

Waterloo South Planning Proposal

Visual Impact Study

8021708101

Prepared for
Land and Housing Corporation

20 April 2020



Contact Information

Cardno (NSW/ACT) Pty Ltd

ABN 95 001 145 035

Level 9 - The Forum
203 Pacific Highway
St Leonards NSW 2065
Australia

www.cardno.com

Phone +61 2 9496 7700

Fax +61 2 9439 5170

Author(s):

John O'Grady

Amelia Grace

Document Information

Prepared for	Land and Housing Corporation
Project Name	Visual Impact Study
File Reference	FINAL
Job Reference	8021708101
Date	20 April 2020
Version Number	3

Name	Effective Date	20/04/2020
------	----------------	------------

Job title:

Principal Planner

Senior Landscape Architect

Senior Urban Planner

Approved

By:

Name	Date Approved	20/04/2020
------	---------------	------------

John O'Grady

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
1	06/03/2020	Draft	John O'Grady Amelia Grace	John O'Grady
2	11/03/2020	Draft 2	John O'Grady	John O'Grady

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Amelia Grace

3

20/04/2020

FINAL

John O'Grady

John O'Grady

Amelia Grace

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Executive Summary

This report relates to a Planning Proposal to create a new suite of planning controls for land within the Waterloo South Precinct, part of the greater Waterloo Estate. The report provides an assessment of the potential visual impacts of the Proposal in response to the Study Requirements for the Project (issued 19 May 2017):

Study requirement 2.7

Provide a view and visual assessment, with particular focus on significant views to, from and within the site. Use eye level views from public parks and street footpaths, simulate a focal length of 55mm, to approximate the correct proportions of the elements of views as experienced by the human eye, compare to existing views and analyse the relative quantity of visible sky. Include analysis of any visual impacts on the conservation areas and surrounding areas, and any mitigation measures.

The process adopted for the study addresses this study requirement and is consistent with current planning principles set by the NSW Land and Environment Court for assessment of the visual impacts of development proposals. Specifically, the study is consistent with the principles for assessment of visual impacts of development on the public domain set by *Rose Bay Marina Pty Ltd v Woollahra Council and anor [2013] NSWLEC 1046*; and photomontages relied upon by the Study have been prepared in a manner consistent with NSW Land and Environment Court Photomontage Policy.

To assist in the view and visual assessment, photomontages have been prepared from a range of selected view locations. The majority of these have been prepared as “block diagrams” which relate to building envelopes illustrating the extent of the proposed built form likely to be visible in these views.

The study assessed the visual character and quality of Waterloo and its environs and derived Planning Principles to protect and enhance the identified positive components of its visual character. The Waterloo South Masterplan was assessed against these Planning Principles which can be found in Section 6 of this report.

The existing Waterloo Estate displays a unique visual character that contrasts markedly with its context.

Existing built form within the Estate is a function of its primary historical function as social housing, coupled with some small areas of commercial space on remnant privately owned land. Housing forms vary from the visually dramatic housing towers (up to 30 storeys in height) and blocks (approximately 17 storeys) in the north eastern portion of the Estate to two / three storey walk-ups and terrace style housing in the western and southern portions of the Precinct. At the time of preparation of this report, station works on the Metro Quarter are under construction and the above station works have received planning approval.

The Waterloo Estate Precinct currently is visually contained with its edges clearly defined by boundary streets. Within these boundaries, the Precinct exhibits a relatively open character defined by:

- > A grid pattern of wide streets, which assists legibility and allows for views through the Precinct. Tall towers and slab buildings as dominant elements of the built form. The buildings are often in a parkland setting.
- > Very large street blocks (varying in size from around 7000m² up to approximately 3.5 hectares). Large blocks contribute to an open visual character.
- > A high ratio of open land to built-upon land which also contributes to a relatively open visual character.
- > A substantial stock of large trees both in the streetscape and within the developed properties. Trees contribute to a human scale moderating against the very high rise tower and slab buildings in the northern parts of the Precinct.

The findings of the assessment are:

- > The Waterloo South Proposal is consistent with current planning for inner western Sydney incorporating new centres of activity at Green Square and the Central to Eveleigh corridor. Where visible in distant views from the public domain it will present as a consolidated new urban centre within the context of the Sydney CBD and the other two mentioned developing centres.
- > The Proposal will transform views from within Waterloo South. This assessment has found, however, that the masterplanning will retain and enhance the identified positive visual characteristics of the Estate by retaining an open street grid pattern, separating tall buildings, retaining and adding to the stock of tall trees in the streets, parks and private spaces and allowing for long views down streets towards open spaces and tall buildings.

-
- > The Proposal for Waterloo South will impact on views from streets immediately surrounding the Estate. In close views, visibility will be variable depending on the context and the existence of local vegetation. Mitigation measures to address these impacts will include design development to result in a high quality ground plane including allowance for healthy growth of forest scale trees in the street and other proposed public places.
 - > The Proposal will be visible as a new skyline urban form in medium distant views from all directions. Its success as a new element in views from these locations will be contingent on achievement of design excellence in the completed development, with particular regard to the architectural design of the proposed tall buildings.
 - > In distant regional views, the Proposal will appear in the context of the existing tall buildings in the Northern part of the Waterloo Estate, the proposed Metro Quarter building group and the substantial tree canopy within and adjacent to the Waterloo Estate. If designed in keeping with principles of design excellence, the taller buildings in the Proposal will have an acceptable impact on these views.
 - > Overall, contingent on achieving design excellence and on maintaining a high quality vegetated foreground, the Proposal has been found to have an acceptable impact on the conservation values of local Conservation Areas including specifically, the Redfern Estate, the Alexandria Park Conservation Area and the Waterloo Conservation Area.
 - > Contingent on the recommended mitigation measures in this report, the Proposal has been found to be consistent with the visual quality Planning Principles for development of the Waterloo Precinct and Metro Quarter and is considered to be worthy of support with regard to its effects on the existing visual environment of the site and its locality.

Table of Contents

1	Introduction	7
	1.1 Introduction	7
2	Study Process	16
	2.1 Existing Conditions	16
	2.2 Visual Impact Assessment	17
	2.3 Review of Conclusions against relevant Court Planning Principles (<i>Rose Bay Marina Pty Ltd v Woollahra Council and anor [2013] NSWLEC 1046</i>)	17
3	Existing Condition	20
	3.1 Process	20
	3.2 Waterloo Estate – Existing character	20
	3.1 Visual Description – the Waterloo Precinct	24
4	The Proposal	43
	4.1 Proposed Planning Framework	43
	4.2 Indicative Concept Proposal	44
	4.3 Staging	47
5	Approach to design	48
	5.1 Urban design principles (visual quality)	48
	5.2 Constraints and Opportunities	48
	5.3 Issues	50
6	Visual Impact Analysis	51
	6.1 Viewpoint Analysis	51
	6.2 Long distant views (over distances greater than 1.0km)	54
	6.3 Middle distant views (over distances between 250m and 1.0km)	62
	6.4 Close Views (closer than 250m from the Estate boundary)	71
	6.5 Views from within the Waterloo South site	116
	6.6 Summary of Assessment Outcomes	132
	6.7 Summary of recommended mitigation measures	133
7	Implementation Plan	135
	7.1 The Waterloo Estate – Vision Statement (Visual Quality)	135
	7.2 Visual / Urban Quality Plan	135
8	Conclusion	138

Tables

Table 1-1	Breakdown of allocation of land within the Waterloo South	14
Table 4-1	Waterloo South Planning Controls	43
Table 4-2	Land Allocation	44

1 Introduction

1.1 Introduction

The Greater Sydney Region Plan and Eastern City District Plan seek to align growth with infrastructure, including transport, social and green infrastructure. With the catalyst of Waterloo Metro Station, there is an opportunity to deliver urban renewal to Waterloo Estate that will create great spaces and places for people to live, work and visit.

The proposed rezoning of Waterloo Estate is to be staged over the next 20 years to enable a coordinated renewal approach that minimises disruption for existing tenants and allows for the up-front delivery of key public domain elements such as public open space. Aligned to this staged approach, Waterloo Estate comprises three separate, but adjoining and inter-related stages:

- Waterloo South;
- Waterloo Central; and
- Waterloo North.

Waterloo South has been identified as the first stage for renewal. The lower number and density social housing dwellings spread over a relatively large area, makes Waterloo South ideal as a first sub-precinct, as new housing can be provided with the least disruption for existing tenants and early delivery of key public domain elements, such as public open space.

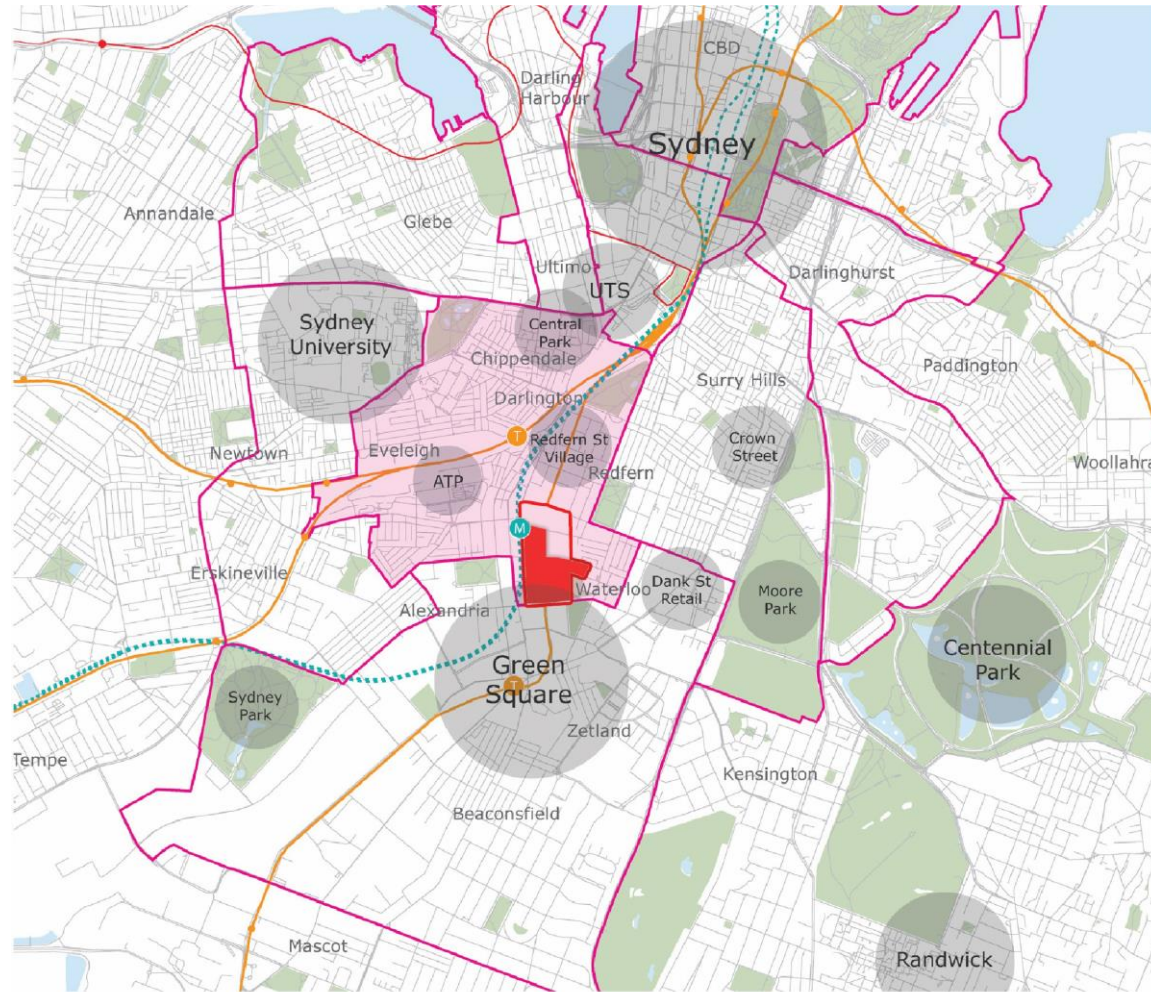
A planning proposal for Waterloo South is being led by NSW Land and Housing Corporation (LAHC). This will set out the strategic justification for the proposal and provide an assessment of the relevant strategic plans, state environmental planning policies, ministerial directions and the environmental, social and economic impacts of the proposed amendment. The outcome of this planning proposal will be a revised planning framework that will enable future development applications for the redevelopment of Waterloo South. The proposed planning framework that is subject of this planning proposal, includes:

- **Amendments to the Sydney Local Environmental Plan 2012** – This will include amendments to the zoning and development standards (i.e. maximum building heights and floor space ratio) applied to Waterloo South. Precinct-specific local provisions may also be included.
- **A Development Control Plan (DCP)** – This will be a new part inserted into ‘Section 5: Specific Areas’ of the Sydney DCP 2012 and include detailed controls to inform future development of Waterloo South.
- **An infrastructure framework** – in depth needs analysis of the infrastructure required to service the needs of the future community including open space, community facilities and servicing infrastructure.

1.1.1 Waterloo Estate

Waterloo Estate is located approximately 3.3km south-south-west of the Sydney CBD in the suburb of Waterloo (refer to **Figure 1-1**). It is located entirely within the City of Sydney local government area (LGA). Waterloo Estate is situated approximately 0.6km from Redfern train station and 0.5km from Australia Technology Park. The precinct adjoins the new Waterloo Metro Station, scheduled to open in 2024. The Waterloo Metro Quarter adjoins Waterloo Estate and includes the station and over station development, and was rezoned in 2019. Waterloo Estate comprises land bounded by Cope, Phillip, Pitt and McEvoy Street, including an additional area bounded by Wellington, Gibson, Kellick and Pitt Streets. It has an approximate gross site area of 18.98 hectares (14.4 hectares excluding roads). Waterloo Estate currently comprises 2,012 social housing dwellings owned by LAHC, 125 private dwellings, a small group of shops and community uses on the corner of Wellington and George Streets, and commercial properties on the south-east corner of Cope and Wellington Streets.

A map of Waterloo Estate and relevant boundaries is illustrated in **Figure 2**.



Legend

-  The Estate
-  Waterloo South

Figure 1-1 Location plan of Waterloo Estate and Waterloo South

Source: Turner Studio

1.1.2 Waterloo South

Waterloo South includes land bounded by Cope, Raglan, George, Wellington, Gibson, Kellick, Pitt and McEvoy Streets, and has an approximate gross site area of 12.32 hectares (approximately 65% of the total Estate).

Waterloo South currently comprises 749 social housing dwellings owned by LAHC, 125 private dwellings, and commercial properties on the south-east corner of Cope and Wellington Streets. Existing social housing within Waterloo South is predominantly walk up flat buildings constructed in the 1950s and '60s, and mid-rise residential flat buildings (Drysdale, Dobell & 76 Wellington Street) constructed in the 1980s. Listed Heritage Items within Waterloo South include the Duke of Wellington Hotel, Electricity Substation 174 on the corner of George and McEvoy Streets, the terrace houses at 229-231 Cope Street and the Former Waterloo Pre-School at 225-227 Cope Street. The State Heritage listed 'Potts Hill to Waterloo Pressure Tunnel and Shafts' passes underneath the precinct.

A map of Waterloo South and relevant boundaries is illustrated in **Figure 1-2**.



Legend

- The Estate
- Private Properties
- Waterloo Metro Quarter
- M Waterloo Metro Station
- Sydney Metro Alignment

Subject to this planning proposal

- Waterloo South

Subject to future planning and planning proposal

- Waterloo North
- Waterloo Central

Figure 1-2 Waterloo Precinct

Source: Ethos Urban

1.1.3 Renewal Vision

The transition of Waterloo Estate will occur over a 20-year timeframe, replacing and providing fit for purpose social (affordable rental) housing as well as private housing to create a new integrated and inclusive mixed-tenure community.

This aligns with Future Directions for Social Housing in NSW – the NSW Government’s vision for social housing. It also aligns with LAHC’s Communities Plus program, which is tasked with achieving three key objectives:

1. Provide more social housing
2. Provide a better social housing experience
3. Provide more opportunities and support for social housing tenants

The following is LAHC’s Redevelopment Vision for Waterloo Estate, which was derived from extensive consultation and technical studies:

Source: *Let’s Talk Waterloo: Waterloo Redevelopment* (Elton Consulting, 2019)



Culture and Heritage

- Recognise and celebrate the significance of Waterloo’s Aboriginal history and heritage across the built and natural environments.
- Make Waterloo an affordable place for more Aboriginal people to live and work.
- Foster connection to culture by supporting authentic storytelling and recognition of artistic, cultural and sporting achievements.



Communal and Open Space

- Create high quality, accessible and safe open spaces that connect people to nature and cater to different needs, purposes and age groups.
- Create open spaces that bring people together and contribute to community cohesion and wellbeing.



Movement and Connectivity

- Make public transport, walking and cycling the preferred choice with accessible, reliable and safe connections and amenities.
- Make Waterloo a desired destination with the new Waterloo Station at the heart of the Precinct’s transport network – serving as the gateway to a welcoming, safe and active community.



