

ORDINARY COUNCIL MEETING

ATTACHMENTS BOOKLET - Part 3

Item 9.1 - Attachments 17-25

Item 10.1 - Attachment 1

Under Separate Cover

Tuesday, 29 October 2024

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'Five Dock Village'
49-77 Parramatta Road, 2-10
Harris Road, 35-57 Queens
Road, & 5-29 Courland Street,
Five Dock NSW 2046

Social Impact Assessment

On behalf of
Toga Group

20 May 2024

Prepared by:



everything starts with Country

We acknowledge the Traditional Custodians of the lands and waters across Australia - in particular the Wangal people who has occupied and cared for the area we today know as the City of Canada Bay- and pay our respect to Elders, past and present.

We deeply respect the continued connection to Country of Australian First Nations Peoples through stories of place, culture and custodianship. We value + celebrate Australian First Nations peoples as part of the oldest living culture - the original storytellers, planners, designers. We acknowledge the impacts of displacement, and the need for deep listening to first voices, truth telling, reconciliation + healing.

We are committed to listen, learn and walk alongside as we plan with communities for equitable, sustainable, generous and connected places and communities.

Photo Source: Liverpool City Council Facebook Page
[<https://www.facebook.com/LiverpoolCityCouncilAustralia/photos>]

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5. Conclusion

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Completion Date:	20 May 2024
Qualifications:	Bachelor of Social Science (University of Newcastle, NSW) Bachelor of Urban and Regional planning (UNE, NSW) Planning Institute of Australia (Full Member)
Declaration:	This social impact assessment (SIA) relates to a proposal by the Toga Group for the redevelopment of 49-77 Parramatta Road, 2-10 Harris Road, 35-57 Queens Road, & 5-29 Courland Street, Five Dock NSW 2046. This SIA has been prepared to accompany the Planning Proposal Application. This SIA has been prepared using best practice assessment methodology and is a true and independent review of the proposal based in the information provided to The Planning Studio and to our understanding contains no false or misleading information.
Signature:	

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Part 1.
Introduction

“Awareness of the differential distribution of impacts among different groups in society, and particularly the impact burden experienced by vulnerable groups in the community should always be of prime concern”

- Vanclay, F 2003

Social impacts generally refer to the consequences that people experience to their daily life, liveability, and wellbeing when a new project brings about change - big or small - to a locality.

The Social Impact Assessment aims to identify, predict and evaluate likely social impacts arising from a project and propose effective measures that will mitigate or minimise predicted negative impacts and leverage opportunities to provide social benefits for the existing and future communities.

Report Purpose

This Social Impact Assessment (SIA) has been prepared on behalf of Toga Group to accompany a Planning Proposal for a mixed-use development in Five Dock.

Toga Group has prepared a site-specific planning proposal that seeks greater densities on the site. The planning proposal seeks to amend the planning controls within the Canada Bay LEP 2013 (CBLEP2013) and Chapter K20 of the Canada Bay Development Control Plan (CBDPC) for the following sites in Five Dock:

- 33-43 and 49-51 Queens Road;
- 51-61 and 75-55 Parramatta Road;
- 2A-10 Harris Road; and
- 5-29 Courland Street.

The Site

The 31,093m² site is located at 49-77 Parramatta Road, 2-10 Harris Road, 35-57 Queens Road, & 5-29 Courland Street, Five Dock NSW 2046, within the city of Canada Bay local government area (LGA).

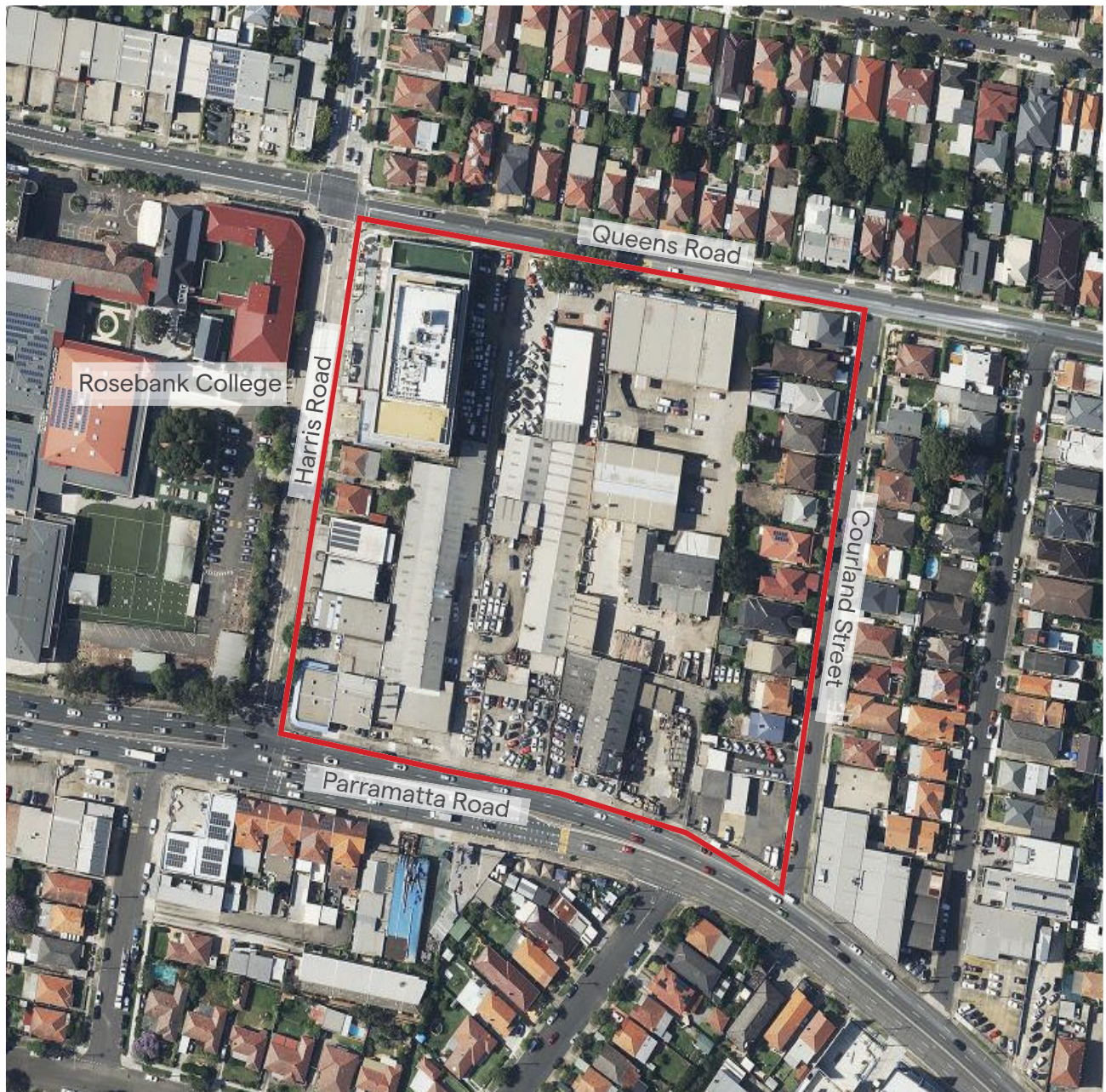
It is bounded by Queens Road to the north, Courland Street to the east, Parramatta Road to the south and industrial buildings to the west which front Harris Road.

The site is located within 800m of the future Five Dock Metro Station, and 1.6km to the future Burwood North Metro Station, which will afford the area good access to the Sydney and Parramatta CBD. Currently, public transport to the site is available via several nearby bus stops.

The site and its immediate surrounds are shown in Figure 1 (opposite).



Figure 1: Location of the Planning Proposal site
Source: Six Maps (NSW Government)



The Planning Proposal

The Planning Proposal seeks to deliver new planning controls to enable a comprehensive renewal of the block bounded by Courland Street, Queens Road, Harris Road, and Parramatta Road, consisting of:

- New MU1 Mixed Use zone with a maximum permissible floorspace ratio of 3.0:1 and additional permitted uses of residential flat buildings and multi-dwelling housing
- A mix of uses across the site including retail (supermarket and ancillary retail), community facility, residential accommodation, co-living and co-working floorspace
- New building heights across the site ranging from 2.5m (park) to 80m (3-24 storeys)
- New RE1 zone with new public park, and public plaza adjoining and new public through-road
- Affordable housing contribution of 7.5% in perpetuity through monetary contribution.

As part of the Planning Proposal, the proponent has included the following new community uses:

- A 490m² multipurpose community space, located adjacent to the public park
- A 2,090m² new public park on Queen Street and secondary plaza adjacent to retail uses.

In addition, the following also provides social and community benefit:

- 2551m² co working space
- A diversity of dwelling sizes, ranging from 1-bedroom to 3-bedroom units, terrace style housing and opportunities for future affordable seniors accommodation.
- Setback along Parramatta Road to enable the continuation of the cycleway.

