Appendix O

Visual Impact Assessment

Sydney Metro East | Hunter Street East Over Station Development Visual Impact Analysis

21 September 2022

URBIS STAFF RESPONSIBLE FOR THIS REPORT:

Associate Director: Jane Maze-Riley
Urban Design Consultant: Kate Bravo
Project Code: P0033142
Report Ref: 01 RPT_METRO CBD_EAST_VIA_August2022
Report Status: Final
Date: 21 September 2022

CONTENTS

URBIS.COM.AU

EXECUTIVE SUMMARY

- This report has been prepared by Urbis Pty Ltd to accompany a Concept State Significant Development Application (Concept SSDA) to determine the visual effects and potential visual impacts of the proposed Over Station Development (OSD).
- The proposal includes an indicative massing envelope including a podium and tower form for the site at Hunter Street Station.
- Indicative massing models prepared by Urbis are intended to inform the Concept SSDA for the site and as such have been used for analysis to inform the determination and rating of potential visual impacts. Our analysis is based on accurate and certifiable photomontages, from representative sample of views from within the site's visual catchment.
- The extent and significance of the potential visual change has been assessed using a well established and accepted VIA methodology which is outlined on page 6.
- We determined the visual catchment using GIS mapping software (LiDar data) to determine access to views of the tallest built form proposed from the surrounding area, and ground-truthed particular high points and sensitive view places.
- Photomontages are useful objective visual aids and were prepared in a manner that satisfies the guidance included in the practice direction established in the Land and Environment Court of NSW.
- 10 views from view places agreed with Sydney Metro were selected for modelling in photomontages and were used for further analysis to consider the extent of visual change, the effects of those changes on the existing visual environment and the importance of those changes, being the final rating of visual impacts.
- The subject site and future built form, despite its height, has a relatively constrained effective visual catchment. Notwithstanding the upper parts of the proposed envelope is likely to be visible in distant views from the west, north and east against a backdrop of urban development or sky.
- The photomontages show an indicative tower form. We note that ultimately the building form will demonstrate a 12-15% articulation allowance which may result in a more slender appearance of the tower form.
- The photomontages show that in close views the proposed built form will create visual change to the existing composition of some views and block a minor amount of heritage facades in close views.
- A large extent of visual change and high levels of visual effects does not in our opinion equate to a high visual impact.
- Therefore notwithstanding variable levels of visual effects, of the 10 views analysed 8 were rated as a low, 1 was rated as medium and 1 rated as a medium-high level of visual impact.
- The regulatory context of the site allows for tall tower forms similar to the envelope proposed, and as such the commensurate level of visual effects and impacts are contemplated by the controls.
- Through this visual impact assessment it is demonstrated that this Concept SSDA can be supported on visual impacts grounds.

1.0 INTRODUCTION

This Visual Impact Assessment (VIA) report supports a SSDA request submitted to the City of Sydney for a Concept SSDA that seeks development consent for a building envelope above the Hunter Street East Station over station development (OSD).

1.1 SITE DESCRIPTION

The Hunter Street East OSD relates to 28 O'Connell Street, 48 Hunter Street, and 37 Bligh Street, Sydney.

The Hunter Street East OSD is located in the northern part of the Sydney CBD, within the commercial core precinct of Central Sydney, within the Sydney Local Government Area (LGA).

The site is located on the corner of O'Connell Street, Hunter Street and Bligh Street adjacent to the existing CBD and South East Light Rail that extends from Circular Quay to Moore Park, Kensington and Kingsford. The site is adjacent to the new Martin Place Station which forms part of the Sydney Metro City and Southwest, Australia's biggest public transport project connecting Chatswood to Sydenham and extending to Bankstown.

1.2 DEVELOPMENT OBJECTIVES

The objectives for the proposed OSD build upon the objectives of the SSDA request prepared for the Hunter Street East Station site. The objectives for the proposed OSD are to:

- Contribute towards the establishment of an integrated transport hub within the Sydney CBD which strengthens Sydney's rail network and improves connectivity.
- Facilitate future development that promotes design excellence and is consistent with the objectives of the Central Sydney Planning Framework.
- Deliver high quality employment generating floor space that aligns with the objectives for development within the tower cluster areas (identified within the Central Sydney Planning Framework).
- Provide a robust framework to inform future detailed SSDAs for the OSD, including a Design Guide, established building envelope plans, and conceptual land uses for the site.
- Deliver employment density alongside the delivery of significant new public transport infrastructure which services the site and surrounding CBD precinct.

1.3 PROJECT DESCRIPTION

The SSDA identifies that the over station development component of the Hunter Street East OSD is classified as State Significant Development. The podium structure will be delivered under a separate Critical State Significant Infrastructure (CSSI) approval process. In this regard this visual impact assessment relates only to the tower associated with the over station development.

The Concept SSDA seeks development consent for a building envelope above the Hunter Street Station eastern site, that includes:

- Maximum building envelope and built form parameters (including tower envelopes and building setbacks)
- Maximum building height of between RL 238.9m and RL269.1m, as it varies to comply with the relevant sun access plane controls (approximately 58 storeys)
- Land uses within the OSD building envelope and podium including:

– Commercial land uses within the tower building envelope

– Commercial and retail land uses within the building envelope for the podium

The proposed building envelope for the OSD is a concept proposal only. Pursuant to section 4.22 of the EP&A Act, further approval(s) will be sought for the detailed design and construction of the proposed OSD. The future approval(s) will be required to be consistent with the Concept SSDA development parameters.

An indicative concept reference design has been prepared illustrating how the site could potentially be developed within the proposed building envelope.

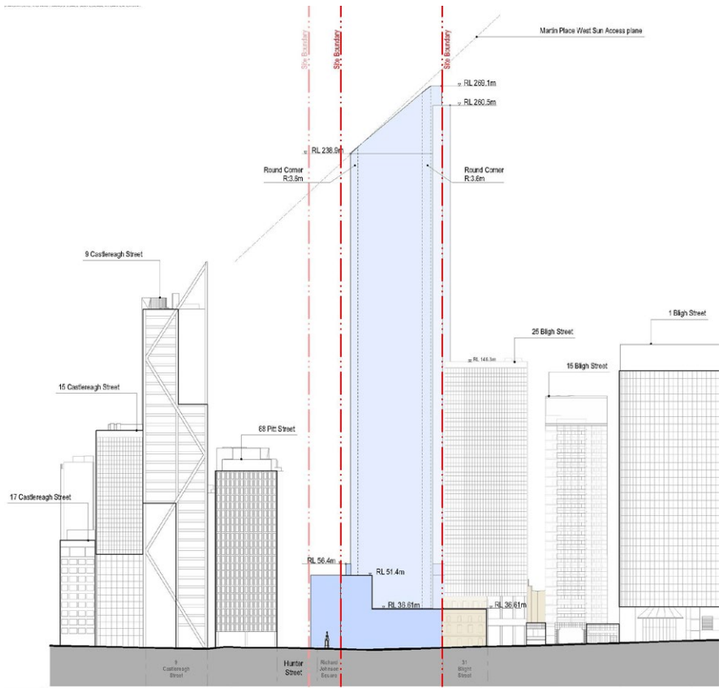


Figure 1 East Site East Elevation *(FJMT, August 8, 2022)*

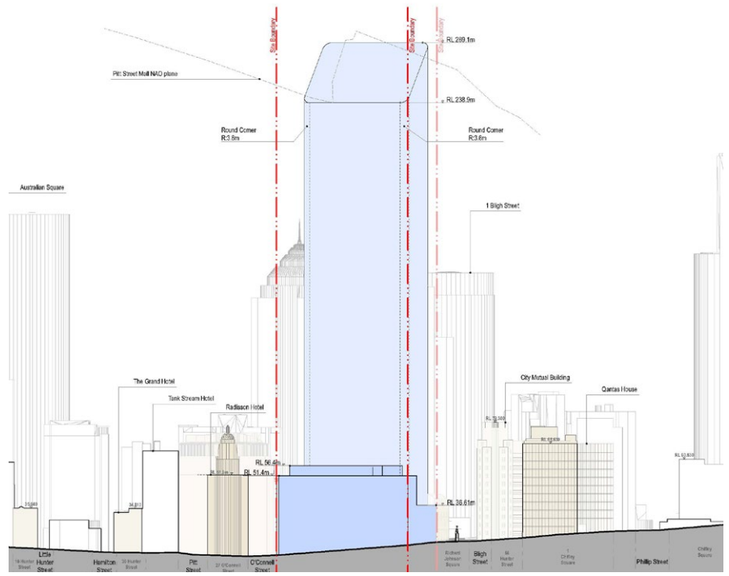


Figure 2 East Site South Elevation *(FJMT, August 8, 2022)*

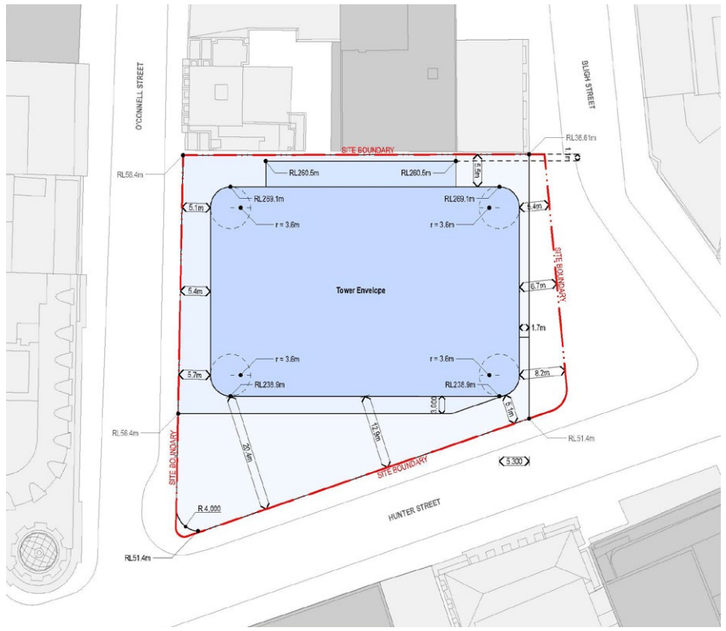


Figure 3 East Site Envelope Roof Plan *(FJMT, August 8, 2022)*

2.0 VIA METHODOLOGY

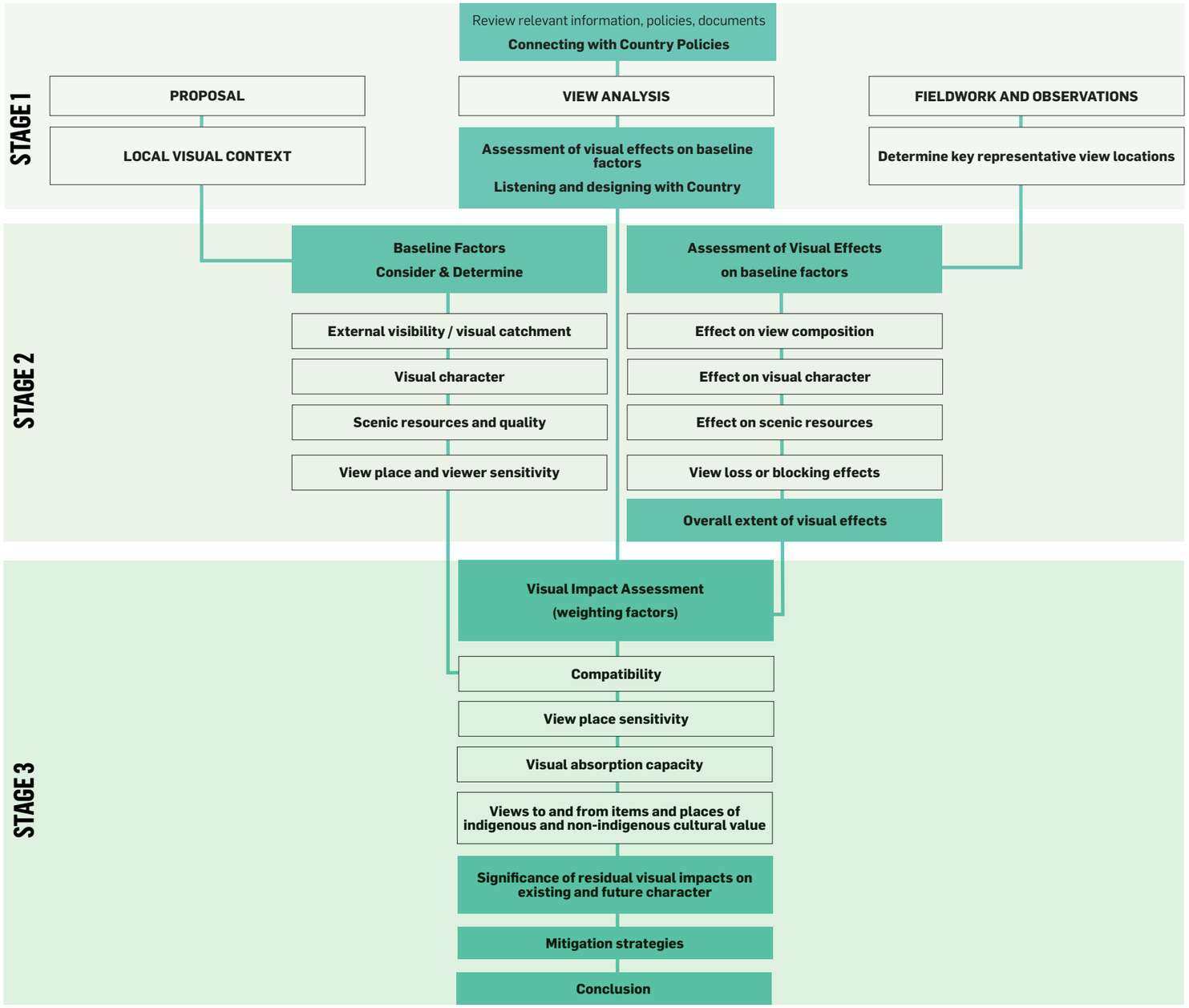
The methodology employed for this VIA is based on a combination of established methods used in NSW including; the Guideline for landscape character and visual impact assessment, Environmental Impact Assessment practice note EIA -N04 prepared by the Roads and Maritime Services December 2018 (RMS LCIA) and well established best-practice methods.

Although the content and purpose of the RMS LCIA is to assess the impact on the aggregate of an area's built, natural and cultural character or sense of place rather than solely on views, it provides useful guidance as to the logic and process of visual impact assessment (VIA).

The Urbis methodology identifies objective information about the existing visual environment, analyses the extent of visual effects on those baseline characteristics and unlike other methods, considers the importance of additional relevant information including view place sensitivity, compatibility and visual absorption etc. Separating objective facts from subjective opinion provides a robust and comprehensive matrix for analysis and final assessment of visual impacts.

The sequence of steps and flow of logic is shown graphically below in our method flow chart.

2.1 URBIS VIA METHODOLOGY



3.0 BASELINE VISUAL ANALYSIS

3.1 VISUAL CHARACTER OF THE SUBJECT SITE

The site occupies a broadly trapezoidal site, with its long edge to Hunter Street in the south. It has an area of approximately 3694m2 and the topography falls in elevation from the east to the west. It is currently partially occupied by a construction site. The remainder of the site is predominantly characterised by commercial office buildings and ground floor retail, restaurant and café development. The buildings are massed with narrow setbacks to Hunter and O'Connell Streets. The southern setback includes a row of established street trees.

The eastern edge of the site presents towards Richard Johnson Square, a triangular shaped public open space at the corner of Bligh Street and Hunter Street. The Square is listed as a local heritage item in Schedule 5 of the Sydney Development Control Plan 2012 and creates a visual and spatial setback to the eastern site boundary from adjoining public roads.

The existing built form on site is massed in two blocks, being buildings of approximately 14 storeys which are staggered in relation to their streetscape presentation. The facades are characterised by distinctive narrow concrete bands which frame square windows that have rounded corners on the lower half.

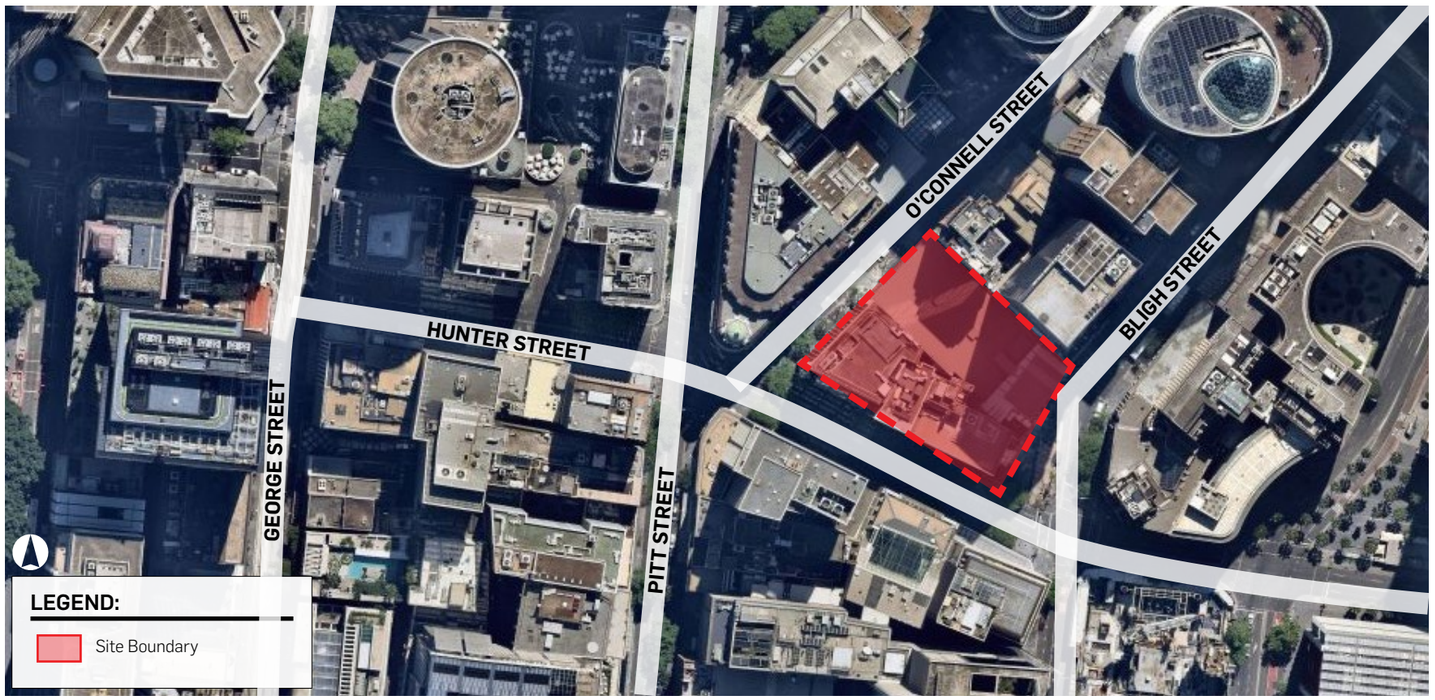


Figure 4 Aerial of Subject Site

3.2 SURROUNDING VISUAL CONTEXT

The surrounding visual context of the Sydney CBD includes a highly developed commercial core with a wide range of commercial, retail, health, government and community-based uses, as well as high density residential developments.

The CBD comprises contemporary high density tower development interspersed with heritage buildings. A number of key commercial buildings are located in or the subject site including historic buildings and structures, law courts, public gathering spaces and places of worship. There are minimal street trees in the surrounding immediate visual context.

Land uses immediately surrounding the Hunter Street OSD include:

- Major commercial areas comprising high density commercial towers along George Street, Pitt Street, as well as retail centres; the Met Centre and Australia Square. The area also comprises tourism and entertainment related uses including hotels, shops, restaurants, cafes, nightclubs and bars. The site sits south of Sydney Harbour, Circular Quay and the Rocks which feature items of heritage and items of high visual and scenic quality.
- East of the site major commercial towers are sited nearby including Chifley Tower, 8 Chifley Square, Aurora Place and Deutsche Bank Place. Beyond Hunter Street, the State Library of NSW and the NSW Parliament House front onto Macquarie Street, as well as the public open space of The Domain beyond.
- South of the site, land use remains predominantly multi-storey commercial offices but also includes cafes, bars and nightclubs such as the Ivy precinct. Martin Place is a significant east–west pedestrian thoroughfare which contains many culturally significant buildings and structures including the Cenotaph memorial and the General Post Office building, as well as Martin Place Station. Beyond Martin Place the Sydney CBD continues towards Town Hall, Haymarket and the Central Station precinct.
- West of the site, land use is predominantly high-density commercial offices. George Street contains the Sydney Light Rail, with Wynyard light rail station approximately 450 metres walk from site. Further west there are major commercial and entertainment areas around King Street Wharf and Barangaroo, which also contain significant high density residential apartment buildings.

The surrounding visual context includes several state or locally listed heritage buildings, which are visually prominent in close views along Hunter Street. Heritage items that are present in Hunter Street adjacent to the East site include:

- Former Wales House, 64-66 Pitt Street (1924-1929): The south façade of the Former Wales House, presents a narrow-curved elevation to Hunter Street. The building is characterised by a triangular shaped floorplate and the street façade could be described as fashionable-conservative 'Modern Renaissance' in architectural style. This building is opposite the western boundary of the site.
- Former 'NSW Club', 31 Bligh Street (1884): Immediately north of Metro East is a four storey building which is characterised by a sandstone Italian Palazzo façade. This building is immediately adjacent to the northern boundary of the site.
- Richard Johnson Square, Bligh Street (1925): This public space includes a sandstone faced obelisk equivalent to approximately 1 storey high. It is characterised by a gothic-influenced spire with a Celtic style cross. The obelisk is setback from the corner so is highly visible only from close views from the intersection. This open is immediately adjacent to the eastern boundary of the site.
- Former 'City Mutual Life Assurance' building, 10 Bligh Street (1934-1936): The southwest projected façade is a strongly modelled and distinctive Art-Deco style building which is visually prominent from the intersection and from parts of Castlereagh Street. This building is opposite the eastern boundary of the site
- Former 'Perpetual Trustee', 33-39 Hunter Street (1917): The north façade of the building presents directly to the site. Its façade is designed in the Edwardian Grand Manor with regular and symmetrical features such as baroque inspired columns and dominant overhanging cornices etc. This building is opposite the southern boundary of the site.

Wider Visual Context

The wider visual context includes significant areas of open space, such as the Royal Botanic Garden Sydney, the Domain and Hyde Park. In additional internationally recognisable Icons are also located within the wider visual context of the site for example the World Heritage listed Sydney Opera House, Sydney Harbour Bridge and Sydney Harbour.

Plate. 1 View north-west at the intersection of Elizabeth Street and Hunter Street

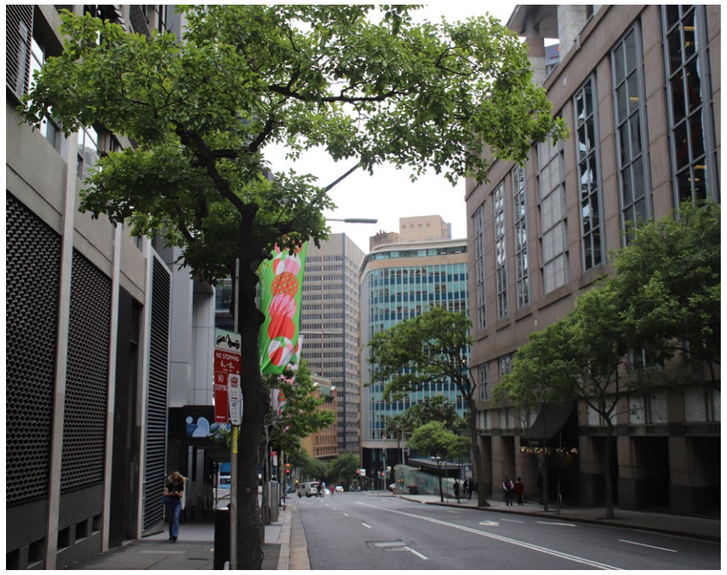


Plate. 2 View south-west at the intersection of Hunter Street and Macquarie Street

VISUAL CONTEXT

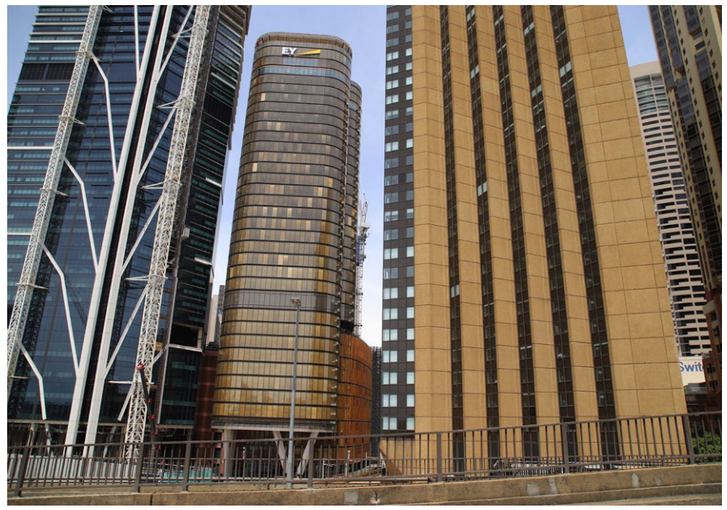


Plate. 3 View north to tower development adjacent the southern side of the Cahill Expressway

Plate. 4 View west to tower from east side of Darling Island Park

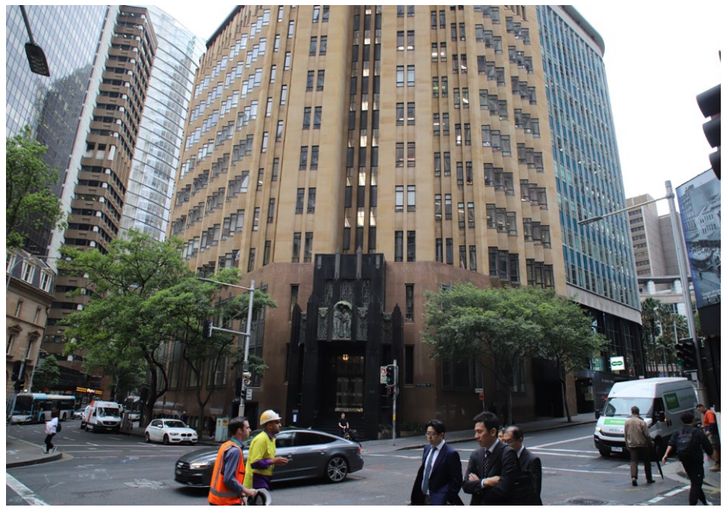


Plate. 5 View north-east to heritage item at 64-66 Pitt Street

Plate. 6 View to Chifely Square east of site

Plate. 7 View west from Royal Botanic Gardens

Plate. 8 View south-west to site from the north-western corner of the Royal Botanic Gardens

