RHODES PLANNED PRECINCT
URBAN DESIGN REPORT

AUGUST 2020

NSW GOVERNMENT Planning, Industry & Environment

City of Canada Bay

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Figure 001. Station Gateway West -Artist Impression

Title	Rhodes Planned Precinct: Urban Design Report
Prepared for:	Department of Planning, Industry & Environment
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Prepared by:	Martine White and Angela Koepp
Approved by:	Martine White

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EXECUTIVE SUMMARY

RHODES: A PLANNED PRECINCT

In 2015 Rhodes was identified as a Planned Precinct.

Planned Precincts provide a planned approach to growth in Sydney focusing on providing well located new homes and jobs in close proximity to public transport, shops and services, whilst retaining and enhancing the character of the existing community. The future needs of the community are considered through a co-ordinated whole of Government approach to the provision of infrastructure.

A series of Technical Reports and a comprehensive consultation process with the local community, key stakeholders and relevant government agencies was undertaken to inform the:

- Vision
- Objectives
- 2017 Structure Plan: and
- 2018 Structure Plan

A place led design approach informed the preparation of both Structure Plans and included a comprehensive site audit to identify opportunities and constraints and an analysis of the physical characteristics, key destinations and the movement of people throughout the area to develop an understanding of current and future identity. The place led design approach seeks to build on the existing urban fabric and character to create a pedestrian friendly, human scaled outcome.

Both Structure Plans provided:

- Up to 3,600 new homes east of the railway line including terraces, apartments and affordable housing
- Improved access to the Parramatta Foreshore
- New pedestrian and cycle paths; and
- Shops, cafes and community facilities

Balancing the increased population with the constraints of the existing road and rail network was a key consideration. Both Structure plans focused on providing increased pedestrian and cyclist connectivity within the Precinct, to neighbouring areas and key public transport nodes reducing reliance on the road and rail network. A number of upgrades to the road network were also proposed.

The primary objective of both Structure Plans was to generate a human scaled sustainable development outcome, rather than maximising development potential.

2018 STRUCTURE PLAN

The 2018 Structure Plan identified the following four Character Areas as a framework for urban renewal:

- Station Gateway West
- Station Gateway East
- Leeds Street
- Cavell Avenue

The Structure Plan prescribed design requirements, maximum dwelling yields and Gross Floor Area for each of the Character Areas.

In addition, Master Plans, prepared by the land owners, were required for each Character Area to inform potential changes to the Canada Bay Local Environmental Plan (LEP) 2013 to facilitate future development.

Following the exhibition period, and submissions received from the community and other stakeholders, the Department of Planning Industry and Environment (DPIE) in collaboration with the City of Canada Bay and Transport for NSW, lead the preparation of the current sub precinct Master Plans herein.

1 INTRODUCTION

Relevant background information required to understand the project, including the evolution of the master plan, identified character areas and the current context of Station gateway west .

2 VISION

Project vision statement, objectives and principles that respond to the strategic importance of the Station Gateway West character area

3 BENCHMARKING & CRITERIA

A set of criteria for the whole of the Rhodes Planned Precinct Based on global best practice and locally relevant benchmarking.

4 OUTCOMES

Design outcomes reflecting previously prepared analysis, benchmarking and criteria.

Figure 002. Project Process

SUB PRECINCT MASTER PLANS

This report presents the Sub precinct Master Plans for each Character Area.

Each Master Plan is the outcome of a place led design approach informed by best practice benchmarking and development criteria to ensure optimal design outcomes are achieved.

Each Master Plan responds to design objectives outlined in relevant Planning and Design Policies, including the Integrated Design Policy and Better Places and is consistent with the Rhodes Precinct Vision and Objectives.

The Master Plans establish a framework for future development and identify building footprints, heights of individual buildings, open space and landscaping.

Figure 003. Character Area Plan

EVOLUTION OF RHODES PLANNED PRECINCT

EVOLUTION OF THE MASTER PLAN

In 2015 Rhodes East was identified as a Planned Precinct. Planned Precincts provide a planned approach to growth in Sydney, focusing on providing well located new homes and jobs in close proximity to public transport, shops and services, whilst retaining and enhancing the character of the existing community. The future needs of the community are considered through a co-ordinated whole of government approach to the provision of infrastructure.

INVESTIGATION AREA

The original Investigation Area for Rhodes East included all land east of the rail line.

The 2017 Structure Plan considered all land within the Investigation Area and represented a holistic view of redevelopment within the eastern portion of the Peninsula.

However, following the detailed transport analysis and feasibility testing, it was determined that it was not viable to redevelop the whole of the Investigation Area. As a result, the 2017 Structure Plan only proposed to rezone land to the east of the Station, between the railway line and Concord Road.

Following the exhibition of the 2017 Structure Plan, the boundaries of the Planned Precinct were extended to include the land immediately to the west of the Station. This was to ensure that all land within 400 meters of the Station would be developed in accordance with best practice Transit Orientated Development (TOD) principles maximising the number of dwellings and jobs within close proximity to the station. The 2018 Structure Plan reflected the expanded Precinct area.

2018 STRUCTURE PLAN

A revised Structure Plan that reflected the expanded Precinct area was exhibited in 2018.

This Structure Plan established a framework for urban renewal that comprised four character areas including Station Gateway West.

The Structure Plan prescribed design requirements for each of these Character Area including maximum dwelling yield and maximum residential gross floor area (GFA) to inform the preparation of more detailed Master Plans for each Character Area (or Sub Precinct) and potential changes to Canada Bay Local Environmental Plan (LEP) 2013 to facilitate future development.

In relation to Station Gateway West, the Structure Plan identified the potential for this Character Area to accommodate up to another 750 dwellings, over and above those proposed by the approved Rhodes Station West Master Plan. Further details are provided in the Station Gateway West Development Controls relating to DA approvals, LEP capacity and the uplift provided within this Master Plan.

The Structure Plan further proposed that the Master Plans for each Character Area would be prepared by landowners, in accordance with Guidelines published by the Department of Planning, Industry and Environment in November 2019.

However, following the exhibition of the Structure Plan, and based on feedback from the community and stakeholders, the Department decided that it would lead the preparation of the Master Plans, in collaboration with the City of Canada Bay Council, Transport for New South Wales and School Infrastructure New South Wales.

INVESTIGATION AREA

Figure 004. Rhodes Precinct Investigation Area

2017 STRUCTURE PLAN

Figure 005. Rhodes Precinct -2017 Structure Plan

2018 STRUCTURE PLAN

Figure 006. Rhodes Precinct -2018 Structure Plan

LEGEND

- Structure Plan Boundary
- Investigation Area Boundary
- Residential
- Mixed Use
- Destination Retail (with residential above)
- Indicative School Location
- Pedestrian Link
- Pedestrian Bridge
- Potential Pedestrian Railway Overpass Location
- Land Bridge Site
- Adaptive Ground Floor Priority (with residential above)
- Mixed Use Corner
- Corner Plaza
- Public Open Space
- Floating River Pool
- Ferry Wharf (proposed)

COMMUNITY CONSULTATION

During the preparation of the 2017 and 2018 Structure Plans, a range of consultation with the local community, key stakeholders and relevant government agencies was undertaken:

- Drop in Sessions
- On Line Survey
- Three Community Workshops
- DPE Website -www.planning.nsw.gov.au
- Land Owner Workshops

The outcomes have been used to ensure that the community views are considered throughout the design process.

Some of the key views expressed included:

- Local character is important
- Housing choice and affordability is important
- Parramatta River foreshore access is desirable
- Road and rail networks are congested
- Building heights should be scaled to retain views, minimise overshadowing and create a human scale
- A preference for development controls to provide certainty
- Leeds Street foreshore to be used for recreation, community events and cafes and restaurants
- Greater density could be located closer to the Station

These community views have informed the Vision, Precinct Objectives, and Design Outcomes particularly in relation to housing density, building heights, land use and open space.

THE OUTCOMES FROM THE CONSULTATION PROCESS HAVE BEEN USED TO ENSURE THAT THE COMMUNITY VIEWS ARE CONSIDERED THROUGHOUT THE DESIGN PROCESS.

Figure 007. Photo from the Community Consultation

Figure 008. Image from the Community Consultation

RHODES PRECINCT VISION

Rhodes will be a model for human scaled, sustainable, high density redevelopment incorporating heritage integration supported by a forward thinking transport strategy and meaningful connections to the water. The way that buildings relate to the street and the rich amenity of Rhodes will encourage residents and visitors to walk further, stay longer, live more happily and take pride in this place. The community identity will be built on the existing essence of the place.

Figure 009. Rhodes Aerial Image

OBJECTIVES

PLAN FOR A SUSTAINABLE FUTURE

Ensure Rhodes can meet the challenges of the future by building sustainability and longevity into planning, design and commercial capability from the start.

PRIORITISE ACTIVE TRANSPORT

Design integrated transport services and experiences that prioritise walking, cycling and the use of public transport.

DELIVER AFFORDABLE HOUSING

Provide affordable housing options for very low-, low-and moderate-income households in the area, for example people working in occupations such as teaching, child care, policing or nursing.

DENSITY WITH A HUMAN SCALE

Deliver a range of built forms, from terraces to apartment buildings, that promote activity on lower levels of buildings. The range of built forms will result in more open space, more sunlight to buildings and a closer connection to the street, other people and amenities.

PUBLIC ACCESS TO THE WATERFRONT

Provide new public access to the Parramatta River foreshore, including the provision of housing and public open space with views to the water.

GREAT PUBLIC SPACES

Provide a range of high quality, pedestrian prioritised public spaces that are safe for gathering and socialising. Map and protect important street and foreshore trees to retain their shade and character.

CREATE OPPORTUNITIES FOR NEW JOBS

Ensure commercial floorspace near the station is safeguarded for future employment.

BETTER EAST-TO-WEST CONNECTIONS

Improve accessibility around the train station and between east and west Rhodes to enable easy access between homes, jobs, shopping, recreation and entertainment opportunities.

INTEGRATE INFRASTRUCTURE AND LANDUSE

Deliver infrastructure (including social facilities) with development of housing and jobs.

DESIGN PRINCIPLES

Urban Design Principles have been established to guide the design and development outcomes across the entire Rhodes Peninsula Planned Precinct. These Principles provide a detailed pathway to achieve the Rhodes Objectives.

Whilst all of the Principles are critical, the Principles have been prioritised to balance government aspirations, community expectations and to set the best practice standards for the future.
These Master Plans and Built Form Solutions reflect the hierarchy of the Principles.

1

EXISTING AND PROPOSED OPEN SPACE SHOULD BE DESIGNED FOR AMENITY RATHER THAN RELYING ON INTERVENTIONS, IMPROVEMENTS AND/ OR RETROFITS THAT COMPROMISE THE INTENT OR QUALITY OF THE SPACE.

2

PRIORITISE THE PEDESTRIAN EXPERIENCE ABOVE ALL OTHER MODES OF TRANSPORT.

7

PROVIDE A VARIED AND PERMEABLE SKYLINE WHEN VIEWED FROM THE FOLLOWING LOCATIONS:

a. McIlwaine Park

b. Rhodes West Park

c. Brays Bay

d. Bennelong Bridge

e. Concord Road South

f. Parramatta River

8

VIEW SHARING SHOULD:

a. Prioritise views of the water, destinations and wayfinding from the public realm

b. Acknowledge the historic and holistic redevelopment intent of Rhodes Peninsula

c. Protect the privacy of schools, childcare and the private open space of low density precincts likely to remain.

3

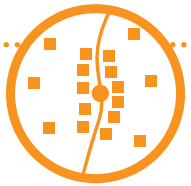
OVER AND ABOVE THE APARTMENT DESIGN GUIDE SOLAR COMPLIANCE; IMPLEMENT AN OVERALL FINE GRAIN HEIGHT STRATEGY TO MINIMISE OVERSHADOWING OF THE FOLLOWING IN ORDER OF PRIORITY:

a. Existing open space

b. Future open space

c. Existing, recent and future residential

4



LOCATE THE HIGHEST CONCENTRATION OF NEW POPULATION NEAREST TO PUBLIC TRANSPORT

5

DELIVER URBANITY NOT JUST DENSITY; ENSURING THAT DEVELOPMENT POTENTIAL IS MATCHED BY PUBLIC BENEFIT.

6

NEW OPEN SPACE SHOULD CELEBRATE THE PENINSULA LOCATION AND AMENITY OF PARRAMATTA RIVER. THIS SHOULD BE CONSIDERED THROUGH INTERNAL AND EXTERNAL VIEWS, PROXIMITY TO THE WATERFRONT AND SUPPORT OF THE URBANITY AND OPEN SPACE CRITERIA.

9

THE PEDESTRIAN EXPERIENCE FROM THE PUBLIC REALM AND PUBLIC TRANSPORT START/ END OF TRIPS SHOULD DRIVE BUILT FORM DECISIONS.

10

PROMOTE FINE GRAIN BUILT FORM AND PUBLIC REALM VARIANCES BETWEEN CHARACTER AREAS (SUB PRECINCTS) WHILST REMAINING CONSISTENT WITH THE RHODES VISION.

THE STRUCTURE

The Precinct-wide control diagrams opposite are layered to create a cohesive, walkable, pedestrian experience. When combined, the movement, landscape, public domain, built form and land use are genuinely integrated to reflect individual Character Area intent as well as a consistent and legible environment throughout Rhodes.

The balance of this Urban Design Report details these aspects for all Character Areas. It is evident that Station Gateway West and East and the Leeds Street Character Area bookend the density and destination amenity. Cavell Avenue Character Area is the critical human scale fabric that binds together the Precinct, providing the attractive walkable framework for a genuine community and to connect to the destination amenity and services.

Figure 010. New Connections

NEW CONNECTIONS

As discussed in detail within Appendix E (Cavell Avenue Criteria: Intersection Density), Global and local best practice research shows that increased connections (measured in terms of intersection density) has significant benefits to medium-high density precincts in terms of walkability. This is improved through smaller, more permeable blocks with safe surveyed connections and a generally calm holistic street network often improved through increased connections and local network distribution.

Figure 011. Primary and Secondary Streets

PRIMARY AND SECONDARY STREETS

An additional benefit to new street connections is the ability to prioritise certain streets for quality public domain that supports and encourages pedestrian movement through the designation of Primary and Secondary Streets. A Primary Street presents as a principal pedestrian access road and the principal address for the residential development, whereas a Secondary Street provides vehicular access points. Buildings north of Leeds Street and within the Rhodes East Gateway Character Area are exempt from this control in order to enable larger floorplate non-residential uses.

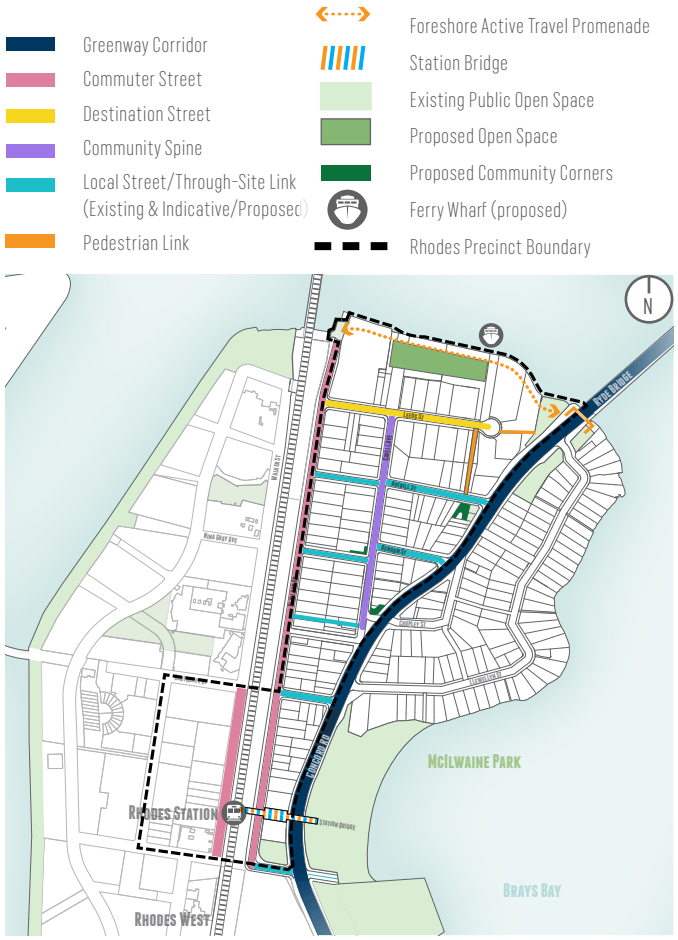


Figure 012. Street Character Hierarchy

STREET CHARACTER HIERARCHY

The principles of the Movement and Place Framework (TfNSW) have informed the Street Character Hierarchy. The primary aim is to integrate transport, urban design, landscape and place making to realise positive improvements to the public domain and to help facilitate a modal shift that will reduce private car reliance and use. The proposed street types generally reflect the intent, and support the land use, density and street function of the different Character Areas.

Figure 013. Setbacks

SETBACKS

Rhodes has fragmented land ownership and therefore redevelopment is likely to occur gradually and incrementally, particularly within the Cavell Avenue Character Area. Consistent built form setbacks combined with street and public realm improvements will create an attractive and comfortable public realm, encouraging walking and promoting community pride. The proposed front setbacks are designed to facilitate a sensitive transition from existing homes to future redevelopment based on the future identity of the Character Area.

Figure 014. Active Frontages

ACTIVE FRONTAGES

Active frontages refer to the LEP definition of retail/ commercial frontage. This support jobs, community convenience and access to services. The activation objective of the LEP is further supported by the Vibrant frontage controls within this Master Plan relating to the granularity of the streetfront facades which influence pedestrian stimulation at eye level. Depending on the Character Area and intended land use, the active frontages above must have 10-20 doors per 100 meters. The rationale and Character Area-based Activation is described in the Appendices.

HEIGHT STRATEGY

The Design Principles direct specific built form outcomes as they relate to, influence and impact the public realm. The Rhodes Precinct Height Strategy begins to physically and spatially realise the Design Principles approach to heights that will be supported by a fine grain overlay documented within each Character Area section of this report.

The fine grain heights for each Character Area sit within the overarching development strategy and intent for the Rhodes Peninsula. It builds upon the Objectives, Principles and Criteria for the overall Precinct and provides a framework and logic for the ultimate desired urban form and fabric.

Figure 015. Height Strategy -Areas of Development Uplift

The Height Strategy relies on the ability to maintain the relationship of density to existing and new public open space. Urbanity mandates public benefit matched to the scale of development uplift.

Figure 016. Height Strategy -Height Transition

Heights should transition from River and the Station, and along the railway line, down towards the Eastern and Western foreshores, towards a centrally located medium density Character Area and towards existing residential.

Figure 017. Station Gateway Fine Grain Height Strategy

Locations within the Rhodes Peninsula are not entitled to significant height. All built form will be tested against criteria that aims to preserve solar access and prioritise the public realm and the pedestrian experience from those public areas. Built form will be continuously and rigorously tested against the priority locations identified within the Principles. A fine grain height strategy exists within the overall Height Strategy facilitating diversity, amenity and ground plane permeability and activation.

Figure 018. Leeds Street Character Area Fine Grain Height Strategy

It is important to note that Leeds Street is a strategic foreshore site pursuant to Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. Whilst density is deemed appropriate here, the impact of development as viewed from the Parramatta River and the surrounding foreshore requires careful design when determining an appropriate built form response, amenity and ground plane permeability and activation.

LEGEND

- Site Boundary
- Existing Building Footprint
- Proposed New Building Footprint
- Proposed Uplift of the Building Footprint
- Proposed Building Height Based on Overshadowing Criteria
- Proposed Building Height Up to 8 Storeys
- Open Space
- Community Corners

Figure 019. Station Gateway West Precinct -Existing and Approved Towers

The above diagram illustrates the existing and/ or approved towers that have the potential for additional height, if deemed appropriate based on the Criteria.

Figure 020. Heights In The Eastern Precinct

The heights on the eastern side of the Railway Line and at the Leeds Street Character Area are determined and limited by the overshadowing Criteria established for the existing open spaces.

Figure 021. Proposed Heights

A balanced approach will be taken to the west of the ''ridgeline' or highest point reflecting the east and providing a visible transition compliant with the Criteria. Only 95% of the tower footprints and heights, and associated floorspace, demonstrated on the East can be achieved without exceeding BASIX targets. The Leeds Street Character Area heights are a result of appropriate transitioning to the Cavell Avenue Character Area and the frontages to the public realm and Foreshore Park, particularly when viewed from the River.

Figure 022. Marquet Street Forecourt -Artist Impression

BEST PRACTICE BENCHMARKING & CRITERIA PRECINCT WIDE

THE APPROACH

Based on global best practice and locally relevant benchmarking, design criteria have been established to inform the preparation of the Precinct and the Master Plans for each Character Area.

The Criteria have been established through:

- Project Working Group alignment workshops
- Technical specialist testing for local context, including landscape viability
- Balanced assessment of Project Objectives, and
- Design Led Process.

A range of sources have been referenced with the criteria established by and agreed to by the Project Working Group. It is acknowledged that a residential floorspace and corresponding dwelling yield upper limit was identified in the 2018 exhibited Rhodes Planned Precinct. However, the preparation of these Master Plans have been based on identifying the appropriate yield whilst achieving best practice design outcomes.

This section outlines the rationale, purpose, benefits and measurement tool for the new Criteria. Reiteration of existing controls and benchmarking sources are provided within Appendix A. A summary of the Precinct-wide Criteria is provided in the table opposite. Further details on the Land Use and Development Controls to be used to implement the criteria is provided in the Land Use Development Summary within each character area.

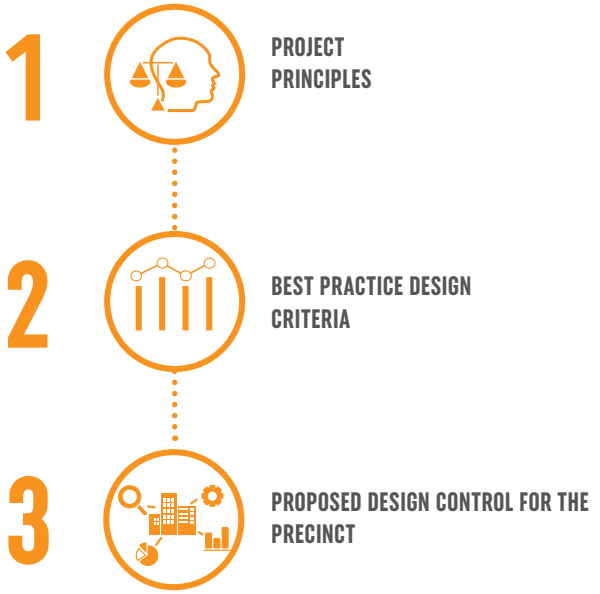


Figure 023. Establishing Design Criteria Process

PRECINCT WIDE CRITERIA	COMPLIANCE	PROPOSED CONTROL DOCUMENTS
GENERAL		
SHARED STREETS	In accordance with best practice assessment criteria	Master Plan, DCP
GREENERY	25% Canopy Cover (calculated as 25% of the site plus the public verges, ie. combined private & public land) 1:1 replacement ratio LUSH Strategy 25% Green View Index	LEP-Design Excellence Clause, Master Plan, DCP
TOWER DESIGN	750 sqm maximum enclosed floorplate/ 875sqm maximum total floor area Minimum 5 storey variation transition between adjoining towers above 20 storeys	Master Plan, DCP, LEP-Design Excellence Clause
	Tall Tower Separation: 15-20 storeys-24m Greater than 20 storeys-40m	LEP
	Buildings are designed to minimise wind impacts to new areas of open space without the need for roofs or canopy structures. Maximum % of cover (in the form of awning) consistent with the Master Plan (varies between character area)	LEP Design Excellence Clause re % of cover, Master Plan, DCP, VPA
PODIUM DESIGN	14-16m podium height Ground and upper level setback requirements-3m/ 4m respectively	DCP
UNIT MIX	Minimum 20% studio/1 bedroom Minimum 20% 3 bedroom, Maximum of 60% 2 bedroom	LEP (supported by LSPS)
PARKING	In accordance with best practice recommended criteria	LEP
OVERSHADOWING	1A. McIlwaine Park -No net overshadowing: 6hrs solar for primary zone (turfed area) (8am-2pm)	Site specific LEP provision
	1B. McIlwaine Park -No net overshadowing: 4hrs solar (8.30am-12.30pm)	Site specific LEP provision
	2. Union Square -No net increase of overshadowing (9.00am -2.00pm)	Site specific LEP provision
	3. Peg Paterson Park Playground-No net increase of overshadowing (12.00-2.00pm)	Site specific LEP provision
	4. Brays Bay Park -No net overshadowing: 4hrs solar (8.30am-12.30pm)	Site specific LEP provision
	4. Churchill Tucker Reserve-No control	Site specific LEP provision
	5. School Site/ Playing Fields-No overshadowing of the open space (10am-2pm)	Site specific LEP provision
SUSTAINABILITY	Rhodes is a collaboration area under the Eastern City District Plan with an aim to deliver precinct wide sustainability outcomes through: • Increased BASIX requirements; • Dual Reticulation System	Master Plan, DCP, LEP
TRANSPORT SERVICEABILITY	Development will need to be staged over time to match available transport infrastructure. Transport Investigations to date indicate that up to 70% of the proposed development across the Rhodes Priority Precinct can be accommodated on the transport network at Rhodes subject to the provision of the road and station upgrades proposed within this document. More detailed transport investigations are required to determine the finite development capacity, and may be subject to the provision of further transport infrastructure to match growth.	LEP

Figure 024. Precinct-Wide Criteria Compliance Table

CRITERIA APPLICATION

DEVELOPMENT SUMMARY

The development of the Master Plan is evidence-based, aspirational, true to the Objectives and Principles of the project whilst having been rigorously tested.

Rhodes Precinct Master Plan will:

- Set the standard for the Rhodes Peninsula to be a model for place-led, best practice urban development
- Provide public benefit to support increased population and pedestrian foot traffic
- Future Proof a critical piece of transit oriented development for the Rhodes Peninsula
- Safeguard existing natural assets and amenity

The Master Plan is driven by a set of global best practice criteria that intentionally exceeds minimum industry standards for greenery, sustainability, urban form, streetscape experience and public and private amenity. This provides the rationale for planned equitable development uplift across the already urban development.

We have developed 10 Criteria Areas including:

1. New Public Open Space
2. Shared Streets
3. Greenery
4. Tower Design
5. Podium Design
6. Unit Mix
7. Vibrant Facades/ Streetscape
8. Parking
9. Overshadowing
10. Sustainability
11. Transport Serviceability

Implementation of the Criteria will be controlled through a range of Land Use and Development Control Plans and the chosen tool will reflect the agreed prioritisation of the Criteria where possible. However, it is acknowledged that implementation via the LEP or DCP will be influenced by what can and cannot be included in the LEP and is yet to be determined.

The highest statutory controls such as Height and FSR will be applied through the criteria application, then design excellence. Greenery Controls will be dealt with through Design Excellence Clauses within the LEP. These controls will be expanded upon within the DCP and balance of the Criteria Areas will be controlled through a combination of DCP and VPA documents.

Figure 025. Marquet Street Forecourt -Artist Impression

ILLUSTRATIVE MASTER PLAN

PROJECT HIGHLIGHTS

1. LEEDS ST FORESHORE CHARACTER AREA
2. LEEDS ST FORESHORE PARK & PROMENADE
3. CAVELL AVENUE CHARACTER AREA
4. SCHOOL SITE (PROPOSED)
5. STATION GATEWAY EAST
6. RHODES RAILWAY STATION
7. STATION BRIDGE
8. MCILWAINE PARK
9. STATION GATEWAY WEST
10. MARQUET ST FORECOURT
11. WALKER ST TRANSIT PLAZA

Figure 026. Rhodes Precinct -Illustrative Masterplan

01

RHODES

STATION GATEWAY WEST AND EAST DESIGN OPPORTUNITIES

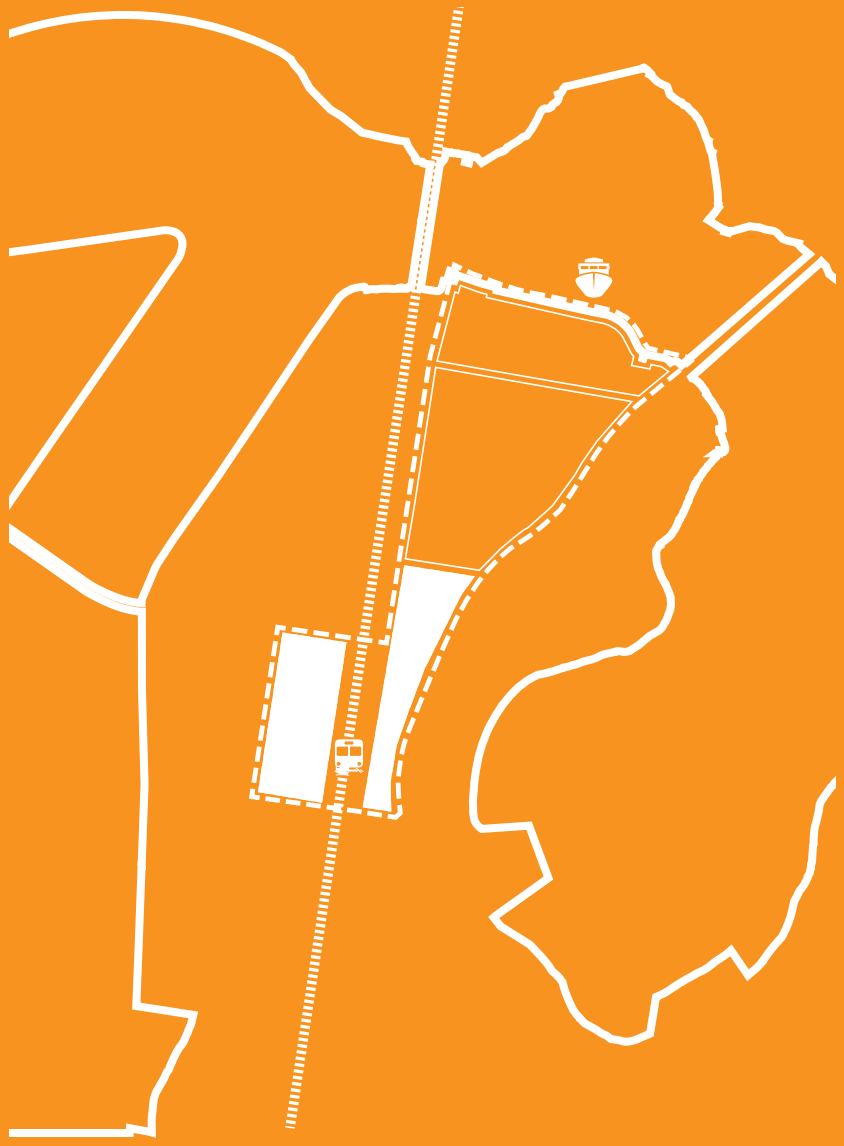


Figure 027. Station Gateway East -Artist Impression

DESIGN OPPORTUNITIES

DEVELOPMENT POTENTIAL

Station Gateway West and East character areas have been considered holistically with a ground plane Master Plan informed by global best practice benchmarking that focuses on the site and its surrounding context and connectivity, activation and pedestrian amenity. The Master Plan reflects the substantial commencement of a number of developments within the western portion of the precinct and incorporates short, medium and long-term outcomes that will contribute to the ultimate developments for the consolidated Station Precinct.

This plan illustrates the buildings and the blocks that have future development potential. Four buildings on the West have been considered and two have been identified as having potential for an increase in height, over and above the existing or approved building height. Four complete lots and one partial lot have building and ground plane development potential on the West; whilst the entirety of the East is considered to have ground plane redevelopment potential. In addition, there is an opportunity to retain and integrate the fire station into new development on the East.

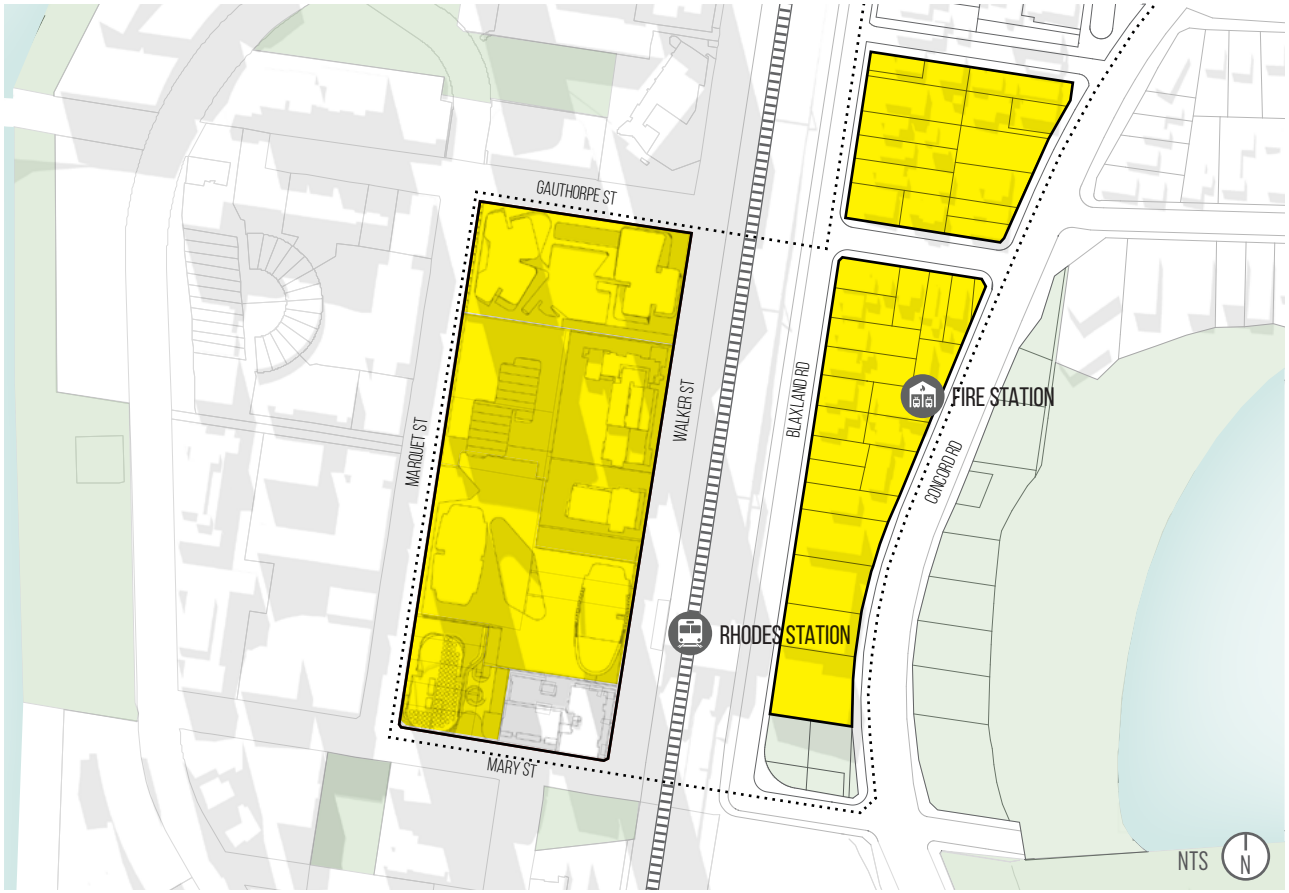


Figure 028. Development Opportunity Diagram

THE OPPORTUNITY FOR PEDESTRIAN CONNECTIONS

Within the West, the ground plane of privately owned blocks combined with a public Right of Way (currently used by the Strata Sites associated with 18-24 Walker Street) provides the long-term opportunity for future pedestrian connections, open space and podium frontage activation.

The less constrained nature of the East allows us to identify and implement key pedestrian connections. Additional pedestrian and cycle connections will support and alleviate pressure on existing at-grade crossings including the Blaxland Road/ Station pedestrian crossing and the signalised intersection at the corner of Concord Road and Mary Street.

Figure 029. The Ground Plane -Opportunity for Pedestrian Connections

OPEN SPACE

Further development of the East and West Station character areas will enable the completion of the existing open space network, consistent with the Vision for a connected waterfront and a 24/7, transit-oriented community.

In the West, redevelopment of the site on the corner of Marquet and Mary Street facilitates the north-south connection envisaged by Council's Station Precinct Master Plan (November 2014). In addition, the public Right of Way and mid block development sites could provide the open air public spaces and connections currently lacking in the precinct.

While in the East, encouraging the amalgamation of sites through a minimum lot size will deliver a much needed pedestrian/ cycle bridge safely connecting people from the Station Concourse level over Blaxland and Concord Road to McIlwaine Park. A portion of this bridge will be developed as a unique, vibrant urban open space that not only connects key destinations but provides an urban setting for people to relax and enjoy, contributing to a vibrant public realm.

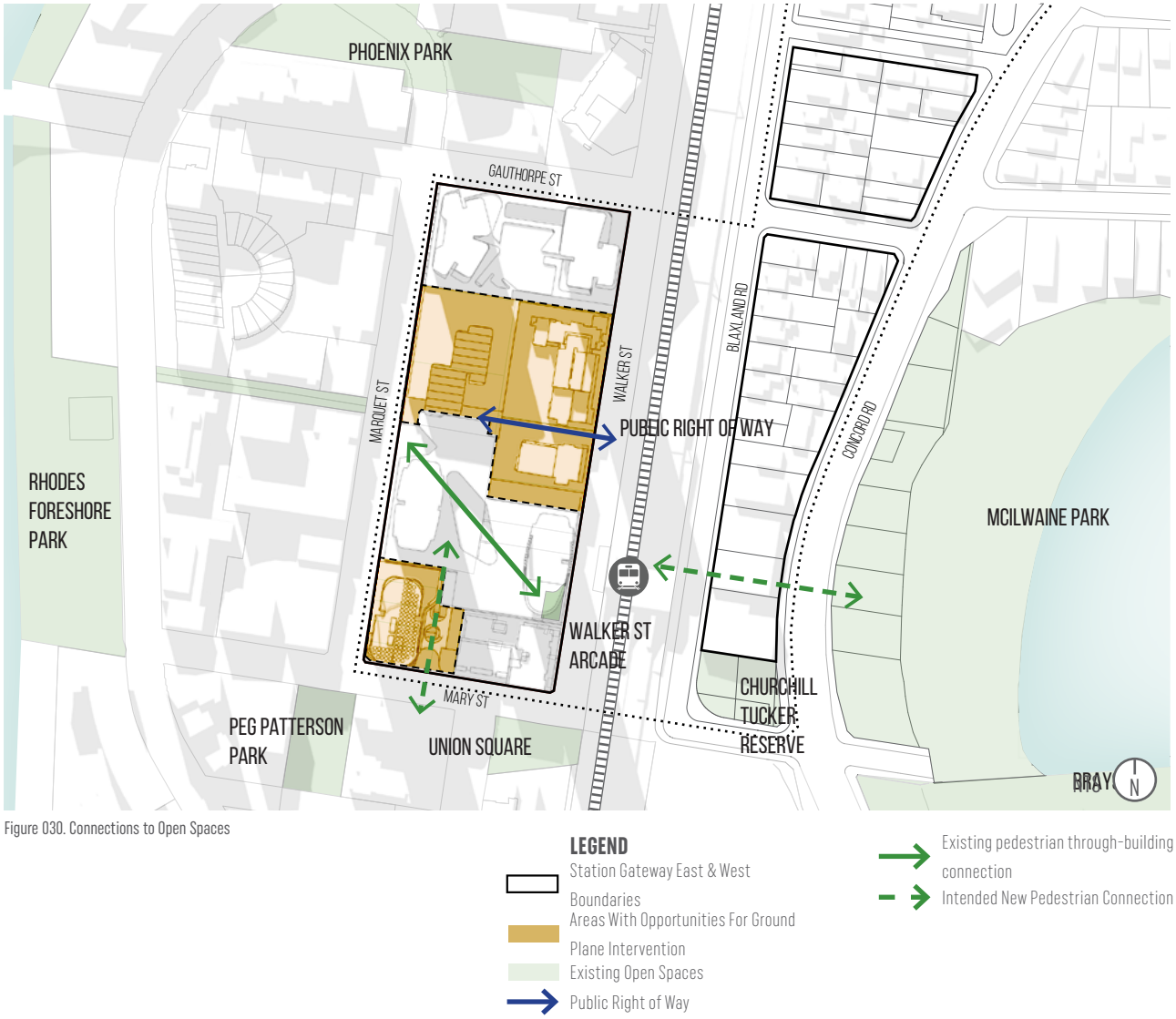


Figure 030. Connections to Open Spaces

STATION CHANGES

The following options, currently being considered, to improve the functionality and safety of the Rhodes Station and railway line will impact the key destinations, desire lines and legibility of the Station Precinct:

- Approved Station pedestrian bridge over Walker Street
- Platform extension north with the access landing on the eastern and western side of the railway line on TfNSW land,
- Signalised intersection at the corner of Gauthorpe and Walker Streets, and on Walker St in the location of the current zebra crossing; and
- Proposed physical and/ or visual connections from the Station/ Concourse to the east.

Figure 031. Rhodes Station Upgrades

DESIRE LINES

Desire lines refer to informal pedestrian and/ or cycle routes used in preference to, or in the absence of, a designated alternative. It maps the most attractive and/ or direct path to and from key destinations. The desire lines and natural gathering points in and around the Station shift when the existing conditions, planned interventions and unrealised opportunities are considered holistically.

Within the West, current travel paths from the south to the existing Station entry will remain unchanged. However, new east-west connections supporting Annie Legget Promenade and Gauthorpe Street/ Bennelong Bridge will assist in distributing pedestrian flows with safe, open air connections to and from the extended Concourse and Walker Street Bus Interchange.

As a result, a clear transit gathering node emerges mid block along Walker Street as well as an opportunity for convergence point mid block along Marquet Street arises.

Within the East, the desire line for residents/ visitors coming from the northeast and McIlwaine Park shifts north. Travel times can be significantly reduced if the Concord Road and Mary Street signalised intersection can be avoided in preference of a safer, more direct route to the Station entry.

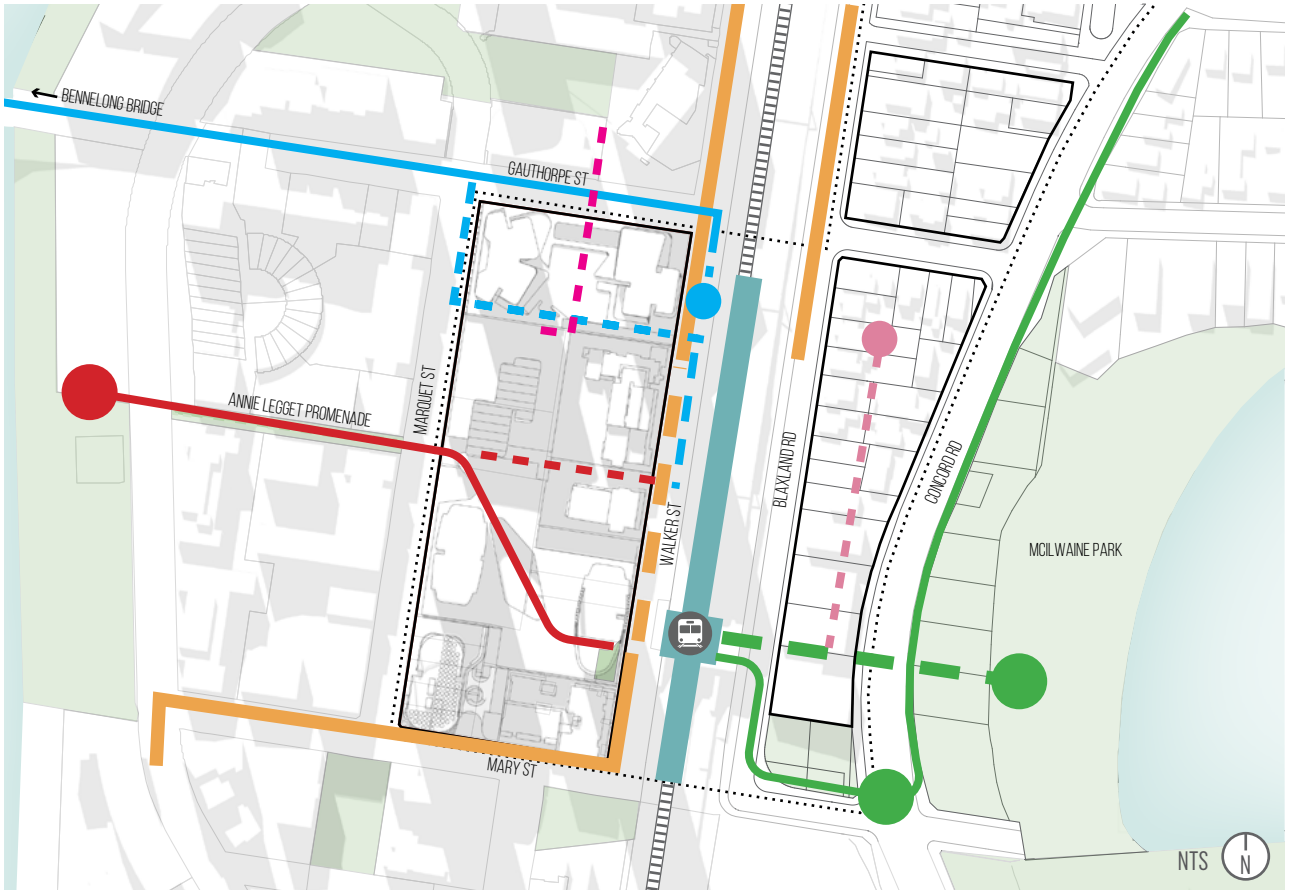


Figure 032. Pedestrian Connectivity Desire Lines

MASTER PLAN
PUBLIC DOMAIN

The integrated Station Precinct Master Plan:

- Highlights the importance of additional east-west connections over the long term, benefiting transit patronage and broad open space connections and usage.
- Prioritises well located and accessible open space
- Creates a sunny forecourt space along Marquet Street
- Provides a transit plaza along Walker Street alleviating pedestrian congestion associated with Station and Bus patronage
- Provides a safe, additional pedestrian link to and from the Station to the East contributing to modal shift
- Optimises the use of infrastructure by promoting elements as multi-purpose spaces
- Uses context and visual analysis to establish strategic locations for tower separation and ground plane setbacks with landscape and permeability opportunities
- Facilitates a staged development process
- Activates the streetscape
-

Figure 033. Master Plan Diagram

02

RHODES

STATION GATEWAY WEST

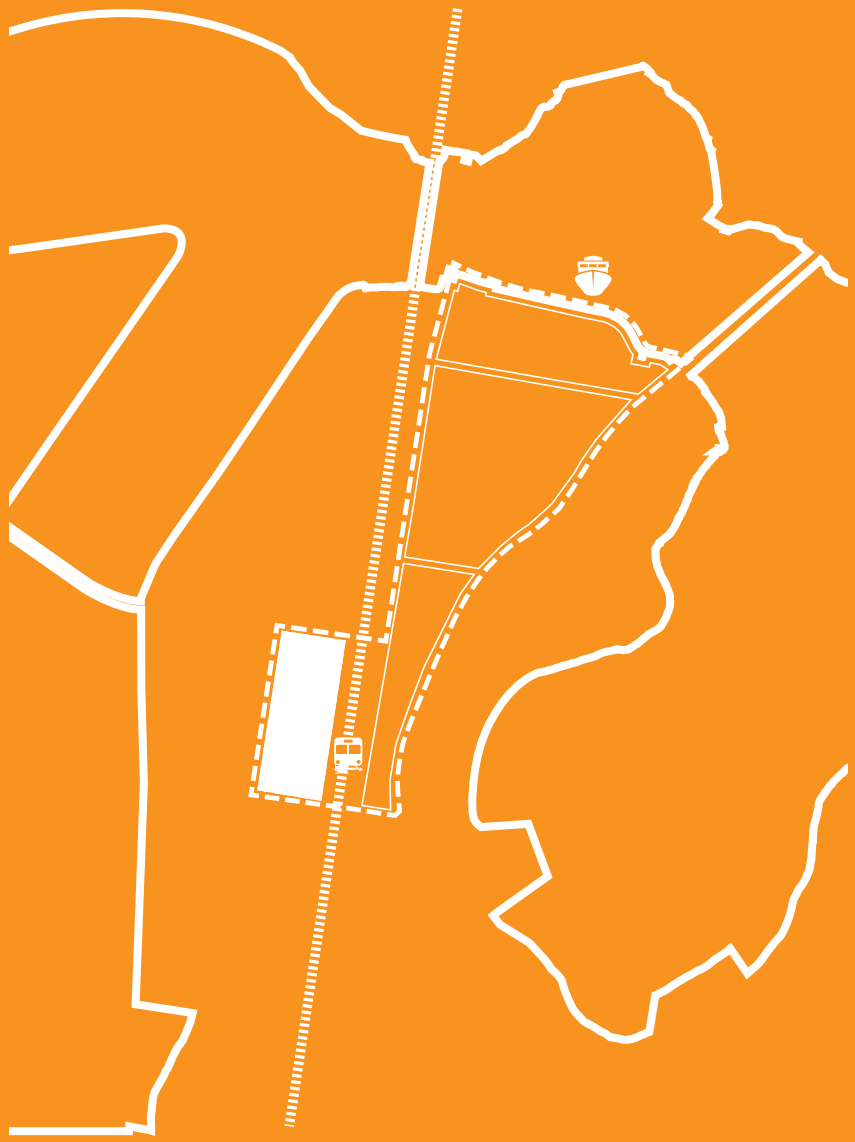


Figure 034. Marquet Street Forecourt -Artist Impression

THE PREVIOUS MASTER PLAN: PREPARED BY CANADA BAY COUNCIL (2014)

RHODES VISION STATEMENT

In 2014 CBC endorsed a Master Plan for the Rhodes Station Precinct now referred to as Station Gateway West. The intent of the Master Plan was to guide the redevelopment of the Station Precinct with well designed mixed use development. Council's vision was for quality residential buildings of varying heights and a vibrant market-town style of village centre based on intimate laneways flanked by retail uses, great landscaped public spaces, attractive entrances to buildings public art, and seamless public domain connecting with the Rhodes railway station.