Figure 2 is photomontage of the subject site and amended controls as outlined in the Planning Proposal. Figure 3 is a photomontage of the subject site and park under the amended controls.

Figure 4 and 5 (page 8) illustrate the masterplan for the site and 3D view under the amended controls.

Current Uses + Surrounding Area

The site currently accommodates a range of light industrial and commercial uses including vehicle repair, hire and sale, small scale manufacturing, joinery and building supplies businesses.

The 4-storey commercial building on the corner of Harris and Queens Road accommodates a number of professional and medical consulting offices, gym, and indoor swim centre.

The Five Dock town centre is approximately 500m east of the site. This is one of the City of Canada Bay's main town centres providing a diverse offering of retail, restaurants, cafés and other local businesses. Five Dock Park is a large 8ha district park located near the town centre providing a new skatepark, a dog park, playground, cricket oval and tennis courts and active open space areas.

The site is also near a number of educational and recreation uses, including the recently purpose built Five Dock Leisure Centre, Five Dock Indoor Cricket, ATC Badminton Centre, Cintra Netball Courts, Hockey Complex and Tennis Centre, Barnwell Park Golf Club and Rosebank College, which is located opposite the site on Harris Street.

Figure 2: Photomontage: Aerial of Planning Proposal site under amended controls (Source: Bates Smart)



Figure 3: Photomontage: Planning Proposal site and park under the amended controls (Source: Bates Smart)



Figure 4: Planning Proposal masterplan under amended controls (Source: Bates Smart)

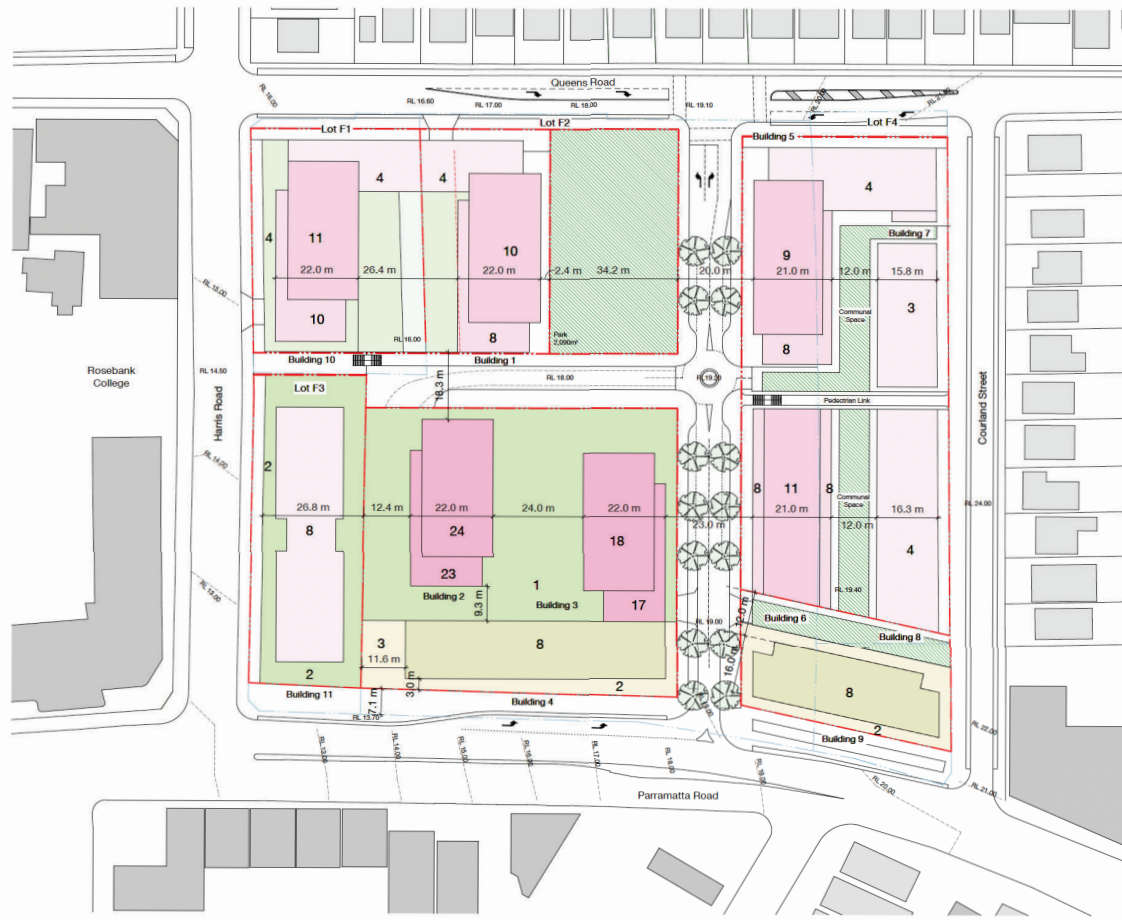
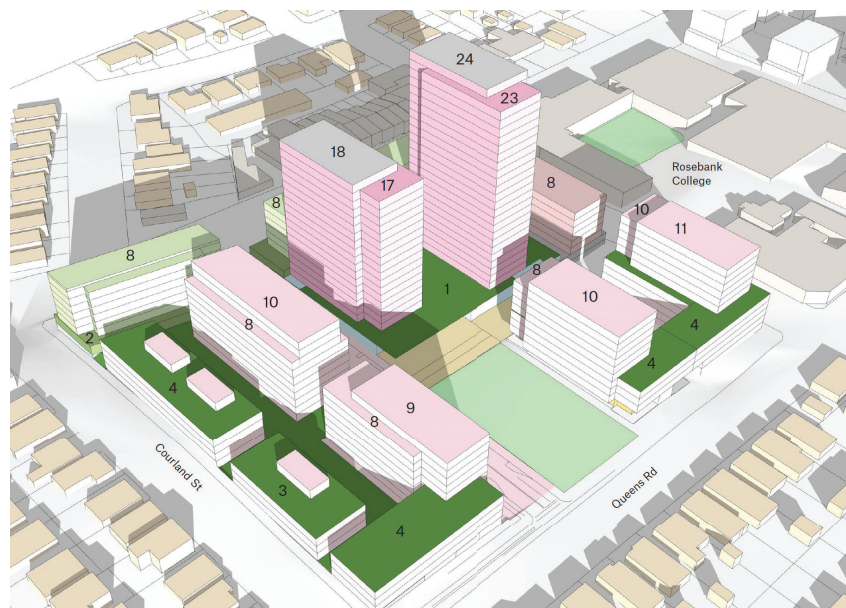


Figure 5: Planning Proposal 3D view under amended controls

(Source: Bates Smart)



Part 2. Social Impact Assessment Method

Our approach to social impact assessment starts at the beginning of the project and encourage proponents to think about how social benefit can be 'designed into the project' as well as considering the mitigation or management of potential social impacts at all stage of development, from demolition to ongoing operation.

The Planning Studio's approach to the preparation of this SIA aligns to relevant sections of the City of Canada Bay's Development Control Plan (DCP), the NSW Government's Social Impact Assessment Guideline 2022 and established best practice.

The methodology undertaken for this assessment consisted of three phases:

- Establishing the social baseline by identifying key characteristics and/or existing social issues;
- Identifying and assessing potential impacts of the proposal on the existing and future place and community; and
- Developing recommendations to enhance and leverage identified social benefits and mitigate and/or manage negative social impacts that could have a short to long term effect resulting from the proposal.

Defining social impacts

Social impacts are the consequences that people experience when a project brings about change and can be uniquely social or intrinsically related to other environmental, economic, and cultural impacts.

A social impact can be defined as the net effect of an activity on a community and the wellbeing of individuals and families. Social impacts may occur across a range of aspects of an individual's and a community's life. Social impacts arising from a development may be positive, negative and cumulative, with a scale and intensity that varies across the life of the project.