Character of Waterloo

- Strengthen the diversity, inclusiveness and community spirit of Waterloo.
- Reflect the current character of Waterloo in the new built environment by mixing old and new.



Local Employment Opportunities

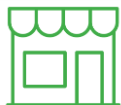
- Encourage a broad mix of businesses and social enterprise in the area that provides choice for residents and creates local job opportunities.



Community Services, Including Support for Those Who Are Vulnerable

- Ensure that social and human services support an increased population and meet the diverse needs of the community, including the most vulnerable residents.

-
- Provide flexible communal spaces to support cultural events, festivals and activities that strengthen community spirit.



Accessible Services

- Deliver improved and affordable services that support the everyday needs of the community, such as health and wellbeing, grocery and retail options.



Design Excellence

- Ensure architectural design excellence so that buildings and surrounds reflect community diversity, are environmentally sustainable & people friendly – contributing to lively, attractive and safe neighbourhoods.
- Recognise and celebrate Waterloo's history and culture in the built environment through artistic and creative expression.
- Create an integrated, inclusive community where existing residents and newcomers feel welcome, through a thoughtfully designed mix of private, and social (affordable rental) housing.

1.1.4 Purpose of this report

This report relates to the Waterloo South planning proposal. While it provides comprehensive baseline investigations for Waterloo Estate, it only assesses the proposed planning framework amendments and Indicative Concept Proposal for Waterloo South.

The key matters addressed as part of this study, include:

- > The impacts of the Waterloo South masterplan on the visual quality of its locality including views from regional and local locations.
- > The impacts of the masterplan on the Heritage Conservation proposed on the visual quality of Conservation Areas in the vicinity of the Waterloo Estate scheduled in the Sydney Local Environmental Plan 2012 (SLEP 2012) including:
 - The Redfern Estate (incorporating Redfern Park and adjacent residential streets);
 - Alexandria Park Conservation Area (incorporating Alexandria Park and adjacent Streets); and
 - Waterloo Conservation Area (incorporating Waterloo Park and Oval, the Our Lady of Mt Carmel Church and School and adjoining residential streets).

1.1.5 Waterloo South planning proposal

The planning proposal will establish new land use planning controls for Waterloo South, including zoning and development standards to be included in Sydney LEP 2012, a new section in Part 5 of DCP 2012, and an infrastructure framework. Turner Studio and Turf has prepared an Urban Design and Public Domain Study which establishes an Indicative Concept Proposal presenting an indicative renewal outcome for Waterloo South. The Urban Design and Public Domain Study provides a comprehensive urban design vision and strategy to guide future development of Waterloo South and has informed the proposed planning framework. The Indicative Concept Proposal has also been used as the basis for testing, understanding and communicating the potential development outcomes of the proposed planning framework.

The Indicative Concept Proposal comprises:

- > Approximately 2.57 hectares of public open space representing 17.8% of the total Estate (Gross Estate area – existing roads) proposed to be dedicated to the City of Sydney Council, comprising:
 - Village Green – a 2.25 hectare park located next to the Waterloo Metro Station; and
 - Waterloo Common and adjacent – 0.32 hectares located in the heart of the Waterloo South precinct.
 - The 2.57 hectares all fall within the Waterloo South Planning Proposal representing 32.3% of public open space (Gross Waterloo South area – proposed roads)
- > Retention of 52% of existing high and moderate value trees (including existing fig trees) and the planting of three trees to replace each high and moderate value tree removed.
- > Coverage of 30% of Waterloo South by tree canopy.
- > Approximately 257,000 sqm of GFA on the LAHC land, comprising:
 - Approximately 239,100 sqm GFA of residential accommodation, providing for approximately 3,048 dwellings comprising a mix of market and social (affordable rental) housing dwellings;
 - Approximately 11,200 sqm of GFA for commercial premises, including, but not limited to, supermarkets, shops, food & drink premises and health facilities; and
 - Approximately 6,700 sqm of community facilities and early education and child care facilities.

The key features of the Indicative Concept Proposal are:

- > It is a design and open space led approach.
- > Creation of two large parks of high amenity by ensuring good sunlight access.
- > Creation of a pedestrian priority precinct with new open spaces and a network of roads, lanes and pedestrian links.
- > Conversion of George Street into a landscaped pedestrian and cycle friendly boulevard and creation of a walkable loop designed to cater to the needs of all ages.
- > A new local retail hub located centrally within Waterloo South to serve the needs of the local community.
- > A target of 80% of dwellings to have local retail services and open space within 200m of their building entry.
- > Achievement of a 6 Star Green Star Communities rating, with minimum 5-star Green Star – Design & As-Built (Design Review certified).
- > A range of Water Sensitive Urban Design (WSUD) features.

The proposed land allocation for the Waterloo South precinct is described in **Table 1-1** below.

Table 1-1 Breakdown of allocation of land within the Waterloo South

Land allocation	Existing	Proposed
Roads	3.12ha / 25.3%	4.38ha / 35.5%
Developed area (Private sites)	0.86ha / 6.98%	0.86ha / 7%
Developed area (LAHC property)	8.28ha / 67.2%	4.26ha / 34.6%
Public open space (proposed to be dedicated to the City of Sydney)	Nil / 0%	2.57ha / 20.9% (32.3% excluding roads)
Other publicly accessible open space (Including former roads and private/LAHC land)	0.06ha / 0.5%	0.25ha / 2%
TOTAL	12.32ha	12.32ha

The Indicative Concept Proposal for the Waterloo South is illustrated in **Figure 1-3** below.

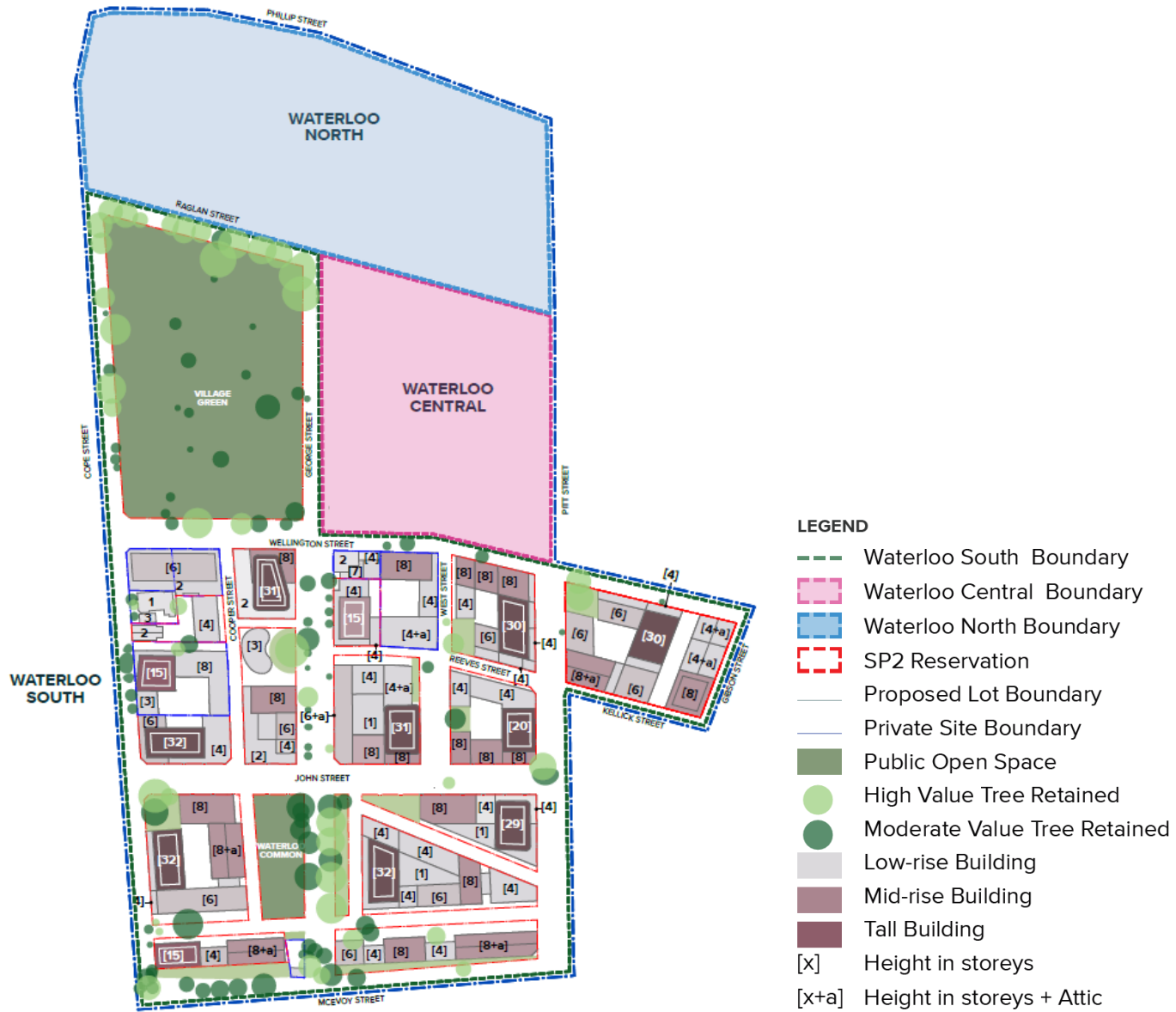


Figure 1-3 Indicative Concept Proposal Source: Turner Studio

2 Study Process

The visual impact assessment (VIA) has been prepared to accompany a planning proposal to be submitted to the City of Sydney (CoS) to establish new land use planning controls for Waterloo South, including zoning and development standards to be included in Sydney LEP 2012, and a new section in Part 5 of DCP 2012. The VIA has been carried out through a combination of electronic modelling and ground-truthing. The critical visual attributes of the Waterloo Precinct that contribute to its visual character and quality are described in **Section 3.2**. The process adopted for this assessment has included the following tasks:

2.1 Existing Conditions

- > Review all background documentation, strategies and plans to understand context and key outcomes;
- > Undertake a site visit and prepare a photographic record;
- > Identify visual catchment areas and existing conditions in terms of topography/terrain modelling, and insert existing buildings and landscapes into the model to provide an accurate assessment of existing conditions;
- > Assess the visual character of the locality with regard to:
 - Existing built form
 - Open space
 - Existing tree stock
 - Building to open space relationship
 - Streetscape
 - View lines, both internal and to / from the study area
 - Permissible future development in the vicinity, which will impact on local visual quality
- > Identify elements of the current visual character that should be retained in the development along with elements that are detrimental to a high visual quality or could be changed without negative impact.
- > Prepare a succinct description of the local visual character with the aid of maps, and aerial and ground level photography. The description, among other things, identifies elements within the character that pose challenges and/or opportunities for its future development.
- > Prepare visual quality objectives. The objectives articulate specific components of the visual quality of the precinct that are to be preserved and enhanced in its development.

2.2 Visual Impact Assessment

- > Identify key viewpoints towards Waterloo South from within the Waterloo Precinct and surrounding areas. This work has been carried out using GIS data. Critical views within the viewshed of the Waterloo Precinct have been identified through ground-truthing with the aid of photography. Views within and towards Waterloo South have been evaluated for their perceptual (scenic) quality. Views that have cultural, historic or community values have also been identified.
- > Key viewpoints were discussed with relevant members of the consultant team and officers of the City of Sydney in order to agree on viewpoints that are critical to assessment of change within the Precinct.
- > Take professional quality photographs from each of the identified key viewpoints and certify the location of each photograph using survey technology.
- > Integrate each photo into the 3D model to generate accurate photomontages.
- > Prepare a Verification Statement as to the accuracy of the photomontages in accordance with the relevant Land and Environment Court Planning Principles.
- > Through the testing exercise, and in consultation with the urban designers and Project Management, arrive at an acceptable development scenario with respect to retention and enhancement of the visual character of the Precinct.
- > Carry out and document a detailed visual impact assessment of the Waterloo South Concept Proposal.

2.3 Review of Conclusions against relevant Court Planning Principles (*Rose Bay Marina Pty Ltd v Woollahra Council and anor [2013] NSWLEC 1046*)

The assessment of impacts on views from the public domain has been informed by relevant planning principles for assessment of such impacts set by the Land and Environment Court of NSW, specifically in *Rose Bay Marina Pty Ltd v Woollahra Council and anor [2013] NSWLEC 1046*. A summary of the impacts against these principles is provided in the conclusion to the report.

In this matter in the NSW Land and Environment Court the Commissioners established principles specifically to guide assessment of visual impacts of development on the public domain. A brief review of the visual impact of the proposal against these Principles follows.

Identification stage

Nature and scope of views

“The first step of this stage is to identify the nature and scope of the existing views from the public domain.”

The views identified in the assessment of this proposal are composed exclusively of man-made elements – buildings, roads and pavement, planted vegetation and constructed open space and recreation areas. The open sky is the only natural element in the views. Trees and green spaces are naturalistic elements in the views that provide visual relief. As such they are important contributors to the visual quality of the locality. The elements in the views are all static and only subject to change as a result of further human interventions such as development. In turn, the quality of the views is contingent on the aesthetic quality of the individual man made elements and their composition in relation to one another. Impacts of changes to these views will be contingent on the design quality of the new elements of any development. With respect to the natural (or naturalistic) elements, whether impacts of change are positive or negative will depend, among other things, on the extent to which the natural and naturalistic elements are obscured or enhanced by the change.

Location

The second step is to identify the locations in the public domain from which the potentially interrupted view is enjoyed.

Locations of views have been determined via the process described in **Section 6.1** of this report. A logical process was followed involving identification of the visual catchment of the site and ground truthing by site inspection to identify critical view locations within the catchment that are representative of general views towards the site from the public domain. The locations identified were agreed with officers of the City of Sydney and Department of Planning, Industry and Environment.

“The third step is to identify the extent of the obstruction at each relevant location.”

The Principle maintains that views from the public domain should not be defined at any specific eye height. Viewers may be seated or standing. Visual interpretations for the purposes of this assessment have been prepared from the height of a standing person. This is appropriate in the circumstances of this case as it can be assumed that close viewers would most likely be walking or standing in local streets. The exception would be viewers in cars or people seated in public spaces. However, views of the site in its developed state would not change appreciably from a seated or standing position.

“The fourth step is to identify the intensity of public use of those locations where that enjoyment will be obscured, in whole or in part, by the proposed private development.”

The intensity of the use of the locations studied will vary. With respect to close viewing locations, the intensity of use will inevitably increase significantly due to the introduction of the new land use planning controls within Waterloo South. In the case of more distant locations (parks and streets in the surrounding neighbourhood) the intensity of use is moderate, typical of residential and recreational locations in an inner city location and the level of use would not be likely to change dramatically as a result of implementation of the proposal.

“The final step to be identified is whether or not there is any document that identifies the importance of the view to be assessed.”

Views from the Conservation Management Areas within the visual catchment of the site are subject to protection under the SLEP 2012. Aside from this, there are no controls in the planning policies that pertain specifically to protection of views from the public domain.

Analysis of impacts

The Court guidelines go to quantitative and qualitative evaluations of impacts of development on views. With respect to quantitative evaluation the fundamental question to be posed is:

“If the view remaining (if the development were to be approved) will be sufficient to understand and appreciate the nature of the existing view.”

Some factors to be considered in qualitative assessment of visual impacts include, among other things:

- > Is any significance attached to the view likely to be altered?
- > If so, who or what organisation has attributed that significance and why have they done so?
- > Is the present view regarded as desirable and would the change make it less so (and why)?
- > Should any change to whether the view is a static or dynamic one be regarded as positive or negative and why?
- > If the present view attracts the public to specific locations, why and how will that attraction be impacted?
- > Is any present obstruction of the view so extensive as to render preservation of the existing view merely tokenistic?
- > However, on the other hand, if the present obstruction of the view is extensive, does that which remains nonetheless warrant preservation (it may retain all or part of an iconic feature, for example)?
- > If the change to the view is its alteration by the insertion of some new element(s), how does that alter the nature of the present view?

Existing views towards the Waterloo Precinct from surrounding streets have been found to be of variable quality so that with respect to close views, the “nature of the existing view” is not a critical consideration in assessment of the impacts of the proposal. In more distant views from local and regional parks such as Alexandria Park, Sydney Park and Mount Steele, Moore Park, our assessment has found that the more expansive views across the site available from these locations would change but would remain intact with regard to their “nature”. The proposed taller buildings would present as new elements in these views but they would not alter the fundamental composition of the views that currently include built elements, vegetation and sky. The exception to this is in some close views from the east where the new built form will constitute continuous views of built form.