The proposed Station Gateway West Master Plan reflects and evolves the following objectives of the 2014 Master Plan.

OBJECTIVE 1

Capitalise on the potential offered by Rhodes Station and Interchange to create a true transit orientated development (TOD) adjacent to the waterfront -a community with a rich and vibrant mix of complementary, residential and hotel accommodation, retail plazas and laneways, and commercial, recreational and social destinations.

OBJECTIVE 2

Effectively complete the overall Rhodes West Peninsula built form, the streetscapes that define the Station Precinct, and to organise the built form to support lively street activities and create well-defined and legible public places (place-making). To provide amenity for new and existing residents with access to sunlight and air circulation (SEPP 65).

OBJECTIVE 3

Establish a vibrant public domain, comprised of a network of safe, pedestrian scale and prioritised people 'places' that offer a high level of amenity, with the proposed mid-block marketplace plaza and laneways as the 'centrepiece'.

OBJECTIVE 4

To develop a public transport and pedestrian prioritised movement network that integrates the precinct within Rhodes Peninsula, allows good interchange between modes, connects the precinct with surrounding communities, and manages vehicles and servicing requirements.

OBJECTIVE 5

Integrate landscape and public art within the precinct public domain to enrich the pedestrian experience.

OBJECTIVE 6

Develop a public domain palette of lighting, street furniture, materials and finishes, coordinated and integrated with the buildings and public domain of the peninsula.

OBJECTIVE 7

Develop an environmentally and socially sustainable precinct, with buildings and public domain that achieve a high level of environmentally sustainable design.

OBJECTIVE 8

Develop a urban planning framework that allows some flexibility for developers to provide an optimum market driven solution, including a retail and commercial offering and ongoing management structures that will be financially viable into the future.

Figure 035. Rhodes Station Precinct Masterplan

THE MASTER PLAN_WEST

REALISING THE VISION

Station Gateway West will be completed as a place-led urban destination, reflective of and, building upon the original Master Plan intent. The delivery of additional public benefit and amenity to support the urban context and transit importance of the Precinct has driven the design process. The development capacity, height and form of development at Station Gateway West respects the ground plane amenity and demonstrates realisation of the best practice criteria.

Fine grain podium and tower building typologies will activate a connected public space network of forecourts, transit plazas and pedestrian laneways. The podiums will contribute to pedestrian comfort, provide greening opportunities and define a legible ground plane guiding residents and visitors to and from key destinations.

The shape, variety and siting of buildings will contribute to the gateway character of Station Gateway West whilst providing a visually interesting skyline with visible sky from important vistas across the Peninsula.

- Critically, the Station Gateway West Master Plan future-proofs:
    - The site itself for optimum connectivity, urban open space and residential amenity, and
    - The surrounding area, with a particular focus on not compromising existing public spaces and facilitating embellishment and improvement of the public realm and infrastructure.
    -

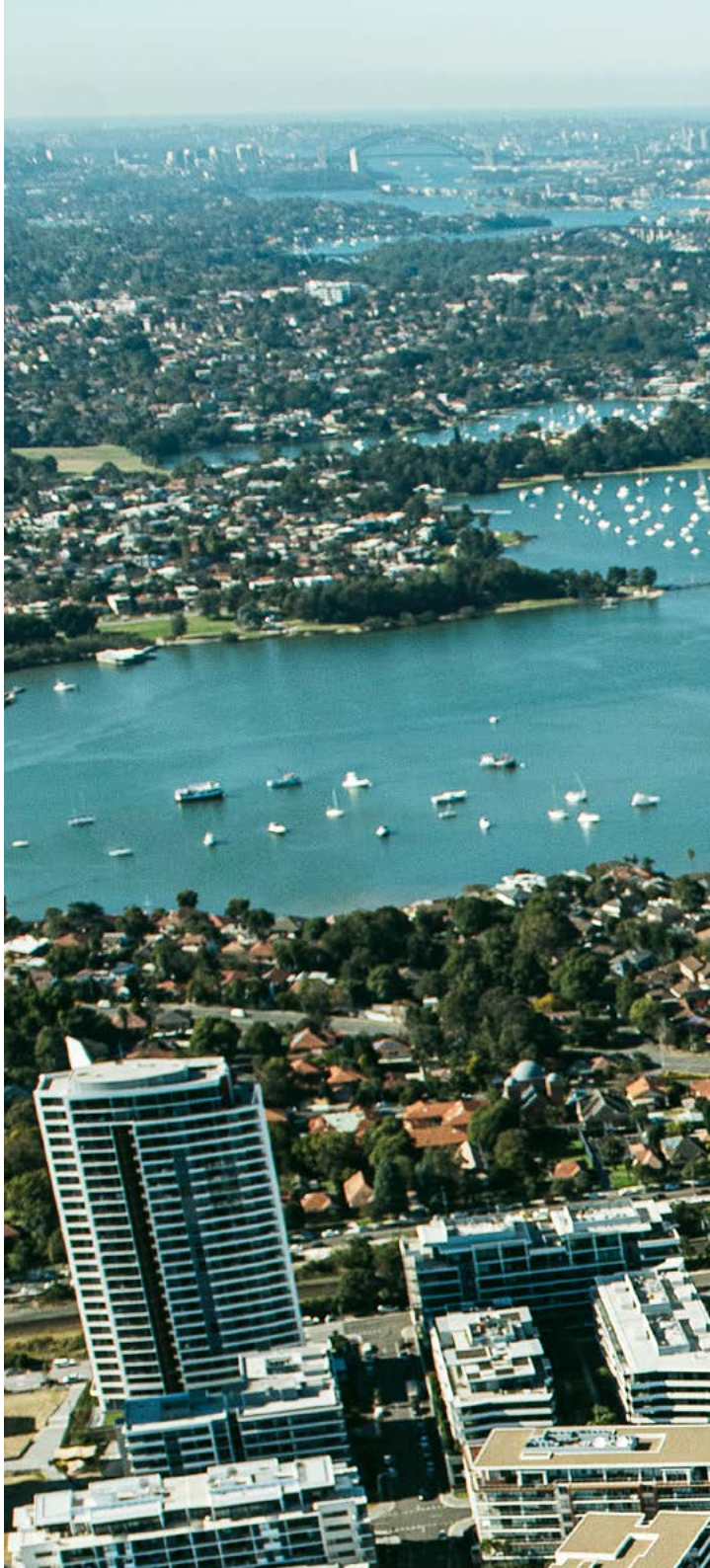


Figure 036. The Master Plan -Birdeye View Artist Impression

THE MASTER PLAN

DEMONSTRATING BEST PRACTICE

This section illustrates the three dimensional Master Plan for Station Gateway West in terms of compliance with Principles and Criteria.

The Master Plan is the physical massing realisation of the following, when combined and tailored to this specific site:

- Rhodes Peninsula Design Principles-overarching demonstrable values to be referenced
- Station Gateway West-Global Best Practice Criteria (quantitative requirements)
- Station Gateway West Design Opportunities-establishing the ground plane spatial framework for the massing to sit within
- State and local development controls-including but not limited to Apartment Design Guide and Council development controls.

The Criteria, summarised within this document and expanded upon within the Appendix, were developed in advance of the Master Plan as the evidence base to drive best practice outcomes and to establish the massing envelopes. The Criteria and required outcomes are outlined as a single, holistic requirement for Station Gateway West. However, compliance must be demonstrated on a site-by-site basis as part of development consent.

The Master Plan built form outcomes result in the development controls for the precinct including height, floorspace ratio and yield. These controls are to be considered in parallel with all Criteria including amount and quality of new public space and supplemental greenery.

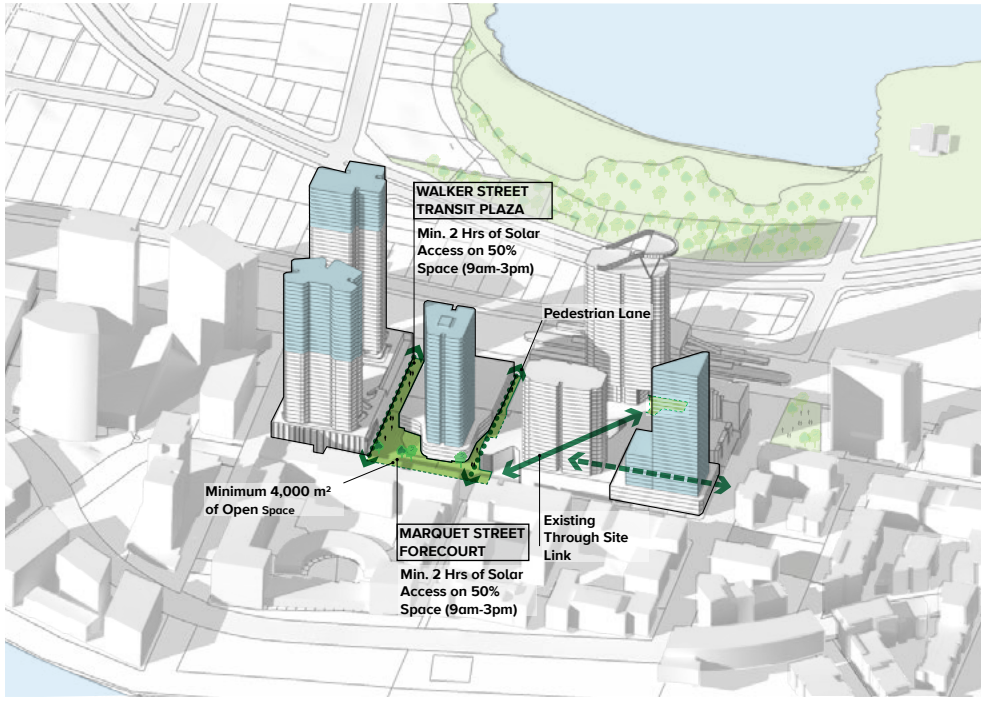


Figure 037. Built Form Outcomes -New Public Open Space

NEW PUBLIC OPEN SPACE

The new public spaces are shown above and have different roles, functions and corresponding solar access requirements. The intended character and treatment is described in this section and supported by the site specific DCP. The spaces are defined as Marquet Street Forecourt, Walker Street Transit Plaza and the two Gateway West Pedestrian Lanes.

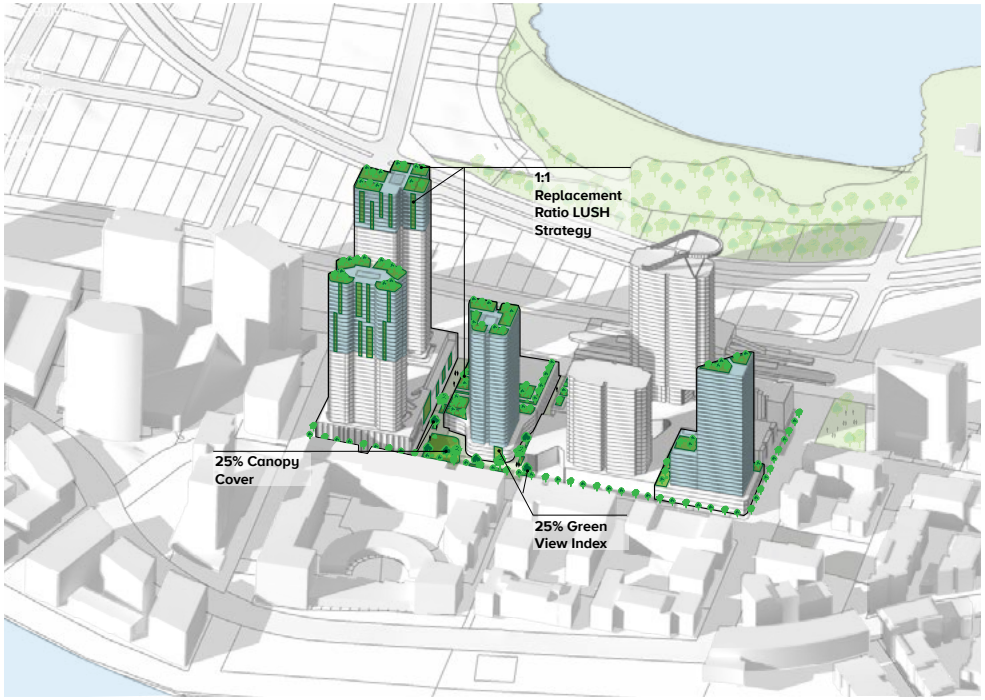


Figure 038. Built Form Outcomes -Greenery

GREENERY

This Master Plan massing achieves all greenery Criteria. Our work has demonstrated that it can be spatially met on a site-by-site basis and holistically acknowledging the constrained site due to existing and approved development. Our testing achieves the 1:1 replacement strategy through building roof, planter box, vertical planting and streetscape planting at the same time contributing to the 25% green view index and canopy cover. However, the Master Plan demonstrates one way this can be achieved. There are a number of creative solutions that can deliver sustainable, affordable solutions to the Criteria.

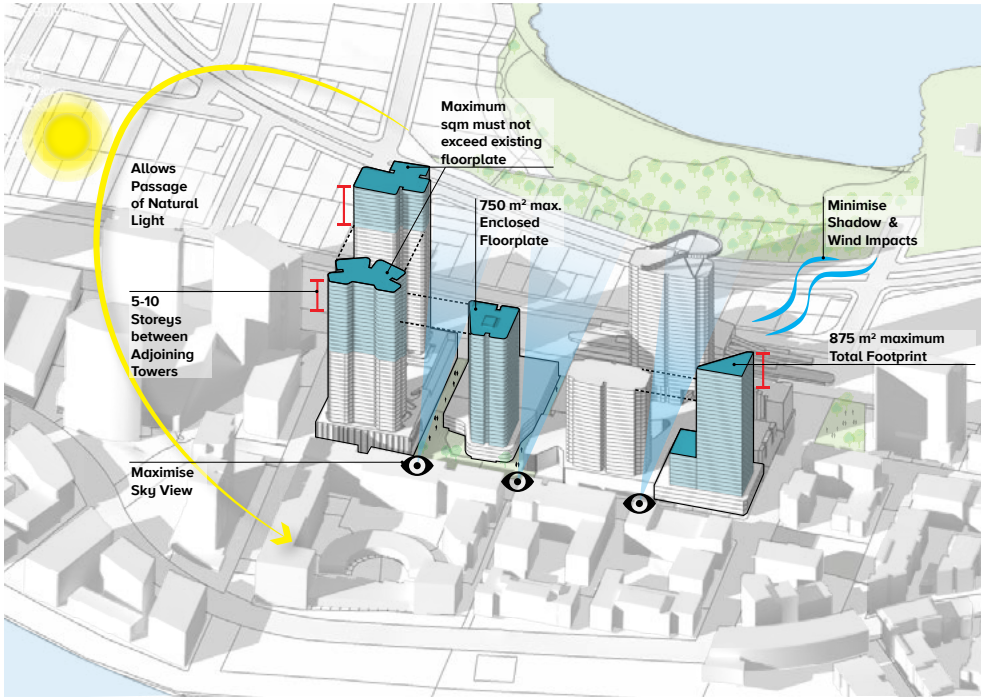


Figure 039. Built Form Outcomes -Tower Design

TOWER DESIGN

The combined tower design Criteria results in high level of amenity for residents and visitors across all of the Rhodes Peninsula. The Master Plan demonstrates a balanced approach to commercial development and best practice standards to match development uplift and new development. Where a height difference greater than 5 storeys is proposed, it is due to visual analysis requiring additional variation for a perceivable transition or for solar access.

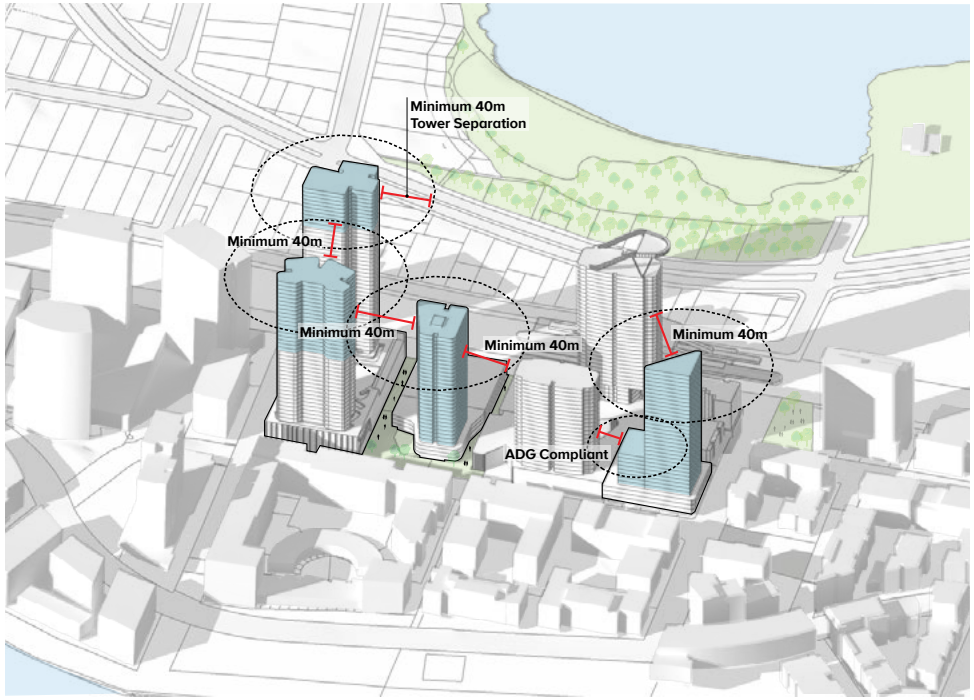


Figure 040. Built Form Outcomes -Tower Separation

TOWER DESIGN

The additional building separation Criteria results in a dense, high quality urban environment that is achievable over the short and long term; future-proofing the quality and potential of Station Gateway West. The proposed building separation Criteria exceeds current New South Wales best practice to facilitate improved urban amenity for Rhodes Planned Precinct explained further within Criteria Appendix.

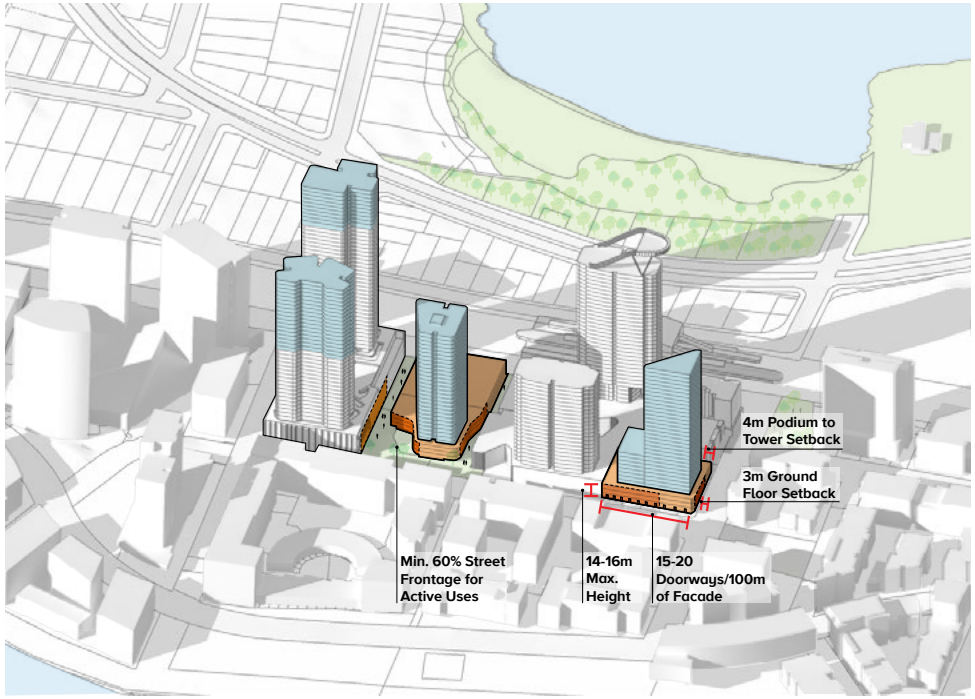


Figure 041. Built Form Outcomes -Podium Design

PODIUM DESIGN

Podium design is critical to the activation and pedestrian comfort of Rhodes Gateway West. Wherever new ground floor development is possible; vibrant, fine grain streetscapes are required. Street level activities, greenery and artwork will supplement the podium design in already planned areas and along key desire lines.

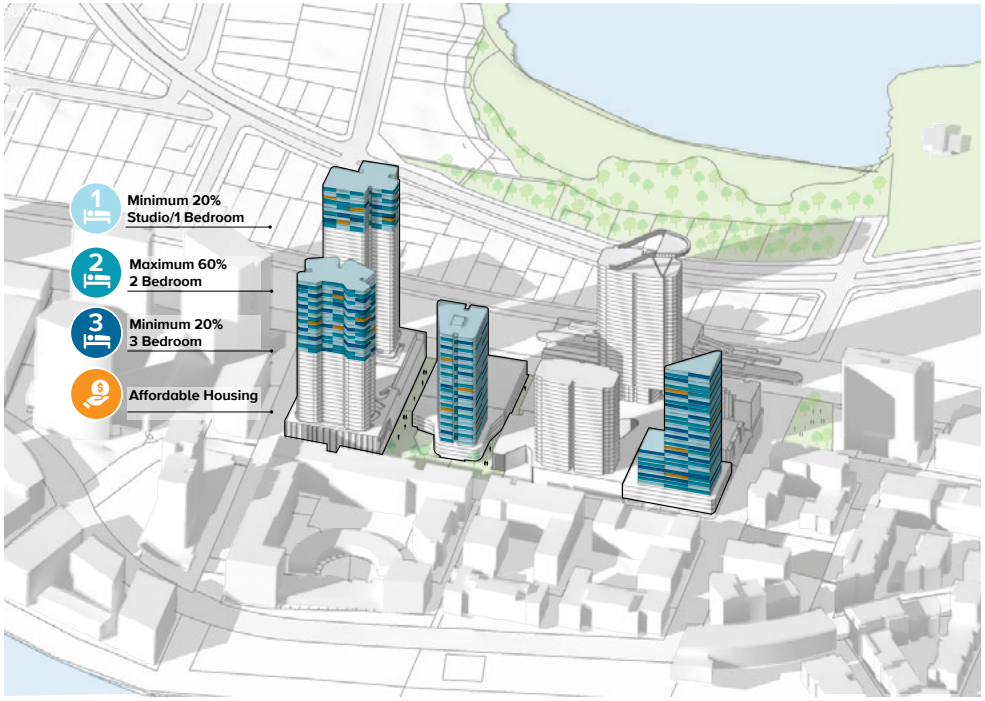


Figure 042. Built Form Outcomes -Unit Mix

UNIT MIX

All new development will provide housing diversity in accordance with the Master Plan. The proposed housing mix is established to provide a range of lifestyle options and price points, deliver robust market solutions and social diversity as well as provide long term flexibility to respond to current and future market demands.

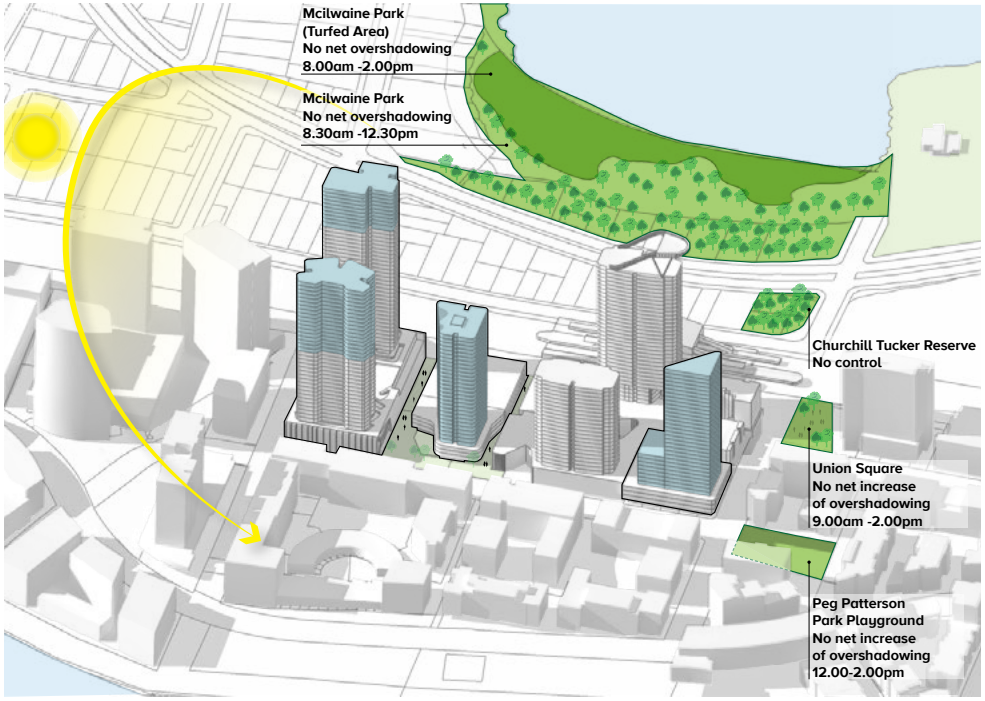


Figure 043. Built Form Outcomes -Overshadowing

OVERSHADOWING

Solar access to existing public open space is a primary driver, priority principle and important Criteria. The Master Plan built form for Station Gateway West, as well as East, demonstrates a built from solution that mitigates overshadowing to public spaces at times determined based on use, need and opportunity or lack of alternative sunny space options. All solar testing is required without the benefit of artificial solar access or heliostat intervention.

MARQUET STREET FORECOURT

The Marquet Street Forecourt provides a much needed urban public space within the heart of the Station Gateway West Character Area. This space will be an urban oasis for workers and visitors to have fresh air and sun on their face whilst being part of the vibrant streetfront environment.

Marquet Street Forecourt must be designed to have:

- A minimum width of 10m for the entire street frontage,
- A minimum clear usable space of 20 x 20m
- 2hrs of sun over 50% of the space (9am-3pm)
- Awning/ cover limited to 1m in addition to the 3m ground floor setback (establishing an in-built awning) on new building podiums.
-

DEMONSTRATION OF CRITERIA

1. MINIMUM 60% VIBRANT GROUND FLOOR
2. 15-20 DOORS/ 100 METERS
3. 3M GROUND FLOOR SETBACK
4. 4M PODIUM/ TOWER SETBACK
5. 14-16M PODIUM HEIGHT
6. MINIMUM 8M WIDTH GATEWAY WEST (SOUTH) PEDESTRIAN LANEWAY
7. 24/ 7 PUBLIC FORECOURT
8. 25% GREEN VIEW INDEX AND CANOPY COVER CONTRIBUTIONS
9. FLUSH FORECOURT/ RETAIL TRANSITION
10. NO PUBLIC/ PRIVATE DELINEATION WITHIN THE FORECOURT

Figure 044. Marquet St Forecourt -Artist Impression

WALKER STREET TRANSIT PLAZA

The Walker Street Transit Plaza builds on the planned bus interchange and cycle route extensions along Walker Street. The planned Station concourse extension, bus interchange and increased population in this area requires additional public benefit in the form of a transit plaza in a congested and attractive area.

Walker Street Transit Plaza must be designed to have:

- A minimum width of 6.5m for the entire street frontage,
- Clear and direct link to the Gateway West Pedestrian Laneways
- 2hrs of sun over 50% of the space (9am-3pm)
- No additional awning/ cover to that of the 3m ground floor setback (establishing an in-built awning) on new building podiums.

DEMONSTRATION OF CRITERIA

1. MINIMUM 60% VIBRANT GROUND FLOOR
2. MINIMUM 15-20 DOORS/ 100 METERS
3. 3M GROUND FLOOR SETBACK
4. 4M PODIUM/ TOWER SETBACK
5. 14-16M PODIUM HEIGHT
6. MINIMUM 12M WIDTH GATEWAY WEST (NORTH) PEDESTRIAN LANEWAY
7. 24/ 7 PUBLIC FORECOURT
8. 25% GREEN VIEW INDEX AND CANOPY COVER CONTRIBUTIONS
9. FLUSH FORECOURT/ RETAIL TRANSITION
10. NO PUBLIC/ PRIVATE DELINEATION WITHIN THE FORECOURT

Figure 045. Walker St Transit Plaza -Artist Impression

LAND USE DEVELOPMENT SUMMARY

DEVELOPMENT SUMMARY

This section outlines floorspace and yield compliant with the Criteria.

This will inform the LEP Zoning, Floor Space Ratio and Heights Maps. These are derived from the assumptions listed on the opposite page.

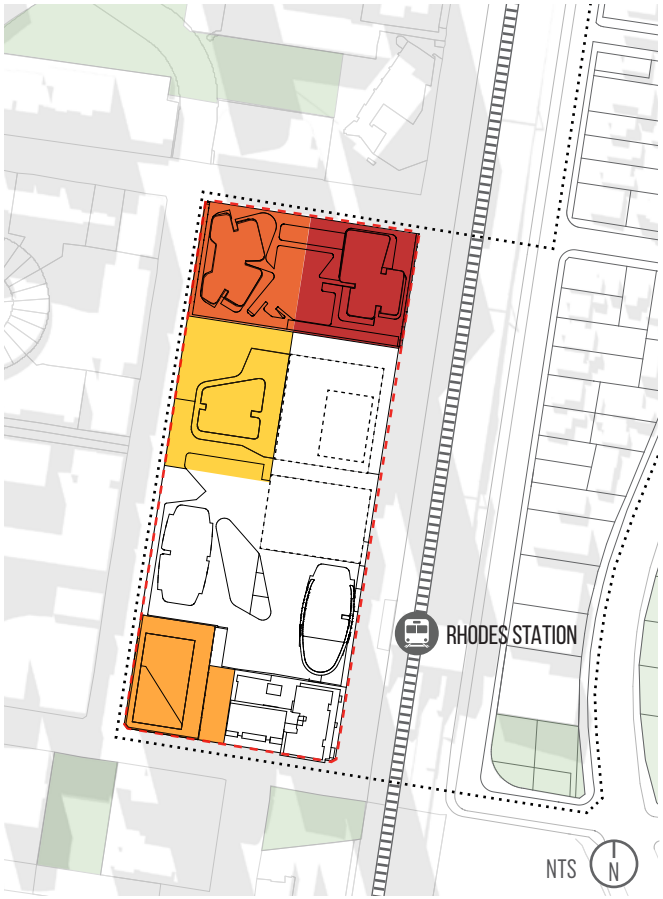


Figure 046. Station Gateway West -Height Plan

LEGEND

- Station Gateway West Boundary
- 151.5m / RL =163.0
- 129.5m / RL =141.0
- 104.5m / RL =115.6
- 113.0m / RL =125.3

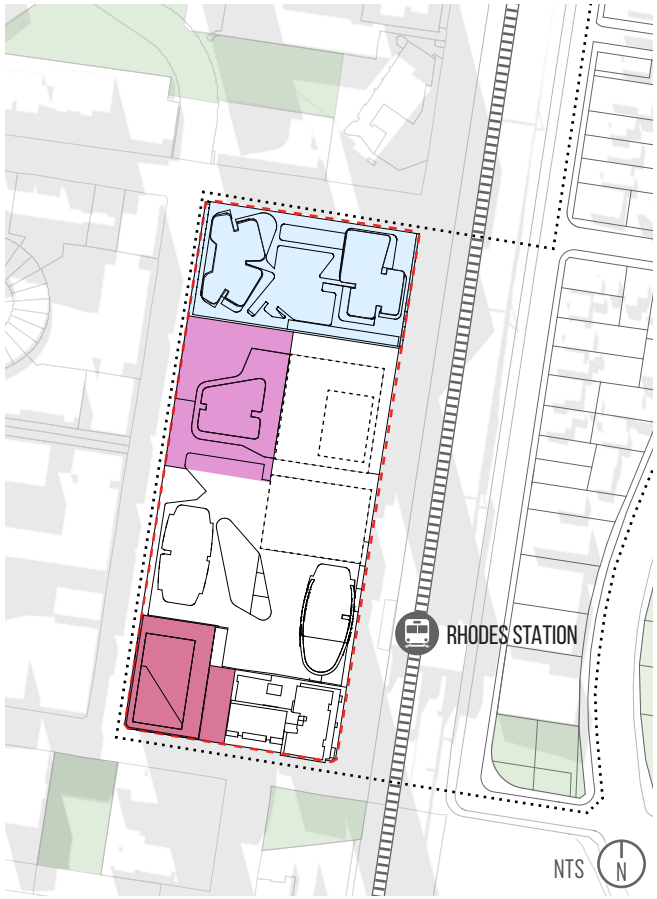


Figure 047. Station Gateway West -Floor Space Ratio Plan

LEGEND

- Station Gateway West Boundary
- FSR 10.9:1
- FSR 5.4:1
- FSR 7.9:1

Figure 048. Station Gateway West -Land Use Plan

LAND USE	EXISTING / APPROVED		PROPOSED				
			RESIDENTIAL		COMMERCIAL	TOTAL	
	Gross Floor Area	Floor Space Ratio	Gross Floor Area	Yield	Gross Floor Area	Gross Floor Area	Floor Space Ratio
SITE 1	51,053	7.5:1	23,254	282	-	74,307	10.9:1
SITE 2	13,766	3.03:1	18,382	223	6,298	24,680	5.4:1
SITE 3A	25,463	5.6:1	-	-	-	25,463	5.6:1
SITE 3B	37,377	9.3:1	-	-	-	37,377	9.3:1
SITE 4	5,136	1.76:1	15,392	187	7,665	23,058	7.9:1
SITE 5*	-	-	-	-	-	-	-
TOTAL	127659		57,028	692	13,963	184,884	

Figure 049. Development Summary Table

*Site 5 -Long Term Proposition. Subject to future development viability.

UNIT MIX			
Apartments	Unit mix (%)	Unit size (m^2)	Balcony (m^2)
Studio / 1 bedroom	20%	50	8
2 bedroom	60%	70	10
3 bedroom / 4 bedroom	20%	90	12

Figure 050. Unit Mix Table

ASSUMPTIONS

The calculation is based on applying:

-75% GBA to GFA efficiency for residential uses

-85% GBA to GFA efficiency for commercial uses

GBA (Gross Building Area) is the built external mass, compliant with SEPP65, LEP and DCP controls. It includes all volumes whether internal or external, habitable or non-habitable, but excludes parking (same as Building Envelope). Efficiency is the percentage factor of the GBA to determine Net Saleable Area (NSA), effectively subtracting everything that does not count towards saleable space.

GFA (Gross Floor Area) is the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, and includes the area of a mezzanine, habitable rooms in a basement or attic, any shop, auditorium, cinema and the like. It excludes any area for common vertical circulation, basement, plant rooms, lift towers and car parking to meet any requirements of the consent authority plus terraces and balconies with outer walls less than 1.4m high.

02

RHODES

STATION GATEWAY EAST

Figure 051. Blaxland Road Artists Impression

THE MASTER PLAN EAST

REALISING THE VISION

Station Gateway East will proudly announce arrival at Rhodes East from the south and guide people to the Station, McIlwaine Park and to the foreshore. The built form will reflect its location adjacent to the Station with increased density and encourage the use of public transport as opposed to the private vehicle.

The proposed heights will allow views over McIlwaine Park and Parramatta River. The built form will provide an active, mixed used podium and street level frontage with formal landscaping that complements the character of McIlwaine Park.

There will be street level activation and a safe, pedestrian friendly environment will be prioritised to promote connectivity between the Station, across Concord Road, into McIlwaine Park and link to Parramatta River.

The Station Bridge Plaza will contribute a unique, elevated, urban gathering opportunity with the multi-purpose benefit of delivering safe, convenient active travel access to and from the Station, mixed use development, McIlwaine Park and Brays Bay Reserve onto the Kokoda Trail and beyond to the east.

Figure 052. Station Gateway East -View from Brays Bay -Artist Impression

THE MASTER PLAN

DEMONSTRATING BEST PRACTICE

The three dimensional Master Plan for Station Gateway East represents the physical realisation of the following Design Principles, Criteria, opportunities and controls:

- Rhodes Peninsula Design Principles
- Station Gateway West-Global Best Practice Criteria (quantitative requirements)
- Station Gateway East Design Opportunities-establishing the ground plane spatial framework for the massing to sit within
- State and local development controls-including but not limited to Apartment Design Guide and Canada Bay Council development controls.

The Criteria and required outcomes are outlined as a single, holistic requirement for Station Gateway East. However, compliance must be demonstrated on a site-by-site basis as part of development consent.

The Master Plan built form outcomes inform the development controls for the Precinct including height, floorspace ratio and yield. These controls are to be considered in parallel with all other Criteria including amount and quality of new public space and supplementary greenery.

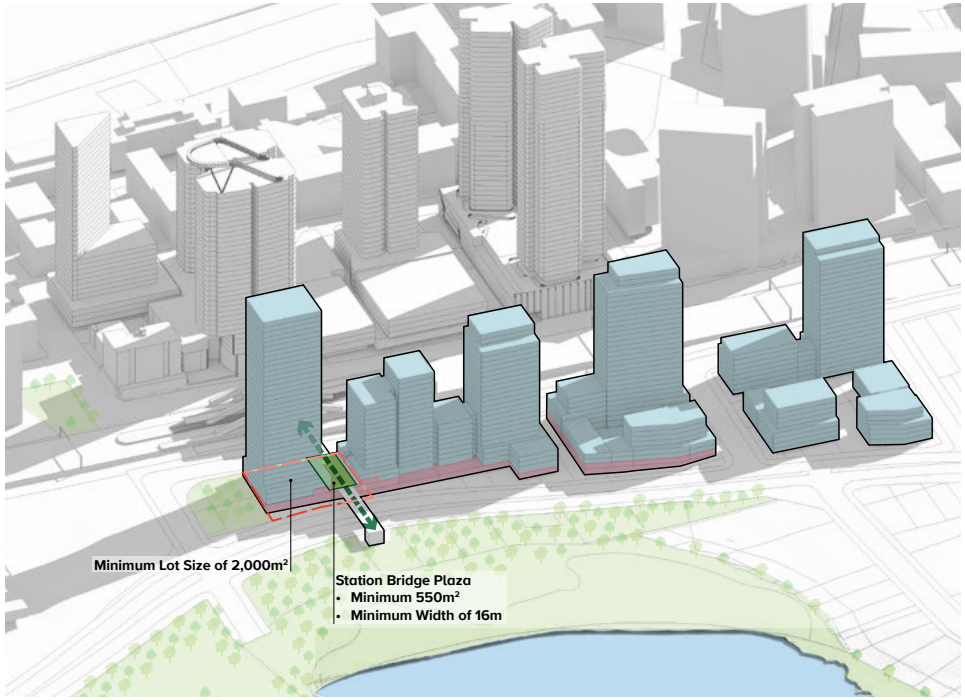


Figure 053. Built Form Outcomes -New Public Open Space

NEW PUBLIC OPEN SPACE

The Master Plan improves access to, and usage of, McIlwaine Park reflecting the importance of this large strategically located open space in the Peninsula open space network. The proposed Station Bridge not only provides safe and convenient access from the Station to the park, but will also operate as a gathering and meeting place at its centre. The new urban spaces are defined as Station Bridge Plaza and Station Bridge Access (east and west). To facilitate the integrated design and delivery of the Station Bridge Plaza, amalgamation is required to meet the minimum lot size as illustrated above.

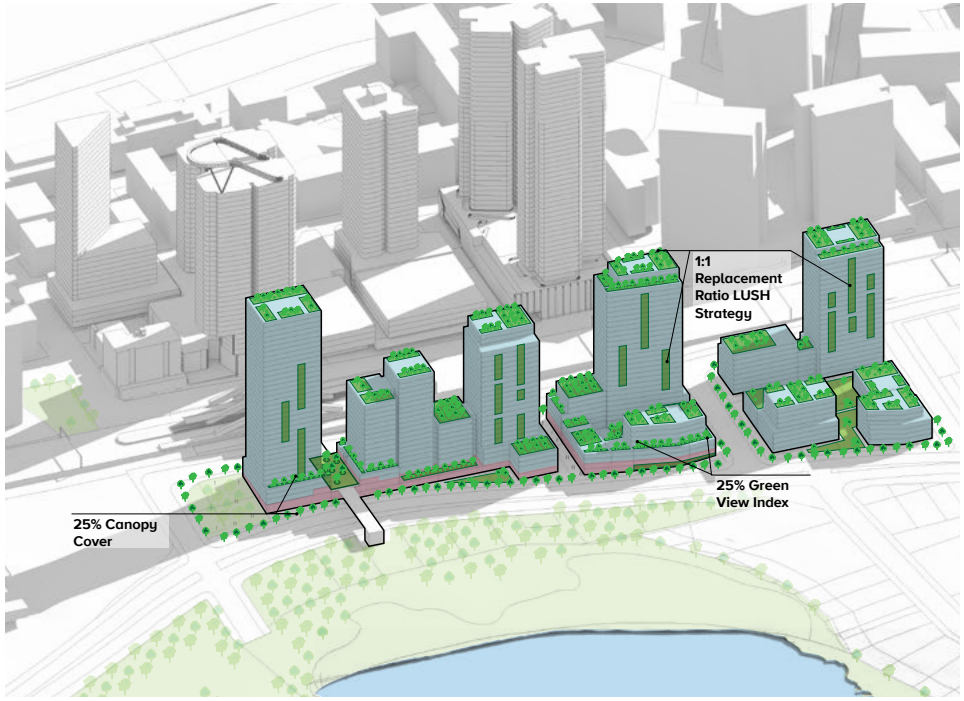


Figure 054. Built Form Outcomes -Greenery

GREENERY

The massing proposed by the Master Plan will support realistation of the greenery Criteria. Design testing has demonstrated that the criteria can be met both on a site by site and precinct basis. The 1:1 replacement strategy can be achieved through building podium and roof, planter box, vertical planting and streetscape planting whilst also contributing to the 25% green view index and canopy cover. Landscaping of the Station Bridge Plaza will further contribute to the Greenery requirements.

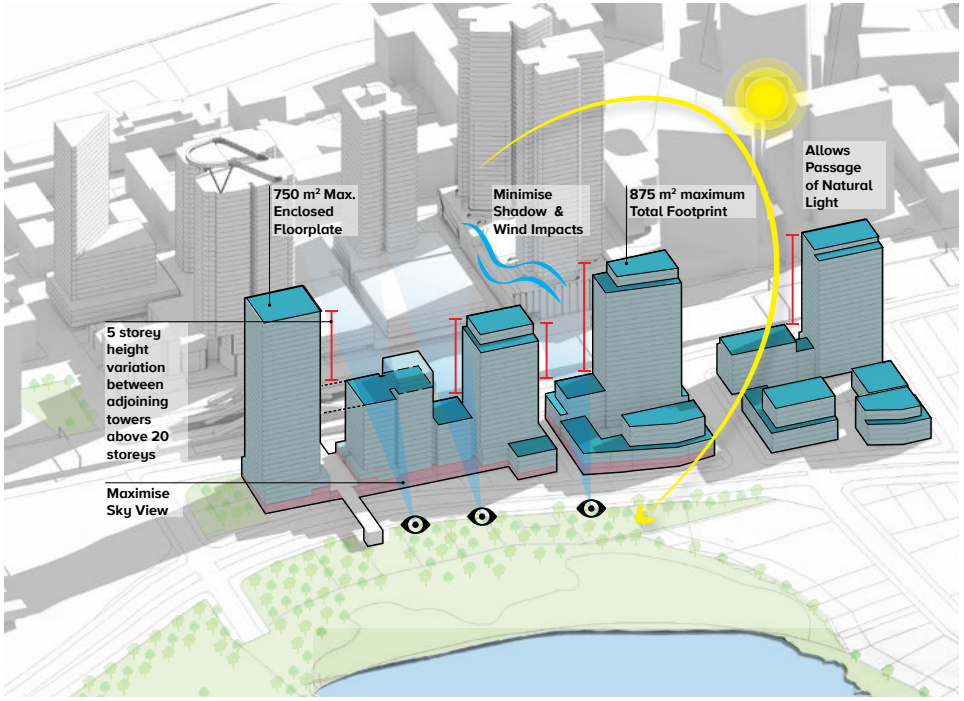


Figure 055. Built Form Outcomes -Tower Design

TOWER DESIGN

The Station Gateway Master Plans have been conceived and tested in parallel, reflecting their strategic and visual location and role as the Gateway to the Peninsula. The Design Criteria in relation to the Towers requires high levels of visual and solar permeability in this high profile location. Fine grain height allocations within the LEP, reflective of this Criteria, will further mitigate against centrally located bulk and the perception of "walls of apartments" when viewed from the public domain.

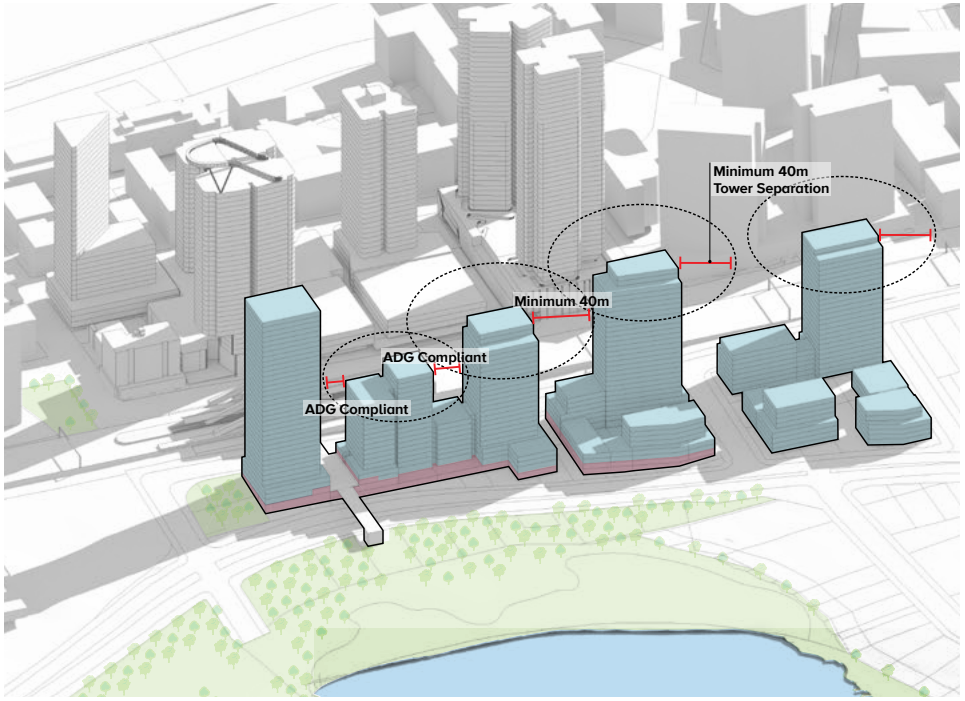


Figure 056. Built Form Outcomes -Tower Separation

TOWER DESIGN

The Building Separation and Overshadowing Design Criteria reinforce the strategic location of the Station Precinct as the gateway to the Peninsula. Whilst the height and location of towers is controlled, the Master Plan can still deliver acceptable levels of urban floorspace through a well-defined podium and upper level connections enabling mixed use ground plane development.