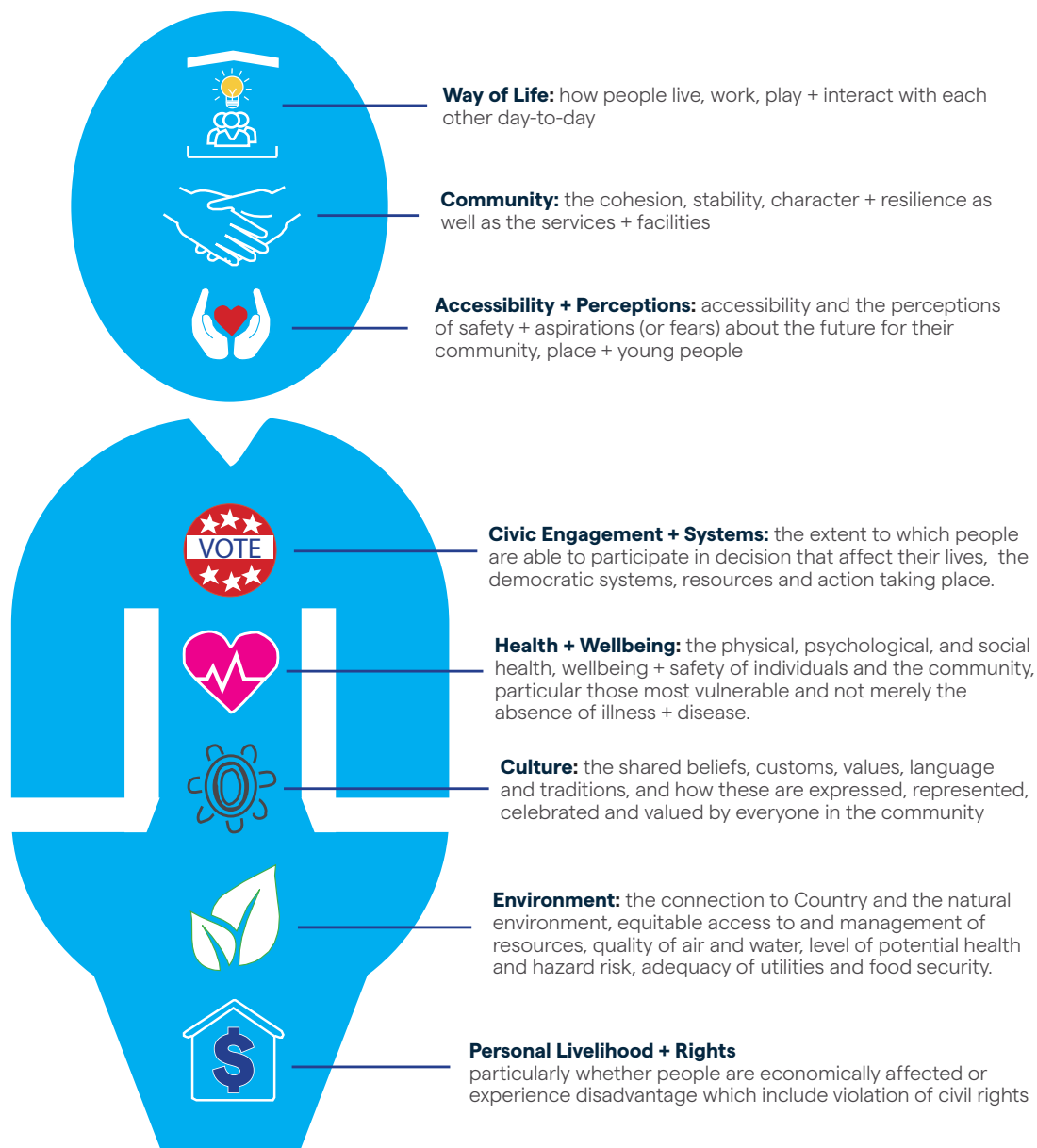
Affected and wider community acceptance and understanding of the social benefits as well as the potential impacts is critical for State significant projects in terms of minimising risk, ensuring the delivery of the project on time and within budget.

Social impacts are a change to one or more of the following:

- **Way of life:** how people live, how they get around, how they work, how they play, and how they interact each day.
- **Community:** its composition, cohesion, character, how the community functions, resilience, and people's sense of place.
- **Accessibility:** how people access and use infrastructure, services and facilities, whether provided by a public, private, or not-for-profit organisation.
- **Culture:** of Aboriginal, non-indigenous and culturally diverse communities, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, and waterways, cultural importance of places and buildings.
- **Health and wellbeing:** both physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress or other pressures, and effects on public health.
- **Environment,** the natural ecosystem and use of the built environment, aesthetic value and amenity on humans, such as shade, public safety and security, and environmental quality.
- **Livelihoods,** people's capacity to sustain themselves through employment or business.
- **Decision-making systems:** the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

Figure 6: Types of Social Impact

(Source: Adapted from Vanclay, 2003 | Graphic: The Planning Studio)



Establishing a social baseline

In order to assess the social impacts accurately, a detailed assessment of the social baseline enables consideration of the existing surrounds of the proposal. This consideration is made through the collection of data to establish benchmarks against which the impacts of the proposal can be assessed.

The Planning Studio has conducted a desktop review of the publicly available information from sources such as the ABS, Profile .id and information provided by the proponent, to inform our understanding of relevant demographic and social context and trends.

Predicting, Analysing, and Evaluating Impacts

The assessment undertaken identifies and evaluates changes to the social baseline due to the proposal. This includes the assessment of positive, negative, and cumulative impacts. Changes can be tangible or intangible; qualitative or quantitative; direct or indirect; and subjectively experienced.

The following defines, for the purpose of the SIA these types of impacts:

Positive social impacts: result from changes to the physical or social fabric that make it better (in any of the impact categories) than before the project took place.

This could include the contribution to improving the social character and circumstance for the existing and future community, the direct contribution to the social health and wellbeing of the community, with the provision of community infrastructure, services or facilities and/or makes a positive contribution to the place.

Negative social impacts: result from changes to the physical or social fabric that make it worse (in any of the impact categories) than before the project took place. This could be the amplification of an existing social issue or the creation of a new impact.

Cumulative social impacts: result from changes to the physical or social fabric that occur from multiple projects or activities that need similar resources or affect similar impact categories

The likelihood of social impacts arising from each matter is assessed as part of the scoping process. Matters which are identified as having potential social impacts are then assessed. Professional judgment and experience is applied on a case-by-case basis to identify the significance of impact on the social environment.

The likelihood of a potential impact is a primary element of considering each social impact and its risk rating. The criteria used to determine the likelihood of any potential impact are:

- Almost certain [almost definite | < 90%]
- Likely [High probability | 70%]
- Possible [Medium probability | 50%]
- Unlikely [Low probability | 30%]
- Very Unlikely [Improbable | >10%]

The magnitude of a potential impact is a key consideration to determine a risk rating. In determining the magnitude of a potential impact there are five key characteristics that must be considered:

- Extent
- Duration
- Severity or Scale
- Sensitivity or Importance
- Level of Concern

These characteristics are measured in terms of the magnitude of their impact: minimal, minor, moderate, major and transformational. Potential impacts identified in the scoping process are analysed based on the nature of the impact, and the predicted severity. Then they are assigned a level of significance. (see Tables 1 and 2 over the page)



Table 1: Magnitude of impact
Source: NSW Government Social Impact Assessment Guideline (2021)

Magnitude	Description
Minimal	No noticeable change experienced by people in locality.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time or affecting many people in a widespread area.
Significant	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health and/or heritage values; permanent displacement or addition of at least 20% to a community.

Table 2: Social Impact Significant Matrix
Source: NSW Government Social Impact Assessment Guideline (2021)

	Magnitude				
	Minimal	Minor	Moderate	Major	Significant
Almost Certain	Low	Medium	High	Very High	Very High
Likely	Low	Medium	High	High	Very High
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Very Unlikely	Low	Low	Low	Medium	Medium



Part 3. Social Baseline

This section describes the social, cultural, economic and environmental characteristics of the study area to set the baseline from which the Planning Proposal will be assessed in regard to the provision of social benefit or potential impacts.

The Planning Proposal site, known as Five Dock Village is located on the traditional lands of the Wangal Peoples and part of the area we today know as the City of Canada Bay LGA.

It is located approximately 8km west of the Sydney CBD and approximately 500m west of the current Five Dock town centre and future Metro Station and 1.6km to the future Burwood North Metro Station. The site is bounded by Queens Road to the north, Courland Street to the east, Parramatta Road to the south and Harris Road to the west.

The site is also part of the Kings Bay Special Precinct within the Parramatta Road Corridor Urban Transportation Strategy (PRCUTS). The planning proposal site is a key location on the Parramatta Road corridor, which is undergoing significant transformation on the back of investment in major transport infrastructure.

The proposed site, close to the future metro site, provides the opportunity for a well designed transport-oriented development. The existing site is also well serviced by multiple bus routes that operate along Parramatta Road, and provide connections to CBD, Chiswick, Chatswood train station, Burwood, and Campsie.

The social locality for this project is illustrated in Figure 7 below defined by the area between the planning proposal site, and the future metro station being within 500m of the proposal site. The social locality is the area in which people may be affected both positively and negatively by the proposed planning control amendment and future development.