VISUAL CONTEXT - HERITAGE

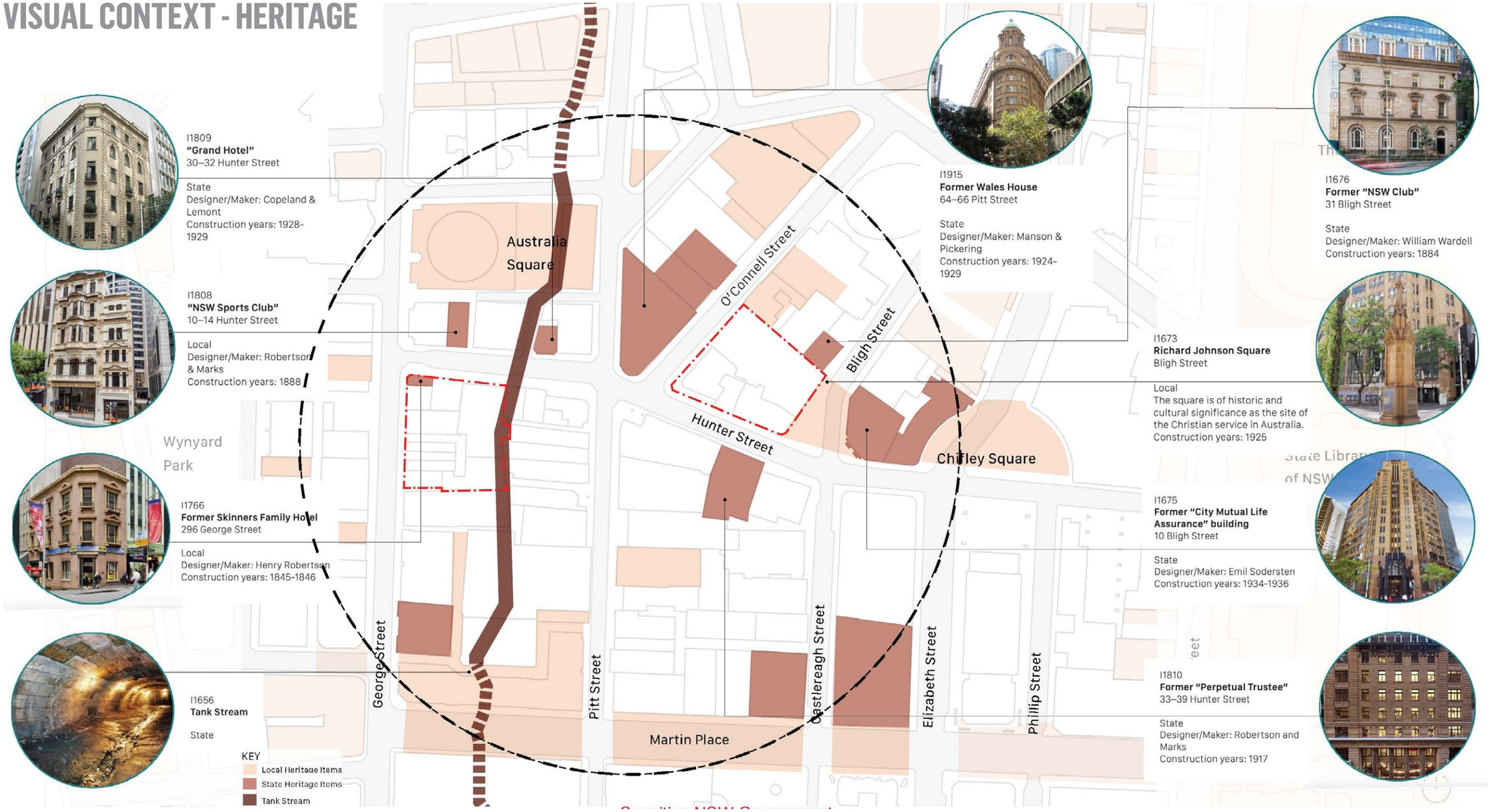


Figure 5 Heritage Context *Source: FJMT, 2021*

3.3 VISUAL CATCHMENT

3.3.1 EXTENT OF VISUAL CATCHMENT

The potential visual catchment is the theoretical area within which parts of the proposed development may be visible. The visibility of any proposed development varies depending on constraints such as the blocking effects of intervening built form, vegetation, infrastructure and topography.

Visibility refers to the extent to which the proposal would be physically visible, identifiable for example as a new, novel, contrasting feature or alternatively as a recognisable but compatible feature.

The potential visual catchment of the proposed development was initially determined via a desktop review of the site using 3D aerial imagery, maps and client supplied information. Fieldwork observations, were guided by identifying distinctive towers near to the site within the CBD as visual markers such as the Australian Square circular tower. In addition to cross check the observed and theoretical potential visual catchment, Lidar data in relation to existing buildings heights across the potential visual catchment were used to determine the extent of external visibility of the tallest proposed massing envelopes or the tallest proposed on the site. The RLs of the proposed roof form, including the tallest form at the site was used to guide the use of Lidar survey data. Indicative visibility is shown in the map at Figure 6. The map shows the level of visibility of the upper storeys of the proposed tower for example, the orange colour shows that parts of the indicative envelopes are visible from some distant parts of the potential visual catchment to the west, north and east. It should be noted that this visibility does not take into account the presence of street tree vegetation which if present will constrain potential views.

Summary

The upper most part of the proposed tower, consistent with the city skyline is likely to be visible dependent on intervening built form and vegetation, from isolated, distant locations including large areas of Sydney Harbour, lower North Shore, Pyrmont, inner West and parts of Darlinghurst and Potts Point in the east. Notwithstanding this expansive area of visibility, the effective visual catchment is limited to close locations including adjacent streets for example; Hunter, O'Connell, Bligh, Castlereagh and George Streets. Built form along Macquarie Street and Elizabeth Street constrains views from important public domain spaces including The Domain and Royal Botanic Gardens to the east and north-east and from the north-west including Observatory Hill and Barangaroo Reserve.

3.3.2 EFFECTIVE VISUAL CATCHMENT

The effective visual catchment is the immediate area within which the proposed built form would be easily perceived.

North

Views are constrained predominantly to street corridors by building development. From the north, potential views to the site including towards the proposed built form are constrained by intervening built form to road corridors. Upper parts of the proposed tower are visible in distant views from the Sydney Opera House concourse and Circular Quay, a section of the Cahill Expressway aligned with Young Street and parts of the Sydney Harbour Bridge and Lower North Shore.

The site and proposed built form is likely to be most visible in close views from immediately surrounding streets including from Hunter Street and its intersections with O'Connell and Bligh Streets.

The heritage item at 31 Bligh Street immediately north of the subject site will be visible in close views from the north-east .

Medium distant axial views further south along George Street and further east along Hunter Street are constrained by the curved road alignment.

Views from Bridge Street and Grosvenor Street to the north and from Phillip Street in the north-east are constrained by built form. The proposed built form is visible in axial views from the northern ends of George and O'Connell Streets.

There is low visibility from the Royal Botanic Garden in the north-east and from development in the north-west between the Western Distributor and Hickson Road.

East

Close views towards the site from the east are restricted to view corridors along the southern end of Bligh Street, northern end of Castlereagh, and Hunter Street. The site is highly visible from Richard Johnston Square given its close proximity and 10 Bligh Street to the east.

Medium distance views to the site are restricted by built form along Phillip, Macquarie and Hunter Streets and the curved road alignment which veers broadly north-west at the intersection of Bligh and Castlereagh Streets.

South

Close views to the site from the south are restricted to short sections of adjacent roads by intervening development including nil setbacks to the street and a predominant street wall height of existing heritage and other buildings. For example, views north to the site extend for a short section of Castlereagh Street approximately from Martin Place. 33-39 Hunter Street opposite the southern boundary of the site on the southern side of Hunter Street is also visible in close views of the site.

There is low visibility of the proposal in medium and distant views from the south, due to intervening built form.

West

The proposal for the site is visible in close views from the west including from Hunter Street between George Street in the west and O'Connell Street. The heritage façade of 64-66 Pitt Street will be visible in some close westerly views of the site.

Figure 6 indicates potential views from the west are available from parts of Pyrmont including; Pyrmont Park, Pyrmont Bay and Darling Harbour.

Summary of visibility

As part of the city skyline, the upper roof form of the proposal has a relatively large visual catchment in distant views. These are viewed against a background of other tower forms in the Sydney CBD.

Potential medium and distant views are visible from the north including Sydney Harbour and Circular Quay, west and east.

The proposal will be highly visible in close view from immediately surrounding streets including Hunter Street, George Street, the southern ends of O'Connell and Bligh Streets and northern end of Castlereagh Street.

Close views are generally restricted to axial views along road corridors and the nil setbacks to the street wall height of existing heritage and other buildings.

Heritage items will be visible in close views from surrounding streets. Distant views are available of the proposal from areas of heritage significance and sensitivity including Sydney Harbour.

There is low visibility of the proposal in distant northerly views and from public domain areas including, the Domain, Royal Botanic Gardens and Barangaroo Reserve, due to intervening built form.

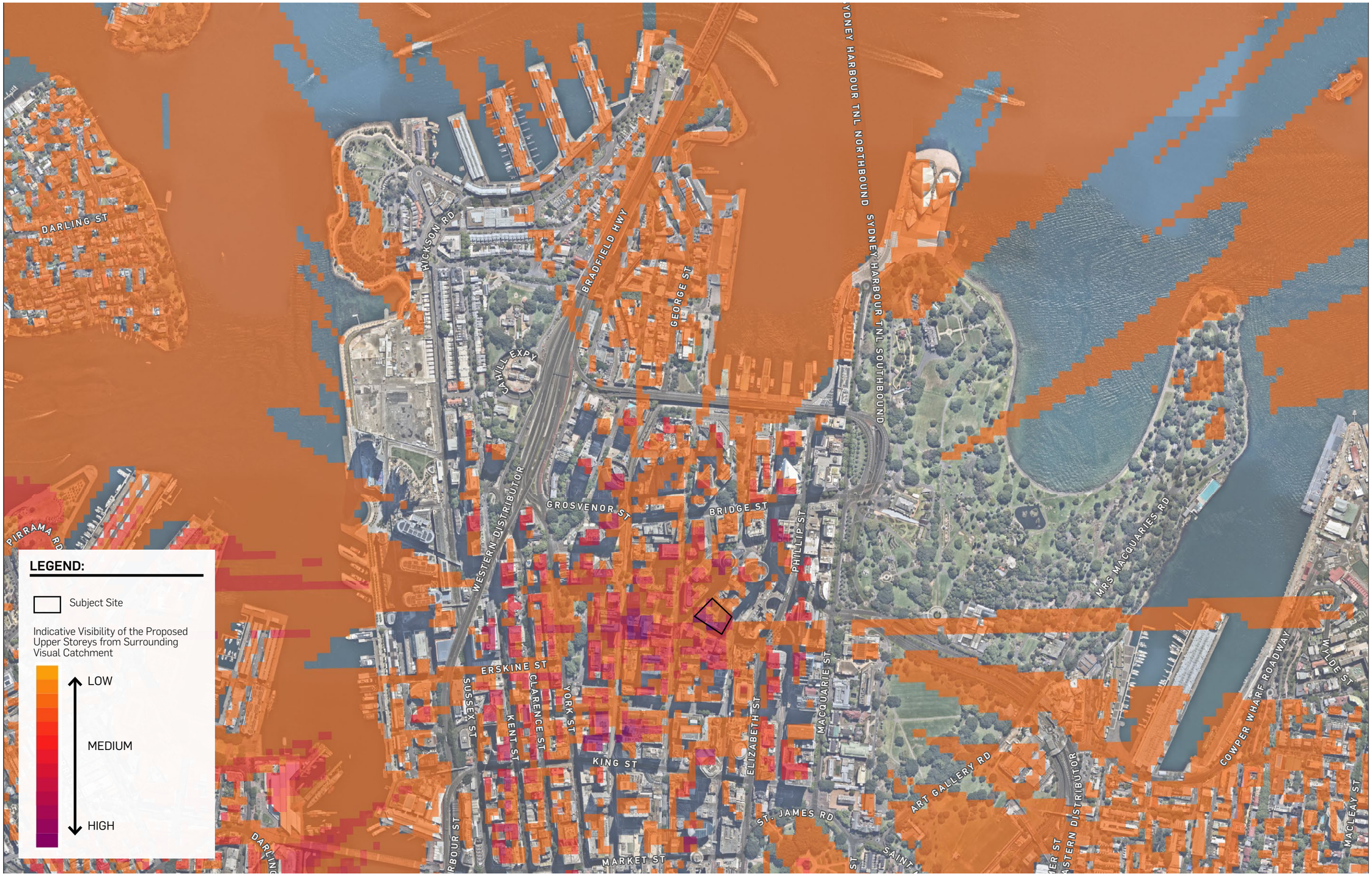


Figure 6 Viewshed Map showing the indicative visibility of the upper storeys of the proposed envelope from surrounds

4.0 RELEVANT ADDITIONAL FACTORS

4.1 VIEWING PERIOD

Viewing period in this assessment refers to the influence of time available to a viewer to experience the view to the site and the visual effects of the proposed development. Longer viewing periods, experienced either from fixed or moving viewing places such as dwellings, roads or waterways, provide for greater potential for the viewer to perceive the visual effects. In the majority of views from close locations to the proposed development will be from moving viewing locations, or those of a short duration.

4.2 VIEWING DISTANCE

Viewing distance can influence on the perception of the visual effects of the proposal which is caused by the distance between the viewer and the development proposed. It is assumed that the viewing distance is inversely proportional to the perception of visual effects: the greater the potential viewing distance, experienced either from fixed or moving viewing places, the lower the potential for a viewer to perceive and respond to the visual effects of the proposal.

Ranges are as follows; close range (<100m), medium range (100-500m) and distant (>500m).

10 view locations from a variety of distances classes were selected for analysis in order to interpolate the extent of likely visual effects and impacts across the wider potential visual catchment.

4.3 RELEVANT REGULATORY FRAMEWORK

Documented views included within statutory and non-statutory documents have been reviewed and are included at Figures 7 and 8.

None cross either subject site and therefore are not relevant to this assessment.

Figure 7 View protection planes and Sydney Harbour views. *Draft Central Sydney Planning Strategy*

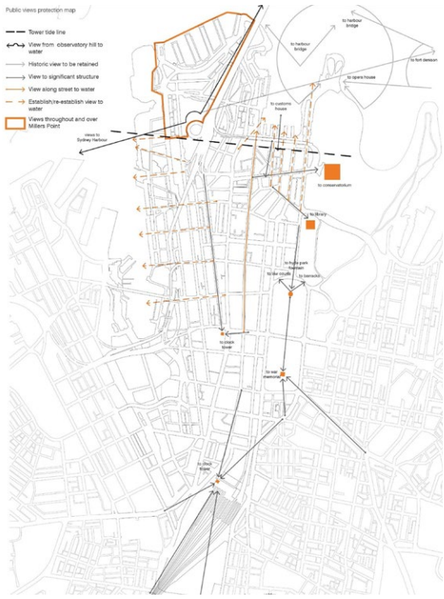


Figure 8 Public Views Protection Map *Draft Central Sydney Planning Strategy*

5.0 SELECTION OF VIEWS

5.1 WHAT IS A HERITAGE VIEW?

There are no widely adopted guidelines used in NSW to determine whether or not a potential 'heritage' view has been historically, intentionally designed. Many documented views exist that capture heritage items (typically individual buildings) from particular places and historic scenes of early colonial development for example streetscapes and view corridors across NSW etc. However without knowing the purpose of a photograph, or intentions and inherent potential cultural bias of a photographer at the time of photography, it cannot be determined whether or not a so called 'heritage view' is associated with cultural or visual values of significance.

This report considers the assessment criteria and methodology for determining the historic legitimacy of a documented view which may be thought to have heritage significance or value, developed by Dr Richard Lamb.

The co-author of this report assisted Dr Lamb in developing this approach. Urbis note that the criteria and ratings developed have been accepted by various consent authorities within NSW.

Views are rated at five different levels, Level 1 being a documented view that is considered as being most likely to be a deliberately designed view and therefore assumes the most significance or greatest value. A Level 5 view is the lowest rating assigned, based on evidence found, and refers to a view is most unlikely to have been historically designed or intended as a visual link between items of features.

At a lower level still, on the hierarchy of views that might be claimed to be heritage views, are views from or in the vicinity of items, the curtilages or settings of items, from which new or non-significant items are visible. Simply being able to see a heritage item, place or setting does not make the view a heritage view. By the same token, being able to see a new, different or novel item of no current significance, in the context of a heritage item, does not create an impact on heritage values, unless it can be demonstrated that the acknowledged authentic heritage values of the item would be impaired to the detriment of interpretation of the heritage values of the item (level 5 L5).

No documented historic views were discovered during our desktop review or fieldwork. If any of the views selected for analysis were subsequently found to be documented 'historic' views in our opinion they would be rated at the lowest level 'L5" given that they appear to be incidental views from or in the vicinity of items, the curtilages or settings of items, from which new or non-contributory items are visible.

Urbis are not aware of any documented heritage views along Hunter Street, to or from the heritage items present in the streetscape. The indicative envelopes proposed are massed and located so that approved and subsequently constructed built forms are unlikely to block views to and from heritage items in Hunter and George Street. The visual effects and potential impacts on the visual setting of and views to heritage items would be considered at the DA stage, where a more fine-grained and nuanced analysis regarding details, materiality and articulation of built form could be undertaken.

5.2 USE OF PHOTOMONTAGES

Urbis undertook fieldwork in November 2021, documenting of a range of representative views from close, medium and distant locations surrounding the site. 10 view places for further analysis via the use of objective visual aids.

Photographs from each of the 10 priority locations were used as base images for the preparation of block-model photomontages, certifiable photomontages. The view places were recorded using the GPS camera meta data, fieldwork measurements to fixtured features and were independently surveyed by CMS registered surveyors .

The original photographs were taken using a Canon EOS 6D Mark 2 full frame camera using a 35mm and 50mm Focal length lens.

The photomontages prepared provide an accurate and faithful representation of the proposed built form. The process followed is as accurate as possible in the circumstances and in this regard the photomontages can be relied upon as objective visual aids to inform this assessment.

Further information regarding the preparation and accuracy of photomontages is included in Appendix 3.

6.0 VISUAL EFFECTS ANALYSIS

View No.	Direction and location of view analysed
View 01	View north to site from 15 Castlereagh Street
View 02	View west along Hunter St from the NSW State library
View 03	View west to proposal from The Domain
View 04	View south-west to site from north-western edge of Opera House Concourse
View 05	View south to site from Cahill Expressway aligned with Young Street
View 06	View north-east to tower from Pyrmont bridge
View 07	View east down Hunter street from George Street intersection
View 08	View west down Hunter street from intersection with Elizabeth Street
View 09	View south-west from the south-western edge of the Opera house upper concourse
View 10	View east to site from the corner Hunter and Castlereagh Streets

Figure 9 Photomontage View Location Map

VIEW 01

VIEW NORTH TO SITE FROM 15 CASTLEREAGH STREET

Distance class

- Close view
- <100m

Existing composition of the view

This is a view north towards site. The foreground composition is characterised by the lower facade forms of 15 Castlereagh Street, street tree vegetation and construction scaffolding on the eastern side of Castlereagh Street. The mid-ground includes the Richard Johnston Square and obelisk at the intersection of Bligh and Hunter Streets, parts of the heritage facade of 31 Bligh Street and the tall tower forms at the subject site and immediately north of the subject site which restrict views toward the background composition.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the streetscape. The eastern elevation of the lower podium levels will contribute a narrow vertical feature in this view adjacent to the facade of the heritage item at 31 Bligh Street. The eastern facade of this heritage item remains visible in the view. The upper levels of the east tower are set back from the eastern boundary and as such are not visible in this view. The proposed envelope is not dissimilar in form or character to built form in the immediate surrounds. The proposed envelope does not create any significant view blocking effects or visual impacts on baseline factors including existing visual character.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	nil
Viewing Period	low
Viewing Distance	high
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	low
Physical Absorption Capacity	high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 10 EXISTING VIEW

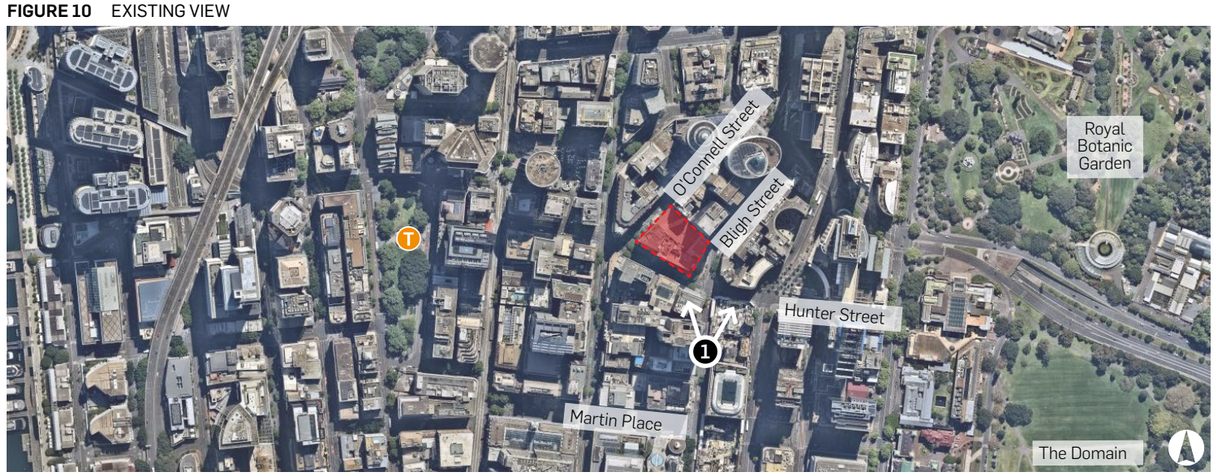


FIGURE 11 VIEWPOINT LOCATION

Figure 12 View 01 - Proposed

VIEW 02

VIEW WEST ALONG HUNTER STREET FROM THE NSW STATE LIBRARY

Distance class

- Medium view
- 100-500m

Existing composition of the view

This axial view west along Hunter Street from adjacent to the NSW State Library on Macquarie Street is characterised by a foreground of road carriageway and buildings along both sides of Hunter Street. The built form includes taller contemporary towers and heritage facades. Visibility beyond the immediate buildings and mid-ground composition is restricted by the road alignment which curves towards the north-west, with the background predominantly including open sky above the tower forms.

