resultant outlook provided to these apartments is appropriate and of a high quality.

1. Introduction

1.1 Purpose of assessment

This View Impact Assessment has been prepared by Architectus to assess the potential view impact of the proposed Stage 1 Concept Development Application (The Proposal) at 700 George Street Sydney. This Report provides analysis of the extent of view impacts in relation to private views from the Inmark Building (710 George Street, Haymarket) that may be impacted by the proposed development at the corner of George and Goulburn Streets, Haymarket, 'the site' (known as 698-704 George Street, 43-49 Goulburn Street, and 51-57 Goulburn Street, Haymarket).

Figure 1 Proposed Reference Design
The image illustrates the proposed Reference Design for the site (left hand side of image) and the existing Inmark Building to the south (right hand side of image)
Source: JPW Architects

1.2 Basis of assessment

This View Impact Assessment is based on best practice and Architectus' experience in the field of visual and view impact assessment. It has been designed to provide comprehensive consideration to the following:

- The relevant planning framework for the site as it relates to view impact;
- Land and Environment Court Planning Principles for the assessment of views and visual impact, which sets principles for the consideration of Visual Impact in New South Wales, particularly where this is not further defined within the Planning Framework.

1.3 The Proposal

The subject application seeks Stage 1 development consent for a mixed use development, comprising retail, commercial, hotel rooms and residential uses.

Development consent is sought for the following works and activities:

- Concept approval for the construction of a 40-storey building including:
  - Demolition of existing buildings at 43-49 Goulburn Street, and 51-57 Goulburn Street;
  - Indicatively 232-room hotel;
  - Residential apartment tower;
  - Mixed-use podium comprising retail uses, including food and beverage, and hotel and residential lobbies;
  - Alterations and additions to, and adaptive reuse of the 'Kiss's Building' for retail and hotel uses;
  - Excavation to accommodate 1 level of basement retail:
  - Proposed ground level loading dock and vehicular arrangements from Goulburn Street.

1.4 Compliance

Table 1 below provides a compliance summary of the proposed built form against the relevant planning framework.

Table 1 Importance of the view

Planning Instrument / Plan	Control	Proposed	Compliance
Sydney LEP 2012	Height Belmore Park sun access plane – RL 152.96m	RL 152.96m	Yes
	FSR As per the specifications of Clause 6.4(1)(c) and (d) of SLEP 2012 and the proposed uses of the site, the proposed development is eligible for a total FSR of 13.9:1.	FSR of 13.9:1	Yes
Sydney DCP 2012	Tower Setbacks		
	North (front) 8m weighted average	8m	Yes
	East (side) 6m	6m	Refer to comments in response letter prepared by Architectus.

Planning Instrument / Plan	Control	Proposed	Compliance
	South (side) 6m for residential buildings, serviced apartments or hotels; 3m for commercial (taken to include hotels as per DCP definition)	3m	Blank wall. Primary outlook from apartments is east and west. Refer to comments in response letter prepared by Architectus
	West (front) Minimum setback above a heritage item - 10m	10m	Yes

1.5 Urban context

The subject site is located adjacent a key intersection at the southern edge of Central Sydney, in an area which transitions in height from the taller city centre to the north, to the lower scale development of Haymarket and Chinatown to the south and west. The built form to the east of the site is characterised by tall slender commercial and residential towers interspersed with lower-scale heritage buildings.

The 'World Square' city block, which includes the including the 75-storey 'World Tower', and a 45-storey commercial building (former Ernst and Young building) is located directly north of the site on the opposite side of Goulburn Street.

To the west of the site is a lower scale heritage precinct, characterised by the former Bourke Hotel (Local heritage item I828) and Central Baptist Church (Local heritage item I829). To the south of the site is the Inmark Tower, a modern development made up of a 36-storey high rise and 19-storey midrise tower. Further to the south, the built form generally consists of low rise heritage commercial buildings, Belmore Park and Central Railway Station.

2. Key considerations for assessment

2.1 Approach to assessment

The methodology for this assessment has been developed by Architectus based on Architectus' experience in preparing visual and view impact assessments for a variety of projects and the following key considerations for the project which are further described through this chapter:

- Planning framework for view assessment;
- Land and Environment Court Planning Principles regarding view sharing;
- Standards for photography and photomontage.

2.2 Planning framework for view assessment

This section discusses the planning framework pertaining to view impact assessment matters for the project.

As the project is a Stage 1 Concept DA, the primary statutory matter for the project is the Sydney Local Environmental Plan 2012.

Eastern City District Plan

The Eastern City District Plan has been prepared by the Greater Sydney Commission, following extensive stakeholder and community consultation.

In terms of private view consideration, the Strategy provides a key emphasis on landscape views/vistas through Sustainability Priority E16: "Protecting and enhancing scenic and cultural landscapes."

This places emphasis particularly on harbour and city skyline views, highlighting many of the iconic elements of Sydney (including the Sydney Opera House, Sydney Harbour Bridge, and the Rocks). It states that "The planning and design of neighbourhoods across the District, particularly areas experiencing renewal, will need to consider ways to protect and enhance important cultural landscapes."

Sydney Local Environmental Plan 2012

The SLEP 2012 does not include any significant controls which relate specifically to views. However, it is noted that the objectives of cl 4.3 Height of Buildings includes: '(c) to promote sharing of views' under the SLEP 2012. Importantly, this recognises the importance of sharing views and does not specifically require the retention of views. Furthermore, cl 4.3 Height of Buildings includes: '(a) to ensure the height of development is appropriate to the condition of the site and its context'. The proposal does not seek to challenge the height control. The proposed maximum building height has been defined by the Belmore Park sun access plane. No part of a future building on the site will be above this height.

Cl. 6.21 Design Excellence includes that 'In considering whether development…exhibits design excellence, the consent authority must have regard to…(c) whether the proposed development detrimentally impacts on view corridors'. As outlined below, Section 2 (Locality Statements) of the Sydney DCP 2012 does not identify significant view corridors within the locality of the site (Haymarket/Chinatown Special Character Area).

It is also noted that the proposed development will be subject to a future competitive design excellence process prior to a future Stage 2 detailed DA.

Sydney Development Control Plan 2012

The Sydney Development Control Plan 2012 (SDCP) includes provisions relating to outlook and views.

Section 4.2.3.10 requires for residential flat buildings, commercial and mixed use development to:

1. *Provide a pleasant outlook, as distinct from views, from all apartments.*
2. *Views and outlooks from existing residential development should be considered in the site planning and massing of new development.*
3. *Note: Outlook is a short range prospect, such as building to building, while views are more extensive or long range to particular objects of geographic features.*

Section 2.1 outlines the rationale that has informed the identification of Special Character Areas in Central Sydney. One of the six Special Character Area objectives relates to outlook and views:

- (f) conserve, maintain and enhance existing views and vistas to buildings and places of historic and aesthetic significance

Section 2.1.3 contains supporting design principles for development in the Haymarket/Chinatown Special Character Area. There are no view corridors identified with this Special Character Area. The following principles have provisions relating to vistas:

- (g) New development is to maintain and enhance vistas within the area to Darling Harbour,
- (h) New development is to maintain and enhance vistas east along Valentine Street to Christ Church St. Lawrence at 814A George Street, Haymarket
- (i) Maintain and enhance the existing vista to the Anglican Christ Church of St Laurence along Valentine Street

Draft Central Sydney Planning Strategy

The City of Sydney's Draft Central Sydney Planning Strategy 2016-2036 (Draft Strategy) applies to Sydney's CBD and extends from Circular Quay in the north to Central Station in the south, including the subject site. The Draft Strategy is currently awaiting Gateway determination with NSW Department of Planning and Environment and does not have any statutory weight at this time.

The Draft Strategy includes draft objectives and priority actions that relate to private views, including the following:

Section 3 Height

- Objective "to ensure that new development is not impeded by the preservation of private views"; and
- Priority Action 3.5, "Strengthen controls in Sydney LEP 2012 to ensure that outlook is protected within the boundaries of a site, rather than private views"

2.3 Planning principles regarding views

The Land and Environment Court has established Planning Principles for the assessment of development on views, both from public and private realms.

The Planning Principles assist when making a planning decision, including:

- Where there is a void in policy;
- Where policies expressed in qualitative terms allow for more than one interpretation;
- Where policies lack clarity.

Whilst a number of objectives or provisions relating to views exist within the planning framework, as described in **Section 2.2**, these are largely objective based or localized in potential impacts and do not encompass development of the scale proposed, which has

the ability to impact views beyond those accounted for within these respective policy documents.

Accordingly, the planning principles apply to the proposal as there are no adequate controls under the planning framework pertaining to view impact. The principles for view sharing in respect of private views are established in *Tenacity Consulting v Warringah Council [2004] NSWLEC 140 at 25-29*.

Private Views – Tenacity Consulting v Warringah Council [2004] NSWLEC 140

A consideration of the likely impacts on the private views identified at **Table 6** will be assessed against the New South Wales Land and Environment Court Planning Principles set out in Tenacity Consulting v Warringah Council [2004] NSWLEC. In this case, Senior Commissioner Roseth set out a number of principles for the consideration of private view impacts, which are discussed individually below, based on the following steps:

1. Assessment of views to be affected. At Item 26: *"water views are valued more highly than land views. Iconic (e.g. the Opera House, the Harbour Bridge or North Head) are valued more highly than partial views, e.g. a water view in which the interface between land and water is visible is more valuable than one in which it is obscured."*

2. Consideration from what part of the property the views are obtained. At Item 27: *"For example the protection of views across side boundaries is more difficult than the protection of views from front and rear boundaries. In addition, whether the view is enjoyed from a standing or sitting position may also be relevant. Sitting views are more difficult to protect than standing views. The expectation to retain side views and sitting views is often unrealistic."*

3. Assessment of the extent of impact. At Item 28: *"this should be done for the whole of the property, not just for the view that is affected. The impact on views from living areas is more significant than from bedrooms or service areas (through views from kitchens are highly valued because people spend so much time in them). The impact may be assessed quantitatively, but in many cases this can be meaningless. For example, it is unhelpful to say that the view loss is 20% if it includes one of the sails of the Opera House. It is usually useful to assess the view loss qualitatively as negligible, minor, moderate, severe or devastating".*

4. Assessment of the reasonableness of the proposal that is causing the impact. At Item 29: *"A development that complies with all planning controls would be considered more reasonable that one that breaches them. Where an impact on views arises as a result of non-compliance with one or more planning controls, even a moderate impact may be considered unreasonable. With a complying proposal, the question should be asked whether a more skillful design could provide the applicant with the same development potential and amenity and reduce the impact on the views of neighbours."*

2.4 Standards for photography and photomontages

Photography and human eye level focal lengths.

A photography standard that is convention for visual impact assessment consists of a 50mm focal length, and height of 1.6 metres.

For the private views in this assessment, this format alone would not provide a clear understanding of the breadth of the view and/or size of the proposal, and therefore a wider-angle view has been used and is noted within the view description (typically 24mm standard).

In this case both a 50mm and a secondary wider angle 24mm focal length is included.

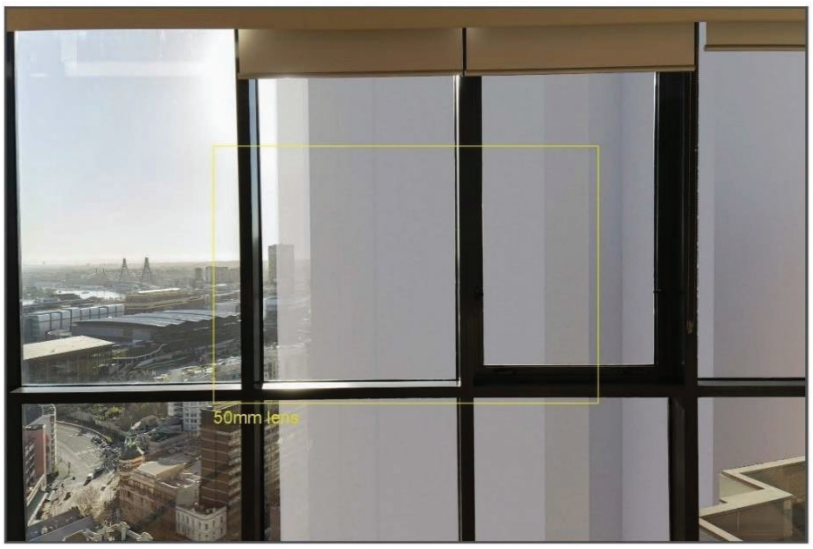


Figure 2 Comparison of field of views with different focal lengths – 24mm and 50mm
The complete image illustrates a 24mm focal length equivalent. The yellow box within the centre of the image illustrates a 50mm focal length equivalent.
Source: Virtual Ideas

Photomontages and survey data

For each of the photomontages prepared, the following process has been undertaken, consistent with the approach set out in the NSW Land and Environment Court standards for photomontages:

- Step 1 – A digital photograph was taken from unit 32.03 of the Inmark building. This view location was surveyed by a registered surveyor. The position of this photograph is located within the 3D model.
- Step 2 – Other locations within the Inmark tower were inaccessible, and thus 3D bloc model views were created for these viewpoints. For each inaccessible view point, a camera has been located in the 3D digital model using the same focal length, and referenced using survey data. View heights are based on RL floor level plus 1.6m standing height.
- Step 3 – A computer generated 3D model of the proposed building was prepared and located accurately within the 3D model view. The 3D model of the proposed building incorporates a complying southern setback of 6m (solid grey form) and proposed 3m southern setback (transparent form).

2.5 Criteria for assessment

Architectus' criteria for assessment of visual impact are outlined below. These are based on the Planning Principles described in **Section 2.3** above and Architectus' experience in the Assessment of Visual Impact.

These are divided into two broad categories:

- Importance of view; and
- Visual impact rating.

The importance of a view is defined differently for public domain and private views with weighting applied which is consistent with the New South Wales Land and Environment Court Planning Principles. It is summarised in **Figure 3** below.

These criteria have been applied in the assessment of views in the following chapters of this document.

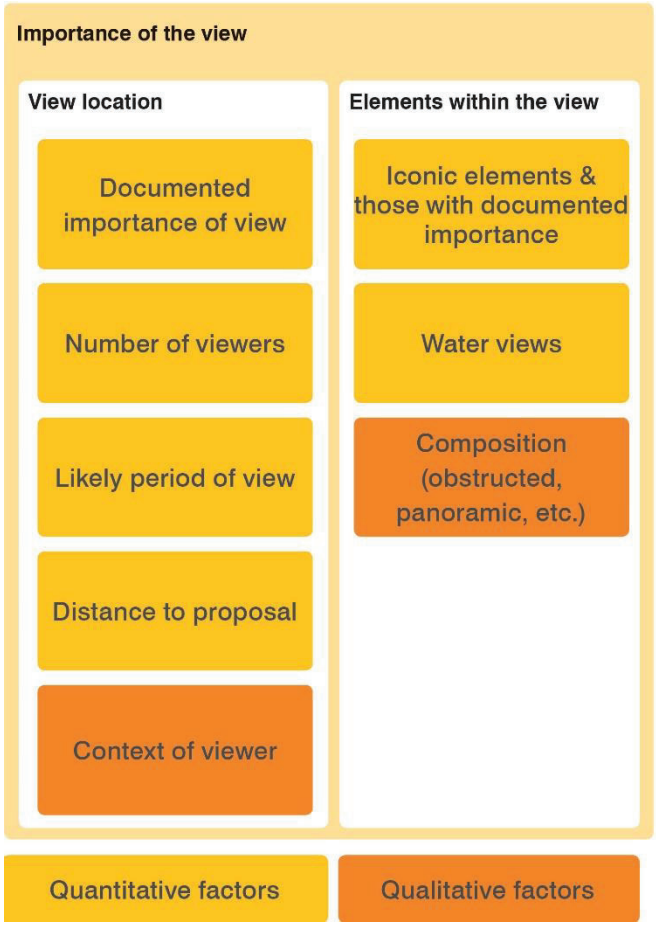


Figure 3 Criteria for importance of view – and breakdown into qualitative and quantitative factors
Source: Architectus

Importance of the view – Private views

The importance of the view includes consideration of the factors listed below. In addition, the location within a residence from which a view is obtained (whether from a sitting or standing position; a living room, bedroom or balcony) provides some further guidance as to how the view is perceived and whether an expectation to retain the view is realistic. For instance, as set out in the Planning Principles from 'Tenacity Consulting v Warringah (2004/140)", a sitting view or a view across side boundaries is considered more difficult to protect than a standing view across front boundaries.

- The context of the viewer (including whether the view is static or dynamic, obtained from standing or sitting positions);
- Elements within the view (including whether iconic elements or water views are present, the existing composition of the view, and any existing obstructions to the view);
- The number of viewers;
- The distance to the proposal;
- The likely period of the view; and
- Any document that identifies the importance of the view to be assessed

The above features are described for each view and a final categorisation of view importance is produced as a summary.