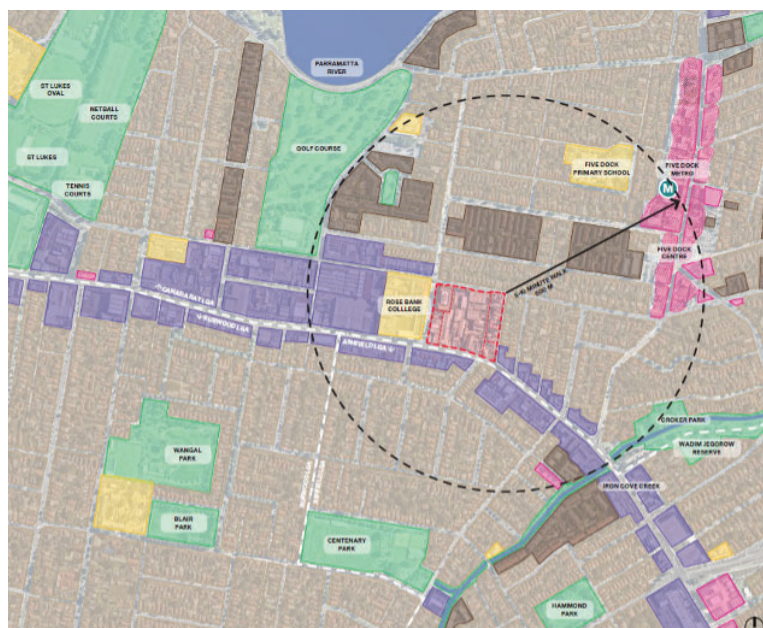


Figure 7: Social locality
(Source: Bates Smart)



Social Baseline | PEOPLE¹

The 2023 Estimated Resident Population for the Five Dock-Canada Bay area was 11,336 with a population density of 4,109 persons per square km.

Residents aged 35 to 40 years represented almost one-quarter (24%) of the total Five Dock-Canada Bay population, which is slightly higher than compared to the proportion of this age group for the whole of the City of Canada Bay LGA.

The 25 to 34 years (12.5%) and 50 to 59 years (13.9%) age groups made up the other largest proportion of the total resident population of the Five Dock-Canada Bay area.

Secondary school aged people (12 to 17 years) represented the group that experienced the highest increase between 2016 and 2021 (+158 people). This was followed by empty nesters and retirees, 60 to 69 years (+152), seniors, aged 70 to 84 years (+144) and older workers and retirees aged 50 to 59 years (+121 years).

In 2021, 33.6% of households in Five Dock-Canada Bay were made up of couples with children, slightly higher than the City of Canada Bay (30.5%). Lone person households (24.7%) and couples without children (24.4%) combined accounted for half of all households within the Five Dock-Canada Bay area, which is the same proportion as the LGA.

In the Five Dock - Canada Bay area, 52% of the dwellings were medium or high density, compared to 64% in the City of Canada Bay. In terms of housing tenure, 59% of households were purchasing or fully owned their home, 29.8% were renting privately, and 5.5% were in social housing in 2021.

Cultural Background

Across the City of Canada Bay, Aboriginal and Torres Strait Islander Peoples represent 0.6% of the total residential population, which is lower than Greater Sydney (1.7%).

The three largest ancestries in Five Dock - Canada Bay area in 2021 were Italian, Australian and English. The proportion of residents born overseas in Five Dock-Canada Bay was lower (33.2%) when compared with the City of Canada Bay (40.1%).

Of those people born overseas, the three largest ancestries were Italy (7.1%); China (3.7%); and United Kingdom (3.1%).

The statistics show that Five Dock remains a strong Italian community with the proportion of residents of Five Dock-Canada Bay born in Italy is double that of the City of Canada Bay.

Between 2016 and 2021 the number of people born overseas increased by 10.7% with people born in China making up the highest proportional increase.

Languages spoken at home other than English included Italian (10.6%); Mandarin (4.1%); Cantonese (2.7%); Spanish (1.9%); Greek (1.8%) and Arabic (1.5%).

Level of Disadvantage

The Five Dock-Canada Bay has the second highest level of disadvantage within the City of Canada Bay LGA with a SEIFA measure of 1,051.6. However, this illustrates that the relative disadvantage in this area is higher than compared to the City of Canada Bay LGA (1,067) but lower than Greater Sydney (1,010) and NSW (1,000).

Noting that the lower the SEIFA number the higher the relative disadvantage of that population.

This index is based on a number of disadvantage indicators such as unemployment, low incomes or education levels, single parent families, low skilled occupations, poor English proficiency.

Health and Wellbeing Indicators

The most common long-term health condition in Chester Hill is arthritis (7.4%). The proportion of the Five Dock-Canada Bay population that reported one or more health conditions was 28.6%, and is a higher rate than in the City of Canada Bay (25.9%).

In 2021, 592 people (or 5.3% of the population) in Five Dock-Canada Bay area reported needing help in their day-to-day lives due to disability. This was also correlated with the age of the population with the majority of these residents being 65+ years. In addition, the proportion of residents providing unpaid care to a person with disability, long term illness or older persons was 12.1% (2021) which represents a small increase since 2016 and slightly higher than compared to the LGA.

In Five Dock - Canada Bay, 12% of the population reported doing some form of voluntary work in 2021. This was a similar proportion to City of Canada Bay. In addition, 27.7% (2,532 people) of the Five Dock - Canada Bay population provided unpaid care to children in 2021. Of these, 321 people were caring for children other than their own.

¹ idcommunity City of Canada Bay community profile
<https://profile.id.com.au/canada-bay?WebID=170>



Travel to Work

The majority of people within the Five Dock-Canada Bay area travel to work by private vehicle (35.2%), with 3.6% using public transport and 2.5% that rode a bike or walked. In 2021, 44.6% of people working from home. (Please note that this data was collected in 2021 during the Covid-19 pandemic, which may influence these statistics).

Not specific to the social locality, but in 2021, the proportion of people who work and live in the City of Canada Bay Council was 28.9%. Common locations that residents from across the LGA are working include; City of Sydney (28.7%); City of Parramatta (6.2%); Inner West LGA (5.9%); City of Ryde (5.1%) and North Sydney LGA (3.4%).

Crime Statistics²

Data from the NSW Bureau of Crime Statistics and Research (BOCSAR) has been mapped to show crime hotspots near to the site. Detailed data obtained from BOCSAR for selected crimes in Five Dock shown in Figures 8-10.

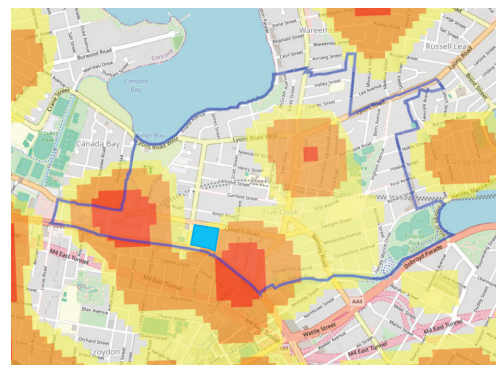
It should be noted that the location of the site fronting Parramatta Road may be a significant determinant for the level and types of crime occurring within the immediate area.

There were four (4) high level hotspots within the immediate vicinity of the site in the year to June 2023 which was for theft (motor vehicles), theft (from motor vehicles), theft (break and enter, dwelling), and assault (domestic assault).

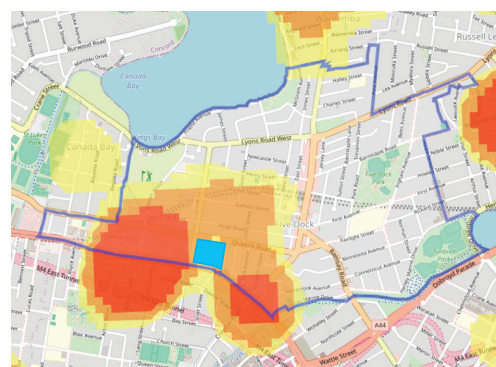
Two (2) medium-low level hotspots for theft (from a motor vehicle) and theft (of a motor vehicle) and one (1) low level hotspot for assault (domestic). For theft (break and enter, dwelling), the site is located in between areas of a medium to high hotspot, which are oriented to the existing residential areas to the north-west and north-east of the site.

While these localised hotspots are not significant to the planning proposal site, the increased residential population expected as a result of the proposed amendments to the development controls will need to incorporate design measures that increase safety and crime prevention, including the passive surveillance of public spaces.

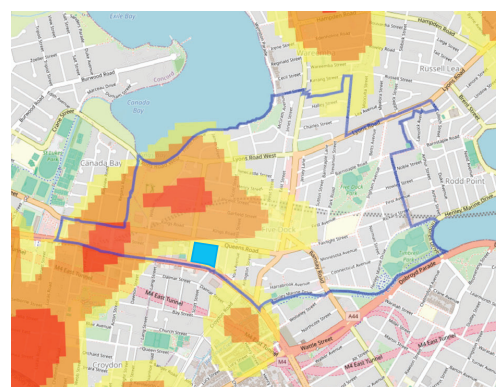
Figures 8-10: Suburbs Crime Statistics 2023 for Five Dock (Source: BOSCAR)



Incidents of Theft (from a motor vehicle), 2023



Incidents of Theft (of motor vehicle), 2023



Incidents of Assault (Domestic), 2023

² NSW Bureau of Crime Statistics and Research (BOCSAR) NSW Crime Tool
<https://crimetool.bocsar.nsw.gov.au/bocsar/>



Social Baseline | PLACE

The suburb of Five Dock, where the site is situated, is characterised by a mix of residential, commercial and light industrial areas, which are focused along the Parramatta Road corridor.