Visual effects of the proposed development on the composition as modelled

The proposal introduces a new contemporary built form of the East tower into the background view composition. The eastern elevation of the proposal is visible above existing development. The proposal does not block heritage facades or views to heritage items. The upper-most part of the east tower form blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	low
Viewing Period	low
Viewing Distance	high
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	medium
Physical Absorption Capacity	medium-high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 13 EXISTING VIEW

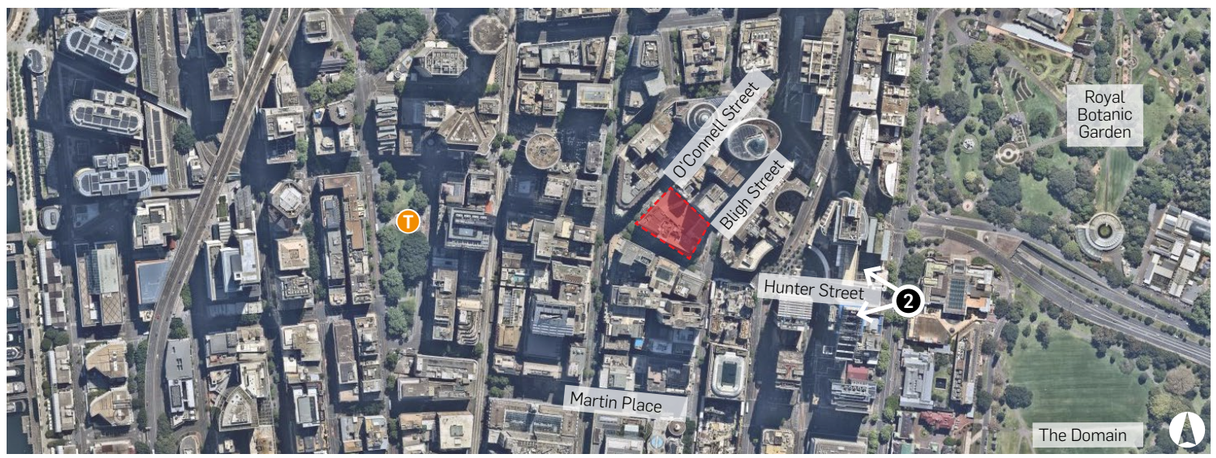


FIGURE 14 VIEWPOINT LOCATION

Figure 15 View 02 - Proposed

VIEW 03

VIEW WEST TO SITE FROM THE DOMAIN

Distance class

- Medium view
- 100-500m

Existing composition of the view

This view from the east-west footpath through The Domain includes a foreground view of the grassed open space of The Domain and trees which line the parks western edge. The mid-ground is characterised by development along Macquarie Street which includes tall contemporary towers and shorter heritage development including the Sydney Eye Hospital and the upper roof form of the NSW State Library. The background includes towers forms against a background of open sky.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the background of the view composition. The upper part and roof form of the eastern elevation of the proposed envelope will contribute a narrow tower form to the mid-ground composition amongst other tall contemporary tower forms. The proposal does not block heritage facades or views to heritage items. The upper-most part of the east tower form blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	low
Viewing Period	medium
Viewing Distance	medium
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	high
Physical Absorption Capacity	medium-high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 1 EXISTING VIEW

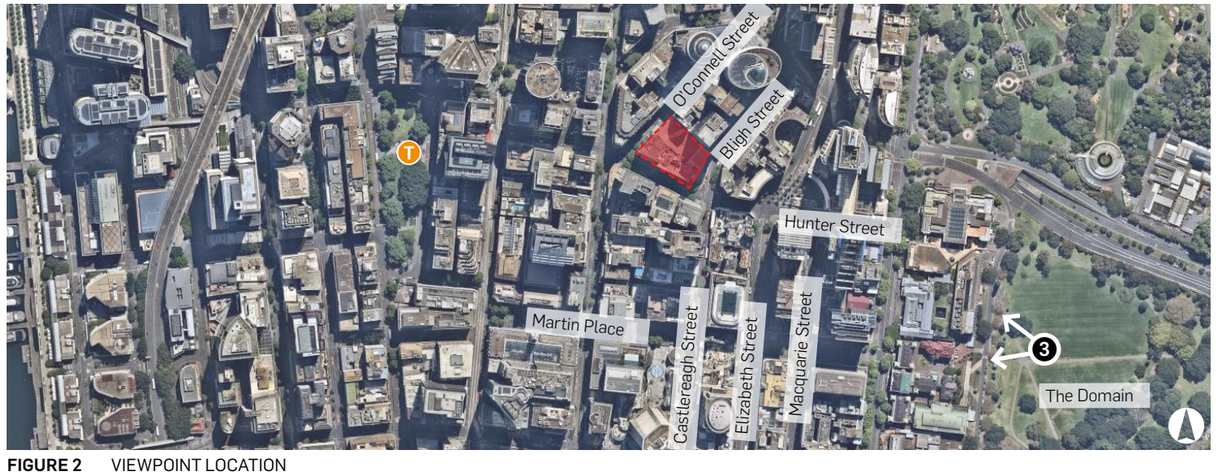


FIGURE 2 VIEWPOINT LOCATION

Figure 16 View 03 - Proposed

VIEW 04

VIEW SOUTH-WEST TO SITE FROM NORTH-WESTERN EDGE OF OPERA HOUSE CONCOURSE

Distance class

- Distant view
- >500m

Existing composition of the view

This distant view from the Opera House Concourse features a foreground of Sydney Harbour, the Opera House western promenade and Sydney Harbour. The mid-ground composition includes the northern edge of the Royal Botanic Gardens, Circular Quay and an elevated section of the Cahill Expressway. The mid-ground and background include built form within the Sydney CBD including tall contemporary tower forms against a backdrop of open sky. Heritage buildings are interspersed between tower forms, such as Customs House in the mid-ground. This view includes features of high scenic quality and value, as well as local and state heritage listed items.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the background of the view composition. The upper part and roof form of the northern elevation of the proposed envelope is visible amongst other tower built form. The height of the proposed envelope sits below other buildings within the view composition. The proposal does not block heritage facades or views to heritage items. The upper-most parts of the East tower blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	low
Viewing Period	medium
Viewing Distance	low
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	high
Physical Absorption Capacity	high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 17 EXISTING VIEW

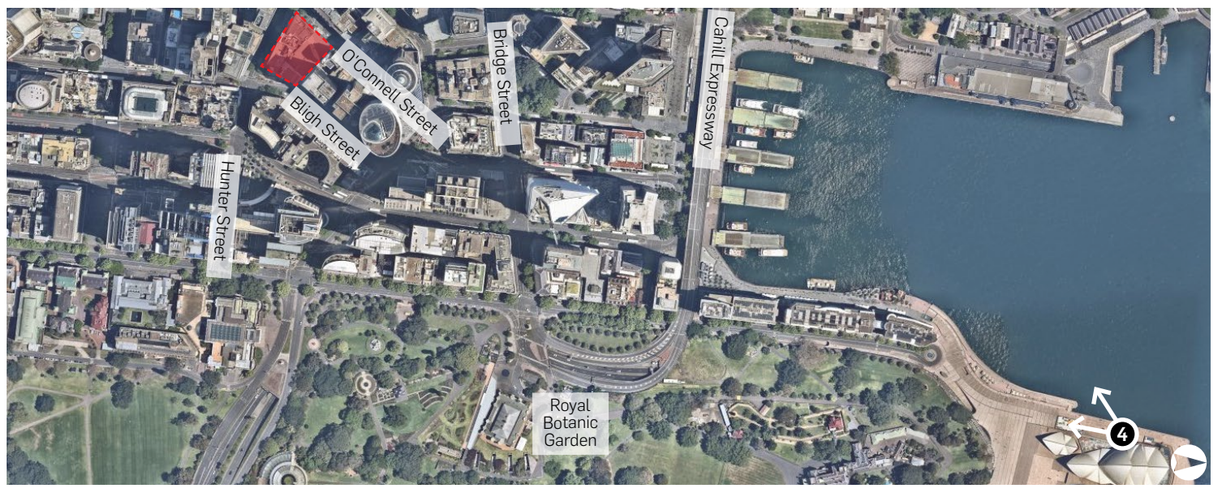


FIGURE 18 VIEWPOINT LOCATION

Figure 19 View 04 - Proposed

VIEW 05

VIEW SOUTH TO SITE FROM CAHILL EXPRESSWAY ALIGNED WITH YOUNG STREET

Distance class

- Medium view
- 100-500m

Existing composition of the view

This is an elevated view from the Cahill Expressway. The foreground is characterised by buildings along Alfred Street that presents north towards Circular Quay. Foreground built form includes heritage buildings including the upper levels of Customs House. The mid-ground composition features medium to tall contemporary buildings in the CBD which blocks views further south towards the subject site. The view is predominantly characterised by built form of varying heights, forms, architectural styles and ages.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the background of the view composition. The upper part and roof form of the northern elevation of the proposed building envelope are visible amongst other towers built form. The proposal does not block heritage facades or views to heritage items. The upper-most parts of the East tower form blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	low
Viewing Period	low
Viewing Distance	medium
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	medium
Physical Absorption Capacity	high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 21 EXISTING VIEW

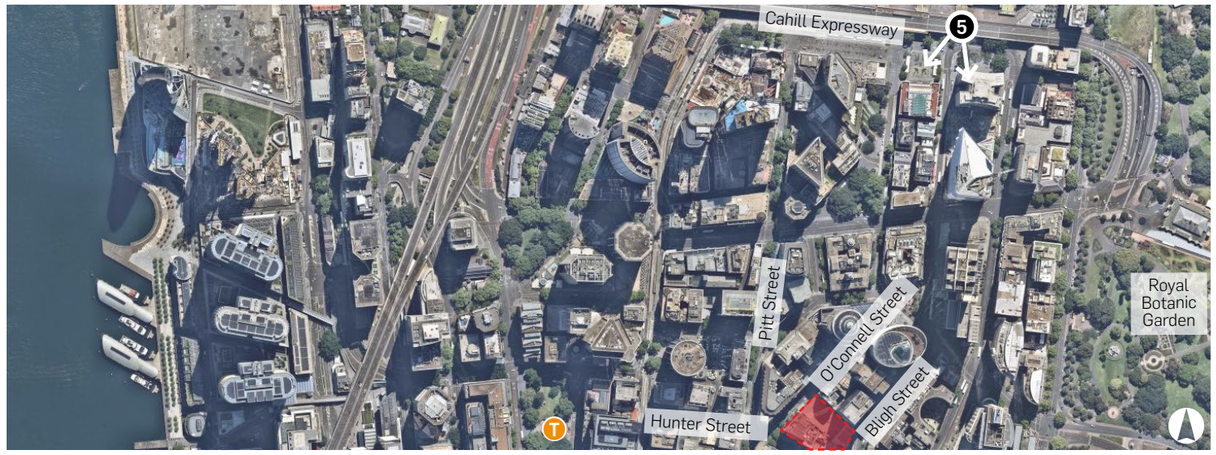


FIGURE 20 VIEWPOINT LOCATION

Figure 22 View 05 - Proposed

VIEW 06

VIEW NORTH-EAST TO TOWER FROM PYRMONT BRIDGE

Distance class

- Distant view
- >500m

Existing composition of the view

This is an elevated view from the Pyrmont Bridge, a heritage item. The foreground consists of the water of Darling Harbour and built form along 'The Promenade' which runs north-south along the eastern side of Darling Harbour. Built form increases in height from the foreground to the mid-ground and background. Buildings in the mid-ground expands across the horizon and constrains views beyond to the east.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the background of the view composition. The upper roof forms of the north-eastern edges of the proposed envelope is visible amongst other tower buildings in this view. The proposal does not block heritage facades or views to heritage items. The upper-most parts of the East tower form blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context. The upper-most parts of the East tower form blocks open areas of sky.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	medium
Viewing Period	low-medium
Viewing Distance	low
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	high
Physical Absorption Capacity	high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 23 EXISTING VIEW

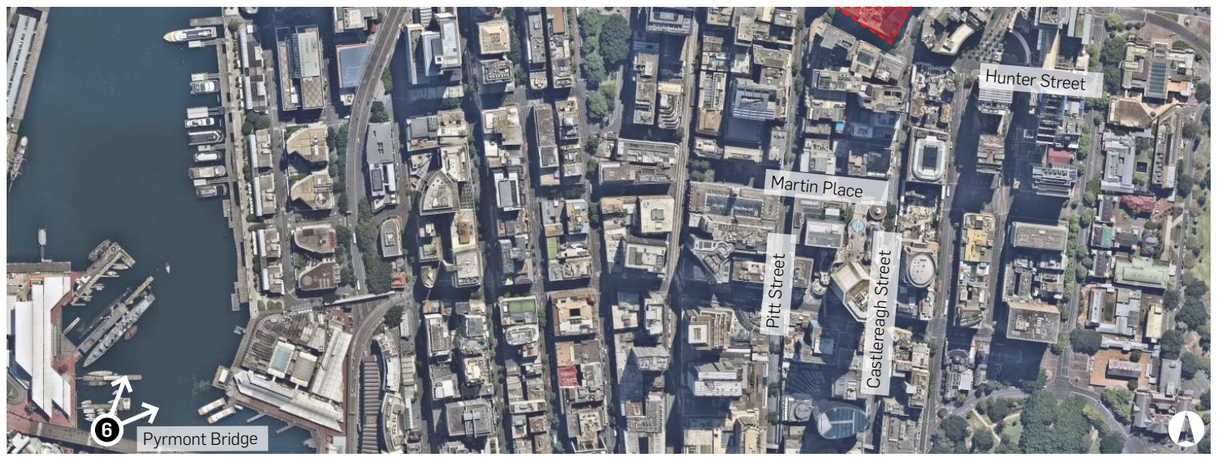


FIGURE 24 VIEWPOINT LOCATION

Figure 25 View 06 - Proposed

VIEW 07

VIEW EAST DOWN HUNTER STREET FROM GEORGE STREET INTERSECTION

Distance class

- Close view
- <100m

Existing composition of the view

This close view is framed by built form on the north and south side of Hunter Street. The buildings form a nil setback to Hunter Street and comprises both contemporary commercial tower forms and lower height heritage buildings. As Hunter Street veers broadly towards the south-east in the mid-ground, built form along the street frontage blocks views beyond. The background includes a tall tower form.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the foreground view composition. The Hunter Street frontage of the proposed envelope is visible in the view and are adjacent to other tower forms. The proposal does not block heritage facades or views to heritage items. The upper-most parts of the East tower form blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context. The upper-most parts of the East tower form blocks open areas of sky.

Visual effects of proposed development	
Visual Character	medium
Scenic Quality of View	medium
View Composition	medium
Viewing Level	low
Viewing Period	low
Viewing Distance	high
View Loss & View Blocking Effects	low-medium
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	medium-high
Physical Absorption Capacity	medium-low
Compatibility with Urban Context and Visual Character	medium-high
Overall rating of significance of visual impact	**MEDIUM-HIGH**

FIGURE 26 EXISTING VIEW

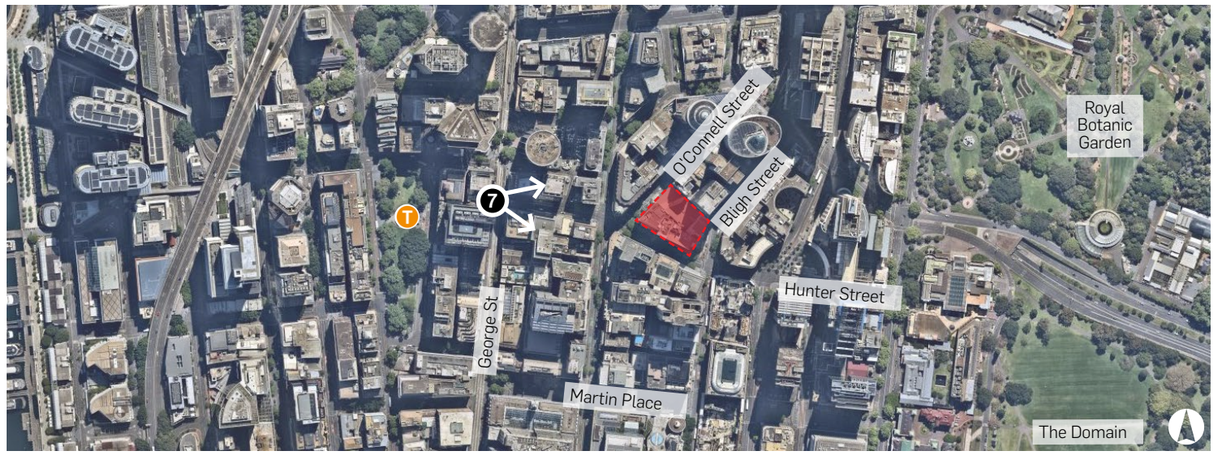


FIGURE 27 VIEWPOINT LOCATION

Figure 28 View 10 - Proposed

VIEW 08

VIEW WEST DOWN HUNTER STREET FROM INTERSECTION WITH ELIZABETH STREET

Distance class

- Close view
- <100m

Existing composition of the view

This view west along Hunter Street is framed by a foreground of tower development along Hunter Street. The right side of the foreground composition includes heritage facades. Views further west are constrained by the slim setbacks of development to Hunter Street and change in road orientation. Street trees screen visibility to the lower levels of the south-eastern corner of the subject site. A vertical column of the existing tower form on the subject site is visible in the mid-ground.

Visual effects of the proposed development on the composition as modelled

The proposal introduces a new contemporary built form of the East tower into the mid-ground view composition. A short section of the south elevation of the proposal envelope are visible as narrow columns amongst other development. The proposal does not block heritage facades or views to heritage items. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	low
Viewing Period	low
Viewing Distance	high
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	low
Physical Absorption Capacity	high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 30 EXISTING VIEW

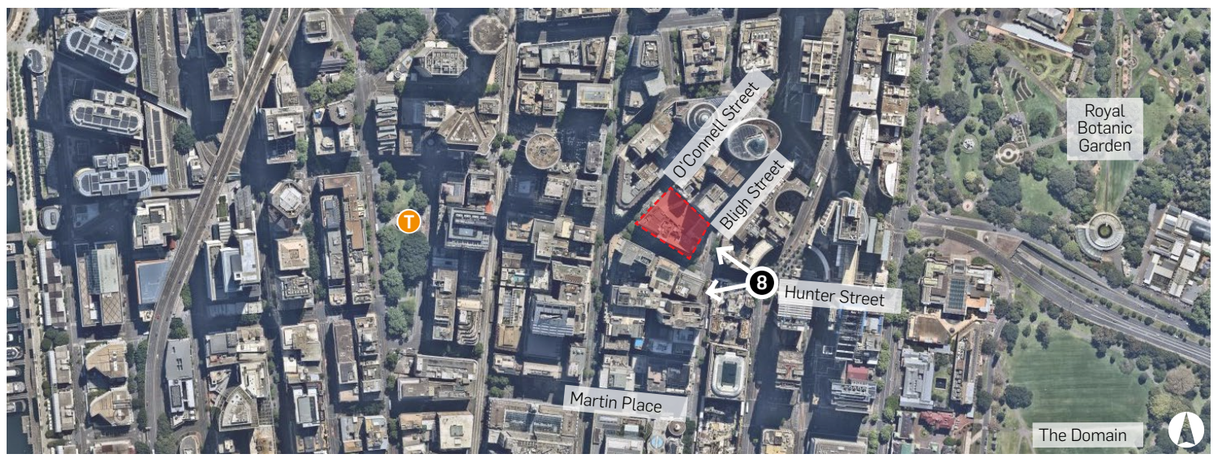


FIGURE 29 VIEWPOINT LOCATION

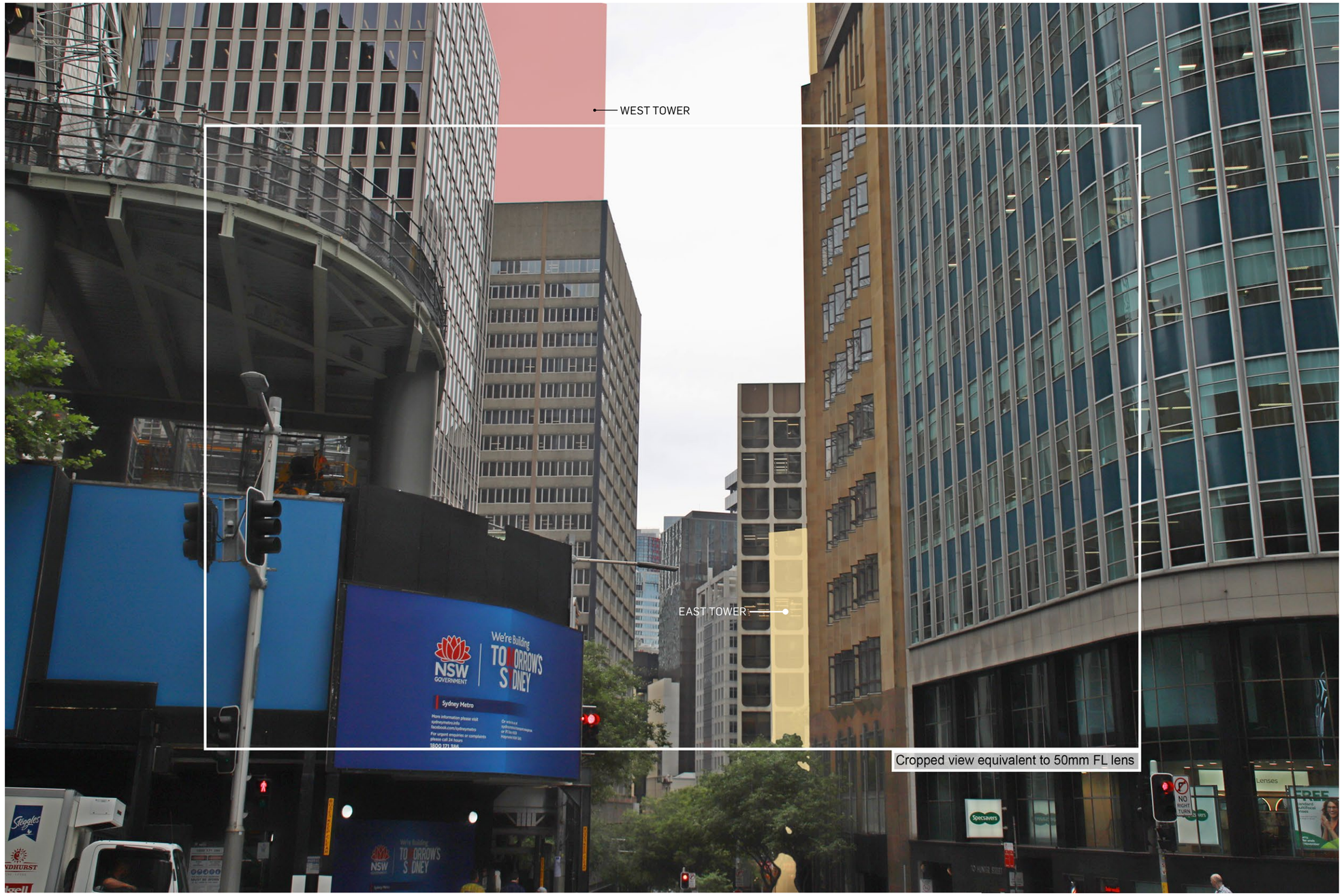


Figure 31 View 12 - Proposed

VIEW 09

VIEW SOUTH-WEST FROM THE SOUTH-WESTERN EDGE OF THE OPERA HOUSE UPPER CONCOURSE

Distance class

- Distant view
- <500m

Existing composition of the view

This view from the southern end of the Opera House Concourse features a foreground of Sydney Harbour, a tower form to the left of the view composition and a paved promenade towards Circular Quay. The mid-ground includes building development and the ferry terminal at Circular Quay, the promenade to the Opera House western promenade and Sydney Harbour. Heritage buildings are interspersed between tower forms, such as Customs House in the mid-ground. The mid-ground and background include built form within the Sydney CBD including tall contemporary tower forms against a backdrop of sky.

Visual effects of the proposed development on the composition as modelled

The proposal introduces new contemporary built form of the East tower into the background of the view composition. The north and west elevation of proposal are visible amongst other tower built form. The height of the proposed envelope sits below other buildings within the view composition. The proposal does not block heritage facades or views to heritage items. The upper-most parts of the East tower form blocks open areas of sky. The proposed envelope does not create any significant view blocking effects on baseline factors including existing visual character, scenic quality etc. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low
Scenic Quality of View	low
View Composition	low
Viewing Level	low
Viewing Period	low
Viewing Distance	low
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	medium
Physical Absorption Capacity	high
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**MEDIUM**

FIGURE 1 EXISTING VIEW

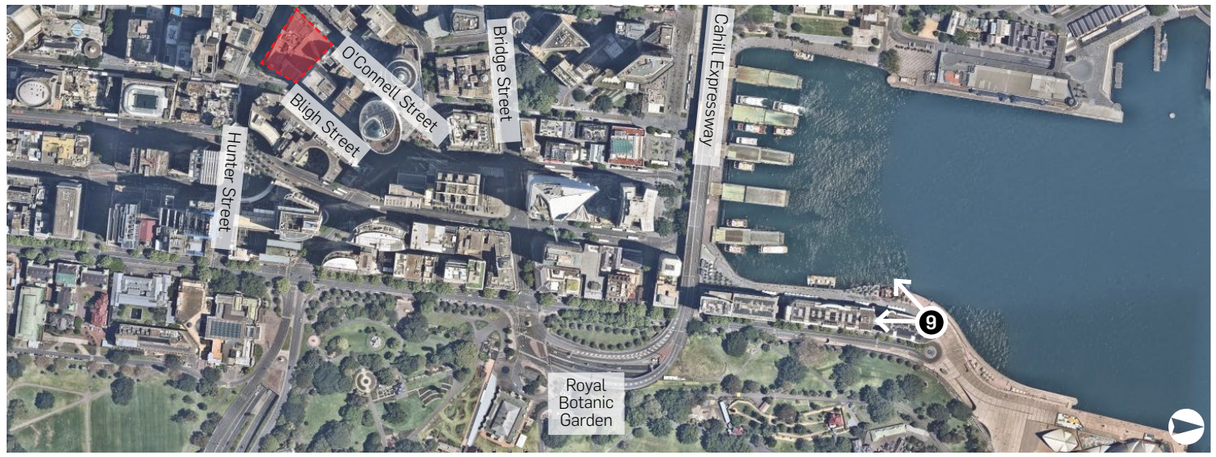


FIGURE 2 VIEWPOINT LOCATION

Figure 33 View 13 - Proposed

VIEW 10

VIEW EAST TO SITE FROM CORNER HUNTER AND CASTLEREAGH STREETS

Distance class

- Close view
- <100m

Existing composition of the view

This close view to the south-east corner of the site includes a foreground of road carriageway and the tree lined section of Hunter Street between its intersections of Castlereagh and Pitt Street. Built form in the foreground includes the obelisk at Richard Johnston Square and the existing tower form on the subject site. The right side of the foreground composition includes construction scaffolding, a tall commercial tower and part of the heritage facade of 31 Bligh Street. The northern half of the subject site currently under Metro construction allows for views access through the site to high density commercial built form in the background. The mid-ground includes built form, including contemporary built form and parts of heritage items along Hunter Street, these block views beyond to the background.

Visual effects of the proposed development on the composition as modelled

The proposal introduces a new contemporary built form of the East tower into the foreground view composition. The lower part of the southern and eastern elevations of the site are visible in the view. The northern edge of the eastern elevation blocks a slim column of the heritage facade at 31 Bligh Street. The proposed envelope is not dissimilar in form, height or character to existing towers in the composition and wider visual context.

Visual effects of proposed development	
Visual Character	low-medium
Scenic Quality of View	low-medium
View Composition	medium
Viewing Level	low
Viewing Period	low
Viewing Distance	high
View Loss & View Blocking Effects	low
Rating of visual effects on variable weighting factors	
Public Domain View Place Sensitivity	low
Physical Absorption Capacity	mediun
Compatibility with Urban Context and Visual Character	high
Overall rating of significance of visual impact	**LOW**

FIGURE 1 EXISTING VIEW

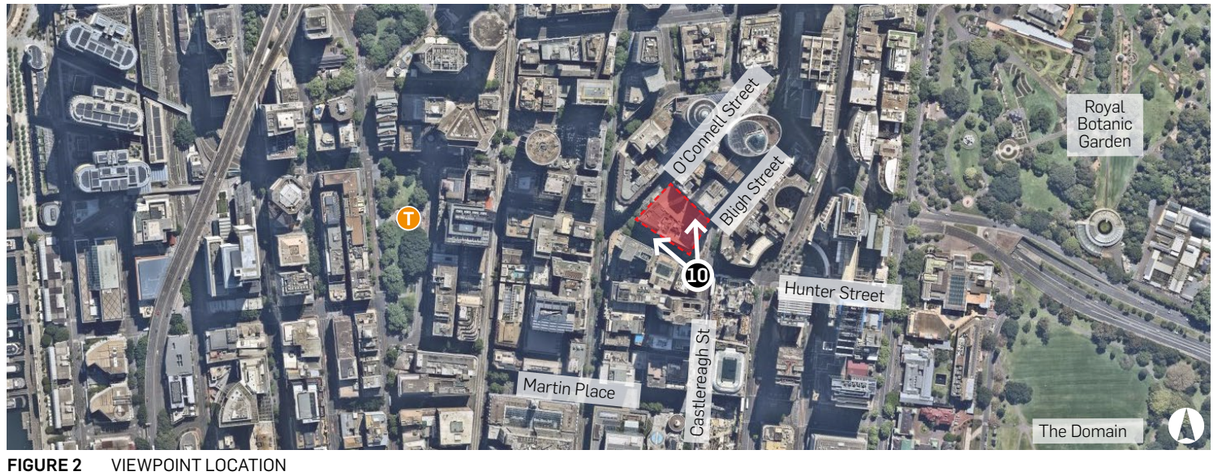


FIGURE 2 VIEWPOINT LOCATION

Figure 34 View 14 - Proposed

7.0 VISUAL IMPACT ASSESSMENT

7.1 SENSITIVITY

The overall rating for view place sensitivity was weighted according to the influence of variable factors such as distance, the location of items of heritage significance or public spaces of high amenity and high user numbers.

Public domain view place sensitivity was rated as medium or lower in 6 views, with the views experienced for shorter durations of time and not an extended duration of time, such as those from public open spaces. Views from public open spaces were either spatially separated or limited by built form and street vegetation.