With regard to the Courts principles for qualitative assessment, the following observations are made:

- > Only views from Sydney Park and Mount Steele, Moore Park would have any generally recognised significance. These are the only locations within the identified visual catchment of Waterloo South that people would visit with the specific intention of observing the view. To our understanding the significance of these views is popular rather than being formally recognised. Sydney Park attracts visitors to observe its panoramic city views at moderate levels in general times and in substantial numbers during special events such as the New Year’s Eve fireworks. Mount Steele would be expected to be subject to similar levels of visitation. Our assessment has found that the quality of the view from Sydney Park would not be changed substantially by the proposed development and the enjoyment by visitors would not be noticeably impacted. With respect to Mount Steele, the change to the view that would result from the development would be subordinate to the principle view from the viewing point which is towards the Sydney CBD.
- > The change to the majority of views assessed is the result of the insertion of new built elements – the built podium and taller buildings located within the Waterloo South development. The views will alter as a result to varying degrees. In close proximity, views will alter significantly where the redeveloped Waterloo South precinct, including podium and taller buildings will replace the existing built form. View alteration will be moderate to minor from distances further away from the site where only the taller buildings will appear as new elements in views that are currently dominated by other built elements as well as trees and sky. Our general finding is that, contingent on achievement of high quality design outcomes, the proposal will result in improvements to the quality of the majority of the views assessed. Exceptions to this occur in the few occasions where the developed site will present as continuous walls of built form. High quality design incorporating a high level of articulation in building facades supplemented by foreground tree planting would mitigate these impacts.

3 Existing Condition

3.1 Process

Baseline investigations for visual quality have been derived via examination of the combined Waterloo Estate and Waterloo Metro Quarter (the Waterloo Precinct). The baseline investigations have been aimed at identifying issues, opportunities and constraints with respect to visual quality to be explored through the master planning process for Waterloo South

3.2 Waterloo Estate – Existing character

The visual character of a locality or place is generally accepted as being generated by:

- > The type and intensity of human intervention;
- > The juxtaposition between the various built, natural and semi-natural elements on the land; and
- > The topography of the land.

3.2.1 Regional context

The Waterloo Precinct occurs in the context of the inner western suburbs of Sydney (**Figure 3-1**). Traditionally, the area has supported a mix of industrial uses, associated with the rail line and the Alexandria Canal, and terrace housing to accommodate local workers. Traditional strip shopping centres along arterial roads complete the mix, resulting in the self-contained living / working environment that typified inner western Sydney in the first half of the twentieth century. In recent years, most of the industrial uses have been progressively renewed to residential and boutique commercial uses but the fine grain residential uses still remain over much of the locality.



Figure 3-1 Regional Context

Topographically, the locality is characterised by undulating land forms with a series of higher ridges. Many of these ridges have high points which constitute significant landmarks. These are broadly described at **Figure 3-2**.

Land within these confines is generally occupied by housing and commercial development but there are significant areas of open space at:

- > Sydney Park;
- > Moore Park and Centennial Park;
- > Victoria Park; and
- > Prince Alfred Park.

Substantial parcels of open space in close proximity to the Waterloo Precinct include:

- > Redfern Oval and Park;
- > Waterloo Park (north and south); and
- > Alexandria Park.

These well designed and managed parcels of open space provide visual relief and contrast in the generally densely developed environment. They are critical to the visual amenity and character of the region.

Figure 3-3 to Figure 3-8 provide an illustration of some of the forms of existing development in the locality.

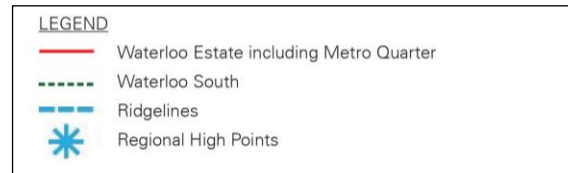
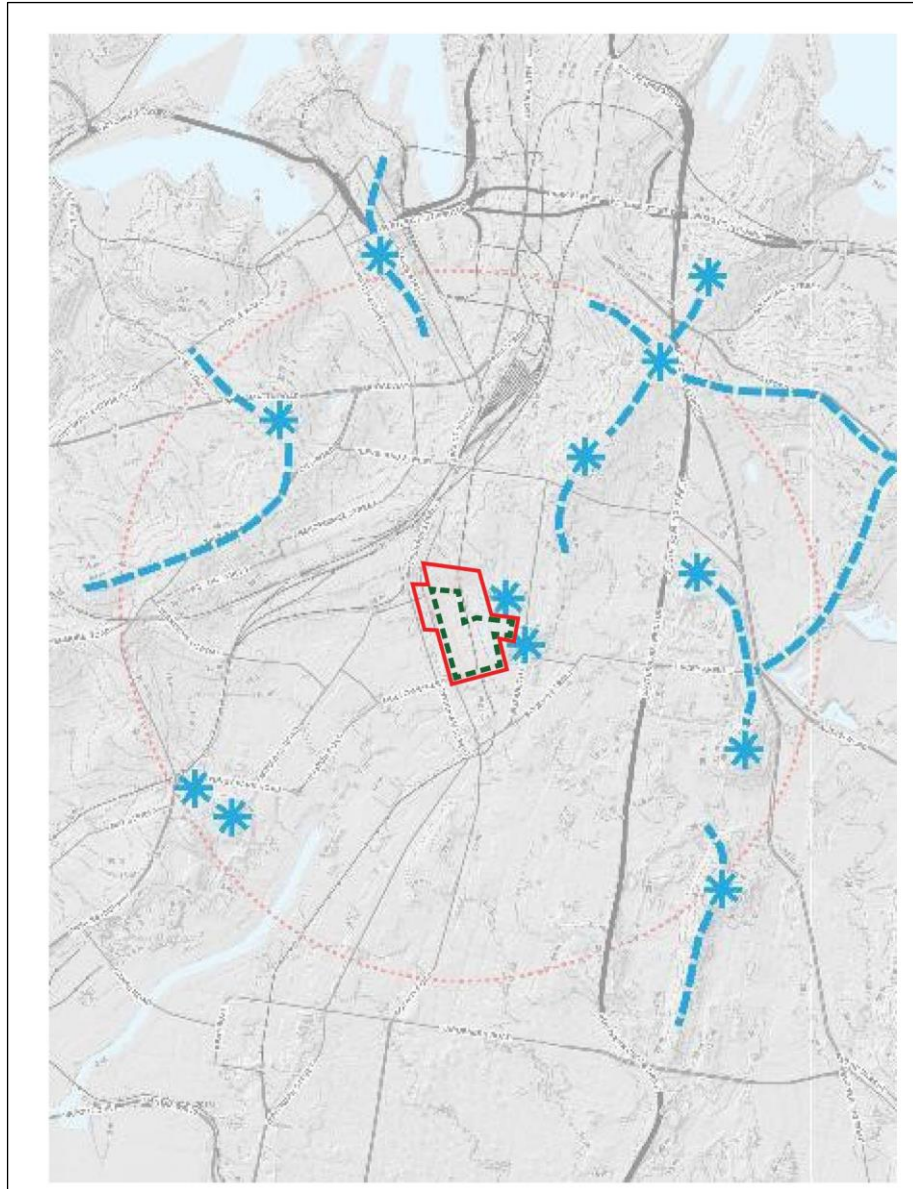


Figure 3-2 Regional context – ridgelines and high points



Figure 3-3 Traditional terrace housing



Figure 3-4 Residential areas characterised largely by traditional terrace housing and strip shopping centres (Redfern, Surry Hills, Erskineville and Newtown)



Figure 3-5 Local parklands



Figure 3-6 Light industrial development backing on to the Alexandria Canal



Figure 3-7 Local urban renewal project



Figure 3-8 Former industrial areas in transition to mixed and residential and commercial uses (Eveleigh, Alexandria and Waterloo)

Design decisions about the height and architectural form of the proposed building envelopes need to account for how they will affect local and regional views. Critical views identified in the report include views from within Waterloo South, views to the city from Sydney Park, views to Waterloo South from Redfern Park and its neighbourhood, Alexandria Park and its neighbourhood, Waterloo Park and its neighbourhood and Moore Park.

A map showing the identified critical viewpoints is at **Figure 6-1** below, along with the existing views from those viewpoints.

3.1 Visual Description – the Waterloo Precinct

Waterloo South displays a unique visual character that contrasts markedly with its context.

Topographically, the Waterloo Precinct and its immediate locality consists of a relatively level plane to the west of George Street and north of Wellington Street rising to the east in its south eastern portion towards an elevated platform bounded roughly by McEvoy Street, Pitt Street and Kellick Street (see **Figure 3-9**).

Existing built form within the Waterloo Precinct is a function of its primary historical function as community housing, coupled with some small areas of commercial space on remnant privately owned land. Housing forms within Waterloo South largely consists of two/three storey walk-ups and terrace style housing. At the time of preparation of this report, station works on the Metro Quarter are under construction and the above station works are the subject of a rezoning application and State Significant Development Application, both of which are under consideration by the Minister.

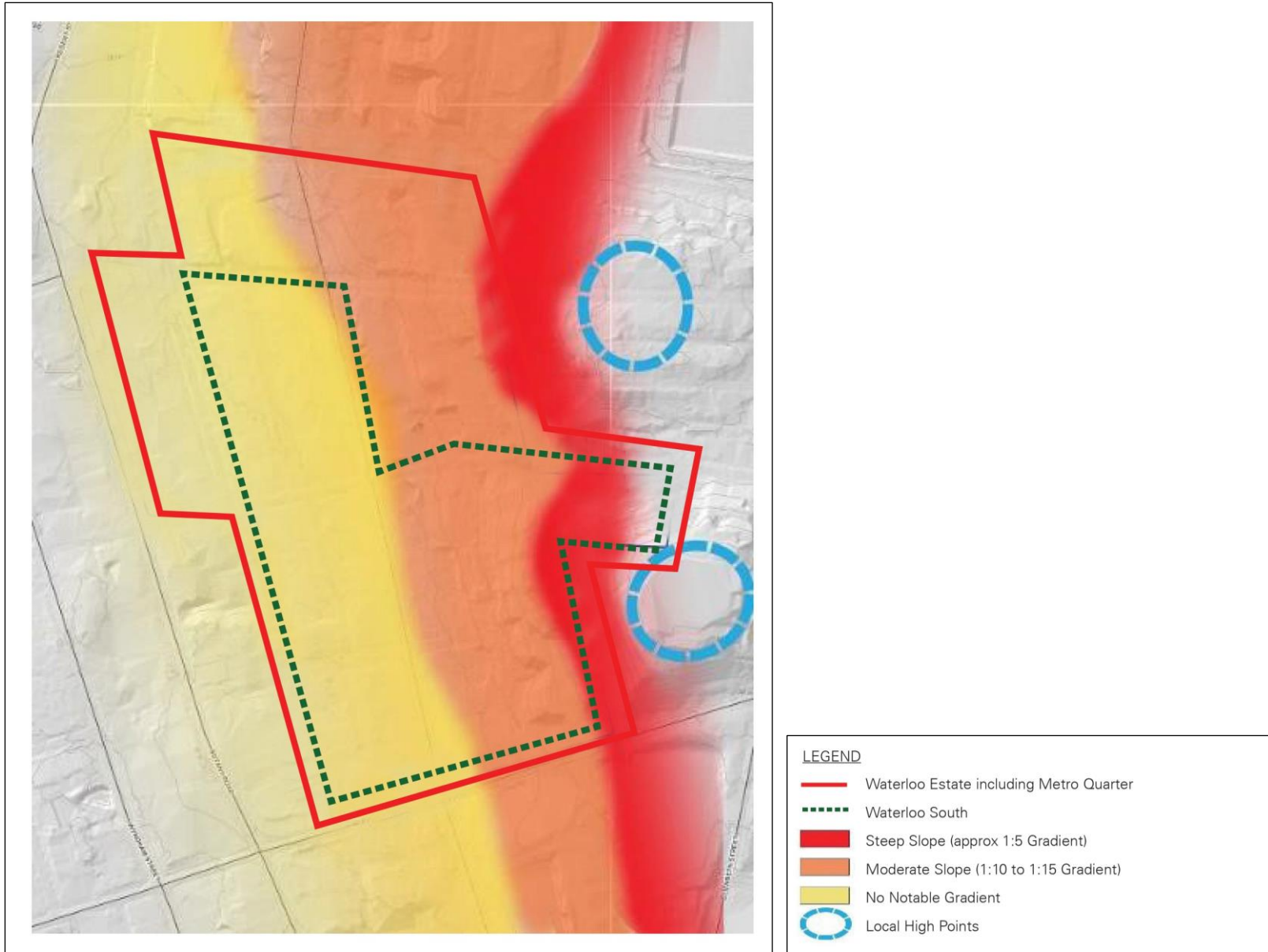


Figure 3-9 Tower development in the northern part of the Precinct (Source: Nearmap)

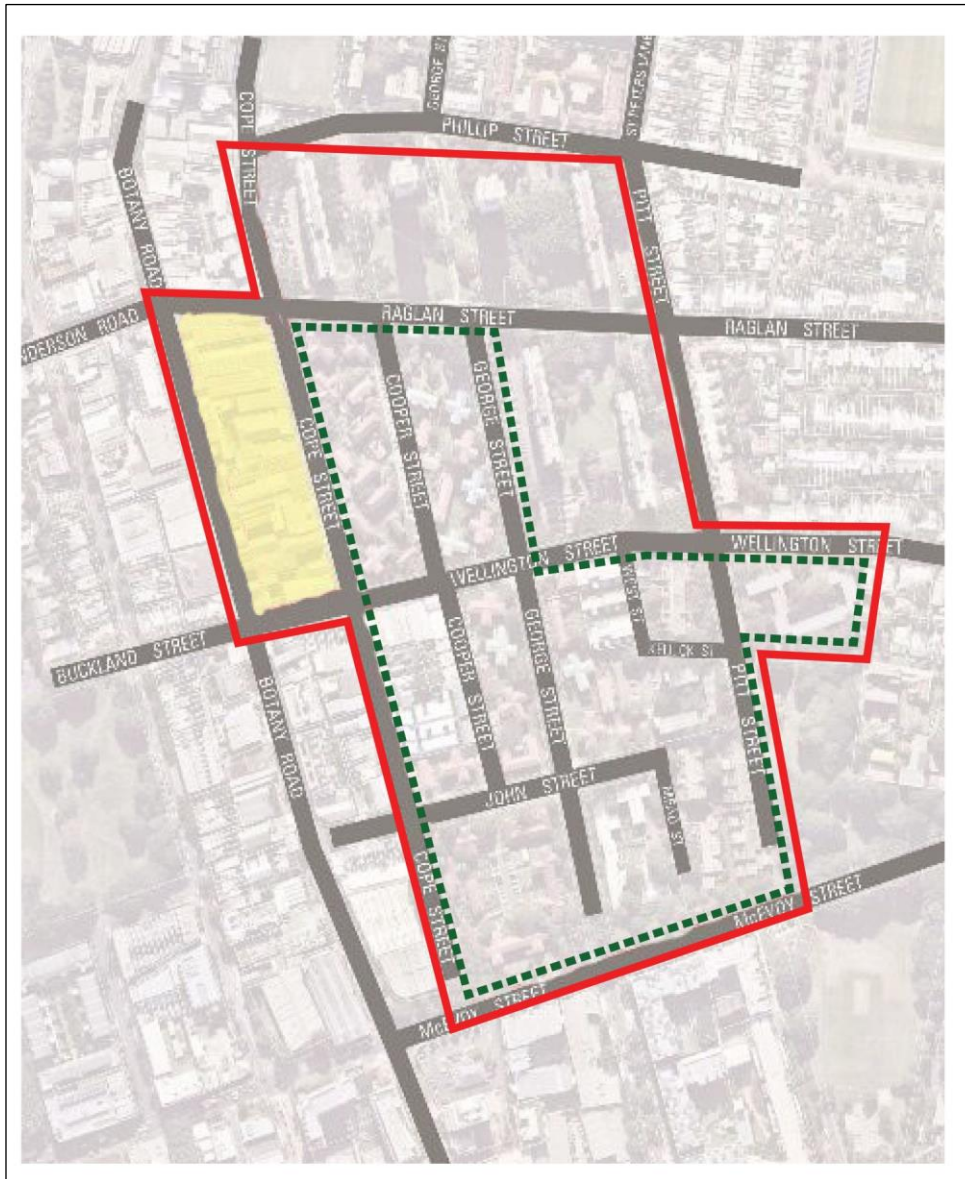


Figure 3-10 Precinct street pattern

The Waterloo Precinct is visually contained with its edges clearly defined by boundary streets. Within these boundaries, the Waterloo Precinct exhibits a relatively open character defined by:

- > A grid pattern of wide streets (**Figure 3-10** and **Figure 3-11**). The Precinct has developed with a roughly regular street grid which has been moderately altered by various street closures since its original construction. The general grid structure of Precinct remains, however, and this is a contributory component of its character, allowing for some long views from and across the Precinct and a good level of legibility. Some of these long views, for example views north along Cooper Street and George Street, include the tall towers in the northern part of the Precinct as dominant elements. Others, for example north-south views on Pitt Street and Cope Street and views generally along east-west streets do not have significant focal points, but they contribute to a generally open and legible visual character within the Precinct.
- > Very large blocks (varying in size from around 7000m² up to approximately 3.5 hectares). These large land parcels also contribute to an open visual character which is a distinctive component of the visual quality of the Precinct.