The area surrounding the planning proposal site is largely residential area, featuring low density detached and semi-detached housing, along with some residential flat buildings and various commercial and industrial uses along Parramatta Road. Rosebank College which is identified as a heritage item is located immediately west of the site along Harris Road

The Canada Bay Social Infrastructure Strategies - illustrate a variety of existing facilities and spaces that support the liveability and wellbeing of the local community. Figures 11 and 12 illustrates the existing social infrastructure - both community facilities and open spaces - within the immediate and wider area surrounding the planning proposal site.

The majority of the dining, shopping and community centre provisions are concentrated within the Five Dock town centre. These include:

- Five Dock Library
- Five Dock Primary School
- 9x OSHC, long day care, and pre-schools
- Domremy College
- Five Dock Park [containing bowling club, oval and 2x tennis courts, skatepark and playground]

Additional community facilities, recreation facilities and spaces located in the area surrounding the site included:

- Rosebank College
- Five Dock Leisure Centre (Indoor sports and gymnastics)
- Charles Health Reserve
- Barnwell Park Golf Club
- OH Watts Reserve

- Wangal Park [playground, outdoor exercise, shelters and BBQs]
- Lucas Garden School
- Canada Bay Club
- Timbrell Park [containing an all-abilities, inclusive playground (Livvi's Place), baseball field, 2x sport fields, mini mountain bike trail, walking path along Iron Cove Creek]
- Reg Coady Reserve
- Concord Oval [and West Tigers Centre of Excellence, community meeting rooms and club match day facilities]
- Concord Oval Recreation Centre [gym and 4x multipurpose sports sources, outdoor basketball courts and informal sports areas]
- St Lukes Park and Cintra Precinct [containing hockey fields, 14x tennis courts, 38x netball courts, St Lukes Oval, 4x sports fields]

The accessibility and proximity of the wider social infrastructure of services, community facilities and open space to the planning proposal site is greatly beneficial to residents' wellbeing and social life. These spaces and the programs run are anchor points for community events and social calendars.

The site is also approximately 1km from the Parramatta River and the Hen and Chicken Bay Foreshore Walk, which weaves throughout the City of Canada Bay LGA. It is also approximately 1.6km to the Bay Run, very popular 7km walking, running and cycling circuit around Iron Cove, along the Five Dock and Drummoyne shoreline.



Livvi's Place Playground, Timbrell Park Five Dock
(source: www.hellosydneykids.com.au)



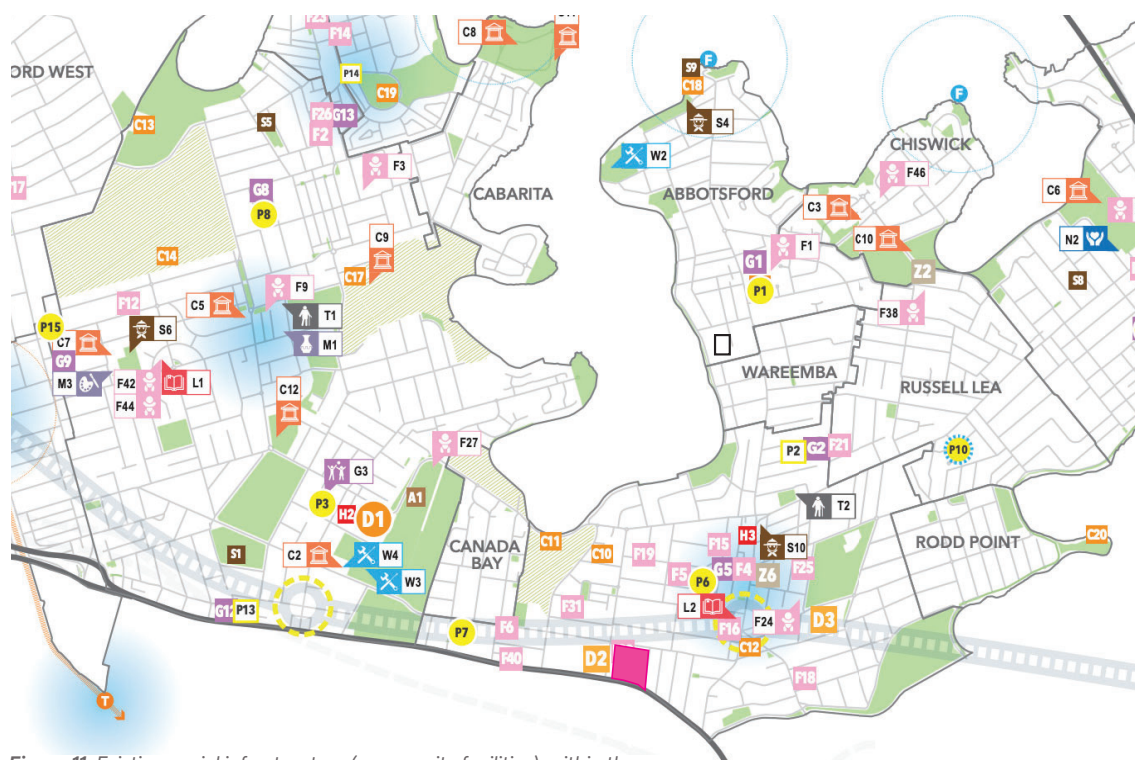


Figure 11: Existing social infrastructure (community facilities) within the Five Dock-Canada Bay area (Source: Cred Consulting for City of Canada Bay)

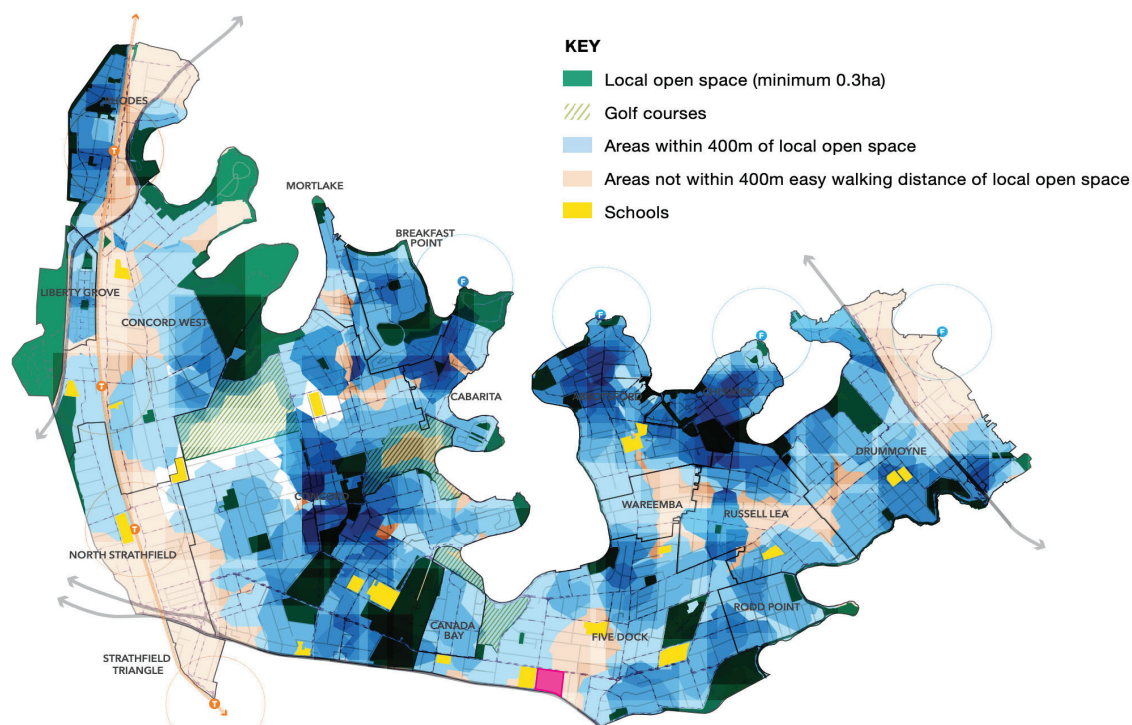


Figure 12: Existing access to open space within the Five Dock-Canada Bay area (Source: Cred Consulting for City of Canada Bay)



Social Baseline | POLICY

Greater Sydney Region Plan 2056

The Greater Sydney Regional Plan 2056 sets out a vision, objectives, strategies, and actions for a metropolis of three cities across Greater Sydney. The Plan outlines 10 overarching directions and objectives that aim to deliver interconnected infrastructure, productivity, liveability, and sustainability benefits to all residents.

The Plan states that Greater Sydney is growing and that by 2056, the NSW Government will need to deliver over 725,000 new homes for an additional 1.36 million people, and places for 817,000 additional jobs.