7.2 PHYSICAL ABSORPTION CAPACITY

The following definitions describe our understanding of relevant considerations when assessing visual impacts. These factors form part of our methodology and allow us to consider the importance of visual change in a 'site- specific' or nuanced way. The definitions were originally developed by Dr Richard Lamb but amended by Urbis and included in our method with his permission. Physical Absorption Capacity (VAC) means the extent to which the existing visual environment can reduce or eliminate the perception of the visibility of the proposed redevelopment.

PAC includes the ability of existing elements of the landscape to physically hide, screen or disguise the proposal. It also includes the extent to which the colours, material and finishes of buildings and in the case of boats and buildings, the scale and character of these allows them to blend with or reduce contrast with others of the same or closely similar kinds to the extent that they cannot easily be distinguished as new features of the environment.

Prominence is also an attribute with relevance to PAC. It is assumed in this assessment that higher PAC can only occur where there is low to moderate prominence of the proposal in the scene.

Low to moderate prominence means:

Low: The proposal has either no visual effect on the landscape or the proposal is evident but is subordinate to other elements in the scene by virtue of its small scale, screening by intervening elements, difficulty of being identified or compatibility with existing elements.

Moderate: The proposal is either evident or identifiable in the scene, but is less prominent, makes a smaller contribution to the overall scene, or does not contrast substantially with other elements or is a substantial element, but is equivalent in prominence to other elements and landscape alterations in the scene.

The existing visual environment has a relatively high capacity to absorb the visual changes proposed given the surrounding urban context, the presence of medium and tall tower forms, which block or partially block medium and distant public domain views towards the proposed development.

7.3 VISUAL COMPATIBILITY

Visual Compatibility is not a measure of whether the proposal can be seen or distinguished from its surroundings. The relevant parameters for visual compatibility are whether the proposal can be constructed and utilised without the intrinsic scenic character of the locality being unacceptably changed. It assumes that there is a moderate to high visibility of the project to some viewing places. It further assumes that novel elements which presently do not exist in the immediate context can be perceived as visually compatible with that context provided that they do not result in the loss of or excessive modification of the visual character of the locality.

A comparative analysis of the compatibility of similar items to the proposal with other locations in the area which have similar visual character and scenic quality or likely changed future character can give a guide to the likely future compatibility of the proposal in its setting.

The proposed development has high compatibility with the existing visual character of the site and the immediate visual context. We note that site is subject to different height controls and objectives in relation tower clusters.

The visual context surrounding the site is characterised by built forms that are not dissimilar in form, scale, height and character to the indicative envelopes proposed. In this regard the proposed development would not be out of place or an have unexpected features for viewers travelling within the immediate or wider visual catchment.

All but 1 view was rated as having a HIGH compatibility which provides an ‘down-weight’ to the level of visual effects, reducing their importance

7.4 COMPATIBILITY WITH REGULATORY CONTEXT

Compatibility with desired future character including built forms in the Concept Plan, and planning objectives for the wider visual context in Sydney CBD, were found to be high.

This provided a 'down-weight' in relation to the overall rating of visual impacts.

7.5 SIGNIFICANCE OF RESIDUAL VISUAL IMPACTS

Residual effects are discussed and quoted below by Dr Lamb as follows;

The final question to be answered after the mitigation factors are assessed, is whether there are any residual visual impacts and whether they are acceptable in the circumstances. These residual impacts are predominantly related to the extent of permanent visual change to the immediate setting.

In terms of the urban component of the development, residual impacts relate to individuals' preferences for the nature and extent of change which cannot be mitigated by means such as colours, materials and the articulation of building surfaces. These personal preferences are to or resilience towards change to the existing arrangement of views. Individuals or groups may express strong preferences for either the existing, approved or proposed form of urban development.

7.5.1 APPLYING THE 'WEIGHTING' FACTORS

To arrive at a final level of significance of visual impact, the weighting factors are applied to the overall level of visual effects.

The proposed development has been assessed against provisions relevant to views that are included in the Sydney DCP 2012 and the objectives of the land-use zone. In this regard the level of effects generated was found to be compatible and consistent with the level of visual effects that would be contemplated by the controls for the zone. Results of this section provided a 'down-weight' to the level of visual effects.

Overall visual impacts

Taking into consideration the level of visual effects of the proposal on baseline characteristics, and application of impact weighting factors, the visual impacts of the proposed development were found to be compatible with the existing urban character and desired future character of the area.

8.0 CONCLUSION

- The overall level of visual impacts is derived by considering various relevant factors as to how a proposed development of this size and scale will affect its existing visual context and character.
- The final level of visual impacts that would be caused by the approval of the massing envelopes and subsequent construction of the proposed development, are based on a review of photomontages and application of a robust methodology.
- The immediate visual context is characterized by tall contemporary tower forms interspersed with heritage items with detailed facades.
- The visual catchment of the site includes distant views from the west, north and east, as well as adjacent streets for example; Hunter, O'Connell, and Bligh streets. Built form along Macquarie Street and Elizabeth Street constrains views from important public domain spaces including The Domain and Royal Botanic Gardens to the east and north-east and from the north-west including Observatory Hill and Barangaroo Reserve.
- Views from a range of distance classes have been used to determine visual impacts across the potential visual catchment.
- Viewpoints were identified through fieldwork observations, analysis of aerial imagery and LiDar data.
- Of the 10 views analysed 8 were rated as a low, 1 were rated as medium and 1 rated as a medium-high level of visual impact.
- The regulatory context of the site allows for tall tower forms similar to the envelopes proposed, and as such the level of visual effects and impacts are contemplated by the controls.
- The assessment shows that in the majority of views there is a high capacity to absorb physical change.
- The envelope proposed as modelled in all views, does not generate any significant visual impacts on the view compositions analysed.
- In our opinion taking all relevant factors into consideration, the significance of visual effects that would be caused by the proposed development, are reduced where visual impacts are rated as low.
- Through this visual impact assessment it is demonstrated that this SSDA can be supported on visual impacts grounds.

APPENDIX 1

DESCRIPTION OF VISUAL EFFECTS

Table 1 Description of Visual Effects

Published on the NSW Department of Planning and Environment (DPE) website via the major projects tab. This information has been developed by RLA and is acknowledged as being a comprehensive summary of typical descriptions regarding visual effects. The descriptions below have been used as a guide to make subjective judgements in relation to the effects and impacts of the proposed development on each modelled view.

Factors	Low Effect	Medium Effect	High Effect
Scenic quality	The proposal does not have negative effects on features which are associated with high scenic quality, such as the quality of panoramic views, proportion of or dominance of structures, and the appearance of interfaces.	The proposal has the effect of reducing some or all of the extent of panoramic views, without significantly decreasing their presence in the view or the contribution that the combination of these features make to overall scenic quality	The proposal significantly decreases or eliminates the perception of the integrity of any of panoramic views or important focal views. The result is a significant decrease in perception of the contribution that the combinations of these features make to scenic quality
Visual character	The proposal does not decrease the presence of or conflict with the existing visual character elements such as the built form, building scale and urban fabric	The proposal contrasts with or changes the relationship between existing visual character elements in some individual views by adding new or distinctive features but does not affect the overall visual character of the precinct's setting.	The proposal introduces new or contrasting features which conflict with, reduce or eliminate existing visual character features. The proposal causes a loss of or unacceptable change to the overall visual character of individual items or the locality.
View place sensitivity	Public domain viewing places providing distant views, and/or with small number of users for small periods of viewing time (Glimpses-as explained in viewing period).	Medium distance range views from roads and public domain areas with medium number of viewers for a medium time (a few minutes or up to half day-as explained in viewing period).	Close distance range views from nearby roads and public domain areas with medium to high numbers of users for most the day (as explained in viewing period).
Viewer sensitivity	Residences providing distant views (>1000m).	Residences located at medium range from site (100-1000m) with views of the development available from bedrooms and utility areas.	Residences located at close or middle distance (<100m as explained in viewing distance) with views of the development available from living spaces and private open spaces.
View composition	Panoramic views unaffected, overall view composition retained, or existing views restricted in visibility of the proposal by the screening or blocking effect of structures or buildings.	Expansive or restricted views where the restrictions created by new work do not significantly reduce the visibility of the proposal or important features of the existing visual environment.	Feature or focal views significantly and detrimentally changed.
Relative viewing level	Elevated position such as ridge top, building or structure with views over and beyond the site.	Slightly elevated with partial or extensive views over the site.	Adjoining development, public domain area or road with view blocked by proposal.
Viewing period	Glimpse (e.g. moving vehicles).	Few minutes to up to half day (e.g. walking along the road, recreation in adjoining open space).	Majority of the day (e.g. adjoining residence or workplace).
Viewing distance	Distant Views (>1000m).	Medium Range Views (100- 1000m).	Close Views (<100m).
View loss or blocking effect	No view loss or blocking.	Partial or marginal view loss compared to the expanse/extent of views retained. No loss of views of scenic icons.	Loss of majority of available views including loss of views of scenic icons.

Visual impacts factors

Indicative ratings table of visual impacts factors:

Factors	Low Impact	Medium Impact	High Impact
Physical absorption capacity	Existing elements of the landscape physically hide, screen or disguise the proposal. The presence of buildings and associated structures in the existing landscape context reduce visibility. Low contrast and high blending within the existing elements of the surrounding setting and built form.	The proposal is of moderate visibility but is not prominent because its components, texture, scale and building form partially blend into the existing scene.	The proposal is of high visibility and it is prominent in some views. The project location is high contrast and low blending within the existing elements of the surrounding setting and built form.
Compatibility with urban/natural features	High compatibility with the character, scale, form, colours, materials and spatial arrangement of the existing urban and natural features in the immediate context. Low contrast with existing elements of the built environment.	Moderate compatibility with the character, scale, form and spatial arrangement of the existing urban and natural features in the immediate context. The proposal introduces new urban features, but these features are compatible with the scenic character and qualities of facilities in similar settings.	The character, scale, form and spatial arrangement of the proposal has low compatibility with the existing urban features in the immediate context which could reasonably be expected to be new additions to it when compared to other examples in similar settings.
Compatibility with urban features	High compatibility with the character, scale, form, colours, materials and spatial arrangement of the existing industrial features in the immediate context. Low contrast with existing elements of the built environment.	Moderate compatibility with the character and built form of the existing urban context and buildings in the immediate context. The proposal introduces new features, but these are compatible with the scenic character and qualities of the setting.	The character, scale, form and spatial arrangement of the proposal has low compatibility with the industrial context, or which could reasonably be expected to be new additions to it.

APPENDIX 2

RATING OF HISTORIC VIEWS

DEFINITION AND RATING OF HISTORIC VIEWS

This information has been sourced from Richard Lamb and Associates (RLA)

There is a hierarchy of heritage views, from the most to the least relevant with regard to determining impacts of contemporary proposals. The hierarchy of views relies on assessment against a set of criteria as follows;

At the highest level, we consider that a genuine heritage view is one designed to be experienced, where the intention is documented and where the reason for the view being recognised as significant is supported by the recognition of the values against the relevant heritage criteria, including the inclusion and exclusion guidelines required in the NSW heritage system. Historical research should support such views as being authentic heritage views, the locations of which and attributes of which are determined to be of significance (level 1 L1).

At the second level are views that have become recognised or have evolved as of authentic heritage Significance. There can be many pathways to recognition; for example, views may become socially significant, become significant by historical association with other, later events and items, or through accretion of later items, become significant for archaeological, scientific, aesthetic or other reasons relevant to views (level 2 L2).

At a third level, views between heritage items may become of authentic heritage value by visual linkages deliberately designed between subsequent heritage items and places, linkages occurring through use or changing customs, or linkages created by the loss of former linkages and settings, making them more valued, or rare. These are authentic, evolved, or acquired heritage views (level 3 L3). Below that level are views of and between heritage items that exist in the objective sense, but are incidental. That is, their existence, while providing an attribute of the setting, does not contribute to the authentic values of the items. Views between the items in this case exist, but are not of significance in themselves (level 4 L4).

At a lower level still, on the hierarchy of views that might be claimed to be heritage views, are views from or in the vicinity of items, the curtilages or settings of items, from which new or non-significant items are visible. Simply being able to see a heritage item, place or setting does not make the view a heritage view. By the same token, being able to see a new, different or novel item of no current significance, in the context of a heritage item, does not create an impact on heritage values, unless it can be demonstrated that the acknowledged authentic heritage values of the item would be impaired to the detriment of interpretation of the heritage values of the item (level 5 L5).

APPENDIX 3

PREPARATION OF PHOTOMONTAGES

Hunter Street Station East and West Developments, Sydney

Visual impact renderings and methodology report

17th December 2021

VIRTUAL IDEAS

1. INTRODUCTION

This document was prepared by Virtual Ideas to demonstrate the visual impact of the proposed developments for 28 O'Connell Street, 48 Hunter Street, and 37 Bligh Street, Sydney, NSW (referred to as Metro East) and 296 George Street, 300 George Street, 312 George Street, 314-318 George Street, 5010 De Mestre Place (Over Pass), 5 Hunter Street, 7-13 Hunter Street, 9 Hunter Street and De Mestre Place, Sydney, NSW (referred to as Metro West) with respect to the existing built form and site conditions.

2. VIRTUAL IDEAS EXPERTISE

Virtual Ideas is an architectural visualisation company that has over 15 years experience in preparing visual impact assessment content and reports on projects of major significance that meet the requirements for relevant local and state planning authorities.

Our reports have been submitted as evidence in proceedings in both the Land and Environment Court and the Supreme Court of NSW. Our director, Grant Kolln, has been an expert witness in the field of visual impact assessment in the Supreme Court of NSW.

Virtual Ideas' methodologies and outcomes have been inspected by various court appointed experts in relation to previous visual impact assessment submissions, and have always been found to be accurate and acceptable.

3. RENDERINGS METHODOLOGY

The following describes the process that we undertake to create the renderings that form the basis of this report.

3.1 DIGITAL 3D SCENE CREATION

The first step in our process is the creation of an accurate, real world scale digital 3D scene that is positioned at a common reference points using the MGA 56 GDA 2020 coordinates system.

We have used data including existing, approved and proposed building 3D models as well as a site survey to create the 3D scene. A detailed description of the data sources used in this report can be found in Appendix A, B and C.

When we receive data sources that are not positioned to MGA-56 GDA 2020 coordinates, we use common points in the data sources that can be aligned to points in other data sources that are positioned at MGA-56 GDA2020. This can be data such as site boundaries and building outlines.

Descriptions of how we have aligned each data source can also be found in Section 3.2.

3.2 ALIGNMENT OF 3D SCENE

To align the 3D scene to the correct geographical location, we used the following data:

Using a supplied site survey, we were able to align the site boundaries of the proposed buildings to the geo-referenced data.

Cameras were aligned to surveyed positions that were supplied by CMS Surveyors at MGA-56 GDA 2020. Lens information for the photographs was not available from the camera metadata. Instead the lens information for each location was supplied to Virtual Ideas by the client (see appendix D).

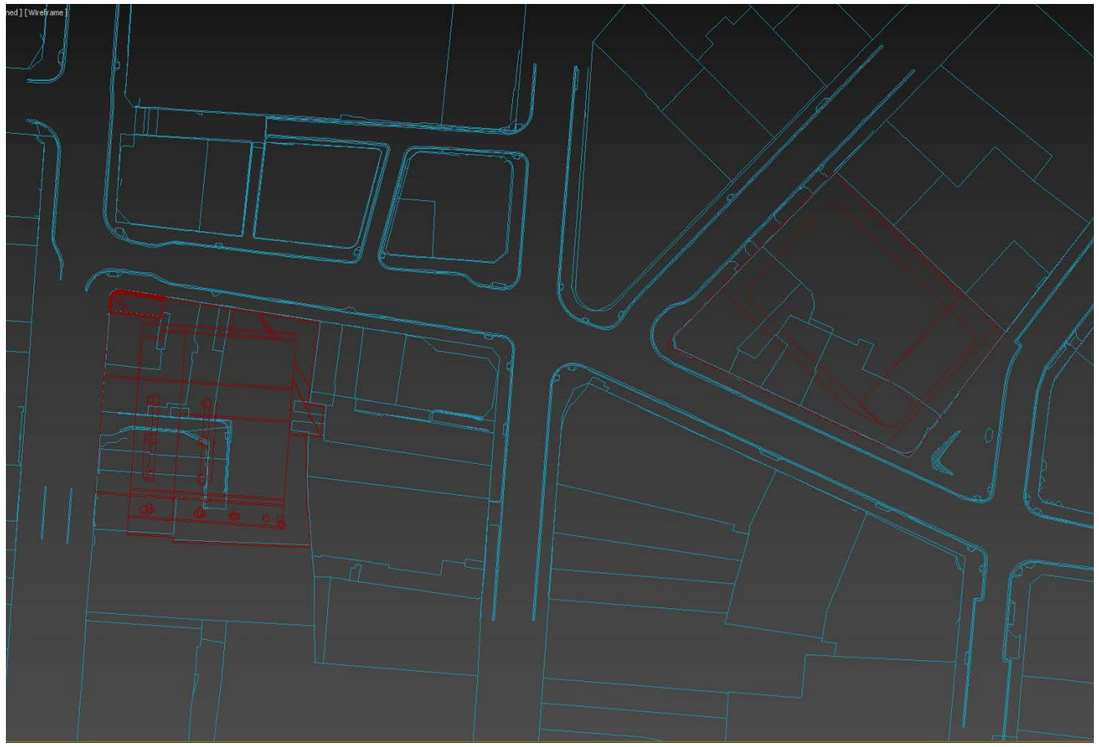


Image showing survey drawing (blue) from RPS at MGA 56 GDA 2020 coordinates aligned to site boundaries and proposed 3D Models (red)

3.3 RENDERING CREATION

After the completing the camera alignment, we add lighting to the 3D scene.

A digital sunlight system was added in the 3D scene to match the lighting direction of the sun in Sydney, Australia. This was done using the software sunlight system that matches the angle of the sun using location data and time and date information.

For the renderings, we were requested to apply a basic yellow and red material to the proposed developments.

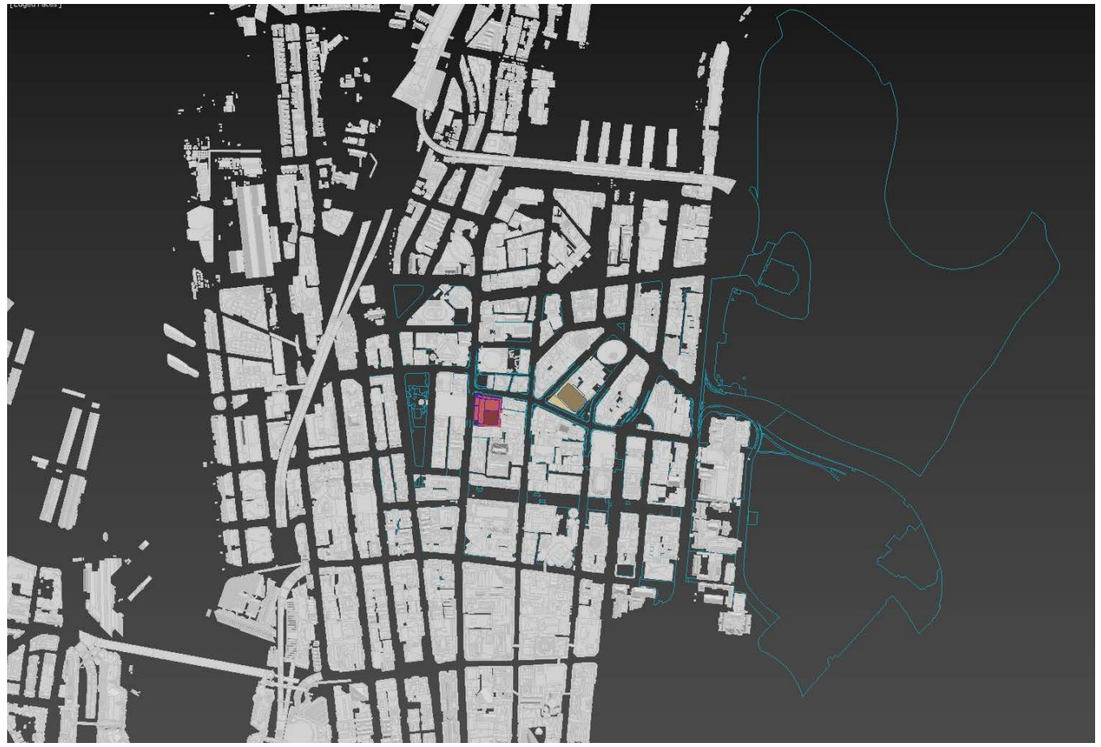


Image showing 3D building model (red and yellow) aligned to survey drawing from RPS (blue), as well as Sydney AAM model (White) by aligning site boundary of the Metro East and West locations

4. MAP OF 3D CAMERA LOCATIONS

PLAN ILLUSTRATING CAMERA LOCATIONS FOR VISUAL IMPACT RENDERS OF THE METRO EAST AND WEST, SYDNEY CBD, NSW

Viewpoint Locations

1 - 15 Castlereagh St

2 - State library

3 - Domain adj to Art Gallery

4 - NW edge of the Opera house concourse

5 - Cahill Ex aligned with Young St

6 - Pyrmont Bridge by balustrade view

7 - SW corner of George St and King St

8 - West side George St and Martin Place

9 - George St & Margaret St

10 - Hunter St from George St

11 - NW corner of Hunter St and O'Connell St

12 - SE corner of Elizabeth St & Hunter St

13 - SW edge of upper Opera house concourse

14 - Hunter St & Castlereagh St

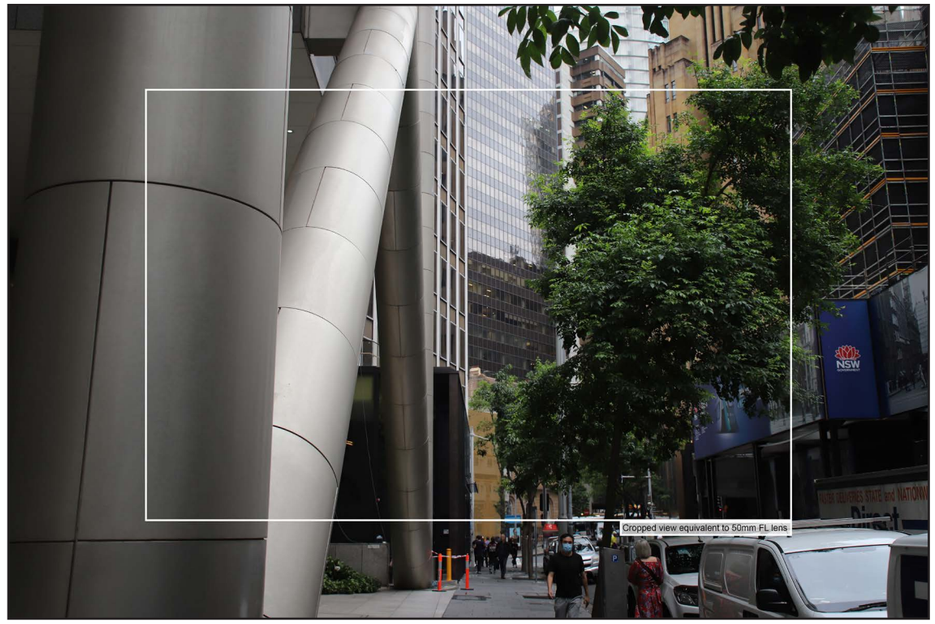
Proposed site of Metro West location

Proposed site of Metro East location

5.1 VIEWPOINT POSITION 01

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

CAMERA ALIGNMENT

5.1 VIEWPOINT POSITION 01

PHOTOGRAPH SHOWING CURRENT CONDITION

5.1 VIEWPOINT POSITION 01

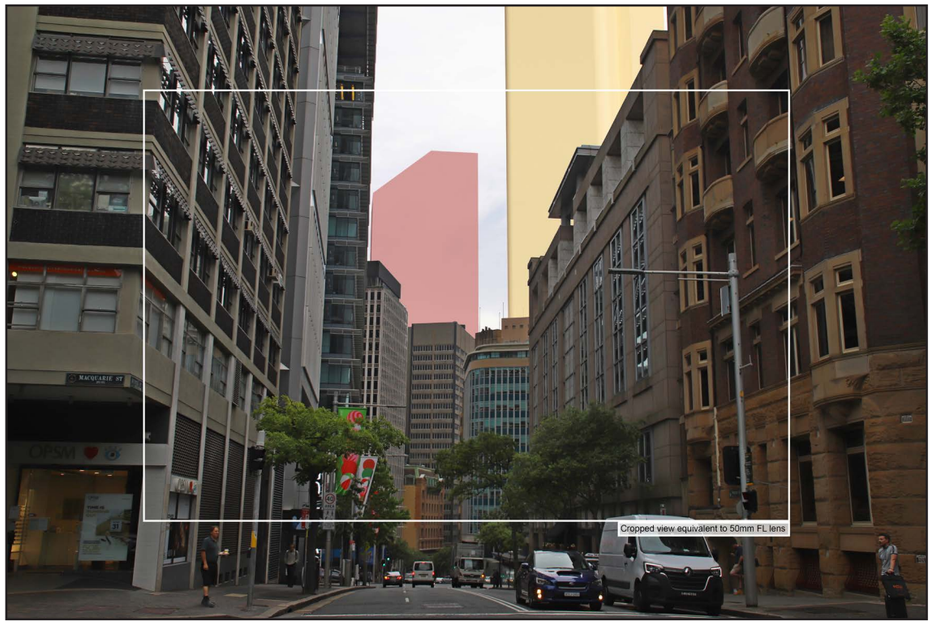
PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro East