LEGEND	
	Waterloo Estate including Metro Quarter
	Waterloo South
	Metro Quarter
	Street



Figure 3-11 Typical street view within Waterloo South

- > A high ratio of open land to built-upon land which also contributes to a relatively open visual character. This contrasts to the more traditional development form of low rise terrace housing that occurs in significant portions of the local neighbourhood and results in a much higher portion of built form on the ground (**Figure 3-12** and **Figure 3-13**). The existing development form of Waterloo South has been in place since its redevelopment in the 1970's. It would be appropriate for the new development of Waterloo South to be consistent with this existing character. Having said this, the unique character of the Waterloo Precinct and its contrasting context of traditional terrace housing on a street grid pattern provides an opportunity for urban renewal that retains street level openness while referencing the laneway forms that are part of the existing visual character of its context, and the former character of the Waterloo Precinct. We also acknowledge, however, that there is a need for a better transition between the low rise large development footprint character of the neighbourhood and the high rise / open ground plane character of the Study Area. Currently this transition is achieved to some extent by large trees which tend to contribute to a visual transition between the ground plane and the tall buildings. Low level podia at similar heights to the adjacent development would achieve a similar result.
- > A substantial stock of large trees both in the streetscape and within the developed properties. These are a critical element of the visual character. They contribute to a human scale within the entire Precinct.



Figure 3-12 Tower development in the northern part of the Precinct. (Source: Nearmap)



Figure 3-13 Traditional terrace housing adjoining the Precinct to the East. (Source: Nearmap)



Figure 3-14



Figure 3-15

3.1.2 Sub-Precincts and Character Statements

Within the Waterloo Precinct a number of sub-precincts are clearly defined by contrasting visual character. **Figure 3-17** illustrates these sub-precincts and brief descriptions of the character of each follow.



Figure 3-17 Visual character sub-precincts

3.1.2.1 Sub-precinct A – High Rise in Landscape Setting (Waterloo North and Centre – Subject to future planning and planning proposal)

Large scale buildings within a park like setting of well-maintained open space (**Figures 3-18 and 3-19**). Visual quality at street level is generally high, characterised by broad streets, usually tree lined with buildings set back well from the street alignment.

Very tall building forms, notwithstanding their architectural character, create precedents for tall, slender building forms that could be incorporated into the redevelopment of Waterloo.

Photos on this page illustrate the important role played by large mature trees as softening elements for tall buildings and visual transitions between the built form and the ground plane.



Figure 3-18 Existing tall towers in Waterloo North



Figure 3-19 Tall buildings in landscape setting – Waterloo North



Figure 3-20 Landscape setting providing relief to high density built form (Waterloo North)



Figure 3-21 Existing trees softening bulky built form (Waterloo North)



Figure 3-22 Existing trees softening bulky built form (Waterloo North)

Streets are generous in dimensions and buildings are well setback allowing for an acceptable relationship between large buildings and the streetscape (**Figures 3-19, 3-20, 3-21**).

Tall slender tower forms work well as visual elements as they allow for substantial areas of sky and landscape in viewlines. Notwithstanding the architectural quality of the tall towers that currently exist within Sub-precinct A of the Study Area, it is our opinion that the towers create a precedent for tall, slender building forms in the redevelopment of the Precinct.

Conversely, the existing lower building blocks in the Sub-precinct create long walls along their long axes (**Figure 3-20**). The perception of these walls is continuous across two or more buildings in many views. The bulk and scale of these buildings, although softened by mature trees in many instances, creates a negative element in the visual environment.

3.1.2.2 Sub-precinct B – 2-3 Storey Walk-ups

Traditional housing circa 1960's is the dominant form within this sub-precinct (**Figure 3-23**). Buildings are well setback from the street and are within an established landscape setting. Streets are wide and tree-lined (**Figure 3-24**).



Figure 3-23 Three storey “walk-ups” in landscape setting (Waterloo South)



Figure 3-24 Street trees and wide road reserves create landscape setting (Waterloo South)

3.1.2.3 Sub-precinct C – Contemporary Terrace Style – Built to Street

The Precinct includes modern interpretations of the traditional terrace house form that is common in neighbourhoods surrounding the Waterloo Precinct (**Figures 3-25, 3-26, 3-27**).

Two storey attached terraces are built to or close to the street boundary.

It is notable that the varying styles also vary in their success as contributors to the visual character of the street. Forms that address and overlook the street via balconies and front gardens will be more conducive to an attractive and safe streetscape than those with blank facades and enclosed courtyards.



Figure 3-25 Terrace style housing forms (Waterloo South)



Figure 3-26 Terrace style housing forms (Waterloo South)



Figure 3-27 Terrace style housing forms (Waterloo South)

3.1.2.4 *Sub-Precinct D – Remnant Commercial*

Post demolition of the Metro Quarter site, existing commercial development is restricted to a small portion of land on the corner of Buckland and Cope Streets (**Figure 3-28**).

There is nothing in the commercial component of the Precinct that makes a significant contribution to its visual quality.



Figure 3-28 Remnant commercial building (Waterloo South)

3.1.2.5 Sub-precinct E – Medium-rise units in landscape setting

The residential units in this sub-precinct are not considered to be significant contributors to the visual quality of Waterloo South (**Figures 3-29, 3-30 and 3-31**). Similar to other sub-precincts the negative visual impacts of these building forms are significantly mitigated by the broad streets and existence of a large number of forest scale trees in the road reserves and on the lots. Where the buildings are well set back from their boundaries, the setbacks provide opportunities for the very large trees that are a significant component of the visual character of Waterloo South.



Figure 3-29 Residential flat buildings (Waterloo South)



Figure 3-30 Residential flat buildings (Waterloo South)



Figure 3-31 Residential flat buildings (Waterloo South)

3.1.2.6 Sub-precinct F – Heritage

The listed heritage items within the Waterloo South, including remnant terrace houses on Cope Street and the Duke of Wellington Hotel on Wellington Street are important references to the Study Area character prior to its development for commercial uses and public housing (**Figures 3-31, 3-32 and 3-33**). They are likely to be retained due to their heritage status and development in their vicinity will be required to not detract from their heritage values, which will largely include their visual character.



Figure 3-32 Duke of Wellington Hotel



Figure 3-33 Remnant terraces, Cope Street.

3.1.3 Local Views / Visual Character

The grid form street pattern of Waterloo Precinct allows for long views within, into and out of the Precinct. East – west views on Wellington and Raglan Streets extend through the site and beyond to Botany Road and Elizabeth Street, creating visual connections between the Study Area and its neighbourhood. Long north – south views are available on Cope, George and Pitt Streets. Where the original street grid pattern has been truncated by road closures (e.g. at the northern and southern extremities of Cooper Street and George Street), the arrangement of buildings has conserved these long views.

The key north-south streets (Cooper, George and Pitt Streets) and many of the east-west streets (Raglan Street and to a lesser extent, Wellington and John Streets) are lined with mature trees for most of their length, creating long avenues that are integral to the character of the Study Area. Consistent with tree planting practices in the period of development of Waterloo South, the majority of street trees in the Study Area are native. This is also a contributory factor to its existing visual character.

Conversely, significantly parts of the Precinct are visually contained by street wall development along much of its eastern edge (from Wellington Street to Phillip Street).

The street character of the Study Area is an integral component of its visual character and quality. In summary, this street character incorporates:

- > Long, straight streets, most of which are tree lined; and
- > Views into and out of the Study Area from its neighbourhood.

Our opinion is that these elements of the street should be retained and enhanced in the re-development of the Precinct.



Figure 3-34 East facing view along Wellington St



Figure 3-35 West facing view along Wellington St



Figure 3-36 North facing view along George St indicating the importance of trees to soften built form and provide a human scale.



Figure 3-37 North facing view along George St from McEvoy St

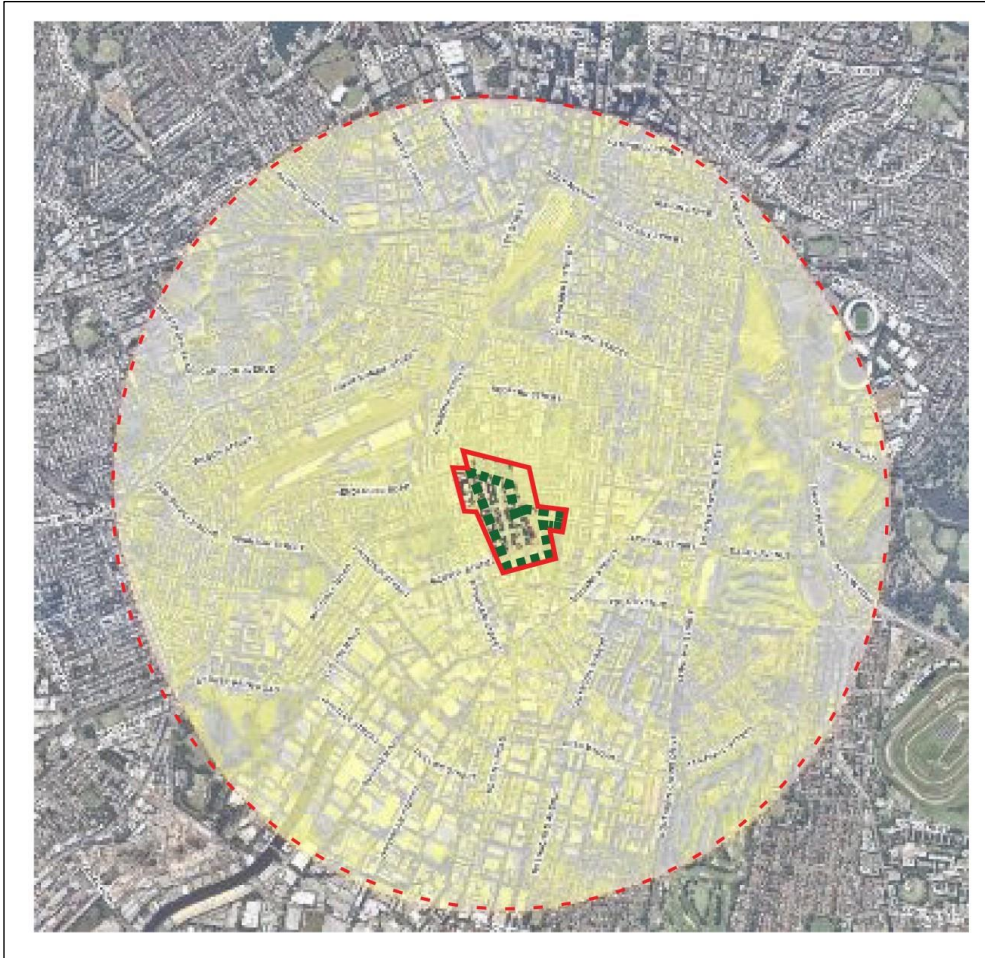
3.1.4 Regional Views

Figure 3-38 illustrates the visual catchment of the Waterloo Precinct within a 2 km distance. The yellow shaded areas on the figure indicate places from which existing buildings on the site would be visible to a person standing at street level.

At 113 and 117 metres, the very tall buildings within the Precinct appear as skyline elements in views from elevated locations over long distances within the local region. A visit to the locality has revealed a number of viewing locations that are representative of regional views towards the Precinct. We consider that assessment of the visual impacts of the Proposal from these locations will provide a serviceable representation of the way in which the Proposal will generally change regional views towards and across the Waterloo South Masterplan area. The views have been selected on the basis that:

- > They are from public places where it would be expected that views and visual quality would be highly valued by visitors; and
- > They include views towards the site that would be representative of the types of views that would be available from private places in the same vicinity.

These views are indicated at **Figure 6-1**.



LEGEND

- Waterloo Estate including Metro Quarter
- - - Waterloo South
- ⋯ 2km Buffer

Existing Viewshed Analysis (incorporating buildings and vegetation from 2013 Lidar)

- Not Visible
- Visible

Figure 3-38 Catchment Diagram

4 The Proposal

This report relates to:

- > A planning proposal to establish new land use planning controls for Waterloo South, including zoning and development standards to be included in Sydney LEP 2012, a new section in Part 5 of DCP 2012; and
- > An Indicative Concept Proposal for Waterloo South.

4.1 Proposed Planning Framework

The existing and proposed planning controls for Waterloo South are:

Table 4-1 Waterloo South Planning Controls

Land allocation	Existing	Proposed
Zoning		
- LAHC Properties	2 (b) Residential (Medium Density) – SSLEP 1998 R1 Residential – SLEP 2012	B4 – Mixed Use
- Private Properties		B4 – Mixed Use
Building Height (Max)	32 storeys (including plant)	Variable to a maximum of 32 storeys (excluding plant)
Floor Space Ratio (FSR) (Max)		
- LAHC Properties	1.75:1 (including 0.25:1 bonus)	2.24:1 (gross FSR*)
- Private Properties	1.75:1 (including 0.25:1 bonus)	3:1

*FSR for Waterloo South, including roads and public open space. The FSR for individual development blocks varies and is higher, as they do not include roads or public open space.

These proposed key planning controls are accompanied by a draft Development Control Plan (DCP) providing more detailed controls to enable the redevelopment of Waterloo South as an authentic place for people, which responds to the following elements of the character of Waterloo:

- > **Layered:** The area's layered architectural, historic and stylistic character and the convergence of people from diverse backgrounds who have lived in and shaped Waterloo.
- > **Proud:** The sense of pride invested in Waterloo and local attributes including environmental features, building materials and styles.
- > **Distinct:** Waterloo's distinct qualities that people know and love, including its industrial and productive heritage and leafy green character
- > **Resilient:** The innovative ways in which the people and physical landscape of Waterloo has endured over time in the face of change and challenges.

4.2 Indicative Concept Proposal

The Indicative Concept Proposal comprises land allocation as follows:

Table 4-2 Land Allocation

Land allocation	Existing	Proposed
Roads	3.12ha / 25.3%	4.38ha / 35.5%
Developed area (Private sites)	0.86ha / 6.98%	0.86ha / 7%
Developed area (LAHC property)	8.28ha / 67.2%	4.26ha / 34.6%
Public open space (proposed to be dedicated to the City of Sydney)	Nil / 0%	2.57ha / 20.9% (32.3% excluding roads)
Other publicly accessible open space (Including former roads and private/LAHC land)	0.06ha / 0.5%	0.25ha / 2%
TOTAL	12.32ha	12.32ha

The key features of the Indicative Concept Proposal are:

- > It is a design and open space led approach.
- > Creation of two large parks of high amenity by ensuring good sunlight access.
- > Creation of a pedestrian priority precinct with new open spaces and a network of roads, lanes and pedestrian links.
- > Conversion of George Street into a landscaped pedestrian and cycle friendly boulevard and creation of a walkable loop designed to cater to the needs of all ages.
- > A new local retail hub located centrally within Waterloo South to serve the needs of the local community.
- > A target of 80% of dwellings to have local retail services and open space within 200m of their building entry.
- > Achievement of a 6 Star Green Star Communities rating, with minimum 5-star Green Star – Design & As-Built (Design Review certified).
- > A range of Water Sensitive Urban Design (WSUD) features.

A plan of the Indicative Concept Proposal is included at **Figure 4-1** and computer generated images (CGIs) are included at **Figures 4-2 to 4-3**.