The following directions and objectives are relevant to this assessment:

A city supported by infrastructure

- Objective 3: Infrastructure adapted to meet future needs
- Objective 4: Infrastructure use is optimised

A city for people

- Objective 6: Services and infrastructure meet communities' changing needs
- Objective 7: communities are healthy, resilient and socially connected
- Objective 9: Greater Sydney's communities are culturally rich with diverse neighbourhoods.
- Objective 9: Greater Sydney celebrates the arts and supports creative industries and innovation

Housing the city

- Objective 10: Greater housing supply
- Objective 11: Housing is more diverse and affordable

A city of great places

- Objective 12: Great places that bring people together

A city in landscape

- Objective 31: Public open space is accessible, protected and enhanced
- Objective 32: The Green Grid links parks, open spaces, bushland and walking and cycling paths

Eastern District Plan

The Eastern District Plan delivers on the vision, objectives, strategies, and actions set out in the Greater Sydney Region Plan through a series of planning priorities and actions relevant to the context and role of the Eastern City District of which the City of Canada Bay is part of.

The following are the relevant priorities for the assessment of social impact:

Infrastructure and collaboration

- E1: Planning for a city supported by infrastructure.

Liveability

- E3: Providing services and social infrastructure to meet people's changing needs.
- E4: Fostering healthy, creative, culturally rich and socially connected communities
- E6: Creating and renewing great places and local centres, and respecting the District's heritage.

Sustainability

- E17: Increasing urban tree canopy cover and delivering Green Grid connections.
- E18: Delivering high quality open space.

NSW Housing Strategy 2021-2022 Action Plan

Housing 2041 is a 20-year vision for housing in NSW. It identifies NSW State Government's goals and ambitions to deliver better housing outcomes by 2041, including housing in the right locations; housing that suits diverse needs and housing that feels like home.

The Strategy recognises that housing needs change over time, reflecting different aspirations and lifestyles, as well as the economic, environmental and social conditions of the day. It looks at population patterns, economic and environmental effects and social trends. The 2021-22 Action Plan has set five priorities to address the vision.

Public Open Space Strategy for NSW

NSW Government's Public Open Space Strategy 2022 provides a framework for implementing policies across Government and contribute to a more joined-up approach to public open space planning and delivery.

The Strategy identifies that " public open space enables communities to come together including festivities, recreation, sport and relaxation, and is a significant component of the identity of a place, reflecting the local community and its heritage" (pg.9).



It also recognises that "future public open space must be better planned and coordinated by the many government agencies and local councils to meet the needs of communities as the NSW population grows ... [Also that] it must be more equitable and address the gaps in public open space provision that have grown as a result of inadequate long-term planning and coordination" (pg.9)

The objectives of the strategy include:

- Better recognition for public space - as infrastructure that is essential for creating great places and supporting healthy and active lifestyles for people of all ages, abilities and backgrounds.
- Stronger First Nations involvement in the planning and delivery and ensure spaces for cultural practices exist in public open spaces.
- Coordinated planning, governance, policy and funding - to create a consistent and collaborative approach and coordination of the planning of open space to meet current and future needs.
- Greater social, environmental and economic value - to ensure a well-connected system of open space supporting healthy habitats, biodiversity and ecosystems as well as high quality spaces for human activities.
- Better outcomes for Regional NSW.

GANSW Greener Places + Draft Design Guide

The Greener Places document outlines four principles to help deliver green infrastructure in NSW. Identified design actions particularly relevant to this assessment of the Planning Proposal include:

- Investigate and enhance physical and functional connections between different green spaces to create an interlinked system.
- Create a network of green streets that are connected and encourage walking and cycling.
- Design spaces that foster interaction and stewardship, community identity, sense of connectedness and community capacity.
- Ensure that the parks contribute to the value and understanding of place.
- Create open space as part of urban renewal that connects and enhances the new project through high quality, high-performing green space.
- Determine a clear understanding of user needs and demands to understand the requirements for multi functionality.

- Discover and balance the interest of many different stakeholders to maximise the benefits of proposed green space.
- Encourage the use of currently under-utilised open space corridors for local community use.

The Draft Greener Places Design Guide recommends a performance based approach, encouraging consideration of its purpose, activities it will support and what opportunities area available - a focus that goes beyond the on quality rather than quantity and spatial standards. It describes six core criteria, supported by a series of performance indicators, to help guide performance outcomes, subject to precinct considerations.

Parramatta Road Corridor Urban Transformation Strategy

The PRCUTS was released in 2016 by UrbanGrowth NSW with a vision, land use and transport principles to accommodate 27,000 new homes and 50,000 new jobs in a range of industries along the Corridor over the next 30 years. The PRCUTS sets out a suite of principles and strategic actions to achieve the vision for this important corridor. Those relevant to this assessment include:

Principle 1: Housing choice and affordability

- Provide 'diverse housing' for both purchase and rental markets, including; student accommodation; housing for older people; moderately priced housing.
- Establish a mix of dwelling sizes, including studios, one bedroom and three bedroom dwellings to be delivered in residential, mixed use that cater to the future population.
- Provide a minimum of 5% of new housing as Affordable Housing, or mandated by Government policy.

Principle 2: Diverse and resilient economy

- Provide greater flexibility and opportunity for the establishment of new business models particularly for small to medium businesses.
- Encourage the co-location of multiple uses in one building

Principle 4: Vibrant communities and places

- Deliver a "15-minute neighbourhood" through improved walkability, cycling; housing choice and diversity; increased usability of, and access to, safe open spaces, adequate local services and infrastructure and access to public transport.



Principle 5: Green spaces and links

- Create a high-quality interconnected network of publicly accessible open space throughout the corridor.
- Provide a diverse range of connected high quality open space and public domain area in accordance with the Precinct Plans that ensures:
 - local parks within 400m safe walking distance of at least 95% of all dwellings;
 - additional small local parks or urban spaces within 200m of activity centres and higher density residential areas
 - active open space within 1km of 95% of all dwellings
 - linear parks and trails linked to waterways, vegetation corridors and road reserves within 1 km of 95% of all dwellings.

Strategic actions for community infrastructure

include the strategic rezoning of parts of the corridor for social infrastructure. Also the explore new models to delivery education and health community assets in partnerships between government and the private sector.

The strategy expresses a preference for the optimisation, or embellishment of existing assets in the first instance, such as increasing size and upgrading features to accommodate greater capacity and renewal to provide more contemporary, multi-functional spaces.

Kings Bay Precinct

The strategy outlines objectives and priorities specific to the Kings Bay Precinct, of which the Planning Proposal site is within. The following are those objectives and priorities relevant to the achieving positive social and community outcomes as a result of redevelopment.

- Establish a new, high-amenity neighbourhood hub, focussed around Spencer Street, with low traffic.
- Retain and build on existing lifestyle/recreation businesses in and around the Precinct.
- Leverage development to provide new open space, a north-south plaza between Spencer Street and Queens Road, and green corridors between Parramatta Road and the foreshore.
- Create mid-block, through-site links and prioritised pedestrian connections.
- Construct the new, separated, regional cycle path along Queens Road, connecting Concord in the west to Iron Cove in the east.

In July 2021, the Parramatta Road Corridor Urban Transformation Strategy: Implementation Update 2021 was released. The update outlined updated implementation actions to suit the contemporary planning and policy context. The new actions relevant to this assessment of social impact include:

- Delivery of new open space areas consistent with the requirements of the Planning and Design Guidelines.
- Development in the Precinct to make an appropriate contribution to the upgrade of the Burwood Park community facility; upgrade/ expansion of Five Dock Library; and provision of exhibition space/facilities within the Burwood Community Hub and George Street Community Centre.
- New and upgraded roads, community facilities and open space to be delivered by development and funded through Section 94 contributions, the SIC levy and/or works in kind. The value of the contribution shall be consistent with the Infrastructure Schedule.
- Planning proposals must have regard to any relevant open space plans published by NSW Government or endorsed by council. NSW Government may require a planning proposal to be amended to align with these plans

The Parramatta Road Corridor Infrastructure Schedule provides a prioritised and costed list of future infrastructure including open space, transport, traffic community, health and education facilities is required to support the long-term growth.

This Infrastructure Schedule was prepared in 2016. Canada Bay Council's recent planning proposal for PRCUTS Stage 1 was accompanied by an Infrastructure Strategy which identified key infrastructure to be delivered across the precinct.

Social Infrastructure identified to be delivered and relevant to the subject site within the Kings Bay Precinct included:

- Kings Bay East Park: Large neighbourhood park (2,090m²) will provide an essential space for the daily activities and gatherings and include, a nature-orientated playground, community gardens, seating areas, shaded tree planting and an off-leash dog area.
- Through Links: Through Links are proposed to facilitate north-south mobility across the Kings Bay Precinct. The through site links will be an essential addition to the green grid and provide much needed connections to neighbouring streets and spaces.
- Affordable Housing beyond that currently required in the LEP.