Table 2 overleaf provides a definition of the categories used.

Table 2 Importance of the view

Rating	Definition
High	Uninterrupted views of highly important or iconic elements from standing positions across from front or rear boundaries
Moderate – High	Primary views of important elements from locations which may have an expectation of retention such as across front boundaries.
Moderate	Views of some important elements which may have some lower expectation of retention, such as those across side boundaries, seated views or partial views, views from bedrooms and services areas.
Low – Moderate	Views with selected important elements, partially obstructed views of views with some important elements where there is low expectation of retention.
Low	Views with few important elements, highly obstructed views or views where there can be little expectation of retention

Some elements which form part of the consideration of view importance can be quantitatively estimated. The table below shows the criteria used in evaluating the relative number of viewers and period of view.

Table 3 Relative number of viewers

Rating	Definition
High	> 1,000 people per day
Moderate	100 – 1,000 people per day
Low	< 100 people per day

Table 4 Period of view

Rating	Definition
High (long-term)	> 5 minutes
Moderate	1-5 minutes
Low (short-term)	< 1 minute

Visual impact rating

The visual impact is a qualitative assessment of the impact of the proposal on the view. It includes consideration of:

- The quantitative extent to which the view will be obstructed or have new elements inserted into it by the proposed development;
- Whether any existing view remains to be appreciated (and whether this is possible) or whether the proposal will make the existing view more or less desirable,
- Any significance attached to the existing view by a specific organization;
- Any change to whether the view is static or dynamic

A description of the visual impact rating for the view has been provided, with a final categorized assessment of the extent of visual impact provided under the following categories:

Table 5 Overall extent of visual impact

Rating	Definition
High	The proposal obstructs iconic elements or elements identified as highly significant within the existing view.
Moderate-High	The proposal is prominent within the view, changing the quality of the existing view or obscuring elements of significance within the view.
Moderate	The proposal obscures some elements of importance within the existing view or is highly prominent within the view. The proposal

Rating	Definition
	may be highly prominent if it does not reduce the quality or importance of the existing view.
Low-moderate	The proposal is prominent in the view and/or obscures minor elements within the view.
Low	The proposal is visible within the view however does not impact on any elements of significance within the view.
None / Negligible	The proposal will not be noticeable within the view without scrutiny.

A high extent of visual impact, however is not necessarily unacceptable. This may be the case when a proposal contributes to the desired future character of an area that may be different to the existing character. The overall acceptability of the proposal and its visual impacts is discussed in Section 4 - Key Findings and Section 5 – Conclusions.

3. Detailed assessment

The assessment and categorisation of view impacts within this chapter is based on the New South Wales Land and Environment Court Planning Principles.

3.1 Selection of views for detailed assessment

Architectus has considered a range of views from the Inmark building (710 George Street, Haymarket). The need to analyse the impact of the proposal on views from the Inmark building was requested by Council. The views selected consider representative view locations from different levels of the building, and important locations identified in relevant planning policy that are required to be addressed. **Appendix A** of this document includes each of these views.

Section 3.4 provides a photomontage analysis of the selected views. The photomontages have been prepared in respect of the Land and Environment Court caselaw no. 10884/14 in accordance with the Land and Environment Court's practice directions. All views are taken from the main living room window of each apartment, except for View 7 from Apartment 3401. This view location is taken from bedroom 3, of a northwest facing three-bedroom split level apartment on Level 34

Table 6 View summary from Inmark building

View	Level	Apartment	Location	Camera Height RL (metres)	View angle
1	18	1801	Main living room window	62.93	North west
			Main living room window		North
2	18	1804	Main living room window	62.93	North west
			Main living room window		North
3	18	1809	Main living room window	62.93	North west
			Main living room window		North
4	26	2601	Main living room window	87.00	North west
			Main living room window		North
5	26	2603	Main living room window	87.00	North west
			Main living room window		North
6	32	3203	Main living room window	104.879	North
7	34	3401	Bedroom	111.35	North west
			Bedroom		North
8	34	3402	Main living room window	111.35	North west
			Main living room window		North
9	34	3403	Main living room window	111.35	North west
			Main living room window		North

3.2 Format of analysis

The format of analysis is a comparison of existing and proposed future views.

It is convention for visual and view impact analysis to assess views which are based on a full-frame 35mm camera with 50mm focal length lens or equivalent. However, in private views it is generally necessary to illustrate a broader view, therefore an additional 24mm focal length lens view is utilised to demonstrate this. These views may be located in slightly different positions within the same room so as to best frame the view.

Views are from a standing height of (1.6m).

Each view is provided the following:

- A key plan illustrating the indicative location of the view and elevation showing the location of the view.

- The existing view and the proposed view. The existing view is provided as a photograph and the proposed view is provided in the form of computer generated imagery.
- A summary of key quantitative factors regarding the importance of view including the number of viewers, distance to proposal and likely period of view.
- A qualitative assessment set out under the following headings:
  - Importance of the view;
  - Visual impact
- A summary categorization of the importance of the view and view impact based on the above

The importance of the view is defined differently for public domain and private views with weighting applied which is consistent with the New South Wales Land and Environment Court Planning Principles. The criteria are outlined above at **Section 2.5**.

3.3 Private views

A total of 9 view locations are assessed in detail in this section. Each view location comprises north and north west view angles, except for View 6 that only includes a single north view. For each view angle, existing and proposed views are compared.

The Inmark building was identified by Council as potentially having the highest impact by the proposal. A range of views are considered from the Inmark building (36 storey tower, and 19-storey midrise tower) to describe the potential visual impact across the frontage of this building towards the site.

The rationale for selecting view locations is outlined below:

- Likelihood of having an important view, rated as moderate to high resulting from partial water views, views of the Anzac Bridge and horizon;
- Primary outlook from living areas is to the north/northwest;
- A range of representative views in both directions across the northern façade (vertical and horizontal) within the Inmark Building, at a height exceeding surrounding street wall levels. The majority of selected view locations are positioned within the high-rise tower component of the Inmark Building. The eastern tower component of the Inmark building is in close proximity to the proposal, and therefore susceptible to the greatest potential view impact.

Figure 4 View locations – Inmark North Elevation
The elevation illustrates the nine view locations. Each view location has two viewpoints (north and northwest, except for View 6 from Unit 3203).
Source: JPW image, Architectus annotation

Figure 5 View locations – Inmark north elevation (cropped)
The elevation illustrates the nine view locations. Each view location has two viewpoints (north and northwest), except for View 6 from Unit 3203.
Source: JPW image, Architectus annotation

Elements within the view

Views in this section include:

- For all views, a transparent envelope representing the proposed Stage 1 DA building envelope for 698-704 George Street and 43-57 Goulburn Street within the proposed view. The tower envelope illustrates two tower setbacks to the south; proposed southern tower setback (3m) illustrated by a translucent form, and the complying southern tower setback (6m) illustrated by the solid form.

3.4 Private views assessment

A total of 9 private domain views, comprising a north and north west view angle, are assessed in detail over the following pages.

View 1: Unit 1801

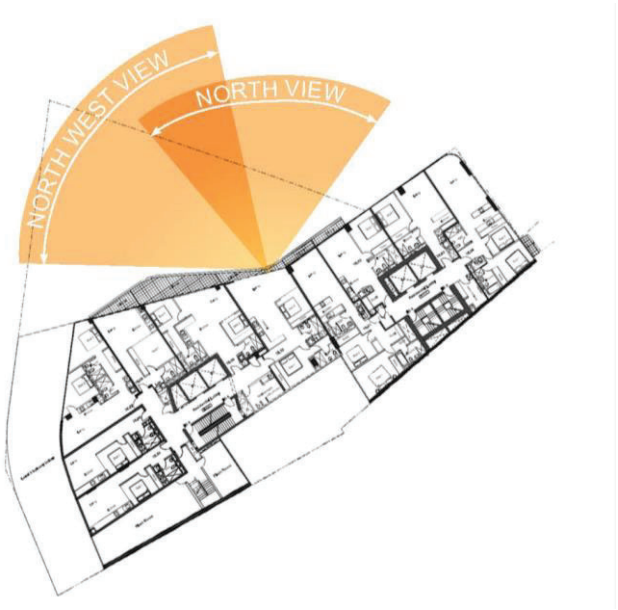


Figure 6 Plan showing camera location and view angles
Source: Virtual Ideas

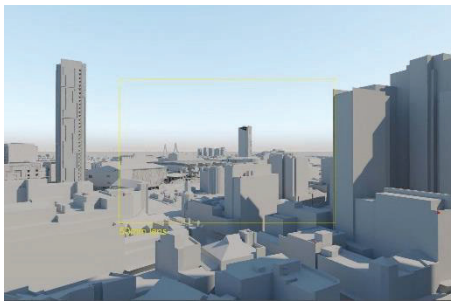


Figure 7 North west view current
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

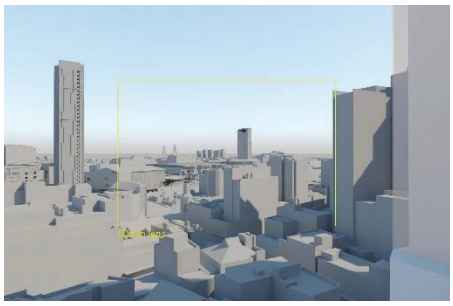


Figure 9 North west view proposed
24mm lens - Camera Height RL 62.930
Source:

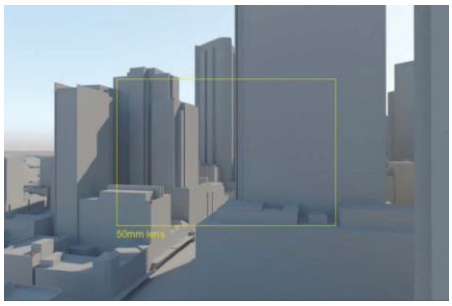


Figure 8 North view current
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

Figure 10 North view proposed
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

Importance of the view

View 1 comprises two view angles, including a north west and north view. The view location is from the living space of a two-bedroom apartment on Level 18, positioned adjacent to the northern elevation.

The wide-angle north view taken from within the living area of the apartment looks towards existing parts of the city and sky. This view does not contain any important elements and is determined to be of a low - moderate importance.

The important north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon.

Refer to **Figure 6** above for the location of the view in the Inmark building.

Visual impact

The proposal obscures the right-hand portion of the main view obtained from the living room but has a very negligible change to the high quality north west view.

The visual impact is therefore determined to be low to moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate - High

Visual impact: Low to Moderate

View 2: Unit 1804

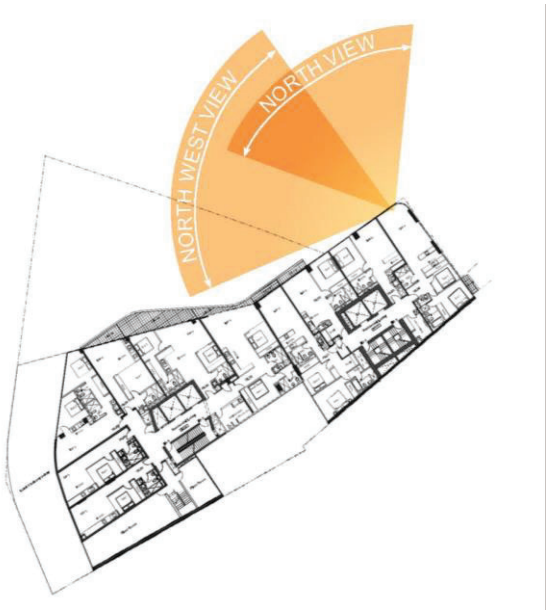


Figure 11 Plan showing camera location and view angles
Source: Virtual Ideas

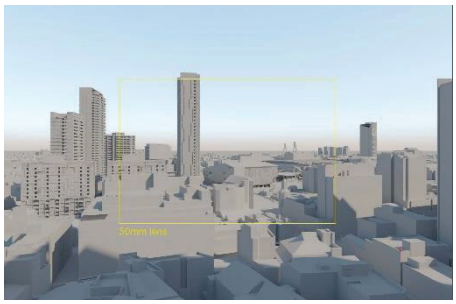


Figure 12 North west view current
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

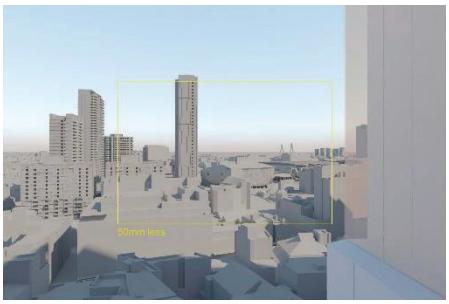


Figure 14 North west view proposed
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

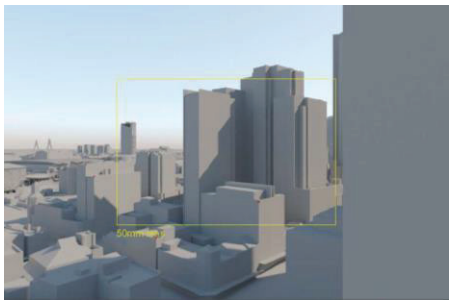


Figure 13 North view current
24mm lens – Camera Height RL 62.930
Source: Virtual Ideas

Figure 15 North view proposed
24mm lens – Camera Height RL 62.930
Source: Virtual Ideas

Importance of the view

View 2 comprises two view angles, including a north west and north view. The view location is from the living space of a two-bedroom apartment on Level 18, positioned adjacent to the northern elevation.

The wide-angle north view taken from within the living area of the apartment looks towards existing parts of the city and sky. This view does not contain any important elements and is determined to be of a low-moderate importance.

The important north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon.

Refer to **Figure 11** above for the location of the view in the Inmark building.

Visual impact

The proposal obscures the right-hand portion of the existing wide-angle north view, including part of the City skyline. The existing view does not encompass a water view. The majority of the existing view of the Anzac Bridge, and the horizon remains. The proposal obscures a narrow portion of the high quality north-west view, resulting in small visual change. The visual impact is therefore determined to be low to moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate - High

Visual impact: Low - Moderate

View 3: Unit 1809

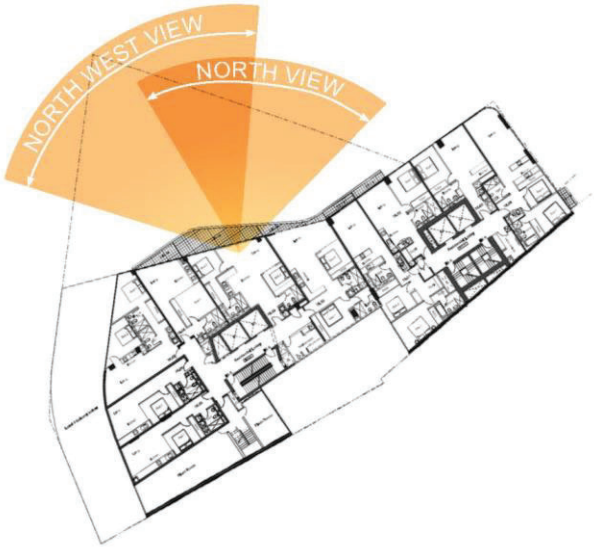


Figure 16 Plan showing view location and view angles
Source: Virtual Ideas

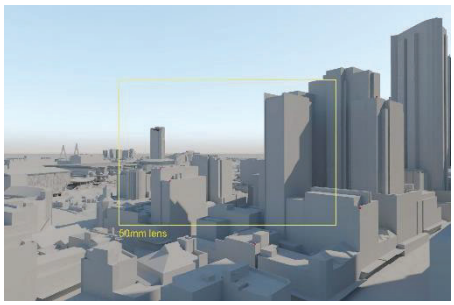


Figure 17 North west view current
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

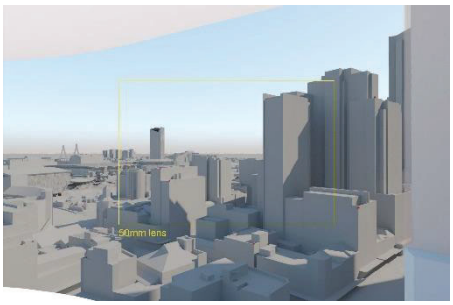


Figure 19 North west view proposed
24mm lens - Camera Height RL 62.930
Source: Virtual Ideas

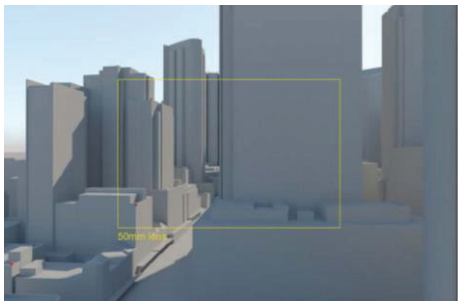


Figure 18 North view current
24mm lens – Camera Height RL 62.930
Source: Virtual Ideas

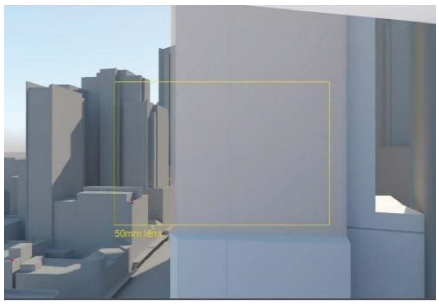


Figure 20 North view proposed
24mm lens – Camera Height RL 62.930
Source: Virtual Ideas

Importance of the view

View 3 comprises two view angles, including a north west and north view. The view location is from the living space of a two-bedroom apartment on Level 18, positioned adjacent to the northern elevation.