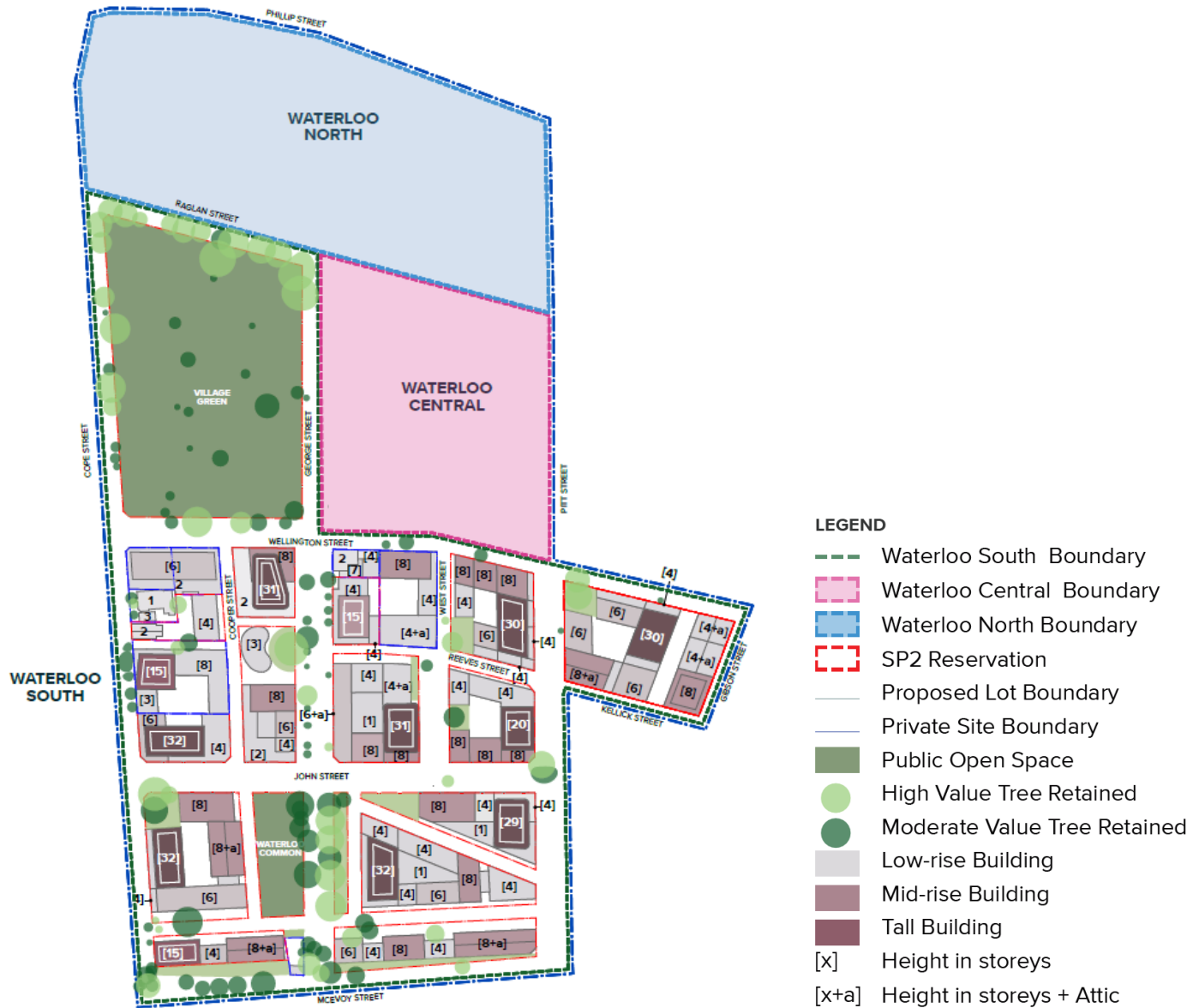


Figure 4-1 Indicative Concept Proposal
 Source: Turner Studio



Figure 4-2 CGI of the proposal, corner of Raglan and Cope Streets looking into the Village Green



Figure 4-3 CGI of the Proposal, from Cope St looking north towards Raglan St

4.3 Staging

Renewal of the Waterloo Precinct will occur over a period of approximately 15 - 20 years, commencing along Cope St ideally in the south-west corner of the estate, where new housing can be provided with disruption to the smallest number of existing tenants. The majority of tenants (63%) are currently located within the northern tower buildings, which are not subject to this Planning Proposal. The Waterloo South masterplan is intended to be delivered over a period of approximately 12 years.

5 Approach to design

5.1 Urban design principles (visual quality)

At the time of preparation of this report there are three planned urban renewal projects within the urban corridor extending west from the Sydney CBD to the Sydney International Airport. These include:

- > The Eveleigh Rail Corridor / Australian Technology Park;
- > The Waterloo Metro Quarter and Waterloo Estate; and
- > Green Square.

In concert with the Sydney CBD, these three renewal projects will change the scenic environment of inner western Sydney by essentially creating three new nodes of high rise development. Consistent with the growth of this part of Sydney as planned in the Regional Plan and the Eastern City District Plan, the nodes will contribute to a new cityscape characterised by four skyline clusters. If the new nodes are designed in keeping with general principles of design excellence they will create points of interest that will function as visual markers in the cityscape. In this regard, they will contribute positively to the scenic landscape of this part of the Sydney as it develops into the global city envisaged by the Sydney Regional Plan.

To achieve this outcome with respect to urban renewal of the Waterloo Precinct, the following visual quality based design principles have been derived:

- > Develop a unique visual character for the Waterloo Precinct that maintains the positive elements of its existing character (tall slender buildings in the context of an open, legible ground plane incorporating tree lined streets with long views) and incorporate the positive components of its urban context including fine grain street level character and a street hierarchy including laneway typologies;
- > Build upon the precedent of tall buildings in a landscape setting to create a visually distinctive built environment;
- > Ensure that tall buildings vary in height and are well separated to create an articulated skyline with a substantial component of sky visible between building forms;
- > Retain the open internal qualities and legibility of the Precinct at street level that result from its existing development pattern of broad streets in a clear grid pattern;
- > Retain the dominance of large forest scale trees at street level; and
- > Avoid continuous “walls” of built form in local and regional views.

5.2 Constraints and Opportunities

The Cardno analysis of the visual / scenic character of the Waterloo Precinct has identified the following opportunities and constraints with regard to visual quality.

Element	Opportunity	Constraint
Urban form / height	The existing configuration of very tall buildings within the Waterloo North and Central areas establishes a distinctive visual character in local and regional views. This translates to an opportunity for a site responsive urban renewal program incorporating tall slender towers that would continue the established theme of dramatic sculptural elements in the local and regional cityscape.	The Location of new tall buildings in redevelopment of the Study Area is to be informed by impacts on the critical views identified in this Study. Wherever possible, continuous walls of built form result in excessive bulk in close and distant views. New built form should be positioned on the ground plane so that it does not read as long continuous walls, either as single buildings or combinations of buildings.
Open space / built form ratio	The established high ratio of open space to built form constitutes an opportunity to develop a distinctive sense of place by retaining and strengthening the existing ground plane character in its urban renewal.	The use of very tall buildings in the Waterloo North and Central area has facilitated a high ratio of open space to built form. This is a distinctive component of the visual character of the Precinct. The resultant public and semi-public domain is of high quality and is well used. The higher densities required to be accommodated in the renewal of the Waterloo Precinct should be achieved against a principle of maintaining a high quality public domain at street level. This is considered particularly relevant where very tall buildings are proposed. An open, tree dominated character at the street should be a contributing component of the future character of the Precinct.
Street grid	The street grid provides opportunities for long views through, into and out of the Precinct and for dramatic views toward built form. Master planning should take advantage of these established internal and local view lines.	The existing street grid pattern should be maintained and enhanced in the renewal of the Precinct.
Road reserve widths and building setbacks	Broad road reserves and substantial setbacks to buildings contribute to the distinctive open character of the Precinct in general and provide opportunities for good street level relationships between tall and / or large buildings and the public domain.	Broad road reserves and street setbacks should be maintained where large and / or tall buildings are proposed in the masterplan.
Tree stock	The existing stock of established forest scale trees in streets and within blocks is a major resource for visual amenity.	Subject to expert assessment of Safe Useful Life Expectancy (SULE) along with consideration of amenity impacts on residents through overshadowing, existing significant trees in the

Element	Opportunity	Constraint
		Precinct South should be treated as a constraint in renewal planning.
Building forms	Redevelopment of the Precinct provides a unique opportunity to incorporate housing choice in a broad palette of building forms ranging from high rise towers to conventional residential apartments to town houses and residential terraces. This opportunity results from the existing character of the Precinct established through its progressive development over an extended time period for public housing purposes.	Building forms and their location within the Precinct should be informed by a constraint to retain the existing street level character and ground plane / built form relationship within its identified sub-precincts. All building forms should address the street to provide a high quality visual environment at the street level.

5.3 Issues

Key issues identified in this study with respect to visual quality include:

- > Existing tall slender tower forms at Waterloo North and Waterloo Central provide a significant opportunity for a locally unique built form in the redevelopment of Waterloo South. Bulky buildings that present as continuous walls in local views are not consistent with acceptable visual quality.
- > The general built form appearance, comprising very tall slender buildings softened by substantial stands of forest scale trees, should be acknowledged and should be an informing component in the redevelopment of the Precinct.
- > The existing relationship between built form and well treed ground plane is a significant contributor to the current visual quality. It should be an informing component in the renewal program.
- > The street grid form should be retained and enhanced in the renewal of the Precinct. Judiciously located laneways should be included in the street hierarchy to enhance visual variety and to reference the existing street grid in the adjacent Conservation Areas and the former street pattern in the Precinct.
- > Existing road reserve widths and building setbacks should inform the renewal program.
- > Existing street and on block trees are a critical component of the local visual character. They should be retained and protected subject to SULE ratings and impacts on apartment amenity.

6 Visual Impact Analysis

6.1 Viewpoint Analysis

Views towards Waterloo South have been investigated via conventional means including use of GIS data to determine the visual catchment of the site – the area from which the site when developed as proposed would be likely to be visible – and then identification of viewing locations within the identified catchment that would provide a representative sample of views towards the developed site. Representative view locations for assessment of the Waterloo South proposal have been identified by:

- > Determination of the visual catchment of the site and likely critical view locations within the catchment relevant to Waterloo South development;
- > A site and area inspection to test the critical view locations and identify further local and regional viewpoints that should be investigated;
- > Liaison with the Land and Housing Corporation (LAHC) and other stakeholders (notably City of Sydney and Department of Planning, Industry and Environment) to agree on view locations for detailed investigation;
- > Further investigations to agree on which of the critical view locations should be selected as points for production of photomontage views illustrating the potential built form on the developed site;
- > Preparation of photomontages using NSW Land and Environment Court accepted best practice in electronic simulation of views of development proposals. The assessment has also relied on detailed Computer Generated Images (CGI's) prepared on behalf of Turner Studio, the architects responsible for the Waterloo South Concept Proposal.

The analysis of the potential visual impacts of the Waterloo South proposal has also been carried out along conventional lines for visual assessment of built developments and has included qualitative assessment of:

- > The existing visual environment (as viewed from the agreed critical viewing points);
- > The capacity of the visual environment to absorb change (as viewed from the agreed critical viewing points);
- > The amount of change that would be experienced as a result of the implementation of the proposal (carried out with the aid of survey accurate photomontages prepared from agreed critical viewing points);
- > The visual quality of the changed visual environment in comparison to the environment prior to development.

The above described exercise has been carried out for the following categories of views:

- > Distant views – significant viewpoints from 1km and up to 2kms from the Waterloo South boundary;
- > Medium distant views – streets and open spaces at distances between 500m and 1km from the Waterloo South boundary;
- > Close views – streets within and adjacent to the Waterloo South.

Viewpoints for analysis of the likely impacts of the proposal on its visual environment have been selected in consultation with LAHC, City of Sydney and Department of Planning, Industry and Environment. The selected viewpoints are illustrated in **Figure 6-1**.

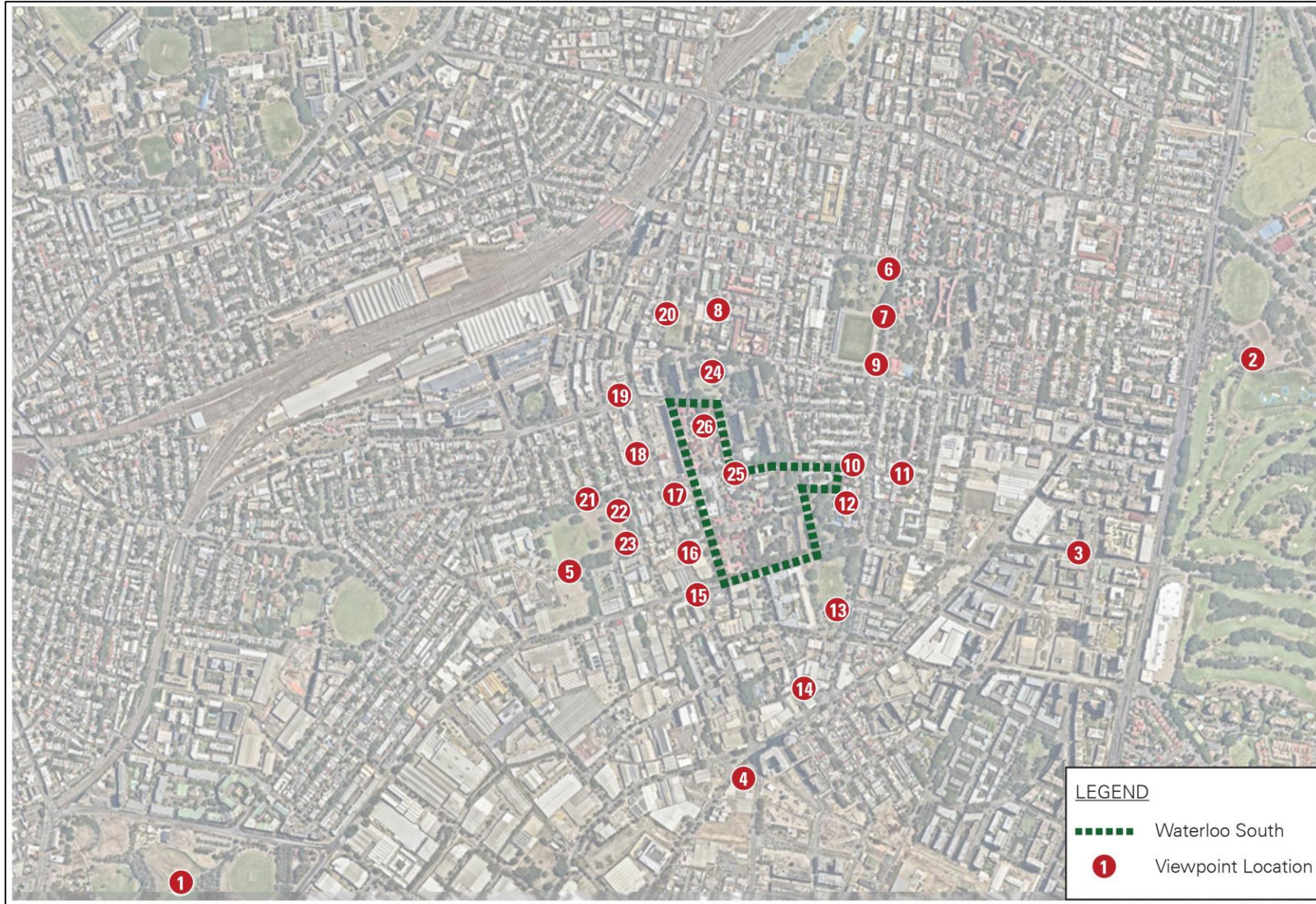


Figure 6-1 Waterloo South Critical Viewpoint Map
 Source: Cardno

Critical Viewpoints	
Long distant views (over distances greater than 1.0kms)	
1	Sydney Park, hill-top facing north-east
2	Moore Park, facing west
Middle distant views (distances between 250m to 1km)	
3	Lachlan St and Gadigal Ave facing west
4	Green Square Plaza facing north
5	Alexandria Park, south-west corner facing north-east
Close views (Close to the Precinct then 250m)	
6	Redfern Park, north-east corner facing south-west
7	Redfern Park, north-east corner facing south-west
8	George St between Albert St and Phillip St facing south
9	Redfern Oval, south-east corner facing south-west
10	Wellington St and Gibson St facing west
11	Wellington St and Beaumont St facing west
12	Kellick St and Gibson St facing west
13	Waterloo Oval, south-east corner facing north-east
14	George St between Allen St and Bourke St facing north
15	Botany Rd and McEvoy St facing north-east
16	John St between Botany Rd and Cope St facing east

Critical Viewpoints	
Close views (Close to the Precinct then 250m)	
17	Wellington St between Botany Rd and Cope St facing east
18	Botany Rd between Raglan St and Wellington St facing south-east
19	Botany Rd and McEvoy St facing south-east
20	NCIE Oval, north-west corner facing south
21	Garden St and Buckland St facing east
22	Alexandria Park, north-east corner facing east
23	Alexandria Park south-east corner facing north-east
24	Near existing apartments at Phillip St, west of Pitt St, facing south
Internal views (Views from within the Estate)	
25	George St and Wellington St facing south
26	Cooper St, near Raglan St, facing south

6.2 Long distant views (over distances greater than 1.0km)

6.2.1 Visual Environment

In the highly developed regional environment that incorporates the Waterloo Metro Quarter and the Waterloo Estate, opportunities for panoramic long views towards the sites are limited. The only open distant view from a public place that incorporates Waterloo South is from the hilltop at Sydney Park. Given that the Sydney Park hilltop provides a relatively rare publicly available 360° panorama that includes the Sydney CBD, this view is considered to be critically important at a regional level. To a lesser extent, views towards Waterloo South are also available from a viewing point within Moore Park known as Mount Steele. This regional viewpoint adjacent to the Moore Park Golf Course driving range is a recognised lookout with expansive north westerly views towards the Sydney CBD skyline. The view from Mount Steele has been consciously directed towards the CBD by tree planting on the north eastern and south western side of the hill, leaving a narrow view corridor directly orientated towards the CBD.

The view from the Moore Park Hill, known as Mount Steele, is of equal importance as it includes a direct view of the Sydney CBD skyline. However, the orientation of views from this location is directly towards the Sydney CBD. Views towards the Waterloo Precinct are secondary. The visibility of the developed Waterloo South from this location will be of importance only with respect to the level at which it detracts from this primary view to the CBD.