Canada Bay Local Housing Strategy

The 2019 Canada Bay Local Housing Strategy (LHS) sets out the priorities and actions for the planning of housing in the LGA. The LHS includes six “key housing priorities”, which are:

- Large-scale urban renewal for high density housing (as outlined in State Government plans)
- Ensure dwelling diversity in the delivery of high density housing
- Plan centres for low and moderate-scale housing near services and public transport
- Enable housing diversity through infill development in existing centres
- Ensure housing opportunities for key workers and low income households through requiring affordable housing contributions
- Identify and protect character areas.

The LHS acknowledges that the State Government identified growth areas under PRCUTS and other strategic planning policy are priority areas for short-term housing growth, which is anticipated to be delivered through higher density typologies.

The LHS’ actions indicate a desire for such development to consider social infrastructure availability and dwelling diversity to enable increased density to occur in an appropriate manner and respect existing character.

Many of the LHS actions focus on housing affordability. In particular, the LHS targets renewal precincts for affordable housing provision, as well as key worker housing (where development is located near major key worker employers such as Concord Hospital).

The LHS also notes the need for Council to work with the State Government to increase the amount of social housing in the LGA, as well as renew the existing social housing present.

Canada Bay Affordable Housing Contributions Scheme (2023)

The objectives of the Affordable Housing Contributions Scheme (the AHCS) are to:

- recognise the provision of affordable rental housing as critical infrastructure to support sustainable growth
- contribute to meeting the needs of very low to moderate income households for affordable housing in the City of Canada Bay
- provide certainty around the requirements for affordable housing in the City of Canada Bay, including the rate for contributions and how contributions will be collected
- ensure that contribution rates for affordable housing are viable and are evidence-based.

The AHCS applies only to specific areas of the LGA which include parts of Rhodes, **the PRCUTS renewal precinct areas**, a site in Concord, and a site in Five Dock.

The AHCS applies to the majority of the individual sites contained within the planning proposal wherein a land value uplift would be generated. The only sites not included in the Kings Bay Affordable Housing Contribution Area are those single lots fronting Courland Street.

HillPDA Consulting have prepared an Affordable Housing Needs Assessment for this Planning Proposal which has been considered and should be read in conjunction with this SIA.

Canada Bay Community Facilities Strategy and Action Plan (2019)

The Strategy and Action Plan delivers recommendations that inform future priorities for social infrastructure and deliver facilities and spaces that reflect community needs. The Strategy and Action Plan is guided by the following 5 principles and 3 strategies:

- **Principle 1: Diverse and activated** - We will have a diverse range of community facilities that are activated with services, programs and events that respond to the interests and needs of our culturally, socially, age, and gender diverse community.
- **Principle 2: Inclusive and equitable** - our social infrastructure will be financially and physically accessible. Its delivery will be prioritised for communities in need, including those who are disadvantaged, and for emerging communities who don't yet have support networks.



- **Principle 3: Connected and co-located** - Community facilities and services will be connected within a network, located near public transport, visible and easy to find, and co-located with other services and shops.
- **Principle 4: Collaborative and shared** - We will work in partnership with the private sector, government agencies, and community groups, to share what we have, and delivery new social infrastructure.
- **Principle 5: Multipurpose and future-proofed** - Our future community facilities will be well-designed and managed to be multipurpose, flexible and future-proofed to adapt to population growth, changing interests, and environmental impacts.

The 3 strategies to deliver on these principles include:

- **Strategy 1:** Enhance and share our existing community facilities to improve their capacity to host community and cultural activities for all in our community.
- **Strategy 2:** Facilitate delivery of new community facilities that are inclusive and adaptable for our current and future community's diverse needs.
- **Strategy 3:** Support the delivery of programs and services that are responsive to a range of local interests and create more cohesive and resilient communities.

The strategy recommendations, based on the benchmarking assessment undertaken (in 2019) for the Five Dock/Canada Bay Catchment, of which the Planning Proposal site is located, is for communal facilities within high density; affordable programs and services for children, families and young people as well as seniors and shared use of under-utilised facilities by 2026.

The Strategy also recommends by 2036 that a 400m² community centre be delivered by 2036, near the future Metro station, in the town centre.

Canada Bay Open Space and Recreation Strategy and Action Plan (2019)

The Strategy and Action Plan delivers recommendations that inform future priorities for social infrastructure and deliver facilities and spaces that reflect community needs. The Strategy and Action Plan is guided by the following 6 principles and 3 strategies:

- **Principle 1: Optimise Capacity** - Address current and future gaps by realising the capacity of existing open space and recreation facilities.
- **Principle 2: Diversity** - Deliver open space and recreation facilities, services and programs to cater for the informal and formal recreation needs of the diversity of age groups, cultures and genders..
- **Principle 3: Accessibility and connectivity** - Improve accessibility and connectivity to open space and recreation facilities, services and programs through green streets, active transport links, affordable access, universal design, and equitable distribution
- **Principle 4: Collaborative and shared** - Work in partnership and plan collaboratively with the private sector, government agencies, peak bodies and local sporting clubs to share space and deliver new open space and recreation facilities.
- **Principle 5: Well-designed** - Be adaptable and future-proof open space for growth through co-located, multipurpose, shared use, diverse and flexible spaces. Optimise recurrent asset management and maintenance costs.
- **Principle 6: Sustainability** - Be environmentally and financially sustainable through the provision of recreation facilities and programs that enhance connections to nature, biodiversity, ecology and mitigate the impacts of climate change; and remain fit for purpose through quality maintenance and asset management.

The 3 strategies to deliver on these principles include:

- **Strategy 1: Existing** - Improve existing open space quality and capacity to support a diversity of recreational opportunities.
- **Strategy 2: New** - and connected open spaces, recreation facilities and programs to meet the needs of a growing and changing population.
- **Strategy 3: Activate** - open space and recreation facilities and programs to help connect and build an inclusive community.

Part 4. Social Impact Assessment + Mitigation

This section details the potential social impacts to arise from the proposed development. The method for the social impact assessment is described earlier. Each potential impact is assessed having regard for the level of impact, the likelihood of impact, and the significance of impact, and a social risk rating matrix.

The potential social benefits and impacts of the Planning Proposal are assessed against the current social baseline and by the predicted changes that are likely as a result of the proposed development that would occur aligned to the amended controls.

Social impacts have been identified and analysed from the perspective of the community and other affected stakeholders. Different stakeholder groups considered include:

- Existing and future residents and business tenants within the Planning Proposal site
- Neighbours to Planning Proposal site, particular focus on those in close proximity.
- Community within Five Dock suburb
- Businesses within the Five Dock suburb

The environmental changes brought about by the Planning Proposal have been analysed in terms of their impacts on the criteria outlined in Part 2 (page 9). Potential impacts that may occur during both the future construction and post-construction phases have also been considered.

Engagement undertaken with properties along Courland Street expressed strong support for this planning proposal and identified no concerns regarding the proposal.

Activities can be effectively mitigated through the implementation of a range of measures, as well effective coordination and planning of potentially disruptive activities.

The following provides an assessment of the of the Planning Proposal against the identified social impact categories and where relevant recommended mitigation measures.



Way of Life

How people live, how they get around, how they work, how they play, and how they interact each day can be impacted by a project, whether temporarily or in a more permanent way as a result of the landuse and/or operational activities.

The proposed controls have the potential to deliver 1,000 - 1,050 residential dwellings, including 7.5% of the site as affordable housing in perpetuity, significantly in excess of the 4% currently applied.

The higher density residential accommodation in a centre location in close proximity to public transport, jobs and services, that also delivers housing diversity including build to rent, co-living and medium and high density housing typologies.

The inclusion of a new 2,090m² centrally located park and civic squares and plazas, create a village atmosphere which promote social interaction within the community

The subject site is currently surrounded by detached dwellings and townhouses. The proposed The proposal responds to the existing streetscape character of residential dwellings through concentrating height at the centre of the site and to the south of the park to minimise potential impacts. This also allows for a lower-scale to surrounding street interfaces that better integrates the proposed development seamlessly into the surrounding urban context.

The amended development controls represents a significant change to the current urban form. The proponent has consulted with landowners along Courland Street all who have expressed support for the consolidation of landholdings and the proposal redevelopment of the planning proposal site.



Therefore this may impact existing residents, especially those on Queen Street and the Rosebank College school community. There is a risk that perceived negative impacts such as acoustics, visual amenity, loss of local employment, congestion and parking, and increase densities could infringe on the existing community's sense of place and how they interact with the new development's residents and workers.

However, this development also provide opportunities for new people to move into the area and those looking to downsize but stay within their neighbourhood. The Planning Proposal also provides a positive and direct response to the shortage of housing delivery in NSW.

This proposal will also support the delivery of affordable housing. It also includes increasing the affordable housing contribution rate from 4% to 7.5% and extending the area that affordable housing contributions scheme currently apply to, including the properties along Courland Street.

The inclusion of co-working spaces for residents and those living in the surrounding areas supports the more flexible and hybrid working practices that many people are now able to undertake, which also have positive wellbeing benefits as well as benefits for the local economy, with the reduce of people traveling out of the LGA for work.