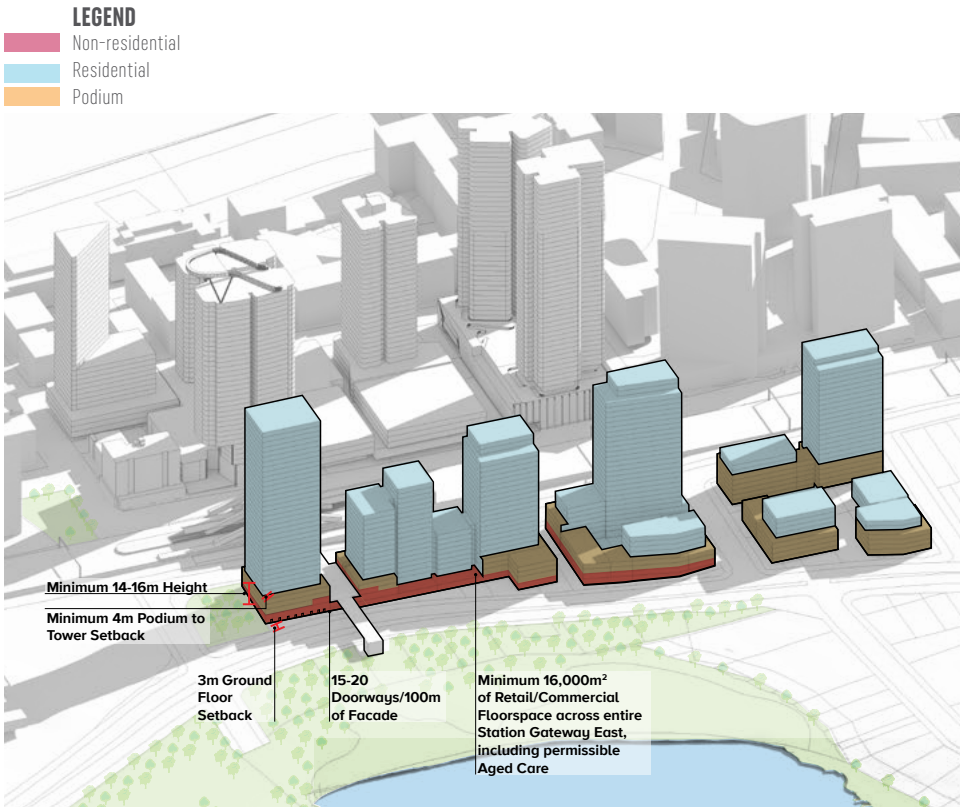


Figure 057. Built Form Outcomes -Podium Design

PODIUM DESIGN

Podiums are designed to define and activate the street frontages in a legible manner. Vibrant frontages are prioritised to address the Station, Blaxland Road, Lewellyn Street, Churchill Tucker Reserve and the Station Plaza Bridge edges. To reach the total minimum non-residential floorspace of 16,000m^2 GFA; non-residential frontages are also used to manage the noise and residential amenity interface of Concord Road and the transitional characteristics of the site due to land ownership identified in previous submissions.

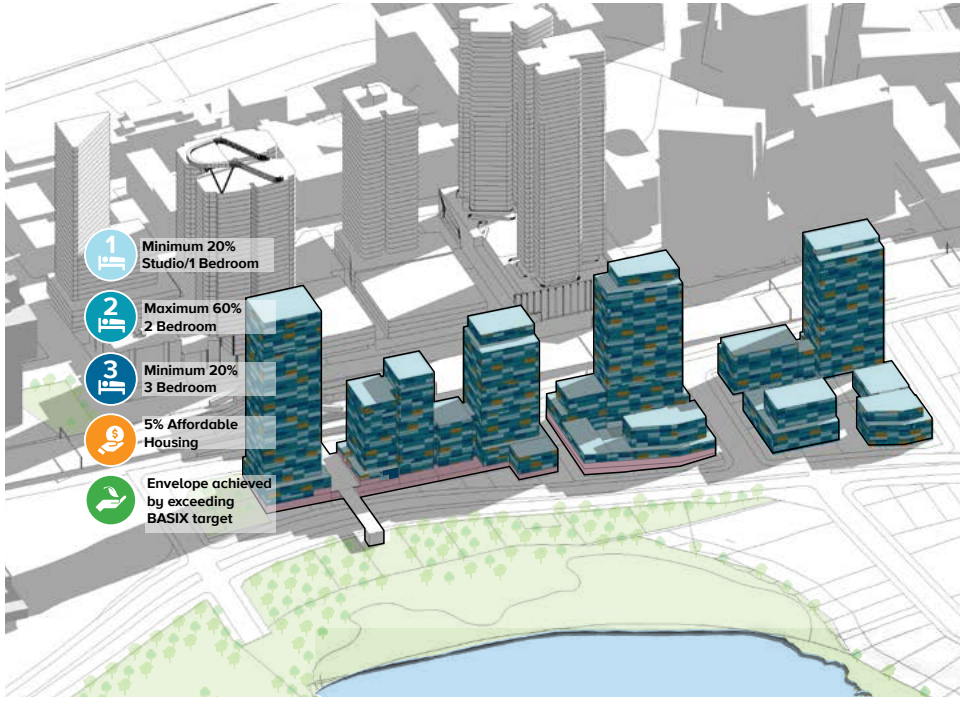


Figure 058. Built Form Outcomes -Unit Mix

UNIT MIX

Consistent with existing and future market demand and best practice transit oriented development, the unit mix endeavors to provide diversity and flexibility. Further supporting the creation of a diverse community the Master Plan promotes the delivery of Aged Care facilities. The Master Plan envelopes (maximum height and FSR) are permissible only by exceeding the BASIX target.

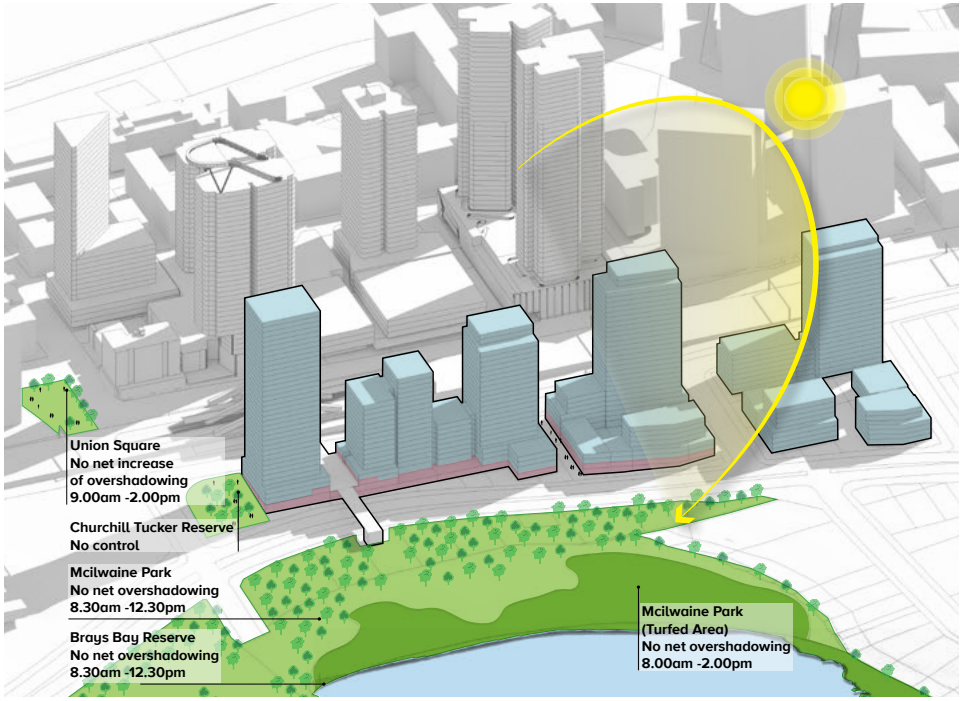


Figure 059. Built Form Outcomes -Overshadowing

OVERSHADOWING

Solar access to existing public open space is a primary design objective, priority principle and important Criteria. The built form for Station Gateway East demonstrates the maximum built form outcome, achievable only if an Aged Care Facility is delivered, that celebrates and preserves the solar amenity of McIlwaine Park, Brays Bay and Union Square. All solar testing is required without the benefit of artificial solar access or heliostat intervention.

STATION BRIDGE PLAZA

The Station Bridge Plaza is to be delivered as part of an integrated mixed use development within Station Gateway East. The Bridge stubs, elevated above Blaxland and Concord Road, and connecting to the Station and McIlwaine Park, will be delivered and identified as a priority for funding on the infrastructure schedule.

The proposed plaza and stubs provide critical enhanced connections to Rhodes West, via the station concourse, and McIlwaine Park providing approximately 550m^2 of public open space. This safer alternative to an at-grade access will reduce multi-modal congestion and conflict and the ground floor activation controls will support continued activation of Blaxland Road.

The Station Bridge Plaza must be designed to have:

- A minimum width of 16m (subject to detailed design development) for the entire private development length, and accommodate a two-way pedestrian path and a separated two-way bicycle path plus landscaping to the northern and southern edges.
- 80% vibrant retail frontage and 15/ 20 doors/ 100 meters
- The bridges will be designed in accordance with the key design parameters outlined by the NSW "Pedestrian Bridge Design Standards for Built up Areas", in particular the minimum clearance height of 5.5m.
- A minimum width for the stubs will be subject to pedestrian modelling
-

DEMONSTRATION OF CRITERIA

1. MINIMUM 80% VIBRANT GROUND FLOOR
2. MINIMUM 15-20 DOORS/ 100 METERS
3. 3M BRIDGE LEVEL SETBACK
4. STATION BRIDGE STUBS-SUBJECT TO PEDESTRIAN MODELLING
5. STATION BRIDGE PLAZA-MINIMUM 16 WIDTH
6. 24/ 7 PUBLIC ACCESS
8. 25% GREEN VIEW INDEX AND CANOPY COVER CONTRIBUTIONS

Figure 060. Station Bridge Plaza-Artists Impression

LAND USE DEVELOPMENT SUMMARY

DEVELOPMENT SUMMARY

This section outlines floorspace and yield compliant with the Criteria.

This will inform the LEP Zoning, Floor Space Ratio and Heights Maps. These are derived from the assumptions listed on the opposite page.

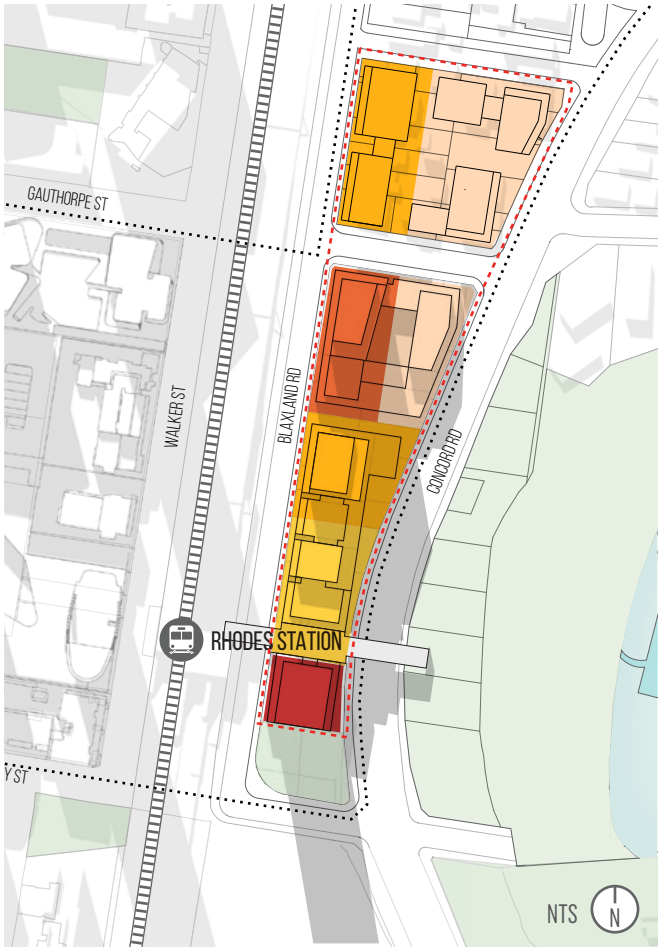


Figure 061. Station Gateway East -Height Plan

LEGEND

- Station Gateway East Boundary
- 117.0m
- 92.0m
- 80.0m
- Varying Heights up to a Maximum of 66.0m
- 27.0m

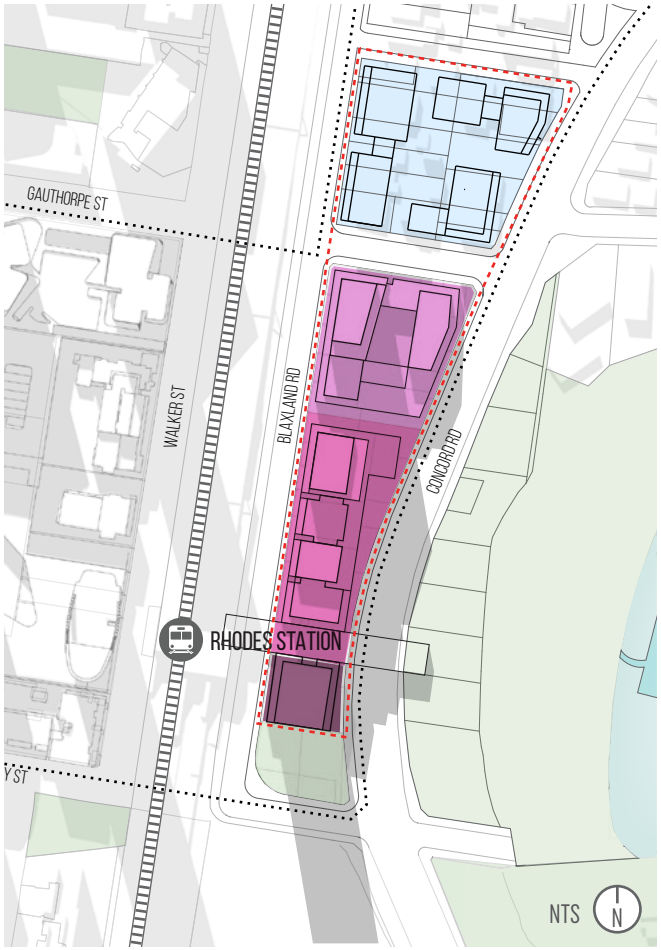


Figure 062. Station Gateway Eest -Floor Space Ratio Plan

LEGEND

- Station Gateway East Boundary
- FSR 16:1
- FSR 6.3:1
- FSR 6.0:1
- FSR 3.8:1

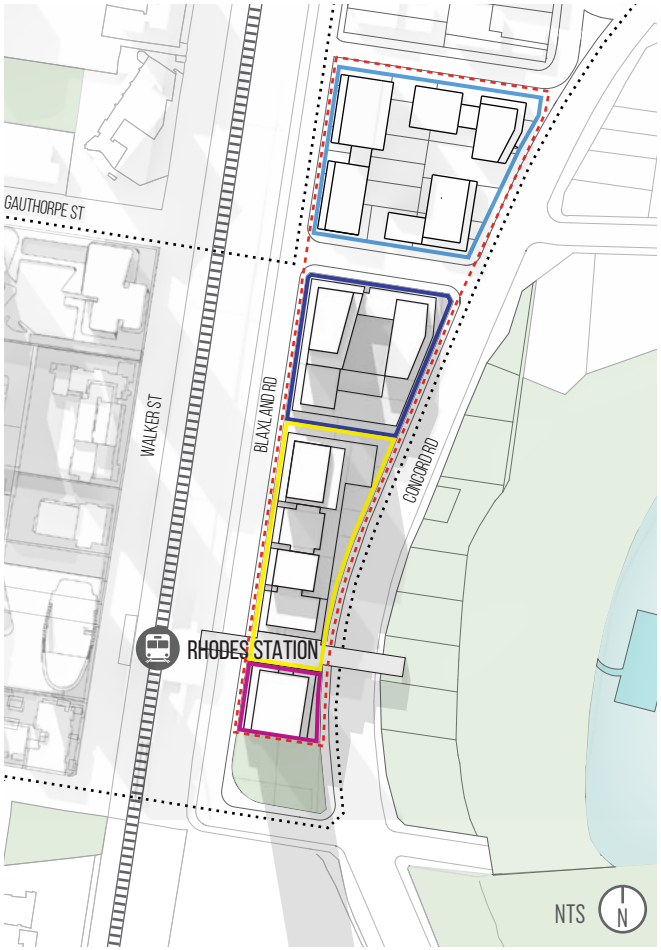


Figure 063. Station Gateway East -Land Use Plan

LAND USE	PROPOSED				
	RESIDENTIAL		COMMERCIAL	THE ULTIMATE SCENARIO**	THE BASE SCENARIO
	Gross Floor Area	Yield	Gross Floor Area	Floor Space Ratio	Floor Space Ratio
SITE 1	23,537	286	1,323	16:1	15.3:1
SITE 2	32,237	391	5,574	6.3:1	6.0:1
SITE 3	25,721	312	7,176	6:0:1	5.7:1
SITE 4	32,288	392	0	3.8:1	3.6:1
TOTAL	113,784	1382	14,073*		

Figure 064. Development Summary Table

*16,000 m^2 of commercial GBA. GFA efficiencies subject to specific land use-based ratios.
**The Scenario is inclusive of Basix bonus. Realisation of maximum height and FSR are reliant upon Basix bonus.

UNIT MIX			
Apartments	Unit mix (%)	Unit size (m^2)	Balcony (m^2)
Studio / 1 bedroom	20%	50	8
2 bedroom	60%	70	10
3 bedroom / 4 bedroom	20%	90	12

Figure 065. Unit Mix Table

ASSUMPTIONS

The calculation is based on applying:

-75% GBA to GFA efficiency for residential uses

-85% GBA to GFA efficiency for commercial uses

GBA (Gross Building Area) is the built external mass, compliant with SEPP65, LEP and DCP controls. It includes all volumes whether internal or external, habitable or non-habitable, but excludes parking (same as Building Envelope). Efficiency is the percentage factor of the GBA to determine NSA, effectively subtracting everything that does not count towards saleable space.

GFA (Gross Floor Area) is the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, and includes the area of a mezzanine, habitable rooms in a basement or attic, any shop, auditorium, cinema and the like. It excludes any area for common vertical circulation, basement, plant rooms, lift towers and car parking to meet any requirements of the consent authority plus terraces and balconies with outer walls less than 1.4. high.

03

RHODES

LEEDS STREET FORESHORE

Figure 066. Foreshore Park Artists Impression

THE MASTER PLAN
LEEDS STREET CHARACTER AREA

REALISING THE VISION

The Leeds Street Character Area will provide a multi-modal, water-based destination with high amenity including the ferry wharf, a mix of uses and characterised by extensive public open space and destination retail. It will introduce meaningful visual and physical connections to the water in addition to a vibrant mix of uses. The lifestyle and activities promoted within this Character Area will prioritise pedestrians and facilitate human interaction.

Low to mid rise buildings with a range of unique vibrant ground floor uses fronting the Foreshore Park and Parramatta River will activate a connected public realm framework of waterfront promenades, softscape parks, water transit plazas and pedestrian green links. The built form will sensitively transition to the water, parks and surrounding neighbours present and future.

DESIGN OPPORTUNITIES

PUBLIC TRANSPORT & ACTIVE TRAVEL

The Leeds Street Character Area is particularly well connected given it is a predominantly light industrial precinct. The Character Area benefits from:

- Being a 10 minute walk from Rhodes Station,
- Multiple bus routes and proximate stops
- Regional cycleways
- Three immediate locations/ opportunities for pedestrian and cycle connectivity across the Railway Line, and
- A future Ferry Wharf

The Planned Precinct process has confirmed that a mixed use zoning is appropriate in this location based on strategic objectives, amenity, service and the ability to provide public access to the foreshore.

Figure 067. Public Transport & Active Travel Opportunity Diagram

LEGEND

- Leeds St Boundary
- Proposed Through Site Link (Indicative Location)
- Bus Route
- Cycle Route
- Through Site Link
- Pedestrian/Cycle Railway Line Crossing

CIVIC OPPORTUNITIES

DPIE has led project team discussions with SINSW to identify an appropriate primary school location within the Rhodes Precinct to accommodate up to 1,000 students.

At this stage, the Exhibited School Site as identified opposite is considered to be preferred based on location, walkability, public transport and active travel access, safety, land ownership and synergies with the broader Rhodes Precinct Objectives and Principles.

A common goal for the project team and SINSW is to seek opportunities for shared facilities. The Leeds Street Character Area provides the opportunity for administration parking and offices, multi-purpose community rooms and the like to be located as part of an integrated private development fronting the school on Leeds Street and contributing to the civic, active character of the Leeds Street Character Area. A second location for shared facilities is being considered south of the school adjoining an east-west public link.

An new east-west link providing public access/ local connectivity 24/ 7 is being promoted somewhere between Averill and Denham Streets.

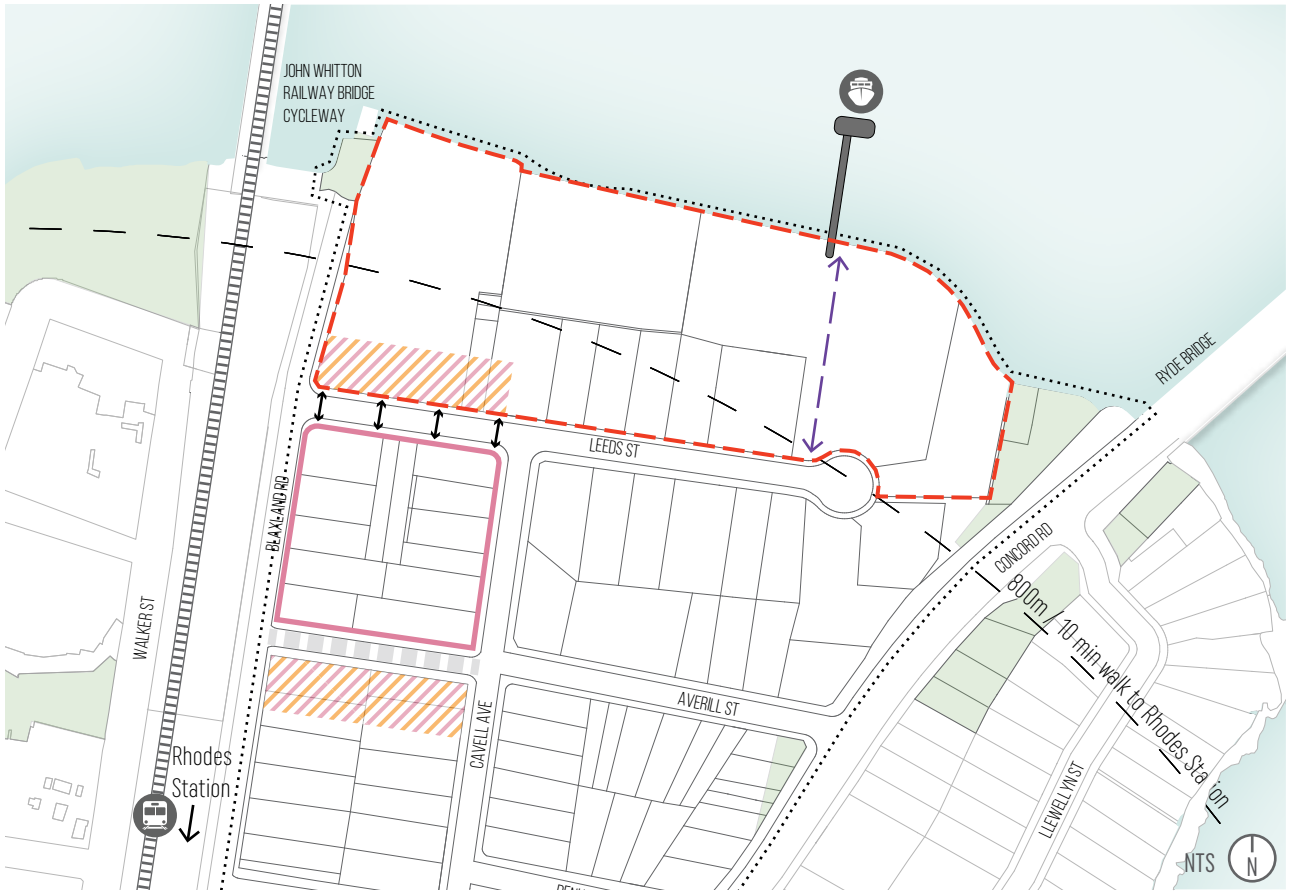


Figure 068. Civic Opportunities

VIEWS

Redevelopment of the Leeds Street Character Area provides the opportunity to physically, visually and psychologically connect to the Parramatta River from Rhodes East.

Blaxland and Cavell Avenue are strong axial, spatial structuring elements for Rhodes East and will be enhanced to function as people streets with active travel connections. The combined built form and public realm must celebrate and enhance these connections and character intent. There is also the opportunity to create a connection from Concord Road to the Ferry Wharf improving legibility and modal shift across the Rhodes Precinct.

In addition to the north-south public realm connections, and consistent with the Rhodes Precinct Project Principles; the view of the foreshore from the River is of critical importance.

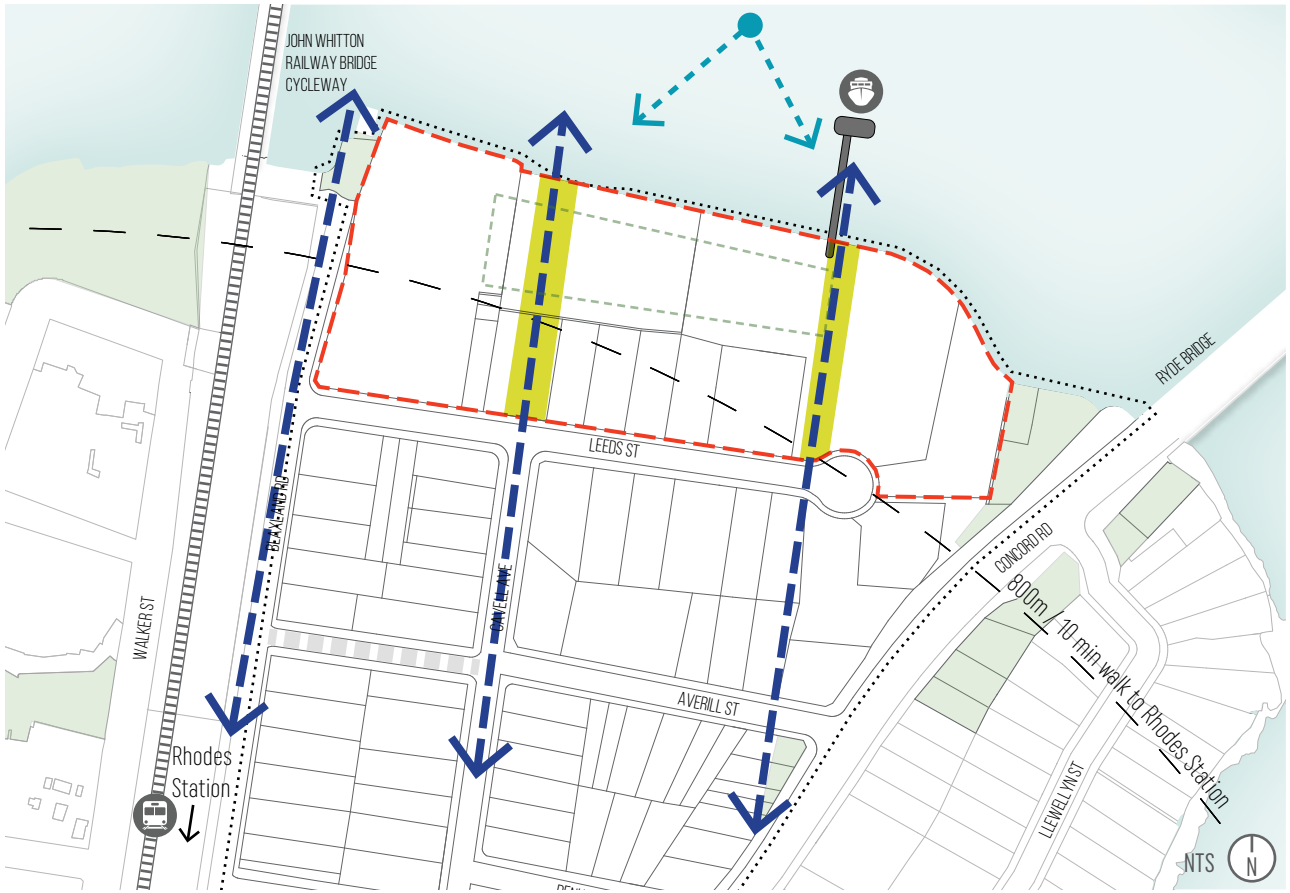


Figure 069. Viewlines

OPEN SPACE

The important visual and physical north-south connections begin to define spatial parameters for foreshore open space.

The Leeds Street Character Area will transform this land and provide a publicly accessible foreshore that:

- Has historically been industrial and privatised east of the Railway Line,
- Connects to, and extends, the Rhodes West foreshore promenade,
- Promotes future-proofing and public access east of Concord Road as a potential long term proposition, and
- Provides a large, meaningful waterfront public green space with active edges, public water transport and legibility to the south.

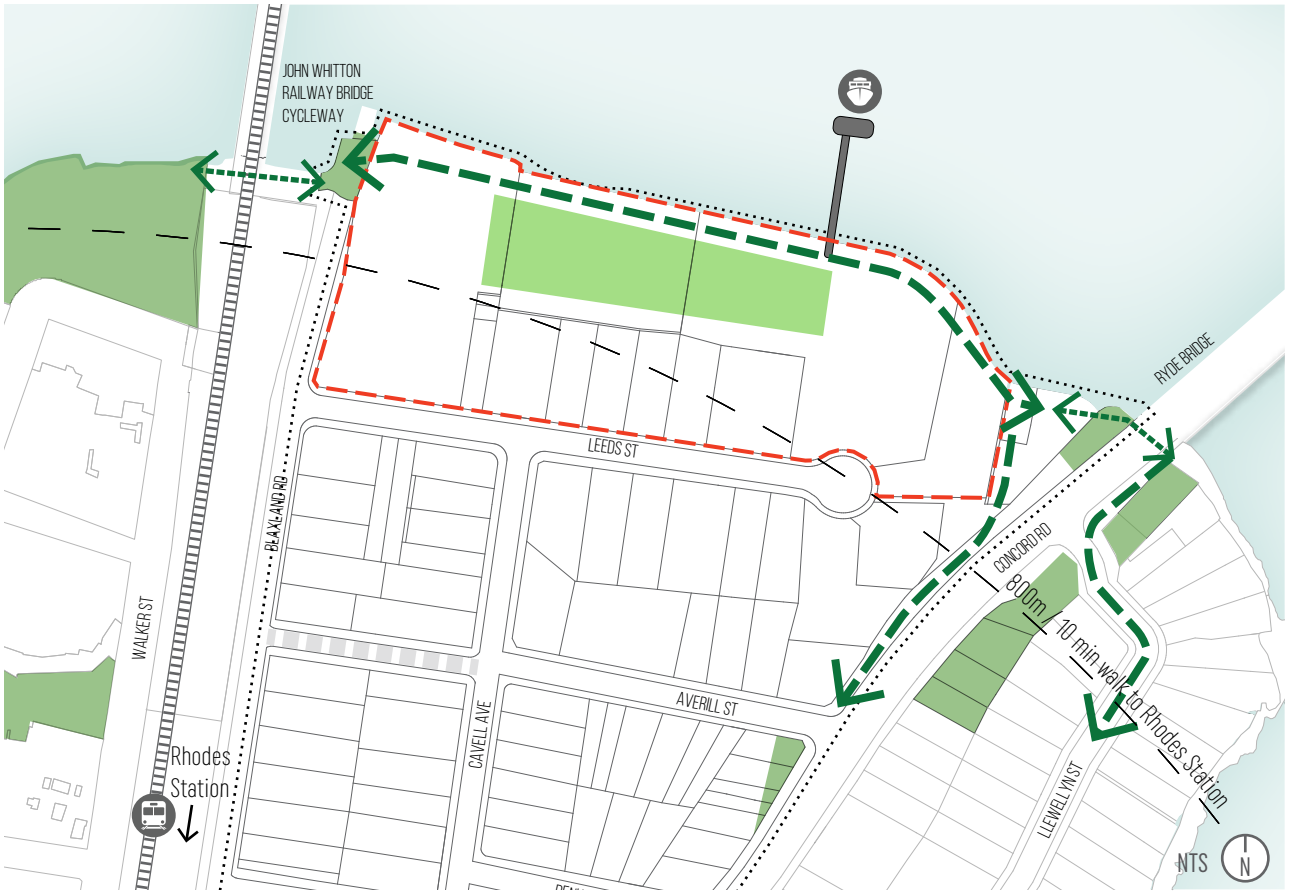


Figure 070. Foreshore Open Space

THE ACTIVE HEART

A combined high quality public domain and urban built form will invite water-based visitors into the destinational heart of the Rhodes Precinct.

The Leeds Street Foreshore Park will contribute to the Premier's priority of delivering green networks through precinct-wide provision of:

- Continuing and promoting a complete foreshore circuit,
- Enhancing a series of north-south people streets and paths with coordinated landscape and public realm,
- Provide a unique open space offering with no perimeter street interface, active retail edges and public transport, and
- All day solar access.

A variety of programmable spaces are supported by the spatial characteristics and adjoining land use:

- Waterfront outdoor dining for restaurants, cafes, pubs and/ or microbreweries and wine bars,
- Ferry Wharf,
- Multi-Purpose Community Facilities with associated outdoor areas,
- Kids play areas and kick-about, and
- Art and indigenous interpretation trails.

Figure 071. The Active Heart

THE MASTER PLAN

DEMONSTRATING BEST PRACTICE

The three dimensional Master Plan for Leeds Street Character Area represents the physical realisation of the following Design Principles, Criteria, opportunities and controls:

- Rhodes Peninsula Design Principles
- Precinct Wide and Character Area-Specific-Global Best Practice Criteria (quantitative requirements)
- Design Opportunities-establishing the ground plane spatial framework for the massing to sit within
- Responding to the key principles of SREP (Sydney Harbour Catchment)

The Criteria and required outcomes are outlined as a single, holistic requirement for Leeds Street Character Area. However, compliance must be demonstrated on a site-by-site basis as part of development consent.

The Master Plan built form outcomes inform the development controls for the Precinct including height, floorspace ratio and yield. These controls are to be considered in parallel with all other Criteria including amount and quality of new public space and supplemental greenery.

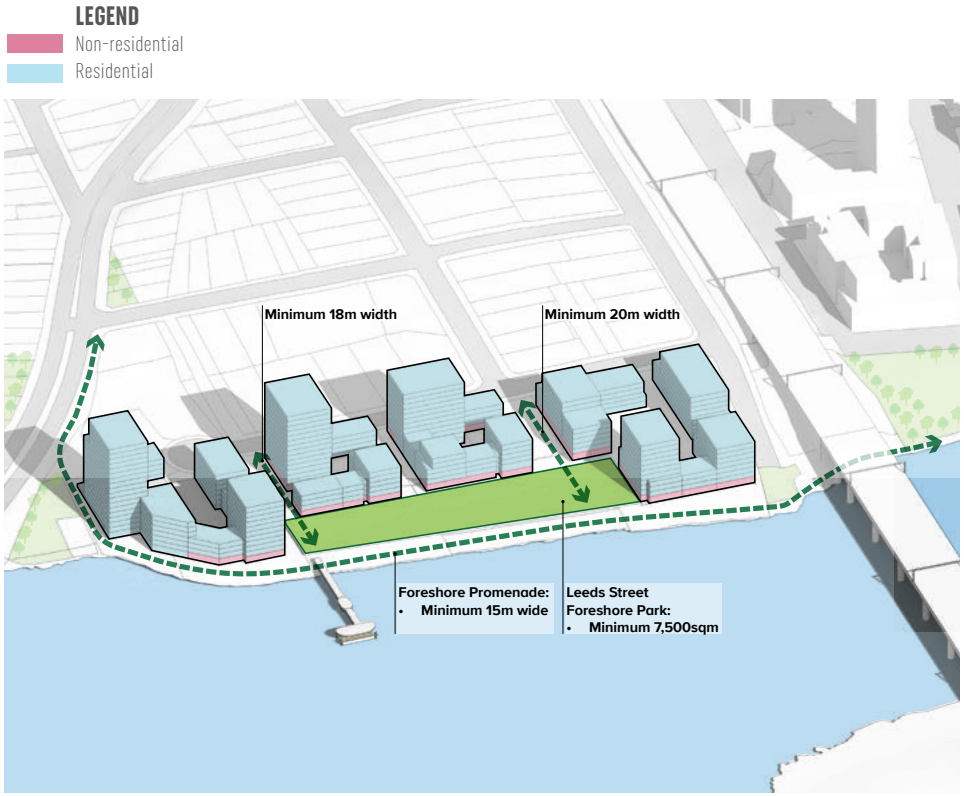


Figure 072. Built Form Outcomes -New Public Open Space

NEW PUBLIC OPEN SPACE

The Master Plan provides the largest and most meaningful new open space contribution across the Rhodes Precinct. Whilst the Leeds Street Foreshore Park is the heart, it is supported by the Leeds Street Character Area public realm framework. The intended character and treatment is described in this section and supported by a future site specific DCP. The spaces are defined as the Leeds Street Foreshore Park, Rhodes East Foreshore Promenade and the two North-South Linear Greens (Ferry Wharf Link and Cavell Green Link).

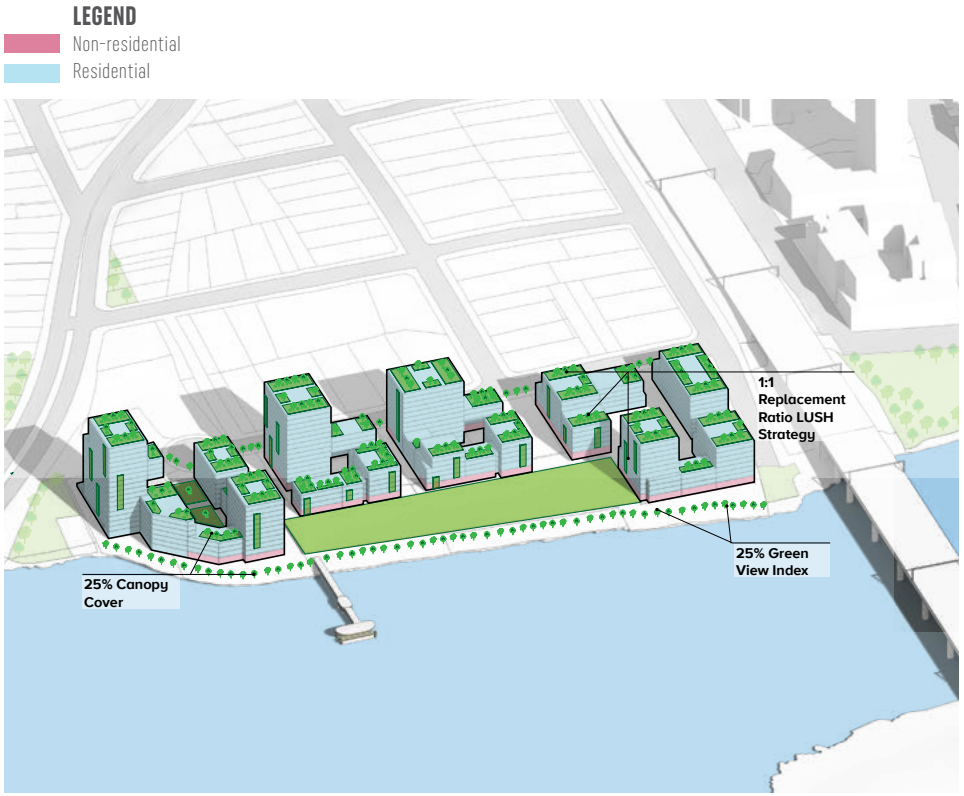


Figure 073. Built Form Outcomes -Greenery

GREENERY

The massing and extensive public realm proposed by the Master Plan will support realistation of the greenery Criteria. Design testing has demonstrated that the criteria can be met both on a site by site and precinct basis. The 1:1 replacement strategy is encouraged as a combination of greenery on buildings and within the Leeds Street Foreshore Park and Promenade contributing to the 25% green view index and canopy cover and establishing an attractive and unique green vista when viewed from Parramatta River. Adequate and realistic deep soil opportunities have been tested.

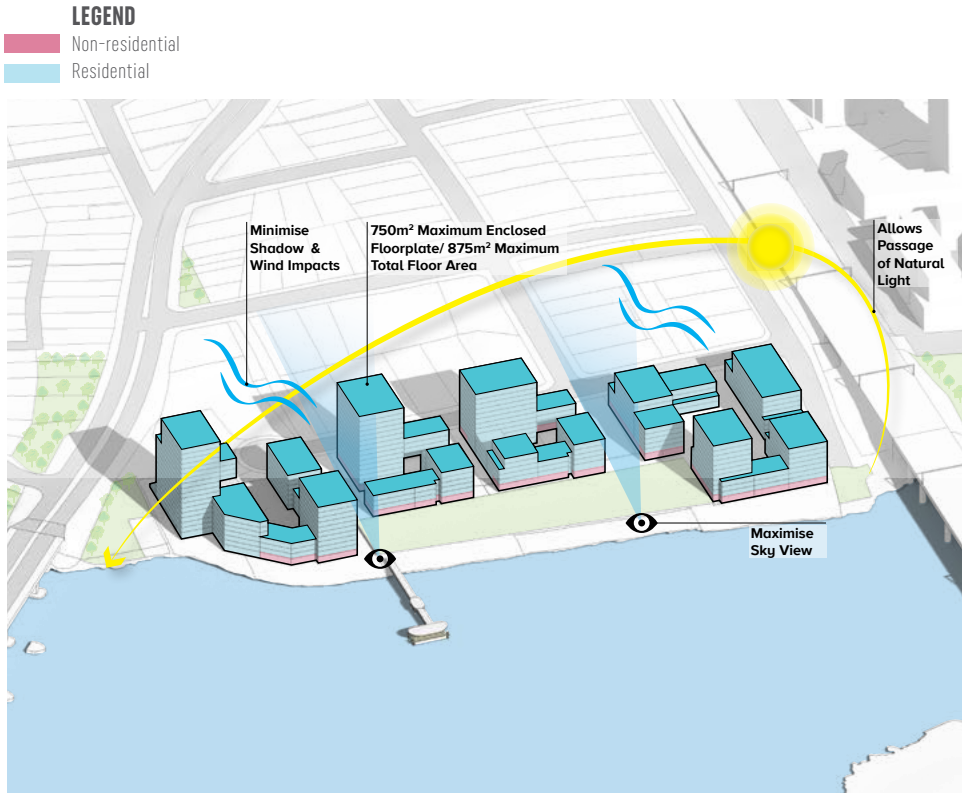


Figure 074. Built Form Outcomes -Tower Design

TOWER DESIGN

The Master Plan has been designed to respect the high profile foreshore location through medium to low heights. Whilst Precinct-Wide Criteria apply, the taller heights range from 11-18 storeys which mean many of the tower criteria are not triggered (20 storey threshold applies). A single 18 storey building is strategically located in the southwest where overshadowing impact occurs generally over Concord Road and marking the northern entry to the Peninsula. Mid rise skinny tower elements sit away from the foreshore transitioning down to the water as well as providing an appropriate transition south of Leeds Street. A strong, vibrant podium will provide enclosure to the Leeds Street Foreshore Park whilst fine grain LEP height allocations and strategic north-south links/ separations will reduce the perception of "walls of apartments" when viewed from the River.

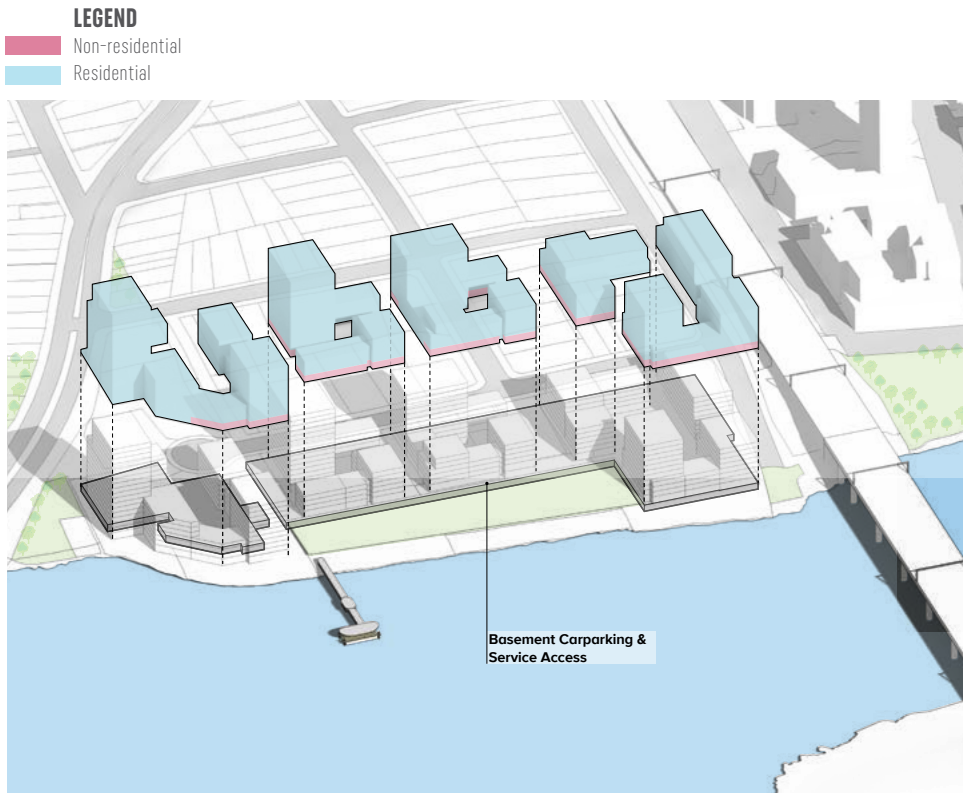


Figure 075. Built Form Outcomes -Parking

PARKING

A single, connected basement parking structure (superbasement) is required in order to efficiently manage groundwater, geotech and feasibility whilst optimising the amount of genuine deep soil and minimising above ground parking. Site 4 (refer Land Use Development Summary) may utilise 75% of the ground floor for sleeved parking. This is controlled through active frontages and responds to land use to ensure that this site does not rely on superbasement connection. Above ground parking is not permitted for sites 1-3 to ensure activation objectives are met. Space has been allocated for school administration parking in the event that it is required.