5.2 VIEWPOINT POSITION 02

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

Proposed massing of Metro West

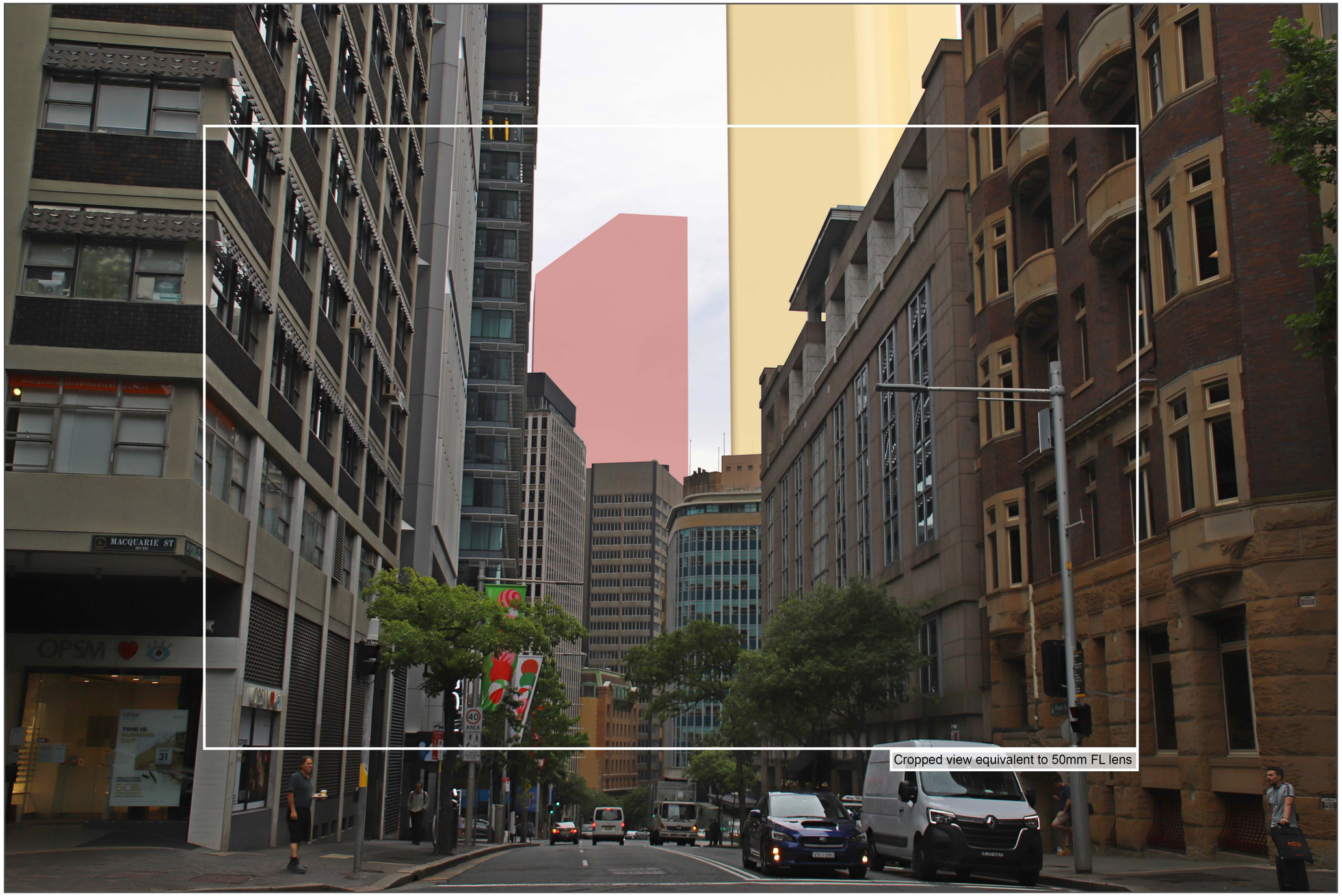
CAMERA ALIGNMENT

5.2 VIEWPOINT POSITION 02

PHOTOGRAPH SHOWING CURRENT CONDITION

5.2 VIEWPOINT POSITION 02

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



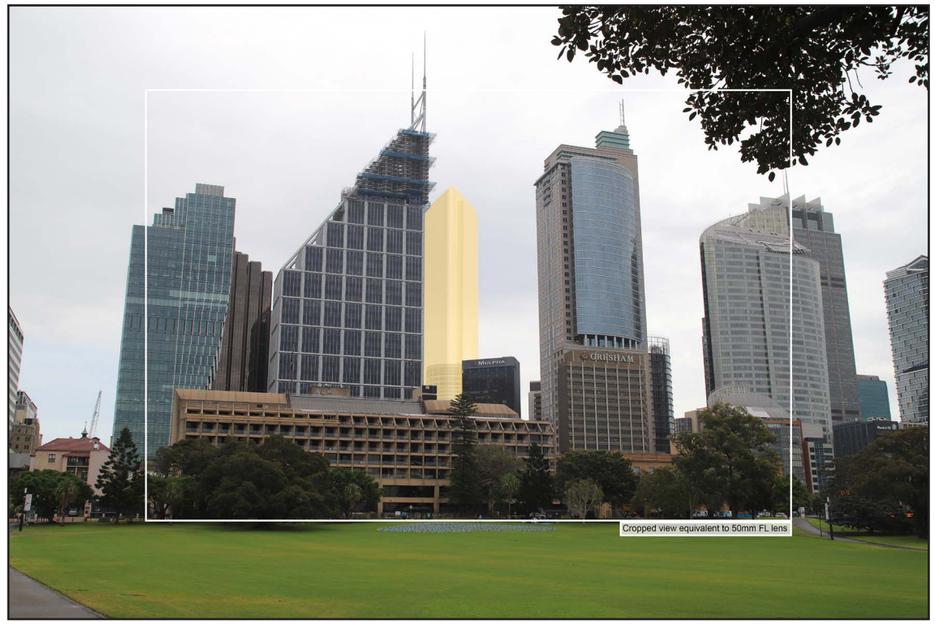
Proposed massing of Metro East

Proposed massing of Metro West

5.3 VIEWPOINT POSITION 03

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

CAMERA ALIGNMENT

5.3 VIEWPOINT POSITION 03

PHOTOGRAPH SHOWING CURRENT CONDITION

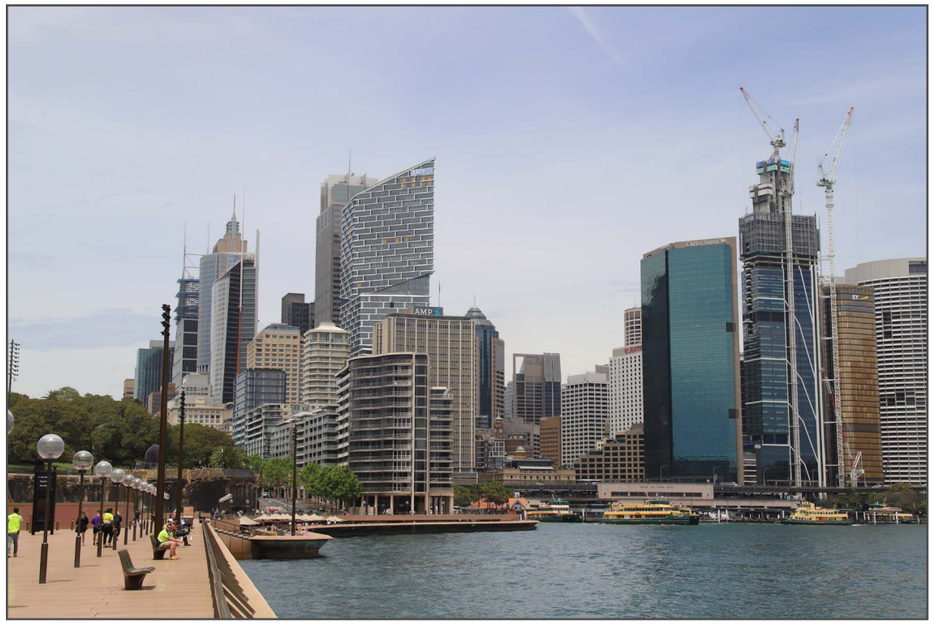
5.3 VIEWPOINT POSITION 03

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

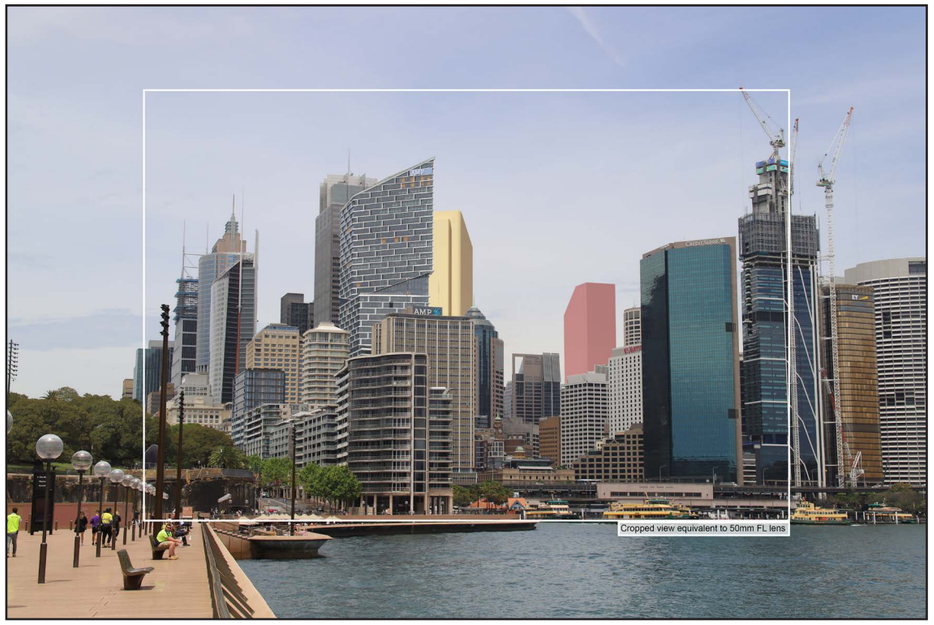
Proposed massing of Metro East

5.4 VIEWPOINT POSITION 04

PHOTOGRAPH SHOWING CURRENT CONDITION



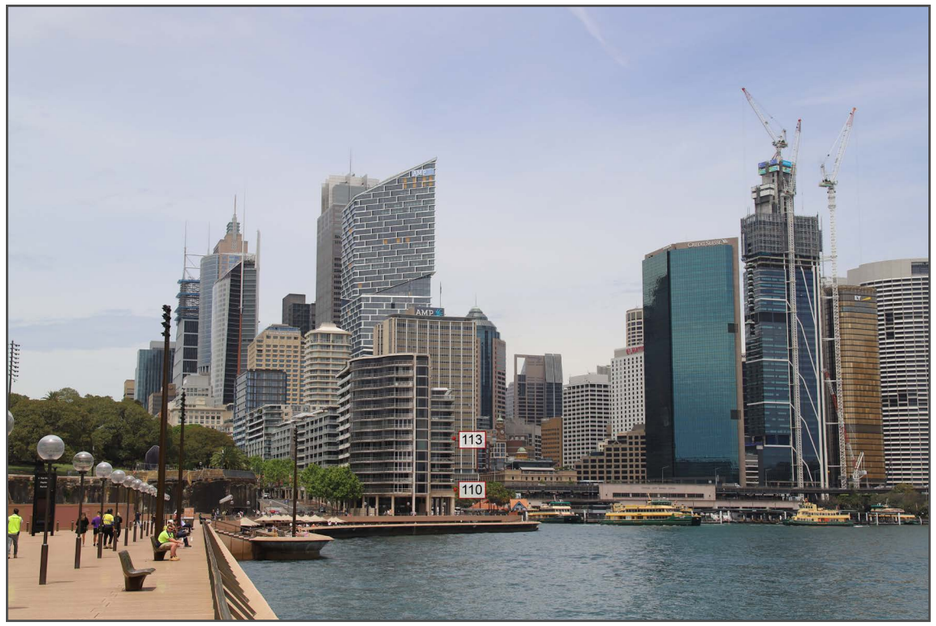
PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

Proposed massing of Metro West

CAMERA ALIGNMENT



5.4 VIEWPOINT POSITION 04

PHOTOGRAPH SHOWING CURRENT CONDITION

5.4 VIEWPOINT POSITION 04

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro East

Proposed massing of Metro West

5.5 VIEWPOINT POSITION 05

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro East

Proposed massing of Metro West

CAMERA ALIGNMENT

5.5 VIEWPOINT POSITION 05

PHOTOGRAPH SHOWING CURRENT CONDITION

5.5 VIEWPOINT POSITION 05

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

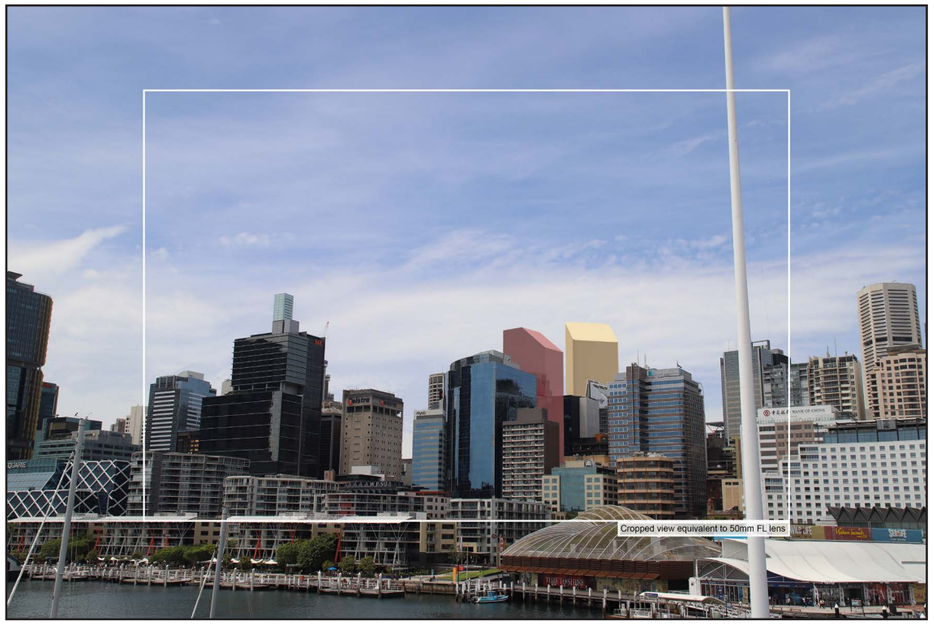
Proposed massing of Metro East

Proposed massing of Metro West

5.6 VIEWPOINT POSITION 06

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

Proposed massing of Metro West

CAMERA ALIGNMENT

5.6 VIEWPOINT POSITION 06

PHOTOGRAPH SHOWING CURRENT CONDITION

5.6 VIEWPOINT POSITION 06

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

5.7 VIEWPOINT POSITION 07

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro West

CAMERA ALIGNMENT

5.7 VIEWPOINT POSITION 07

PHOTOGRAPH SHOWING CURRENT CONDITION

5.7 VIEWPOINT POSITION 07

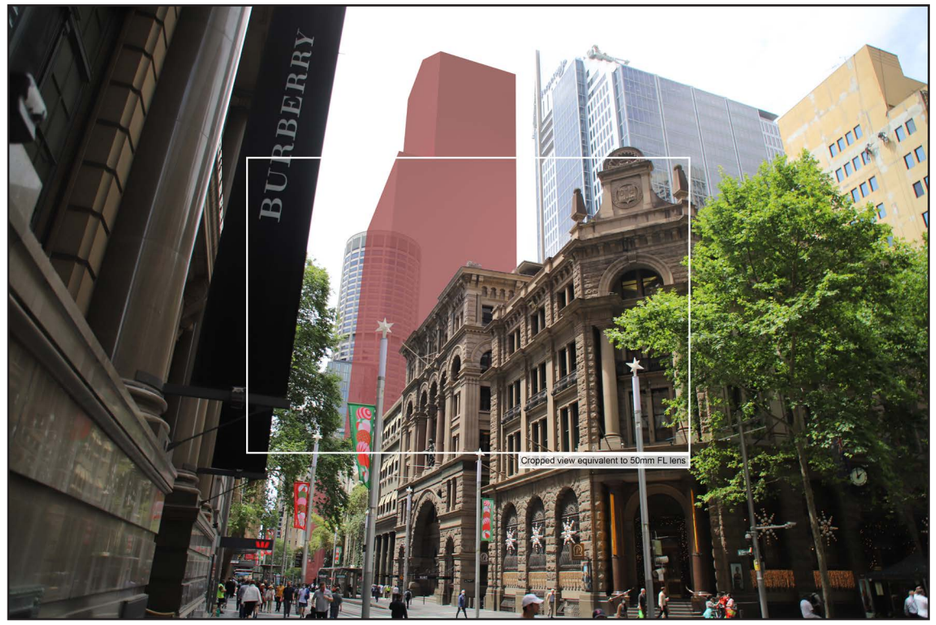
PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro West

5.8 VIEWPOINT POSITION 08

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro West

CAMERA ALIGNMENT

5.8 VIEWPOINT POSITION 08

PHOTOGRAPH SHOWING CURRENT CONDITION

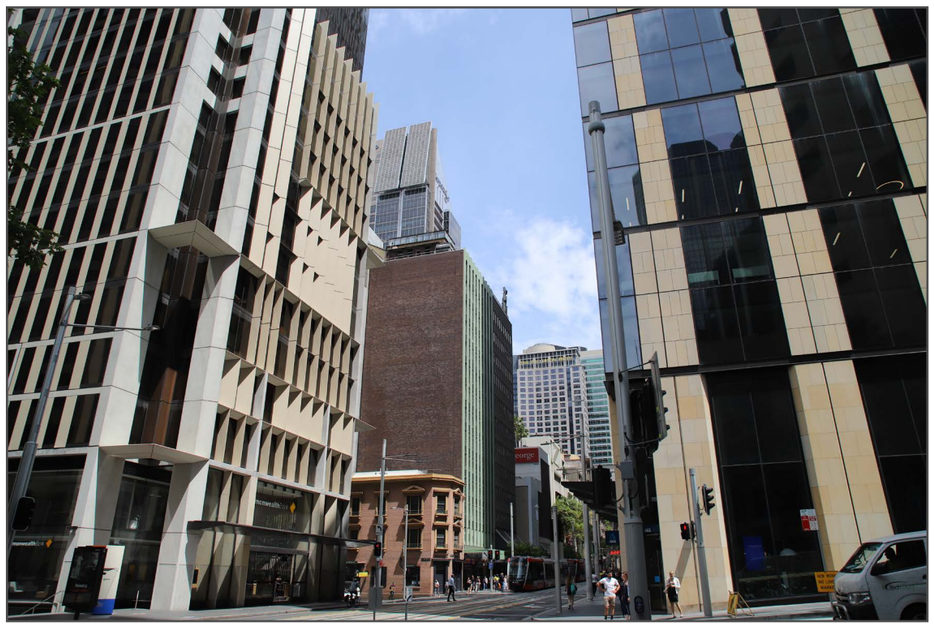
5.8 VIEWPOINT POSITION 08

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

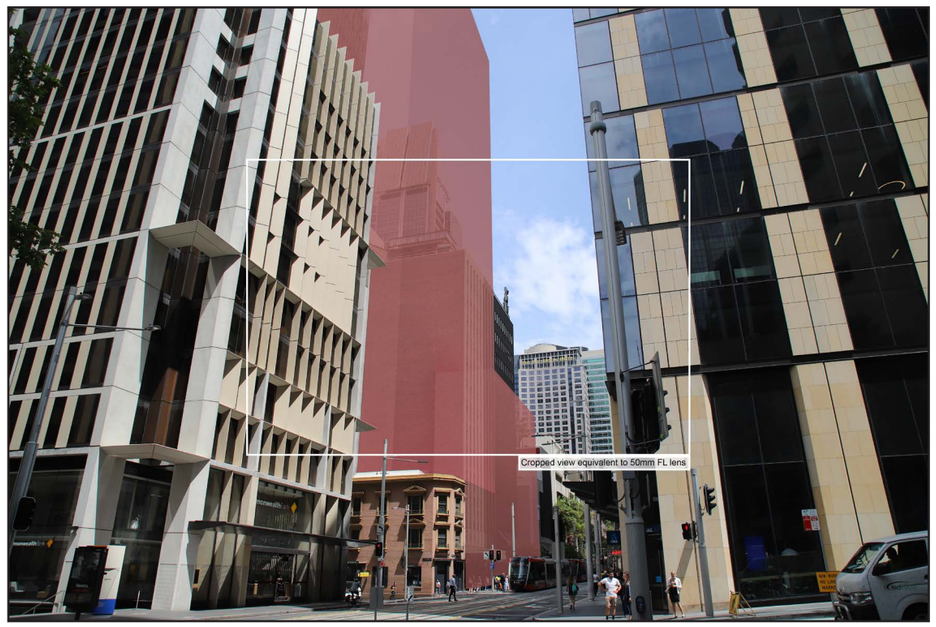
Proposed massing of Metro West

5.9 VIEWPOINT POSITION 09

PHOTOGRAPH SHOWING CURRENT CONDITION

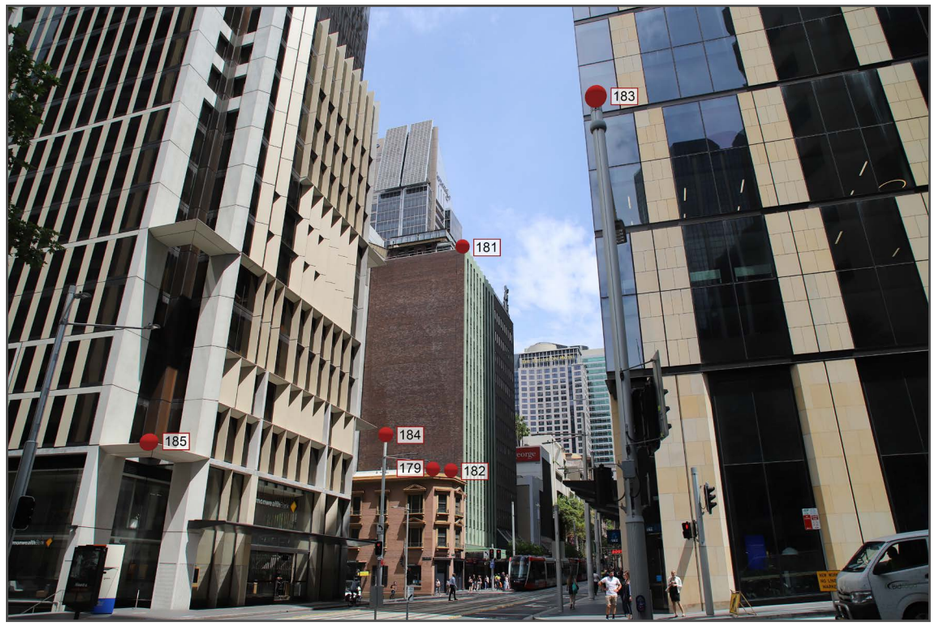


PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro West

CAMERA ALIGNMENT



5.9 VIEWPOINT POSITION 09

PHOTOGRAPH SHOWING CURRENT CONDITION

5.9 VIEWPOINT POSITION 09

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro West

5.10 VIEWPOINT POSITION 10

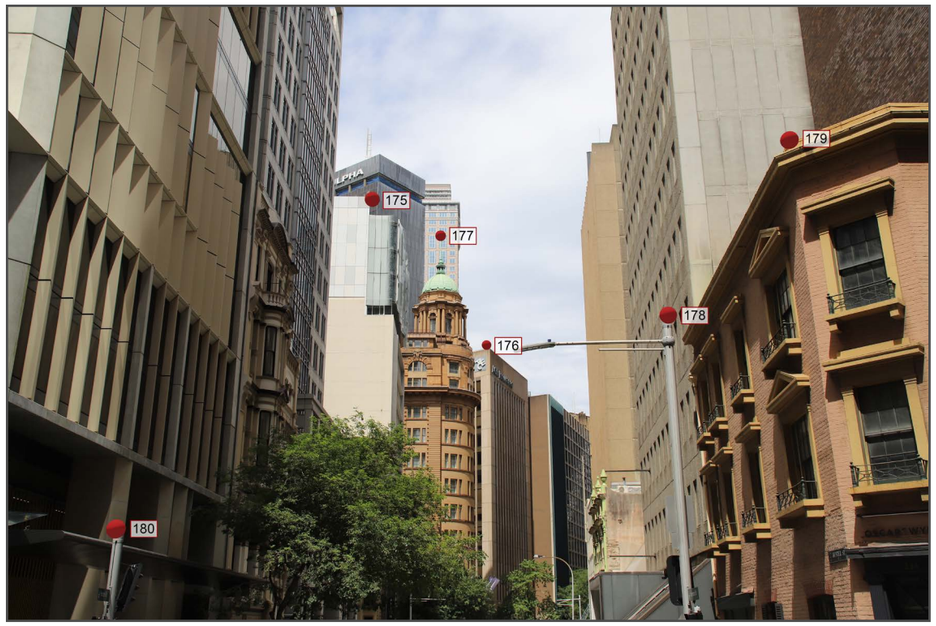
PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro East

Proposed massing of Metro West

CAMERA ALIGNMENT



5.10 VIEWPOINT POSITION 10

PHOTOGRAPH SHOWING CURRENT CONDITION

5.10 VIEWPOINT POSITION 10

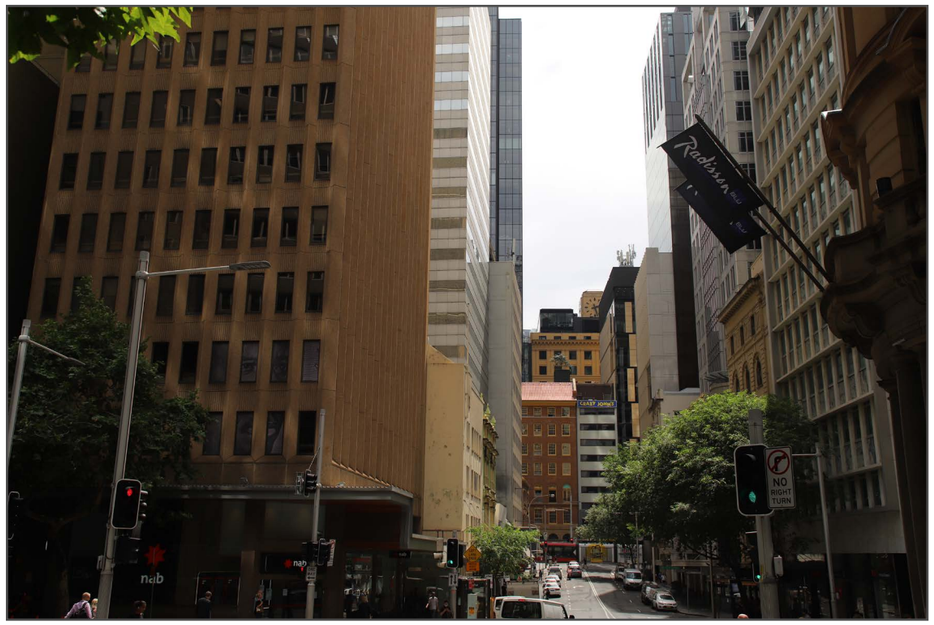
PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