6.2.2 Capacity to absorb change

Waterloo South has a high capacity to absorb change with respect to scenic quality. In this regard, it is useful to include a brief discussion of other major urban renewal programs planned in the context of the subject site. Within the corridor extending west from the Sydney CBD to the Sydney International Airport the following urban renewal programs are either underway or in planning stages:

- > The Eveleigh Rail Corridor / Australian Technology Park;
- > The Waterloo Metro Quarter and Waterloo Estate; and
- > Green Square.



Figure 6-2 Green Square Town Centre massing plan (Green Square Town Centre Public Domain Strategy, City of Sydney, 2013)

In concert with the Sydney CBD, these three renewal projects will change the scenic environment of inner western Sydney by essentially creating three new nodes of high rise development. **Figure 6-3** provides a diagrammatic representation of the potential change to the skyline that could result from the implementation of these projects. Consistent with the growth of this part of Sydney as planned in the Regional Plan and the Eastern City District Plan, the nodes will contribute to a new cityscape characterised by four skyline clusters. If the new nodes are designed in keeping with general principles of design excellence they will create points of interest that will function as visual markers in the cityscape. In this regard, they will contribute positively to the scenic landscape of this part of the Sydney as it develops into the global city envisaged by the Sydney Regional Plan.

In the context of these city scale urban renewal programs, there is an expectation of significant change to the visual environment in the locality of the Waterloo Precinct and in this context, distant views of Waterloo south have a high capacity to absorb change.

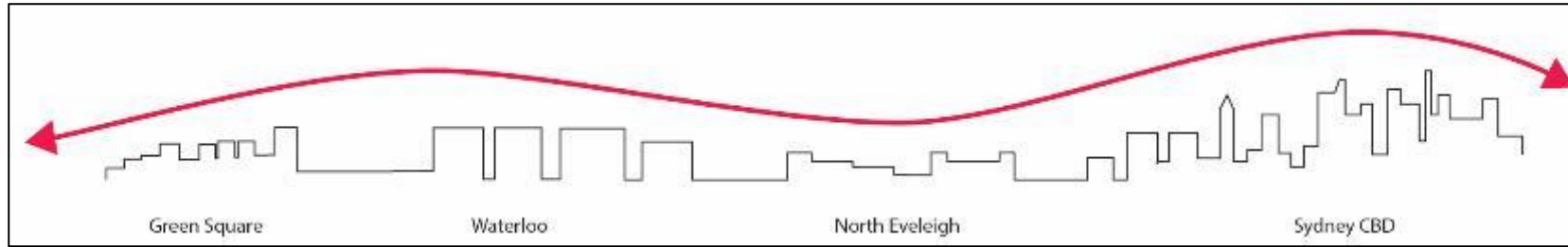


Figure 6-3 Indicative regional skyline (including potential local urban renewal projects with the existing skyline profile of Waterloo)
Source: Cardno

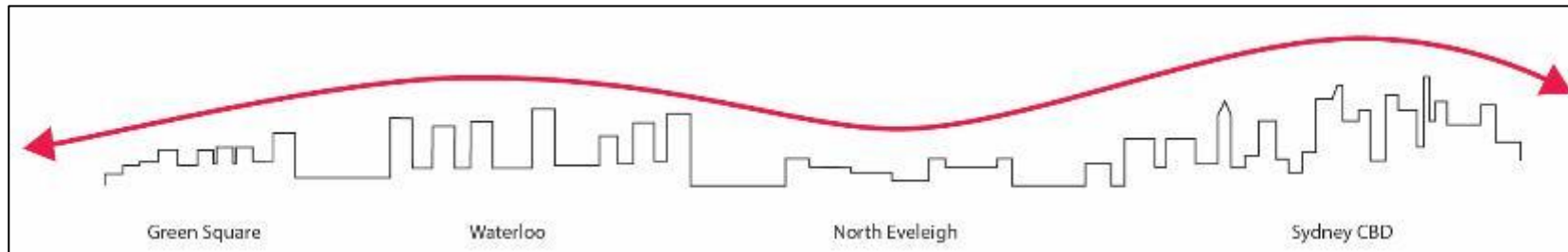


Figure 6-4 Indicative regional skyline (including potential local urban renewal projects with the potential skyline profile of Waterloo after redevelopment)
Source: Cardno

6.2.3 Amount of change resulting from the proposal

Sydney Park (Viewpoint 1)

In the view towards the Waterloo Precinct from the Sydney Park hilltop, the existing taller buildings located at Waterloo North and Waterloo Central are distinctive and prominent elements in the landscape. The building group, including the taller buildings and other large building blocks, in combination with other residential blocks of similar form off the site, result in an almost continuous line of buildings as a prominent skyline element in this view. **Figure 6-5** provides a diagrammatic illustration of this existing building form. The uniformity and lack of relief of this built element is considered to be a negative element in this view.

The view also illustrates the critical role played by the mature trees on and adjacent to the Study Area as elements that mitigate the impacts of built form in regional views such as this.

The montage from Sydney Park (Viewpoint 1) indicates that post development of the Metro Quarter and Waterloo South, the existing building group on the site would be replaced by a new urban skyline composed of a group of well-articulated buildings comprising tall and mid-level towers in a rhythmic arrangement consistent with contemporary city planning. **Figure 6-6** provides a diagrammatic representation of how the general skyline profile of the developed Waterloo South would change in comparison to its existing presentation. **Figure 6.4** provides an illustration of how the developed Waterloo South might present in the context of the other proposed urban renewal programs in the locality. The montage also illustrates that the towers would be well separated in the view and that open sky would remain a major component of the view. Forest scale trees within Alexandria Park and on the western side of the Precinct read as a continuous bank of foreground vegetation which softens the impact of the building group behind and, as indicated by the montage, would also screen lower level development within

the developed Estate. In the context of this highly built component of the very broad and expansive view available from the Sydney Park hill, Waterloo South and Metro Quarter would be an acceptable change to this view.



Figure 6-5 Skyline from Sydney Park (Existing)

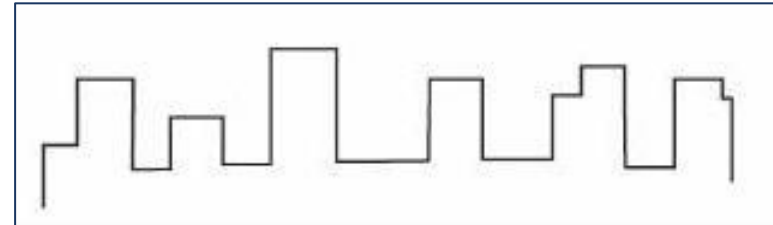


Figure 6-6 Skyline from Sydney Park (Proposed)

Moore Park (Viewpoint 2)

The view from the Moore Park hilltop (Mount Steele) is orientated by design in a Nor-Nor Westerly direction to provide a direct and carefully framed view over Moore Park Oval to the Sydney CBD. Views on either side of this designed view corridor are screened by tall trees within the boundaries of Moore Park. In this regard, the visibility of new or existing development above the tree line on either side of the view corridor would potentially impact on this viewing location in that it would detract from the significance of the CBD as the designed focal point of views from Mount Steele.

The montage at **Figure 6-8** indicates that the developed site would only be partially visible above the existing treeline on the south western slope of the Mount Steele lookout. This level of visibility of the developed Waterloo South would not detract from the quality of the principle view of the CBD and the impact of the development on Mount Steele would be acceptable.

6.2.4 Summary

In summary, the changes that the proposal would generate in distant views are consistent with expectations of how the visual environment of this part of Sydney is likely to change due to planned development in the medium term. The skyline profile created by the development is considered to be an improvement on the existing profile in distant views and an appropriate development form for this land parcel in its context. The impact of the development on distant views is considered to be acceptable.



Figure 6-7 Viewpoint 1 – Sydney Park, hilltop (current view).
Source: *Virtual Ideas*



Figure 6-8 Viewpoint 1 – Sydney Park, hilltop (photomontage) – Metro Quarter built form toned blue
Source: *Virtual Ideas*



Figure 6-9 Viewpoint 2 – Mount Steele, Moore Park (current view looking south west in the direction of the Waterloo Estate)
Source: *Virtual Ideas*



Figure 6-10 Viewpoint 2– Mount Steele, Moore Park (photomontage looking south west in the direction of the Waterloo Estate)
Source *Virtual Ideas*

6.3 Middle distant views (over distances between 250m and 1.0km)

6.3.1 Visual environment

Streets and open spaces at medium distances from the Estate site vary in character. Land to the north of the Estate includes medium to high density residential and mixed use development in Redfern, the railway lands and Prince Alfred Park. The Redfern town centre is in a state of transition from medium to high density with significant high rise development either in place or planned at the Station and in the Pemulwuy aboriginal precinct. To the east, traditional terrace housing occurs in a precinct bonded by Phillip, Bourke and Young Streets, adjoined by a high rise social housing precinct extending west of Young Street to Elizabeth Street. Land to the south and west of the Estate includes pockets of traditional medium density residential development and transitioning warehousing. This area also supports major urban renewal projects including the Australian Technology Park and Green Square.



Figure 6-11 Redfern Town Centre



Figure 6-12 Green Square



Figure 6-13 Australian Technology Park



Figure 6-14 Warehouses

6.3.2 Capacity to absorb change

The land at medium distances from the Estate is subject to progressive transition from light industrial and warehousing uses to high density residential and mixed use urban forms. This progression will result in significant change in its visual character in the short to medium term. The traditional medium density precincts remaining in the area are protected by conservation controls and they will provide a low scale fine grain character. Retention and protection of the visual integrity of these Conservation Areas will be critical to the development of the locality as a contemporary mixed use inner city living and working environment.

Given that the locality will inevitably change in visual character as a result of major planned and progressing urban renewal, our opinion is that it has a high capacity to absorb change. The proposed redevelopment of the Precinct will be consistent with this planned change and will contribute to the planned urban renewal of the locality.

6.3.3 Amount of Change resulting from the proposal

From middle distant locations, the developed site will potentially be visible from streets with uninterrupted axial views towards Waterloo South. In summary, these include:

- > The north – south streets in the traditional residential precinct in Redfern, south of Cleveland Street;

-
- > East – west streets to the east of the Precinct, including notably Phillip, Lachlan and McEvoy Streets;
 - > East – west streets to the west of the Precinct, including Henderson Road, Buckland Street and McEvoy Street;
 - > North and north-east trending streets to the south of the Precinct including Botany Road and the residential precinct to the south east of Bourke Street adjacent to Green Square.

To test the impacts of the proposal on middle distant views all of these streets have been visited and photomontages have been prepared from two representative locations. Impacts on these views are discussed below.

Middle distant views from north of the site would be similar to views from closer locations south of Redfern Street (viewpoints 8 and 20). Impacts on these views are discussed in Section 6.4.3.1 and they have been found to be variable. However, impacts of the developed Precinct on these views would be mitigated by distance from the Precinct and topography. Redfern Street runs along an east – west ridgeline so that views to the Estate from north of Redfern Street are in an uphill direction. Street vegetation and existing buildings will also mitigate the visibility of the developed site from these locations.

Typical middle distant views from the south of the site can be analysed with reference to the photomontage prepared from the Green Square rail plaza (Viewpoint 4). From this vicinity the developed site will be visible as a new urban skyline comprising well separated towers above a foreground of existing built form and vegetation. The level of visibility of the development will be contingent on the direction of the view but generally there will be ample separation and significant visibility of open sky between the built towers.

Middle distant views from the east have been tested via a photomontage prepared from Lachlan Street near the corner of Gadigal Avenue (Viewpoint 3). This montage illustrates that the new urban skyline will become a dominant component of these views, particularly where direct axial views to the Estate are available. The success of the development as a new element in these views will be contingent on following principles of design excellence in the design of individual buildings. The montage again illustrates the importance of existing foreground vegetation as a softening element in views towards the Waterloo Precinct.

From west of the Precinct, middle distant views have been assessed with reference to closer viewpoints at 5 & 21. Generally, the developed site will be intermittently visible from middle distant locations to the west.



Figure 6-15 Henderson Road, Erskineville



Figure 6-16 Buckland Street, Alexandria

Typical view on Henderson Rd, Erskineville (**Figure 6-15**) at the corner of Alexander St looking east. The developed site would appear as a new horizon line substantially softened by existing trees on either side of the street and at the end of the street. With high quality design, the developed site is likely to contribute positively to the quality of this view by creating an architecturally interesting focal point.

Typical view on Buckland Street, Alexandria (**Figure 6-16**) looking east. The developed site would be intermittently visible above the houses on the left (northern) side of the road but would be heavily screened by the existing street trees in the summer months. It would be more visible in winter when the trees would be bare but our opinion is that the change would not impact unacceptably on the views from this part of Alexandria.



Figure 6-17 McEvoy Street



Figure 6-18 Green Square

View from McEvoy St to the south east of the Waterloo Precinct near corner of Elizabeth St (**Figure 6-17**). The developed site will appear as a new built horizon above the existing foreground vegetation in the north west (right hand sector) of this view. Views from this location will be similar to the view from Lachlan Street illustrated in Montage 21.

Typical view in the direction of the Precinct from residential streets to the south, adjacent to Green Square (**Figure 6-18**). Views from this locality will be similar to the view from Green Square Plaza illustrated in Montage 4.



Figure 6-19 Viewpoint 3 – Lachlan St and Gadigal Ave facing west (current view)
Source: Virtual Ideas



Figure 6-20 Viewpoint 3 – Lachlan St and Gadigal Ave facing west (photomontage)
Source: Virtual Ideas



Figure 6-21 Viewpoint 4 – Green Square Plaza facing north (current view)
Source: *Virtual Ideas*



Figure 6-22 Viewpoint 4 – Green Square Plaza facing north (photomontage)
Source: Virtual Ideas

6.4 Close Views (closer than 250m from the Estate boundary)

6.4.1 Visual environment

Views towards the Precinct from the largely medium density suburban environments within 250m of the Precinct generally include the existing Waterloo tall buildings and residential blocks as prominent visual elements.

Substantial parcels of open space in close proximity to the Waterloo Precinct include:

- > *Redfern Oval and Park;*
- > *Waterloo Park (north and south); and*
- > *Alexandria Park.*

These generally well designed and managed parcels of open space provide visual relief and contrast in the otherwise densely developed environment. They are critical to the visual amenity and character of the region.

6.4.2 Capacity to absorb change

Due principally to the dominance of the existing large scale built form within the Waterloo Precinct, views from locations within 250m of the Estate boundary are considered to have a high capacity to absorb change. Specifically, in views from the north-east (Viewpoints 7 & 9), the existing Waterloo Precinct built form dominates the skyline as an almost continuous wall. In views from the direct north (Viewpoints 8 & 20) the existing towers in the northern part of the Estate and / or the tall block form buildings are prominent elements in the existing view. From the south (Viewpoints 13) the Waterloo built form is less visible largely due to the screening properties of the local topography and existing trees within the southern sector of the Waterloo Precinct. From the west (Viewpoints 5 and 21), the taller buildings within The Estate are isolated but significant skyline elements appear above a foreground of large trees. Built form in the northern part of Waterloo is dominant in these views and forms a precedent for the appearance of additional taller buildings in the view.

The Alexandria Park Heritage Conservation Area is located near to the western edge of the Precinct (see **Figure 7-1**). As an urban form, the area is comprised of a mosaic of traditional terrace housing on a grid street pattern and parklands (principally Alexandria Park). Large forest scale trees constitute a further significant element in the landscape. Views out of and into the Conservation Area are contained by this structure of dense housing and mature trees so that the area has a high capacity to absorb change in its surroundings. Specifically, views in the direction of the Metro Precinct are substantially screened by these elements.

6.4.3 Amount of change resulting from the proposal

Change to the visual environment in these views was tested via montages from each of the above described viewpoints.

6.4.3.1 Views from the north (viewpoints 6, 7, 8, 9, 20 & 24)

The photomontages prepared from these viewpoints illustrate that the developed site will vary substantially in its level of visibility from close locations to the north of the Precinct. Views towards the Precinct from Redfern Park (viewpoints 6, 7 & 9) are from the south west. The montages illustrate that the developed Waterloo South Precinct will read as a dramatic new skyline in these views. In views from the northern part of the Park (viewpoint 6), the existing development on the Estate is largely screened by existing tree stock within the Park boundary. The montage from this viewpoint illustrates that the new urban skyline in the developed Waterloo South Precinct will be softened and complemented by these trees resulting in a dramatic composition of built form and landscape.

Further to the north within Redfern Park (viewpoints 7 & 9) the existing view to the Precinct is dominated by the continuous wall of the long buildings located on the northern portion of the Estate. Montages from 7 & 9 illustrate that the Waterloo South Precinct will read as a new skyline element above the park vegetation and

housing along its southern boundary. The view 9 montage indicates that at the southern end of the park, the majority of the newly developed skyline will be screened by existing vegetation and built form. Our opinion is that, contingent on achieving high quality design, the developed site will improve the quality of views from this locality.

Close views to the Precinct from directly north of the Waterloo Precinct (viewpoints 8 & 20) will be moderately changed as a result of the Waterloo South development. Generally, however, these views will remain dominated by the existing towers and block buildings within the northern part of the Waterloo Estate and the new buildings in the Waterloo Metro Precinct. Substantial amounts of sky will remain in the views and the new building masses will generally be separated with sky appearing between the forms. The resultant built form would be well articulated and, if well designed, would be a positive contribution to the quality of existing views from these locations.