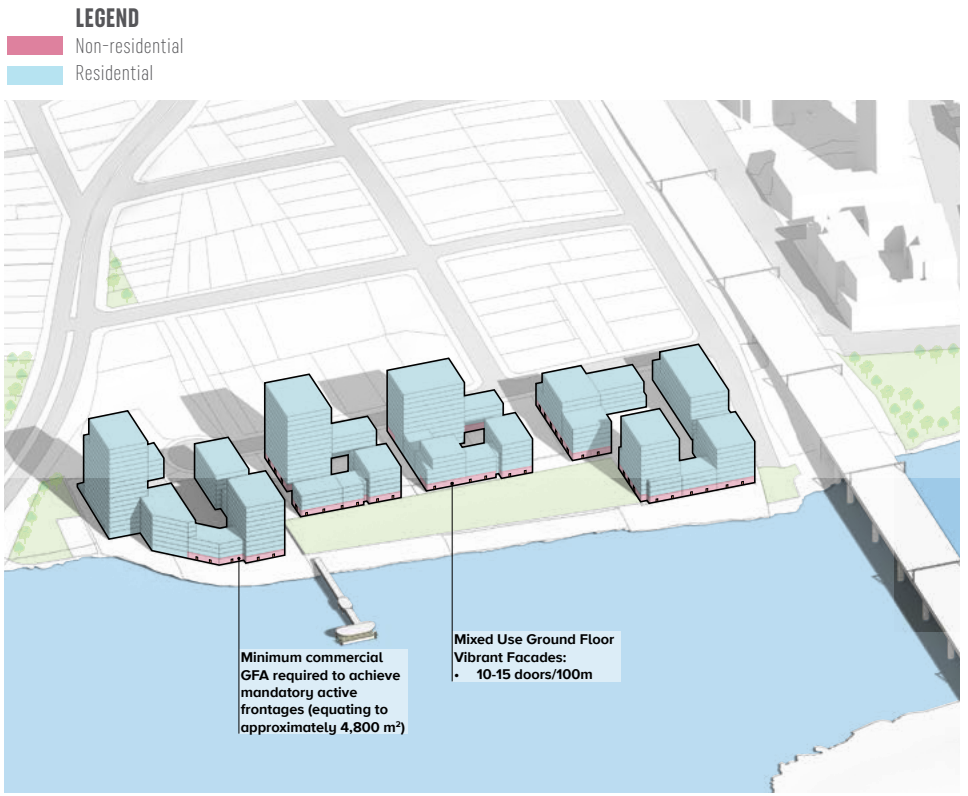


Figure 076. Built Form Outcomes -Podium Design

PODIUM DESIGN

The key objective for Leeds Street Character Area podiums are to activate the public realm including the future vision for a people-focused Leeds Street. Retail and commercial floorspace is to be provided in accordance with the Active Frontages Plan (Appendix). Community and residential frontages are also expected to deliver an vibrant outcome of 10-15 doorways per 100 meters. The podium heights vary to provide optimal solar and neighbourhood transition outcomes.

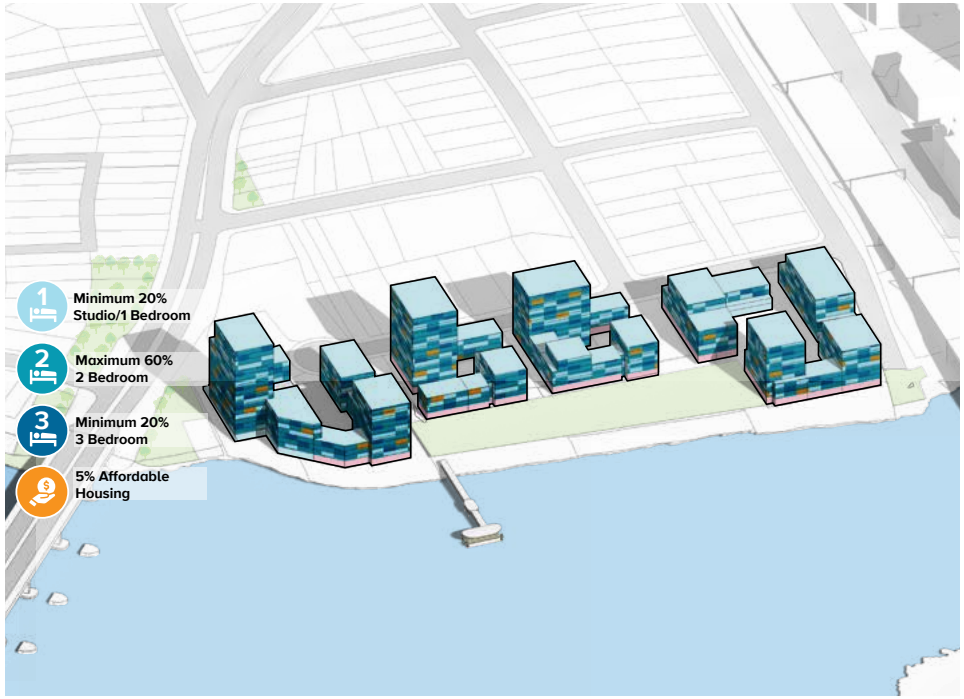


Figure 077. Built Form Outcomes -Unit Mix

UNIT MIX

Consistent with existing and future market demand, the unit mix endeavors to provide diversity and flexibility and equitable opportunity for all lifestyles to enjoy a waterfront home close to public transport and amenity. The unit mix will also support the density required to activate the Leeds Street Foreshore Park.

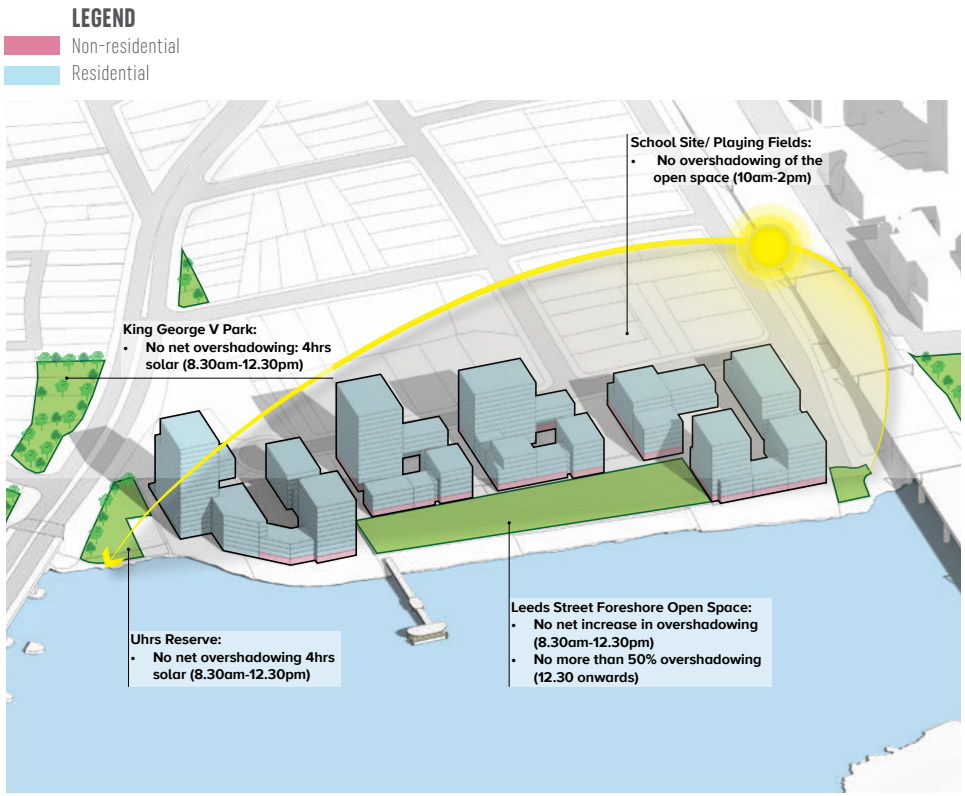


Figure 078. Built Form Outcomes -Overshadowing

OVERSHADOWING

Solar access to Uhrs Reserve and King George V Park remains equally as important as other existing parks in the Precinct. It is also critical that Leeds Street Character Area sensitively transitions and does not unduly overshadow the Cavell Avenue Character Area or a future school site's open space. The built form responds to these important localised Criteria.

LEEDS STREET FORESHORE PARK

The Leeds Street Foreshore Park will be one of the most important public benefits afforded by the redevelopment of the Rhodes Precinct. The Foreshore Park will be the green heart, sitting within a strong public realm framework connecting people to public transport, destination retail, community uses and the Parramatta River.

The Leeds Street Foreshore Park and associated public realm must be designed to have:

- A minimum footprint of 7,500sqm in the location and configuration documented within this Master Plan and predominately landscape with deep soil and tree planting clusters,
- A combination of retail, commercial, community and residential frontages to public realm 10-15 doors/ 100 meters,
- A 15 meter minimum foreshore promenade with a continuous row of mature tree planting that must enable eye-level water views but also provides a strong green outlook from the River and surrounding residences, and
- Active, safe north-south connections aligning with Cavell Avenue and the Ferry Wharf with complementary program and spatial characteristics contributing to Precinct legibility.
-

DEMONSTRATION OF CRITERIA

1. MINIMUM 7,500SQM
2. MINIMUM 10-15 DOORS/ 100 METERS
3. CAVELL GREEN LINK MINIMUM 15M
4. FERRY WHARF LINK MINIMUM 18M WIDTH
5. 100% DEEP SOIL (MADE POSSIBLE THROUGH SUPERBASEMENT)
6. 24/ 7 PUBLIC ACCESS
7. FORESHORE PROMENADE MINIMUM 15M WIDTH
8. CONTINUOUS FORESHORE TREE PLANTING

Figure 079. Leeds Street Foreshore Park-Artists Impression

LAND USE DEVELOPMENT SUMMARY

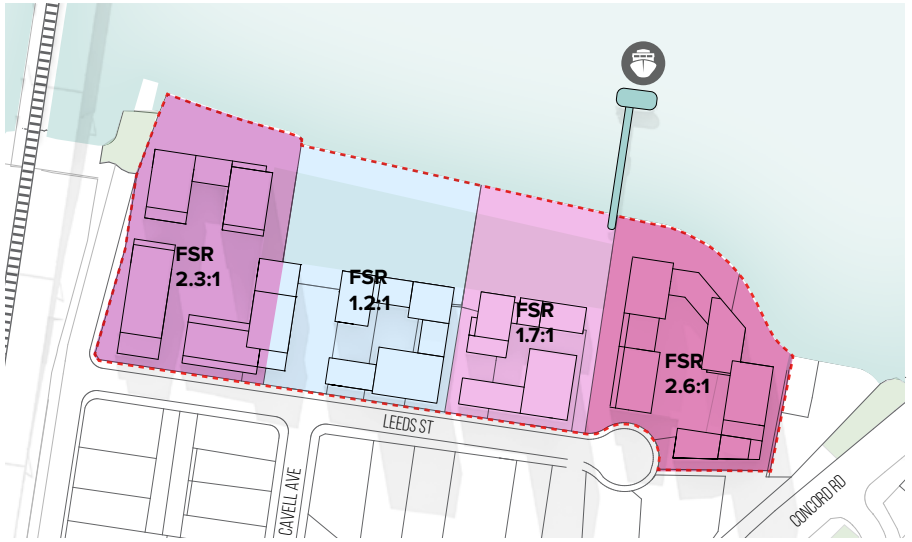


Figure 080. Leeds Street Foreshore -Height Plan

DEVELOPMENT SUMMARY

This section outlines floorspace and yield compliant with the Criteria.

This will inform the LEP Zoning, Floor Space Ratio and Heights Maps. These are derived from the assumptions listed on the opposite page.

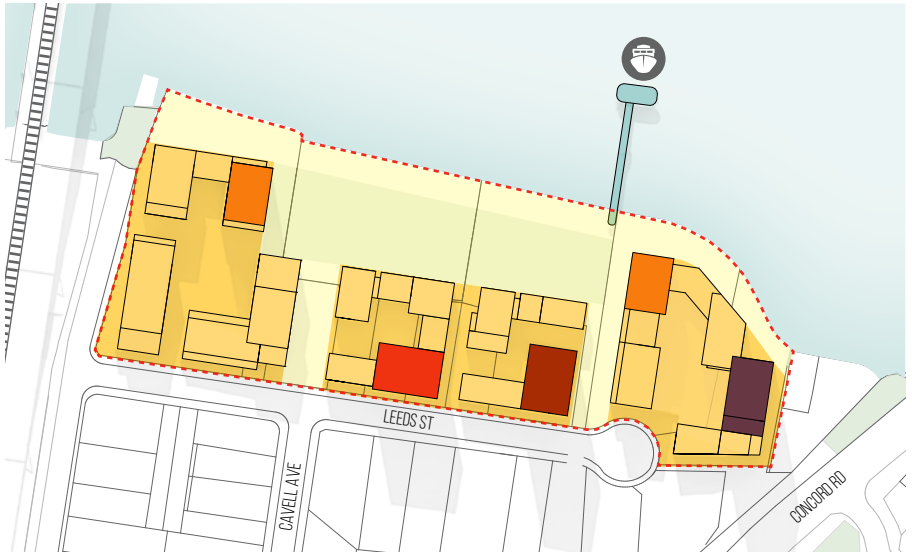


Figure 081. Leeds Street Foreshore -Resultant Envelopes / Height

Figure 099 illustrates resultant envelopes and height after amalgamation and public realm dedication

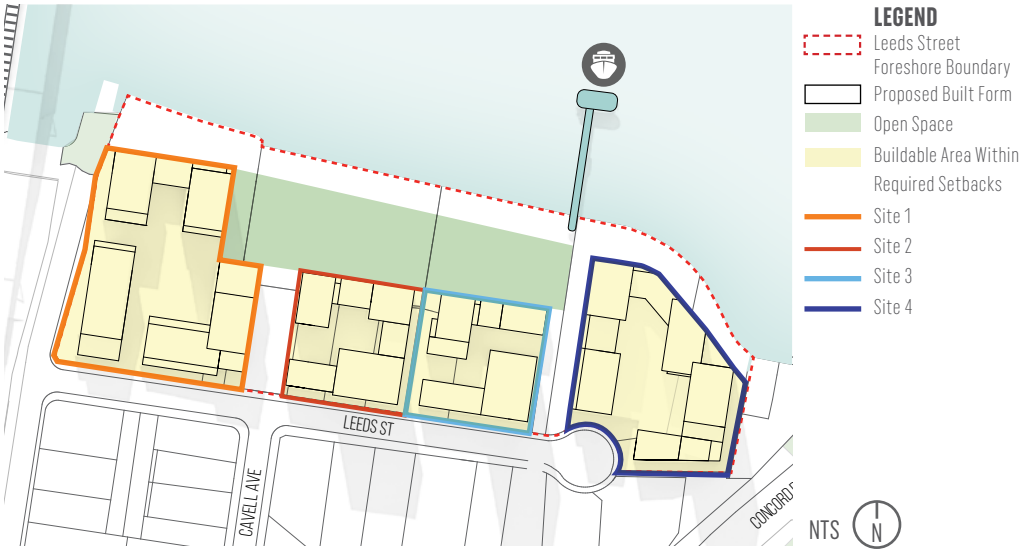


Figure 082. Leeds Street Foreshore -Buildable Area withing Required Setbacks

LAND USE	PROPOSED						
	RESIDENTIAL		COMMERCIAL	COMMUNITY	TOTAL	THE ULTIMATE SCENARIO**	THE BASE SCENARIO
	Gross Floor Area		Gross Floor Area	Gross Floor Area	Gross Floor Area	Floor Space Ratio	Floor Space Ratio
SITE 1	23,906	290	1,601	1,760	27,266	2.3 : 1	2.2 : 1
SITE 2	13,159	160	1,344	-	14,503	1.2 : 1	1.1 : 1
SITE 3	14,690	178	974	-	15,664	1.7 : 1	1.6 : 1
SITE 4	25,517	310	808	-	26,325	2.6 : 1	2.5 : 1
TOTAL	**77,272**	**938**	**4,726**	**1,760**	**83,758**		

**The Scenario is inclusive of Basix bonus. Realisation of maximum height and FSR are reliant upon Basix bonus.

Figure 083. Development Summary Table

UNIT MIX			
Apartments	Unit mix (%)	Unit size (m2)	Balcony (m^2)
Studio / 1 bedroom	20%	50	8
2 bedroom	60%	70	10
3 bedroom / 4 bedroom	20%	90	12

Figure 084. Unit Mix Table

ASSUMPTIONS

The calculation is based on applying:

-75% GBA to GFA efficiency for residential uses

-85% GBA to GFA efficiency for commercial uses

Floor Space Ratio calculations are based on site areas following the required dedication of land for public domain and open space.

GBA (Gross Building Area) is the built external mass, compliant with SEPP65, LEP and DCP controls. It includes all volumes whether internal or external, habitable or non-habitable, but excludes parking (same as Building Envelope). Efficiency is the percentage factor of the GBA to determine NSA, effectively subtracting everything that does not count towards saleable space.

GFA (Gross Floor Area) is the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, and includes the area of a mezzanine, habitable rooms in a basement or attic, any shop, auditorium, cinema and the like. It excludes any area for common vertical circulation, basement, plant rooms, lift towers and car parking to meet any requirements of the consent authority plus terraces and balconies with outer walls less than 1.4m high.

04

RHODES

CAVELL AVENUE

Figure 085. Cavell Avenue -Artists Impression

THE MASTER PLAN CAVELL AVENUE CHARACTER AREA

Figure 086. Cavell Avenue Character Area -Proposed Outcomes Artists Impression

COMPLETING THE VISION

The Cavell Avenue Character Area will largely consist of community and residential uses. There will be a mix of lower density strata and Torrens titled terraces and mid rise apartments that will deliver a diversity of heights and human scale built form creating a balance between increased housing, public/private amenity and an active and safe pedestrian environment.

The Cavell Avenue Character Area is the critical human scale fabric that binds together the Precinct, providing the attractive walkable framework for a genuine community and to connect to the destination amenity and services.

PEOPLE STREETS

Cavell Avenue, Blaxland Road and Leeds Street are identified as people streets and given Primary Street Status. The public domain/ landscape cross section with the frontage and setback controls for these streets ensure that the Character Area, and the school, are optimised for walking, cycling and public transport. The School is located with people streets on three sides to celebrate the civic and walkable intent.

THE CONNECTED NETWORK

In order for the Precinct to genuinely function as a walkable, people-focused community; Cavell Avenue Character Area blocks in excess of 100 meters were broken up with new connections. The east-west connections are proposed as streets or through-site connections in order to calm the broader network and give people priority to the north-south connectors of Cavell Avenue and Blaxland Street.

PRIMARY SCHOOL

The project team has worked closely with School Infrastructure New South Wales (SINSW) to identify a preferred primary school location within this Character Area. The internal planning and siting of the school's program will be subject to detailed design. However, this Master Plan sensitively considers the interfaces in order to future proof the site. Low to mid rise development with fine grain street frontages surround the school providing critical activation and surveillance whilst respecting privacy and minimising overshadowing and overlooking.

Figure 087. Rhodes Precinct -Structure Plan

DESIGN OPPORTUNITIES

HERITAGE

The heritage fabric of Rhodes has been a critical design driver. As a result of the recommendations set out in the Heritage Assessment, the following design controls have been developed for each of the heritage items at Rhodes. The development massing and Master Plan reflect these principles and controls and contribute to the character and experience of the Cavell Avenue Character Area.

LISTED HERITAGE ITEMS	DESIGN CONTROLS
FORMER SCHOOL BUILDING	
63 Blaxland Road	The large trees located to the north of the site are to be retained. Consideration to future uses that complement the historic educational or community use The historic core of the old school building to be conserved and incorporated into the future developments on the site
PARKS & RESERVES	
King George Park Uhrs Point Reserve	Indigenous planting to be retained and protected. New landscaping is to reflect the established planting rhythm and tree species
STREET TREES	
Cavell Avenue	The heritage street trees are to be retained and protected. New landscaping to reflect the established planting rhythm and tree species
REMNANT TREES	
4A Cavell Avenue	Existing trees to be retained and incorporated into residential development on the northern portion of the site.
NON HERITAGE LISTED ITEMS	
Coptic Church	The Coptic Church has a strong historical association with the community and is to be retained in situ.

LISTED HERITAGE ITEMS	DESIGN CONTROLS
INDIVIDUAL HOUSES	
59 Blaxland Road 35 Cavell Avenue	*Future use to remain as residential or a use complimentary to the adjoining uses *Existing front lawn presentation to be retained and/or upgraded *Future buildings are to have a 2 metre setback from the common boundary and limited to 2 storeys. An additional setback of 4 metres is re-quired for medium rise (5 -8 storeys) or 6 metres for high rise building volumes (above 8 storeys) * Front setbacks for new developments are to be consistent with existing front set-backs.
INDIVIDUAL HOUSES ON CORNER LOTS	
4A and 14 Cavell Avenue	Potential to explore the redevelopment of land at the rear to provide opportunity for new low scale building.
INDIVIDUAL HOUSES NEAR EXISTING OR FUTURE ROADS	
59 Blaxland Road 4A, 14, and 35 Cavell Avenue	Any development between the heritage item and existing or proposed streets, is to be consistent with these guidelines. Medium (5 -8 storeys) to high rise (above 8 storeys development, located to the rear, is to provide a suitable transition to the retained heritage item.
WAREHOUSE	
14 Cavell Avenue	Existing face brick to be retained and incorporated into any new development at the rear, or on adjoining sites. New development at the rear can abut the existing brick building, with the first saw tooth roofed portion retained at the same height as the brick building. Adjoining sites can be redeveloped with zero lot side setbacks but front setbacks are to be consistent with existing development.

Figure 088. Rhodes Precinct -Heritage Plan

Figure 089. Community Corners

NTS

Figure 090. New Connections Plan

NTS

LEGEND

- Rhodes Precinct Boundary
- Cavell Ave Character Area Boundary
- Existing Public Open Space
- Community Corner
- New Indicative Connections
- Proposed Indicative Connection
- Active Frontage
- Heritage
- Proposed Through-site Link (Indicative Location)

COMMUNITY CORNERS

In addition to designated and concentrated areas of retail and community space, it is proposed to embed future flexibility and opportunities for growth into the Urban Design Plan through designated community corners providing open space moments and associated active edges. Three Community Corners are located based on:

- Opportunities to celebrate heritage buildings through adaptive reuse;
- Protection of heritage planting and green space, and
- Legibility in terms of Cavell Avenue as a people street guiding visitors to the Station, Foreshore and new connections to the Ferry Wharf.
-

NEW CONNECTIONS

Visual interest and fine grain experience is key to encouraging people to walk further; thereby choosing this mode of transport over the private vehicle and activating their community.

The location of proposed new connections and Community Corners has been iterative to ensure that the two strategies work together to achieve the network permeability and walkability objectives as well as creating special, intimate spaces within the Cavell Avenue Character Area.

The new connections respect heritage items and further enhance the community corners.

FSR TRANSFER

FSR TRANSFER

Balancing an increased population with the constraints of the existing rail and road network has been a key consideration at Rhodes. The focus has been to generate a human scaled sustainable development outcome, rather than maximising the potential development.

A liveable, walkable and sustainable environment will encourage active transit and reduce reliance on private vehicle trips. This not only reduces local traffic volumes and eases congestion, but provides healthier lifestyles and activates the public realm.

In addition, building typologies have been developed that represent the "base case" development outcome necessary to provide a commercially acceptable financial return whilst contributing to affordable housing and the agreed public benefits. For the Cavell Avenue Character Area, the base case is derived from a combination of maximum 1.8:1 FSR and 9 storey height (base height). The 11 storey permissible heights identified within the Heights Plan is only granted with the delivery of a new connection consistent with the Master Plan.

Site specific FSR transfer, equivalent to 1.8:1 over the area of the connection, is available to incentivise developers to deliver new infrastructure such as the indicative new connections identified on the previous page. This approach lessens the cost to Government, increases the likelihood of infrastructure being delivered more quickly and ensures taller heights are strategically located to minimise the impact on adjoining development.

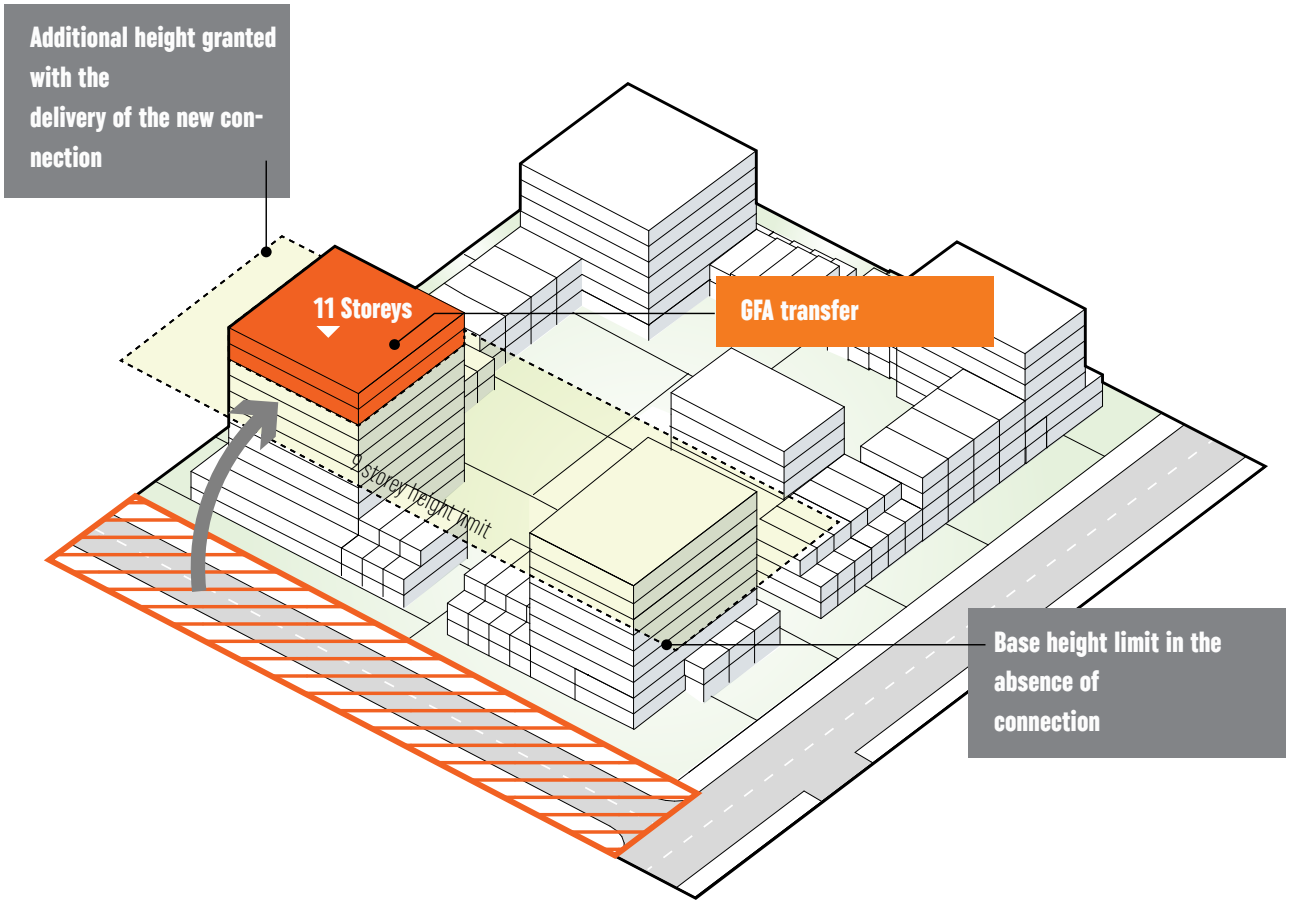


Figure 091. FSR transfer plan

MASTER PLAN

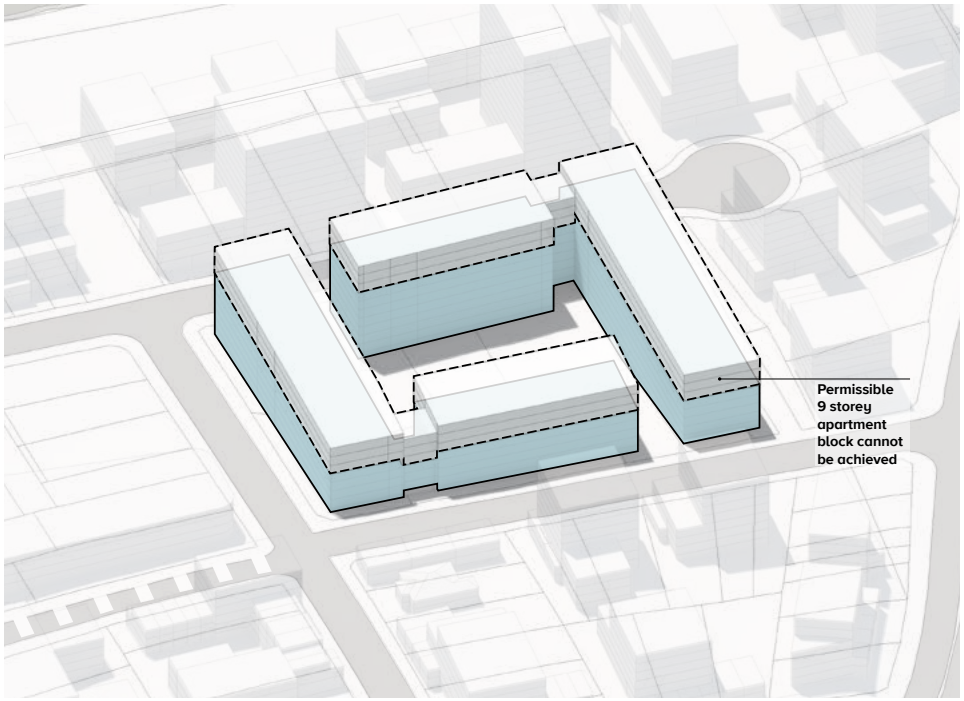


Figure 092. Conventional FSR + Height Application

CONVENTIONAL FSR + HEIGHT APPLICATION

The block above is located within the Cavell Avenue Character Area and is used as a sample block to demonstrate the unique Criteria. The FSR is generally 1.8:1 within this Character Area with permissible heights of 9 storeys. As demonstrated above, a typical perimeter block of this FSR could not achieve 9 storeys.

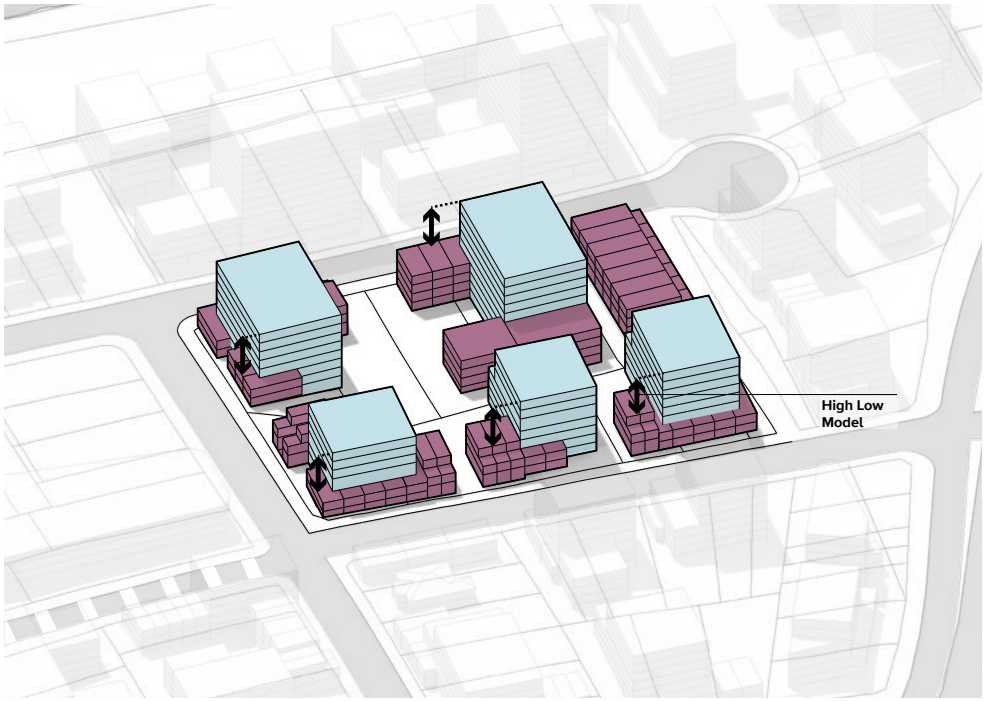


Figure 093. Mismatched FSR + Height Controls Resulting in High-Low Model

HIGH-LOW MODEL

The above demonstrates the intended built form outcome achieved through a mismatched FSR and height. Consistent with the Height Strategy and Design Opportunities, a few strategically located building elements achieve the 9 storey base upper limit but the predominant building typology is low rise terraces to achieve an FSR of 1.8:1. There are a few locations that allow 11 storeys as part of an FSR transfer to facilitate new connections. The inability for the upper height limit to be achieved across a site should never be used to justify additional FSR, as a conventional outcome (Figure 097) is not the intent. The High-Low model creates a human scale, fine grain streetscape and high quality private and public realm amenity by reducing overshadowing and long walls of buildings.

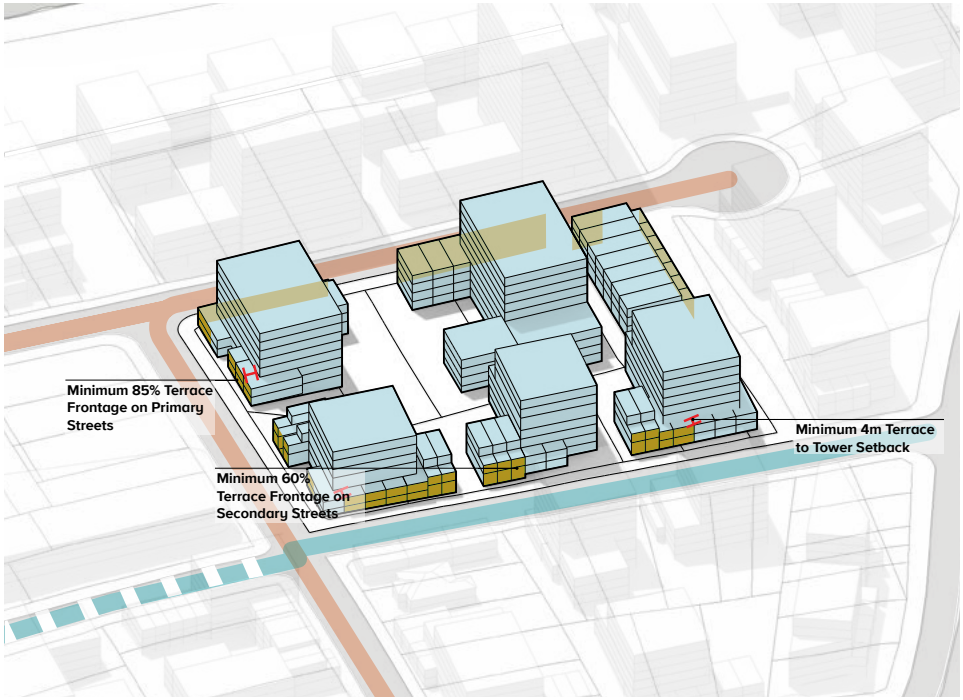


Figure 094. Built Form Outcomes -Active Facades

PODIUM DESIGN

Cavell Avenue, Blaxland Road and the southern side of Leeds Street are designated as Primary Streets. In order to deliver on the previously discussed status as priority people-streets of the Precinct; an 85% terrace street frontage applies to all created lots. Secondary Streets within the Cavell Avenue Character Area have a relaxed frontage requirement of 60% to promote driveways and servicing on these streets rather than the people-streets with focused active travel infrastructure and highest quality landscape. The terraces can be strata or Torrens title at 10 -15 doors per 100 meters and range from 2-4 storeys with a 4m setback to the tower element to further emphasise the medium density character.

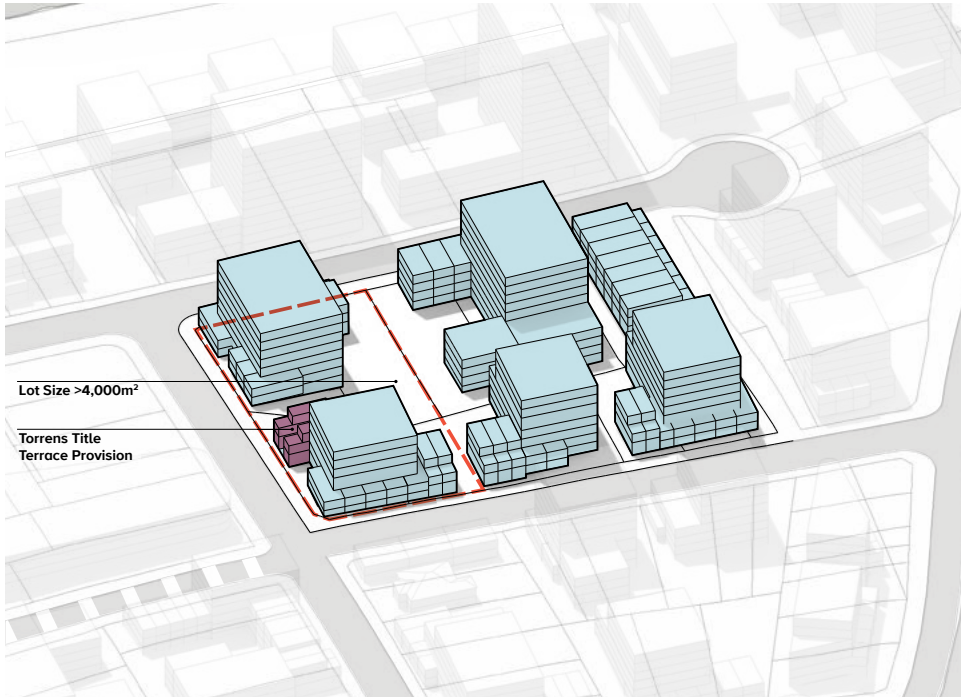


Figure 095. Maximum Lot Size

SUBDIVISION

The Cavell Avenue Character Area has a maximum lot frontage of 60m and size of 4,000sqm in order to achieve a genuine fine grain, organic development pattern. In order to deliver character intent, flexibility and to address the challenges of the Missing Middle; an exemption is available whereby a single landholding in excess of 4,000sqm can be master planned and developed as long as a provision of freehold terrace product is delivered as part of the landholding. As explained in detail within the Appendix, residual land above 4000sqm only can be used for free-hold terraces.The above location demonstrates the benefits including active surveillance and address of a north-south pedestrian link, built from transition and promoting developer led lane ways to break up large blocks.

LAND USE DEVELOPMENT SUMMARY

DEVELOPMENT SUMMARY

This section outlines floorspace and yield compliant with the Criteria.

This will inform the LEP Zoning, Floor Space Ratio and Heights Maps. These are derived from the assumptions listed on the opposite page.

Figure 096. Cavell Avenue Character Area -Height Plan

LEGEND

- Cavell Avenue Character Area Boundary
- Proposed Built Form
- Maximum 9 Storeys -30m*
- Maximum 11 Storeys -36m*

Figure 097. Cavell Avenue Character Area -FSR Plan

LEGEND

- Cavell Avenue Character Area Boundary
- Proposed Built Form
- FSR 1.8:1*

*Lots containing heritage items are unlikely to achieve to maximum height and FSR. This does not trigger an FSR transfer. Adaptive Reuse considerations support complimentary redevelopment consistent with the Heritage Controls outlined earlier in this section. Future redevelopment interfacing with heritage items must adhere, and sensitively respond, to the heritage item and associated setback controls as a priority irrespective of maximum FSR and height controls.

LAND USE	PROPOSED						
	RESIDENTIAL			COMMERCIAL	TOTAL	THE ULTIMATE SCENARIO**	THE BASE SCENARIO
	Gross Floor Area	Yield Apartments	Yield Terraces	Gross Floor Area	Gross Floor Area	Floor Space Ratio	
CAVELL AVENUE	129,281	1064	185	382	129,663	1:8 : 1	1:7:1

Figure 098. Development Summary Table

**The Scenario is inclusive of Basix bonus. Realisation of maximum height and FSR are reliant upon Basix bonus.

UNIT MIX			
Apartments	Unit mix (%)	Unit size (m^2)	Balcony (m^2)
Studio / 1 bedroom	20%	50	8
2 bedroom	60%	70	10
3 bedroom / 4 bedroom	20%	90	12

Figure 099. Unit Mix Table

ASSUMPTIONS

The calculation is based on applying:

-75% GBA to GFA efficiency for residential uses

-85% GBA to GFA efficiency for commercial uses

Floor Space Ratio calculations are based on site areas following the required dedication of land for public domain and open space.

GBA (Gross Building Area) is the built external mass, compliant with SEPP65, LEP and DCP controls. It includes all volumes whether internal or external, habitable or non-habitable, but excludes parking (same as Building Envelope). Efficiency is the percentage factor of the GBA to determine NSA, effectively subtracting everything that does not count towards saleable space.

GFA (Gross Floor Area) is the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, and includes the area of a mezzanine, habitable rooms in a basement or attic, any shop, auditorium, cinema and the like. It excludes any area for common vertical circulation, basement, plant rooms, lift towers and car parking to meet any requirements of the consent authority plus terraces and balconies with outer walls less than 1.4m high.

APPENDIX A

BEST PRACTICE DESIGN CRITERIA

PRECINCT WIDE

PRECINCT WIDE CRITERIA	COMPLIANCE	PROPOSED CONTROL DOCUMENTS
GENERAL		
SHARED STREETS	In accordance with best practice assessment criteria	Master Plan, DCP
GREENERY	25% Canopy Cover (calculated as 25% of the site plus the public verges, ie. combined private & public land) 1:1 replacement ratio LUSH Strategy 25% Green View Index	LEP-Design Excellence Clause, Master Plan, DCP
TOWER DESIGN	750 sqm maximum enclosed floorplate/ 875sqm maximum total floor area Minimum 5 storey variation transition between adjoining towers above 20 storeys	Master Plan, DCP, LEP-Design Excellence Clause
	Tall Tower Separation: 15-20 storeys-24m Greater than 20 storeys-40m	LEP
	Buildings are designed to minimise wind impacts to new areas of open space without the need for roofs or canopy structures. Maximum % of cover (in the form of awning) consistent with the Master Plan (varies between character area)	LEP Design Excellence Clause re % of cover, Master Plan, DCP, VPA
PODIUM DESIGN	14-16m podium height Ground and upper level setback requirements-3m/ 4m respectively	DCP
UNIT MIX	minimum 20% studio/1 bedroom minimum 20% 3 bedroom, maximum of 60% 2 bedroom	LEP (supported by LSPS)
PARKING	In accordance with best practice recommended criteria	LEP
OVERSHADOWING	1A. Macilwaine Park -No net overshadowing: 6hrs solar for primary zone (turfed area) (8am-2pm)	Site specific LEP provision
	1B. Macilwaine Park -No net overshadowing: 4hrs solar (8.30am-12.30pm)	Site specific LEP provision
	2. Union Square -No net increase of overshadowing (9.00am -2.00pm)	Site specific LEP provision
	3. Peg Paterson Park Playground-No net increase of overshadowing (12.00-2.00pm)	Site specific LEP provision
	4. Brays Bay Park -No net overshadowing: 4hrs solar (8.30am-12.30pm)	Site specific LEP provision
	4. Churchill Tucker Reserve-No control	Site specific LEP provision
	5. School Site/ Playing Fields-No overshadowing of the open space (10am-2pm)	Site specific LEP provision
SUSTAINABILITY	Rhodes is a collaboration area under the Eastern City District Plan with an aim to deliver precinct wide sustainability outcomes through: • Increased BASIX requirements; • Dual Reticulation System	Master Plan, DCP, LEP
TRANSPORT SERVICEABILITY	Development will need to be staged over time to match available transport infrastructure. Transport Investigations to date indicate that up to 70% of the proposed development across the Rhodes Priority Precinct can be accommodated on the transport network at Rhodes subject to the provision of the road and station upgrades proposed within this document. More detailed transport investigations are required to determine the finite development capacity, and may be subject to the provision of further transport infrastructure to match growth.	LEP

CRITERIA

GREENERY

Three complementary criteria are proposed in unison to achieve greenery. Best practice requires achieving all three. There is not the opportunity to replace one greenery criteria with another or reduce the amount of required open space by exceeding the minimum greenery criteria requirements.

CANOPY COVER

At national, state and local levels of Government there is a Premier's Priority to increase canopy cover in urban areas in order to mitigate the heat island effect arising from increased development. In addition, increasing shade has broader environmental benefits including improving pedestrian amenity and encouraging walking and healthy activities.

Best practice canopy cover generally ranges from 25-35%. Given the substantial commencement on site, an aspirational yet achievable position has been taken that relies on collaboration between the developers and local government.

Street tree planting should be coordinated with private development requirements in order to maximise tree canopies and shade.

Canopy cover on a private block should be located on the ground plane and podium, and on roof surfaces where adequate deep soil can be achieved.

LANDSCAPE REPLACEMENT STRATEGY

The removal of trees and redevelopment of green space needs careful consideration as does, the use of ground plane, that could have provided greenery, for development purposes.

The value of greenery in our urban communities cannot be diminished despite denser development and reduced ground plane greenspace.

Innovative approaches to the the delivery of landscaping and greenery including green roofs, rain gardens, terraces, walls, linear balcony planters, atriums and other mechanisms.

The extent of landscaping provided in dense urban developments should be equivalent to the site area being developed. Creative localised solutions can be affordable to deliver and maintain as well as adding value to the development and wider urban setting.

GREEN VIEW INDEX

Greenery contributes to the pedestrian experience through visual amenity, interest and micro-climate whilst softening the visual impact of the built form in urban areas.

The Green View Index is used to calculate the extent of greenery in our urban outlook. It answers the question, "How much of my view as a pedestrian is leafy and green?"

The top ten greenest cities, measured using this tool, have a Green View Index of 20-30%. Sydney as a whole achieves almost 26%.
It is considered reasonable that urban areas seeking to increase walkability and prioritize pedestrians and cyclists would aim to achieve at least a 25% Green View Index.

This Master Plan establishes a simple methodology for measuring the Green View Index supported by a species/ green coverage toolkit. This toolkit is included in Appendix B.

25% CANOPY COVER CALCULATED AS THE GATEWAY WEST SITE AND VERGES INCLUSIVE AND GENERALLY CONSISTENT WITH THIS MASTER PLAN.

1:1 LANDSCAPE REPLACEMENT RATIO (USING INDIVIDUAL SITE AREAS)

25% GREEN VIEW INDEX DEMONSTRATED USING THE MASTER PLAN METHODOLOGY

Figure 100. Demonstration of Landscape Replacement -Park Royal, Singapore


Figure 101. Mixed Use Tree Canopty -Public and Private Tree Planting

CRITERIA

OVERSHADOWING

The constrained nature of the ground plane at Station Gateway West impacts on the ability to provide new and meaningful public open space. Past decisions and anticipated population growth across the Rhodes Peninsula will result in a 50% reduction in open space per resident ratio. The table opposite demonstrates this reduction. It is noted that the new foreshore park of 7,500sqm in Rhodes East is included in this analysis.

In Rhodes East, land values and ownership patterns and housing character intent will limit how much additional open space can be provided other than at Leeds Foreshore. Therefore, it is critical that througth the redevelopment process, existing open space is protected in terms of quality, amenity and accessibility.

A key objective is to have a range of open spaces that have different functions, solar access and amenity ensuring high quality open space is available through the day

The plan opposite is an analysis of the solar amenity duration and time for all open spaces across the peninsula. It identifies the open space, facility, and user group in order to establish locational and amenity gaps or surplus.