Proposed massing of Metro East

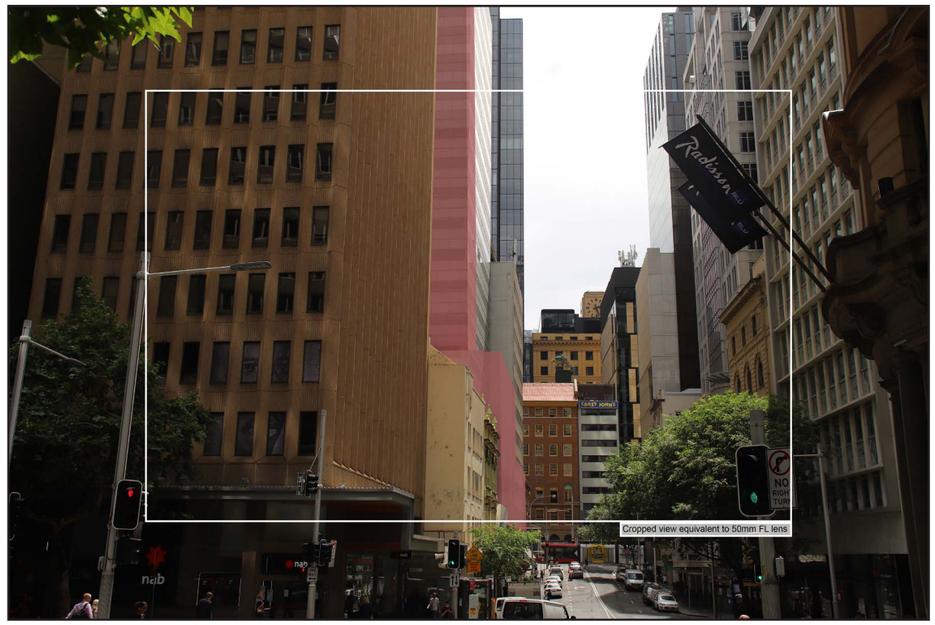
Proposed massing of Metro West

5.11 VIEWPOINT POSITION 11

PHOTOGRAPH SHOWING CURRENT CONDITION

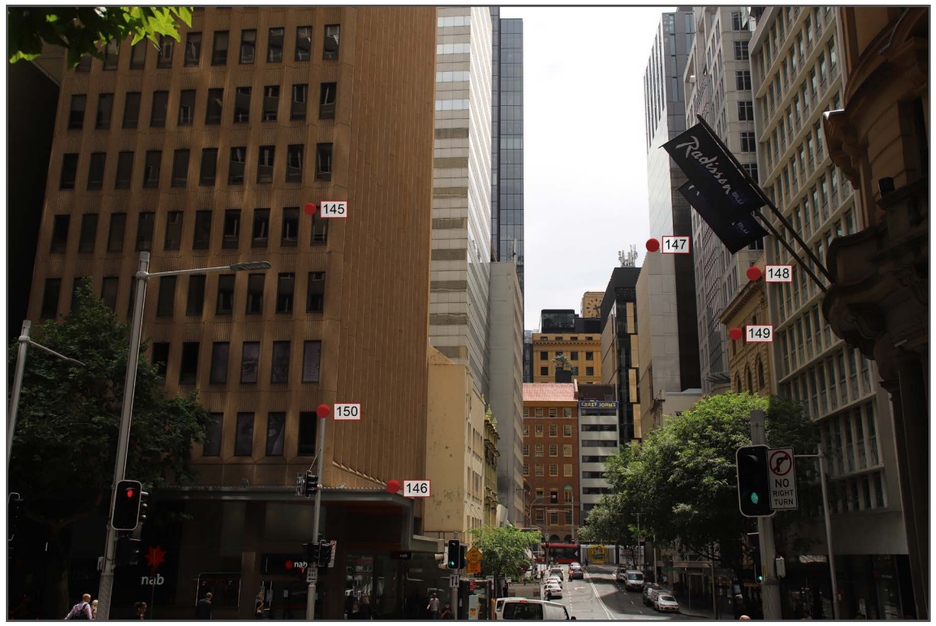


PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro West

CAMERA ALIGNMENT



5.11 VIEWPOINT POSITION 11

PHOTOGRAPH SHOWING CURRENT CONDITION

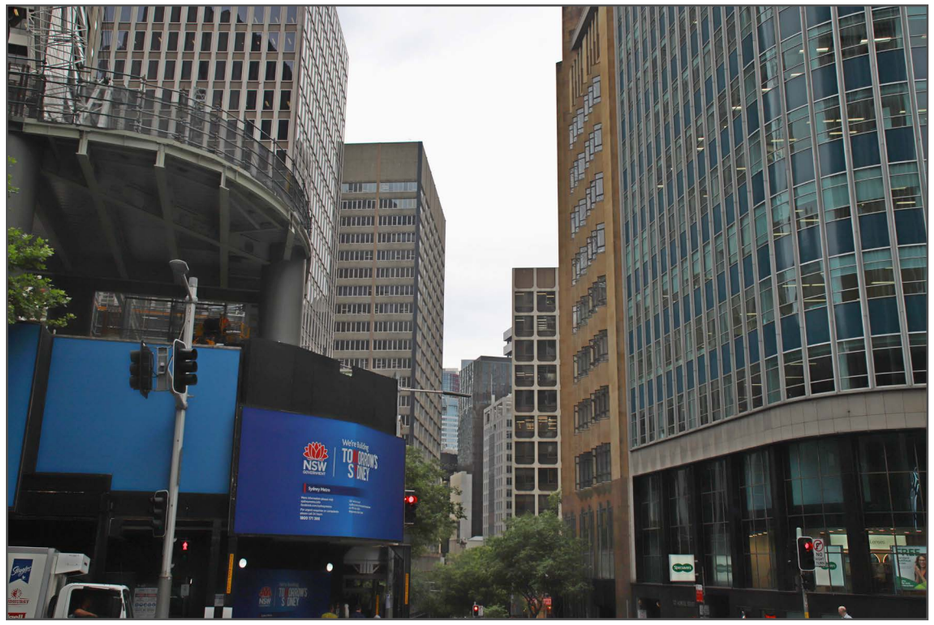
5.11 VIEWPOINT POSITION 11

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

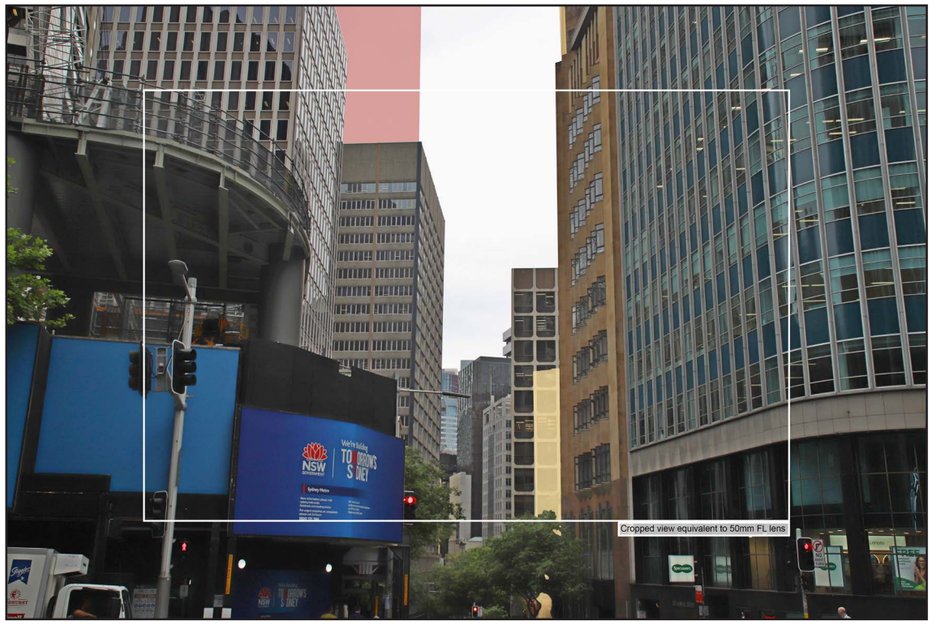
Proposed massing of Metro West

5.12 VIEWPOINT POSITION 12

PHOTOGRAPH SHOWING CURRENT CONDITION



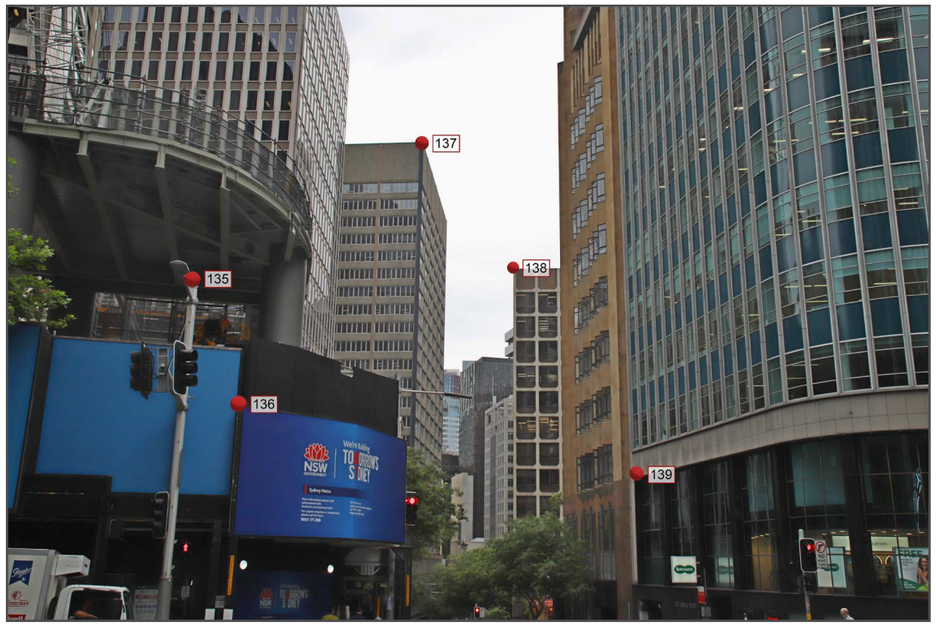
PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

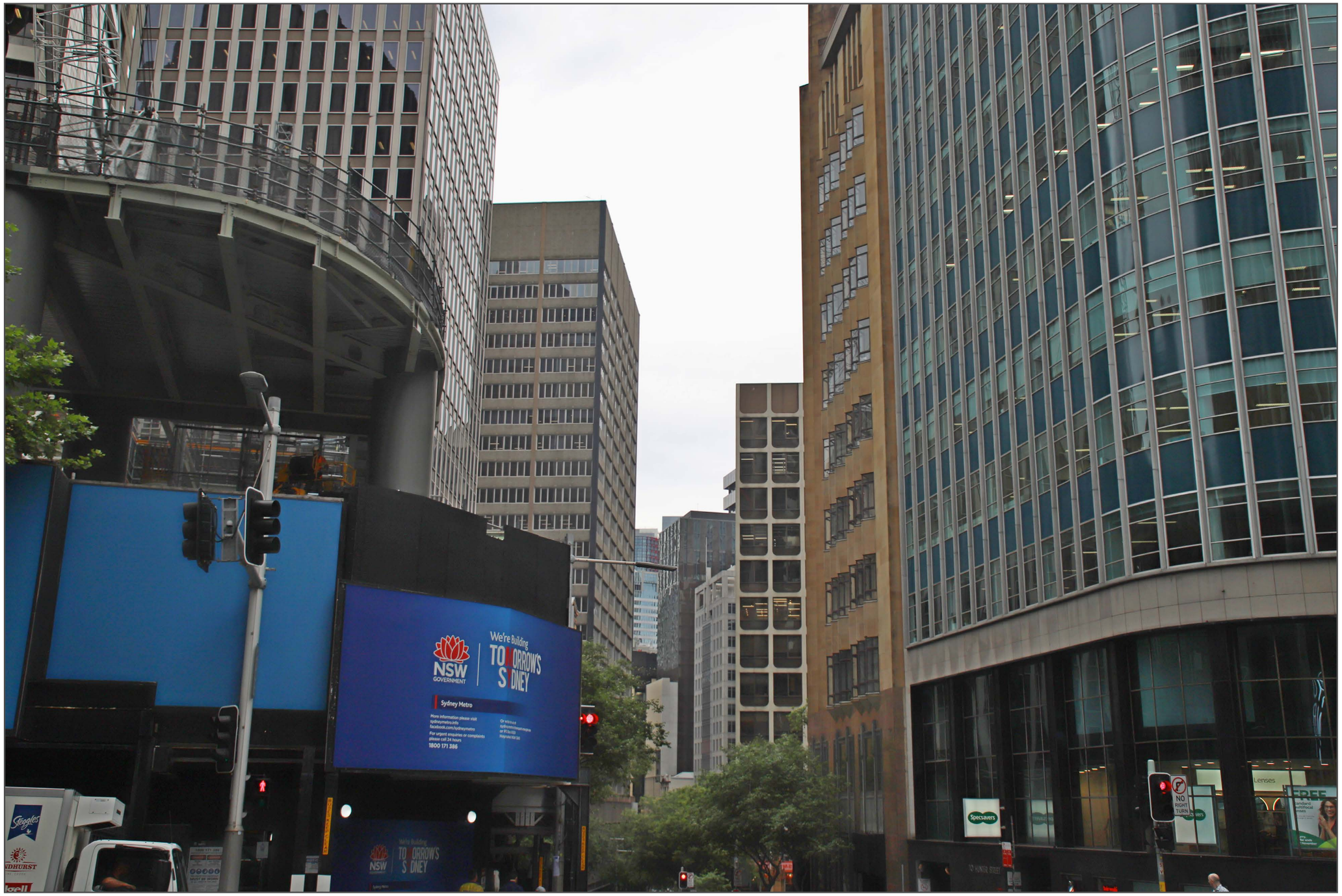
Proposed massing of Metro West

CAMERA ALIGNMENT



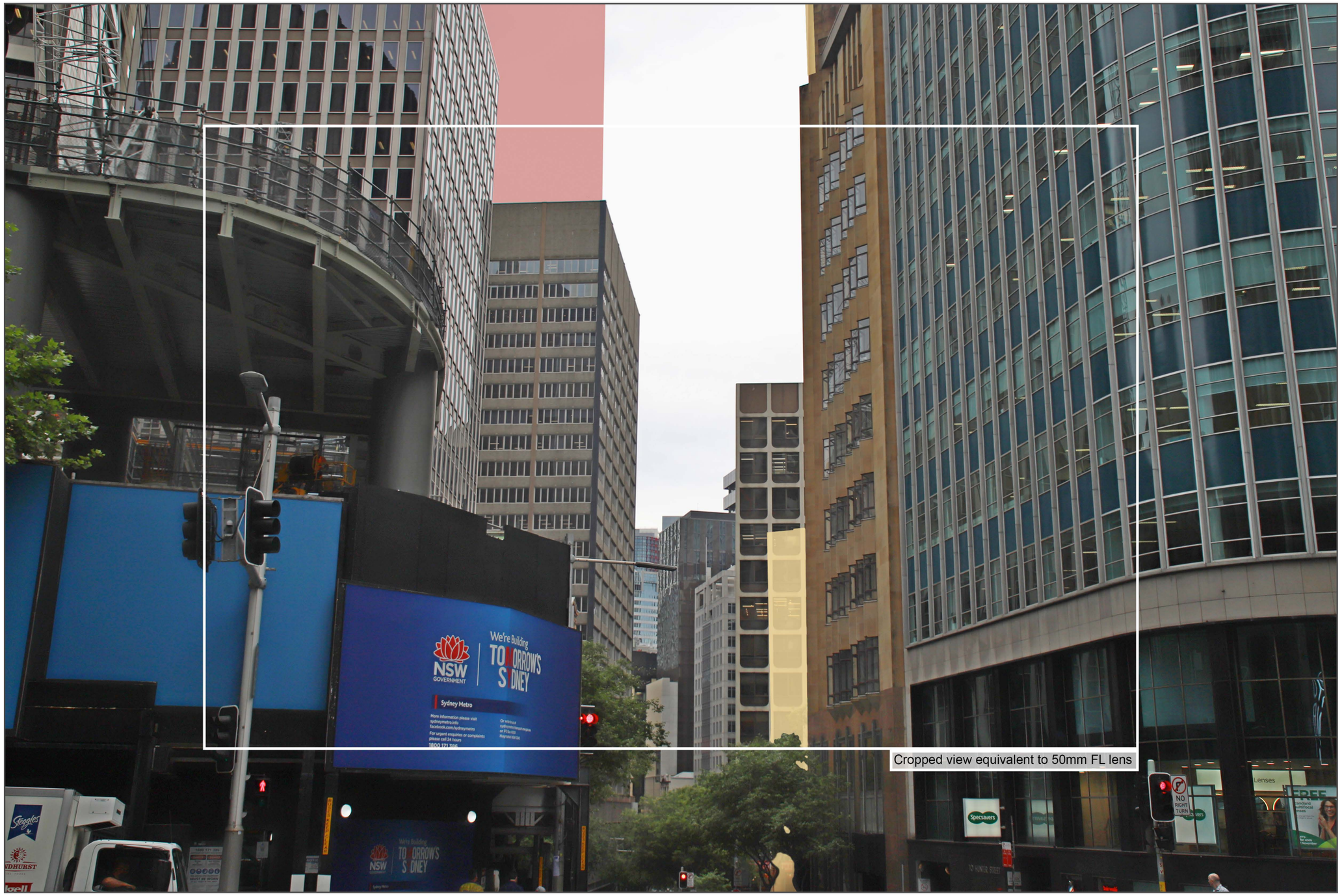
5.12 VIEWPOINT POSITION 12

PHOTOGRAPH SHOWING CURRENT CONDITION



5.12 VIEWPOINT POSITION 12

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



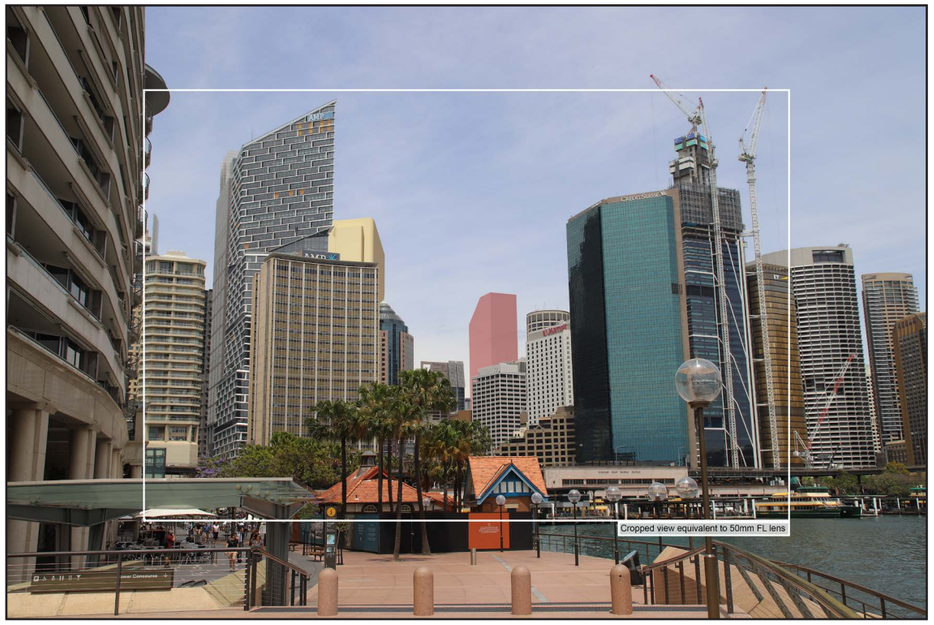
Proposed massing of Metro East

Proposed massing of Metro West

5.13 VIEWPOINT POSITION 13

PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

Proposed massing of Metro West

CAMERA ALIGNMENT

5.13 VIEWPOINT POSITION 13

PHOTOGRAPH SHOWING CURRENT CONDITION

5.13 VIEWPOINT POSITION 13

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT

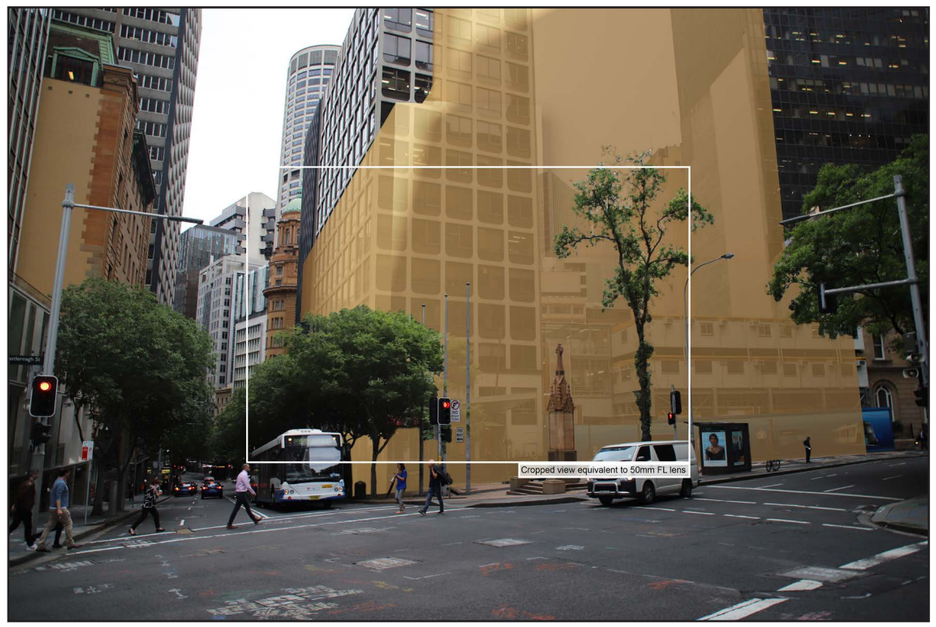
Proposed massing of Metro East

Proposed massing of Metro West

5.14 VIEWPOINT POSITION 14

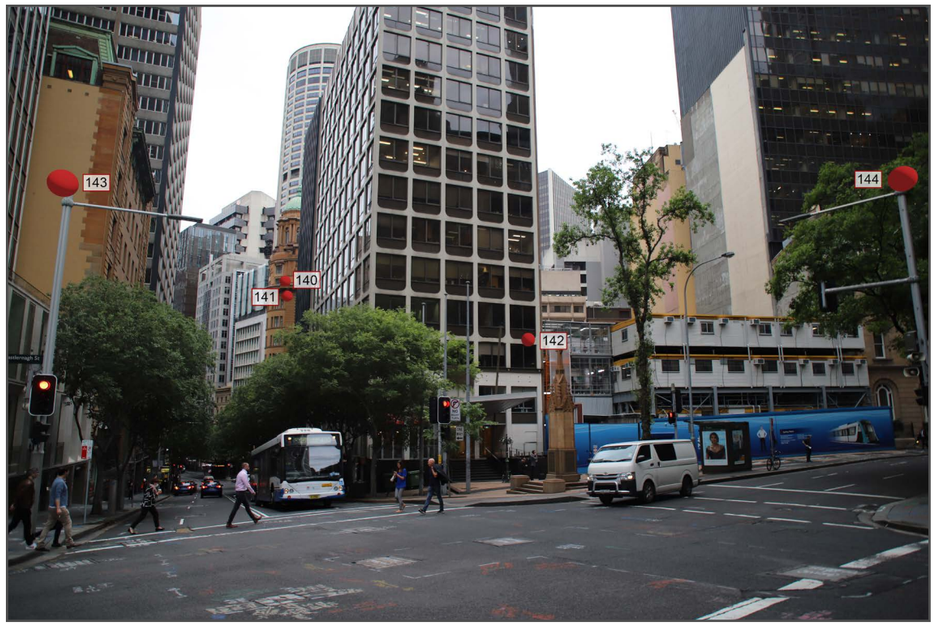
PHOTOGRAPH SHOWING CURRENT CONDITION

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

CAMERA ALIGNMENT

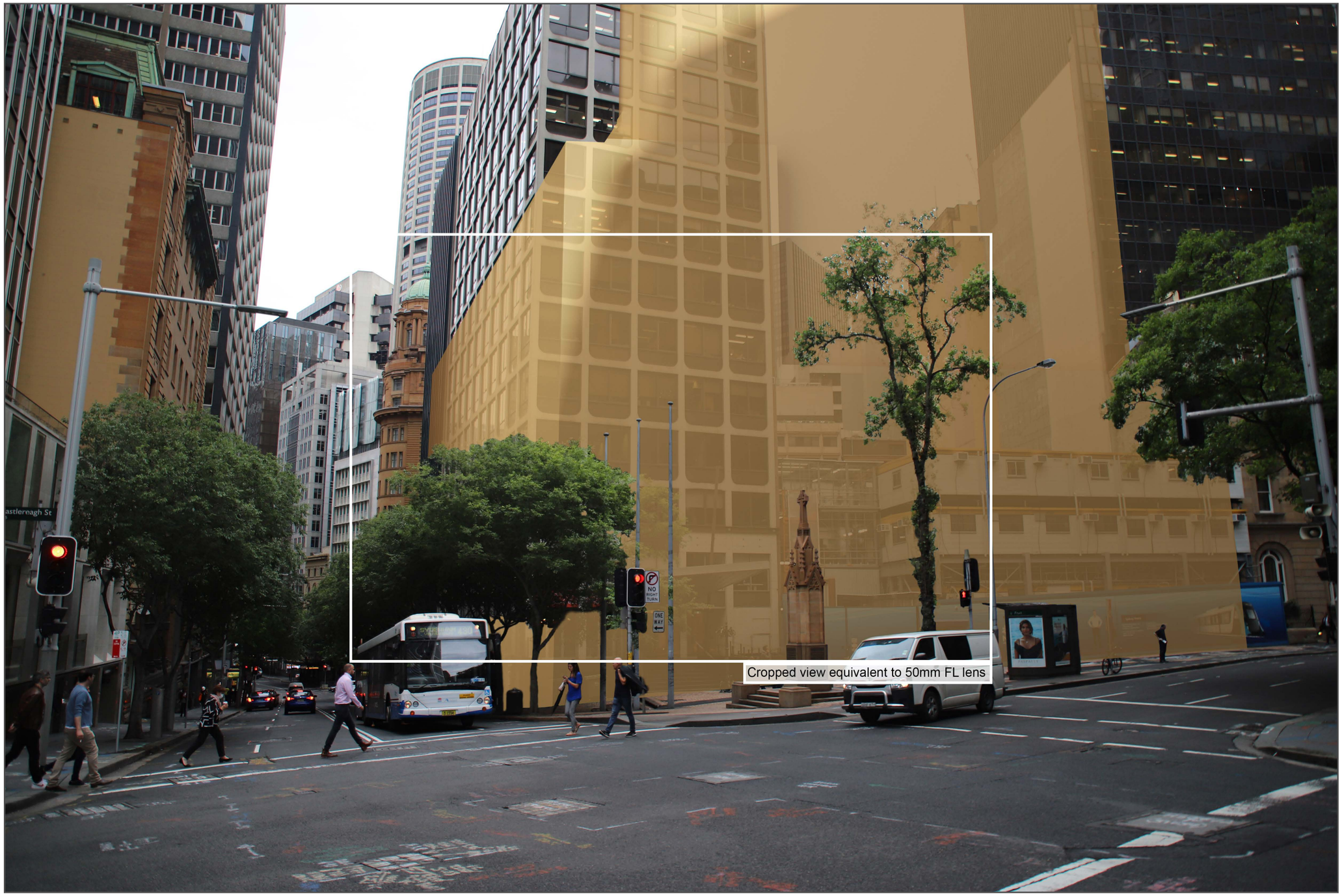


5.14 VIEWPOINT POSITION 14

PHOTOGRAPH SHOWING CURRENT CONDITION

5.14 VIEWPOINT POSITION 14

PHOTOGRAPH SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT



Proposed massing of Metro East

6.1 3D SCENE DATA SOURCES

A.1a - 3D Model of the proposed Eastern development - refer to Appendix A for details