Figure 6-23 Viewpoint 6 – Redfern Park, north eastern edge (current view)
Source: *Virtual Ideas*



Figure 6-24 Viewpoint 6 – Redfern Park, north eastern edge (photomontage)
Source: *Virtual Ideas*



Figure 6-25 Viewpoint 7 – Redfern Oval, adjacent to north eastern edge of oval (current view)
Source: *Virtual Ideas*



Figure 6-26 Viewpoint 7 – Redfern Oval, adjacent to north eastern edge of oval (photomontage)
Source: *Virtual Ideas*



Figure 6-27 Viewpoint 8 – George St between Albert St and Phillip St facing south (current view)
Source: David Duloy



Figure 6-28 Viewpoint 8 – George St between Albert St and Phillip St facing south (photomontage) – Metro Quarter built form toned blue
Source: *Virtual Ideas*



Figure 6-29 Viewpoint 9 – Redfern Park (current view)

Source: *Virtual Ideas*



Figure 6-30 Viewpoint 9 – Redfern Park (photomontage)

Source: *Virtual Ideas*



Figure 6-31 Viewpoint 20 – NCIE Oval, north west corner facing south (current view)
Source: David Duloy



Figure 6-32 Viewpoint 20 – NCIE Oval, north west corner facing south (photomontage) – Metro Quarter built form toned blue
Source: *Virtual Ideas*



Figure 6-33 Viewpoint 24 – Off Phillip St, west of Turanga Tower (current view)
Source: *Virtual Ideas*



Figure 6-34 Viewpoint 24 – Off Phillip St, west of Turanga Tower (photomontage)
Source: *Virtual Ideas*

6.4.3.2 Views from the east (viewpoints 10, 11 & 12)

The area immediately to the east of the Precinct is largely within a Conservation Area and includes the heritage listed Mount Carmel Church and School. West of Moorehead Street the area is characterised by traditional terrace style housing. Views to the west along the east – west oriented streets in this locality often include the existing towers and other tall buildings at the northern end of the Estate. So there is an expectation that tall buildings will occur in these views.

The developed Waterloo South site will generally not be a significant component of these views, although its level of visibility will increase with movement closer to the Precinct boundary. From locations 10 & 11, the developed Waterloo South site will present in the south west as a new urban form of well-articulated building masses separated by with substantial areas of sky. The montages illustrate that existing vegetation will play an important role in screening and softening the appearance of the new built form. At locations closer to the site boundary (Viewpoint 12), the new built form will inevitably constitute much more substantial portions of the existing view. From these locations the quality of the design and the retention of existing trees on the site will be critical to the success of the Proposal with respect to its visual presentation and impacts on visual quality.



Figure 6-35 Viewpoint 10 – Wellington St and Gibson St facing west (current view)
Source: David Duloy



Figure 6-36 Viewpoint 10 – Wellington St and Gibson St facing west (photomontage) – Metro Quarter built form toned blue
Source: *Virtual Ideas*



Figure 6-37 Viewpoint 11 – Wellington St and Beaumont St facing west (current view)
Source: David Duloy



Figure 6-38 Viewpoint 11 – Wellington St and Beaumont St facing west (photomontage) – Metro Quarter built form toned blue
Source: Virtual Ideas



Figure 6-39 Viewpoint 12 – Kellick St and Gibson St facing west (current view)
Source: David Duloy



Figure 6-40 Viewpoint 12 – Kellick St and Gibson St facing west (photomontage)
Source: *Virtual Ideas*

6.4.3.3 Views from the south (viewpoints 13, 14 & 15)

The montages over views from the south and south east illustrate that the developed Waterloo South precinct will appear as a series of new skyline towers that are generally well separated. Changes to the view will be most substantial from locations where uninterrupted views to the skyline above the Estate are available, notably from Waterloo Park south (viewpoint 13) and from within and in the vicinity of McEvoy St. (viewpoint 15). The montages indicate, however, that significant quantities of sky remain visible between towers in these close views and the lower levels of the development tend to be screened or softened by existing built form and / or vegetation. As with other viewpoint locations, the impact of the Proposal on close views from the south of the Precinct will be contingent on the existence of foreground built form and vegetation. Impacts on these views will generally be softened by existing large trees on and within the boundary of the Estate that are proposed to be retained and protected.

As is the case with the northerly view to the Estate over the NCIE playing fields (Viewpoint 20), the most dramatic view of the developed Precinct will be the relatively uninterrupted view across Waterloo Park (viewpoint 13). The large mature figs around the northern side of the Park will significantly soften the foreground in these views. The new urban skyline will, however, be a dramatic change to the current open sky dominated view and the success of the development will be contingent on achieving design excellence in the presentation of each new building.

The view from viewpoint 14 is indicative of street views from north-south streets in this locality. The montage indicates that new towers will be visible but they will appear in the context of a relatively recently developed urban environment incorporating medium rise residential apartment buildings and well established street trees.



Figure 6-41 Viewpoint 13 – Waterloo Oval (current view)
Source: David Duloy



Figure 6-42 Viewpoint 13 – Waterloo Oval (photomontage)

Source: *Virtual Ideas*



Figure 6-43 Viewpoint 14 – George St between Allen St and Bourke St facing north (current view)
Source: David Duloy



Figure 6-44 Viewpoint 14 – George St between Allen St and Bourke St facing north (photomontage)
Source: *Virtual Ideas*



Figure 6-45 Viewpoint 15 – Botany Rd and McEvoy St facing north east (current view)
Source: David Duloy



Figure 6-46 Viewpoint 15 – Botany Rd and McEvoy St facing north east (photomontage)
Source: Virtual Ideas

6.4.3.4 Views from the west (viewpoints 5, 16, 17, 18, 19, 21, 22, 23).

Close views from west of the Estate will vary with regard to the level of visibility of the developed Waterloo South site depending on their location. Generally speaking, views from locations west of Wyndham Street (described typically in montages from viewpoints 5, 21, 22 & 23) will include a new urban skyline of tall buildings generally well separated to allow visibility of sky between and screened to varying degrees by foreground trees and / or existing buildings. Axial street views towards the Waterloo South site are not generally available from the west. The montage looking east along Buckland Street (viewpoint 21) illustrates that view lines to the site are generally screened by existing vegetation and / or buildings and the new built form would not be significantly visible.

In views from the west adjacent to the Precinct (16, 17, 18 & 19) the Metro Quarter development will be a significant component in new views. Montages 18 & 19 (respectively from adjacent to the heritage listed Waterloo Congregational Church and from the corner of Henderson Road) indicate that the Metro Quarter will completely obscure or almost completely obscure any view of the developed Waterloo South site. In the context of the developed Metro Quarter, impacts of Waterloo South on these views will be negligible.

South of the Metro Quarter (views 16 & 17) easterly views towards Waterloo South may be substantially screened by existing street trees which are proposed to be retained in the redevelopment. Where built form is proposed to form street walls (view 16) the development will be more substantially visible and the quality of the new view will be more contingent on the success of the architecture in its presentation to the street.



Figure 6-47 Viewpoint 5 – Alexandria Park, south-west corner facing north-east (current view)
Source: *Virtual Ideas*



Figure 6-48 Viewpoint 5 – Alexandria Park, south-west corner facing north-east (photomontage) – Metro Quarter built form toned blue; Waterloo South built form outlined in red where obscured in view.

Source: *Virtual Ideas*



Figure 6-49 Viewpoint 21 – Garden St and Buckland St (current view)
Source: *Virtual Ideas*



Figure 6-50 Viewpoint 21 – Garden St and Buckland St (photomontage) – Waterloo South built form outline in red where obscured in view.
Source: *Virtual Ideas*



Figure 6-51 Viewpoint 22 – Alexandria Park, north eastern edge (current view)
Source: Virtual Ideas



Figure 6-52 Viewpoint 22 – Alexandria Park, north eastern edge (photomontage)
Source: *Virtual Ideas*



Figure 6-53 Viewpoint 23 – Alexandria Park, south eastern corner of park (current view)
Source: *Virtual Ideas*



Figure 6-54 Viewpoint 23 – Alexandria Park, south eastern corner of park (photomontage) – Metro Quarter model toned blue
Source: *Virtual Ideas*



Figure 6-55 Viewpoint 16 – John St between Botany Rd and Cope St facing east (current view)
Source: David Duloy



Figure 6-56 Viewpoint 16 – John St between Botany Rd and Cope St facing east (photomontage)
Source: *Virtual Ideas*



Figure 6-57 Viewpoint 17 – Corner Cope St and Wellington St facing east (current view)
Source: David Duloy



Figure 6-58 Viewpoint 17 – Corner Cope St and Wellington St facing east (photomontage)
Source *Virtual Ideas*



Figure 6-59 Viewpoint 18 – Botany Road between Raglan St and Wellington St facing south-east (current view)
Source: *Virtual Ideas*



Figure 6-60 Viewpoint 18 – Botany Road between Raglan St and Wellington St facing south-east (photomontage) – Metro Quarter built form toned blue; Waterloo South built form outlined in red where obscured in view.

Source: *Virtual Ideas*



Figure 6-61 Viewpoint 19 – Corner Henderson Rd & Botany Rd (current view)
Source: Virtual Ideas



Figure 6-63 Viewpoint 19 – Corner Henderson Rd & Botany Rd (photomontage) – Metro Quarter built form toned blue; Waterloo South built form outline in red where obscured in view.
Source: Virtual Ideas

6.5 Views from within the Waterloo South site

6.5.1 Visual Environment

The greater Waterloo Estate incorporates a number of elements that contribute to its existing visual character. These include:

- > A mix of residential buildings including 29-storey apartment blocks in the northern portion of the Estate, residential flats up to around 6 storeys in height in the south east (within the Waterloo South site) and circa 1950 vintage “3 storey walk-ups” in the western portion (also within Waterloo South);
- > Wide streets, many of which are lined with large street trees;
- > Buildings that are well set back from the streets resulting in a feeling of spaciousness, particularly in comparison to the more densely developed surrounding neighbourhoods; and
- > Many large “forest scale” trees in the streets and around the existing buildings.

6.5.2 Capacity to absorb change

The following principles are relevant to the capacity of the Waterloo South site to absorb change to its visual environment:

- > Street level quality should be maintained in the redevelopment. An open, tree dominated character at the street should be a contributing component of the future character of the developed Estate.
- > The existing grid form street pattern should be a guiding principle for masterplanning in order to maintain one of the positive components the existing visual character of the Estate. Where tall buildings are proposed, they should be set back from the streets, at least at the above podium levels in order to maintain an open visual character at street level.
- > The taller buildings in the northern part of the greater Waterloo Estate are prominent in close, medium and distant views. Because they exist in the locality and people are used to seeing them, they provide an opportunity to build tall, slender buildings that would continue the established theme of dramatic sculptural elements in the local and regional townscape.
- > The significant amount of open space at ground level provides an opportunity to develop a distinctive character for the new neighbourhood that would set it apart from surrounding precincts.
- > The grid of long, straight streets provides opportunities for long views through, into and out of the Precinct and for dramatic views toward buildings. Master planning should take advantage of these established internal and local view lines.

Based on these principles, our opinion is that the Waterloo South site has a moderate capacity to absorb change, contingent on:

- > Retention of the existing streetscape quality and open character with buildings set back from the street.
- > Taller buildings exhibiting architectural design excellence and not being positioned to create continuous skyline elements.
- > Tall buildings appearing as sculptural elements with slender form.

6.5.3 Amount of change resulting from the proposal

Likely change to the visual character in the Waterloo South site was assessed with the aid of Computer Generated Images (CGIs) prepared by Turner Architects. The CGIs were prepared from a series of representative view locations on existing streets within the boundary of the Estate as indicated at **Figures 6-72 & 6-73**.

Fully rendered CGIs were prepared in lieu of block form photomontages on the basis that they provide realistic illustrations of the street level urban character that will result from the development of the Estate as proposed.

Further assessment was carried out with the aid of massing photomontages prepared from 2 locations within the Waterloo South Precinct - Viewpoint 25 from the corner of George and Wellington Streets looking south west and Viewpoint 26 from Cooper Street, south of Raglan St looking south.

The fully rendered and massing based montages illustrate that the proposal when implemented will transform the visual character of the Waterloo South site from a solely residential estate incorporating a mix of disparate architectural styles to a contemporary mixed use precinct with a varied but coherent architectural style in a contemporary urban setting. Specific attributes of the proposal that are considered to contribute positively to the urban character within the Estate are described below with reference to the CGI's.



Figure 6-64 Viewpoint 25 George and Wellington facing south west (current view)
Source: Virtual Ideas

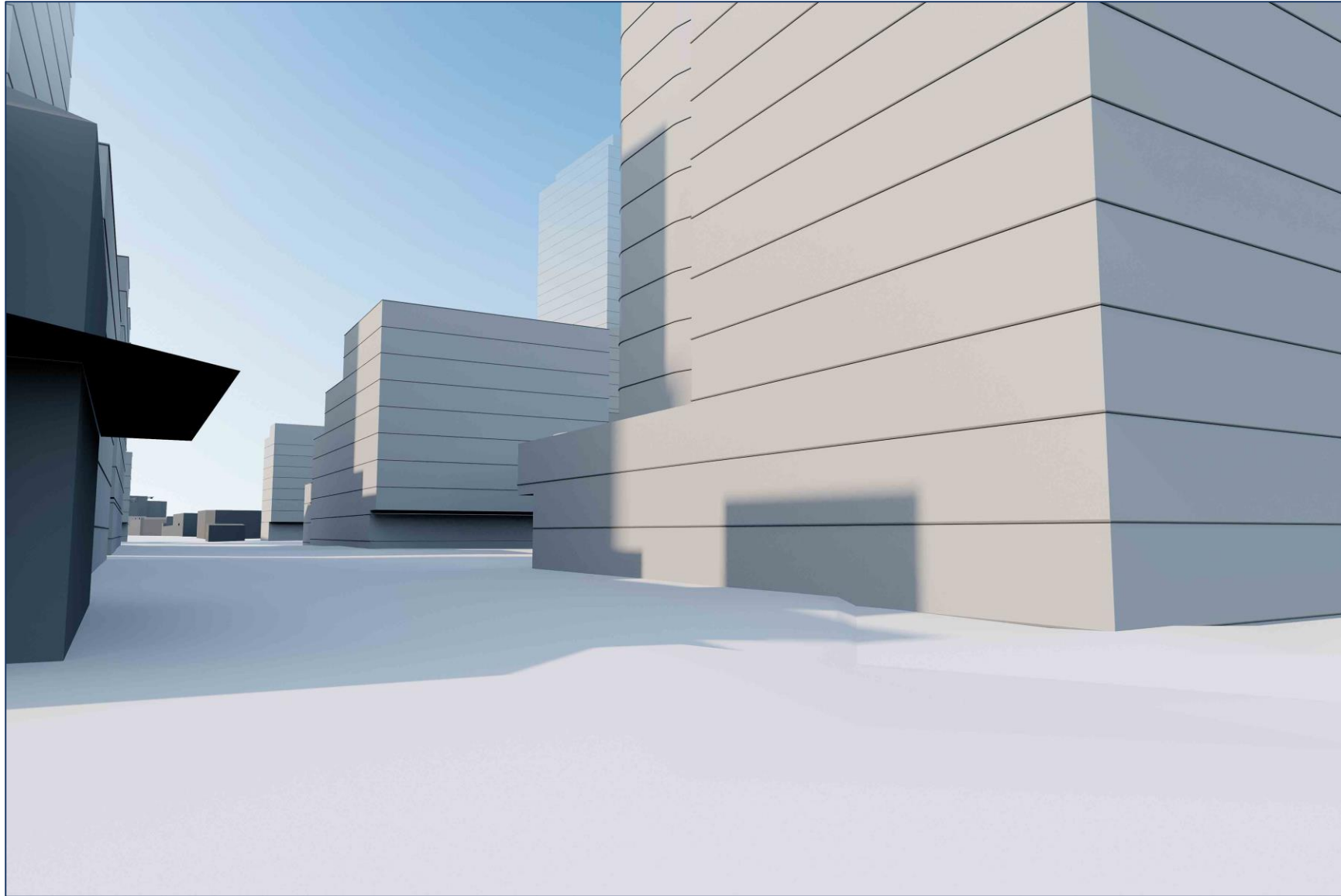


Figure 6-66 Viewpoint 25 George and Wellington facing south west (photomontage)
Source: *Virtual Ideas*



Figure 6-67 Viewpoint 26 Cooper St south of Raglan St looking south (current view)
Source: *Virtual Ideas*



Figure 6-69 Viewpoint 26 Cooper St south of Raglan St looking south (photomontage)
Source: *Virtual Ideas*

A series of Computer Generated Images (CGIs) have been prepared by Virtual Ideas Pty Ltd. The following CGIs have been selected from these to represent typical internal views within the Waterloo South Precinct. These are included below with associated commentary.