The wide-angle north view taken from within the living area of the apartment looks towards existing parts of the city and sky. This view does not contain any important elements and is determined to be of low-moderate importance.

The important north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon.

Refer to **Figure 16** above for the location of the view in the Inmark building.

Visual impact

The proposal obscures the right-hand portion of the existing wide angle north view, including part of the City skyline. The visual change of the proposal on the high quality north west view is negligible. The proposal is only just visible in the right-hand side of the view, and therefore the existing wide angle north west view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon is maintained. The visual impact of the proposal is therefore determined to be low to moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate - High

Visual impact: Low - Moderate

View 4: Unit 2601

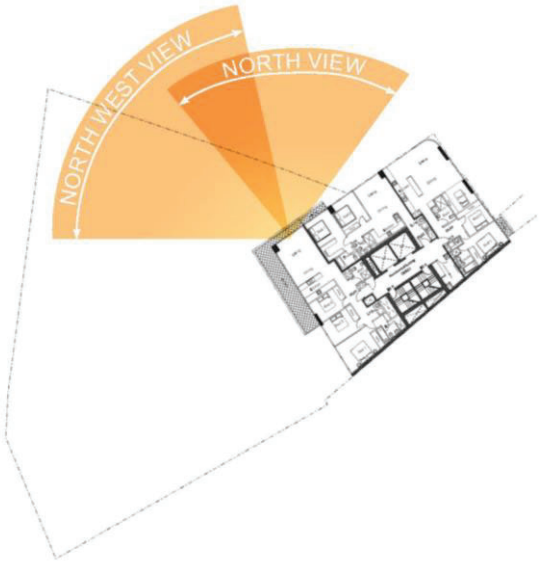


Figure 21 Plan showing camera location and view angles
Source: Virtual Ideas

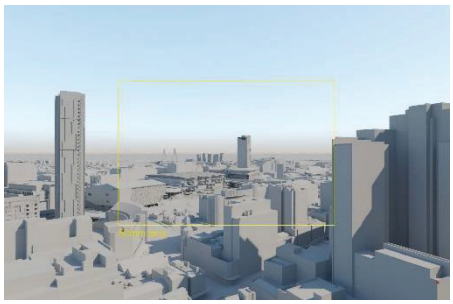


Figure 22 North west view current
24mm lens - Camera Height RL 87.00
Source: Virtual Ideas

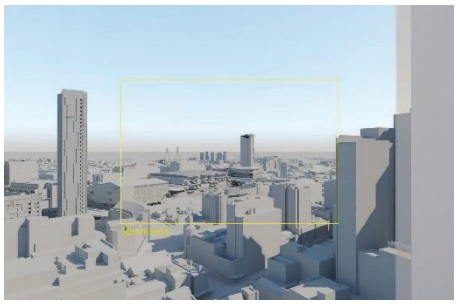


Figure 24 North west view proposed
24mm lens - Camera Height RL 87.00
Source: Virtual Ideas

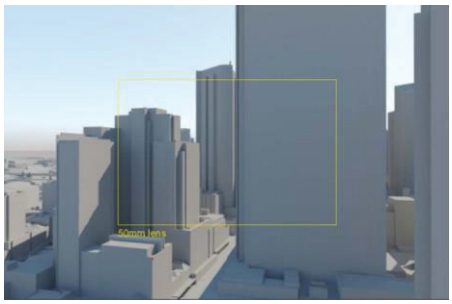


Figure 23 North view current
24mm lens – Camera Height RL RL 87.00
Source: Virtual Ideas

Figure 25 North view proposed
24mm lens – Camera Height RL 87.00
Source: Virtual Ideas

Importance of the view

View 4 comprises two view angles, including a north west and north view. The view location is from the living space of a two-bedroom apartment on Level 26, positioned adjacent to the northern elevation.

The wide-angle north view taken from within the living area of the apartment looks towards existing parts of the city and sky. This view does not contain any important elements and is determined to be of low-moderate importance.

The important north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon.

Refer to **Figure 21** above for the location of the view in the Inmark building.

Visual impact

The proposal obstructs existing parts of the city skyline within the wide angle northern view. The visual change of the proposal on the high quality north west view is negligible. The proposal is only just visible in the right-hand side of the view, and therefore the existing wide angle north west view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon is maintained. The visual impact of the proposal is therefore determined to be low to moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate – High

Visual impact: Low – Moderate

View 5: Unit 2603

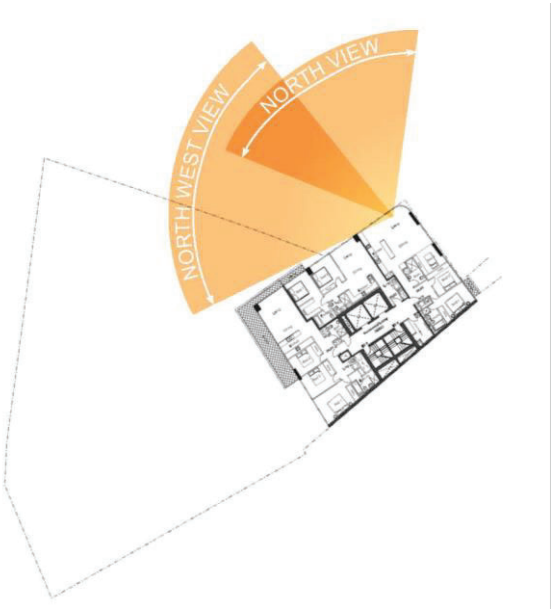


Figure 26 Plan showing camera location and view angles
Source: Virtual Ideas

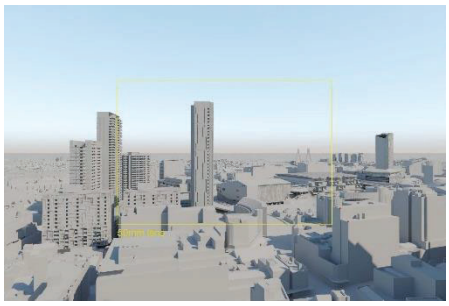


Figure 27 North west view current
24mm lens - Camera Height RL 87.00
Source: Virtual Ideas

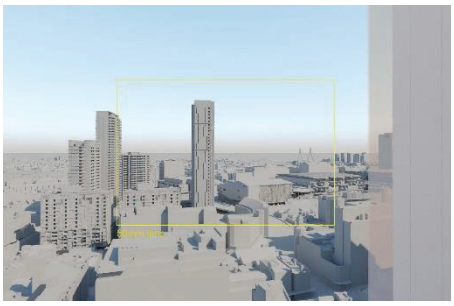


Figure 29 North west view proposed
24mm lens - Camera Height RL 87.00
Source: Virtual Ideas

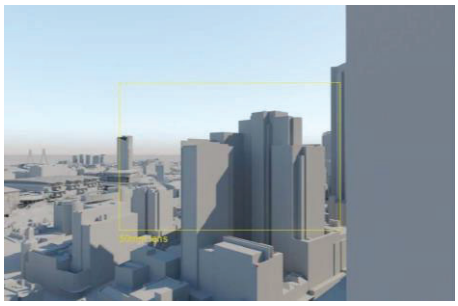


Figure 28 North view current
24mm lens - Camera Height RL 87.00
Source: Virtual Ideas

Figure 30 North view proposed
24mm lens - Camera Height RL 87.00
Source: Virtual Ideas

Importance of the view

View 5 comprises two view angles, including a north west and north view. The view location is from the living space of a two-bedroom apartment on Level 26, positioned adjacent to the northern elevation.

The wide-angle north view taken from within the living area of the apartment looks towards existing parts of the city, sky, and includes a distant view towards the Anzac Bridge and the horizon. The view is determined to be of a moderate to high importance.

The important north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon.

Refer to **Figure 26** above for the location of the view in the Inmark building.

Visual impact

The proposal obstructs existing parts of the city skyline within the wide angle northern view, but does not obstruct views of the Anzac Bridge and horizon. The visual change of the proposal on the high quality north west view is negligible. The proposal is only just visible in the right-hand side of the view, and therefore the existing wide angle north west view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon is maintained. The visual impact of the proposal is therefore determined to be low to moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate - High

Visual impact: Low - Moderate

View 6: Unit 3203

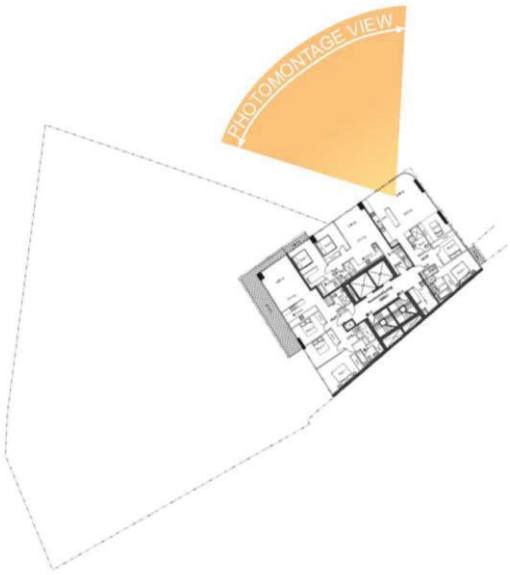


Figure 31 Plan showing camera location and view angles
Source: Virtual Ideas

Figure 32 North west view current
24mm lens - Camera Height RL 104.879
Source: Virtual Ideas

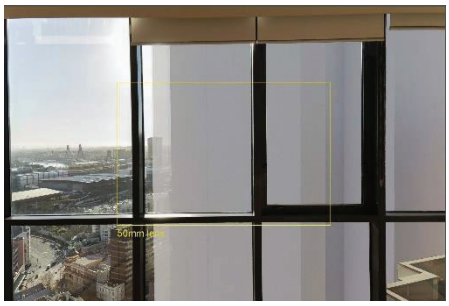


Figure 33 North west view proposed
24mm lens - Camera Height RL 104.879
Source: Virtual Ideas

Importance of the view

View 6 comprises a single wide-angle north view. The view location is from the living space of a two-bedroom apartment on Level 32, positioned adjacent to the northern elevation. The wide-angle north view taken from within the living area of the apartment looks towards existing parts of the city, sky, across Pyrmont Ultimo, Darling Harbour, towards the Anzac Bridge and horizon. The view also includes a water view of Blackwattle Bay.

The view importance is determined to be moderate to high. Refer to **Figure 31** above for the location of the view in the Inmark building.

Visual impact

The proposal obscures a portion of the visible city skyline and sky, however does not obstruct existing views of the water, Anzac Bridge and the horizon. The view impact is determined to be moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate - High

Visual impact: Moderate

View 7: Unit 3401

Figure 34 Plan showing camera location and view angles
Source: Virtual Ideas

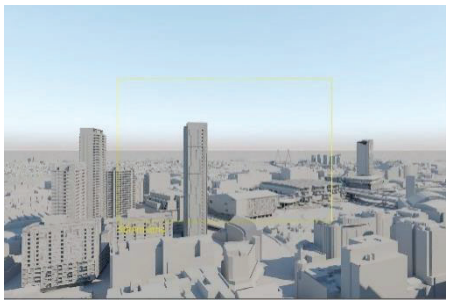


Figure 35 North west view current
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

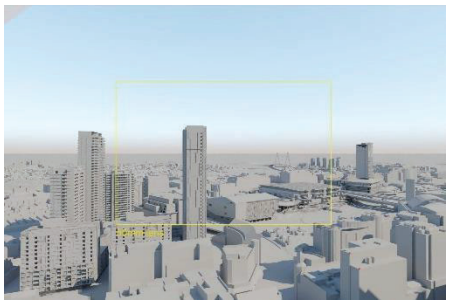


Figure 37 North west view proposed
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

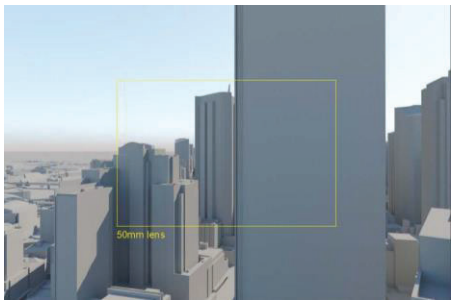


Figure 36 North view current
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

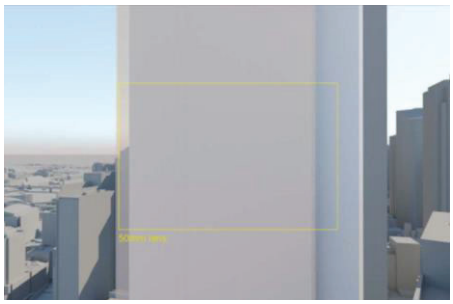


Figure 38 North view proposed
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

Importance of the view

View 7 comprises two view angles, including a north west and north view. The view location is from bedroom 3, of a northwest facing three-bedroom split level apartment on Level 34.

The wide-angle north view taken from within the bedroom looks towards existing parts of the city, sky, and includes a distant view towards the horizon. The view is determined to be of low-moderate importance.

The important north west view is obtained when standing close to the window of the bedroom. This view is determined to be of a moderate importance as it is obtained from a bedroom and comprises a wide-angle view across Pyrmont Ultimo, towards Blackwattle Bay, Anzac Bridge and the horizon.

The view importance is determined to be moderate to high. Refer to **Figure 34** above for the location of the view in the Inmark building.

Visual impact

The proposal obscures a portion of the visible city skyline and sky in the main view, however does not obstruct existing views of water (Blackwattle Bay), Anzac Bridge and the horizon in the north west view. The visual impact is therefore determined to be low-moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate

Visual impact: Low-Moderate

View 8: Unit 3402

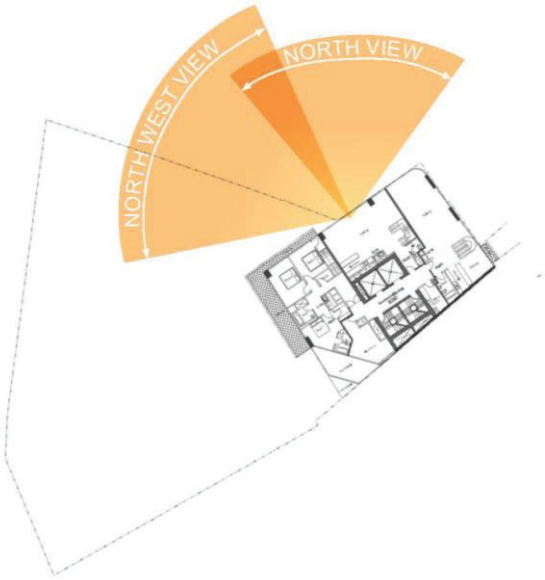


Figure 39 Plan showing camera location and view angles
Source: Virtual Ideas

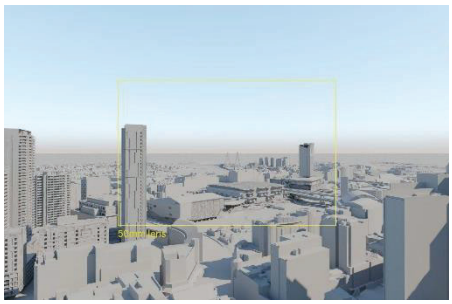


Figure 40 North west view current
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

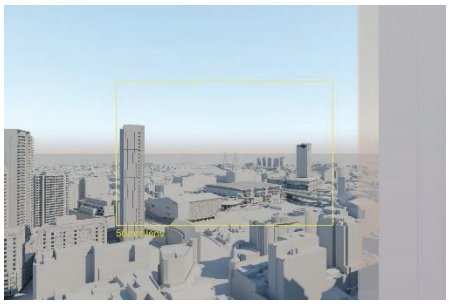


Figure 42 North west view proposed
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

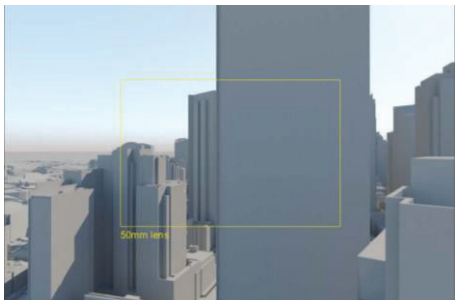


Figure 41 North view current
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

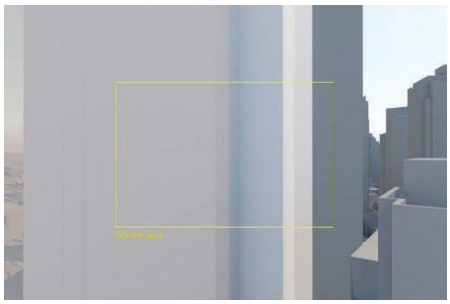


Figure 43 North view proposed
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

Importance of the view

View 8 comprises two view angles, including a north west and north view. The view location is from the living space of a northwest facing three-bedroom split level apartment on Level 34.