File Name: MOSD METRO Hunter Street - EAST_Envelope
Author: FJMT
Format: Din3D
Alignment: Aligned to MGA 56 GDA2020 via Site Survey

A.1b - 3D Model of the proposed Western development - refer to Appendix A for details

File Name: MOSD METRO Hunter Street - WEST_Envelope
Author: FJMT
Format: Din3D
Alignment: Aligned to MGA 56 GDA2020 via Site Survey

A.2 - Site Survey - refer to Appendix B for details

File Name: 20910photolocation 1
Author: CMS Surveyors
Format: Autocad DWG
Alignment: MGA 56 GDA2020

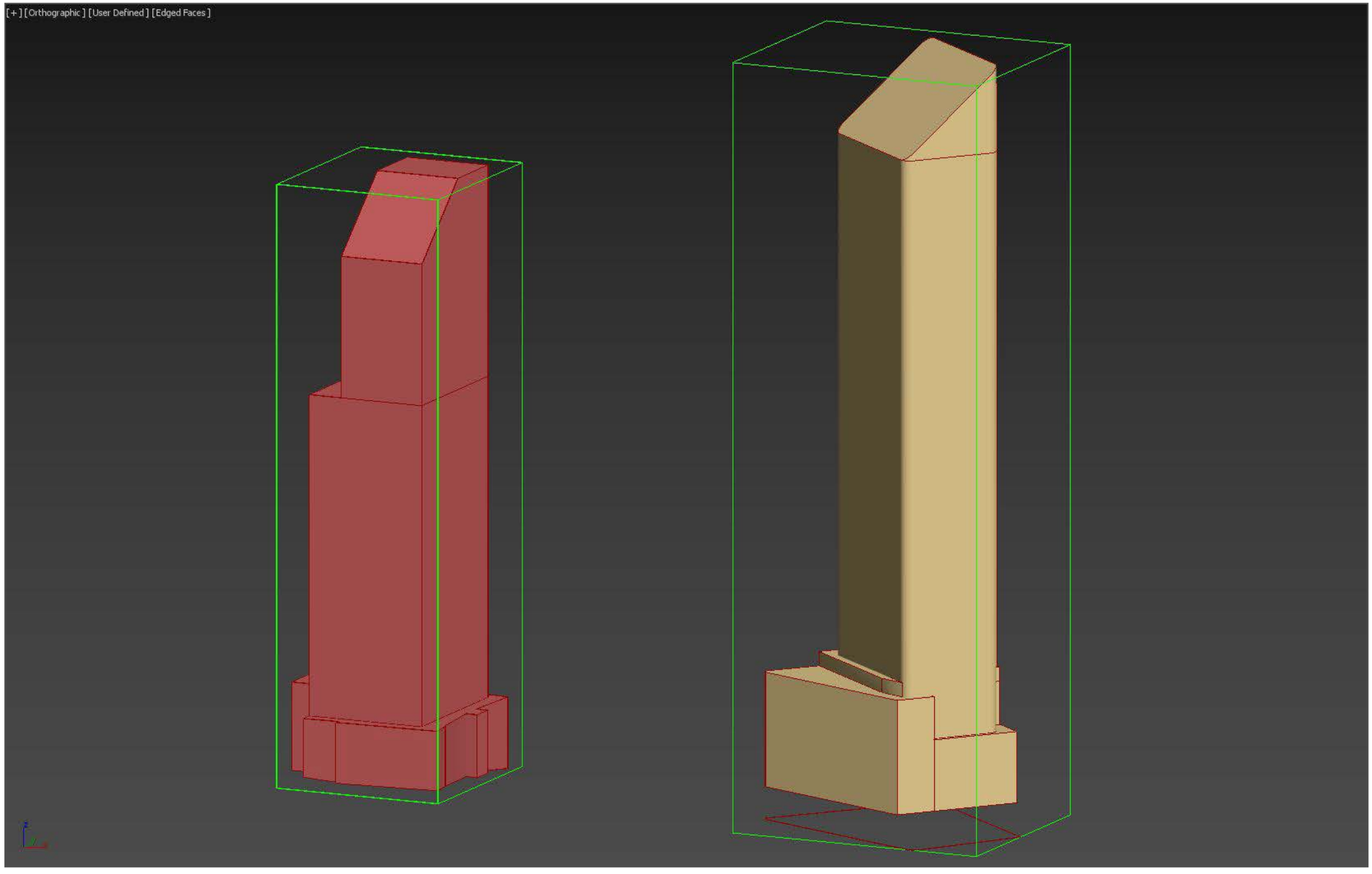
A.3 - Existing Site Survey - refer to Appendix C for details

File Name: SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020)
Author: RPS
Format: Autocad DWG
Alignment: MGA 56 GDA2020

A.4 - City of Sydney Model

File Name: Sydney White AAM 2018 Survey - LICENSED
Author: AAM
Format: 3DS Max
Alignment: MGA 56 GDA94

6.2 APPENDIX A: 3D MODELS SUPPLIED BY FJMT



6.3 APPENDIX B: SITE SURVEY SUPPLIED BY CMS

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

Date: 25-11-2021
Our Ref: 20910 Photo Locations

Angel Place, Level 8, 123 Pitt Street
Sydney
NSW 2000

Dear Jane Maze-Riley,

RE: PHOTO LOCATIONS – Metro West & East view places, Sydney

As requested, we have attended site and measured the Co-ordinates and Elevation of the photo locations for Metro West & East view places, Sydney.

Co-ordinates are MGA 56 **(GDA 2020)** and elevation to Australian Height datum (AHD).

Measurements were taken using theodolite measurement and GNSS measurements.

DWG of locations has also been supplied.

Point Number	Easting	Northing	Reduced Level (RL)	Photo Point
1	334441.346	6251226.922	Ground RL 19.68	Photo 1
2	334417.476	6251170.145	Ground RL 19.64	Photo 2
3	334427.703	6251088.312	Ground RL 21.36	Photo 3
4	334509.765	6251212.899	Ground RL 24.64	Photo 4
5	334661.079	6251199.885	Ground RL 32.58	Photo 5
6	334946.074	6251141.775	Ground RL 20.40	Photo 6
7	334970.002	6251056.522	Ground RL 21.36	Photo 7
8	335196.176	6251564.367	Ground RL 1.19	Photo 8
9	334836.760	6252357.827	Ground RL 3.52	Photo 9
10	334701.242	6252067.658	Ground RL 3.65	Photo 10
11	334548.529	6251780.879	Ground RL 17.42	Photo 11
12	333198.680	6251260.342	Ground RL 2.53	Photo 12
13	333176.803	6251046.825	Ground RL 2.83	Photo 13
14	333400.077	6250973.544	Ground RL 1.94	Photo 14
15	333463.330	6250766.068	Ground RL 11.72	Photo 15
16	334137.202	6250941.156	Ground RL 17.49	Photo 16
17	334150.927	6251083.202	Ground RL 15.86	Photo 17
18	334169.274	6251369.963	Ground RL 12.46	Photo 18
19	334179.236	6251446.782	Ground RL 11.44	Photo 19
20	334170.979	6251311.278	Ground RL 12.71	Photo 20

Consulting Surveyors NSW
ISNSW THE INSTITUTION OF SURVEYORS NSW INC

HEAD OFFICE
2/99A South Creek Rd, DEE WHY NSW 2099
PO Box 463, DEE WHY NSW 2099
Ph: 02 9971 4802 Fax: 02 9971 4822
Email: info@cmssurveyors.com.au
Web: www.cmssurveyors.com.au

INCORPORATING
A.C.GILBERT & Co.
(Roseville)
MBS GREEN & ASSOCIATES
(Mona Vale)

COOTAMUNDRA
Incorporating PENGELLY & GRAY
90 Wallendoon St, COOTAMUNDRA NSW 2590
Ph: 02 6942 3395 Fax: 02 6942 4046
Email: coota@cmssurveyors.com.au

ISO 9001:2008 REGISTERED FIRM

Point Number	Easting	Northing	Reduced Level (RL)	Photo Point
21	334336.418	6251287.189	Ground RL 11.12	Photo 21
100	334357.758	6251506.243	107.92	Building
101	334409.694	6251644.318	54.97	Building
102	334487.131	6251697.773	33.16	Roof
103	334514.883	6251696.790	33.16	Roof
104	334547.040	6251719.277	25.16	Building
105	334547.060	6251718.643	25.93	Top of fence
106	334665.343	6252014.149	8.69	Roof ridge
107	334666.365	6252017.094	5.83	Roof
108	334671.006	6252015.339	5.78	Roof
109	334695.953	6252052.845	5.83	Roof
110	334703.450	6252050.250	10.38	Balcony
111	334548.189	6251717.974	110.45	Building
112	334594.741	6251713.959	110.45	Building
113	334703.697	6252050.009	23.14	Balcony
114	334632.157	6251589.042	114.34	Building
115	334659.095	6251497.002	94.87	Building
116	334656.558	6251470.249	94.84	Building
118	334645.617	6251369.826	82.64	Building
119	334624.563	6251093.856	157.86	Building
120	334626.125	6251111.968	157.85	Building
121	334599.460	6251147.199	150.84	Window
122	334601.082	6251165.113	174.83	Window
123	334600.424	6251274.346	213.42	Building
124	334635.482	6251295.512	108.01	Building
125	334632.017	6251260.224	108.01	Building
126	334744.465	6251169.810	62.25	Building
127	334736.003	6251082.282	62.25	Building
130	334639.205	6251214.687	41.32	Window
131	334602.529	6251219.628	61.10	Roof
132	334575.666	6251223.640	60.93	Building
133	334639.332	6251196.522	38.42	Top of wall
134	334638.180	6251212.237	41.89	Light pole
135	334486.339	6251213.800	33.38	Light pole
136	334486.646	6251215.138	30.18	Sign
137	334361.148	6251256.441	102.96	Building
138	334403.822	6251256.940	64.76	Building
139	334464.450	6251239.114	31.31	Window
140	334324.389	6251295.533	51.93	Top of wall
141	334322.883	6251297.088	49.09	Window
142	334409.945	6251269.949	28.43	Window
143	334422.108	6251231.459	28.08	Light pole

Consulting Surveyors NSW
ISNSW THE INSTITUTION OF SURVEYORS NSW INC

HEAD OFFICE
2/99A South Creek Rd, DEE WHY NSW 2099
PO Box 463, DEE WHY NSW 2099
Ph: 02 9971 4802 Fax: 02 9971 4822
Email: info@cmssurveyors.com.au
Web: www.cmssurveyors.com.au

INCORPORATING
A.C.GILBERT & Co.
(Roseville)
MBS GREEN & ASSOCIATES
(Mona Vale)

COOTAMUNDRA
Incorporating PENGELLY & GRAY
90 Wallendoon St, COOTAMUNDRA NSW 2590
Ph: 02 6942 3395 Fax: 02 6942 4046
Email: coota@cmssurveyors.com.au

ISO 9001:2008 REGISTERED FIRM

6.3 APPENDIX B: SITE SURVEY SUPPLIED BY CMS

Point Number	Easting	Northing	Reduced Level (RL)	Photo Point
144	334439.283	6251248.725	28.79	Light pole
145	334293.353	6251280.803	30.04	Window
146	334295.623	6251285.481	15.93	Roof
147	334211.076	6251317.836	58.02	Building
148	334274.956	6251309.828	32.76	Building
149	334265.891	6251311.135	30.57	Window
150	334296.799	6251282.404	19.10	Traffic light
151	334434.570	6251200.479	29.43	Sign
152	334443.347	6251250.269	61.53	Window
153	334419.170	6251202.775	27.16	Roof
154	334419.101	6251202.581	20.49	Bollard
155	334420.592	6251183.766	20.96	Sign
156	334433.358	6251149.635	29.45	Sign
157	334428.463	6251109.811	23.63	Sign
158	334426.413	6251101.565	23.95	Post
159	334416.446	6251136.518	23.04	Post
160	334413.377	6251134.020	23.86	Building
161	334412.010	6251119.159	27.91	Building
162	334137.903	6250961.091	27.00	Light pole
163	334139.141	6250963.673	29.71	Building
164	334166.989	6251029.710	65.44	Building
165	334161.446	6250994.776	27.86	Post
166	334159.406	6250966.958	28.96	Light pole
167	334168.571	6251051.140	47.20	Roof ridge
168	334156.811	6251104.286	26.70	Post
169	334167.771	6251103.545	26.61	Post
170	334173.902	6251139.214	49.40	Building
171	334174.572	6251114.525	45.63	Building
172	334209.501	6251110.662	71.91	Building
173	334176.697	6251168.118	42.92	Building
175	334276.214	6251313.924	67.19	Building
176	334343.419	6251290.609	68.39	Building
177	334319.956	6251301.995	82.30	Post
178	334190.655	6251304.747	21.33	Light pole
179	334188.660	6251302.267	24.95	Parapet
180	334192.076	6251316.980	16.49	Traffic light
181	334186.796	6251296.228	56.28	Building
182	334186.920	6251300.848	24.95	Parapet
183	334168.887	6251360.369	22.20	Light pole
184	334186.527	6251323.332	24.36	Light pole
185	334190.215	6251344.783	19.76	Top of wall
186	334177.094	6251429.784	15.05	Sign

HEAD OFFICE
2/99A South Creek Rd, DEE WHY NSW 2099
PO Box 463, DEE WHY NSW 2099
Ph: 02 9971 4802 Fax: 02 9971 4822
Email: info@cmssurveyors.com.au
Web: www.cmssurveyors.com.au

INCORPORATING
A.C.GILBERT & Co.
(Roseville)
MBS GREEN & ASSOCIATES
(Mona Vale)

COOTAMUNDRA
Incorporating PENGELLY & GRAY
90 Wallendoon St, COOTAMUNDRA NSW 2590
Ph: 02 6942 3395 Fax: 02 6942 4046
Email: coota@cmssurveyors.com.au

Point Number	Easting	Northing	Reduced Level (RL)	Photo Point
187	334177.872	6251420.401	23.77	Light pole
188	334192.715	6251418.097	23.50	Light pole
189	334191.325	6251398.181	23.75	Light pole
190	334193.746	6251344.566	58.00	Building
191	334202.982	6251374.465	39.34	Window
200	333691.571	6251357.757	170.90	Building
201	333692.611	6251348.347	170.90	Building
202	333841.471	6251252.457	140.01	Building
203	333846.827	6251205.479	140.02	Building
204	333692.637	6251359.911	69.33	Building
205	333336.270	6251272.676	23.07	Roof ridge
206	333301.742	6251156.777	23.07	Roof ridge
207	333273.247	6251090.925	9.81	Top of gutter
208	333280.135	6251070.106	17.22	Roof ridge
209	333288.630	6251098.894	17.22	Roof ridge
210	333290.308	6251265.425	3.04	Pier
211	333294.193	6251278.312	3.07	Pier
212	334341.946	6250958.696	248.55	Building
213	333843.697	6251039.998	103.09	Building
214	333868.510	6251116.494	85.73	Building
215	333690.749	6251105.911	47.12	Building
216	333696.784	6251050.259	35.58	Building
217	333706.365	6251158.526	46.63	Building
218	333886.734	6250993.731	98.91	Building
219	333890.484	6250959.081	98.90	Building

Note: R.L. shown on the report for photo locations are ground levels. Camera height should be added to the supplied RL of each corresponding photo location.

Yours faithfully,
CMS Surveyors Pty Limited

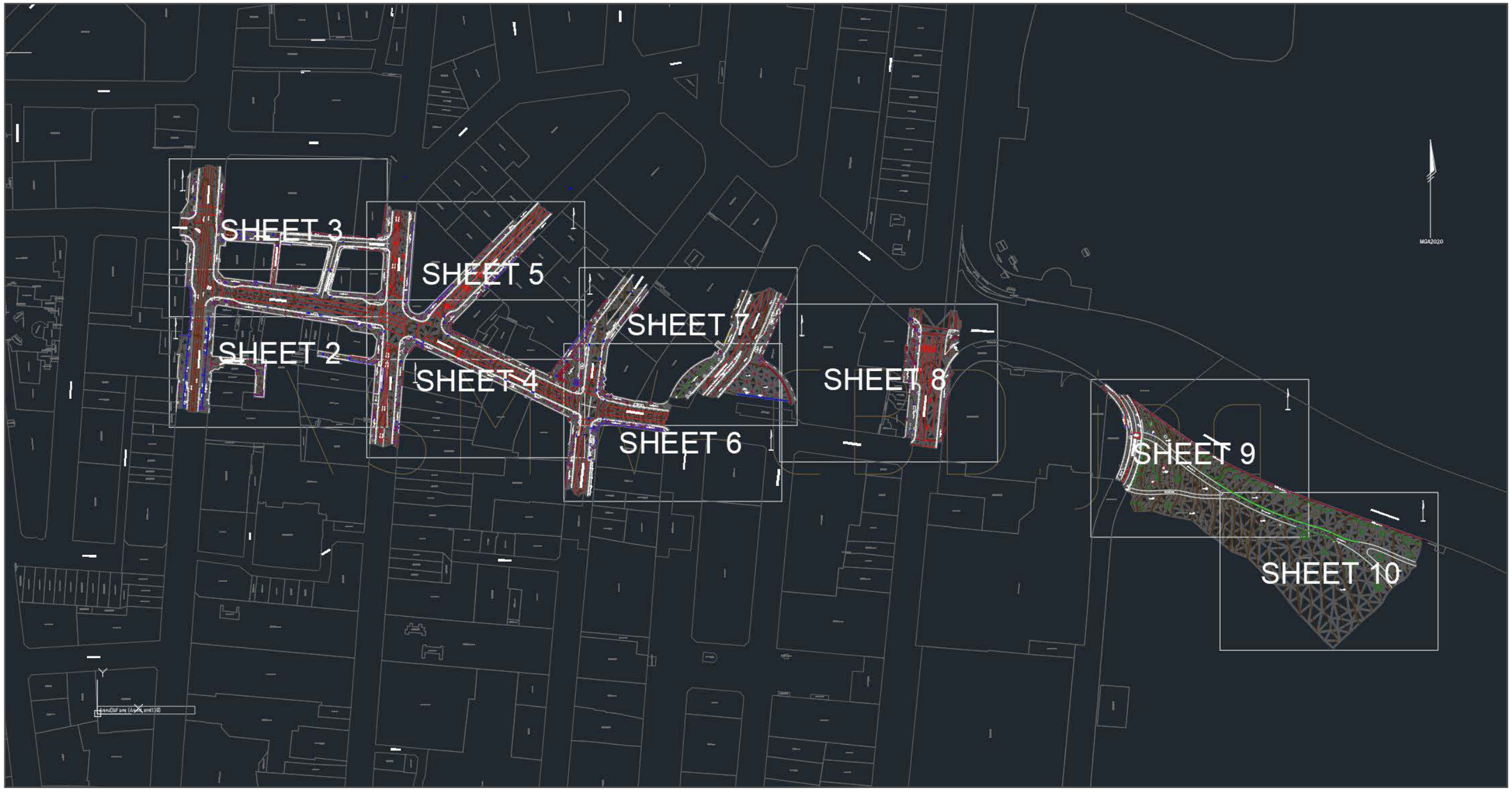
Damon Roach

HEAD OFFICE
2/99A South Creek Rd, DEE WHY NSW 2099
PO Box 463, DEE WHY NSW 2099
Ph: 02 9971 4802 Fax: 02 9971 4822
Email: info@cmssurveyors.com.au
Web: www.cmssurveyors.com.au

INCORPORATING
A.C.GILBERT & Co.
(Roseville)
MBS GREEN & ASSOCIATES
(Mona Vale)

COOTAMUNDRA
Incorporating PENGELLY & GRAY
90 Wallendoon St, COOTAMUNDRA NSW 2590
Ph: 02 6942 3395 Fax: 02 6942 4046
Email: coota@cmssurveyors.com.au

6.4 APPENDIX C: EXISTING SITE SURVEY SUPPLIED BY RPS



6.5 APPENDIX D: CAMERA LENS INFORMATION AS SUPPLIED BY CLIENT

Urbis Photo Audit Reference	Urbis Report View Reference	New view location names.	Approximate Photo Focal Length	Description	Priority 1 or 2
IMG_0001	VP2	1	35mm	East tower view north from 15 Castlereagh St	P1
IMG_0014	VP5	2	35mm	View west to east tower along hunter St from State library	P1
IMG_0022	VP7	3	35mm	View west to east tower south side of the main pathway Domain adj to Art Gallery	P1
IMG_0034	VP9	4	50mm	View SW to east & west towers from NW edge of the Opera house concourse	P1
IMG_0045	Vp11	5	35mm	View south to both towers from Cahill Ex aligned with Young St	P1
IMG_0062	VP15	6	35mm	View northeast to towers from mid-way north side of the Pyrmont Bridge by balustrade view	P1
IMG_0070	VP16	7	24mm	View north to west tower from southwest corner of George St and King St	P1
IMG_0075	VP17	8	24mm	View north to towers from west side George St and Martin Place	P1
IMG_0081	VP18	9	24mm	View south to west tower from intersection of George St & Margaret St	P1
IMG_0086	VP20	10	50mm	East and west tower axial view east Hunter St from George St	P1
IMG_0092	VP21	11	35mm	View west to west tower from northwest corner of Hunter St and O'Connell St	P1
IMG_0010	VP4	12	35mm	View west to east tower from south-east corner Intersection of Elizabeth St & Hunter St	P1
IMG_0041	VP10	13	35mm	View south-west to towers from south-west edge of upper concourse	P1
IMG_9994	VP1	14	24mm	View north-west to east tower from corner of Hunter St & Castlereagh St	P1

APPENDIX 4

CMS SITE SURVEY

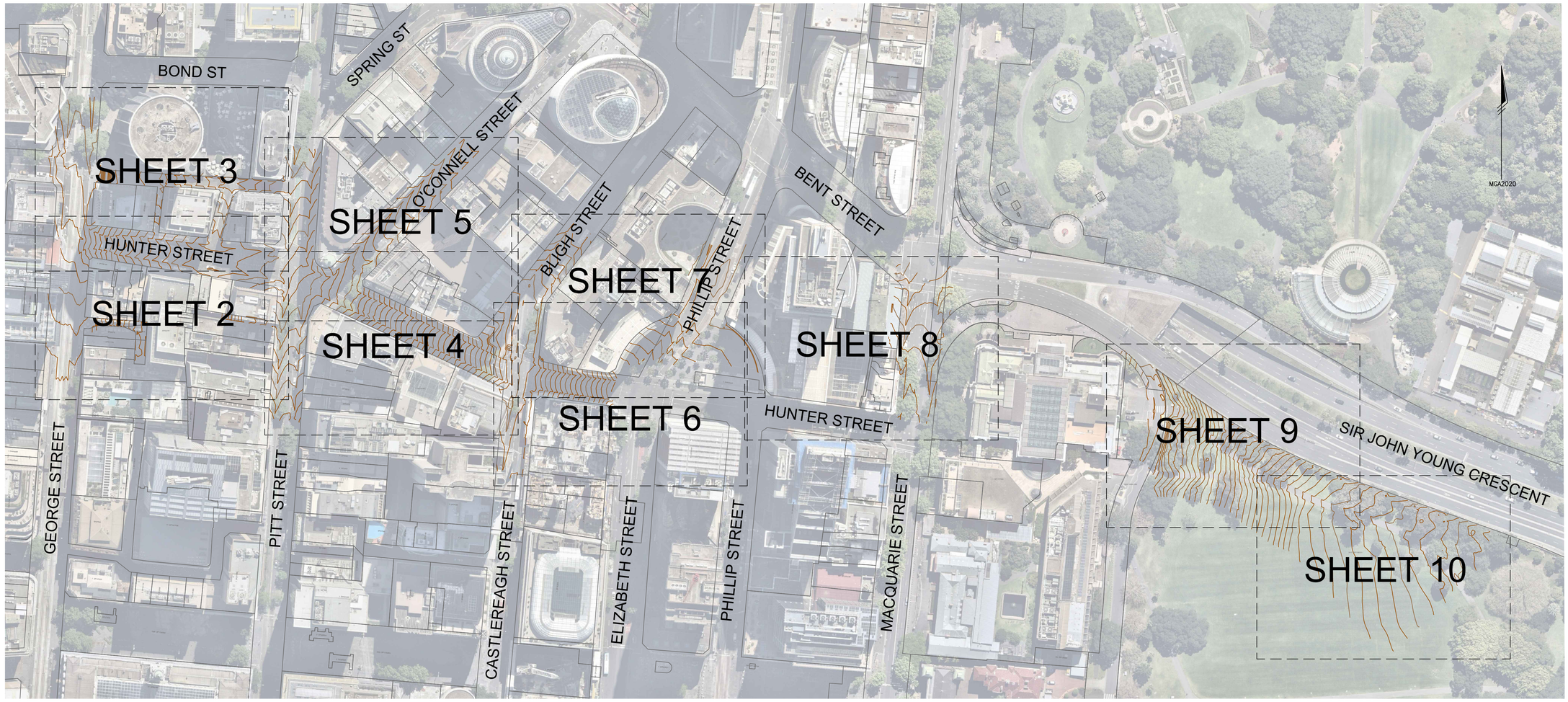
EXPLANATORY NOTES:

1. THIS MODEL SHOULD BE VIEWED IN A CAD ENVIRONMENT TO INTERPRET THE 3D INFORMATION.
2. ANY ELECTRONIC FILE IS PROVIDED WITHOUT WARRANTY AND SHOULD BE USED ONLY IN CONJUNCTION WITH THE SUPPLIED PDF/IMAGE COPY OF THIS PLAN.
3. THESE NOTES ARE AN INTEGRAL PART OF THE DIGITAL DATA FILE AND SHOULD BE READ WITH THE DATA FILE AND MUST NOT BE REMOVED FROM THE DATA FILE.
4. NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE.
5. IT REMAINS THE RESPONSIBILITY OF THOSE CONDUCTING PHYSICAL WORKS TO ENSURE AN UP-TO-DATE VERSION OF DIAL BEFORE YOU DIG PLANS IS CONSULTED AND AVAILABLE ON SITE.
6. ALL UTILITIES SHOULD TO BE POTHOLED TO VERIFY LOCATION AND DEPTH.
7. THIS SURVEY PLAN REPRESENTS THE LOCATION OF FEATURES THAT WERE ACCESSIBLE AT THE TIME OF SURVEY.
8. COPYRIGHT : © RPS GROUP PTY LTD INFORMATION CONTAINED IN THIS DRAWING / FILE IS THE COPYRIGHT OF RPS GROUP PTY LTD. COPYING OR USING THIS DATA IN WHOLE OR PART, IN ANY FORMAT, WITHOUT PERMISSION INFRINGES COPYRIGHT.
9. FOR REASONS OF PLAN PRESENTATION, NOT ALL OF THE INFORMATION CAN BE SHOWN ON THIS PLAN. PLEASE REFER TO ACCOMPANYING DIGITAL DATA FOR ALL SURVEY INFORMATION, ATTRIBUTES AND REDUCED LEVELS.
10. THIS SURVEY IS ON MGA2020 PRELIMINARY PROJECT COORDINATES AS ESTABLISHED FOR THE INVESTIGATION CORRIDOR WITH GRID DISTANCES. REDUCED LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD71) AS ESTABLISHED BY PROJECT CONTROL.