Figure 6-70 Rendered computer generated image from a location slightly to the east of Viewpoint 26.
Source: Turner Architects

The rendered CGI at Figure 6-70 provides an indication of the likely future character of views to the south across the Village Green. The image is consistent with the view that would be experienced from Viewpoint 26.



Figure 6-71 Site internal CGI – Viewpoint 9

Viewpoint 9 – Corner of Raglan & Cope Streets looking into the Village Green

The broad centrally located area of community open space will allow for open expansive views within the newly developed Waterloo South Precinct. This is consistent with the identified positive characteristic of the existing Waterloo Estate, being the presence of significant publically accessible open space at the ground plane. The proposed Village Green will also contribute to:

- > An open, tree dominated character at the street level.
- > Inclusion of tall buildings as well separated, sculptural elements that maximise the visibility of open sky.
- > Development of significant amounts of high-quality open space that is well connected visually and physically.



Figure 6-72 Site internal CGI – Viewpoint 10

Viewpoint 10 – Cope St looking north towards Raglan St.

The inclusion of a hierarchy of pedestrian priority precincts through the Waterloo South Precinct contributes to a high level of legibility at the street level and visual as well as physical connections between the open public spaces included in the masterplan. The pedestrian zones illustrated in this image are essentially extensions

of the existing street grid in the greater Waterloo Estate which contribute to a reinforced street grid urban structure. The image illustrates consistency with the following identified principles for visual quality identified at S.6.5.2 of this report:

- > Retention of an open tree dominated character at street level.
- > Reinforcement of the street grid development pattern.
- > Inclusion of tall buildings as sculptural elements, well separated in views and allowing for the visibility of significant amounts of open sky.
- > Establishment of long views down streets, particularly in this case towards proposed significant areas of public open space.



Figure 6-73 Site internal CGI – Viewpoint 11

Viewpoint 11 – George St looking toward the Waterloo Metro Quarter.

The masterplan allows for open views across the proposed Village Green to the newly developed Metro Quarter. The planning in this part of the Precinct creates a strong visual character consistent with the existing character of buildings in a landscape setting. The image indicates a number of elements of the proposal that would contribute to a high-quality visual environment within the developed Precinct. These include:

-
- > Tall buildings punctuating the skyline and creating visual interest points. Tall buildings do not form continuous walls of built form;
 - > Open sky remains a strong element in the view;
 - > Development of significant amounts of high-quality open space that is well connected visually and physically. and
 - > Tall forest scale trees contribute to a human scale at street level and soften views towards the proposed new buildings



Figure 6-74 Site internal CGI – Viewpoint 12

Viewpoint 12 – George St looking north toward Wellington St.

The image also demonstrates the consistency of the proposal with the following identified visual quality based principals:

- > Retention of an open and tree dominated character at street level.

- > Retention of the existing grid form street pattern.
- > Set back of building towers from the street and retention of the existing broad, open visual character at street level.
- > Separation of tall buildings to maintain significant amounts of open sky in views from the street.



Viewpoint 13 – George St looking north into Waterloo Common.

The south park is a key component of a proposed connected network of public spaces through the Waterloo South Precinct. Consistent with principles of good urban design, the park is bordered by building walls to create a defined urban edge. The park also provides opportunities for open expansive views from within the Precinct and is specifically consistent with the following identified principles to protect visual quality:

- > Retention of an open and tree dominated character.
- > Reinforcement of a grid pattern street form.
- > Setback of tall buildings from the street and separation of building towers to allow for substantial views of open sky.
- > Retention of an open visual character at ground level via inclusion of significant areas of high quality public open space in a well-connected network.
- > Maintenance of opportunities for long views through, into and out of the Precinct and for dramatic views toward buildings.
- > Placement of tall buildings so that they appear as sculptural elements in the new cityscape.

6.6 Summary of Assessment Outcomes

A series of visual quality based Planning Principles proposed to guide the development of a Precinct masterplan for the Waterloo Metro site and The Estate has been derived out of this visual quality assessment. The Planning Principles have been used as a basis for a summary assessment of the suitability of the Waterloo South proposal in its locality with respect to changes to the local and regional visual environment. The outcomes of this assessment are:

Principle	Response
<p>Develop a unique visual character for the Precinct that maintains the positive elements of its existing character (tall slender buildings in the context of an open, legible ground plane incorporating tree lined streets with long views) and incorporates the positive components of its urban context including fine grain street level character and a street hierarchy including laneway typologies</p>	<p>The proposal has been illustrated through this assessment to be consistent with this Principle. The visual character of the completed development will incorporate buildings in a variety of heights across the Waterloo South site. Tall buildings are designed on slender plan forms and are strategically located across the site to ensure good separation between built forms in the majority of views. Open space is proposed across the site in a hierarchy that includes substantial parks connected by broad pedestrian thoroughfares. In concert with a street hierarchy of local streets connected by laneways the outcome is a ground plane that maintains the existing open character of the site and reflects the fine grain character of its suburban context. A high percentage of existing substantial trees on the site have been retained in the proposal and supplemented by a major public domain based tree planting program.</p>
<p>Build upon the precedent of tall buildings in a landscape setting to create a visually distinctive built environment</p>	<p>The developed Waterloo South site has been illustrated in this study to present in the majority of views as a series of tall slender buildings well separated in the landscape. The site will present as a distinctive new urban form contained within its boundaries and contrasting with its fine grain, low scale context.</p>
<p>Ensure that tall buildings vary in height and are well separated to create an articulated skyline with a substantial component of sky visible between building forms;</p>	<p>From the majority of close and distant views, tall buildings within the Waterloo South site will present as an articulated group of varying heights with ample visibility of sky as a contrast to the built form.</p>

<p>Retain the open internal qualities and legibility of the Precinct at street level that result from its existing development pattern of broad streets in a clear grid pattern;</p>	<p>The Estate has been planned on a street grid pattern that reflects its existing street layout and incorporates a hierarchy of street forms supplemented by a comprehensive network of pedestrian spaces. At street level the visual environment of the Waterloo South site will retain its open visual character and legibility, consistent with this Principle</p>
<p>Retain the dominance of large forest scale trees at street level</p>	<p>A comprehensive study of the existing trees on the Estate has informed the development of the Estate Masterplan. Planning for the Waterloo South site includes retention of a significant number of trees and a supplementary program of tree planting in streets and parks. Our opinion is that the existing dominance of trees at street level will remain in the developed Waterloo South site.</p>
<p>Avoid continuous “walls” of built form in local and regional views.</p>	<p>The new development will in the majority of cases result in new skyline views consisting of slender towers well separated in the view to allow for substantial views of sky. Most views from the north, south and west will be consistent with this description. Exceptions to this, where the juxtaposition of the proposed towers will result in the intermittent appearance of continuous walls, are in close views from the East. Our opinion is that this is the inevitable result of a major redevelopment of this scale. In the small number of cases where continuous walls of built form appear in new views, mitigation measures including judicious planting of forest scale trees and careful articulation of building facades to provide visual interest and minimise impacts will be required.</p>

6.7 Summary of recommended mitigation measures

With planning for the Estate currently at concept level, this assessment of the likely visual impacts of the proposed redevelopment of the Waterloo South component of the Estate has by necessity been carried out at a high level and in the absence of resolved building designs. In this context, the following measures are recommended to translate the above described visual quality based planning principles into the design process for the Waterloo South site:

- > Recognised principles for design excellence included in local and state government guidelines should be incorporated in the developing design for Waterloo South and for the individual buildings within the masterplan. Specifically, the NSW Government Architect’s Design Excellence Guidelines and the relevant chapter of the Sydney Local Environmental Plan, 2012 (Division 4 – Design Excellence) should inform ongoing design development of the site.
- > The retention and protection of existing trees and the planting of new trees in judicious locations to soften the visual impacts of the new built form and to provide human scale should be carried through as a principle in the design process at the masterplan level and for individual development within the Estate. This principle should be included in the planning controls for the Waterloo South site.

-
- > The principles for protection of visual quality included in this Study are to be incorporated into the suite of planning controls being prepared for the ongoing development of the Estate. All subsequent development applications for land sites within Waterloo South are to be assessed for their success in achieving these principles.

7 Implementation Plan

7.1 The Waterloo Estate – Vision Statement (Visual Quality)

The vision statement for protection, improvement and enhancement of the visual quality of the greater Waterloo Estate and its locality has been derived from our assessment of the existing visual character of the locality and region and identification of its positive and negative attributes. This Vision Statement should be used to guide planning and design for each precinct within the Estate, including, in the case of this study, the Waterloo South site.

To address visual quality we propose:

The Waterloo Estate urban renewal will contribute to a high quality local and regional visual environment by:

- > *Incorporating built form, architectural design and finishes that respect and respond appropriately to local and regional visual character.*
- > *Enhancing the visual quality of the ground plane within the Estate and in its immediate vicinity.*
- > *Respecting and enhancing the visual values of heritage items and conservation areas within and in the locality of the Estate.*

7.2 Visual / Urban Quality Plan

7.2.1 Planning / Design Objectives

Objectives to guide the development of the Estate to produce a form consistent with the visual quality vision statement have been derived directly from the identified opportunities and constraints. Again these objectives should be applied to planning and design for each precinct within the greater Estate including, in this case, planning and design for Waterloo South.

The planning / design objectives are:

- > The plan will capture the unique local context of Waterloo in its design.
- > Ensure that the built form of the new development responds appropriately to its local and regional context with particular regard to:
 - Close views from surrounding and nearby suburban streets;
 - Views from significant local open space (notably Waterloo Park, Alexandria Park and Redfern Park); and
 - Regional views including from Sydney Park and Moore Park (Mount Steele).
- > Enhance the heritage values of the site and its locality. Specifically, ensure that the redevelopment retains, protects and enhances (or does not detract from) views to and from:
 - Our Lady of Mount Carmel Church and School;
 - The Waterloo Congregational Church; and

Ensure that the development does not impact negatively on the heritage values of local listed Heritage Conservation Areas.

-
- > Ensure that tall buildings are slender in form and, wherever possible, are well separated in skyline views so that a high percentage of sky remains visible between the built elements.

7.2.2 Critical Viewpoints

GIS technology based generation of a visual catchment for the Estate has been carried out, incorporating its existing residential tall buildings, within a 2km radius (**Figure 3-38**). This diagram provides an indication of the visibility of the existing tall buildings within the Estate which informs the likely extent of the visual catchment of the redeveloped Estate.

The visual catchment diagram indicates that as an obvious function of their height, the tall buildings in the Estate are visible from broad areas within the catchment. Notwithstanding this, a representative sample of regional and local viewpoints within the catchment have been selected for The Estate renewal proposal in consultation with LAHC, the Department of Planning, Industry and Environment, and the City of Sydney on the following basis:

- > They are from broad open public places where it would be expected that views and visual quality would be highly valued by visitors, or
- > They give a good representation of views of the Estate from local streets and other public places, or
- > They include views towards the site that would be representative of the types of views that would be available from private places in the same vicinity.

The agreed critical viewpoints are indicated at **Figure 6-1**.

Heritage Conservation Areas

The Study Requirements for this study include, among other things, an assessment of the impacts of the Proposal on the visual quality of local Conservation Areas. Conservation Areas in the vicinity of the Estate are indicated on the extract from the Sydney Local Environmental Plan 2012 (SLEP 2012) Heritage Map at Figure 6-4. Conservation Areas in the vicinity of the Estate include:

- > The Redfern Estate (incorporating Redfern Park and adjacent residential streets);
- > Alexandria Park Conservation Area (incorporating Alexandria Park and adjacent Streets); and
- > Waterloo Conservation Area (incorporating Waterloo Park and Oval, the Our Lady of Mt Carmel Church and School and adjoining residential streets).

Impacts on views from these areas have been assessed as part of the more general local area assessment that follows and conclusions specific to the Conservation Areas are provided in the Conclusions at Section 7.

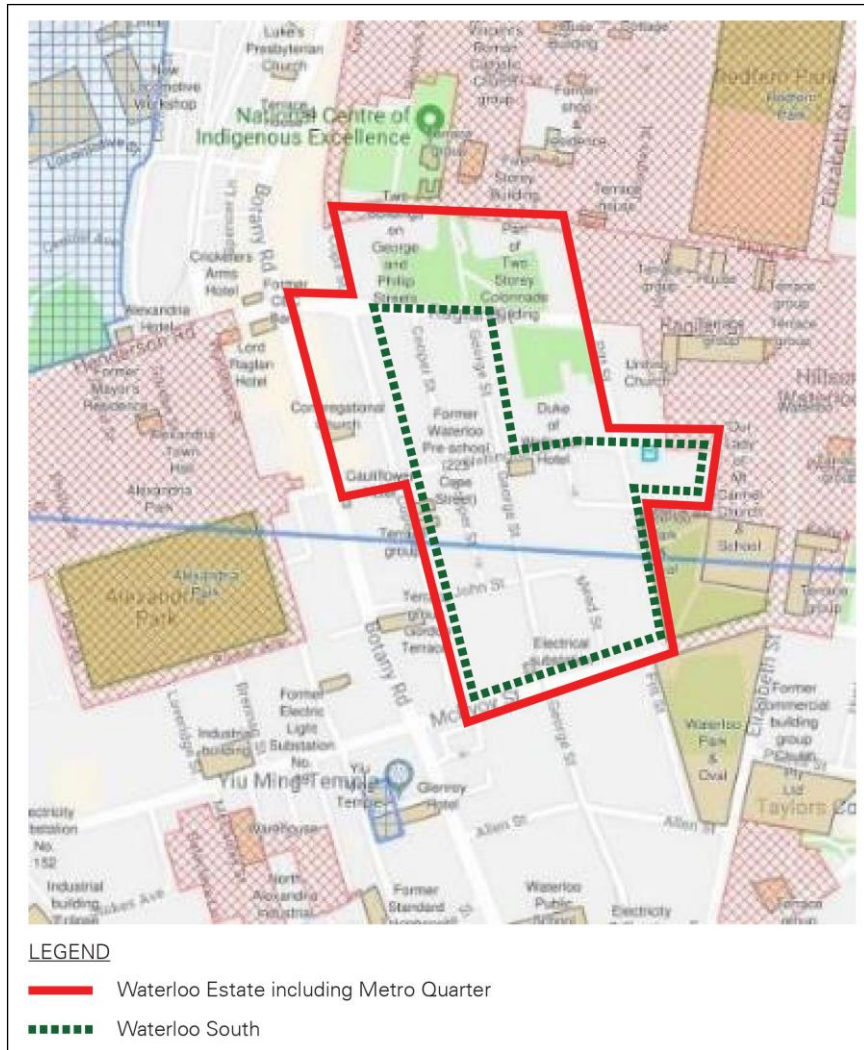


Figure 7-1 Sydney LEP Heritage Map
 Source: Department of Planning & Environment Planning Portal

8 Conclusion

This study of the likely impacts of the proposed development of the Waterloo South precinct with the greater Waterloo Estate on local and regional visual quality has been prepared to accompany a Planning Proposal for Waterloo South. It specifically addresses the Minister's Study Requirements, quoted in Section 3 of the report.

The assessment has been carried out with the aid of electronically generated photomontages over photos from surveyed locations taken with a 55mm focal length lens. Changes to visual character within the boundaries of the Estate have been assessed with the aid of Computer Generated Images prepared by others.

In summary, the conclusions of the visual impacts of the proposal with respect to the Minister's requirements are:

- > The proposal is consistent with current planning for inner western Sydney incorporating new centres of activity at Green Square and the Central to Eveleigh corridor. Where visible in distant views from the public domain it will present as a consolidated new urban centre within the context of the Sydney CBD and the other two mentioned developing centres.
- > In medium distant views, the proposal would have an acceptable impact in the context of existing and likely future development in the locality.
- > The proposal will impact on views from streets immediately surrounding the Estate. In close views its visibility will be variable depending on the context and the existence of local vegetation. Mitigation measures to address these impacts will include design development to result in a high quality ground plane including allowance for healthy growth of forest scale trees in the street and other proposed public places.
- > The proposal will be visible as a new skyline urban form from medium distant views in all directions. Its success as a new element in views from these locations will be contingent on achievement of design excellence in the completed development, with particular regard to the architectural design of the proposed tall buildings.
- > In distant regional views, the proposal will appear in the context of the proposed Metro Quarter building group and the substantial tree canopy within and adjacent to the Waterloo Precinct. If designed against principles of design excellence, the taller buildings in the proposal will have an acceptable impact on the quality of these existing views.
- > Overall, contingent on achieving design excellence and on maintaining a high quality vegetated foreground, the proposal has been found to have an acceptable impact on the conservation values of local Conservation Areas including specifically, the Redfern Estate, the Alexandria Park Conservation Area and the Waterloo Conservation Area.
- > Contingent on the recommended mitigation measures in this report, the proposal has been found to be consistent with the visual quality Planning Principles for development of the Waterloo Estate and Metro Quarter and is considered to be worthy of support with regard to its effects on the existing visual environment of the site and its locality.