The wide-angle north view taken from within the living room looks towards existing parts of the city, includes sky, and horizon. The view is determined to be of low-moderate importance.

The important wide angle north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, including a water view of Blackwattle Bay, Anzac Bridge and the horizon.

The view importance is determined to be moderate to high. Refer to **Figure 39** above for the location of the view in the Inmark building.

Visual impact

The proposal obstructs the wide-angle north view of existing parts of the city and sky. However, the proposal only marginally obstructs the high quality north west view, that includes views of water, Anzac Bridge and the horizon. The visual impact is determined to be moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate - High

Visual impact: Moderate

View 9: Unit 3403

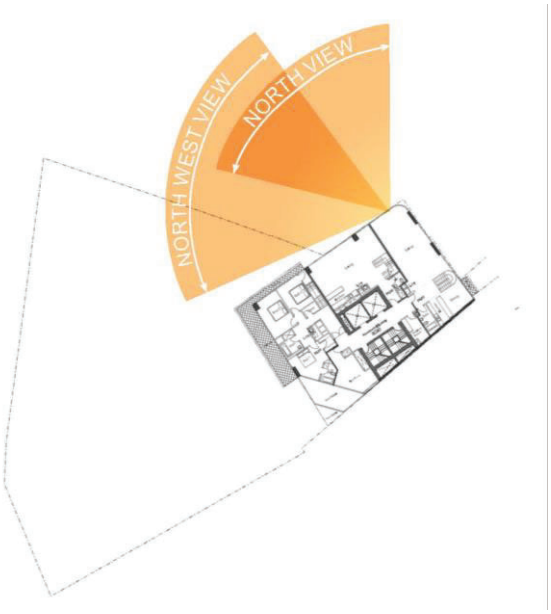


Figure 44 Plan showing camera location and view angles
Source: Virtual Ideas

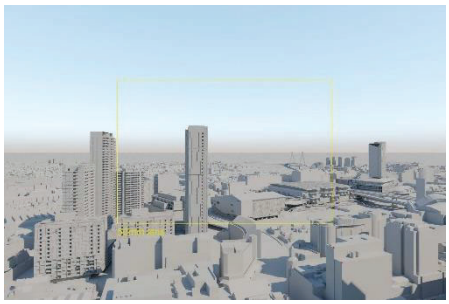


Figure 45 North west view current
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

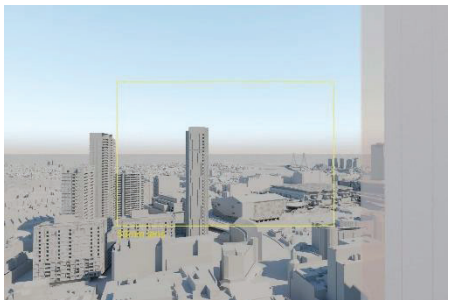


Figure 47 North west view proposed
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

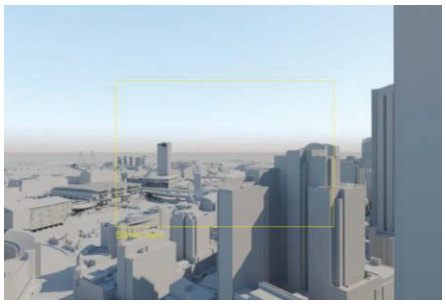


Figure 46 North view current
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

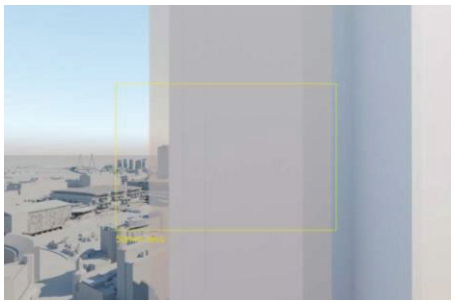


Figure 48 North view proposed
24mm lens - Camera Height RL 111.35
Source: Virtual Ideas

Importance of the view

View 9 comprises two view angles, including a north west and north view. The view location is from the living space of a northwest facing three-bedroom split level apartment on Level 34.

The wide-angle north view taken from within the living room looks towards existing parts of the city, includes sky, and views across Pyrmont Ultimo, Darling Harbour, towards the Anzac Bridge and horizon. The view is determined to be of low-moderate importance.

The important wide angle north west view is obtained when standing close to the window of the living room. This view is determined to be of a moderate to high importance as it comprises a wide-angle view across Pyrmont Ultimo, including a water view of Blackwattle Bay, Anzac Bridge and the horizon.

The view importance is determined to be moderate to high. Refer to **Figure 44** above for the location of the view in the Inmark building.

Visual impact

The proposal obscures existing parts of the city skyline and sky that are not identified as important. In both the north view, and the north west view, the proposal does not obstruct views of water, Anzac Bridge and the horizon. The visual impact is determined to be low - moderate.

Furthermore, the proposed 3 metre tower setback (transparent form), generates negligible view impact relative to the complying 6 metre setback (solid form).

Summary against criteria

Importance of the view: Moderate to High

Visual impact: Low-Moderate

4. Key findings

4.1 Overview of assessment

The methodology for this assessment has been developed by Architectus based on the relevant planning principles for view assessment established by the New South Wales Land and Environment Court and experience in preparing Visual Impact Assessment for a variety of projects. Key considerations for this assessment include:

- Planning framework for view assessment;
- Land and Environment Court Planning Principles regarding view sharing;
- Relevant standards and best practice for photography and photomontage.

A summary of the view and visual impact assessment is set out in the table below.

Table 7 Summary Against Criteria

View	Importance	Visual impact
1	Moderate – High	Low – Moderate
2	Moderate – High	Low – Moderate
3	Moderate – High	Low – Moderate
4	Moderate – High	Low – Moderate
5	Moderate – High	Low – Moderate
6	Moderate – High	Moderate
7	Moderate	Low – Moderate
8	Moderate – High	Moderate
9	Moderate – High	Low – Moderate

4.2 Reasonableness of proposal's impact on private views

The impacts on private views from Inmark Tower, compared to the existing view range from low to moderate, and moderate to high. The requirement for view sharing needs to be based on what is reasonable.

The justification as to why the proposal's view and visual impacts are reasonable is as follows:

- Within a dense urban context such as Central Sydney CBD and the benefits associated with living in a central city location (e.g. access to transport, jobs, services, entertainment, open space etc.), it would be unreasonable to expect that views from most adjoining apartments should remain unobscured.
- There is no specific requirement for retention of private views under the planning framework.
- Overall there are no water views, or iconic views obscured by the proposed development, which is given greatest importance and weight under the LEC planning principles for view sharing.
- The primary view from living rooms will overall have a low to moderate impact from the proposed development.
- A complying building envelope (ie. Compliant 6m rear setbacks (illustrated by solid grey form in photomontages) rather than proposed 3m setbacks (illustrated by transparent form in photomontages) would only generate a negligible reduction of adverse visual impacts which would not affect the overall rating of each view impact.

5. Conclusion

This Visual Impact Assessment has been prepared by Architectus to assess the potential visual impact of the proposed development at the corner of George and Goulburn Streets, Haymarket (698-704 George Street, 43-49 Goulburn Street, and 51-57 Goulburn Street, Haymarket) on the private views from the Inmark Building, 710 George Street, Haymarket.

The impact on private views is considered reasonable given the proposal will generally only obscure existing parts of the city skyline which are not ascribed importance under the planning framework or Land and Environment Court planning principles for private view sharing. The assessment has considered a range of representative views in both directions across the northern façade of the building (vertical and horizontal) within the Inmark Building, at a height exceeding surrounding street wall levels. While every private view from the Inmark Buliding has not been assessed, the representative views capture indicative views obtained from different zones of the building, and therefore provide an acceptable quantum and diversity of views for the purposes of this assessment.

The high quality wide angle north west views are changed marginally by the proposal. Generally, north west views that include views of land, water, land-water interface, sky, and land sky interface are generally left unobstructed. The planning principles provide visual impacts from a compliant building is more reasonable than from a non-compliant one. As discussed in the summary above, adhering to a 6m setback (complying), instead of the proposed 3m, will result in negligible additional adverse visual impact that would not alter the overall impact rating of each view.

In this instance, private view impact for the Inmark residences from the proposed development is considered to be of overall minor environmental impact as there is no specific requirement for retention of private views under the planning framework, and moderate impacts are restricted to a limited number of apartments, and the resultant outlook provided to these apartments is appropriate and of a high quality.

Appendix A – Visual Impact Photomontages, prepared by Virtual Ideas

Visual Impact Assessment

View analysis from Inmark Apartments of proposed building massing for 700 George Street, Sydney

BACKGROUND

This document was prepared by Virtual Ideas to describe the processes used to create the visual impact photomontages and illustrate the accuracy of the results.

Virtual Ideas is a highly experienced architectural visualisation company, that regularly prepares 3D visualisation media for use in visual impact assessments and planning and development applications.
Our approach to creating view and visual impact media follows the prescribed methodology as established by relevant government planning authorities and is focused on most accurately communicating the proposed design and visual impact of a development.

Our methodologies and results have been inspected by various court appointed experts in a variety of cases and have always been found to be accurate, acceptable, and of high quality.

OVERVIEW

The general process of creating accurate photomontage renderings begins with the creation of an accurate, real-world scale digital 3D model. Site photographs of the relevant view locations are then captured and these camera positions are then surveyed by a surveyor to determine the MGA coordinates. These coordinates are then matched in our 3D model and a virtual camera is set up to align with the real-world camera positions.

By matching the real-world camera lens properties to the camera properties in 3D software and rotating the camera so that surveyed points in the 3D space align with the corresponding points on the photograph, we can create a rendering that is correct in terms of position, scale, rotation, and perspective. The rendering can then be superimposed into the real photo to generate an image that represents accurate form and visual impact.

The following photomontages have been prepared in respect of Land and Environment Court proceeding no. 10884/14 in accordance with the Land and Environment Court's practice directions.

DESCRIPTION OF COLLECTED DATA

To create the 3D model and establish accurate reference points for alignment to the photography, a variety of information was collected. This includes the following:

1) Architectural design of 700 George Street massing 3D model
   - Created by: Architectus Architects
   - Format: Autocad 3D model

2) Surveyed data (Appendix A)
   - Created by: CMS Surveyors
   - Format: DWG file

3) Site photography
   - Created by: Virtual Ideas
   - Format: JPEG file

4) Surveyed 3D context Sydney buildings model
   - Created by: AAM Group
   - Format: 3DS MAX file

METHODOLOGY

Site Photography

Site photography was taken from unit 32.03 of the Inmark building as instructed by Architectus. We were unable to access other locations in the building to take photography, therefore we have created full 3D rendered views for a selection of other apartments, again as instructed by Architectus.

The photographs were taken using a Sony A7iii full frame digital camera with a 24mm lens.

The camera is approximately 1.6m above floor level.

Selection of Camera Lens

For comprehensive visual analysis purposes, the view images have been presented at 24mm camera lens lengths with a 50mm lens outline.

The 24mm cmera lens view provides a wider field of view and greater context in which to assess the visual impact.

At 50mm, the field of view is less extensive, however, the amount of view perspective is reduced, which can offer a more accurate perception of distance between the camera and the subject of visual assessment.

Please refer to “Appendix B - Camera Lenses for Photomontages” for a more extensive discussion of the camera lens selection.

3D Model

Using the imported surveyed data into our 3D software (3DS Max), we then imported the supplied 3D model of the proposed building envelope.

METHODOLOGY

Alignment

The positions of the real world photography are located in the 3D scene. Cameras are then created in the 3D model to match the locations and height of where the photographs were taken from. These are then aligned in rotation so that the points of the 3D model align with their corresponding objects that are visible in the photograph.

Renderings of the building with textures and lighting are then created from the aligned 3D cameras and montaged into the existing photography at the same location.
This produces an accurate representation of the scale and position of the new design relative to the existing built form.

For the full 3D views the 3D city backgrounds are turned on and this is used instead of a photographic background.

In conclusion, it is my opinion as an experienced, professional 3D architectural and landscape renderer that the images provided accurately portray the level of visibility and impact of the built form.

Opinions expressed in this verification report are made with regard to Division 2 of Part 31 of the Uniform Civil Procedure Rules and the Expert Witness Codes of Conduct in Schedule 7 of the Uniform Civil Procedure Rules, which I have read and agree to be bound by.

Yours sincerely,

Grant Kolln

CV OF GRANT KOLLN, DIRECTOR OF VIRTUAL IDEAS

Personal Details

Name:	Grant Kolln
DOB:	07/09/1974
Company Address:	Suite 71, 61 Marlborough St, Surry Hills, NSW, 2010
Phone Number:	02 8399 0222

Relevant Experience

2003 - Present	Director of 3D visualisation studio Virtual Ideas. During this time I have worked on many visual impact studies for legal proceedings in various different types of industries including architectural, industrial, mining, landscaping, and several large public works projects. This experience has enables us to create highly accurate methodologies for the creation of our visual impact media and report creation.
1999 - 2001	Project manager for global SAP infrastructure implementation - Ericsson, Sweden
1999 - 1999	IT consultant - Sci-Fi Channel, London
1994 - 1999	Architectural Technician, Thomson Adsett Architect, Brisbane QLD.

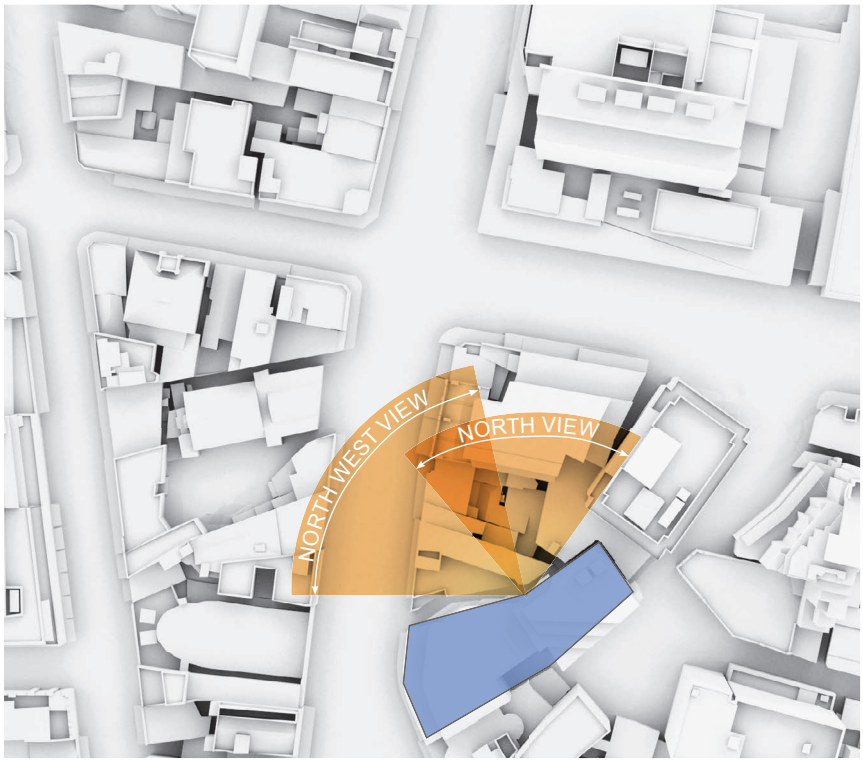
Relevant Education / Qualifications

1997	Advanced Diploma in Architectural Technology, Southbank TAFE, Brisbane, QLD

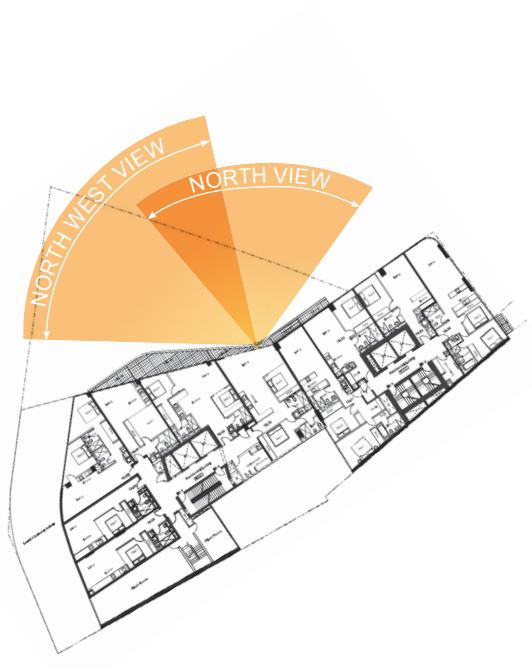
Level 18 - Apartment 1801

virtualideas

24mm lens - Camera Height RL 62.930



Key showing view angles from North View and North West View



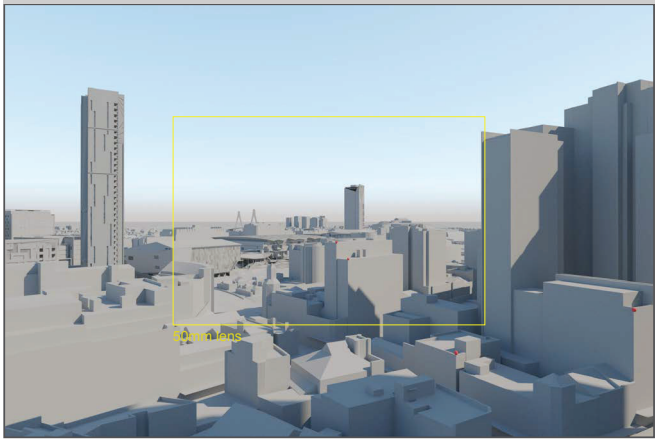
Plan showing camera location and view angles