A tailored approach, with specific requirements for each open space has been adopted to guide acceptable levels of overshadowing

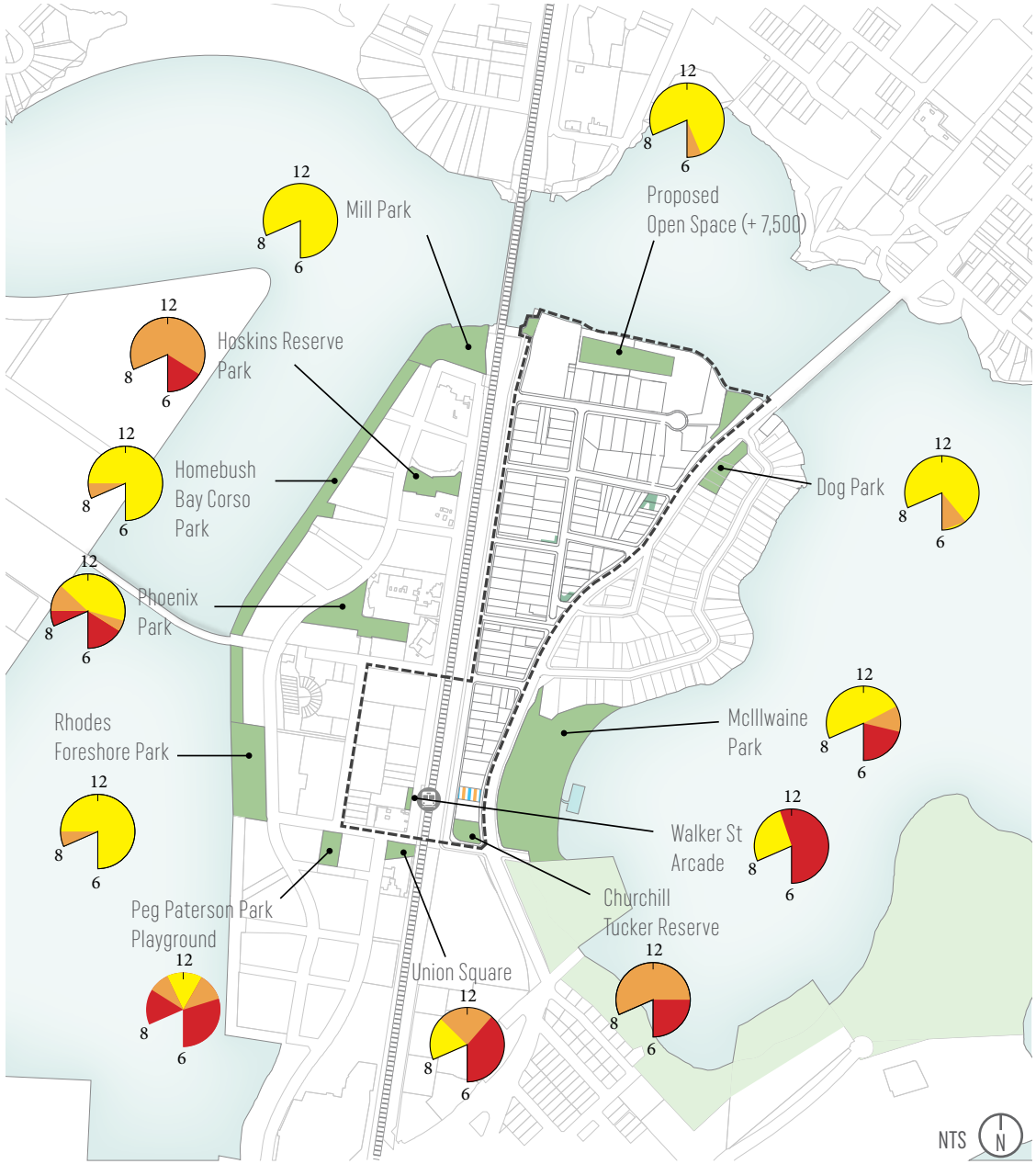
Recommendations are based on delivering a diverse range of open spaces, with solar access throughout the day and within walking distance of homes and work.

Consultation with state and local agencies reaffirms that global best practice is no net increase to overshadowing to protect existing open space where there is limited ability to deliver new public open space areas. At Rhodes, this needs to be considered within the context of Transit Orientated Development principles of delivering density near public transport.

YEAR	POPULATION	TOTAL OPEN SPACE (SQM)	SQM PER PERSON
2016	11,830	169,312	14.3
2036	20,614	Current: 169,312	8.2 (excluding streets)
		Proposed: 176,812 (inc. 7,500 for Leeds Street Foreshore)	8.6 (excluding streets) (GA Benchmark is 9 including streets)

Figure 102. Rhodes Peninsula -Open Space Provisions

An additional 11.8 ha would be required to maintain the 2016 per person rate.



Sun Access Analysis -21st of June

Figure 103. Rhodes Peninsula -Solar Amenity of Open Spaces

CRITERIA

OVERSHADOWING

MCILWAINE PARK

McIlwaine Park is an expansive waterfront park with a combination of open, sunny lawn adjoining the water and shaded, treed areas with parking and children's play areas accessible from Concord Road.

It currently enjoys morning and lunchtime sun.

Peg Paterson Park also has a children's play area but it is shaded in the morning. Best practice solar access requirements to enable grassed areas to survive and thrive is 4-6 hours per day,everyday. It is generally accepted that treed areas should not be dismissed as requiring solar access.

Two zones and corresponding criteria have been established to balance the requirement to deliver density near the Station and McIlwaine Park, whilst protecting solar access to this foreshore park.

The primary zone adjoining the water requires more solar access due to its location, users and grassed surface.

PRIMARY ZONE:

6 HOURS OF NO NET OVERSHADOWING (8.00AM-2.00PM)

SECONDARY ZONE:

4 HOURS OF NO NET OVERSHADOWING (8.30AM-12.30PM)

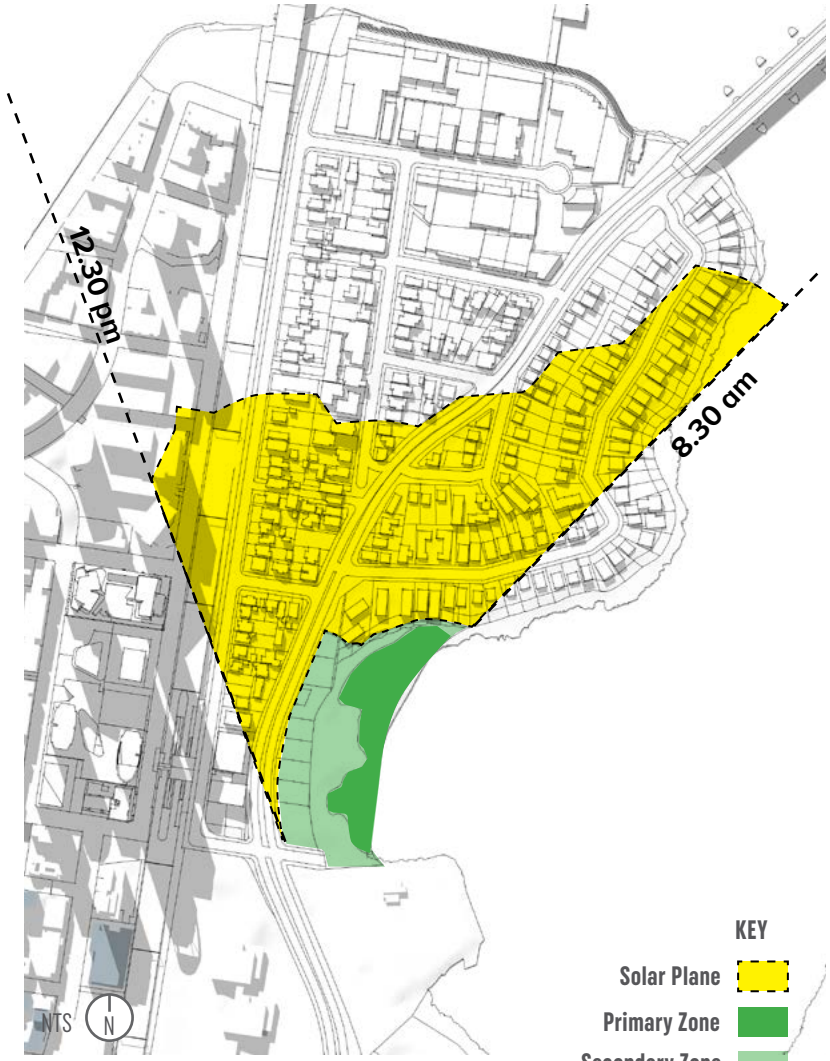


Figure 104. Mcilwaine Park -Overshadowing Criteria

UNION SQUARE

Union Square is an important piece of urban infrastructure associated with the Station and identified for solar protection within Council's Station Precinct Master Plan (November 2014).

New development has impacted the solar access to Union Square to the point that a heliostat has been approved on an adjoining development to the north in an effort to improve the amenity of the Square. Reliance on heliostats or other technology to offset overshadowing impacts of identified open spaces is not supported.

Where a "no net increase" to overshadowing is mandated this excludes any existing overshadowing or areas artificially lit by existed approved heliostats.

Union Square is an important public space within Rhodes and plays a critical role in the urban open space network. The role and importance reiterated within the Rhodes Station Precinct Master Plan (Town Square):

- Landmark curated sculpture provides wayfinding and community significance
- Creating a welcoming destination and attractive meeting point
- Special event venue,
- Activated by café/restaurant tenancies along its south edge
- Active travel/ cycle support for the Station

Union Square plays an important transit user role during morning peak and also provides a unique urban outdoor lunch space for local workers. It is critical to preserve as much solar access as possible to accommodate these users.

Figure 105. Union Square

NO NET INCREASE OF OVERSHADOWING 9AM-2PM

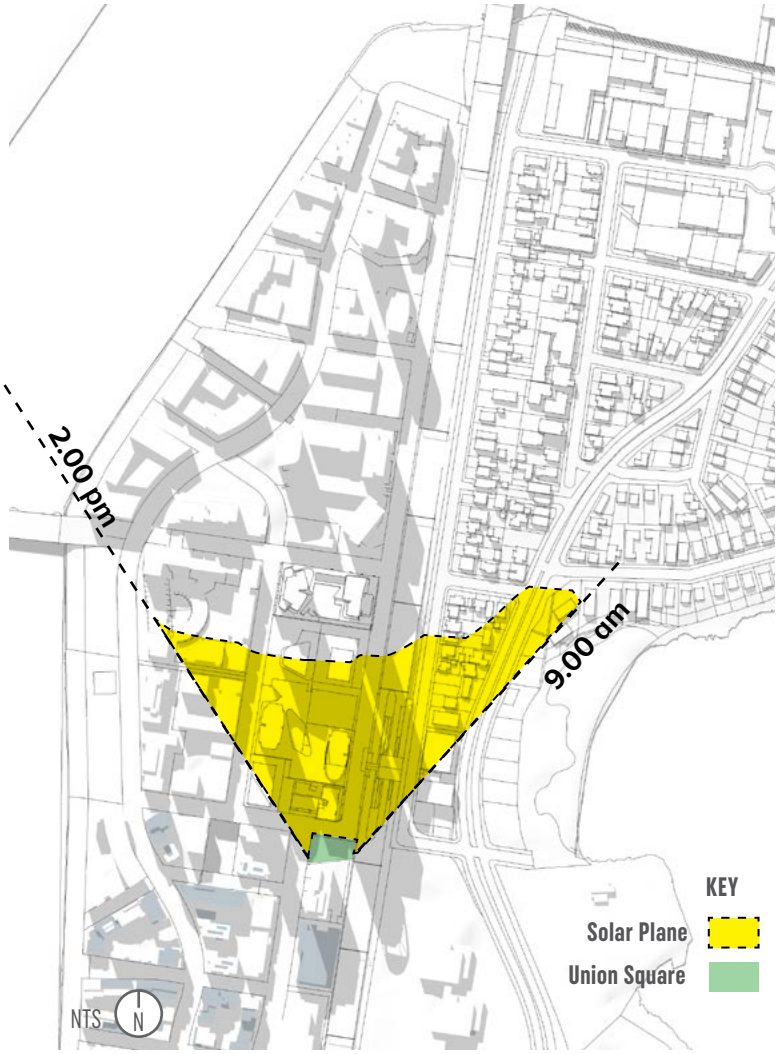


Figure 106. Union Square -Overshadowing Criteria

CRITERIA

OVERSHADOWING

BRAYS BAY RESERVE

Brays Bay Reserve, in reference to the Baygrove Home of the pioneer family including Alfred Llewellyn Bray was the first Mayor of Concord (1883-1886) and Henry David Bray, Alfred's younger brother, was the third Mayor of Concord (1890-1891).

Whilst significantly hardstand in nature, it is a critical piece of open space. Situated between McIlwaine and Rhodes Park, Brays Bay Reserve is the start of the Kokoda memorial track as well as having a popular restaurant and personal training spaces. It is plays an important role in Council's future plans for the River Activation of Brays Bay as their priority project for submission to the state government's Precinct Support Scheme.

It currently enjoys morning and lunchtime sun and given the nature of the space, there should be no further overshadowing during this time.

In order balance development potential and as an acknowledgment of the hardscape and users groups; the solar criteria for the McIlwaine Park primary zone are not required. However, the same criteria applied to the secondary zone are adopted here.

Figure 107. Brays Bay Reserve, Kokoda Memorial

NO NET INCREASE OF OVERSHADOWING 8.30AM-12.30PM.

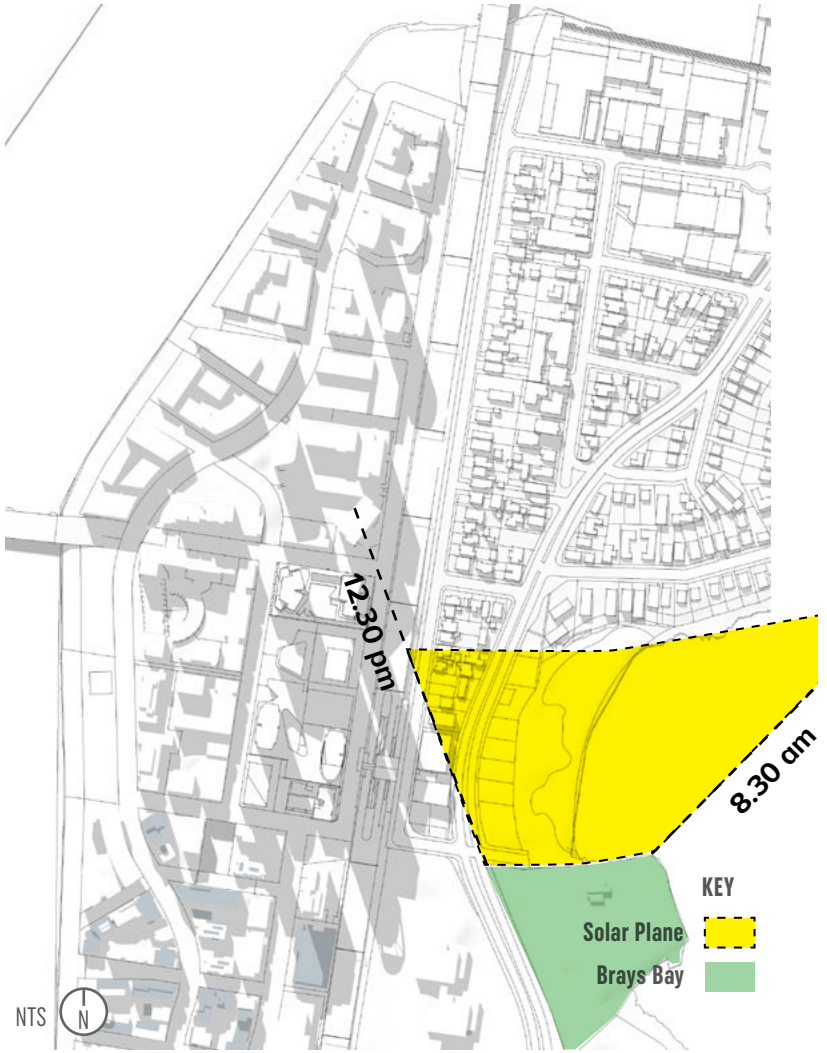


Figure 108. Brays Bay -Overshadowing Criteria

OVERSHADOWING

PEG PATTERSON PARK

Peg Patterson Park is a well-used family park and children's play area within close proximity to the Station that enjoys midday sun.

It is however, compromised from a solar perspective and considered to be of secondary importance to Union Square (Station Precinct Master Plan). Nevertheless, it is important to maintain midday sun at Peg Patterson Park whilst ensuring the provision of alternative open space such as McIlwaine Park that enjoys morning and afternoon sun.

CHURCHILL TUCKER RESERVE

Through the urban renewal process, Churchill Tucker Reserve will benefit from adjoining ground floor frontage and activation controls that will improve its amenity and increase usage.

The Reserve's solar access is already significantly compromised. Therefore a requirement for no net increase to overshadowing would not improve the amenity of the Reserve and would reduce the viability of any scale redevelopment.

NO NET INCREASE OF OVERSHADOWING (12PM-2PM)

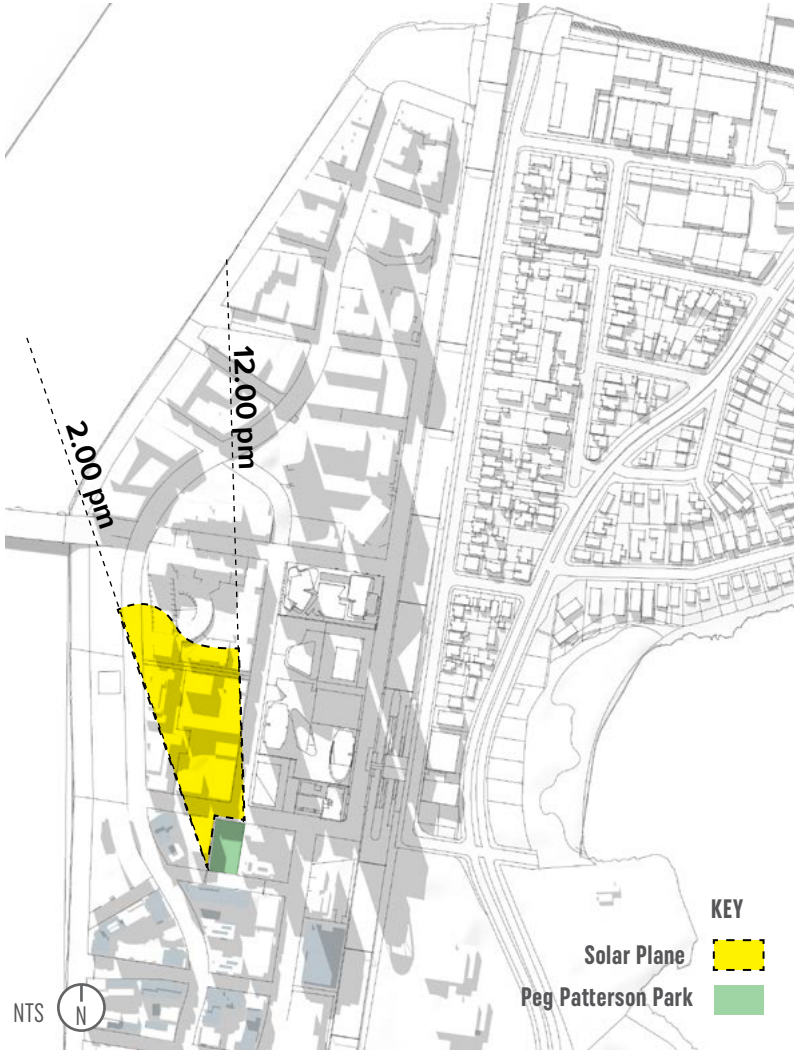


Figure 109. Peg Patterson Park-Overshadowing Criteria

CRITERIA

TOWER DESIGN

FLOORPLATE MAXIMUM

The following benefits of slender tall towers with smaller floorplates are globally acknowledged to:

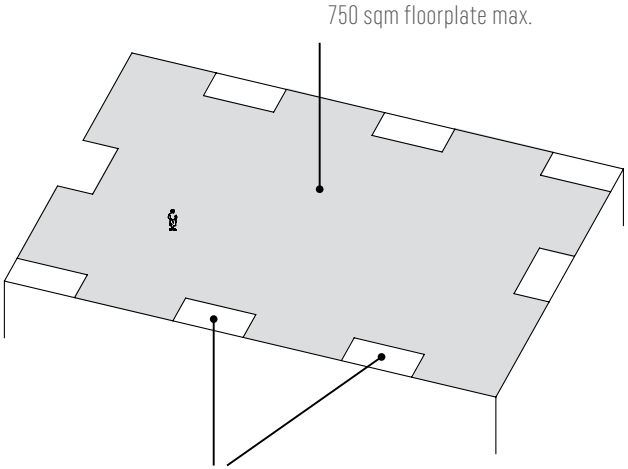
- minimise shadow and wind impacts,
- minimise loss of sky views,
- allow for the passage of natural light, and
- reduce 'walls of buildings' from key public spaces.

Our research, is consistent with industry best practice and government guidelines that suggest that an enclosed floorplate (excluding balconies but including circulation) of 750 sqm is not only achievable but best practice for the range of heights proposed across the Rhodes Peninsula.

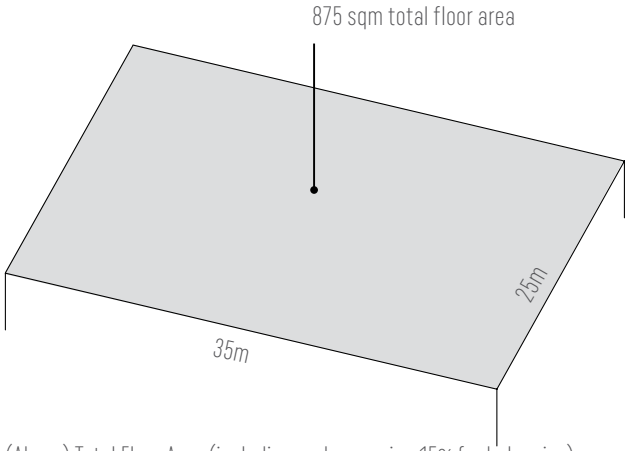
It is acknowledged that some new development will be stacked onto existing towers with a larger floorplate. In this instance, a reduced floorplate will not be required. However, a reconsideration of the existing tower floor plan approval will be required to ensure that other compliances are met including, but not limited to, ADG maximum units per core.

750 SQM MAXIMUM ENCLOSED FLOORPLATE

875 SQM TOTAL FLOOR AREA



(Above) Maximum Enclosed Area (including circulation and excluding balconies)



(Above) Total Floor Area (including and assuming 15% for balconies)

Figure 110. Building Footprint Criteria

TOWER DESIGN

HEIGHT VARIATION

Global examples of Density Done Well where the pedestrian experience is prioritised, generally suggest that a height difference of 5-10 storeys between adjoining towers is best practice.

This height variation is discernible from the ground by a pedestrian and supports height transition strategies.

Due to the constraints of Station Gateway West and density objectives, a 5 storey height differential has been identified as reasonable, and achievable, when tested from the following priority public domain locations:

- McIlwaine Park
- Rhodes West Park
- Brays Bay
- Bennelong Bridge
- Concord Road South

5 STOREY HEIGHT VARIATION BETWEEN ADJOINING TOWERS ABOVE 20 STOREYS

Figure 111. Height Variation in Vancouver, Canada

CRITERIA

TOWER DESIGN -TALL TOWER SEPARATION

INTRODUCTION

Global best practice suggests that the following outcomes can be achieved when floorplate controls and a height transition strategy are implemented in association with increased building separation (in excess of ADG at certain heights).

- Logical offset of sky obstruction as heights increase (refer to diagrams on the following spread). As tower heights increase beyond 20 storeys, building separation incrementally increases as well (beyond the maximum ADG separation of 24m). This approach is consistent with the ADG but acknowledges the very tall towers proposed at Rhodes Peninsula outside of a CBD context.
- Varied tall tower heights on podium with greater separation reduce wind tunnel effects and improve pedestrian comfort in public spaces. Careful siting of buildings should ensure that the limited amount of new open space is as attractive and welcoming as possible.
- There are obvious health and wellbeing benefits associated with visual access to blue sky. However, building envelopes and siting also combine to influence the micro-climate of an urban environment. The most important effect is that building bulks obstruct open sky and delay the cooling of the surface during clear and calm nights and result in increases to the urban heat island effect.

APARTMENT DESIGN GUIDE AS THE FOUNDATIONS

The NSW ADG and the Office of the Government Architect's Better Placed documents acknowledge the benefits of localized, tailored urban and built form solutions. The ADG is a successfully implemented policy that should be adhered to and built upon.

Specifically, the ADG Part 1 -Identifying the Context and Better Placed 7.1 Better Fit Contextual, Local and of its Place, encourage a tailored best practice approach to every development.

The ADG discusses the purpose and benefits of the building separation controls outlined within the documents as generally:

- Improving internal residential amenity through increased visual and acoustic privacy, outlook, natural ventilation and daylight access.
- Providing communal and private open spaces that have adequate usable space for landscaping, deep soil planting and adequate sunlight and privacy.

The ADG also recommends to, "Increase building separation proportionally to the building height to achieve amenity and privacy for building occupants and a desirable urban form."

The Rhodes Planned Precinct Criteria and Master Planning aims to build on the ADG to provide a location-specific recommendation that gives equal priority to the public realm and experience as to that of the private open space and residences. This is consistent with the Planned Precinct Objectives and Principles.

The controls provided within the ADG are, and should be retained as baseline controls, However, in certain circumstances, a more refined and nuanced approach, such as the Tall Tower Separation Criteria, is required to achieve the Planned Precinct Objectives.

TOWER DESIGN-TALL TOWER SEPARATION

A TAILORED RESPONSE

Urban design research suggest that pedestrians generally only perceive the first few floors of development (the human scale) when walking down the street and do not feel adverse, additional impacts of enclosure. Beyond the human scale height, massing and building separation can impact the immediate area and of development in the following ways:

- Solar access
- Wind impact
- Sky view access

With limited new open space being provided, and the amenity of streets and open space already impacted by existing development, it is critical that the impact of any additional development on the public domain is minimised.

The shape of the Rhodes Peninsula means that tower clusters will have a greater visual impact from public spaces and infrastructure such as the Parramatta River, and foreshore parks including McIlwaine Park, Rhodes West Foreshore Park as well as Bennelong Bridge. The unique location and configuration of the Rhodes Peninsula requires visual assessment of the proposed development to be considered from a wider vantage.

Design Principle Specifications-

The priority visual assessment locations identified within the Rhodes Planned Precinct require additional attention to be paid to sky views and built form permeability. Key view locations such as McIlwaine Park and Rhodes West Foreshore Park take in direct and angular views that, at the tower heights proposed, could present as a "wall of towers' and/ or significantly block sky views in the absence of increased and tested tower separations.

RHODES MIXED USE CENTRE VS. CBD

Rhodes Peninsula will provide much needed housing diversity and density. However, it is important to differentiate the urban character of Rhodes when compared to a CBD character. Rhodes Planned Precinct has been characterised as generally mid-rise, high density. Whilst there will be locations that are high-rise, high density as discussed in the Height Strategy section of this report; it is not appropriate to replicate a CBD with excessive tower clustering to the detriment of blue sky, solar access and pedestrian comfort. The primary character and community intent requires a unique response.

Rhodes Planned Precinct will adopt the ADG building separation requirements for buildings up to 20 storeys which will have limited impact on the public realm and public experience.

Beyond 20 storeys, the Master Plan adopts additional building separation controls aligned to increased height at nominated thresholds. Similar to the ADG, separation can increase between two towers at the height threshold and does not need to achieve the maximum height-related separation from ground level.

The constrained land and intentional high density urban character of Gateway West results in a maximum separation of 40 meters in this location. A tailored requirement will be established for East that may vary to that of the West.

15-20 STOREYS-24M
ABOVE 20 STOREYS -40M

CRITERIA

TOWER DESIGN-TALL TOWER SEPARATION

A TAILORED RESPONSE

Gateway West is highly constrained and also highly visible from key public spaces. However, it is intended as a high density urban Gateway. With limited new open space being provided within Station Gateway West; it is critical that the impact of any additional development on the public domain is minimised.

The shape of the Rhodes Peninsula means that tower clusters will have a greater visual impact from public spaces. The artist's rendering opposite demonstrates the visual permeability achieved from the key locations outlined within the Rhodes Peninsula Design Principles.

Beyond 20 storeys, the Master Plan builds upon the ADG with additional building separation controls aligned to increased height at nominated thresholds. The constrained land and intentional high density urban character of Gateway West results in a maximum separation of 40 meters in this location and the East. However, additional separation distances 32 storeys are implemented for other Character Areas due to the intended character and a tailored locational justification.

TOWER DESIGN-TALL TOWER SEPARATION

A TAILORED RESPONSE

Station Gateway East shares the unique locational characteristics of the West as well as a high density urban Gateway character. With limited opportunity to provide new open space south of the Rhodes Planned Precinct; it is critical that the amenity of existing open space is prioritised and impact of any additional development on the public domain is minimised.

The shape of the Rhodes Peninsula means that tower clusters will have a greater visual impact from public spaces. The design of Station Gateway East has been an iterative process to minimise the perceived wall of towers from McIlwaine Park. The artist's rendering opposite demonstrates the visual permeability achieved from McIlwaine Park whilst balancing gateway identity, density and height across both Station Gateway East and West.

Beyond 20 storeys, the Master Plan builds upon the ADG with additional building separation controls aligned to increased height at nominated thresholds.

CRITERIA

TOWER DESIGN

WIND MITIGATION

Sydney is experiencing a pattern of tower-induced windswept public spaces. Whilst we are achieving the desired quantum of housing, jobs and open space; the quality of the space for residents and workers is compromised as a result of inadequate wind testing and/ or retrofit mitigation measures.

The limited public open space provided at Station Gateway West is to be designed to:

- Optimise solar access and be physically open to the sky. The current open space on site is covered and therefore the opportunity to genuinely sit outside is limited,
- Facilitate tree planting and canopy covered unencumbered,
- Embrace the ''power of free' whereby visitors can use the space without retail obligation or perception of a privatised space, and
- Enable a diversity of activities.

Any proposed development must demonstrate that a sufficient level of 'Wind Comfort Standard for Sitting in Parks' (in accordance with Lawson Wind Comfort Criteria) is achievable without the need for any open space cover or mitigation measures other than the design of the building itself.

BUILDINGS ARE DESIGNED TO MINIMISE WIND IMPACTS TO NEW AREAS OF OPEN SPACE WITHOUT THE NEED FOR ROOFS OR CANOPY STRUCTURES

MAXIMUM % OF COVER (IN THE FORM OF AWNING) CONSISTENT WITH THE MASTER PLAN

PODIUM DESIGN

PODIUM FRONTAGE

Whilst the Tower and Podium Typology is considered to be the appropriate built from response, for the reasons outlined in the previous section; flexibility is provided to allow towers to extend to the ground.

A podium can be broken for a portion of the ground plane in order to promote:

- Architectural creativity and design flexibility, and
- Legibility in terms of primary entries.

The rationale behind the podium typology reinforces the need for the portion of podium ground plane frontage to be associated with any proposed public open space where gathering is encouraged and pedestrian comfort is a priority.

MAXIMUM 1/3 OF A TOWER FRONTAGE ALONG A STREET OR PUBLIC SPACE MAY EXTEND DOWN TO THE GROUND.

PUBLIC GATHERING AREAS MUST BE ASSOCIATED WITH THE 2/3 OF THE FAÇADE THAT IS GROUNDED BY A PODIUM.

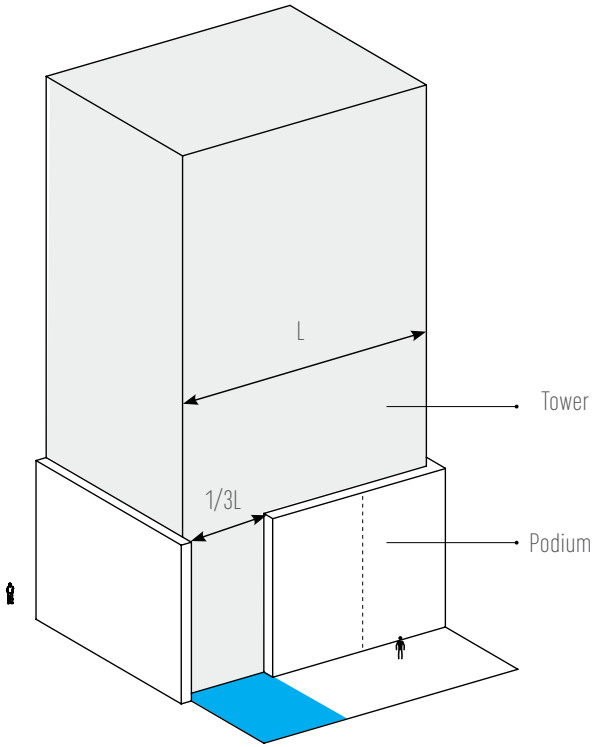


Figure 112. Podium design -tower frontage criteria

Podiums associated with ground plane gathering spaces to improve comfort.

CRITERIA

SHARED STREETS

GENUINE CLASSIFICATION

Shared streets provide valuable connectivity and activation in dense urban areas if they are provided as a genuinely multi-modal space that prioritises pedestrians.

Any thoroughfare within or surrounding the Station Gateway West proposed as a Shared Street must meet RMS's technical requirements as well as demonstrating the following best practice principles:

- Where possible, minimize/ remove any modal delineation.
- Prioritise pedestrian, cyclist then private vehicle.
- No bus set down or step
- No more than 100 vehicles per hour
- Length not to exceed 400m
- Minimum trafficable width of 2.8m
- Surface treatment identify a unique zone for vehicles and pedestrians via different treatment of road surface that provides a physical and audible cue they should slow down (not kerbs)
- Avoid pedestrian crossings wherever possible. Alternatively use bold graphic approaches that provide a visual difference to standard crossing and clearly identifies the area as a unique zone
- Use signs to identify upcoming hazards for drivers (limited signage where possible to avoid confusion)
- Design bollards to limit vehicle access whilst not being perceived as a barrier. Limit vehicle access to verges and provide safety for pedestrians (a variety of bollard/barrier types that incorporate plants
-

ANY SHARED STREET CONTRIBUTING TO OPEN SPACE REQUIREMENTS MUST COMPLY WITH RMS STANDARDS FOR A CAT 1 SHARED ZONE.

REALISATION OF BEST PRACTICE DESIGN PRINCIPLES MUST BE DEMONSTRATED.

HOUSING DIVERSITY

APARTMENT UNIT MIX

The priority to provide diversity in new communities is compounded at Rhodes Station Gateway (West and East) due to proximity to the Station, daily convenience and amenity. A range of lifestyle options and price points are required to deliver robust market solutions and social diversity. It is also critical to have long term flexibility to respond to current and future market demands.

A diversity of apartment sizes provision is proposed to be included in Canada Bay LEP as part of council's LSPS and housekeeping amendment which received gateway on 28 April 2020.

The DPIE determination report strongly supported the proposed dwelling diversity clause outlined below.

Council's Local Housing Strategy (LHS) found that, whilst 88% of new demand for dwellings in the LGA by 2026 is likely to be apartments, 20% of apartments are occupied by families with children. Whilst Council is focusing on facilitating low rise medium density developments around centres that have good access to infrastructure and services, there is a need to ensure supply of a wide range of apartment types.

It is proposed that there be a requirement that residential flat buildings and mixed use developments that include shop top housing, of at least 10 dwellings, provide at least 20% of the dwellings as self contained studio dwellings or one-bedroom dwellings, and at least 20% of the dwellings as 3 or more bedroom dwellings.

AFFORDABLE HOUSING

A level of 5-10% affordable housing is a requirement of the Eastern City District Plan and the City of Canada Bay Local Strategic Planning Statement. As the City of Canada Bay is included within SEPP 70, the provision of affordable housing should be delivered as inclusionary zoning through a clause in the LEP and in accordance with Council's draft Affordable Housing Contribution Scheme.

MINIMUM 20% STUDIO/1 BEDROOM

MINIMUM 20% 3 BEDROOM

MAXIMUM OF 60% 2 BEDROOM

AFFORDABLE HOUSING DELIVERED AS % OF DEVELOPMENT UPLIFT

CRITERIA

ON-SITE PARKING

INTRODUCTION

Conservative car parking rates and active travel infrastructure will be required in order to deliver the key objective of sustainable transport and mode shift. A combination of maximum parking rates and interventions to increase public transport and active travel use will reduce reliance on the private vehicle, having positive impacts on the environment and health.

CARPARKING

Consistent with DPIE's Station Gateway West Master Planning Process, the maximum number of visitor and resident car parking spaces is to align with the maximum parking rates contained within the Rhodes Revised Draft Precinct Plan 2018.

In addition, the following principles should be adhered to:

- Designated car share spaces are to be provided on site in accordance with best practice.
- Demonstrate the ability for the proposed design scheme to reduce reliance on private motor vehicle and traffic impacts to the precinct; with particular focus on peak hours.

(A12 Promoting sustainable transport, reduce car use and increase use of public transport, walking and cycling. Rhodes West Development Control Plan 2015, City of Canada Bay)

The proposed car parking controls criteria are a maximum and apply to new development (new buildings and/ or extensions to existing buildings) of residential flat buildings, residences within a mixed use development, dual occupancies and multi dwelling housing. Further detail is provided within Appendix 1, including visitor parking rates.

CYCLE PARKING

Increased cycle parking is required to promote mode shift and a realistic reduction in vehicle reliance. This is combined with improved connectivity, permeability and cycle infrastructure throughout the Rhodes Peninsula.

Cycle parking rates are consistent with City of Canada Bay Council's DCP.

PARKING

STUDIO DWELLING–0.1 CAR SPACES

1 BEDROOM DWELLING–0.3 CAR SPACES

2 BEDROOM DWELLING–0.7 CAR SPACES

3 OR MORE BEDROOM DWELLING–1 CAR SPACE

CYCLE PARKING

RESIDENTIAL
2 PER DWELLING (RESIDENT)

2 PER 10 DWELLINGS (VISITOR)

COMMERCIAL
2 PER 150M^2 GFA (RESIDENT)

2 PER 400M^2 GFA (VISITOR)

RETAIL
2PER 250M^2 GFA (RESIDENT)

4+2 PER 100M^2 GFA (VISITOR)

APPENDIX B
GATEWAY WEST CRITERIA

GATEWAY WEST

CRITERIA	COMPLIANCE	
NEW PUBLIC OPEN SPACE	A minimum of 4,000 sqm of Open Space to be provided within Station Gateway West and broken down into minimum per site provisions Minimum dimension to be added to laneways and paths Location and dimension in accordance with the Master Plan Marquet Street Forecourt-2hrs solar for 50% of the space (9am-3pm) Walker Street Transit Plaza-2hrs solar for 50% of the space (9am-3pm) Gateway West Pedestrian Laneways-no control	Station Gateway West Master Plan , DCP, VPA
SHARED STREETS	In accordance with best practice assessment criteria	Station Gateway West Master Plan
GREENERY	25% Canopy Cover (calculated as 25% of the Gateway West site plus the public verges, ie. combined private & public land) 1:1 replacement ratio LUSH Strategy 25% Green View Index	LEP-Design Excellence Clause, Station Gateway West Master Plan, DCP, Council -Rhodes Station Precinct Public Domain Proposal
TOWER DESIGN	750 sqm maximum enclosed floorplate/ 875sqm maximum total floor area Additions to existing buildings can retain existing footprint but will be re-assessed and are not entitled to previous approvals. Minimum 5 storey variation transition between adjoining towers above 20 storeys	Station Gateway West Master Plan, DCP, LEP-Design Excellence Clause
	Tall Tower Separation: 15-20 storeys-24m Greater than 20 storeys-40m	LEP
	Buildings are designed to minimise wind impacts to new areas of open space without the need for roofs or canopy structures. Maximum % of cover (in the form of awning) consistent with the Master Plan	LEP Design Excellence Clause re % of cover, Master Plan, DCP, Council -Rhodes Station Precinct Public Domain Proposal, VPA
PODIUM DESIGN	14-16m podium height Ground and upper level setback requirements-3m/ 4m respectively	LEP (supported by LSPS)
UNIT MIX	minimum 20% studio/1 bedroom minimum 20% 3 bedroom, maximum of 60% 2 bedroom	LEP (supported by LSPS)
VIBRANT FACADES / STREETSCAPE	minimum 60% of the facade / 15-20 doors per 100 meters	Master Plan , DCP
PARKING	In accordance with best practice recommended criteria	DCP
OVERSHADOWING	1A. Macilwaine Park -No net overshadowing: 6hrs solar for primary zone (turfed area) (8.30am-2.30pm)	Site specific LEP provision
	1B. Macilwaine Park -No net overshadowing: 4hrs solar (8.30am-12.30pm)	Site specific LEP provision
	2. Union Square -No net increase of overshadowing (9.00am -2.00pm)	Site specific LEP provision
	3. Peg Paterson Park Playground-No net increase of overshadowing (12.00-2.00pm)	Site specific LEP provision
	4. Churchill Tucker Reserve-No control	Site specific LEP provision
SUSTAINABILITY	Rhodes is a collaboration area under the Eastern City District Plan with an aim to deliver precinct wide sustainability outcomes through: • Dual Water Pipes	Station Gateway West Master Plan

THE MASTER PLAN -CRITERIA

INTRODUCTION

The criteria established for the quantity and quality of new open space is determined as a tailored response to the Master Plan including realistic balance of development and public benefit. This Criteria is unique in that it assumes and envisages a long term, ultimate redevelopment scenario.

QUANTITY

Within the existing constraints of Station Gateway West, there is still a requirement to provide additional meaningful open space. The location and amount is outlined within the Master Plan section of this report and aims to achieve:

- Public open space that is accessible 24hours per day 7 days per week.
- Critical community and transit pedestrian desire line links,
- Well located open space; and
- Pedestrian amenity and congestion relief.

QUALITY

The location of open space directly relates to maximising solar access, and pedestrian comfort and protection from the wind effects of the proposed development. In addition it will complement the existing and proposed open space throughout the Rhodes Peninsula.

CONTRIBUTION TO OPEN SPACE

Genuine shared streets provide a unique and integral contribution to urban open space networks.

Only if a future development application can fulfill the relevant Shared Street Criteria at Station Gateway West, it may contribute to the minimum open space provision.

This will ensure the provision of adequate, usable open spaces for people today and into the future.

MINIMUM OF 4,000SQM AS PER THE MASTER PLAN

TAILORED SPECIFICATIONS RELATING TO SOLAR ACCESS, CRITICAL DIMENSIONS AND PUBLIC DOMAIN

LANDSCAPE MASTER PLAN

The landscape Master Plan suggests general arrangement and placement of landscaped features in accordance with the public domain requirements.

Note: to achieve a canopy coverage of 25% to the site, 0.75ha of canopy is required for the character area. The indicative public domain canopy arrangement shown assumes minimum of 25% canopy coverage is also achieved within built form footprint. If 25% canopy cannot be achieved in the public domain, it is acceptable to provide additional canopy within the building footprint.

Additional design specifications and Criteria realisation is outlined within the Criteria section of this report.

The 25% canopy cover is achieved through a combination of public and private planting. The Station Gateway West DCP will detail the canopy cover proportion expectations for all areas. There will be an expectation that individuals meet the expectation or demonstrate inability through the Design Excellence process.

LEGEND

- Street Frontage*
- Public space*
- Towers*
- Podium*
- Green Space
- Canopy location*
- Through link / laneway

*indicative only

Figure 113. Landscape Master Plan

CRITERIA

PODIUM DESIGN

PODIUM HEIGHT

A tower and podium typology is considered the most appropriate typology for the Station Gateway West due to:

- Contextual consistency and response,
- Consistency with Rhodes objective to deliver human scale development; and
- Wind mitigation of at-grade public spaces.

A 14 metre podium streetwall is consistent with Council's Station Precinct Master Plan (November 2014) and generally consistent with the contextual podium fabric.

A range is provided to:

- Remain consistent with the ground floor height requirements outlined in the Apartment Design Guide,
- Allow a range of ground land uses, and
- Accommodate topographical changes across Station Gateway West and East.
-

14-16 METRE MAXIMUM HEIGHT

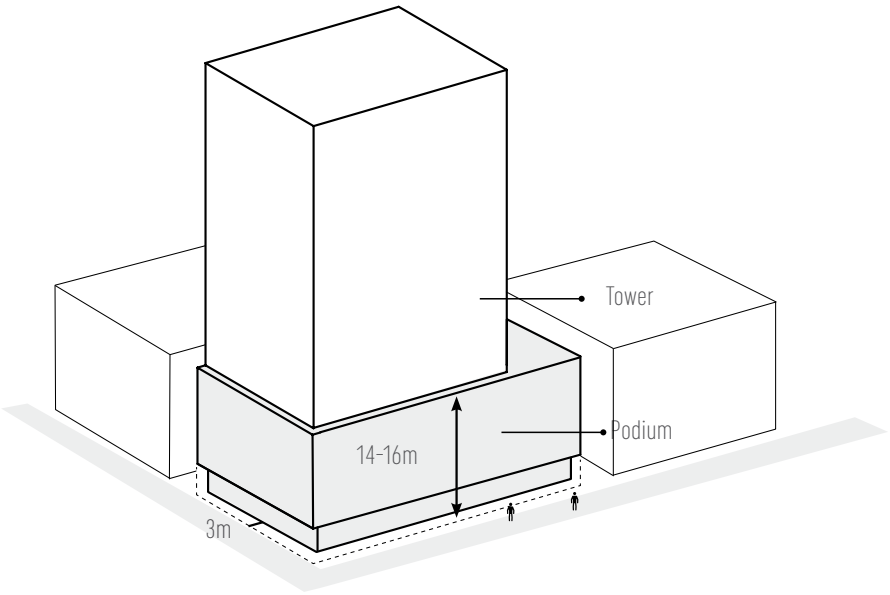


Figure 114. Podium design critera

PODIUM DESIGN

GROUND AND UPPER LEVEL SETBACKS

The extent of ground floor setbacks within Station Gateway West is primarily driven by:

- Degree of urbanity-aims to achieve high levels of vibrant urban interfaces,
- Sense of enclosure-aims to create intimate, fine grain, human scale pedestrian environment, and
- Nature of streetscape programming and landscape-sufficient space for pedestrian weather protection and amenity as well as street furniture, outdoor dining and path of travel.

The extent of podium setback within Station Gateway West is primarily driven by:

- Ability to assist in wind mitigation associated with towers;
- Usable podium terrace space in the form of ornamental green roofs, contributing to Greenery Criteria and/ or optimum dimensions for private courtyard spaces.
-

PROVIDE 3 METRE GROUND FLOOR SETBACK.

PROVIDE 4 METRE SETBACK FROM PODIUM TO TOWER BUILDING ELEMENT.

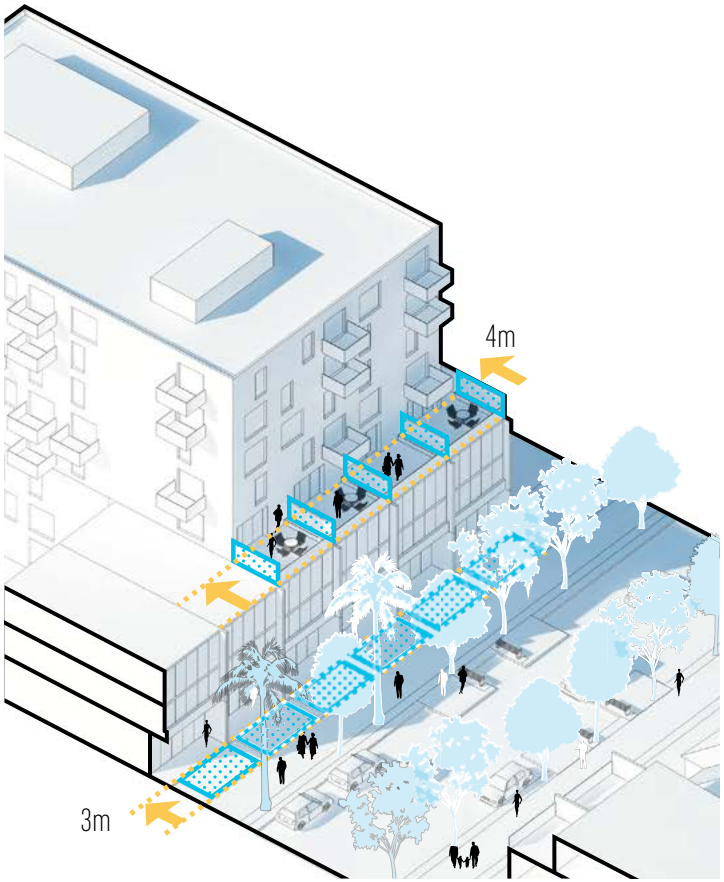


Figure 115. Ground and upper level setbacks

CRITERIA

PODIUM DESIGN

VIBRANT FRONTAGES

Vibrant, pedestrian friendly frontages are a combination of spatial characteristics, landscape, architecture, land use and built form frontage design.

This Criteria relates, and limits control, to urban design streetscape activation influences. This being, controls for non-residential ground floor land use and fine grain frontage design.

The quantity of existing and future residential density at Station Gateway West requires outwardly facing retail support and activation. This must be practically balanced with opportunities for residential entries and servicing.

In order to achieve both; a minimum amount of retail frontage is required combined with a minimum 'door density' irrespective of land use.

As the basis for this control, we have drawn upon psychological studies of pedestrians. These studies document that optimally a walker is stimulated by his surrounds every 5 metres. This kind of engaging environment attracts seven times more activity; more walking, more shopping, more interaction and more happy, stimulated people.