    RPS HAS UNDERTAKEN A RIGOROUS LEAST SQUARES RE-ADJUSTMENT OF THE PRIMARY CONTROL SURVEY NETWORK (UTILISING ADJUSTED FIELD DATA) WHICH CONNECTS TO THE NSW GOVERNMENT PUBLISHED MGA2020 SCIMS VALUES FOR MARKS THAT FORM PART OF THE GREATER SYDNEY SUBSPINE NETWORK. RPS HAVE THEN INVESTIGATED THE VARIOUS MATHEMATICAL MODELS AVAILABLE FOR THE TRANSFORMATION OF DATA FROM MGA94 TO MGA2020 AND HAVE FOUND THAT:

    A) THE METHOD WHICH ALIGNS MOST CLOSELY WITH THE RE-ADJUSTED PRIMARY SURVEY CONTROL IS A BLOCK SHIFT OF +0.461 EAST AND 1.445 NORTH (WITHIN 11MM).

    B) OTHER METHODS OF TRANSFORMATION (SEVEN-PARAMETERS, CONFORMAL GRID, AND CONFORMAL + DISTORTION GRID) RESULT IN DIFFERENCES OF UP TO 44MM.
11. BOUNDARIES HAVE BEEN TAKEN FROM NSW DIGITAL CADASTRAL DATABASE (DCDB) AND HAVE NOT BEEN VERIFIED BY SURVEY, AND ARE FOR CONTEXT PURPOSES ONLY. NO INVESTIGATION OF LAND TITLES HAS BEEN CONDUCTED.
12. CONTOURS ARE AN INDICATION OF LANDFORM AND SHOULD NOT BE TAKEN IN PREFERENCE TO SPOT LEVELS SHOWN.
13. CONTOUR INTERVAL SHOWN IS 1.0 MAJOR AND 0.25 MINOR.
14. BUILDING FOOTPRINTS SHOWN ARE AT GROUND LEVEL. FOOTPRINTS MAY DIFFER AT OTHER LEVELS.
15. ADJOINING BUILDINGS HAVE BEEN SURVEYED WHERE VISIBLE FROM INSIDE THE SURVEY SITE. BUILDINGS WITHIN 1 METRE OF THE APPROXIMATE BOUNDARY AND ACCESSIBLE AT THE TIME OF SURVEY HAVE BEEN LOCATED. IF CRITICAL TO DESIGN, RPS RECOMMEND FURTHER SURVEY WORK TO LOCATE ADJOINING BUILDINGS.
16. ONLY SIGNIFICANT TREES ON THE SUBJECT SITE WITH A TRUNK DIAMETER OF 300mm OR GREATER HAVE BEEN SURVEYED. SMALLER TREES AND SHRUBS EXIST ON SITE. NO TREE TAGS HAVE BEEN PLACED. APPROXIMATE TRUNK, SPREAD AND HEIGHT OF TREES ARE SHOWN ADJACENT TO THE TREE LOCATION.
17. NO ABOVE GROUND SERVICES OR ASSETS, SUCH AS OVERHEAD WIRES OR AWNINGS HAVE BEEN LOCATED AS PART OF THIS SURVEY.
18. SURFACE UTILITY ASSETS HAVE NOT BEEN LOCATED WITHIN THE ROAD CARRIAGEWAY AREA AS PART OF THIS PLAN, WITH THE EXCEPTION OF DE MESTRE PLACE AND HOSPITAL ROAD.



PUBLIC UTILITY LEGEND

E ELEC

- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS

- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS

- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS

- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR

- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER

- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)

- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)

- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)

- CYCLE LINE MARKINGS

E RAIL

- RAILWAY SIGNAL (PRSG)
- RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)

- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC

- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO

- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

REVISIONS					
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP

HORIZ. SCALE: 1:1250 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020 PRELIMINARY PROJECT CONTROL
DATUM: AHD PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
25 12.5 0 25 50 75
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO

SURVEY:	RPS	DATE OF SURVEY:	AUG 2021
DRAWN:	LMB	DATE OF PLAN:	14.10.2021
CHECKED:	GS	DATE LAST SAVED:	14.10.2021
APPROVED:	SFG	DATE APPROVED:	14.10.2021

TITLE

SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239

ISSUE A20

SHEET 1 OF 10 SHEETS

SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:45 PM

ADJOINS SHEET 3

ADJOINS SHEET 5

ADJOINS SHEET 4

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POPP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NPV NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

MGA2020

HUNTER STREET

GEORGE STREET

DE MESTRE PLACE

HAMILTON STREET

LANEWAY

BUS STOP

SEATING AREA

DRIVEWAY

BIKE LANE

PAVED FOOTPATH

BITUMEN FOOTPATH

ISLAND

LIGHT RAIL

SP30234

15 DP1214642

12 DP1214642

1 DP74797

13 DP66258

12 DP88992

1 DP438188

SP596

SP71068

SP65054

SP50276

1 DP1003818

1 DP211120

13 DP622968

2 DP1250819

1 DP81535

1 DP221701

A DP109825

B DP109825

1 DP59754

SP69888

1 DP630190

2 DP850895

SP60693

1 DP63968

1 DP1039996

SP67754

SP70031

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:45 PM

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LU)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PTJP)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DP — DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NPV — NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- UL — RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- UL — RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

MGA2020

REVISIONS					
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG

HORIZ. SCALE: 1:200 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020 PRELIMINARY
DATUM: AHD PRELIMINARY
ORIGIN: PROJECT CONTROL
ORIGIN: PROJECT CONTROL

4 2 0 4 8 12
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT — sydney METRO

SURVEY:	RPS	DATE OF SURVEY:	AUG 2021
DRAWN:	LMB	DATE OF PLAN:	14.10.2021
CHECKED:	GS	DATE LAST SAVED:	14.10.2021
APPROVED:	SFG	DATE APPROVED:	14.10.2021

TITLE

SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239

ISSUE A20

SHEET 3 OF 10 SHEETS

SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:45 PM

ADJOINS SHEET 5

ADJOINS SHEET 2

ADJOINS SHEET 7

ADJOINS SHEET 6

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

HUNTER STREET

PITT STREET

PAVED FOOTPATH

BIKE LANE

DRIVEWAY

BITUMEN FOOTPATH

SKATING AREA

KIOSK

1 DP108276

1 DP1107981

1 DP217112

2 DP217112

1 DP626651

1 DP536538

1 DP59871

SP58859

1 DP795723

SP70713

SP19316

SP64606

1 DP187361

1 DP816869

103 DP714272

57754

FFL 9.69

FFL 10.11

FFL 10.83

FFL 11.20

FFL 11.19

FFL 11.99

FFL 11.34

FFL 11.60

FFL 14.29

FFL 14.22

FFL 14.45

FFL 14.54

FFL 19.24

0.4/10/8

0.1/5/5

0.1/6/6

0.1/2/3

0.2/6/8

0.3/8/8

0.2/8/8

0.3/9/9

0.3/7/8

0.2/6/7

0.2/7/8

0.4/5/10

0.1/3/5

0.3/8/4

0.3/6/10

0.2/1/7

0.3/7/7

0.1/4/5

MGA2020

MGA2020

REVISIONS

No.	DATE	REVISION DETAILS	DRAWN	CHK	APP
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG

HORIZ. SCALE: 1:200 @ A1

VERT. SCALE: @ A1

COORDINATES: MGA2020 PRELIMINARY

DATUM: AHD PRELIMINARY

ORIGIN: PROJECT CONTROL

ORIGIN: PROJECT CONTROL

4 2 0 4 8 12

SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT — sydney METRO

SURVEY: RPS — DATE OF SURVEY: AUG 2021

DRAWN: LMB — DATE OF PLAN: 14.10.2021

CHECKED: GS — DATE LAST SAVED: 14.10.2021

APPROVED: SFG — DATE APPROVED: 14.10.2021

TITLE

SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239

ISSUE A20

SHEET 4 OF 10 SHEETS

SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:45 PM

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DP — DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NPV — NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

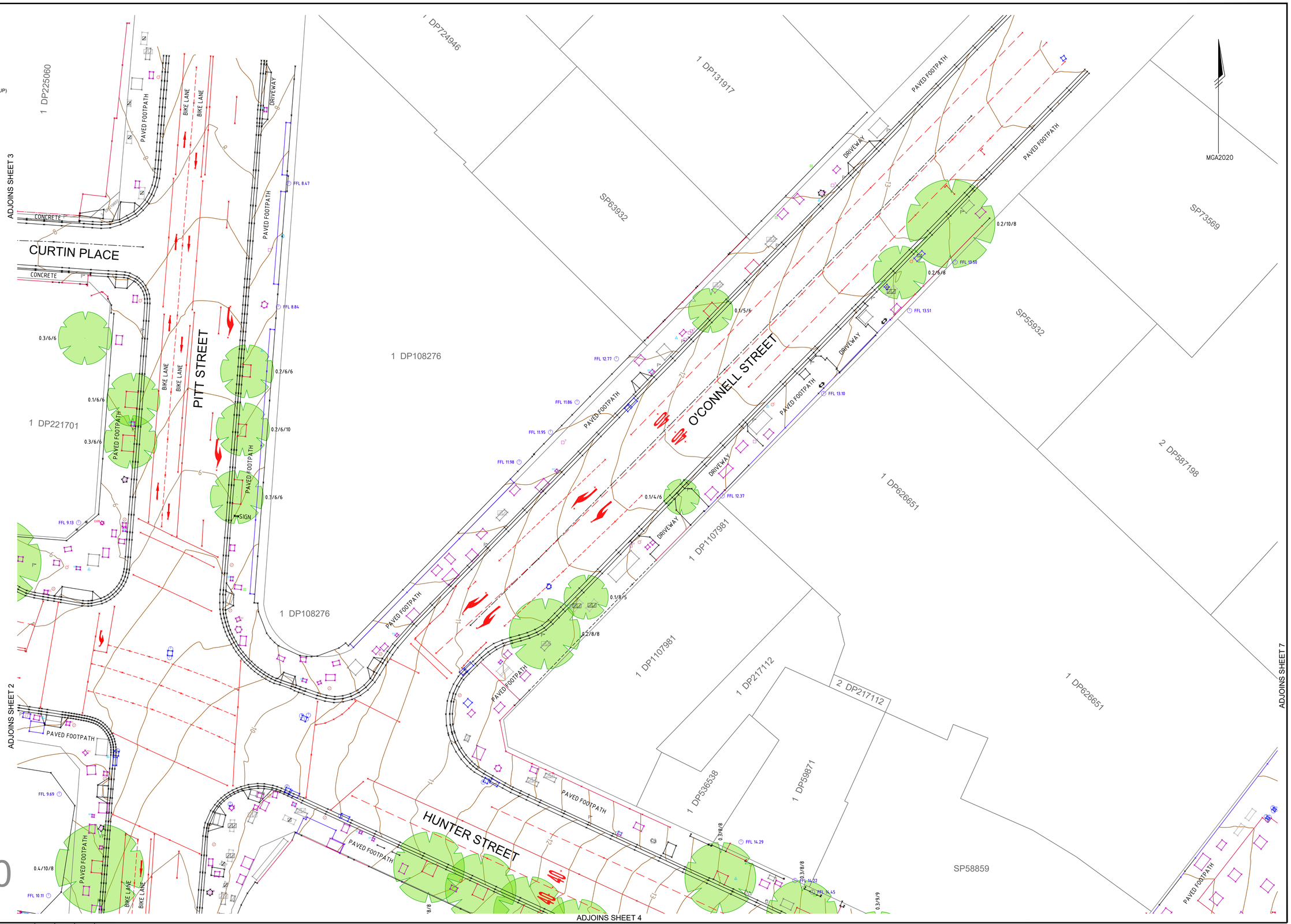
E RAIL
- RAILWAY SIGNAL (PRSG)
- UL — RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- UL — RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE



REVISIONS					
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP

HORIZ. SCALE: 1:200 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020 PRELIMINARY
DATUM: AHD PRELIMINARY
ORIGIN: PROJECT CONTROL
ORIGIN: PROJECT CONTROL
4 2 0 4 8 12
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO
SURVEY: RPS — DATE OF SURVEY: AUG 2021
DRAWN: LMB — DATE OF PLAN: 14.10.2021
CHECKED: GS — DATE LAST SAVED: 14.10.2021
APPROVED: SFG — DATE APPROVED: 14.10.2021

TITLE
SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239
ISSUE A20
SHEET 5 OF 10 SHEETS
SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:46 PM

ADJOINS SHEET 7

ADJOINS SHEET 4

ADJOINS SHEET 8

PUBLIC UTILITY LEGEND

E ELEC

- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS

- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)

- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS

- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR

- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER

- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)

- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)

- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)

- CYCLE LINE MARKINGS

E RAIL

- RAILWAY SIGNAL (PRSG)
- RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)

- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC

- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO

- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

MGA2020

BLIGH STREET

HUNTER STREET

CHIFLEY SQUARE

CASTLEREAGH STREET

ELIZABETH STREET

PHILLIP STREET

PAVED FOOTPATH

PAVED

BUS LANE

MEDIAN

DRIVEWAY

KIOSK

SEAT

BITUMEN FOC

FOOTPATH INACCESSIBLE AT TIME OF SURVEY DUE TO CONSTRUCTION WORK

SP76907

SP74556

1 DP1114166

1 DP870244

1 DP222356

2 DP548142

1 DP173027

80 DP1255846

10 DP777545

10 DP752057

DP1185691

FFL 26.00

FFL 25.79

FFL 21.37

FFL 19.24

MGA2020

REVISIONS						
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP	
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG	

HORIZ. SCALE: 1:200 @ A1

VERT. SCALE: @ A1

COORDINATES: MGA2020 PRELIMINARY PROJECT CONTROL

DATUM: AHD PRELIMINARY PROJECT CONTROL

ORIGIN: PROJECT CONTROL

4 2 0 4 8 12

SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO

SURVEY: RPS — DATE OF SURVEY: AUG 2021

DRAWN: LMB — DATE OF PLAN: 14.10.2021

CHECKED: GS — DATE LAST SAVED: 14.10.2021

APPROVED: SFG — DATE APPROVED: 14.10.2021

TITLE

SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No: SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No: PR142446-239

ISSUE: A20

SHEET 6 OF 10 SHEETS

SIZE: A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:46 PM

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

MGA2020

ADJOINS SHEET 5

ADJOINS SHEET 4

ADJOINS SHEET 6

ADJOINS SHEET 8

BLIGH STREET

PHILLIP STREET

CHIFLEY SQUARE

HUNTER STREET

BITUMEN FOOTPATH

PAVED FOOTPATH

DRIVEWAY

BUS LANE

BUS STOP

ISLAND

MEDIAN

KIOSK

SEAT

PAVED

2 DP587198

1 DP587198

2 DP1084537

1 DP1084537

1 DP1244245

2 DP1084537

SP74556

SP76907

1 DP1111466

10 DP777545

1 DP870244

FFL 20.97

FFL 19.39

FFL 21.37

FFL 25.98

FFL 26.49

FFL 26.00

FFL 26.00

FFL 25.79

0.3/6/7

0.1/4/5

0.1/4/5

0.1/4/5

0.2/5/6

0.4/12/12

0.2/7/7

0.2/7/8

0.2/6/7

0.3/3/10

0.3/3/10

0.3/3/10

0.2/4/10

0.2/4/10

0.2/4/10

0.3/5/10

0.3/5/10

0.3/5/10

0.3/5/10

0.3/5/10

0.3/5/10

0.3/5/10

0.3/5/10

0.3/5/10

0.2/5/10

0.2/4/6

0.2/3/6

0.2/4/6

MGA2020

REVISIONS					
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP

HORIZ. SCALE: 1:200 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020 PRELIMINARY PROJECT CONTROL
DATUM: AHD PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
4 2 0 4 8 12
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO
SURVEY: RPS — DATE OF SURVEY: AUG 2021
DRAWN: LMB — DATE OF PLAN: 14.10.2021
CHECKED: GS — DATE LAST SAVED: 14.10.2021
APPROVED: SFG — DATE APPROVED: 14.10.2021

TITLE
SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239

ISSUE A20

SHEET 7 OF 10 SHEETS

SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:46 PM

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DP — DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NPV — NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- UL — RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- UL — RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

ADJOINS SHEET 7

MGA2020

ADJOINS SHEET 6

10 DP777545

11 DP1034064

1 DP91202

6 DP89692

7 DP65353

8 DP63928

9 DP63218

1 DP1065165

2 DP217711

18 DP859014

20 DP859014

7028 DP1077148

SHAKESPEARE PLACE

HUNTER STREET

MACQUARIE STREET

PAVED FOOTPATH

ISLAND

PEDESTRIAN CROSSING

GARDEN

FFL 32.62

FFL 32.80

0.1/4/4

0.1/4/6

0.1/4/5

0.6/12/15

1.0/10/10

0.3/8/12

0.4/12/15

0.4/12/15

MGA2020

REVISIONS					
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP

HORIZ. SCALE: 1:200 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020 PRELIMINARY
DATUM: AHD PRELIMINARY
ORIGIN: PROJECT CONTROL
ORIGIN: PROJECT CONTROL
4 2 0 4 8 12
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO
SURVEY: RPS — DATE OF SURVEY: AUG 2021
DRAWN: LMB — DATE OF PLAN: 14.10.2021
CHECKED: GS — DATE LAST SAVED: 14.10.2021
APPROVED: SFG — DATE APPROVED: 14.10.2021

TITLE
SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239

ISSUE A20

SHEET 8 OF 10 SHEETS

SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:46 PM

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DP — DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NPV — NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- UL — RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- UL — RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

17 DP859014

7028 DP1077148

1824 DP841390

1824 DP841390

1013 DP1199151

HOSPITAL ROAD

SIR JOHN YOUNG CRESCENT

BOOM GATE

PAVED FOOTPATH

PEDESTRIAN CROSSING

SIGN

GRASSED

BITUMEN FOOTPATH

SANDSTONE BLOCK WALL

DRIVEWAY

SEAT

0.5/12/15

0.2/4/4

1.2/15/20

1.0/12/12

0.7/15/20

0.8/15/20

0.7/12/15

1.5/10/12

0.4/9/10

0.2/1/7

0.8/15/8

0.2/8/8

0.4/10/8

0.6/12/15

0.3/10/12

1.5/22/20

0.5/10/20

1.0/15/25

MGA2020

MGA2020

ADJOINS SHEET 10

REVISIONS					
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP

HORIZ. SCALE: 1:200 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020 PRELIMINARY PROJECT CONTROL
DATUM: AHD PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
4 2 0 4 8 12
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO

SURVEY:	RPS	DATE OF SURVEY:	AUG 2021
DRAWN:	LMB	DATE OF PLAN:	14.10.2021
CHECKED:	GS	DATE LAST SAVED:	14.10.2021
APPROVED:	SFG	DATE APPROVED:	14.10.2021

TITLE: SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No: SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No: PR142446-239

ISSUE: A20

SHEET 9 OF 10 SHEETS

SIZE: A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:46 PM

ADJOINS SHEET 9

PUBLIC UTILITY LEGEND

E ELEC
- CABLE JUNCTION BOX (PEJB)
- CABLE MANHOLE (PEMH)
- DISTRIBUTION FUSE POINT
- POLE - LIGHT (PLPL)
- SUSPENDED LIGHT (PLSU)
- GARDEN LIGHT (PLGN)
- POLE - POWER (PPPL)
- POLE - POWER & LIGHT (PPLP)
- POWER SERVICE PILLAR - UNDERGROUND (PEUP)
- TRANSFORMER CABINET CENTRE (PETC)
- LIGHT WITH OUTREACH (LI)
- LINE-MAJOR OVERHEAD (UE) (DIA UNK)

E TCS
- TRAFFIC CONTROL SIGNAL (PSGL)
- TRAFFIC SIGNAL CONTROLLER (PSCL)
- TRAFFIC SIGNAL DETECTOR (PSDR)
- TRAFFIC SIGNAL JUNCTION BOX (PSJX)
- TRAFFIC LIGHT WITH OUTREACH (TO)

E COMMS (COMMUNICATIONS)
- TELEPHONE DISTRIBUTION PILLAR (PTDP)
- ABOVE GROUND JOINING POST (PTJP)
- OPTICAL FIBRE JUNCTION BOX (POFJ)
- OPTICAL FIBRE PIT (POFP)
- STD 1.1 m BY 1.1 m MAIN PIT (PTMP)
- TELEPHONE BOX POINT (PTBX)
- TELEPHONE POLE (PTPL)
- TELEPHONE SINGLE CONCRETE PIT (PTSP)
- TELEPHONE TRIPLE CONCRETE PIT (PT3P)
- TELEPHONE TWIN CONCRETE PIT (PTTP)

E GAS
- MANHOLE COVER (PGHL)
- METER (PGMR)
- PIPELINE MARKER (PGPM)
- PIPELINE MARKER - HIGH PRESSURE (PGHM)
- VALVE BOX (PGAS)
- VENT PIPE (PGVP)
- TEST POINT (PGTP)

E WATR
- AIR VALVE (PWAV)
- EARTH TERMINAL (PWET)
- FIRE HYDRANT (PWFB)
- HYDRANT (PWHY)
- METER (PWMR)
- STOP VALVE (PWSV)
- TAP (PWTP)
- MAIN MARKER (PWMM)

E SWER
- MANHOLE COVER (PSMH)
- VENT PIPE (PSVP)
- LAMPHOLE (PSLH)

E DRAIN (STORMWATER)
- DRAINAGE JUNCTION MANHOLE (PDJM)
- GULLY PIT POINT (PGUL)
- INLET TO SUMP (PILT)
- INVERT OF PIPE (PINV)
- TOP OF CONCRETE JUNCTION BOX (PJBX)
- SUBSOIL DRAIN FLUSH POINT (PSFP)
- OBVERT OF PIPE (POBV)
- KERB INLET (KI)
- DRAINAGE PIT (DP)
- DISH DRAIN (DD)
- NPV NO PIPE VISIBLE

E BUIL (BUILDING & STRUCTURES)
- AWNING POINT (PTDP)
- FLOOR LEVEL (PFLR)
- BUILDING COLUMN

E BDGE (BRIDGE STRUCTURES)
- CYCLE LINE MARKINGS

E RAIL
- RAILWAY SIGNAL (PRSG)
- RAIL OVERHEAD WIRES (CONT) (DIA UNK)
- RAIL OVERHEAD WIRES (CATY) (DIA UNK)

E CULT (CULTURAL)
- SIGN POST (PSIN)
- LARGE SIGN (SI)
- BOLLARD (AC)
- RUBBISH BIN (PBIN)
- METAL FENCE
- MANPROOF FENCE
- FENCE (OTHER)

E MISC
- GATIC COVER LID (PGAT)
- UNIDENTIFIED SERVICE (PUSR)
- UNIDENTIFIED SERVICE (PUSR)
- BORE HOLE (PBHX)

E TOPO
- SPOT HEIGHT(PSHT)
- NATURAL SURFACE
- TREE
- TRUNK/SPREAD/HEIGHT
- TOP OF BANK
- BOTTOM OF BANK

SQUARE BRACKETS INDICATE THAT THE FEATURE SURVEYED IS NOT AT THE GROUND SURFACE

GRASSED
BITUMEN FOOTPATH
SIR JOHN YOUNG CRESCENT
SANDSTONE BLOCK WALL
1013 DP1199151
5 DP259027
MGA2020
0.6/15/20
10/15/25
0.8/15/20
0.5/12/15
10/15/20
0.2/7/18
12/12/20
0.4/12/15
0.6/15/25
0.5/12/20
0.3/8/18
0.8/12/18
12/15/20
0.9/15/20
0.6/12/12

MGA2020

REVISIONS						
A	14.10.2021	INITIAL ISSUE	LB	GS	SFG	
No.	DATE	REVISION DETAILS	DRAWN	CHK	APP	

HORIZ. SCALE: 1:200 @ A1
VERT. SCALE: @ A1
COORDINATES: MGA2020
DATUM: AHD
ORIGIN: PRELIMINARY PROJECT CONTROL
ORIGIN: PRELIMINARY PROJECT CONTROL
4 2 0 4 8 12
SCALE IN METRES AT ORIGINAL REDUCTION RATIO

NOTES

EXPLANATORY NOTES & LEGEND ON SHEET 1 ARE APPLICABLE TO ALL SHEETS ON THIS PLAN

CLIENT: NSW GOVERNMENT / sydney METRO
SURVEY: RPS
DRAWN: LMB
CHECKED: GS
APPROVED: SFG
DATE OF SURVEY: AUG 2021
DATE OF PLAN: 14.10.2021
DATE LAST SAVED: 14.10.2021
DATE APPROVED: 14.10.2021

TITLE
SMW DETAILED SITE SURVEY - HUNTER STREET STATION

DRAWING No SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg

JOB No PR142446-239
ISSUE A20
SHEET 10 OF 10 SHEETS
SIZE A1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
LEVEL 13 255 PITT STREET SYDNEY NSW 2000
T: 02 8270 8300 F: 02 9248 9810 www.rpsgroup.com.au

THIS IS A COLOURED PLAN.
REPRODUCTION IN COLOUR ONLY.

MAKING COMPLEX EASY

C:\LMB\1-RPS\CBD\SMWSDDS-RPS-HST-SR-DWG-000557-A(G2020).dwg 14.10.2021 8:46 PM

URBIS

URBIS.COM.AU