Level 18 - Apartment 1801

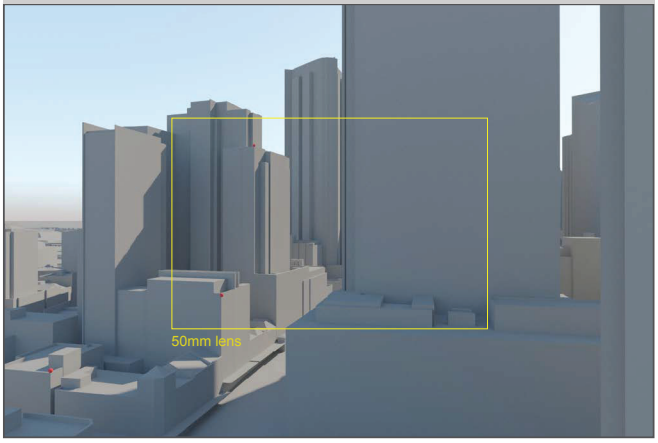
virtualideas™

24mm lens - Camera Height RL 62.930

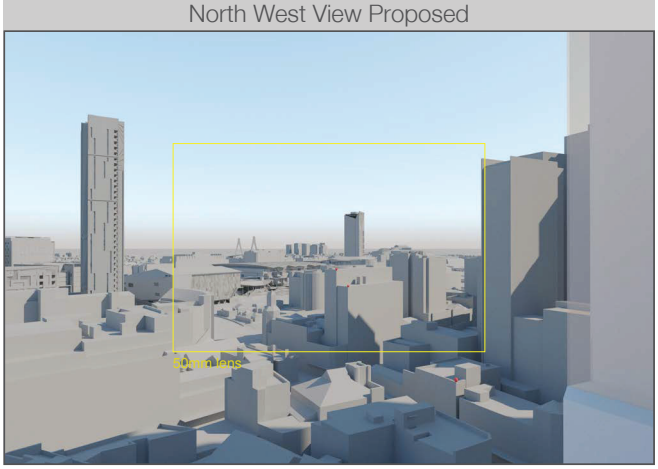
North West View Current



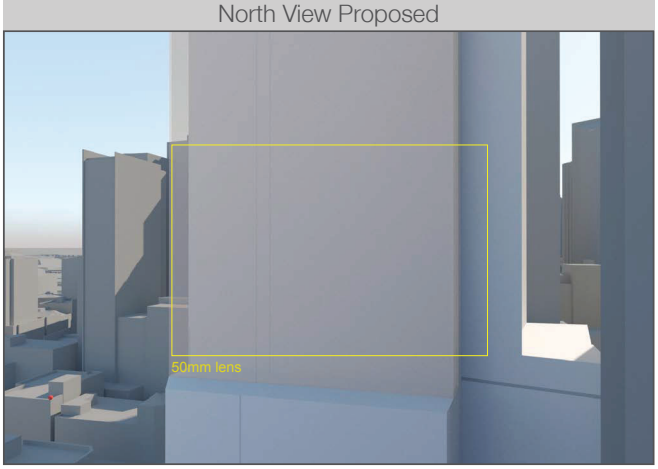
North View Current



North West View Proposed



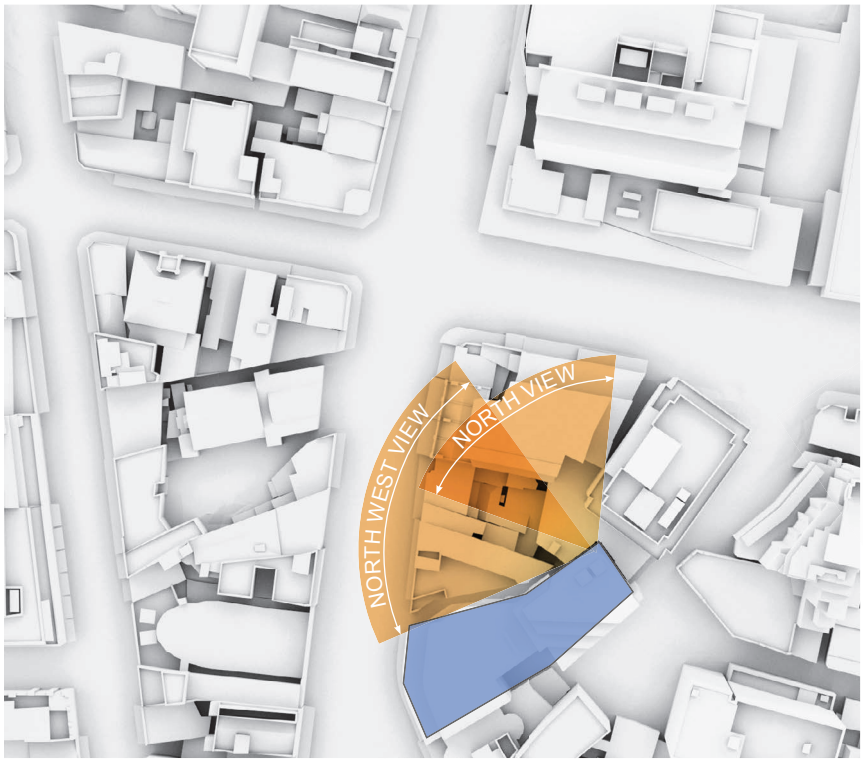
North View Proposed



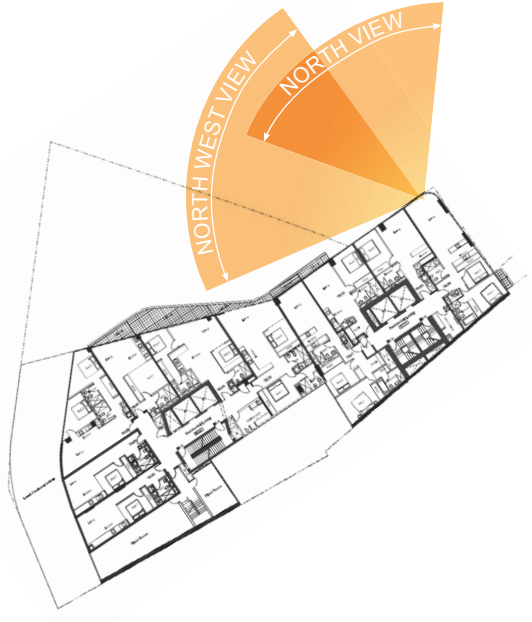
Level 18 - Apartment 1804

virtualideas™

24mm lens - Camera Height RL 62.930



Key showing view angles from North View and North West View



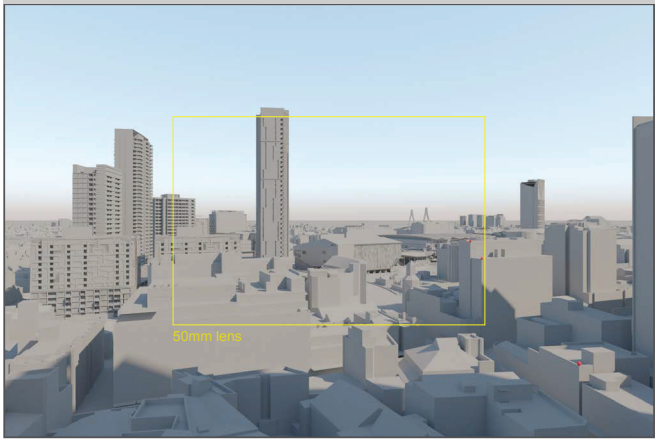
Plan showing camera location and view angles

Level 18 - Apartment 1804

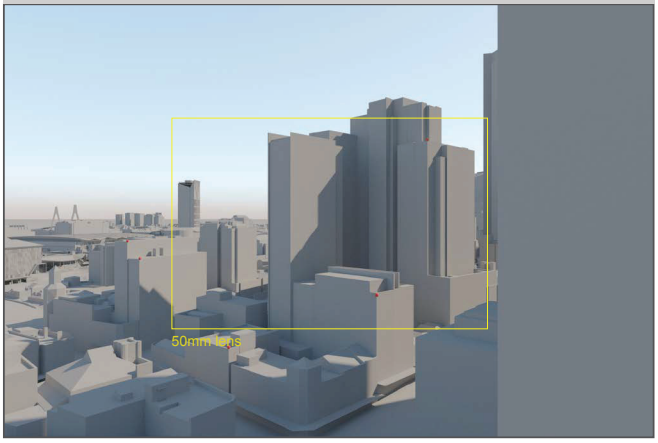
virtualideas

24mm lens - Camera Height RL 62.930

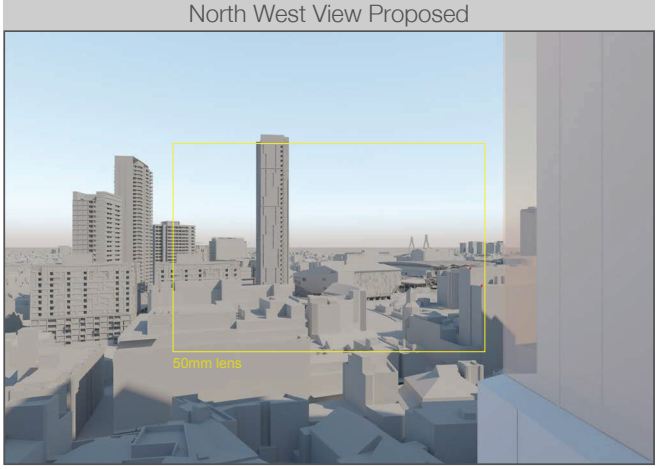
North West View Current



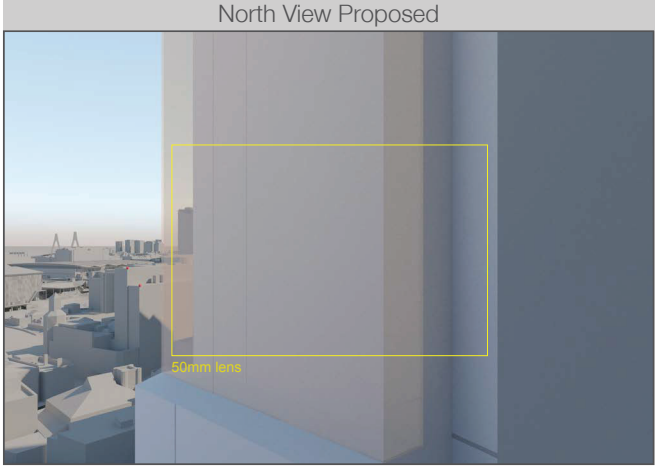
North View Current



North West View Proposed



North View Proposed

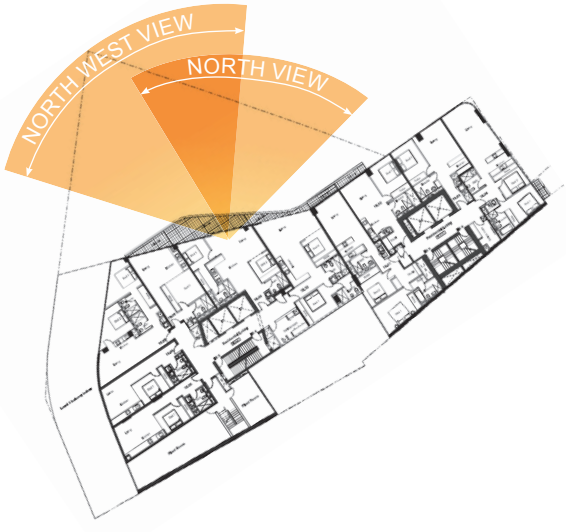


Level 18 - Apartment 1809

virtualideas™

24mm lens - Camera Height RL 62.930

Key showing view angles from North View and North West View



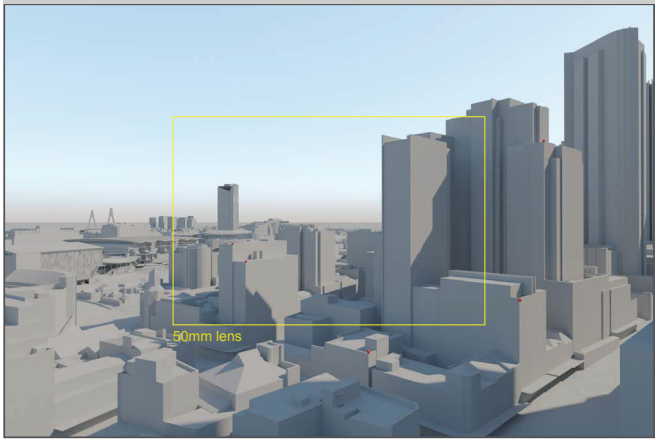
Plan showing camera location and view angles