MIXED USE STREETS -MINIMUM OF 60% STREET FRONTAGE IS DEDICATED TO VIBRANT RETAIL USES.

BUILDING AND SHOPFRONT ENTRANCES-MINIMUM 15-20 DOORWAYS PER 100M OF FAÇADE.

APPENDIX C

GATEWAY EAST CRITERIA

GATEWAY EAST

CRITERIA	COMPLIANCE	PROPOSED CONTROL DOCUMENTS
GATEWAY EAST		
NEW PUBLIC OPEN SPACE	A Station Bridge Plaza must be provided: • As an integrated development solution between land owners and IfNSW • Connecting to the Active Travel stubs (Station and McIlwaine Park) • A minimum width of 16m for the entire private development length, and accommodate a two-way pedestrian path and a separated two-way bicycle path plus landscaping to the northern and southern edges. • A minimum of 550 sqm • 80% vibrant retail frontage and 15/ 20 doors/ 100 meters • The bridges will be developed with adherence to the key design parameters outlined by the NSW "Pedestrian Bridge Design Standards for Built up Areas", in particular the minimum clearance height of 5.5m. • A minimum width of 8m for the stubs	Station Gateway West Master Plan , DCP, VPA
TOWER DESIGN-ENVELOPE BONUS	The height and FSR associated with the Master Plan envelopes demonstrate the upper limit of development that can be achieved IF BASIX targets are exceeded. Development up to 95% of the upper limit FSR is available otherwise.	LEP
	Minimum commercial floor area for SGW and SGE	
PODIUM DESIGN	Concord Road Frontage- • Ground and upper level setback requirements-minimum 3m/ 4m respectively • 4-16m podium height	
VIBRANT FACADES / STREETSCAPE	15-20 doors per 100 meters Vibrant Frontage Plan consistent with the Master Plan	Master Plan , DCP LEP, Master Plan, DCP
	Minimum of 16,000 m^2 of retail/ commercial floorspace consistent with the Vibrant Frontage Plan Aged care is encouraged within the commercial floorspace.	LEP, Master Plan, DCP
SUBDIVISION	A minimum lot size of 2,000 sqm within this Character Area.	LEP, DCP

THE MASTER PLAN -CRITERIA

STATION BRIDGE AND PLAZA

A key objective of the Master Plan is to improve access to, and usage of, McIlwaine Park recognising it as an integral part of the open space network within the Peninsula. As a result, the Master Plan incorporates the Station Bridge to not only increase access to McIlwaine Park but to provide additional open space. The Station Bridge will provide:

- A multi purpose linear public open space that is accessible 24hours per day 7 days per week.
- Increased use of the McIlwaine Park;
- Critical community and transit pedestrian desire line links,
- Station congestion and modal conflict relief;
- Improved pedestrian safety and travel time; and
- Activation that supplements, but does not detract from, Blaxland Road retail and activation.

QUALITY

The massing design for Station Gateway East prioritises solar access to McIlwaine Park and the other existing parks to optimise the amenity of the public domain. The Station Bridge Plaza open space provides an urban public place as an alternative to green open space qualities of McIlwaine Park; The spatial qualities combined with appropriate levels of greenery and vibrant frontages are prescribed to create a safe, urban and comfortable linear space.

CONTRIBUTION TO OPEN SPACE

The Station Bridge Plaza is to be delivered as an integrated design and development solution between related landowners. It will improve the functionality of the Station and add value to the Eastern Precinct by improving the amenity and public benefit offering.

MINIMUM OF 500SQM AS PER THE MASTER PLAN

24/ 7 PUBLIC ACCESS

16M WIDE MINIMUM

80% VIBRANT RETAIL FRONTAGE

Figure 116. Artist Impression of Station Bridge Plaza

TOWER DESIGN-AGED CARE AND FLOORSPACE AS AN UPPER LIMIT INCLUDING BASIX BONUS

BASIX BONUS

Delivering increased sustainability across the Precinct is critical. It can be affordably delivered with minor incentives. All Character Areas, excluding Station Gateway West, show a massing, height and FSR demonstrating the upper limit of development that can be achieved through a sustainability bonus. This is a 5% floorspace bonus for exceeding the BASIX targets. A lesser envelope and floorspace of 95% is available in the absence of this provision.

THE BENEFITS OF, AND TO, AGED CARE

Aged Care has strong synergies with the character, intent and primary uses planned for the Station Gateway East. Locating Aged Care in close proximity to public transport and daily convenience shopping and entertainment, will create an attractive environment and support a healthy lifestyle for an active, aging population. In addition, Aged Care Facilities do not generate large traffic volumes which is a positive outcome in an area where the road and rail networks are experiencing high levels of congestion.

By promoting and facilitating development outcomes, that include the relocation of the existing Cavell Avenue Aged Care, aging in place can occur strengthening the local community during the redevelopment of the Peninsula.

INCENTIVISING AGED CARE

Whilst the delivery of an Aged Care Facility will not be mandatory, there are the numerous benefits associated with relocating the existing aged care to Station Gateway East:

- It is a complimentary use and consistent with activation and employment objectives for the Precinct;
- Creates a model for integrated mixed use in TOD environments;
- Expedites the relocation of the existing aged care creating a strategic redevelopment site that could improve precinct connectivity, permeability and intersection density as well as flexibility for the future school site and surrounding context.

In order to facilitate and incentivise the provision of Aged Care on this site, aged care is a permissible use within the B4 ground floor and as an Active Frontage.

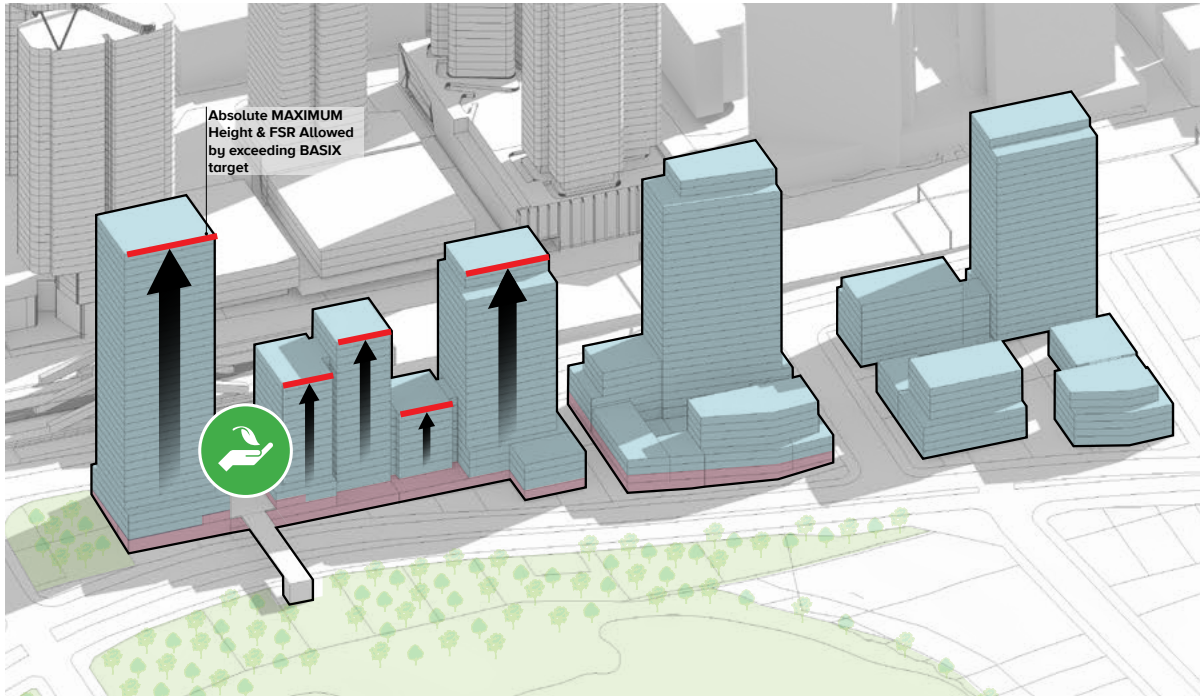


Figure 117. Built Form Outcomes -Maximum Height and FSR through exceeding BASIX targets

UPPER LIMIT DEVELOPMENT CAPABILITY SUBJECT TO EXCEEDING BASIX TARGETS

AGED CARE IS A PERMISSIBLE USE WITHIN THE B4 GROUND FLOOR AND AS AN ACTIVE FRONTAGE.

CRITERIA

PODIUM DESIGN

PODIUM HEIGHT

A tower and podium typology is considered the most appropriate typology for the Station Gateway East due to:

- Contextual consistency and response,
- Consistency with Rhodes objective to deliver human scale development; and
- Wind mitigation of at-grade public spaces.

A 14 metre podium streetwall is consistent with Council's Station Precinct Master Plan (November 2014) and generally consistent with the contextual podium fabric. All street frontages excepting Concord Road will retain the same 14-16m podium height required as Station Gateway West.

However, it is important to enable a flexible design response along Concord Road to mitigate noise, accommodate the slope of the Precinct and to accommodate a range of land use solutions as dictated by the market. In some cases a single storey podium before setting back to the tower element may be appropriate.

MINIMUM SETBACKS

Similarly, all street frontages except Concord Road will retain the same ground and upper level setbacks as a static control.

Concord Road will introduce these dimensions as a minimum, promoting additional setbacks to:

- Mitigate noise and promote privacy;
- Allow a range of land use interfaces along Concord Road;
- Promote wide green verges and podium roofs to contribute to improved amenity along Concord Road and when viewed from McIlwaine Park;
- Promote genuine balconies with amenity and privacy through setbacks rather than defaulting to enclosed winter rooms.
-

MINIMUM SETBACKS:

PROVIDE 3 METRE GROUND FLOOR SETBACK.

PROVIDE 4 METRE SETBACK FROM PODIUM TO TOWER BUILDING ELEMENT

4-16 METRE MAXIMUM HEIGHT ALONG CONCORD ROAD

PODIUM DESIGN

VIBRANT FRONTAGES

In addition to adopting the vibrant frontage control from Station Gateway West based on optimising stimulation for a pedestrian every 5 metres; the Vibrant Frontage Plan opposite mandates retail address within the Station Gateway East.

The Vibrant Frontage strategy is based on the following:

- Ongoing and enhanced street activation of Blaxland Road near the Station;
- Activation opportunities along a new Station Bridge and Bridge Plaza;
- Complementary non-residential interfaces between the mixed use core opposite the Station and transitioning north; and
- Providing active travel activation at the corner of Blaxland Road and Lewellyn Street providing wayfinding arrival from the north.

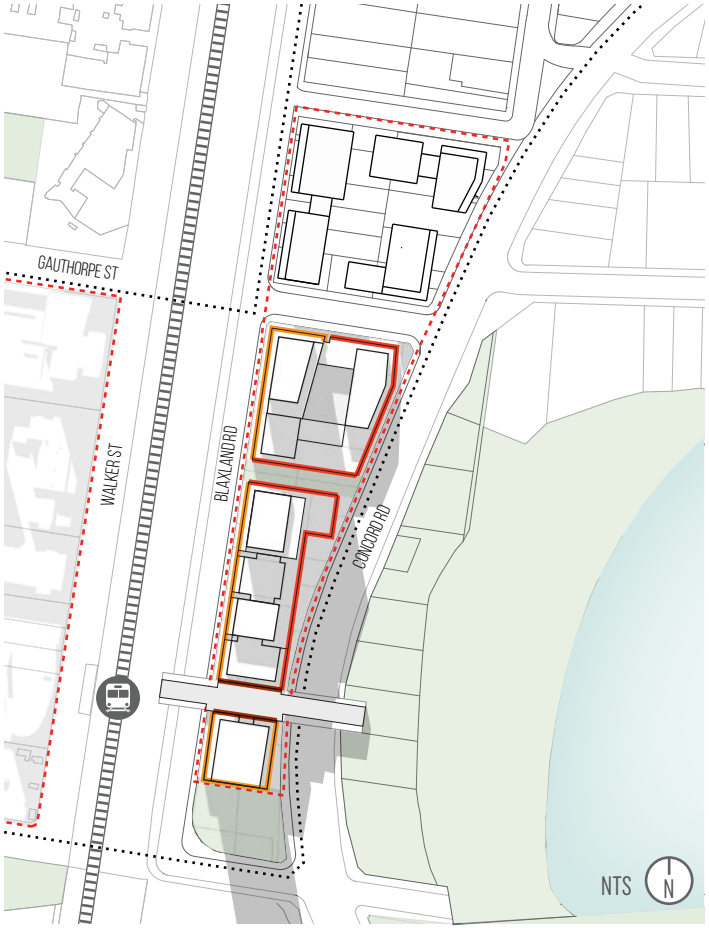


Figure 118. Vibrant Frontage Plan

LEGEND

- Station Gateway East & West Boundaries
- Vibrant Frontage
- Vibrant Station Plaza
- Non-Residential Interface (no Vibrant street front required)

BUILDING AND SHOPFRONT ENTRANCES-15-20 DOORWAYS PER 100M OF FAÇADE.

VIBRANT FRONTAGE PLAN

CRITERIA

SUBDIVISION

AN INTEGRATED APPROACH

Station Gateway East is not constrained by recent or current development. This provides an opportunity to promote an integrated private and public domain response through minimum lot size requirements.

Minimum lot size requirements in urban areas, particularly, with a Master Plan, and housing and job targets, are common to promote:

- Outcomes consistent with the overarching Vision of a Precinct;
- Realisation of infrastructure and public benefit requiring amalgamation and/ or genuinely integrated design and development solutions;
- Minimisation of isolated sites,
- Equitable distribution of density as an outcome of incentivised bonuses

A minimum lot size of 2,000 sqm is common in urban environments to enable a high quality urban development to be achieved with appropriate access, residential amenity, street interface and long-term contributions to a high density Precicnt.

This minimum lot size has been tested at Station Gateway East to promote integrated design discussions to facilitate the above universal goals as well as the Precinct-specific objectives:

- Delivery of a Station Active Travel Bridge to McIlwaine Park in the most logical location along a key desire line;
- Promote relocation of the Cavell Avenue Aged Care into this redevelopment site; and
- Achieve adequate yield to incentivise the timely delivery of the above without compromising the urban amenity and Precinct-Wide Criteria.

MINIMUM LOT SIZE OF 2,000SQM

APPENDIX D

LEEDS STREET FORESHORE CRITERIA

LEEDS ST

CRITERIA	COMPLIANCE	PROPOSED CONTROL DOCUMENTS
LEEDS ST FORESHORE		
NEW PUBLIC OPEN SPACE	A minimum of 7,500 sqm of Open Space to be provided as a single, contiguous open space with a minimum dimension consistent with the Master Plan. Leeds Street Foreshore Open Space (primary space of 7,500sqm): No overshadowing of the primary zone (8.30am-12.30pm) No more than 50% overshadowing (12.30 onwards) Location and dimension of North South Links in accordance with the Master Plan. Character, frontages and landscape controls as per the Master Plan. Foreshore Promenade-Minimum 15m wide linking Rhodes West Promenade the entire frontage of the Leeds Street Precinct School Site/ Playing Fields-No overshadowing of the open space (10am-2pm) Frontage Controls subject to detailed design of the school site/ buildings.	Master Plan, VPA, LEP Design Excellence Clause, DCP DCP
PODIUM DESIGN	The Leeds Street Character Area utilises a low-rise perimeter block typology with strategically located higher elements rather than a podium. Heights are to be consistent with the Master Plan and are site specific to provide optimal solar and neighbourhood transition outcomes. Ground Level Setbacks: • 0m to all non-street related public realm. • 4m to Leeds Street • 3m to Blaxland Road No upper level setback required.	Master Plan, DCP
VIBRANT FACADES / STREETSCAPE	Mixed use ground floor consistent with the Master Plan-Vibrant Facades 10-15 doors per 100 meters All Vibrant Frontages must provide at-grade transition/ access to public realm. They may encroach into the public realm by up to 3m for the following: Awnings • Shopfronts • Outdoor dining • Balconies/ verandahs Basement carparking and service access consistent with the Master Plan-Vibrant Facades (prohibited zones)	Master Plan, DCP

CRITERIA

MINIMUM 7,500 SQM OPEN SPACE

MINIMUM 15M WIDE FORESHORE PROMENADE

MINIMUM NORTH-SOUTH LINKS AS PER MASTER PLAN

NEW PUBLIC OPEN SPACE

A 7,500sqm foreshore park has been agreed to by the Project Team and Stakeholder group as the appropriate contribution.

The configuration and location of the park is based on extensive benchmarking (refer to the following pages) in terms of the nature of the frontages, programmatic and landscape requirements.

The foreshore promenade width provides adequate continuity with the Rhodes West promenade and width for anticipated active travel users and increased population based on standards and best practice.

The north-south pedestrian link minimum widths ensure:

- Precinct-wide legibility and water views,
- Safe sightlines,
- Adequate width for active retail uses and outdoor dining, and
- Adequate solar opportunities.

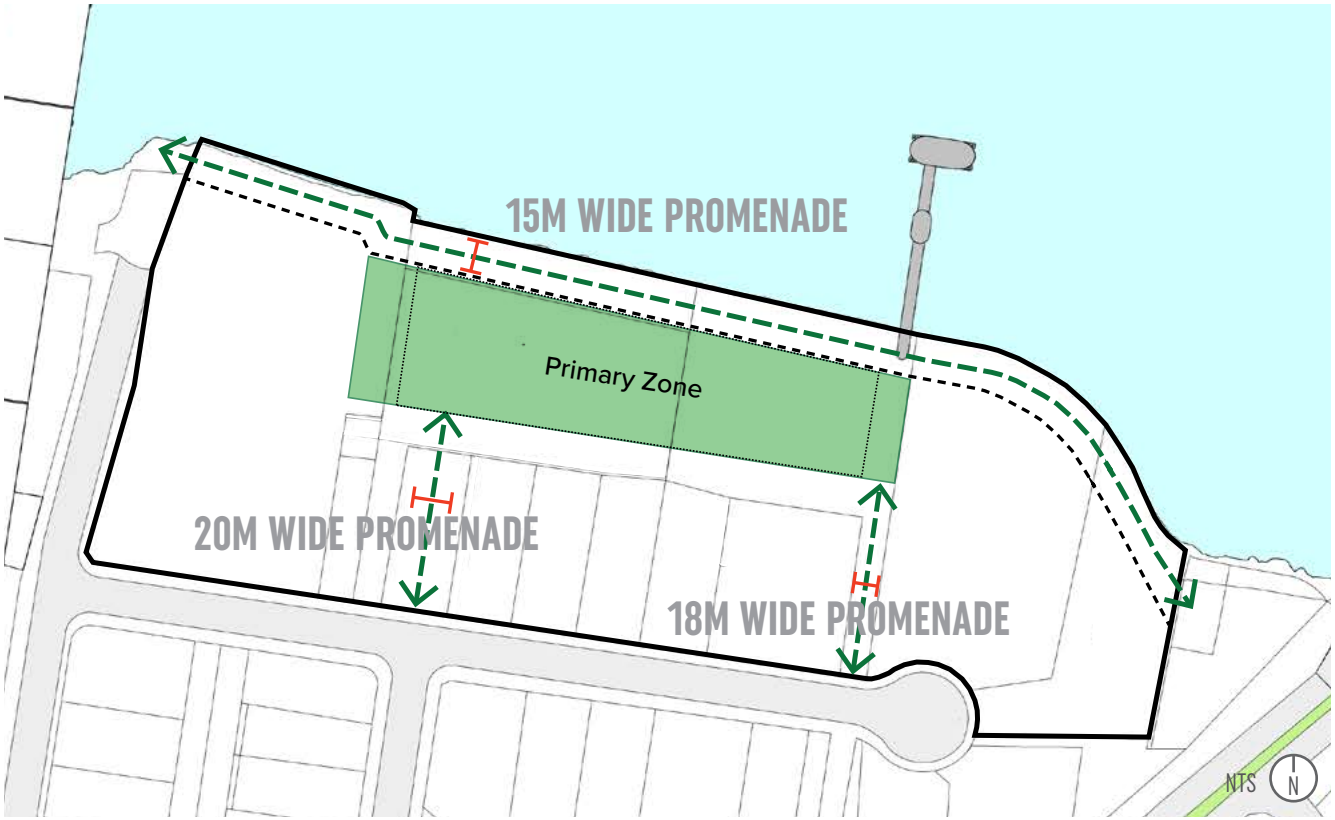


Figure 119. New Public Open Space Plan

MILL PARK

SIZE: 0.7Ha

LOCATION: Rhodes, Sydney

OVERVIEW:

- Features two large open grass areas;
- Amenities buildings;
- 400m2 Outdoor gym;
- Small carpark;
- Connection to shared path along foreshore.

Figure 120. Examples of Mill Park

ANDERSON PARK

SIZE: 0.7Ha

LOCATION: Ryde, Sydney

OVERVIEW:

- Features large open grassed area;
- Children's playground;
- Public BBQ and picnic amenities;
- Fitness station;
- Parking.

LEEDS ST OPEN SPACE

Figure 121. Examples of Anderson Park

WATERFRONT PARK

SIZE: 1.2Ha

LOCATION: Pyrmont, Sydney

OVERVIEW:

- Foreshore walking track connects to Pirrama Park Playground.
- Includes extensive public art, referencing the industrial heritage of the site.
- Play equipment and picnic seating are also offered.
- Extensive open lawn areas, with bleacher seating overlooking the harbour.
- Formal and informal seating overlooking the harbour.

Figure 122. Waterfront Park

DOMINO PARK

SIZE: 2.4Ha

LOCATION: Brooklyn, NYC

OVERVIEW:

- Features a large 'post-industrial style' playspace;
- Fixed and mobile seating / dining options;
- Private cafe;
- Foreshore walk;
- Waterplay;
- Beach Volleyball;
- Dog Run;
- Boccee Court.

Figure 123. Domino Park

THE EDGE PARK

SIZE: 0.45Ha

LOCATION: Brooklyn, NYC

OVERVIEW:

- 50% of this former industrial site is now considered permeable.
- Features extensive connection to greater foreshore walk and jetty.
- Ample seating;
- Large open lawn;
- Foreshore access.

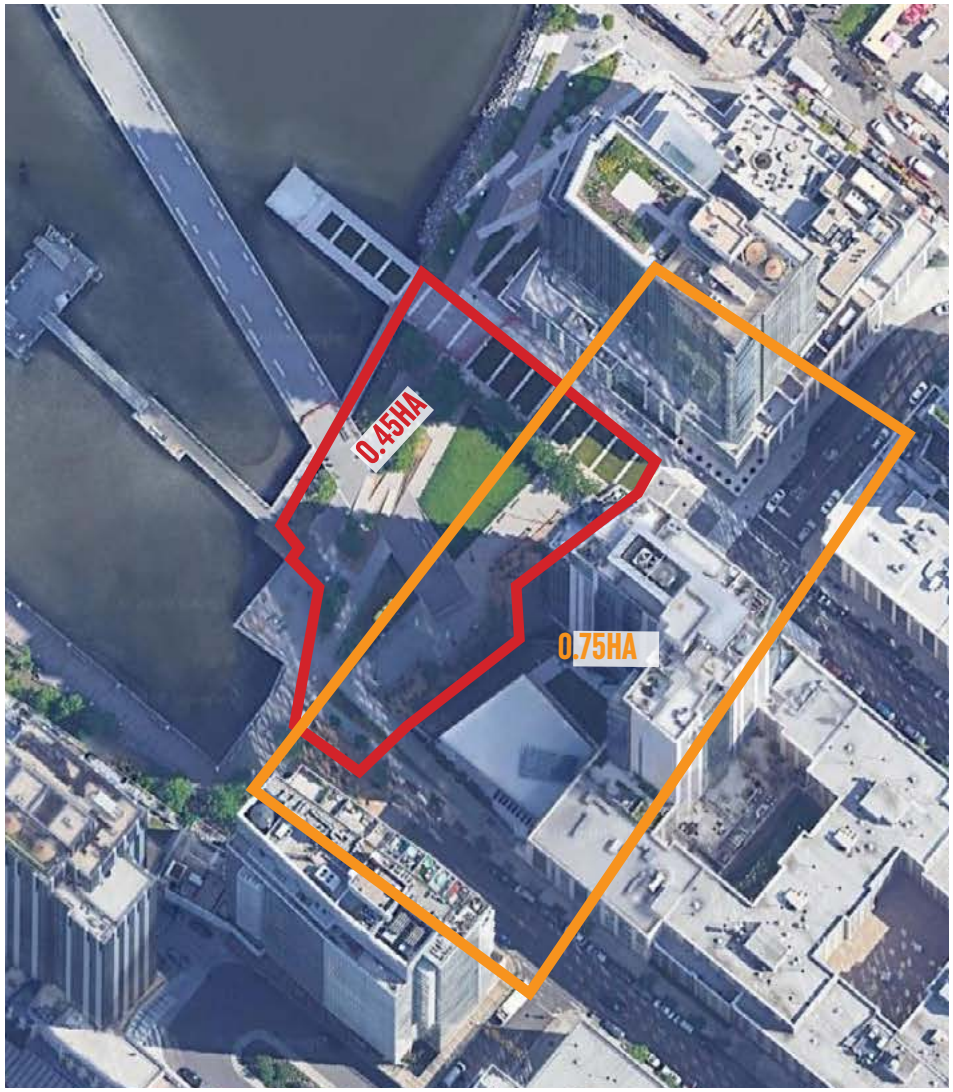


Figure 124. Examples of The Edge Park

OVERSHADOWING

LEEDS STREET FORESHORE PARK

Leeds Street Foreshore Park is the single large new park introduced to the Rhodes Precinct. In addition to the generous size and prominent location; it is critical that solar access is uncompromising.

The primary zone for Leeds Street Foreshore Park is defined as the entire park excluding a 15m activation zone along the eastern and western edges. This are is excluded to promote zero-lot line buildings whereby the ground floor retail activates and extends into the public realm. This area will have not overshadowing during peak exercise, breakfast and lunch times. This control is relaxed in the afternoon to facilitate adequate density in a high amenity area next to public transport.

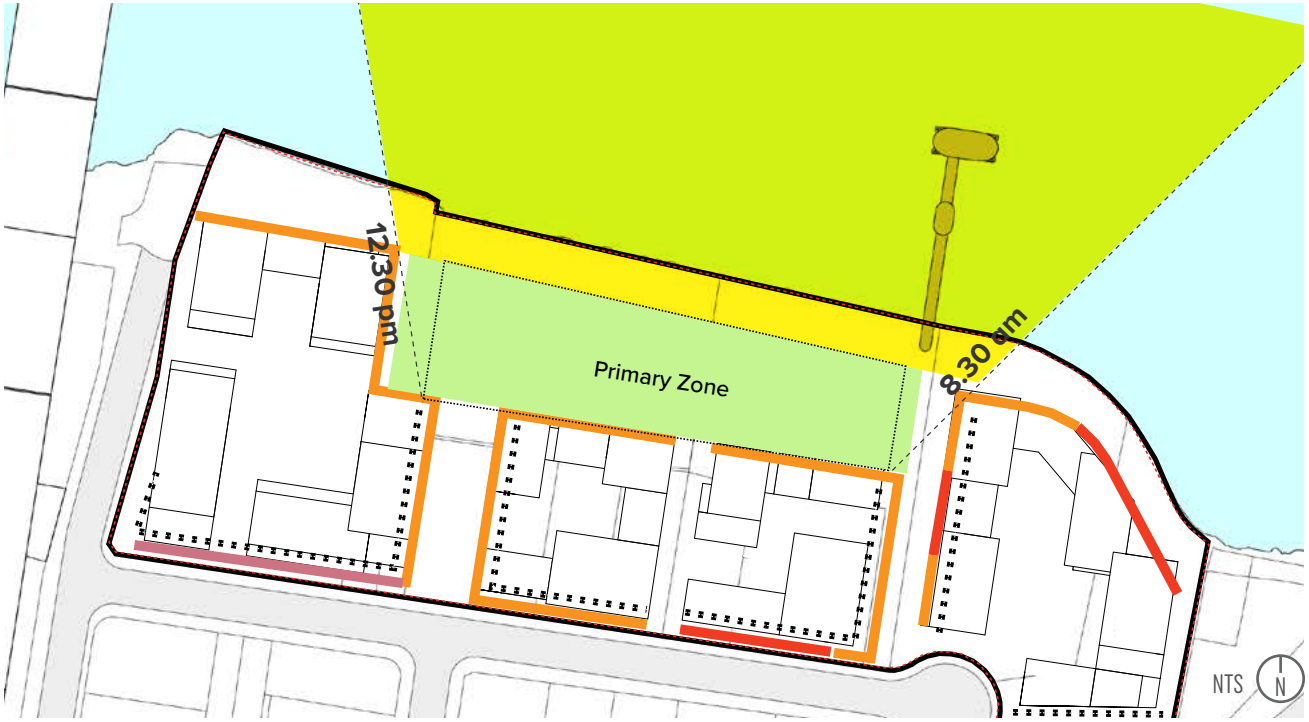


Figure 125. Leeds Street Foreshore Park Overshadowing Controls

PRIMARY ZONE-NO OVERSHADOWING 8.30AM-12.30PM.

MAXIMUM 50% OVERSHADOWING FROM 12.30PM.

OVERSHADOWING

SCHOOL SITE-OPEN SPACE

The proposed school site has not been subject to detailed design. However, this Criteria introduces the following principles as a mandate subject to detailed design:

- Between the school hours of 10am-2pm, no net overshadowing to the primary open space is accepted,
- SINSW has the right to determine the location and amount of shade structure or uncovered areas within the school site, and
- This Criteria does not relate to off-site shared open space at this point but may be subject to further discussion with SINSW.

The fine grain heights of the Master Plan will be included in the LEP to demonstrate compliance with the solar criteria and ensure height transitions and intended character are achieved.

Planned development to the north of the school, should consider the impact of overshadowing on the school site. Consultation with SINSW during the design process should be undertaken, to ensure the built outcome provides suitable solar access and a desirable solution for the school and wider community.'

Figure 126. Examples of school outdoor spaces

NO NET INCREASE OF OVERSHADOWING 10AM-2PM.

CRITERIA

PODIUM DESIGN

VIBRANT FRONTAGES

The vibrant frontage control metric mandated for Station Gateway West and East is relaxed for Leeds Street Foreshore to 10-15 doorways per 100 meters for the following reasons:

- The ground floor uses include retail, commercial, community and residential. An approximate 8m grain is appropriate across all of these uses whilst remaining vibrant, and
- Ground floor uses such as pubs, wineries and micro breweries will reference the light industrial warehouse character and have larger floorpates with slightly less doorways.

A single, connected basement parking structure (superbasement) is required in order to efficiently manage groundwater, geotech and feasibility whilst optimising the amount of genuine deep soil within the Character Area and minimising above ground parking. The superbasement also means that access points, driveways and unsightly garage doors and ramps are rationalised and minimised. The control opposite ensures that entries are strategically located to be functional and to avoid undermining the people-friendly intent of the Leeds Street transformation.

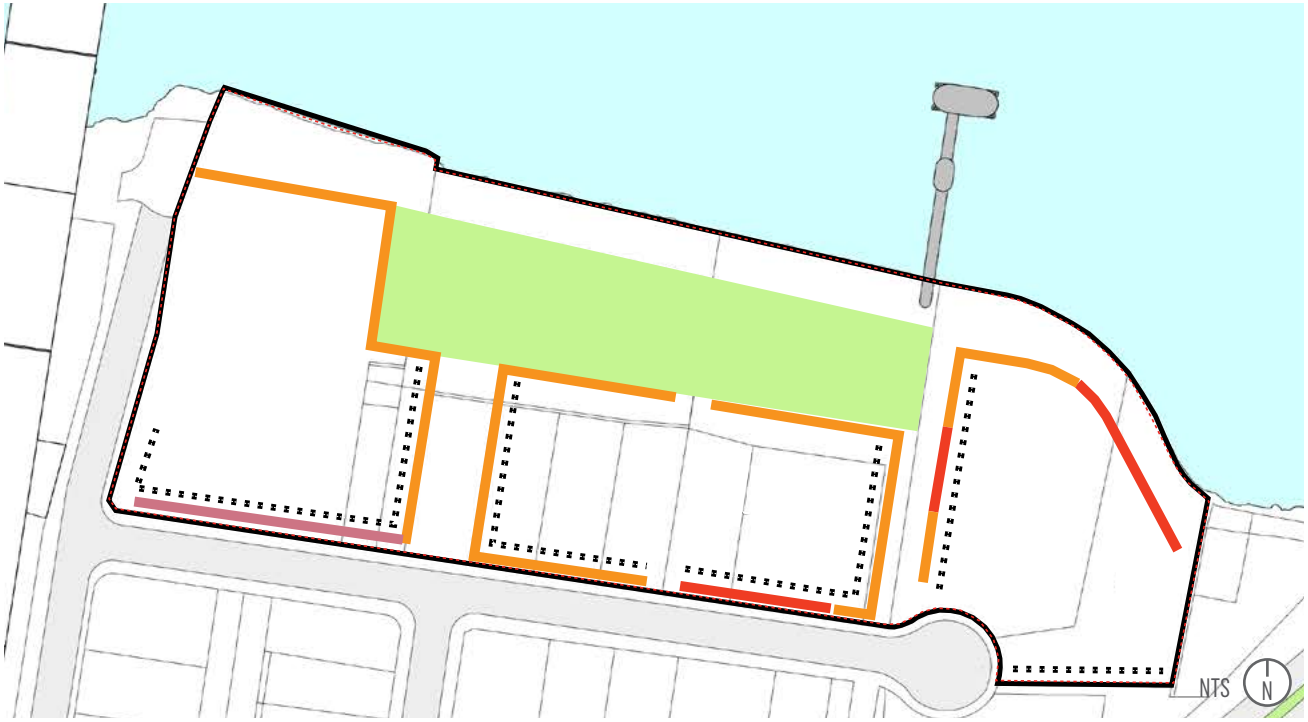


Figure 127. Leeds Street -Vibrant Frontage Plan

VIBRANT FRONTAGES:

- AS PER VIBRANT FRONTAGES PLAN
- BUILDING AND SHOP-FRONT ENTRANCES-10-15 DOORWAYS PER 100M OF FAÇADE.

SUPERBASEMENT ACCESS AS PER MASTER PLAN

LEGEND

- Leeds St Precinct Boundary
- Indicative Vibrant Frontage
- Indicative Residential Vibrant Frontage
- Indicative Community Uses Frontage

PODIUM DESIGN

SETBACKS

The Leeds Street Character Area utilises a low-rise perimeter block typology with strategically located higher elements rather than a podium. Heights are to be consistent with the Master Plan and are site specific to provide optimal solar and neighbourhood transition outcomes. Due to the built form typology and fine grain heights, no upper level setbacks are required.

A 0m ground floor setback to the public realm will contribute to retail activation and enable the extension of people and uses into the public realm.

A 3m and 4m ground floor setback is mandated onto Blaxland Road and Leeds Street respectively to faciliate the objectives of the Character Area and the Street Character Hierarchy outlined within the Public Realm Framework.

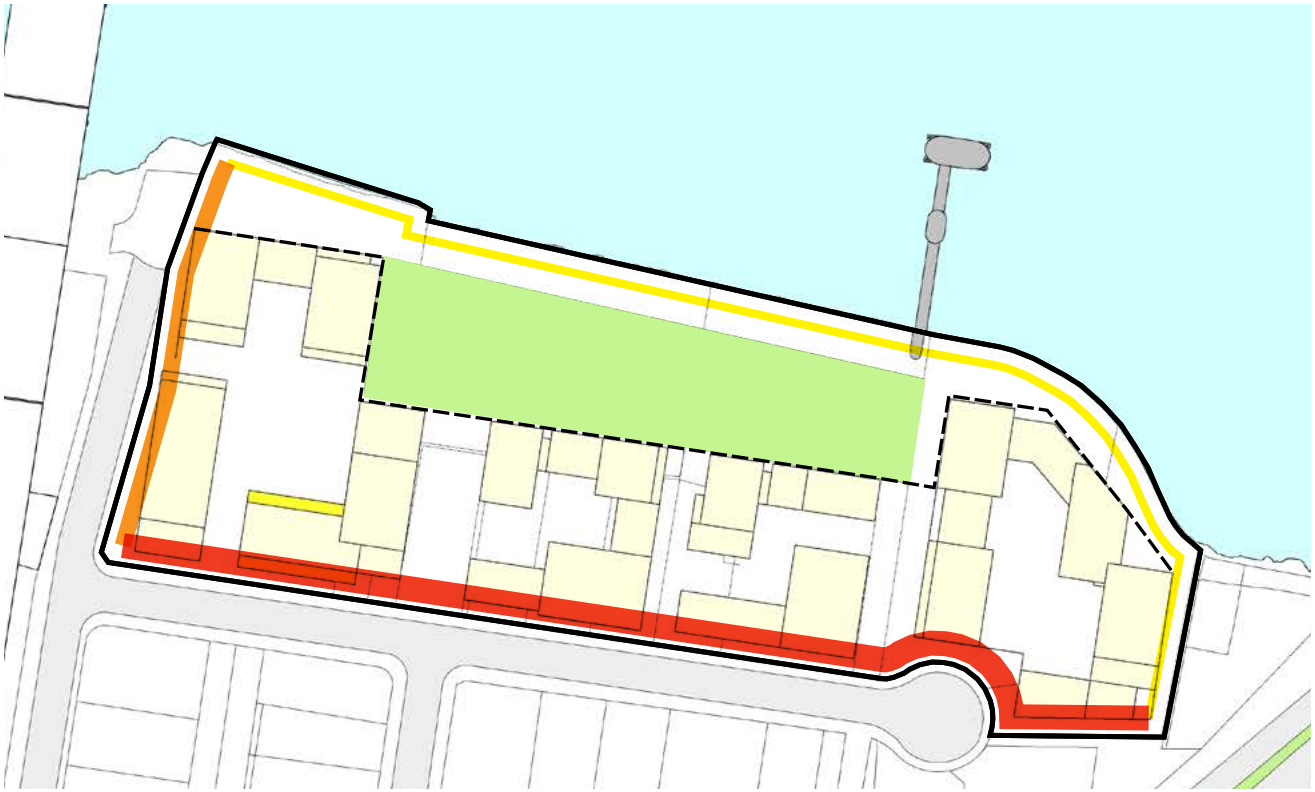


Figure 128. Leeds Street -Setback Plan

GROUND LEVEL SETBACKS AS PER MASTER PLAN

NO UPPER LEVEL SETBACKS REQUIRED

APPENDIX E

CAVELL AVENUE CRITERIA

CAVELL AVE

CRITERIA	COMPLIANCE	PROPOSED CONTROL DOCUMENT
CAVELL PRECINCT		
TOWER DESIGN	High Low Model-intentional mismatching of FSR and Height FSR is an absolute irrespective of ability to achieve maximum height across the site.	LEP, Master Plan, DCP
PODIUM DESIGN	Primary Street-85% Minimum 'terrace frontage' Secondary Street-60% Minimum 'terrace frontage'	Master Plan, DCP
VIBRANT FACADES / STREETSCAPE	Primary Street-10-15 doors per 100 meters Secondary Street-6-10 doors per 100 meters Basement Access/ Driveways on Secondary Streets	Master Plan, DCP
SUBDIVISION	Primary and Secondary Street Controls 4,000sqm Maximum Lot Size 60m Maximum Street Frontage Intersection Density-9 intersections/ 10 ha 4 x additional connections consistent with the Master Plan	LEP, Master Plan, DCP

CRITERIA

Figure 129. Built Form Outcome From Matched FSR and Height Controls

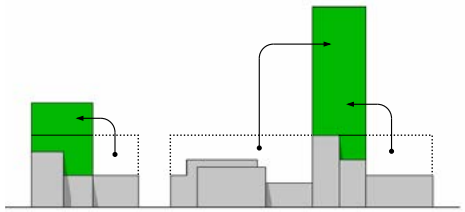


Figure 132. High Low Model-Mismatched FSR and Height Controls

TOWER DESIGN

THE HIGH-LOW MODEL

Whilst the idea of increasing densities within neighbourhoods is not new, its success in terms of its ability to create quality urban environments has varied. The concept of a high-low density model seeks to achieve both a high quality public realm and efficient housing solutions that blends pre war and current development models.

Delivering quality density is primarily related to the ability of taller buildings to create an engaging and active pedestrian experience.
This can be achieved through a high – low density model, where height is distributed in a manner that allows for good solar access, orientation and view corridors in addition to vibrant facades and lively ground floor controls.

Under this model, desired densities can be achieved without overshadowing community open space, parks or other buildings by strategically locating the tallest elements on the south west of blocks with the balance of development being low to mid rise.

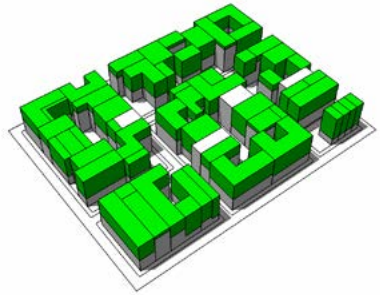


Figure 130. Built Form Outcome From Matched FSR and Height Controls

Figure 131. High Low Model-Mismatched FSR and Height Controls

Fine grain buildings and the high-low model can be achieved and controlled through two mechanisms:

- Fine grain Heights Map within the LEP and/ or
- An intentional combination of FSR and Height controls within the LEP

Typically, FSR and height controls achieve a relatively consistent built form outcome when applied either independently or together. This leaves amenity to be controlled by the Apartment Design Guide and/or a DCP where applicable.

A high low outcome is achieved when the height limit can only be fully realised on part of the site in order to comply with the maximum FSR constraints.

Whilst a developer could choose to maximise the FSR with none of the buildings reaching the maximum height, typically a developer will choose to construct a single taller element to optimise views and the high values associated with upper level apartments. The balance of the available floor space is sufficient to deliver low to mid rise development such as walk-up or terrace apartments as part of integrated development. The developer benefits from a height limit that allows a strategically located taller element, whilst the public domain is protected from the effects of a more consistent bulk and mass. Where these controls are further supplemented by frontage type controls an active and human scale streetscape and pedestrian experience is created.

FSR IS AN ABSOLUTE IRRESPECTIVE OF ABILITY TO ACHIEVE MAXIMUM HEIGHT ACROSS THE SITE.

CRITERIA

BASE BUILDING

The role of the base building is to create stimulation in the built form/ public domain interface zone encouraging the desired pedestrian movements.

The base building is typically the first 3 storeys of a development which is generally the height perceived by the pedestrian. A taller form generally sits behind the base building and is set back. The base building effectively frames the public realm and protects pedestrian amenity.

In the absence of further controls, a base building is typically realised as a 3 storey podium of an apartment tower. In order to provide a vibrant, authentic, fine grain base building streetscape façade and frontages controls are required.

BUILDING TYPOLOGY FRONTAGE CONTROLS

An LEP has the potential to control the percentage of a street frontage occupied by a certain building typology. By mandating a significant portion of a primary or priority street (see Figure 013. Primary and Secondary Streets map on page 14) to be fronted by terraces and multi-unit terrace apartments a safe and animated streetscape environment will be achieved.

The percentage requirement for these typologies should be less on secondary streets to ensure the opportunity for vehicle access and servicing.

Torrens and strata titled terraces will contribute to the 'missing middle' as discussed within the draft Medium Density Guide.

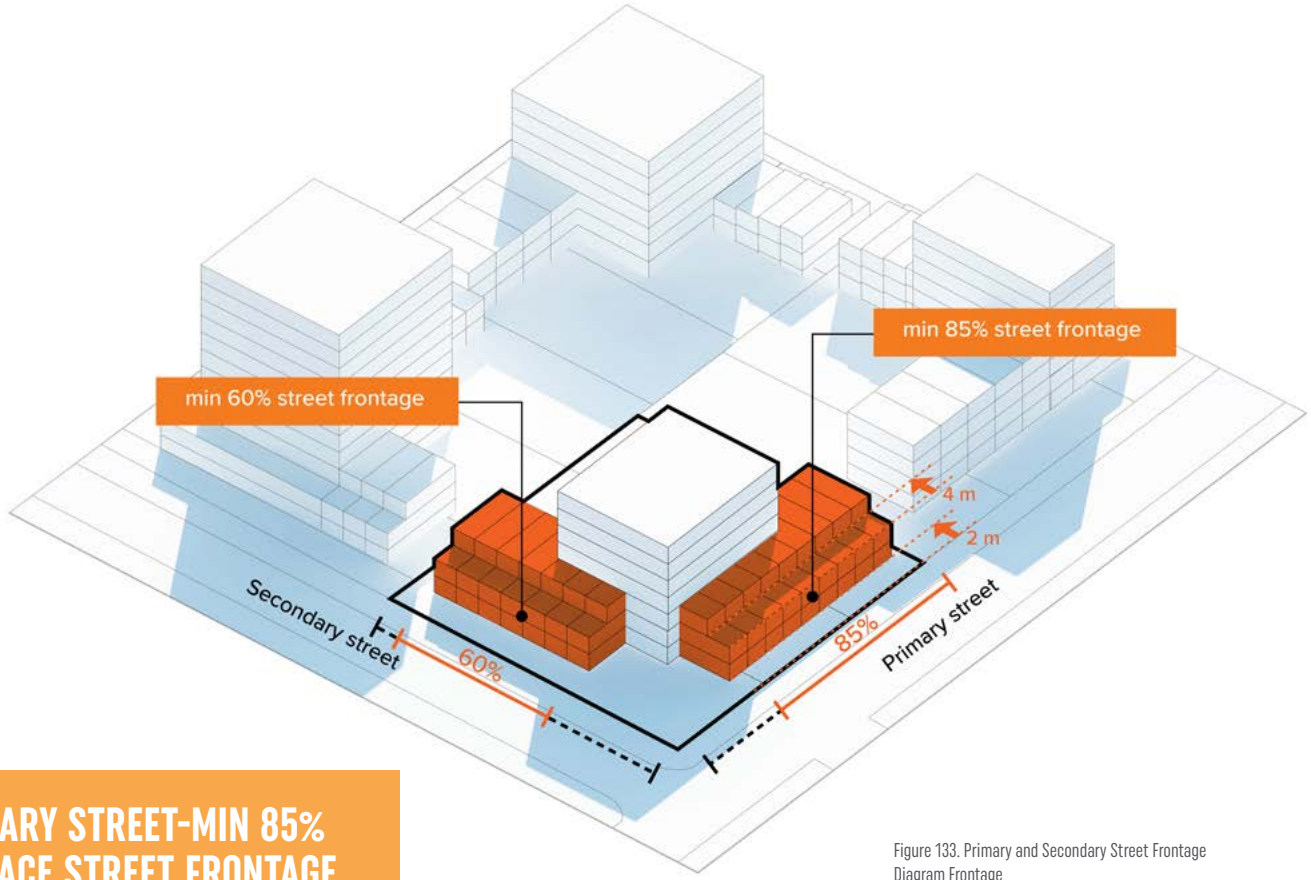


Figure 133. Primary and Secondary Street Frontage Diagram Frontage

PRIMARY STREET-MIN 85% TERRACE STREET FRONTAGE

SECONDARY STREET-MIN 60% TERRACE STREET FRONTAGE

SUBDIVISION

MAXIMUM LOT SIZE

The worlds most loved and successful urban places consist of a broad range of lots, blocks and buildings assembled to create liveable, mixed use walkable communities.

In more recent times, this diversity has unfortunately been replaced with a more homogeneous approach that has resulted in places that are not human scaled and, as a consequence, are less walkable and have a lower quality public domain.

Whilst Rhodes West is acknowledged as a successful and high quality development, the Rhodes East consultation process has consistently affirmed a desire for the renewal of Rhodes East to differentiate itself through a fine grain, human scale high density approach to built form. Station Gateway West, East and the Leeds Street Character Area will provide traditional podium and tower apartment typology, but of the highest quality, whilst Cavell Avenue Character Area will provide medium density, fine grain development addressing the missing middle.

The most effective way to achieve a genuine, fine grain streetscape experience is to create streetscapes with multiple developments of different scales through introducing a range of frontages, styles and form. Diversity in development and form will be the key driver in realising a point of difference at Rhodes Precinct.

By establishing a maximum lot frontage and lot size for Cavell Avenue Character Area, a fine grain, activated and visually interesting built form and streetscape outcome can be delivered. Diversity in lot size will also attract a broader range of potential developers, some of whom could not afford the land costs associated with larger super lots.