Level 18 - Apartment 1809

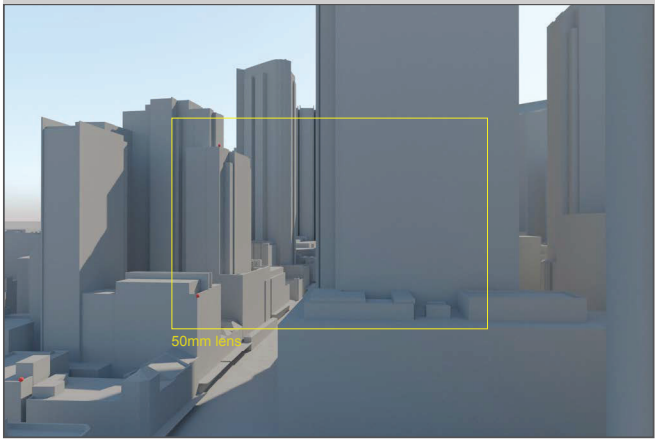
virtualideas

24mm lens - Camera Height RL 62.930

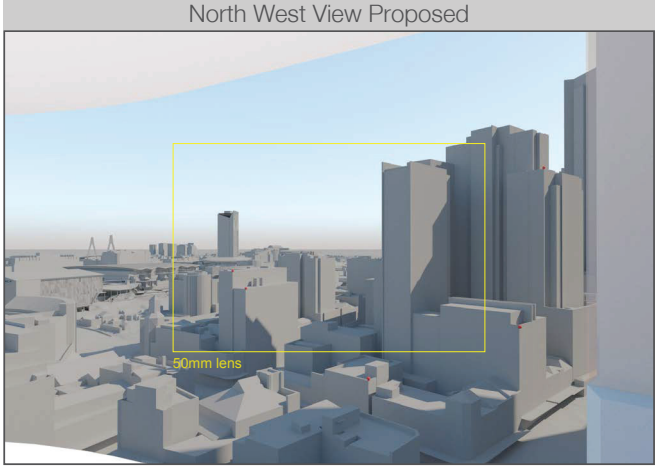
North West View Current



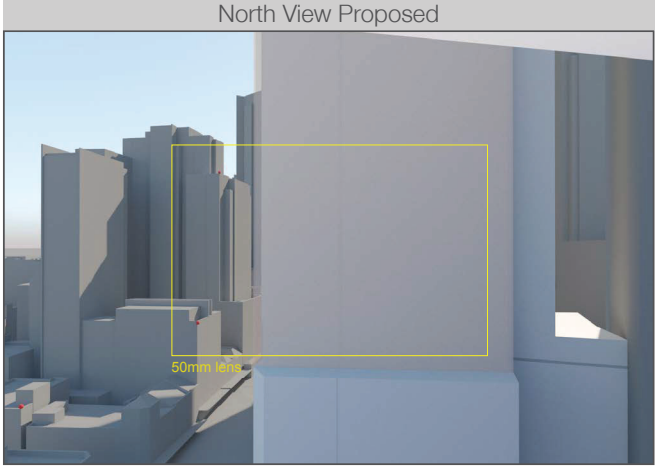
North View Current



North West View Proposed



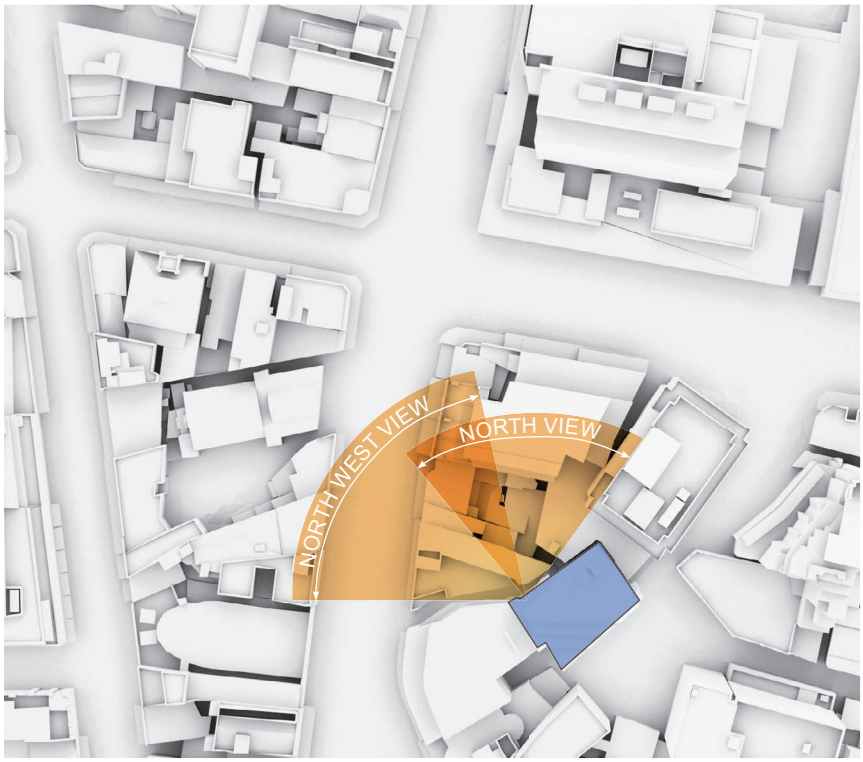
North View Proposed



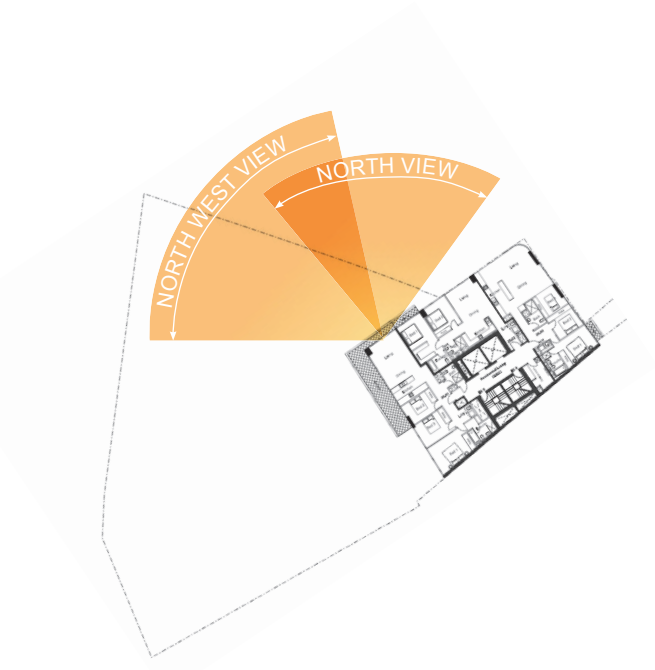
Level 26 - Apartment 2601

virtualideas™

24mm lens - Camera Height RL 87.00



Key showing view angles from North View and North West View



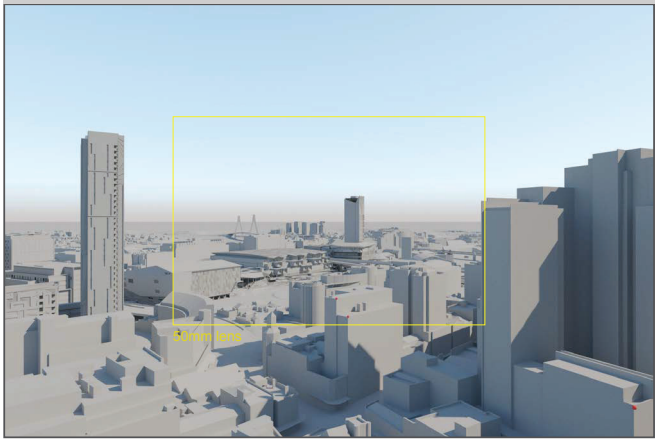
Plan showing camera location and view angles

Level 26 - Apartment 2601

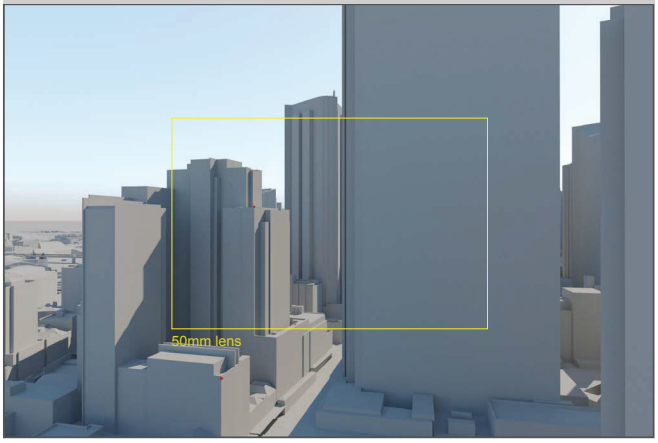
virtualideas™

24mm lens - Camera Height RL 87.00

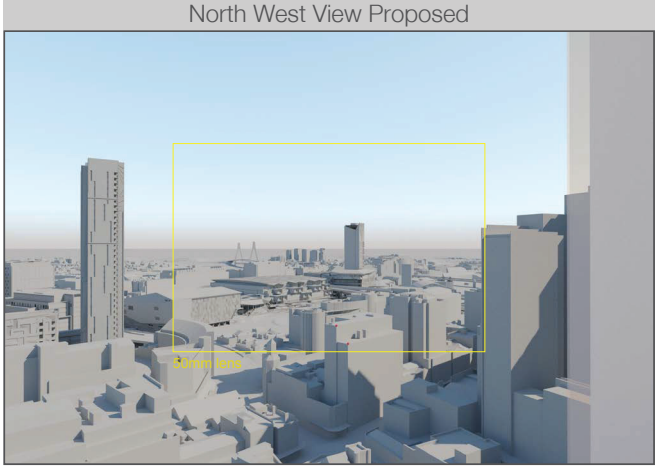
North West View Current



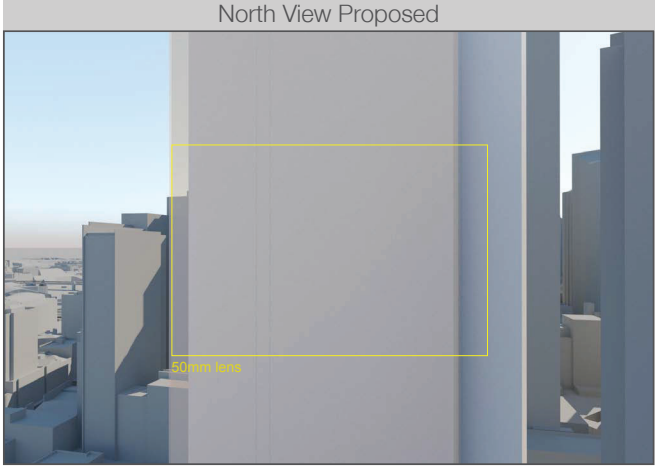
North View Current



North West View Proposed



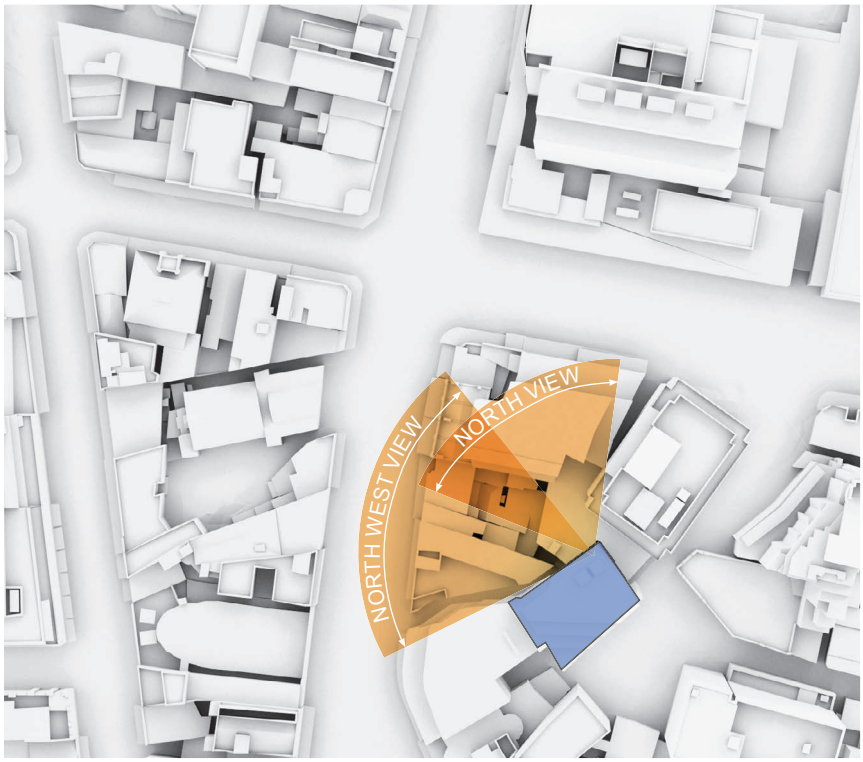
North View Proposed



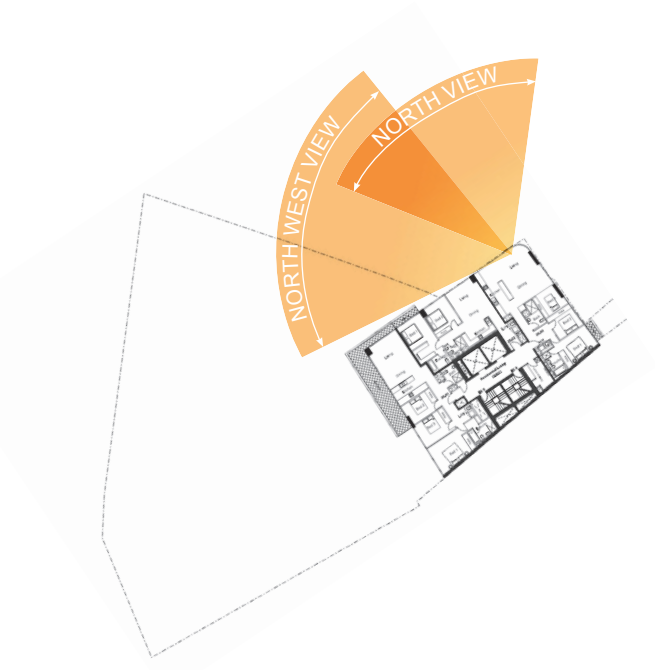
Level 26 - Apartment 2603

virtualideas

24mm lens - Camera Height RL 87.00



Key showing view angles from North View and North West View



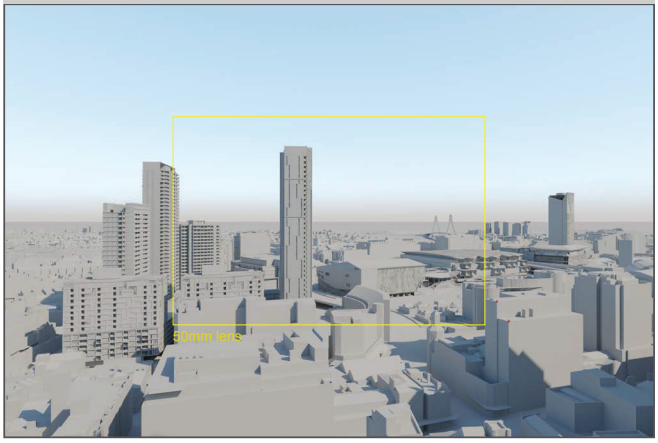
Plan showing camera location and view angles

Level 26 - Apartment 2603

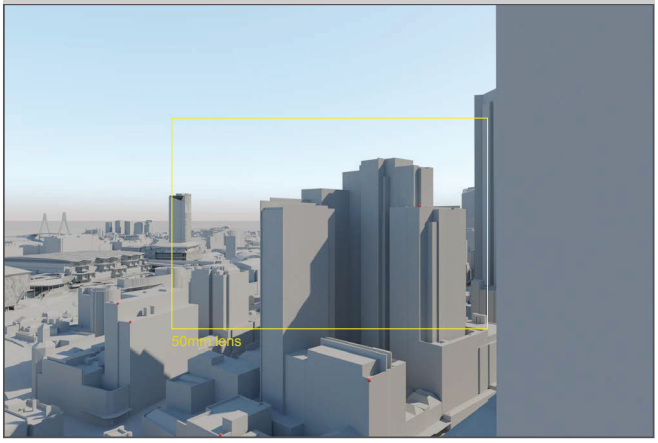
virtualideas™

24mm lens - Camera Height RL 87.00

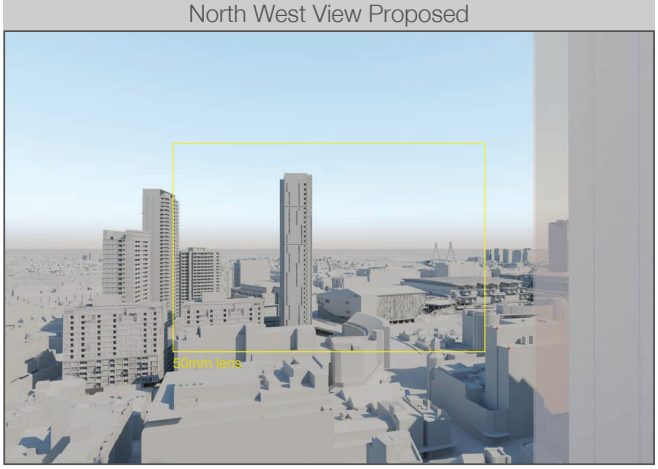
North West View Current



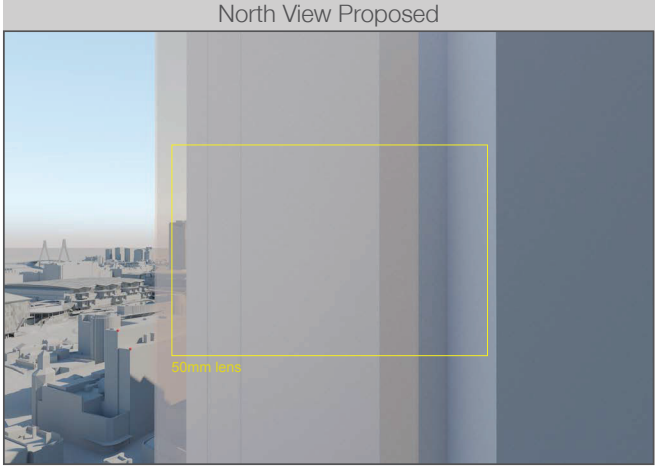
North View Current



North West View Proposed



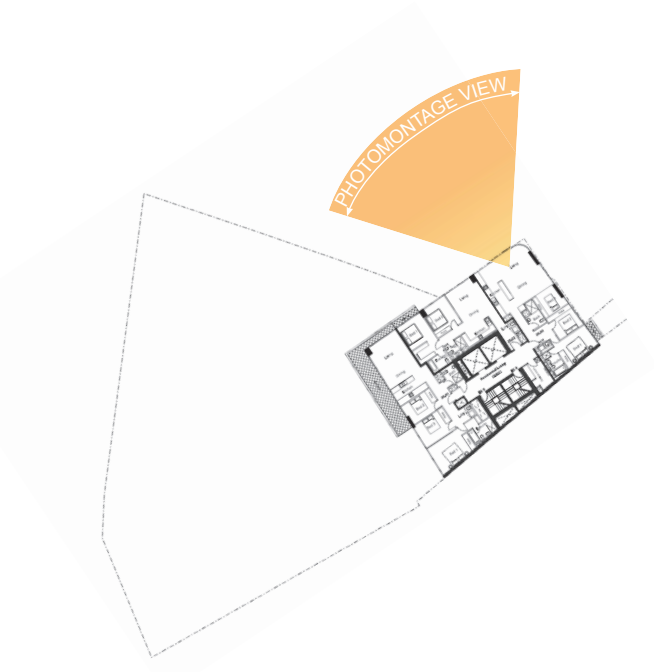
North View Proposed



Level 32 - Apartment 3203

24mm lens - Camera Height RL 104.879

Key showing view angles from Photmontage location



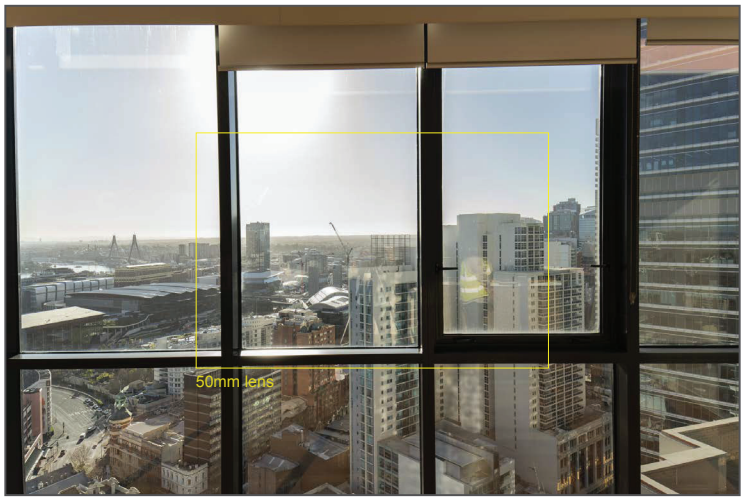
Plan showing camera location and view angles