In order to achieve the Character Area intent and Missing Middle solutions whilst acknowledging a need for flexibility for large landholdings and amalgamations; the maximum lot size control is supported by an exemption.

Where a development site exceeds the maximum lot size, the site can be developed as a single Master Planned site, if:

- The site is developed and subdivided for freehold terraces; and/ or
- A portion of the site, greater than or equivalent to the area in excess of 4,000 m^2, is subdivided from the apartment site and developed/ sold as Torrens title terraces.

MAXIMUM LOT SIZE 4,000SQM WITH PROVISION OF FREEHOLD TERRACE EXEMPTION

Maximum frontage length controls promote an authentic fine grain and architectural, experiential variety.

Ground floor residential should activate the street through mechanisms such as, buildings set close to the street, elevated ground floors balancing privacy and surveillance, street address and informal gathering opportunities such as front 'stoops.'

CRITERIA

INTERSECTION DENSITY

One of the key challenges facing the redevelopment of the Rhodes Precinct is the capacity of the network movement to accommodate an increased population. As a result, a key focus has been to create an urban structure that maximises opportunities for walking, cycling and public transport patronage. Improving connectivity through additional street and pedestrian connections is critical to achieving the modal shift required to support the new Rhodes East community.

A crucial difference between pre and post – war development can be linked to the growing reliance on private vehicle movements. This change in personal mobility patterns fundamentally changed the urban structure and resulted in larger blocks, fewer intersections and less street frontage to activate the public realm. Whilst overall density was not impacted, the quality of the public realm deteriorated leading to reduced pedestrian activity and movement.

Successful urban renewal projects increase intersection density or the number of intersections in a given area. Intersection density corresponds closely to block size, so the greater the intersection density, the smaller the block. Small blocks make neighbourhoods more walkable and, in conjunction with smaller redevelopment sites, creates the pre-conditions to deliver authentic fine grain, human scale development in accordance with the Rhodes East Vision.

Research suggests that there is a direct correlation between intersection density, block size and walkability. There is further research that concludes that if intersection density is doubled walking will increase by 40 percent. (Travel and the Built Environment: A Meta-Analysis, 2010).

The diagrams opposite compare street layouts and the number of intersections per 10 ha in Potts Point, arguably one of the most walkable neighbourhoods in Australia, with Rhodes West and A sample area of Rhodes East.

Based on intersection density and block size targets, additional street, active travel and pedestrian links are proposed within the Master Plan. The priority is pedestrian/ cycle connectivity. However, where new streets can assist with local network relief/ calming and provide service access that frees up the primary people streets; street are preferred.

RHODES WEST -8 INTERSECTIONS/ 10HA

RHODES EAST EXISTING -6 INTERSECTIONS/ 10HA

POTTS POINT -23 INTERSECTIONS/ 10HA

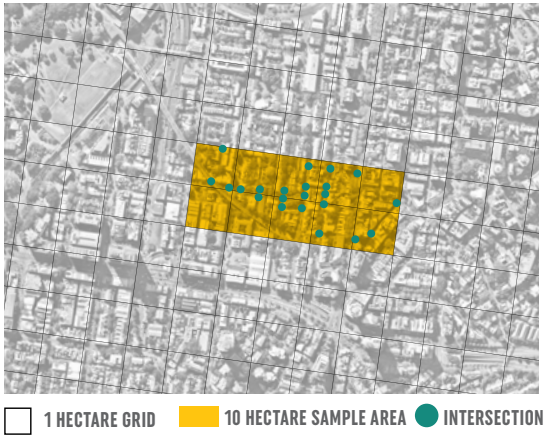


Figure 134. Intersection Density

The above images illustrate a 1 hectare grid overlaid onto a 10 ha sample area to determine intersection density.

APPENDIX F

PUBLIC DOMAIN FRAMEWORK

INTRODUCTION

PROJECT OVERVIEW

The Rhodes peninsula is located between Brays Bay and Homebush Bay on the southern bank of Parramatta River and enjoys an extensive foreshore with great views across the river, and beyond to the Sydney CBD 16km east.

The recent development of Rhodes West has delivered a number of quality open spaces and a continuous publicly accessible foreshore.

The Rhodes Planned Precinct Public Framework seeks to deliver a holistic public domain vision for future development that completes the open space networks of Rhodes West, retains the existing qualities of the place, and establishes a unique identity for the Rhodes East precinct.

BACKGROUND INFORMATION

Several documents (prepared by others) have been key to understanding the existing layers of the site, and current aspirations for its future. Particularly, the Rhodes Peninsula FRONTDOOR2FORESHORE Open Space Master Plan (June 2015) written by Corkery Consulting has been key to understanding the site's broader context and peninsula-wide strategies that council have recently adopted to achieve an integrated masterplan.

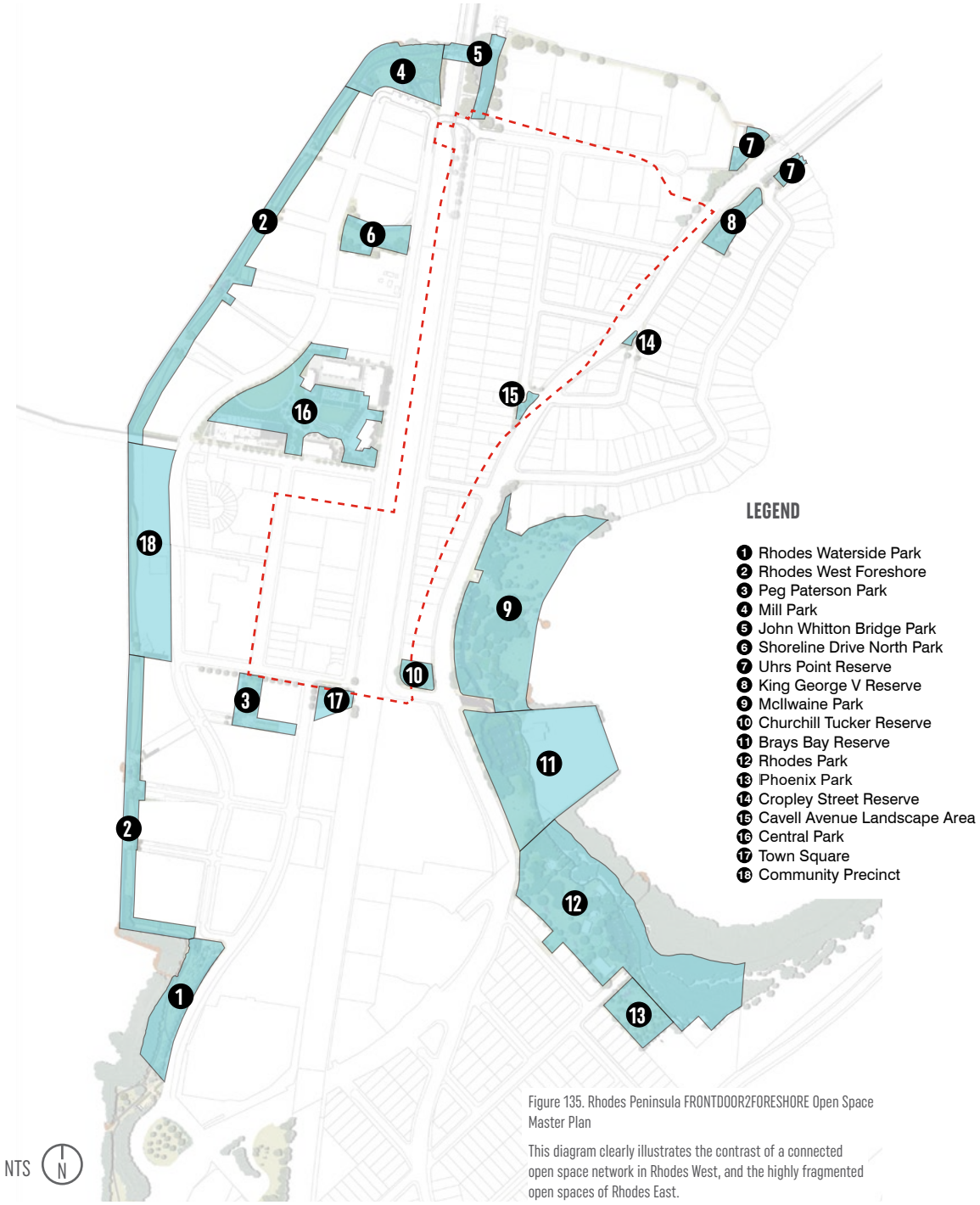


Figure 135. Rhodes Peninsula FRONTDOOR2FORESHORE Open Space Master Plan

This diagram clearly illustrates the contrast of a connected open space network in Rhodes West, and the highly fragmented open spaces of Rhodes East.

VISION AND PRINCIPLES

THE VISION

The broader open space principles for Rhodes, established by Corkery Consulting's Rhodes Peninsula FRONTDOOR2FORESHORE Open Space Master Plan, (June 2015) are:

- A Peninsula of Places
- Visual Coherence in the Public Domain
- A Connected and Legible Open Space Network
- Community Engagement and Partnerships
- Sustainable Open Spaces

These principles have been acknowledged in the development of guiding principles specific to Rhodes East. The following principles for Rhodes East assume that any design proposals should be made with a respect for the existing community and site heritage, with a view to enhance the existing values for the benefit for the future community.

The Rhodes East public domain principles are:

1. Creating meaningful connections to the water

2. Create a network of 'Context Sensitive Streets'

3. Creating a series of key community places

Figure 136. Rhodes Public Domain Vision & Principles

PUBLIC SPACE OPPORTUNITIES

WHAT ARE PUBLIC SPACES?

Public spaces are defined by the UN-Habitat Global Public Space Toolkit* as "all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive".

For the purposes of this report it is important to clarify that in addition to government owned open space, the proposed public domain plan also includes a number of privately owned open spaces and through-site links that are freely accessible by the general public and therefore considered to be part of the public open space network.

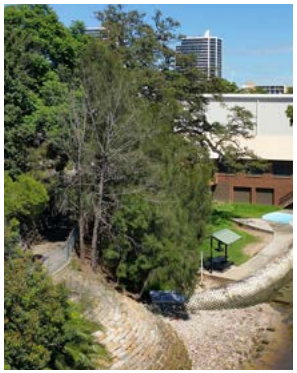


Figure 137. Existing character of Uhr's Point Reserve, Rhodes East

BETTER UTILISE SPACE ON HERITAGE SITES

Improve use and amenities while protecting, preserving and enhancing the significance of heritage sites e.g. Rhodes Community Hall, Uhr's Point Reserve, King George V Park, McIlwaine Park and street trees on Cavell Avenue.

Figure 138. Barangaroo Headland Foreshore, Sydney

IMPROVE FORESHORE ACCESS

Improve continuity and quality of foreshore public access. The unique peninsular location of Rhodes provides many opportunities for community access to the foreshore.

Figure 139. Existing heritage listed trees along Llewellyn St, Rhodes East

ENHANCE AND MEANINGFULLY INTEGRATE EXISTING LANDSCAPE AND KEY CHARACTER

Develop an appreciation for the sites past and future uses. (e.g. Consider how significant existing trees can guide design decisions and be meaningfully integrated from the outset).

Figure 140. Riverside Lünen. Germany

STRENGTHEN OPEN SPACE CONTINUITY/LEGIBILITY

Potential to extend Rhodes' western waterfront parklands around the headland to connect with King George Park and McIlwaine Park. This in turn will establish broader regional connections along the north and south Parramatta River Foreshore and to the Homebush Bay Bridge.

*UN-Habitat Global Public Space Toolkit; https://www.urbangateway.org/publicspace/document/global-public-space-toolkit; p. 24

Figure 141. Cairns Foreshore Redevelopment, QLD

IMPROVE WAYFINDING / CONNECTION TO THE FORESHORE FROM STREETS

In addition to a cohesive wayfinding signage strategy, redesign of key nodes / intersections will strengthen legibility of the public domain, e.g. Pathway connection under Ryde Bridge is not visible from end of Leeds St (west side).

Figure 142. View to Parramatta River foreshore from north Blaxland Rd, Rhodes East

OPEN VISTAS TO WATER

Open vistas to the water at the ends of streets (e.g. Visual connection to the water from Cavell Avenue is currently blocked by industrial buildings).

Figure 143. Hastings Street, Noosa, QLD

ENHANCE PUBLIC AMENITIES

Increase vibrancy of streets and open spaces. Provision of quality paving, street furniture, drinking fountains, and other facilities creates a public domain where people want to stay and play.

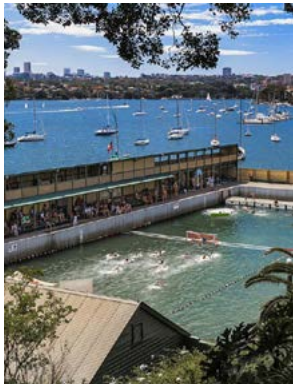


Figure 144. Dawn Fraser Pool, Balmain

PROVIDE RECREATION FACILITIES SPECIFIC TO THE LOCAL COMMUNITY

e.g. Walking, cycling, dragon boating, riverfront swimming, dog walking, table tennis, badminton, etc.

Figure 145. 'Cartwheeling Youngsters' by artist Caroline Rothwell, West Rhodes

INTEGRATE ART INTO THE PUBLIC DOMAIN

The presence of art in the public domain contributes to cultural identity, education, and wonderment in the everyday experience.

Figure 146. Pedestrian underpass, central Milton Keynes, Buckinghamshire, England, UK

MITIGATE BARRIERS TO PUBLIC DOMAIN CONNECTIVITY

Strategies such as overpasses, through-site links, tunnels, signalised intersections and pedestrian priority thresholds can combine to significantly improve the walkability of neighbourhoods. Focus areas include Concord Road, the Railway line, and both bridges on the northern waterfront.

PUBLIC DOMAIN PLAN

OVERVIEW

The proposed public domain plan delivers a pedestrian priority environment that encourages engagement with the landscape as part of the everyday experience.

Rationalisation of the street and open space networks achieves a legible public domain that includes a range of streetscape typologies and open space programs for a rich and diverse experience.

The additional open spaces respond to key open space and recreation needs identified by Elton's Social Infrastructure and Open Space Assessment, 2016, including "good quality walkways and plazas where residents can walk, meet, access the waterfront, shops, food and activities, open lawn areas and parks, BBQ and picnic facilities with good amenities, public toilets and signage."

The following pages provide a breakdown of the key elements that combine to create the proposed public domain.

Figure 147. Public Domain Plan

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Green streets
- Pedestrian only streets
- Existing mangrove / Ecological Habitat
- Community Corners

EXISTING OPEN SPACE

1. Mill Park
2. Leeds St Foreshore Park (Proposed)
3. Uhrs Point Reserve
4. King George V Reserve
5. McIlwaine Park
6. Brays Bay Reserve
7. Churchill Tucker Reserve

URBAN FRAMEWORK AND STRATEGIES

CYCLE AND PEDESTRIAN NETWORKS

Proposed network of pedestrian & cycle paths creates continuity in the public domain, seamlessly linking key community facilities & encouraging 'green' transport modes that benefit health of the individual and wider community (e.g. less air / noise pollution from private motor vehicles).

Important connections include:

- Continuation of West Rhodes promenade between John Whitton Bridge and Ryde Bridge, extending quality public access to the foreshore
- Widened and upgraded pathway connections under the northern foreshore bridges
- Designated 'Commuter Cycleway' on Blaxland Rd (not a shared path)
-

Figure 149. Union Street, Pyrmont

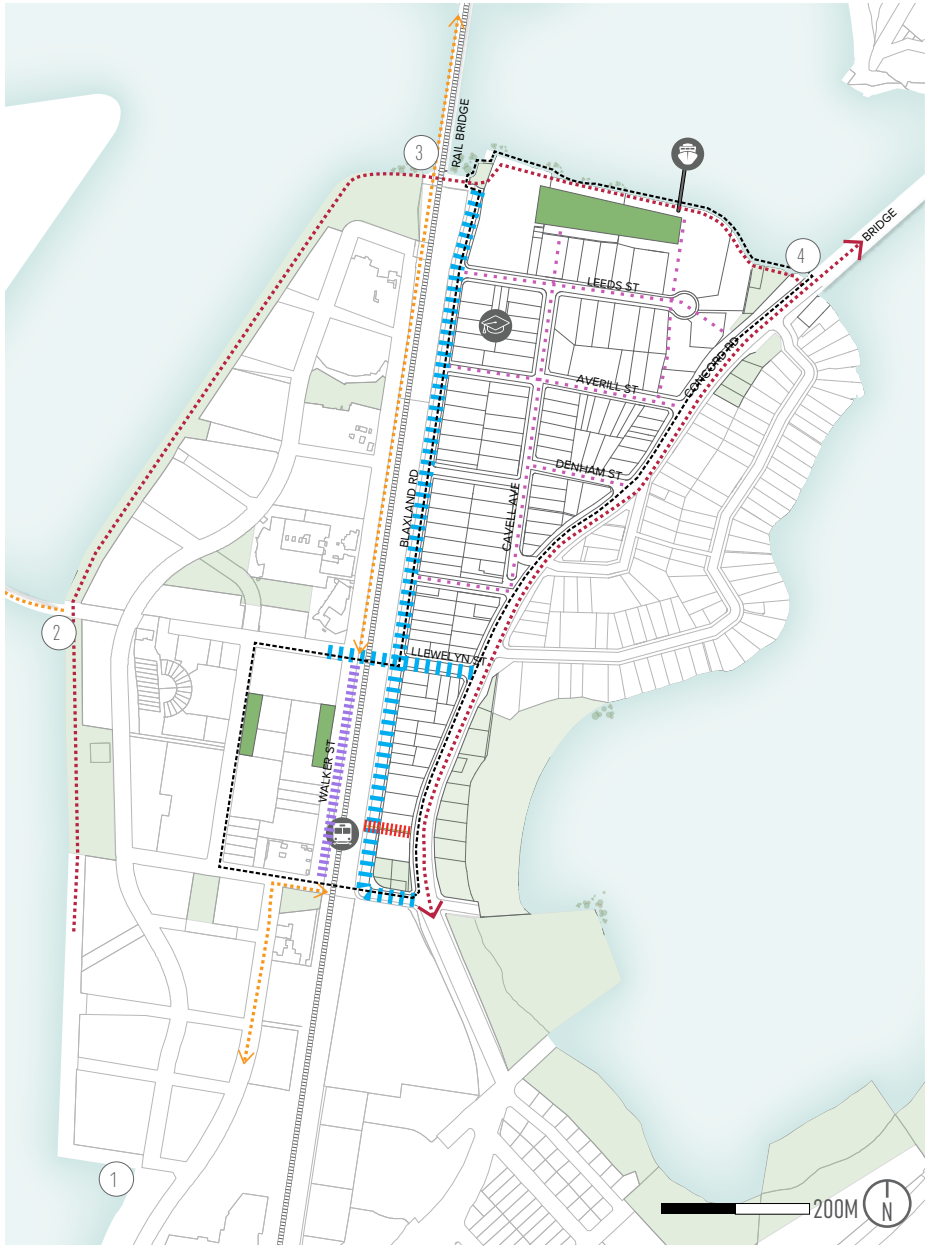


Figure 148. Cycle and Pedestrian Networks

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Regional cycleway / pedestrian path
- Separated cycleway / pedestrian path
- Shared cycleway / pedestrian path
- Active transport network
- Cycle connection as part of Walker St development and Bus interchange

GATEWAYS

1. Bicentennial Park
2. Bennelong Bay Bridge
3. Meadowbank Railway Bridge
4. Ryde Bridge

OPEN SPACE NETWORK AND HABITAT SYSTEMS

The highly fragmented existing open space is developed to become a network of 'Green Streets' and parks. The open space enhancements will both contribute to the urban ecology and increase livability of the suburb for people.

Existing mangrove areas will be protected and foreshore vegetation protection zones established .

Although Rhodes Peninsula does already have an equitable distribution of open space (i.e. a park greater than 3,000m2 within 400m walking distance of all dwellings), with the increase in dwellings and associated population there is a need for additional open space to the higher density development areas. The public domain plan delivers new, improved and accessible open spaces; including space for various types of recreation to meet the needs of the growing community. High density development (over 60 dwellings per hectare) is located within 200 metres of open space and all dwellings are within 400 metres of open space.

Figure 150. Existing stand of mangroves adjacent John Whitton Bridge.

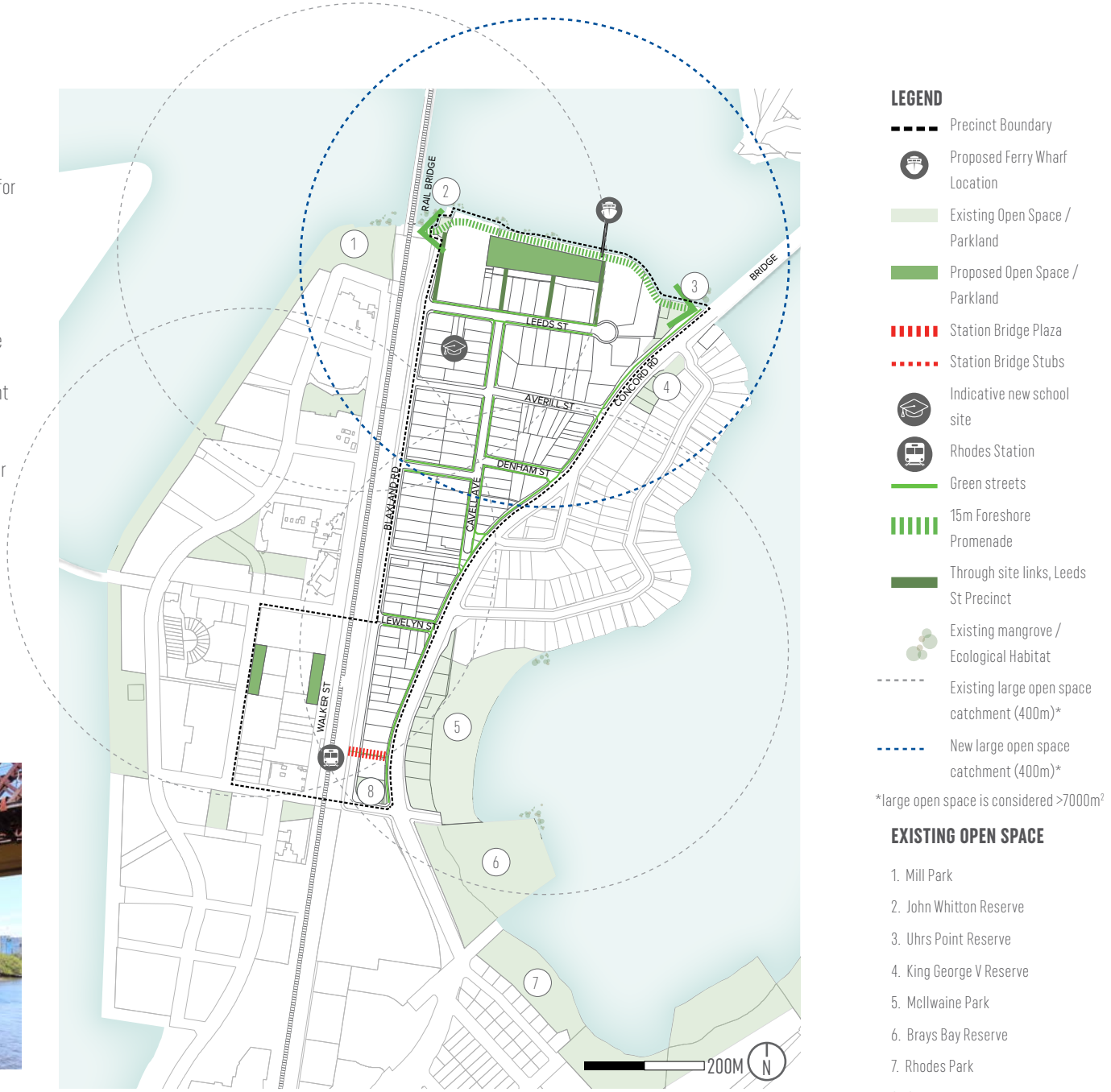


Figure 151. Open Space Network and Habitat Systems

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Green streets
- 15m Foreshore Promenade
- Through site links, Leeds St Precinct
- Existing mangrove / Ecological Habitat
- Existing large open space catchment (400m)*
- New large open space catchment (400m)*

*large open space is considered >7000m^2

EXISTING OPEN SPACE

1. Mill Park
2. John Whitton Reserve
3. Uhrs Point Reserve
4. King George V Reserve
5. McIlwaine Park
6. Brays Bay Reserve
7. Rhodes Park
8. Churchill Tucker Reserve

SIGNIFICANT TREES

Presently, the primary canopy coverage is along the existing foreshore edge and within McIlwaine and Rhodes Park. Heritage tree canopy is located towards the northern end of Cavell Avenue. The existing tree canopy will be protected and enhanced by additional street tree and public space planting.

Figure 152. Existing heritage canopy -Cavell Avenue

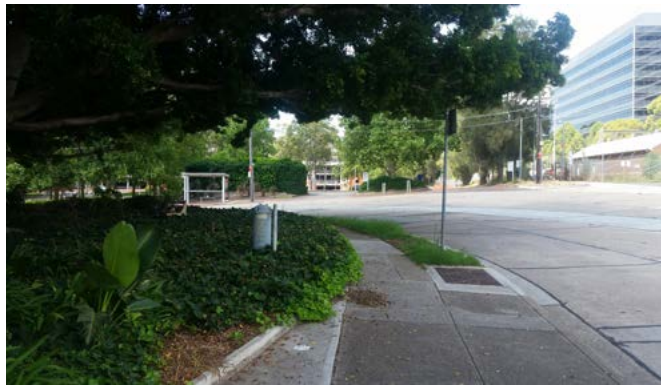


Figure 153. Existing canopy -Blaxland Rd

Figure 154. Significant Trees

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Existing Heritage Canopy
- Existing Canopy in Existing public open space

PUBLIC DOMAIN HERITAGE

Protection and celebration of existing heritage elements in the public domain is vital to the development of a meaningful place. A number of listed heritage items have been considered in the proposal.

Figure 155. John Whitton Bridge

John Whitton Bridge, the north-western gateway to Rhodes East is a structure of state heritage significance.

Figure 156. Heritage street trees. Phoenix canariensis along Cavell Avenue.

Figure 157. Heritage School on Blaxland Rd

In addition to heritage open spaces, Several public buildings contribute to the cultural history of Rhodes East.

Figure 158. Public Domain Heritage

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Heritage listed residential house
- Heritage building, park or bridge
- Street trees of heritage signifcance

HERITAGE ITEMS

1. Brays Bay Reserve
2. McIlwaine Park
3. Rhodes Station
4. Rhodes Community Hostel heritage trees
5. Cavell Ave heritage trees
6. Uhrs Point Reserve
7. King George V Reserve
8. John Whitton Bridge
9. Warehouse

PUBLIC ART STRATEGY

Public art strategies strengthen communities, provide opportunities to celebrate local history, and culture, foster community dialogue, create place identities and provide a framework to support partnerships between artists, communities and the landscape.

The City of Canada Bay developed the Rhodes Peninsula Arts Plan in 2013 in consultation with the community. The plan outlines public art principles, themes and opportunities within the Peninsula. Council will build on this plan to incorporate opportunities for Rhodes East, subject to funding availability. The themes in this plan include:

- Industrial Heritage – To build on the former industrial landscape of Rhodes and represent the storyline between nature and impact of industries on both the river and the Peninsula.
- Remediation – Highlights the extraordinary environmental remediation that Rhodes underwent in the first decade of the 21st century.
- Indigenous to Intercultural – Resonates the Aboriginal heritage in this locality, with Parramatta River as a source of food and transport as well as spiritual significance.
- The River and the Environment – Emphasises the beauty of the waterway, and the foreshore being a natural focus for walking, cycling, family outings and community events.
- The Designed Environment – The emergence of a high density built form in Rhodes has created a community environment different from other suburbs of Canada Bay, including spaces for public sharing and private reflection, and the recognition of design as a cultural statement.
- Permanent public art could be integrated into the landscape as part of the foreshore access, in the resting areas, corner plaza, pedestrian links, existing parks and reserves, and may include sculptural art, lighting, typography and/or graphic in paving and interactive art.
-

Figure 159. Public Art Stratgies

STREET NETWORK AND TYPOLOGIES

Streets are recognised as a key component of public domain, providing pedestrian connections through the urban fabric and contributing to the character and experience of Rhodes. The modern day urban environment calls for streets to be much more than conduits for cars. Streets are valuable components of the open space network, and truly "place responsive" streets have a number of key characteristics, including:

- Pedestrian priority
- Summer shade and winter sun
- Minimal impermeable surfaces
- Active sidewalks (street furniture generous footpaths, mixed use corners)

Street typology and design aims to improve wayfinding and urban livability through the public domain, by encouraging sustainable modes of people movement like walking and cycling whilst providing safer street environments that are also a place for the community.

Additionally, good street design has environmental benefits, such as stormwater capture and filtration, shading of paved surfaces to reduce heat island effect, and provision of habitat for urban flora and fauna.

A number of elements will combine to achieve these design objectives, as follows:

- Place Responsive Streets
- Green Streets
- WSUD -Water Sensitive Urban Design
- Street furniture

Figure 160. Green Street -Passage St Joan Boulevard, Barcelona

Figure 161. Pedestrian Priority Environment

Figure 162. Activated frontages, generous footpaths, green transport facilities

PLACE RESPONSIVE STREETS

The character areas established throughout Rhodes Planned Precinct will be reinforced by the streetscape. The proposed landscape identity for each street (as outlined in the following pages) will be responsive to context and the range of development types that occur along its length.

The various street conditions that require different context sensitive strategies include:

Active Frontages

- High quality paving material
- Increased footpath width
- Street furniture and amenities (seating, bike racks, drinking fountains, etc.)

Residential

- Balance of privacy for apartments and passive surveillance of the street
- Planting that contributes amenity to the streetscape
- Legible driveway/access paths

Pocket parks/open space

- Open views from street into the open space
- Direct equal access into open spaces from the street

Views

- A strong presence of greenery at street corners (whilst maintaining required clear sight lines for safety)
- Terminate long views down streets with greenery or the natural landscape wherever possible.

Figure 164. CORNER STRATEGY -Harry & Mario Cafe, Cronulla

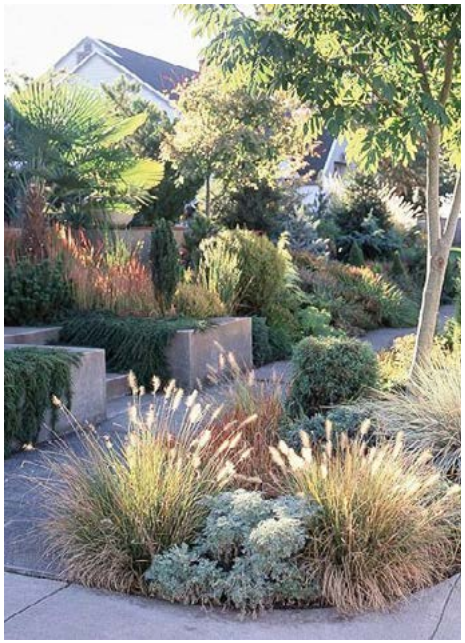


Figure 165. RESIDENTIAL -Buffer of Diverse Seasonal Planting


Figure 163. POCKET PARK-Quarry Green, Chippendale

GREEN STREETS

Providing tree planting and vegetation is important to provide a safe, efficient and healthy environment. Green streets strategies include:

- Tree shading; Providing livable, walkable streets
- Buffer planting; Mitigating noise and air pollution
- Character planting; Place making and providing diversity

The following principles will guide the successful delivery of Green Streets:

- Utilising deep soil zones in the public domain
- Undergrounding of overhead power lines to enable larger canopy trees
- Bundling of services infrastructure to minimise disturbance to existing/future tree roots
- Providing generously proportioned tree pits and Council approved structural soil system (e.g. Strata Cell)
- Species selection as per the street tree masterplan (opposite), or otherwise as guided by Council to ensure adaptability to local conditions and consistency with the Urban Tree Canopy Strategy (City of Canada Bay).

Figure 166. Passeig De St Joan Boulevard, Barcelona

Figure 167. Green Street Types

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Ficus macrophylla (Morten Bay Fig)
- Eucalyptus haemastoma (Scribbly Gum)
- Angophora costata (Angophora)
- Ulmus parvifolia (Chinese Elm)
- Lophostemon confertus (Brush Box)
- Albizzia julibrissin (Persian Silk Tree)
- Platanus Hybrida (London Plane Tree)
- Tristaniopsis laurina (Water Gum)

WSUD

WSUD strategies are underpinned by water consumption, water recycling, water minimization and environmental protection.

Reduction in stormwater run off will improve the water quality of Parramatta River -contributing to the broader objectives of Parramatta River Catchment Group's "Our Living River" initiative.

Key aspects of the WSUD strategy are:

- Rain Gardens in selected streets (as shown on diagram)
- Rain Gardens in the proposed new open spaces
- Incorporation of water detention/retention systems in new open spaces (pocket parks, plazas, etc.)
- Re-use of captured water (e.g. for irrigation)
-

Figure 169. Rain Gardens integrated into parks / public spaces

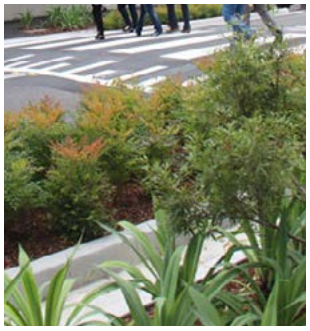


Figure 168. Rain gardens installed in parking lanes on existing streets, City of Sydney

Figure 170. Water Sensitive Urban Design

LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Potential WSUD Street Raingardens
- Opportunities for Water Detention / Retention
- Existing mangrove / Ecological Habitat

STREET FURNITURE

A consistent suite of quality street furniture is key to establishing great streets. Collocating key facilities at appropriate hubs contributes to an environment where people feel safe and comfortable.

Specific requirements are detailed in the DCP Controls.

Urban Elements will include;

- Lighting
- Seating benches
- Bike racks
- Drinking Fountains
- Rubbish bins
-

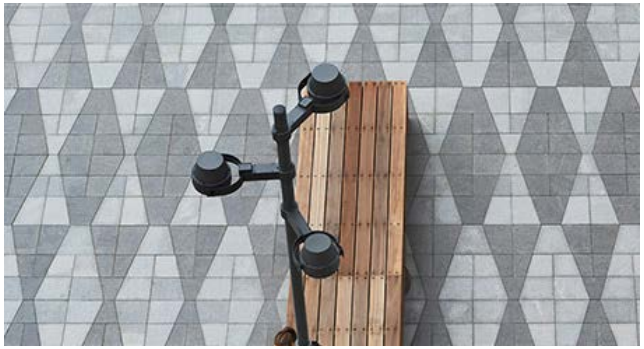


Figure 171. Lighting and Seating

Figure 176. Bike Racks

Figure 172. Street Lighting

Figure 175. Tree Grates

Figure 173. Drinking Fountains

Figure 174. Rubbish Funs

GREENWAY CORRIDOR (CONCORD RD)

Concord Road is a major arterial road that bisects Rhodes East. The six-lane carriageway (21m wide) is a significant barrier to public domain connectivity, and minimal existing setbacks prevent the establishment of a landscape buffer appropriate to the scale of the roadway.

The Greenway Corridor provides a setback for large trees, understorey planting and wide pathways to be established; creating a landscape buffer for new development along Concord Rd.

Bus stop plazas at through-site links and key building entries create connection with Concord Road, and facilitate future transformation such as rapid bus lanes or light rail.

Existing lighting to the road is retained in its current alignment.

*Existing paths, verges and setbacks along the Eastern side of Concord Road are to be retained.

Figure 177. Planting Buffer Zone

Figure 178. Concord Rd -Plan View

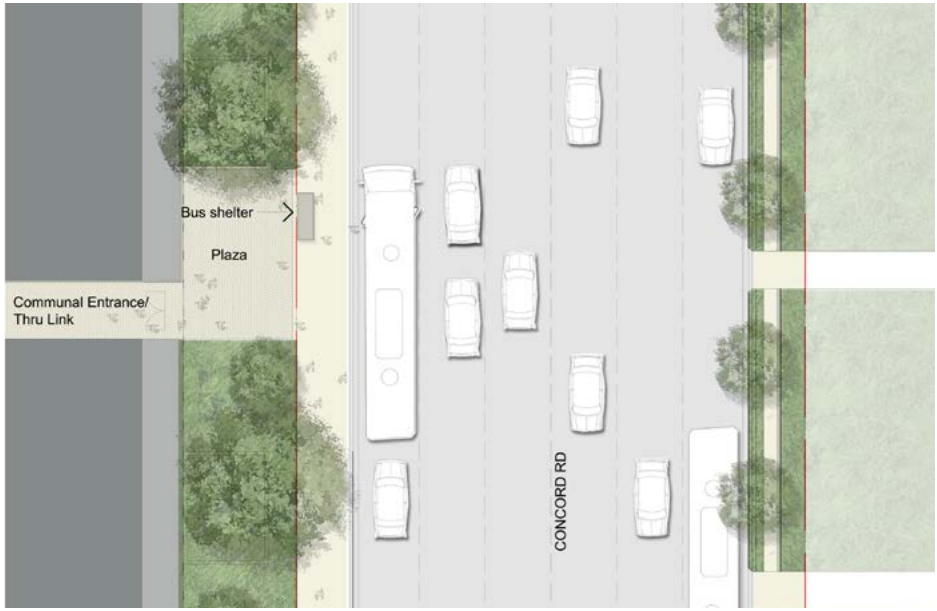
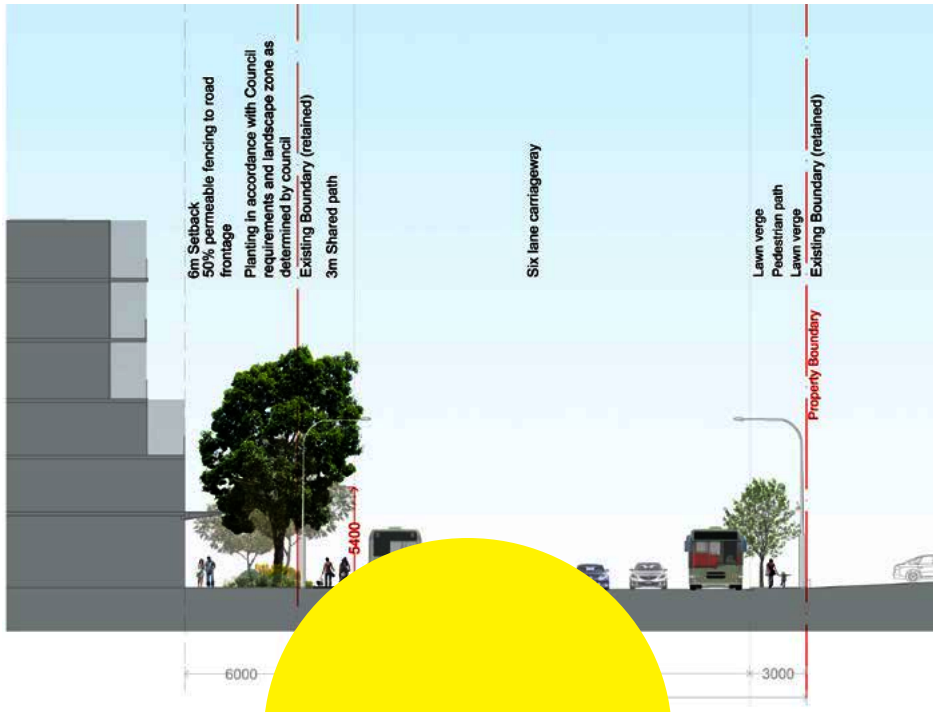


Figure 179. Concord Rd - Street Section



COMMUTER STREET (BLAXLAND RD)

Already functioning as an important north-south commuter st, Blaxland Rd will become an important conduit between the Leeds St Foreshore Character Area and Station Gateway East.

The existing shared path provision has 'pinch points', and is not sufficient to support active transport for the new development density. A dedicated cycleway will efficiently connect commuters and local residents to the two retail hubs of Rhodes East, and beyond to regional cycleway connections.

New tree planting between parking bays provides screening of the rail infrastructure and shade for the footpaths/parking.

Setbacks will be reduced and the Blaxland Rd paths will be increased to become the full width of the streetscape verge, with trees in grated tree pits to support active frontages.

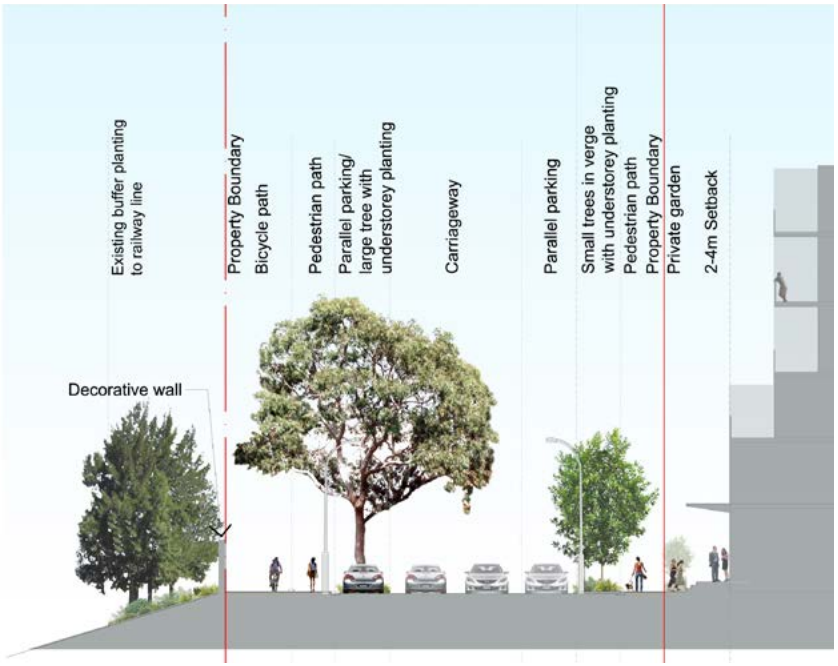
Figure 181. Planting buffer zone

Figure 180. Cycle path

Figure 182. Rail buffer decorative wall

Figure 183. Blaxland Rd -Plan View

Figure 184. Blaxland Rd - Street Section



COMMUNITY SPINE (CAVELL AVE)

Cavell Ave will become the lifeblood of the Rhodes East community; linking local streets of the High Point character area along the north-south axis to key community infrastructure (e.g. existing Coptic Church, potential school and integrated community facility).

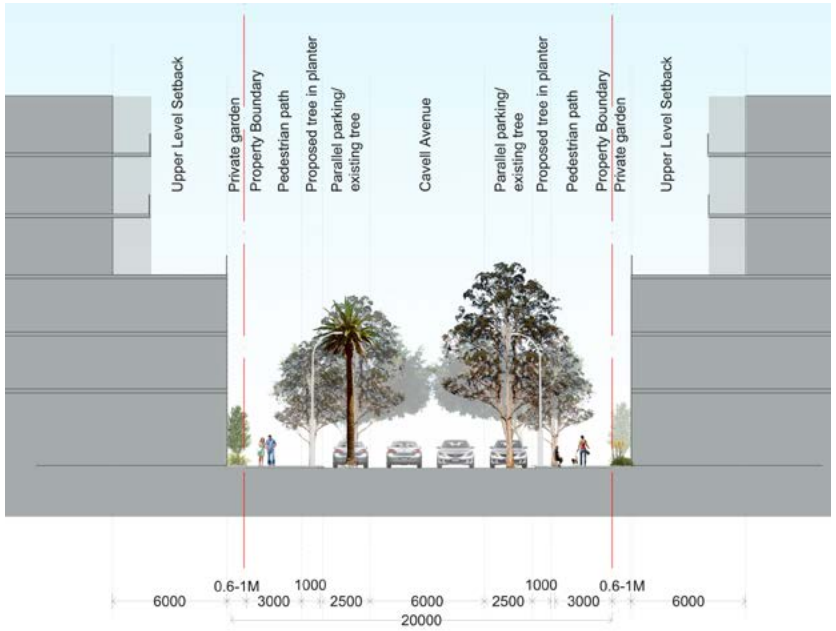
Similarly to Leeds St, the proposed "30km/h high pedestrian activity area" establishes an understanding of pedestrian priority for motorists.

Proposed seating coves are collocated with community buildings to support habitation of the streets and create visual thresholds at key community interfaces.

Figure 185. Seating Cove

Figure 186. Cavell Ave -Plan View

Figure 187. Cavell Ave - Street Section



LOCAL STREET (MINOR ROADS THROUGHOUT PRECINCT)

The design intent for the local streets is to create fine-grain, diverse streets that offer pedestrian amenity and exhibit seasonal variation.

Rain gardens located between parking bays provide shade to the roadway and parking lanes. Proposed diversity in the tree canopy adds to the fine grain, whilst contributing variation in light and shade.

The proposed 'edible streetscapes' will provide a mix of hardy, low-maintenance perennials that have a culinary use, with enhancement of the diversity to take place over time.

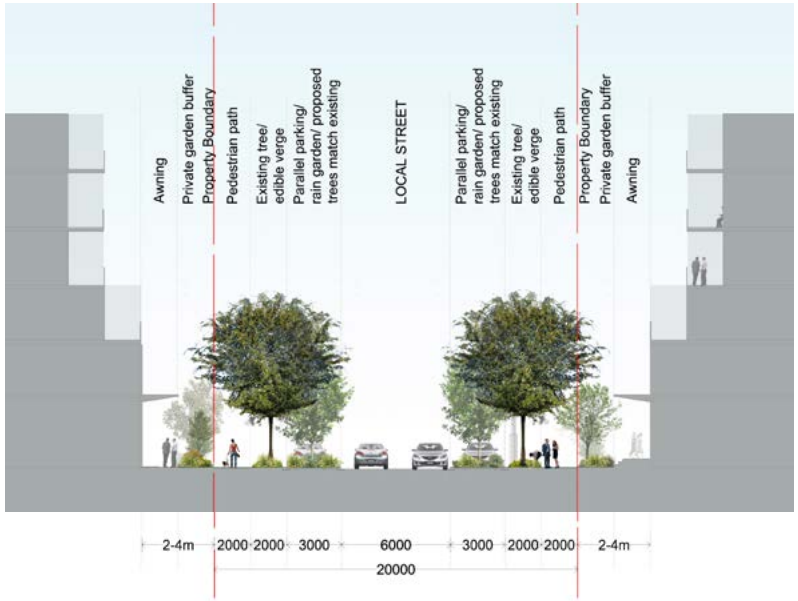
Private gardens will support the streetscape planting palette with culinary species included in planting.

*Denham Street and New Street will have a reduced setback of 1m, with 6m upper level setback, whilst retaining the look and feel of other Local Streets.

Figure 188. Edible Streetscapes

Figure 189. Local Street -Plan View

Figure 190. Local Street - Street Section



PARKS

The public domain proposal recognises the limited potential for council to acquire additional open space, and focuses on strengthening the quality and connectivity of existing open spaces.

New amenities are to be provided to the proposed foreshore park , appropriate to the scale of upgrade and specific needs of the park. Amenities will include public toilets, lighting, drinking fountains, and consistent lighting are to be installed.

LEEDS STREET FORESHORE CHARACTER AREA

A diverse offering of new places on the Leeds St Foreshore will attract a range of users, and generate many waves of activity throughout the day. From the early morning fishermen and cyclists, midday skaters and lunch-breakers, to the late night shoppers and diners, this character area will always be full of life.

POCKET PARKS

There is an importance for small, but frequent pocket parks throughout our increasingly urbanised environments. Pocket parks (small green open spaces) are to be collocated with key community nodes, or as extensions of the road alignment to improve visual connections to the water.

MCILWAINE PARK

McIlwaine Park is currently a popular destination for picnicking and recreation for visitors to Rhodes. The pedestrian bridge connection from the west will invite many more people to the park, and appropriate upgrades are required to consolidate this new link.