Level 32 - Apartment 3203

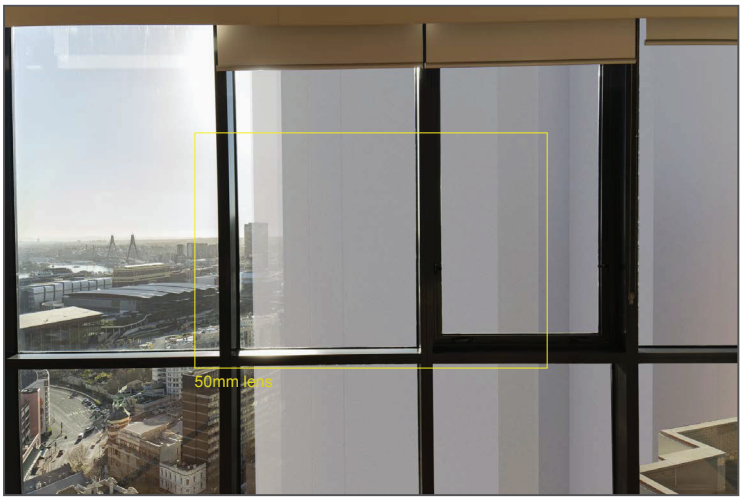
virtualideas™

24mm lens - Camera Height RL 104.879

Original Photo



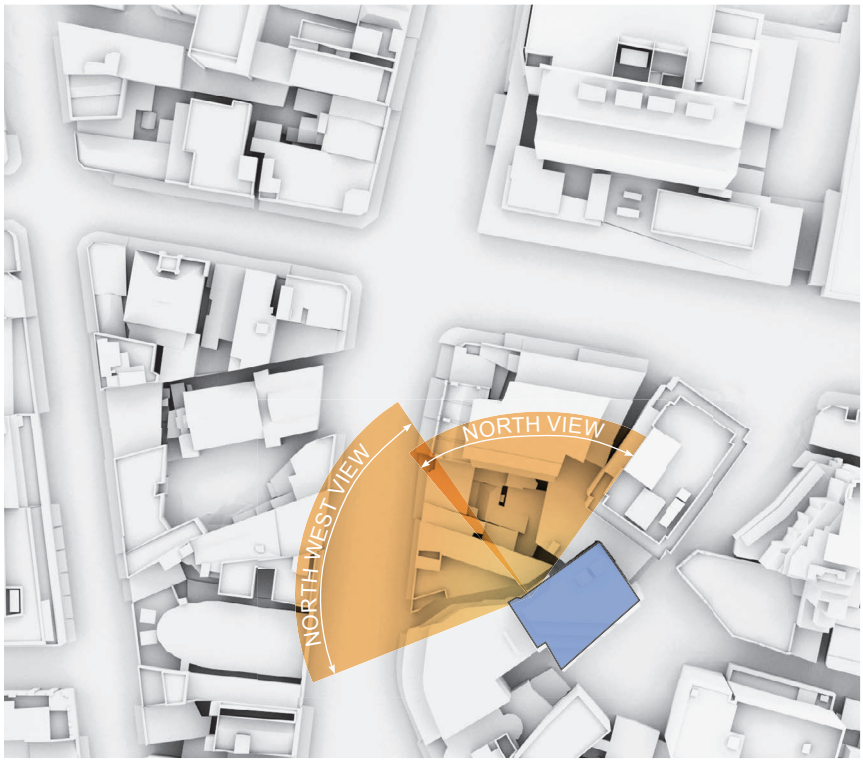
Photomontage



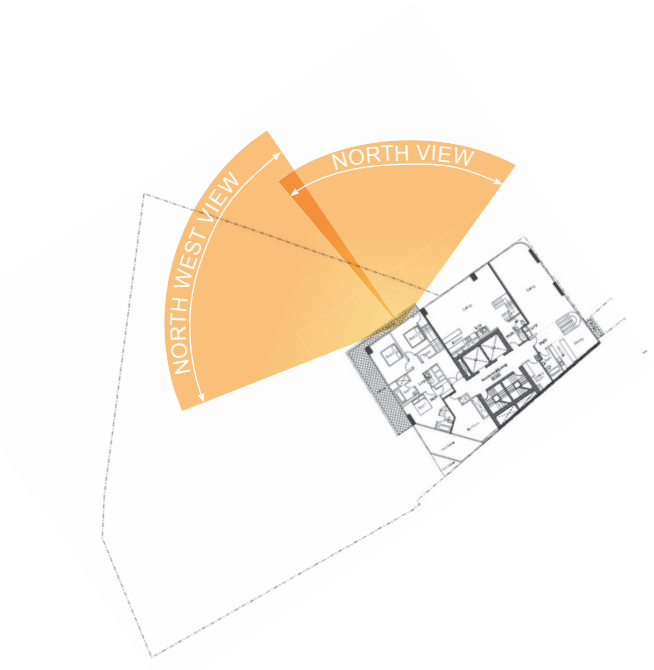
Level 34 - Apartment 3401

virtualideas

24mm lens - Camera Height RL 111.35



Key showing view angles from North View and North West View



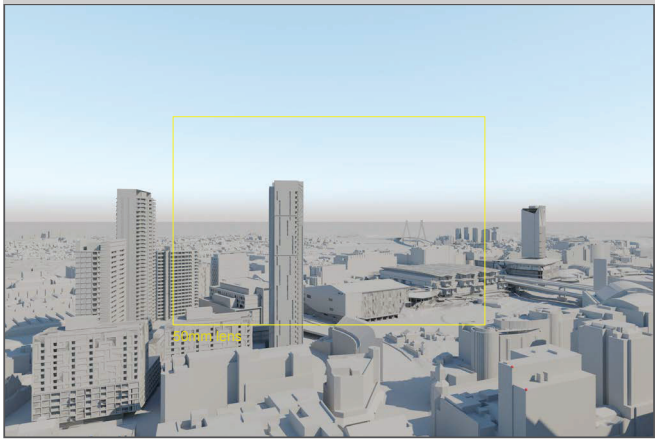
Plan showing camera location and view angles

Level 34 - Apartment 3401

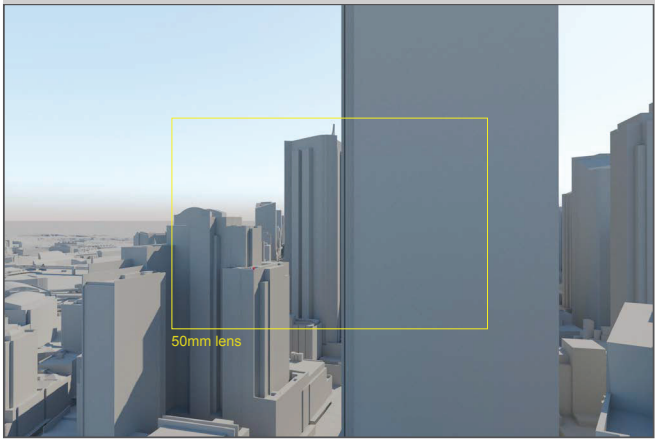
virtualideas

24mm lens - Camera Height RL 111.35

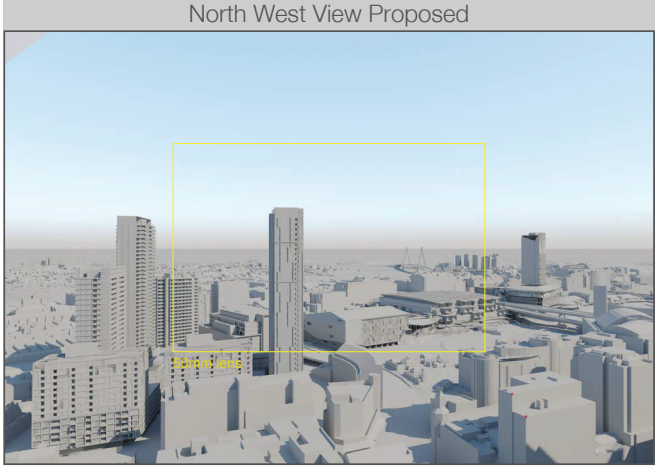
North West View Current



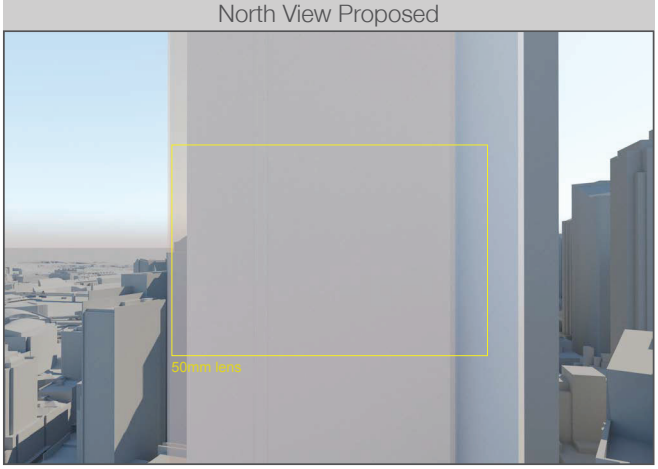
North View Current



North West View Proposed



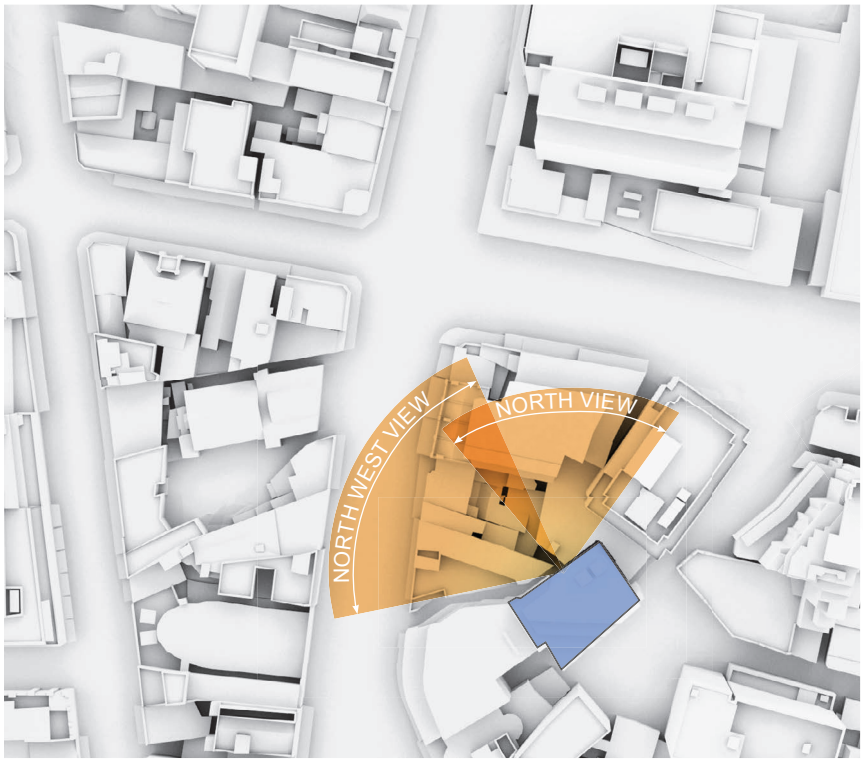
North View Proposed



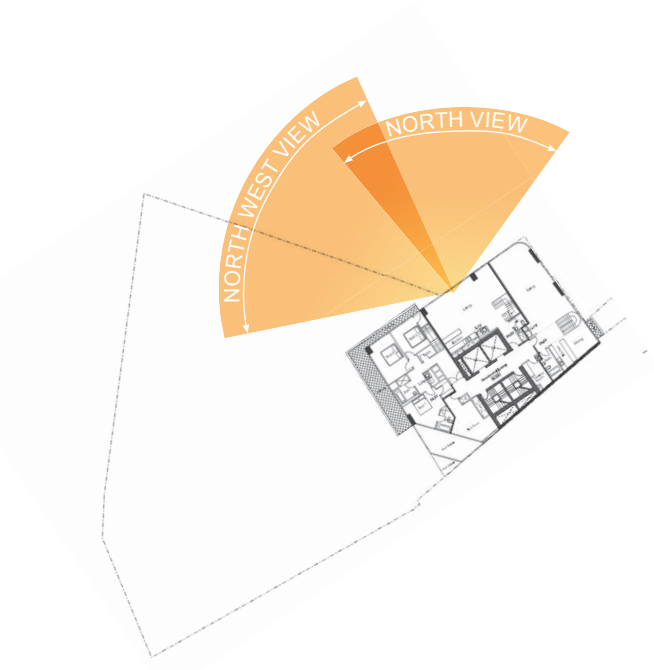
Level 34 - Apartment 3402

virtualideas™

24mm lens - Camera Height RL 111.35



Key showing view angles from North View and North West View



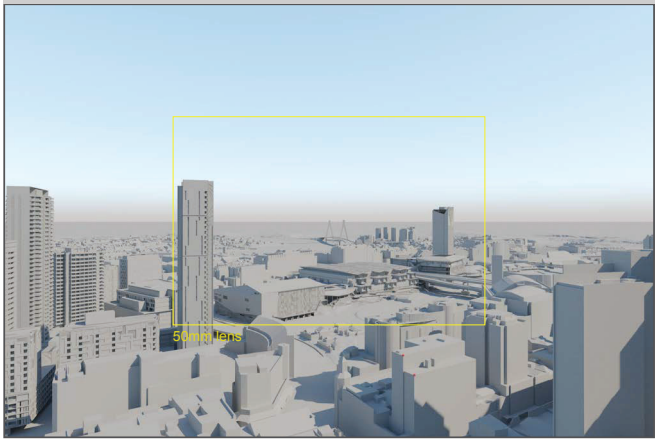
Plan showing camera location and view angles