Figure 192. WATERFRONT PARK -Wilkes-Barre River Common, Pennsylvania USA

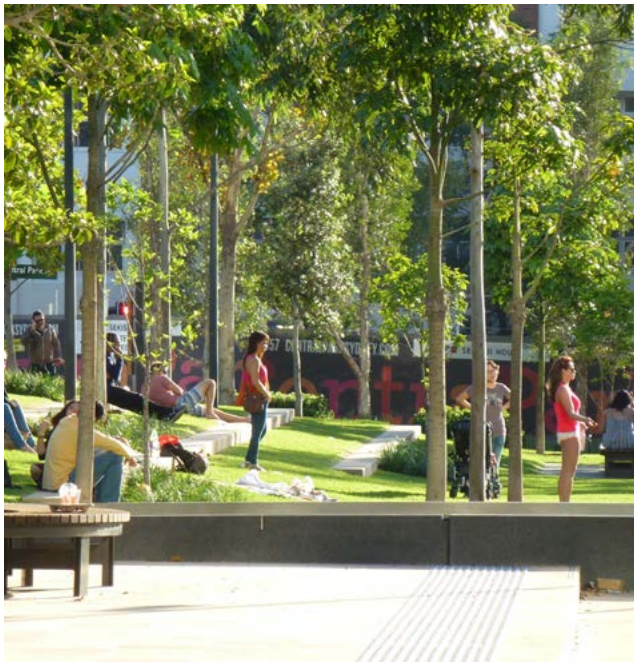


Figure 191. URBAN PARK -Chippendale Green, Sydney

KEY PLACES

There are 2 key public domain proposals that will be instrumental to realising the vision for a place that can accommodate many more people, and provide quality public domain long into the future:

- Station Bridge Plaza
- Leeds Street Foreshore Park / Character Area

Refer the following pages for the design intent and specific requirements for these areas.

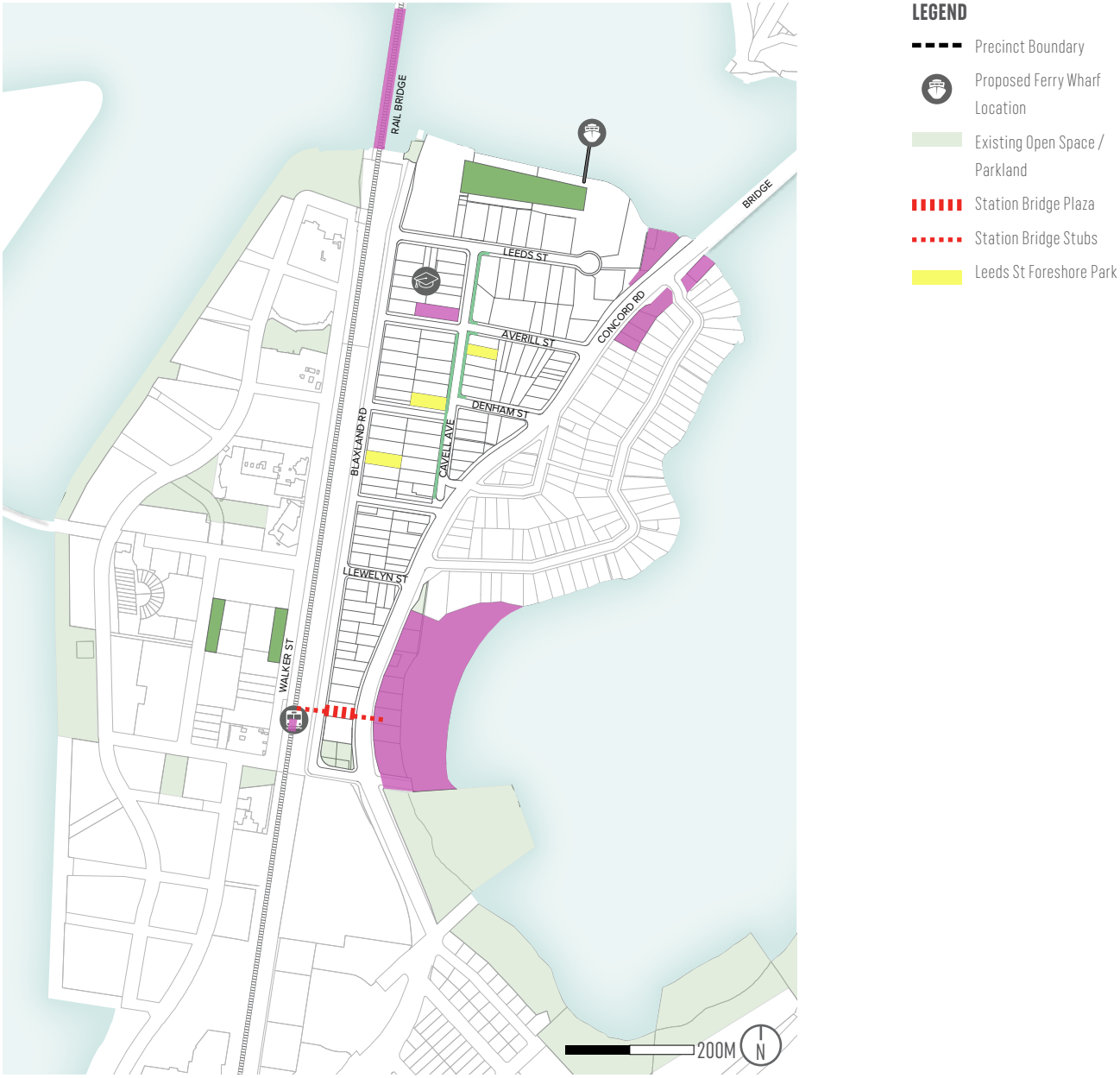


Figure 193. Key Places

STATION BRIDGE PLAZA

OVERVIEW

The following section outlines the intent, opportunity and requirements for the Station Bridge Plaza and Station Bridge (stubs). The design for both is aspirational and worthy of the Rhodes Vision. However, we understand the limitations and operational requirements of the Station Bridge. stubs in particular, and the need to comply funding and maintenance requirement for RMS and TfNSW. Therefore, the stub design considers this and endeavors to work within these parameters whilst providing a safe and attractive connection.

DIMENSIONS & CONFIGURATION

The cross sections opposite demonstrate the spatial criteria established within the body of this report.

Figure 194. Bridge Plaza Cross Section

Figure 195. Example of Station Bridge Plaza planter.

Figure 196. Plaza Planting -Acer buergerianum (Trident Maple)

Figure 197. Bridge Example

STATION BRIDGE PLAZA

PLANTERS

The expanse of plaza is spatially broken down into a series of human-scaled 'rooms' using 5 large raised circular planters in a dynamic arrangement. These planters are offset a minimum of 3m from the retail frontages to retain circulation, and intentionally disrupt the direct path of travel between bridges to create a slight friction -encouraging slowing of movement and habitation of the plaza space. The raised planters feature single large specimen trees of a variety of species (both evergreen and deciduous) to provide a balance of year-round seasonal variation, solar access and shade.

VIABILITY OF VEGETATION IN SHADED AREAS

The viability of planting in areas often in shade may be considered a constraint. There are a range of suitable tree, understorey and climber species that are adaptable to variable light conditions and growing on structure with shallow soil profiles.

Examples include:

Trees

- Tristaniopsis laurina (water gum)
- Ulmus parvifolia (Chinese Elm)
- Acer buergerianum (Trident Maple)

Understorey

- Raphiolepis 'Oriental pearl'
- Liriope spp.
- Trachelospermum 'Tricolour'

Climbers

- Trachelospermum jasminoides (Star Jasmine)
- Kennedia rubicunda (Dusky Coral Pea)
- Cissus spp. (native Ivy's)
- Hibbertia scandens (Golden guinea vine)

STATION BRIDGE

The pedestrian bridges must be designed in accordance with TfNSW requirements. Given their prominence in the city centre, it is vital that the design aesthetic of these bridges is exemplary. Guidance on achieving best practice outcomes for pedestrian bridges in NSW is provided by NSW Government's Centre for Urban Design document "Bridge Aesthetics: Design guideline to improve the appearance of bridges in NSW", Feb 2019.

LEEDS STREET FORESHORE

OVERVIEW

The following section outlines the requirements for publicly accessible places within the Leeds St Character Area. These controls have been developed in alignment with current NSW Government and Council policy, and will ensure the delivery of a coherent and high quality public domain with a distinct sense of place.

DESIGNING WITH COUNTRY

"The City of Canada Bay is part of the traditional lands of the Wangal clan, one of the 29 tribes of the Eora nation. The Wangal people inhabited what is now known as the City of Canada Bay for thousands of years prior to European settlement. The Wangal people held a deep connection to the land and landscape of the City of Canada Bay. The bushlands and foreshore areas were their lands, their home and part of the territory they were responsible for. Traditionally, the lives of the Wangal people were strongly focused around the harbour and its foreshore." – City of Canada Bay

Government Architect NSW is currently working with recognised Indigenous Australian knowledge holders and professionals as well as the design industry, government and community to develop practical guidance about how to Design with Country. The foreshore areas of Rhodes (specifically the Leeds St Character Area in this masterplan) are considered to be of high cultural importance. This rich history shall be incorporated as part of the placemaking design elements, using the most current NSW Government guidance as the basis for Designing with Country.

STRATEGIES FOR PROVIDING OPEN SPACE

This public domain framework provides a clear hierarchy of new and embellished existing open spaces to support the full spectrum of public life. There is a focus on diversity – from active urban plazas to passive natural areas – with a commitment to legibility, continuity and equitable distribution of amenity. Pedestrian friendly streetscapes combine with quality new and existing open spaces to create a green network that encourages physical activity and connection with the natural environment. Existing open spaces along the foreshore, namely Uhrs Point Reserve and John Whitton Reserve will be embellished to a standard consistent with the range of passive recreational activity needs of a high density population and the recommendations of Council's Open Space Masterplan. The criteria and controls provided below will guide the design to ensure multi-functional and fit for purpose open space outcomes.

Figure 198. Vistula Boulevards, Warsaw, Poland

DESIGN CRITERIA FOR OPEN SPACE

ACCESSIBILITY AND CONNECTIVITY

All public domain areas must be compliant with all relevant Australian Standards for accessibility. Specific design requirements for the Leeds Street Character Area are provided in the following pages, including controls for the water edge and play space that will promote safety and equity in the public domain for all ages and abilities. Visual connectivity of open spaces to adjacent streetscapes is critical to safe, legible, and high amenity public domain outcomes.

SIZE & SHAPE

The size and proportions of Leeds St Waterfront Park optimise solar access at all times of the day throughout the year, maximise foreshore frontage, and have proportions that enable the design of a functional, adaptable, high-performing public domain space. Minimum dimensions have also been provided for an open lawn (Village Green) to maximise capacity to accommodate a range of recreation activities.

QUANTITY

The quantum of new open space provided in Leeds St Character Area is considered appropriate to support the increased population as a result of increased residential density. The high amenity of new streetscapes will further contribute to a more liveable neighbourhood and the increase the capacity of public domain to service the community.

QUALITY

Quality of the public domain outcome relates to many factors. In particular, the quality of design and ongoing maintenance and management is critical to attracting use and activating the open space network. Key characteristics of the public domain framework that will produce quality outcomes for Leeds Street Character Area include visual connection to the water, sight lines down streets terminating with greenery/water, number of activations within each space, shade provision (both day 1 and when trees are mature), lighting, and quality of materials.

DIVERSITY

Provision of a diverse range of recreation opportunities in Leeds St Character Area will support the diversity of the existing and future community. The range of open space facilities include places for all ages and cultures for both passive and active recreation. The range of activations located within Leeds St Foreshore Park will attract a broad user base and promote social interaction.

BIODIVERSITY AND URBAN GREENING

URBAN TREE CANOPY

Consistent with the NSW Government target for medium to high density areas, the minimum urban tree canopy cover target for Leeds St Character Area is 25%. Refer 'Planting and Trees' for further information.

URBAN BIODIVERSITY

The design and delivery of the foreshore open space must identify:

- Ecological values and map them (including but not limited to the existing mangrove protection area)
- Opportunities to improve urban habitat
- Ways to connect people to nature
- Implementation mechanisms and resource needs to connect, protect, enhance, and create urban habitat
- Indicators for undertaking monitoring and review.

STREETS

The vision for the Leeds Street waterfront character area to become a highly activated mixed use destination requires an appropriate response in the streetscape design.

The required flush transition between the roadway and pedestrian paths combines with designation of the road as a "30km/h high pedestrian activity area" to establish an understanding of pedestrian priority for motorists.

New planting in the roadway provides a buffer to new street furniture, improves amenity to new cafe breakout spaces, and incorporates WSUD in the form of rain gardens.

The proposed new school site on Leeds Street calls further attention to the need for a slow, pedestrian priority Leeds Street, that seamlessly connects the neighbourhood to the waterfront.

THROUGH SITE LINKS

Through site links are crucial to creating a continuous pedestrian and green network within Rhodes East. The proposed links should be considered of equal importance to any other public space. When designing through site links, the following conditions must be considered:

- Whilst the link is not required to be straight, there must be uninterrupted views through the links between Leeds St and the foreshore.
- A continuous 3m wide (minimum) pedestrian through zone (clear of trees and furniture).
- Trees must be provided along the length of link, spaced to achieve a continuous canopy of shade when mature.
- Public furniture integrated into the space, colocated with building entries and key nodes where appropriate.

Figure 200. Destination Street -Section (Leeds St -not to scale)

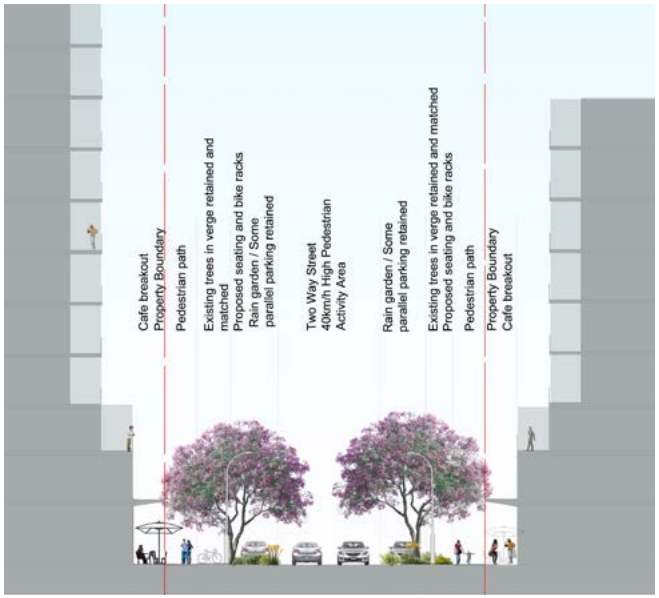


Figure 199. Destination Street -Section (Leeds St -not to scale)

FORESHORE / PARK INTERFACE

To optimise access to the park from adjacent promenade and to enliven the areas where the park meets the foreshore, there are certain regulations applicable to the area within the first 10m of the Foreshore Promenade, called the "Foreshore Interface". The Foreshore Interface with the park is required to have a minimum 50% of its area free of obstructions. The remaining 50% may contain obstructions such as fixed and moveable seating, plantings and trees, light poles, public space signage, litter bins or other design elements that are permitted within public parks. Ensuring this relationship is optimised can aid in creating a lively and regularly used space.

BUILT FORM / PARK INTERFACE

To optimise access to the park from adjacent buildings and to enliven the areas where the park meets the active facades, there are certain regulations applicable to the area within the first 8m of the built form/park, called the "Built Form Interface". A minimum clear zone of 3m offset from the façade is required. The remaining 5m of Built Form Interface with the park is required to have a minimum 50% of its area free of obstructions. The remaining 50% may contain obstructions such as fixed and moveable seating, plantings and trees, light poles, public space signage, litter bins or other design elements that are permitted within public parks. Ensuring this relationship is optimised can aid in creating a lively and regularly used space.

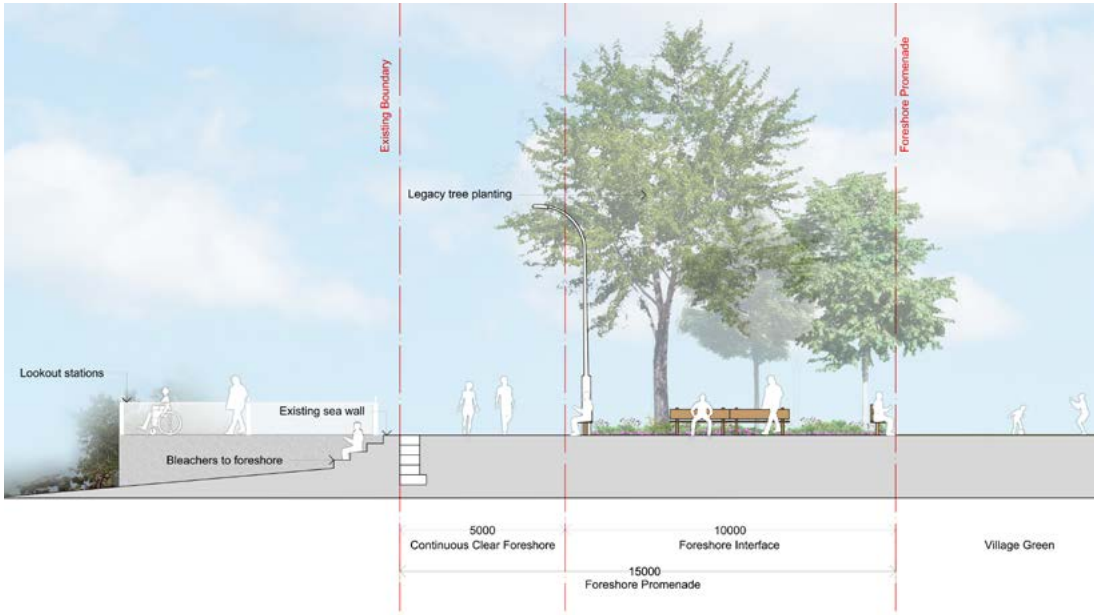


Figure 201. Foreshore / Park Interface (nts)

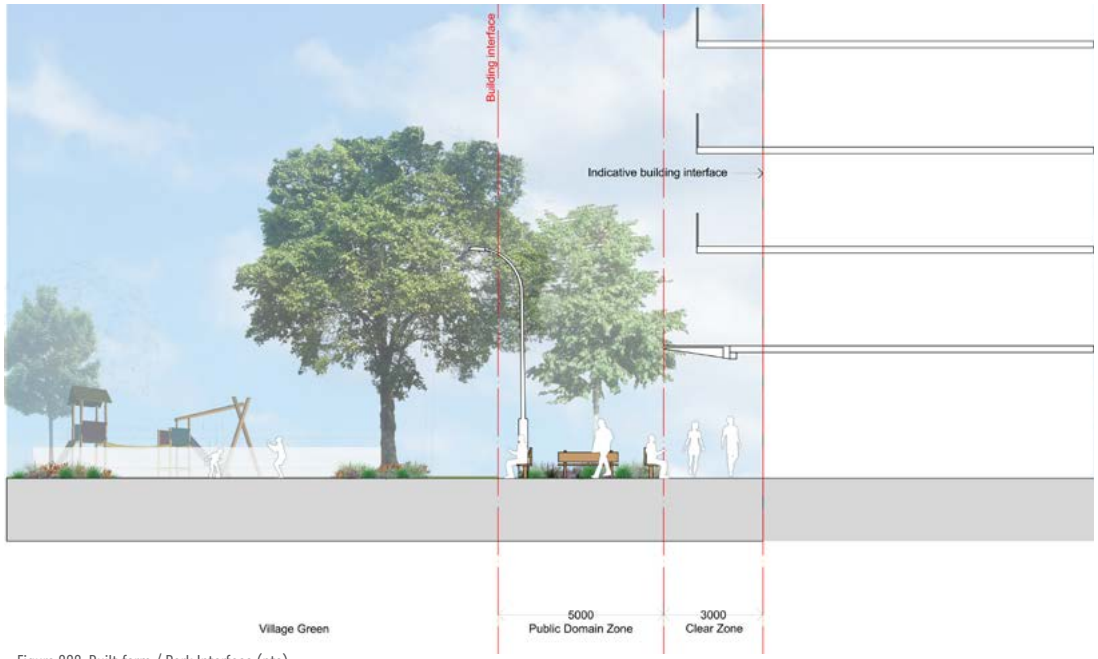


Figure 202. Built form / Park Interface (nts)

FORESHORE DESIGN REQUIREMENTS

OVERVIEW

The new public domain must include (as a minimum) the following open space amenities:

- (1) Water Edge
- (2) Mangrove Protection Area
- Amenities Building
- Pedestrian Priority Link to Wharf
- Foreshore Promenade
- Play Space
- Village Green
- Through Site Links
- Leeds St Streetscape
- Existing boating ramp and jetty
- Foreshore access
- Interface zones

Figure 203. Foreshore Design

Figure 204. Foreshore Promenade with generous planting, Hornsbergs Strandpark, Sweden.

Figure 205. Waterfront edge diversity, Sorenga Central Park, Oslo

Figure 206. Woolooware Bay Shared Path, Woolooware

FORESHORE PROMENADE

The creation of a minimum 15m width public promenade along the foreshore is consistent with City of Canadas Bay's Foreshore Access Strategy, to improve and increase foreshore access. The promenade must provide a continuous path of travel along the foreshore edge, minimum 5m in width, consistent with the existing Rhodes West foreshore, and with alignments that connect seamlessly with the existing and future promenade to the west and east, respectively.

A "Legacy Tree Line" shall be incorporated into the foreshore promenade. Large trees with a minimum mature canopy diameter of 10m, and spaced to achieve a continuous canopy in maturity, will line the foreshore edge. Utilising deep soil available, these trees will grow to provide shade and amenity to the promenade walk and active water edge, and make a significant contribution the sense of place.

WATER EDGE

The design must include a diversity of opportunities to engage directly with the water edge. A minimum 50% of foreshore edge shall step down into the river, and minimum of one equal access location provided to mean high tide level. The remainder of edge may consist of elevated terraces (with appropriate fall protection) or 'natural' edges (such as rip rap walling, mangrove planting, etc.). Open views to the water at eye level must be retained for at least 50% of the park interface

MANGROVE PROTECTION AREA

Existing mangroves must be retained and protected. The design must include opportunity for engaging with this landscape, and educational information about the natural flora/fauna integrated into the promenade experience at this location. The design solution is to consider cantilevered decks/boardwalks.

Figure 209. Existing boat ramp & Jetty

EXISTING BOAT RAMP & JETTY

The existing boat ramp access and jetty is to be retained and seamlessly integrated into the foreshore promenade design. The design must allow for vehicular loading to this street. Connection from Leeds St shall observe the requirements of through site links provided.

Figure 207. Shepherds Bay, Sydney

PEDESTRIAN PRIORITY LINK TO WHARF

The new north-south connection between Leeds Street and the new ferry wharf must be a shared environment that prioritises pedestrian movement / active transport. The design must allow for vehicular loading to this street, to ensure capability for pop-up events. This link shall observe the requirements of through site links provided.

Figure 208. Open Lawn, Jubilee Gardens London

VILLAGE GREEN

A large level open lawn space must be provided in the park, with minimum dimensions of 20 x 60m, and grades in all directions of 1-2.5%. This space must be framed with seating and shade amenity. The lawn may be irregular in shape providing that the minimum dimensions are achieved.

Figure 210. Play spaces as destinations, Domino Park

Figure 211. Amenities building, St James Park

PLAY SPACE

An inclusive play space shall be incorporated into the park, the design of which shall be guided by NSW Government's "Everyone Can Play: guideline to create inclusive play spaces". This play space shall be minimum 600m2. The range of play elements must cater for all abilities and ages, including young children, adults, and the elderly. The play experience must include bespoke elements that connect with the natural landscape and local context, contributing to a unique sense of place and creating an iconic destination. Provide boundary enclosure of the play space to create a secure environment and mitigate risks (e.g. the river and adjacent roads). This enclosure shall be visually discrete (using landform, planting buffers, etc.) and make a positive contribution to the overall park aesthetic.

AMENITIES BUILDING

An amenities building shall be provided within the park, with accessible toilet/s and change facilities (babies, children, adults). Its location shall prioritise convenience from the ferry wharf and play space. The building shall be integrated into the park's design aesthetic and minimise disruption of water views from the park.

LANDSCAPE AND PUBLIC DOMAIN FRAMEWORK

OVERVIEW

The following section outlines the requirements for privately owned public space. All new public spaces are required to adhere to these guidelines to ensure the delivery of a coherent and high quality public realm, with a distinct sense of place.

SPATIAL ARRANGEMENT & TYPOLOGIES

DIMENSIONS & CONFIGURATION

Two public domain configuration options are provided, both of which deliver important through-site connections and public spaces that are regular in shape.

To allow for articulation of building facades facing onto public space and flexibility in landscape design, small areas of the spaces are permitted to take the form of alcoves or niches adjacent to the main portion of the space. If so, the main portion of the space is termed the "major portion" of the public space and must account for at least 75% of the public area. The smaller areas are then considered to be "minor portions" and are limited to no more than 25% of the public area.

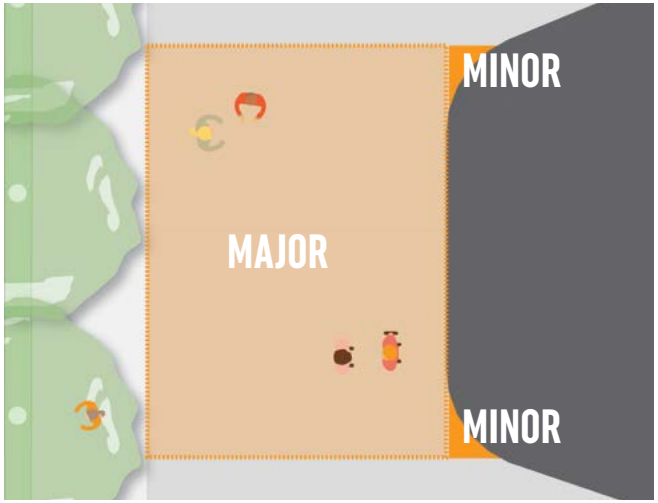


Figure 212. Example spatial allocation, major and minor portions

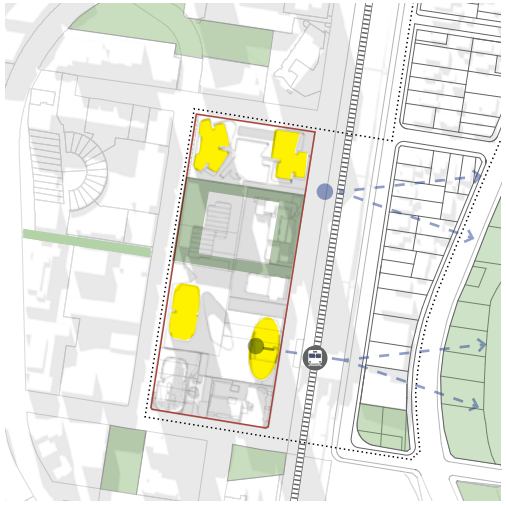


Figure 213. Street Plaza Option

STREET INTERFACE

Plaza usability is significantly determined by the relationship between the streetscape and plaza.

To facilitate access to public plazas from adjacent streets and to enliven the areas where public plazas meet the streetscape, there are certain regulations applicable to the area within the first 5m of a public plaza called the "street interface". The street interface of a public plaza is required to have a minimum 50% of its area free of obstructions. In addition, plazas that front on a street intersection are required to maintain a clear area within 5m of the intersection. The remaining 50% of the sidewalk frontage may contain obstructions such as fixed and moveable seating, plantings and trees, light poles, public space signage, litter bins or other design elements that are permitted within public plazas. Ensuring this relationship is maximised can aid in creating a lively and regularly used space.

To achieve a consistent streetscape, public domain areas outside the project boundary that are required to be upgraded must be delivered in accordance with Council standards.

THROUGH SITE LINKS

Through site links are crucial to creating a continuous pedestrian and green network within Gateway Rhodes West. The proposed links should be considered of equal importance to any other public space. When designing through site links, the following conditions must be considered:

Whilst the link is not required to be straight, there must be uninterrupted views through the links between Marquet and Walker Street.

A continuous 3m wide (minimum) pedestrian through zone.

Trees must be provided along the length of link, spaced to achieve a continuous canopy of shade when mature.

Public furniture integrated into the space, co-located with building entries and key nodes where appropriate.

RHODES WILL DELIVER A HIGH QUALITY PUBLIC REALM, CONNECTING PEOPLE TO ALL PLACES. FROM THE INTIMATE LANEWAYS, TO THE OPEN FORESHORE WALKS

Figure 214. Through-block Link

APPENDIX
PUBLIC DOMAIN & LANDSCAPE CONTROLS

CRIME PREVENTION THROUGH ENVIROMENTAL DESIGN (CPTED)

Implementing CPTED principles is crucial to ensuring reduced opportunities for crime. Consideration should be given to surveillance, access control, and space activity/management within public spaces. Further information on CPTED strategies can be found within 'Public Domain Urban Elements -Lighting'.

VISIBILITY & SURVEILLANCE

Public spaces and through site links should be designed to support natural surveillance; it should allow normal users of the space to be seen by other users. Public parks and through site links are generally required to be open to the sky and unobstructed, except for certain permitted obstructions such as planting, seating, and other amenities.

Through site links

- There must be uninterrupted view lines between Leeds St and the foreshore

Within public space

- All building entries adjoining the space must be visible, unobstructed and easily distinguished.

ACCESS & CIRCULATION

EQUAL ACCESS

All public space design must adhere to the Australian Standard Design for Access and Mobility (AS1428).

ELEVATION

Dramatic differences in elevation between streets and adjacent public domain areas lessen their usability, attractiveness, and perception of safety. They are also less likely to be perceived as public space.

Public parks and plazas should generally be located at the same level of adjoining public domain. Minor changes in elevation, not to exceed 0.6m above the level of the adjacent area, are permitted.

Parks and plazas should generally not be sunken below street level.

STEPS

Step risers must be no less than 100mm, and no greater than 150mm (exception can be made for vanishing steps).

Seating steps shall be in the range of 150mm-500mm

CIRCULATION PATHS

Circulation paths must be designed to ensure ease of access to and within public space. Providing free movement throughout a space assists with activation.

For optimal outcomes:

- Circulation paths must be a minimum of 2.4m in width and extend to a minimum of 80% of the depth of the space.
- Trees planted flush-to-grade, light poles, public space signage, and litter bins are permitted within circulation paths, however, 1.8m of continuous path must remain clear of fixed furniture elements at all times.
- Circulation paths must have a cross-fall no greater than 2.5%.

PROHIBITED ELEMENTS

Certain obstructions are generally prohibited from the public park due to their detrimental impact on usability and enjoyment of the public space. Garage entrances, driveways, parking spaces, loading berths, exhaust vents, mechanical equipment, and building bin storage facilities are prohibited from the public park / plaza / building interfaces.

Any such uses located adjacent to the public park / plaza are required to be screened or concealed from view. In addition, vents and mechanical equipment are prohibited on any adjacent building walls within 5m of the level of the public park / plaza. Air intake vents and intake shafts, such as those to serve underground facilities, are permitted within the public domain if they are incorporated into design features and do not impair view lines.

PUBLIC DOMAIN URBAN ELEMENTS

To ensure a coherent public domain, the public domain furniture palette should read as a coordinated family of elements. The selected family should reinforce the unique character of each character area.

PAVING

Quality paving is required to all public domain areas, to the satisfaction of Council. Consistency with Council's current materials palette and standard details is required for public domain legibility. Alternative proposals will be assessed for their design merit in the context of new development, but must as a minimum be of equal hardiness and low maintenance.

SEATING

Seating is an integral component of any public space. It facilitates social interaction and encourages people to treat the space as one of habitation, rather than one of passage. The configuration, location, and diversity of seating available should be carefully considered to ensure social interactions can be undertaken in a safe and comfortable manner.

AMOUNT & LOCATION

Seating requirements:

- At least 1 lineal metre of seating must be provided for every 30m2 of public domain space along the foreshore and within parks / plazas.
- Movable seating for cafes may constitute up to 50% of the seating requirement, and may be stored outside of trading hours
- Up to 50% of seating may be informal (e.g. low walls/seating steps).
- 50% of formal seating is required to have backs and armrests

VARIETY

To accommodate small groups socializing as well as individuals engaged in solitary activities, the park is required to provide at least 3 different seating types, with moveable seating one of the three required seating types.

There are six types of seating that may be used to satisfy the seating requirements: moveable seating, fixed individual seats, fixed benches, seat walls, planter ledges, and seating steps.

Social seating – seats that are located in close proximity to one another and in configurations that facilitate social interaction – are a basic seating arrangement that should be provided across all seating types wherever possible. Movable tables and chairs are the most flexible form of social seating, however angled and curved benches and groupings of fixed seats can achieve the same purpose.

A substantial proportion of seats in public spaces should have backs to facilitate comfort and usability by people of all ages and abilities. To ensure sufficient variety in seating types, seating steps and walls are limited to no more than 50% of the total required seating.

DIMENSIONS

Seating must be minimum 450mm depth, and in the height range of 400mm to 500mm.

To allow for generous plantings, seating provided on planter ledges are required to be at least 550mm deep. Seating steps can provide flexible seating – from simple perches to generous, amphitheater-style seating --and are permitted to range between 150mm and 500mm in height.

PROHIBITIONS

Deterrents to seating, such as spikes, rails, or deliberately uncomfortable materials or shapes, placed on any surfaces that would otherwise be suitable for seating are prohibited within public plazas.

Devices incorporated into seating that are intended to prevent damage caused by skateboards are generally permitted. Such deterrents are required to be spaced at least 1.5m apart from one another, be constructed of high-quality materials that are integrated with the seating design, and should not inhibit seating.

LIGHTING

Abundant and well-designed lighting makes a public place feel safe and inviting 24-hours a day. Light levels should be fairly uniform and be maintained at adequate levels for the use of the park. Lighting should be provided to all public open spaces and through site links in accordance with the principles of CPTED, Australian Standards, and Council requirements.

Lighting should be considered in a hierarchy. Any pedestrian movement zone or area of circulation should be adequately illuminated to identify 'safe routes' for users. Areas not intended for night activity should not be lit with the same level of illumination as those that are.

All lighting within the public domain must be shielded to avoid impacts on nearby residential units.

Street lighting will be evenly spaced wherever possible. Distance from existing and new trees will be maximised to minimise conflict with canopies. Additional outreach of fittings and/or providing secondary luminaries for the pedestrian path may be appropriate to achieve both the required light levels and canopy cover.

POWER SUPPLY

Requirements for event power supply are to be as directed by council.

All power supply points are to be thoughtfully located for convenience and to minimize visual clutter. Power supply shall be located in lockable in-ground power boxes wherever possible.

DRINKING FACILITIES

Public drinking fountains / water refill stations must be provided as directed by Council.

The product selection and location must consider accessibility for all, including children and pets. The design must consider proximity to key areas such as the play space, amenities building, and ferry wharf.

BOLLARDS

Bollards should only be included where it is necessary to discourage vehicle movement. They must not be perceived as a pedestrian barrier. They should only be used as an element of access control. Bollards are recommended where trafficable areas adjoin flush with public spaces (e.g. plazas, through site links).

In alignment with best practice, a variety of bollards can be used. This includes bollards that contain planting, removable bollards, fixed bollards and bollards as seating elements.

WASTE FACILITIES & MANAGEMENT

Requirements for general waste and recycling bins are to be as directed by Council.

All waste facilities are to be located within 15m of seating and gathering spaces. Visual appearance and impacts of smell should be carefully considered when locating waste facilities.

PUBLIC SPACE SIGNAGE

All signage in public space must be visible and legible. Signage design (i.e. font, colour and shape) should be aligned with the greater public domain elements palette.

Where appropriate, wayfinding and signage should integrate digital technologies, as outlined in the City of Canada Bay's Operational Plan 2019-2020.

BICYCLE PARKING

Public bicycle parking is required in accordance with the City of Canada Bay's standards, as outlined in the Development Control Plan (DCP).

WALLS

To ensure a vibrant and visually appealing public space consideration must be given to the treatment of adjoining walls and facades.

Any building entry must be clear and legible. The entries must be unobstructed within 5m of entry.

Walls required for planters or to mitigate changes in grade must not be visually or spatially intrusive on the space, and must be designed to a comfortable seating height wherever possible.

Blank building walls or facades facing onto public space must be treated with public art or screened with vertical planting to a minimum height of 5m above the ground.

PUBLIC ART

Public art must be delivered in accordance with City of Canada Bay's Public Art Plan 2014.

Public art can serve an important role turning spaces into places, giving people reason to stop and engage with the public domain. It can also celebrate cultural and environmental diversity and instill a sense of belonging.

A site specific Public Arts Plan is to be prepared by an arts and cultural planner and will be required to address the following:

- Identify opportunities for the integration of public art in the proposed development;
- Identify themes for public art;
- Durability, robustness and longevity of the public art;
- Demonstrate how public art is incorporated in the site and built form design;
- Demonstrate that the scale of the public art is appropriate and proportionate to the development and thoughtfully sited & integrated with the building to create a point of interest and define the location of area; and
- Provide a program for installation and integration with the construction program for the development.

PLANTING AND TREES

All public spaces must contribute to green amenity of the city. Trees and other planted areas are essential components of successful and enjoyable public spaces, providing comfort, shade, and textual variety. A balance should be struck between abundant, lush, and generous planting and the need for adequate sun and openness.

HARD / SOFT LANDSCAPE RATIO

To encourage greater landscaping variety and to prevent urban areas from being excessively hard-surfaced, public plazas and through site links are required to be comprised of at least 20% planted areas, in the form of planting beds, ground cover or accessible lawns. To ensure visibility throughout the space, bounding walls for planters or planting beds cannot exceed 450mm in height.

The Leeds St Foreshore Park will make an important contribution to the Rhodes peninsula green open space network. A minimum 60% of soft landscaping to the ground plane (lawn/planting) is required for this space.

TREES

At least 50% of required trees should be planted either flush-to-grade or within at-grade planting beds.

When planted flush-to-grade, the trees must be surrounded by a porous surface at least 1.5m in width that allows water to penetrate to the tree roots while at the same time accommodating pedestrian circulation. Trees provided in planting beds are required to have a minimum of 1.5m square of porous area, such as mulch or planted area to allow for water penetration.

Trees must be located in deep soil areas wherever possible. If on structure, trees must be provided soil depth and volumes in accordance with the NSW Department of Planning Apartment Design Guide.

Designs should consider the use of deciduous trees where appropriate for solar access in the cooler months.

The form and mature dimensions of trees adjacent buildings must be considered to minimise potential conflicts. Street trees must be planted in accordance with Council requirements and standard details.

Minimum tree sizes throughout must be in accordance with Council requirements.

SPECIES SELECTION

Species selection must be appropriate to the area and respond to the character of surrounding built and natural environments. When selecting species, the following should be considered:

- Solar access and climatic conditions (i.e wind).
- Visual appeal and use of tree as a wayfinding element.
- Place character and landscape aesthetic.
- Character and species of existing retained trees.
- Species should reflect those recommended by the City of Canada Bay Council DCP.

Figure 215. Luenen Riverfront

LANDSCAPE REPLACEMENT STRATEGY

The landscape replacement ratio (LRA) refers to the area of landscape that is to replace the landscape space absorbed by a building or structure. Globally, the principle has been implemented; Singapore leads the way with a LRA of 1:1.

Consistent with global best practice, the LRA required for new developments in Rhodes West Planned Precinct must achieve a minimum of 1:1.

- Landscape replacement can be provided through the following:
- Vertical and facade greening.
- Rooftop greening and greening of communal podium spaces.
- Public open space, through site links within the site boundary.

At least 40% of the development site area, or overall proposed LRAs, whichever is higher, should be for permanent planting, i.e. softscape. The remaining provision can be in the form of communal facilities like events plazas, water features and playgrounds, i.e. hardscape.

CANOPY COVER

Existing trees must be retained wherever possible on the provision that they are deemed safe and of retention value by a qualified arborist.

Consistent with the NSW Government target for medium to high density areas, the minimum urban tree canopy cover target for Rhodes Planned Precinct is 25%. The design of each development phase must achieve this minimum target for mature tree canopies.

Mature tree canopy dimensions for each species are to be agreed with Council prior to undertaking % calculations.

To gain immediate benefit from initial planting, 25% of trees should be planted at minimum 200L pot size.

Through site links must contain trees at regular intervals, spaced to achieve a continuous canopy of shade when mature

A mix of small (3-5m canopy), medium (5-10m canopy), and large (10-20m+ canopy) trees is required, appropriate to the scale of spaces and building interfaces.

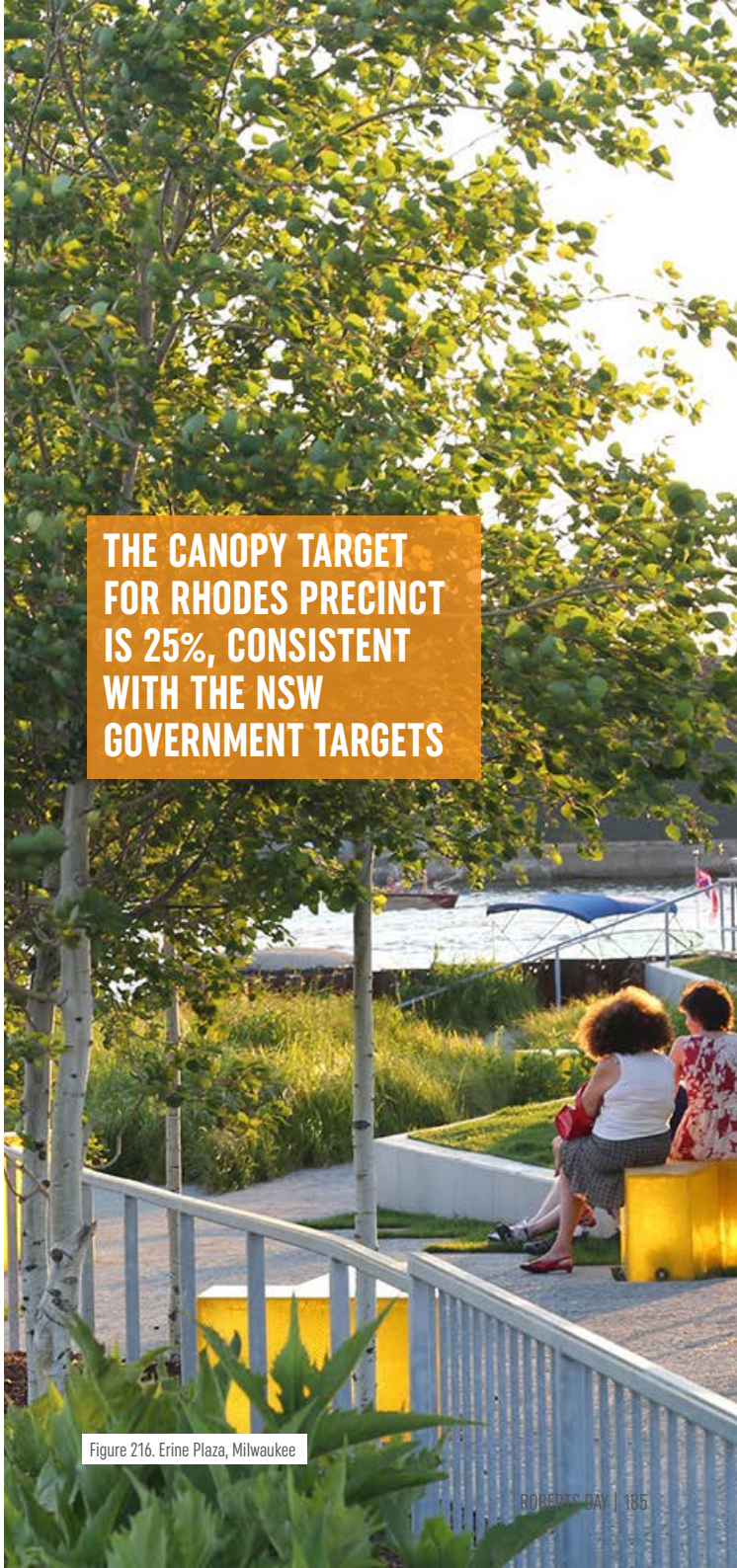


Figure 216. Erine Plaza, Milwaukee

GREEN VIEW INDEX (GVI)

The GVI is a numerical value given to the amount of of green canopy and landscape perceived by an individual at street level. Tree canopies, understorey vegetation, and facade greening are the three primary contributors to the GVI.

The GVI target for Rhodes Planned Precinct is 25%. To achieve this, the design of streets and new developments must include an objective assessment of the GVI value achieved, using the following method:

Where tree canopies and understorey vegetation do not achieve the GVI target, facade greening is required to the extent necessary to achieve the minimum requirement.

NOTE: for the purposes calculating GVI at street level, a standard height of 14m has been set.

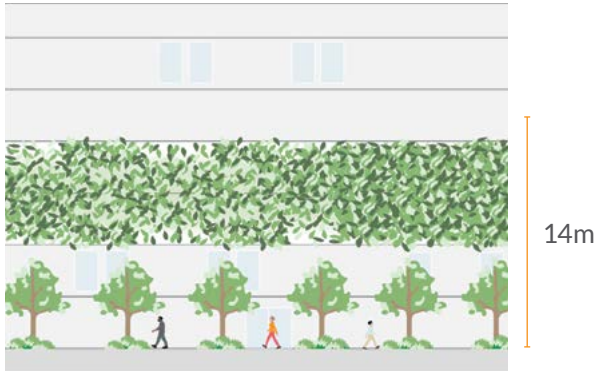


Figure 217. Small Tree Typical Option

-Small full canopy trees, spaced at 5m centres
-Understorey planting at base of tree (understorey planting at 0.6m high)
-Extensive facade greening

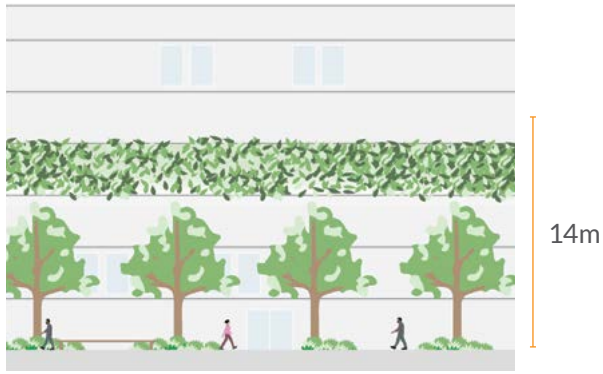


Figure 218. Medium Tree Typical Option

-Medium trees spaced at 8m centres
-Understorey planting at base of tree (understorey planting at 0.6m high)
-Medium facade greening

Figure 219. Large Tree Option

-Large Tree spaced at 10m centres
-Understorey planting at base of tree (understorey planting at 0.6m high)

Figure 220. Double Row Trees Typical View

-Medium foreground trees spaced at 8m centres.
-Understorey planting at base of tree (understorey planting at 0.6m high)
-Possible where there is widened verge or open space to the streetscape

WATER MANAGEMENT

All public open spaces should seek to integrate Water Sensitive Urban Design (WSUD) and other sustainability initiatives into the design of the space. This may be in the form of raingardens, stormwater detention, retention, and re-use, or other WSUD methods.

STAGING

Additional quality open space is essential to support the proposed higher density residential development. These open spaces must be delivered (completed and publicly accessible) prior to occupation of new residential developments to ensure the capacity of local open spaces to meet recreational needs of the community is not compromised.

Figure 221. Domino Park, New York City

FIGURES

LIST OF FIGURES

GLOSSARY

LIST OF ABBREVIATIONS USED

ADG – Apartment Design Guide

BASIX -The Building Sustainability Index

The BASIX tool is a NSW Government planning requirement used to assess a Building Application against specific energy and water reduction targets.

CPTED -Crime Prevention Through Environmental Design

DCP – Development Control Plan

DPIE -Department of Planning Industry and Environment

GBA -Gross Building Area

GFA -Gross Floor Area

GVI – Green View Index

FSR -Floor Space Ratio

LEP -Local Environmental Plan

LGA – Local Government Area

LHS -Local Housing Strategy

LRA -Landscape Replacement Ratio

LSPS -Local Strategic Planning Statement

RMS -Roads and Maritime Services

SEPP – State Environmental Planning Policy

SINSW -School Infrastructure New South Wales

SREP -Sydney Regional Environmental Plan

TfNSW – Transport for New South Wales

TOD -Transit Orientated Development

VPA -Voluntary Planning Agreement

WSUD – Water Sensitive Urban Design

Level 4, 17 Randle Street Surry Hills NSW 2010
T: +612 8202 8000 www.robertsday.com.au
ABN 53 667 373 703 ACN 008 892 135

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