Level 34 - Apartment 3402

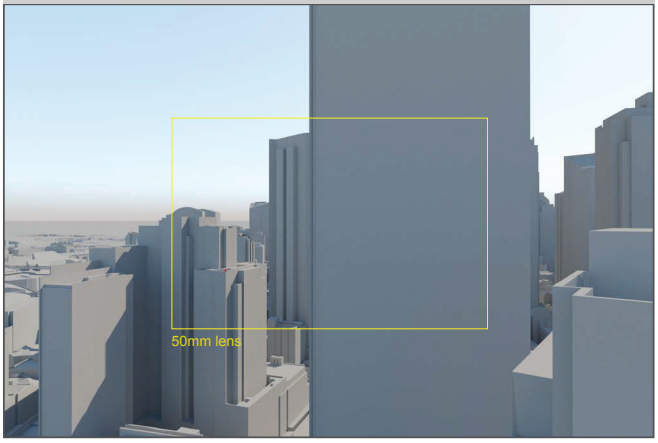
virtualideas™

24mm lens - Camera Height RL 111.35

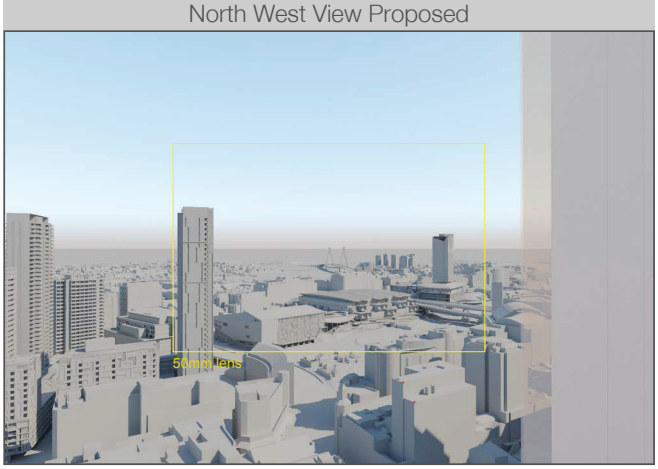
North West View Current



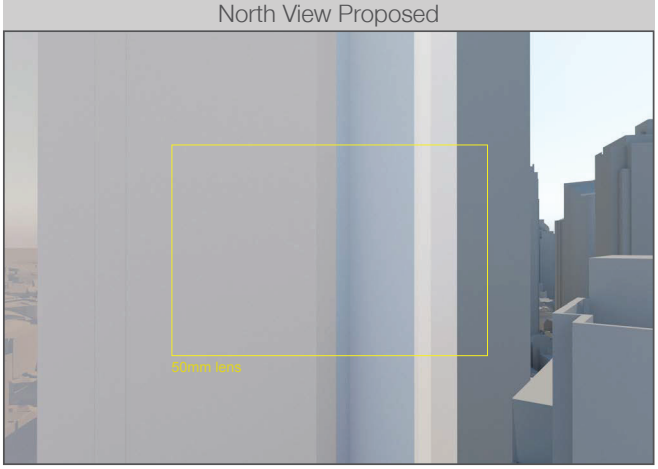
North View Current



North West View Proposed



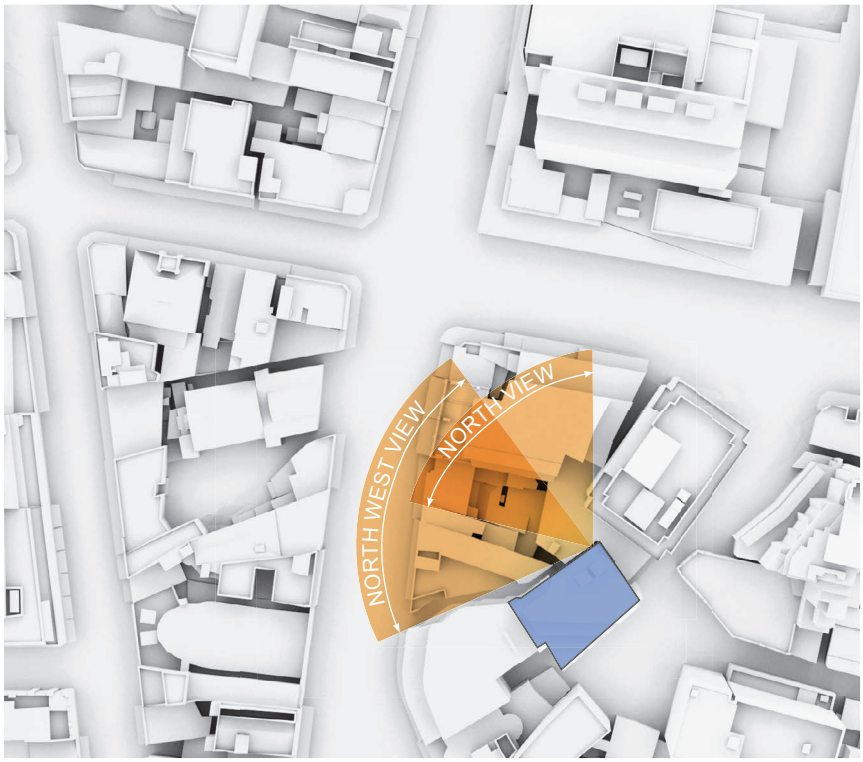
North View Proposed



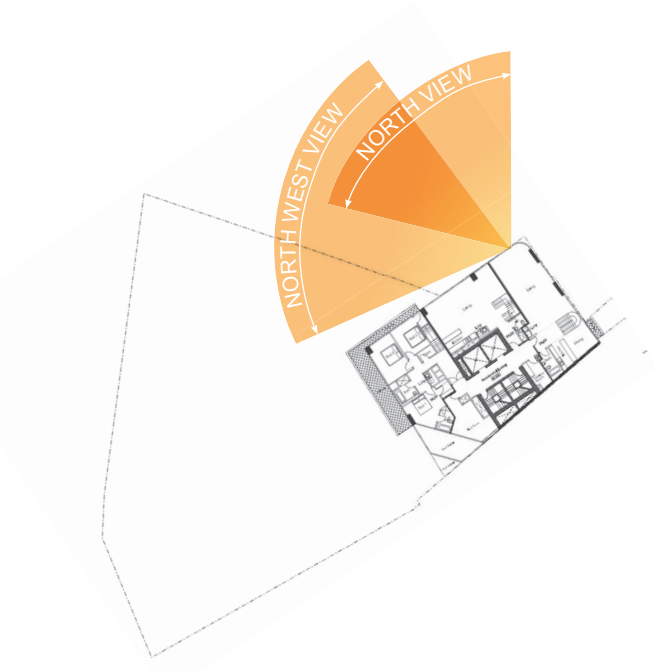
Level 34 - Apartment 3403

virtualideas

24mm lens - Camera Height RL 111.35



Key showing view angles from North View and North West View



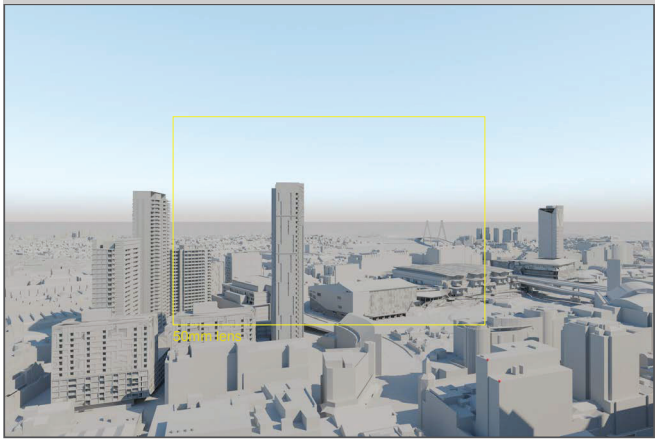
Plan showing camera location and view angles

Level 34 - Apartment 3403

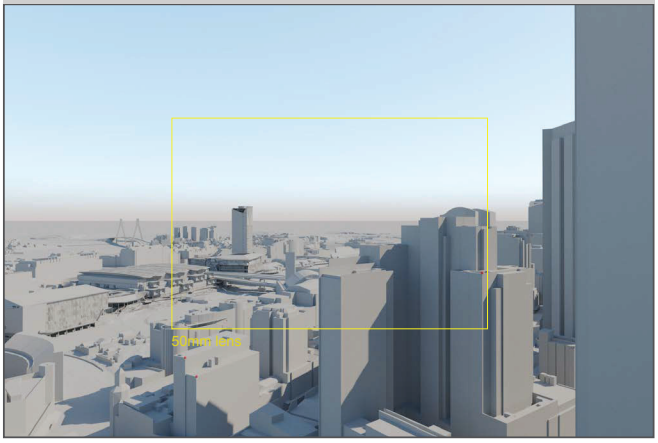
virtualideas

24mm lens - Camera Height RL 111.35

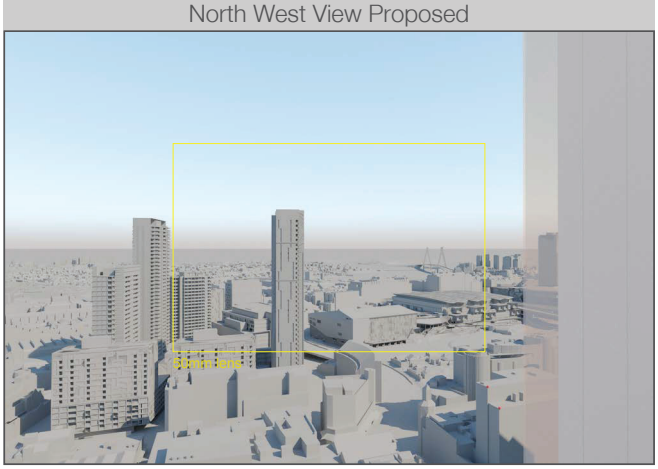
North West View Current



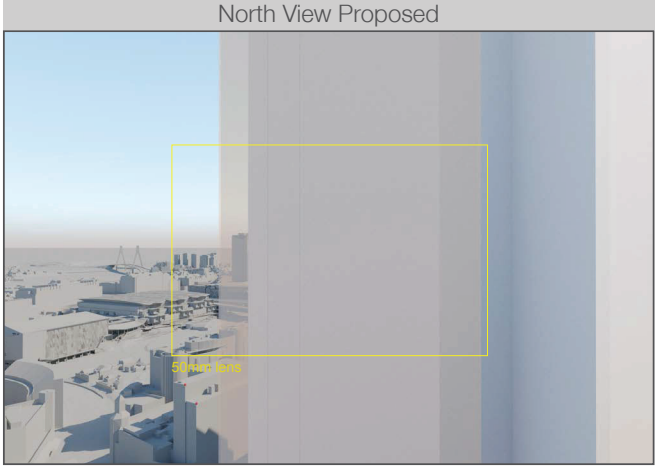
North View Current



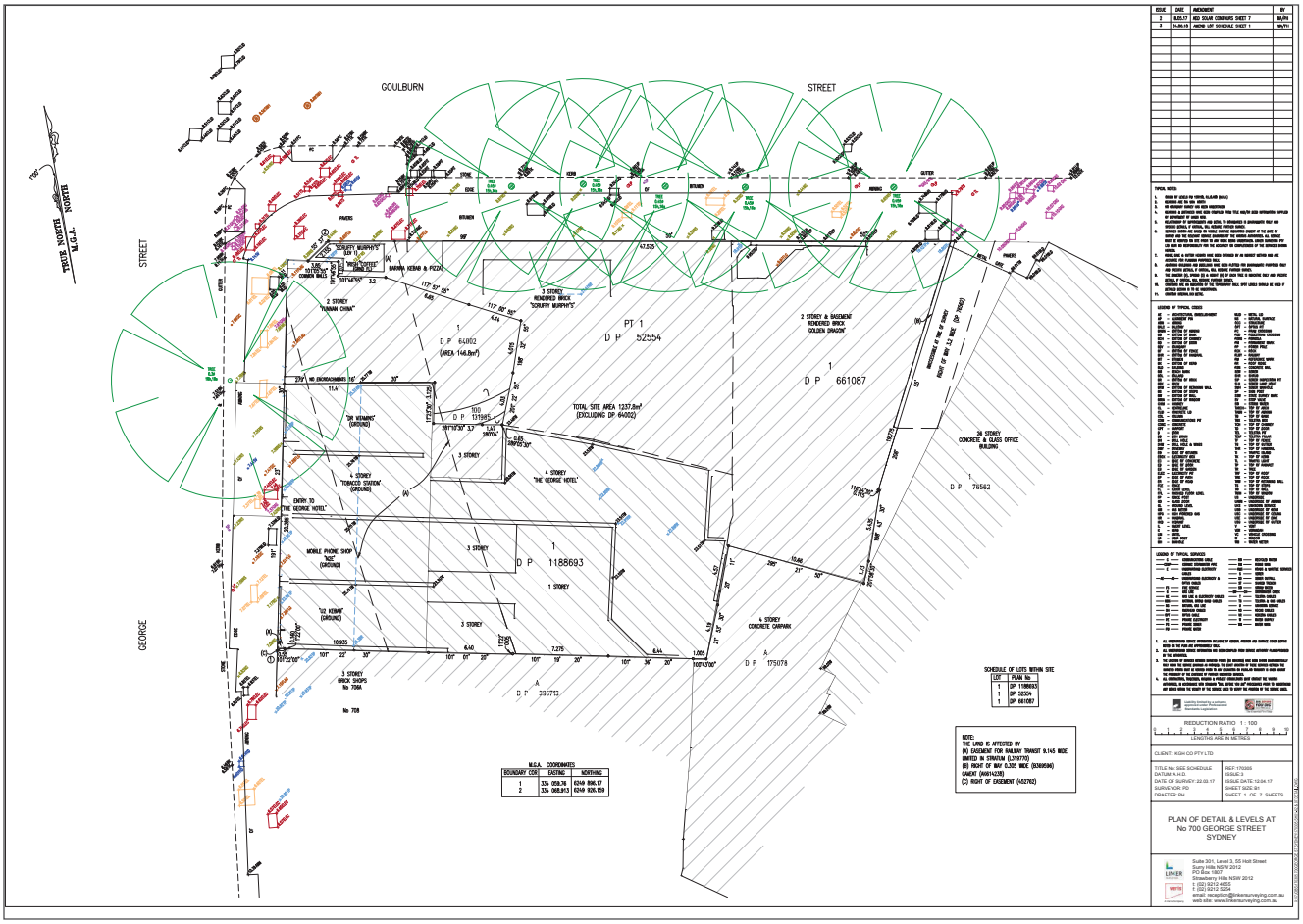
North West View Proposed



North View Proposed



Appendix A - Survey Drawing



DIGITAL CAMERA LENSES FOR PHOTOMONTAGES AND VISUAL IMPACT ASSESSMENTS

The intention of a photomontage rendering is to visually communicate how proposed built form sits in respect to its surroundings. To achieve this, a digitally rendered image from a digital 3D model is accurately superimposed into a digital photograph to provide an accurate representation in terms of light, material, scale, and form.

Camera lens selection also plays an important part in creating a photomontage that communicates visual impact. There are several things to consider with respect to lens selection.

Field of View of the Human Eye

The field of view of the human eye is a topic that varies depending on the source of information. In many cases, the field of view of the eye is stated to be 17mm. Other opinions claim a smaller field of view of around 22-24mm.

Whichever the case, it is accepted that the human eye has a wide field of view. When a person stands close to a subject - for instance a building - their field of vision can potentially read all of the top, sides and bottom of the building simultaneously in a single glance.

In addition to this, the human eye can change focus and target direction extremely rapidly, allowing a person to view a large structure in a very short period of time, effectively making the perceived field of view even larger.

The Perspective of the human eye

It is difficult to accurately reproduce what the human eye sees by the means of a printed image. The eye's image sensor - the retina - is curved along the back surface of the eyeball, whereas the sensor on a camera is flat. Consequently, the perspective of a photograph can look quite different to how a person views a scene in the real world, especially when comparing to a photo captured with a wide camera lens.

In digital photography circles, it is widely accepted that using a longer lens (approximately 50mm) reduces the amount of perspective in an image and therefore more closely replicates what the human eye would see in reality. This, however, only addresses how the eye perceives perspective and does not consider the field of view of the eye.

If a photo is taken of a scene using a 50mm camera lens, printed out and then held up in front of the viewer against the actual view at the same location as the photo was taken, it is unmistakable that the human eye can see much more of the surrounding context than is captured within photo.

DIGITAL CAMERA LENSES FOR PHOTOMONTAGES AND VISUAL IMPACT ASSESSMENTS

Changing the field of view on a digital camera

The main difference in using a longer lens vs a wider lens is the amount of information that is displayed at the edges of the subject. Changing the lens to a smaller FOV produces the same result as cropping in on the wide angle image, providing that the position and the angle of the camera remains constant while taking the photographs.

In short, a lens with a wider field of view does not create an image that has incorrect perspective, it simply means that the perspective is extended at the edges of the image showing more of the surrounds in the image.

Summary

With regards to visual assessment, there is no definitive solution for camera lens selection.

Longer lenses produce images that are more faithful to the perspective of the human eye, though the field of view is more limited, making it difficult to capture the entirety of a subject or enough of the surrounding context in which the subject resides.

Conversely, the perspective of wider camera lenses can make subjects appear further away than they would appear through the perspective of the human eye. This also limits a persons ability to accurately assess visual impact.

For these reasons, Virtual Ideas has taken the view that it is not possible to exactly replicate the real world view of the human eye in an image created with a camera and for visual impact photomontages, camera lenses are selected that strike a balance between these two considerations and can accurately display the built form in its surroundings.

The most effective way to accurately gauge visual impact and achieve a real world understanding of scale, is to take prints of the photomontages to the exact site photography locations and compare the prints with the scale of the existing built form.