Mitigation measures to be considered should as a baseline be the preparation of a Construction Management Plan to reduce the impacts and a communications plan which includes a direct contact for people to raise concerns or discussion issues and/or aspects about the project. Both these documents should be developed and continually updated to ensure that the local community are given prior warning of disruptive events.

Consideration should be given to the preparation of a Social Impact Management Plan which is a best practice approach to coordinate the various impacts and measure to minimise impact throughout the stages of the project.

Based on the planning proposal and concept designs, the pre and post mitigation rating is:

Magnitude of Impact:	Significant
Likelihood of Impact:	Almost Certain
Overall Impact Rating:	Very High (+VE)



Community

A socially cohesive society is one which works towards the wellbeing of all its members, combats exclusion and marginalisation, creates a sense of belonging, promotes trust and safety.

It is also important to consider the wider impacts on surrounding neighbours and local businesses. Therefore it would be appropriate for the proponent to engage regularly to inform them of construction timelines and expectations that will be met.

The proposed amended planning control allows for many of the non-residential uses to be delivered in combination with the increased residential dwelling. This includes a 490m² multipurpose community space, over 2000m² co-working space and a mix of retail and commercial spaces that can support a range of activities that more closely aligned with the skillsets and interests of the local population than the current provision.

The location of the new 2,090m² public space fronting Queen Street provides a significant new outdoor space for new residents that is also open and accessible for existing residents. This space provides an important addition to the public space network and green infrastructure links throughout Five Dock.

The location being away from the Parramatta Road frontage allows for great amenity and comfort for users. In addition, the site renewal will also enable significant increase in public and private open space, canopy cover and landscape on a site that is devoid of any green infrastructure.

Mitigation measure to be considered as the planning and development of this planning proposal progresses include a range of engagement and communication tools to build positive relationships with the incoming residents and existing residents. This should start in the planning phase and will need to change throughout the life of the development and eventual use of the site.

The significant changes proposed by the amended development controls will inevitably impact on the urban form of neighbourhoods and some residents will not welcome the change. However, the design, engagement and management should look to minimise the impacts on surrounding uses and ensure high levels of amenity.

Based on the planning proposal and concept designs, the pre and post mitigation rating is:

Magnitude of Impact:	Major
Likelihood of Impact:	Likely
Overall Impact Rating:	High (+VE)





Accessibility + Safety

Developments can increase or decrease perceived amenity on humans, such as public safety and security, as well as how people access and use infrastructure, services and facilities.

The masterplan envisions the creation of a new street, a community hub, significant retail and a covered food and beverage plaza fronting a new park. All of these features support the opening up of this currently closed block and provide pedestrian site through links and public spaces that are afforded ample passive surveillance from the residential development.

The location of the new park and community space ensure that it is welcoming and easily accessible not just by the future residents of the Five Dock Village but also existing residents around the site. Instead of securing the site by physically prohibitive boundary treatments, which can sometimes be unwelcoming, achieving a high quality landscaping and streetscape outcome, will assist in the effective management of these open spaces.

Consideration should also be given to the future management of these open spaces. While they will be accessible, they sit remain privately managed, therefore a clear governance approach will ensure that the spaces are truly accessible and minimise the commercialisation and privatisation of spaces.

Improved accessibility to community and public space infrastructure for residents over a wide catchment, especially given that previous assessment by Council illustrates the planning proposal site is located in a pocket of Five Dock without access to public open space within a 400m easy walking distance.

Traffic congestion could increase with the introduction of a significant number of residential dwellings that could be achieved under the amended development controls. The increases will vary over the stages of the project, with increase truck movements and traffic throughout the construction and development phase and general residential traffic once people move in.

The transport report notes that active travel routes are delivered by way of a shared path along the east side of the central through road with east: west pedestrian links connecting Courland Street and (potentially) Harris Road.

The new street proposed also aims to reduce the impact on Queen's Road, Harris Road, and Courland Street. In addition, the delivery of a new cycleway along Queens Road, will seek to encourage the safe use of bikes as a primary mode of travel to and from this site. This is also supported with the provision of up to about 1,300 bicycle spaces across all land uses plus end of trip facilities for use by staff.

The accessibility for future residents and workers is further enhanced by the close proximity to Five Dock metro station along with the high accessibility to bus routes along Parramatta Road will also assist in the management of private vehicle movements and resulting congestion.

Local residents will be most impacted by traffic movements in terms of congestion, safety, noise and emissions and parking availability. The implementation of a green travel plan to facilitate a modal shift towards public transport usage as opposed to car usage, particularly for single-occupancy car trips will also help to mitigate short term and long term impacts.

Based on the planning proposal and concept designs, the pre and post mitigation rating is:

Magnitude of Impact:

Moderate

Likelihood of Impact:

Possible

Overall Impact Rating:

Medium
(-VE and +VE)



Culture

Potential impacts to the culture and historic value of place can impact on way of life, local character, and the community's sense of connectedness to a place. These concepts are important parts of the social environment and any impact on them could have negative flow-on effects in the community.

The planning proposal will create the opportunity for the delivery of a significant urban renewal project that will be significant place for the existing and new community to interact.

There are no actual or potential heritage items on the site, nor is the site within a heritage conservation area. Opposite the site on Harris Road, Rosebank College is a locally listed heritage item (item 371), known as item 371 in the Canada Bay LEP. However the heritage significance of this item is described as a "rare example of a nineteenth century estate that survives with most of its land in the Canada Bay Council area. In terms of built heritage, the 1850s chapel that, despite some alterations, retains the qualities of a Victorian Gothic chapel and for the 1876 school building that is a fine example of the work of George Allen Mansfield are significant in listing.

There is no information or indication regarding First Nations culture provide as a part of the information for this assessment. Even without an identified significance to this specific site to First Nations



Peoples, there are opportunities for an expression and connection to Country through the landscaping, rooftop areas and new public spaces. This could include the integration of local native vegetation, sensory gardens and native edible and medicinal gardens. Vegetation that provides habitat for local birdlife and places to sit to allow the spirit to connect to Country.

The Sustainability Strategy prepared by Atelier Ten identifies that "a strong understanding of and connection to Country will produce a development that has a distinct identity, shaping a unique sense of place that is necessary to attract investment and ensure longevity, social justice and inclusion.

A place that actively engages in connecting with Country will continually be contributing to sustainability and resilience". (pg.14) Suggested principles to guide actions and provide positive social benefits include:

- Develop mutually beneficial relationships with Country
- Incorporate shared histories of cultural landscapes into project design principles.
- Cultural heritage sites are protected and accessible to local Aboriginal communities for ongoing cultural practices.
- Indigenous ecosystems endemic to the local area have been regenerated.
- Indigenous culture, heritage, and knowledge of local country is embedded and evident in the built and cultivated environments of the development.

Through the refinement of the landscape design, consideration should be given to working with local Elders and community to confirm any local songlines, traditional movement routes and/or native landscapes that might be relevant to this site and enable residents to connect with Country.

Further consideration should also be given for the creation and ongoing engagement between Aboriginal communities and proponent to provide opportunities for First Nations communities through the development.

Based on the planning proposal and concept designs, the post mitigation rating is:

Magnitude of Impact:	Moderate
Likelihood of Impact:	Likely
Overall Impact Rating:	Medium (-VE and +VE)



Health + Wellbeing

Developments through operation or construction activity can materially impact on the health and wellbeing of the wider community. These can be direct impacts or milder, cumulative health effects.

The Sustainability Strategy prepared by Atelier Ten identifies that "prioritising wellbeing, inclusion, mobility options, access to resources, affordability, and welcoming spaces creates successful places that improve liveability and resilience, achieve higher commercial value and faster sales, encourage further good design in an area, and demonstrate a commitment to corporate social sustainability." The report also suggests principles to guide actions that included:

- All built environment is fully physically accessible and inclusive.
- Public and amenity space support socialising and collaboration.
- Promote responsible labour practices and support human rights
- Walking or cycling is the most convenient option for short trips within the precinct or to nearby destinations.
- Maximise future mature tree canopy and vegetation coverage in public domain.

Exposure to noise may impact the way people use space, their ability to communicate and the way individuals undertake daily activities as well as the operation of businesses. This is particularly relevant given the site location being along a major road corridor. Heightened annoyance, stress and sleep disturbance can impact productivity and wellbeing.

The proposed landscape setting and park location, on the Queens Street frontage provides health and wellbeing benefits to residents, especially if more intimate places are provided for respite and reflection.

The construction process has the potential to affect the amenity of sensitive receivers within the surrounding area through noise, dust, odours and the movement of construction vehicles to and from the site. Therefore, the construction noise and dust mitigation measures need to consider the sensitivities and vulnerabilities of residents and the preparation of a construction management plan.

Based on the planning proposal and concept designs, the post mitigation rating is:

Magnitude of Impact:	Moderate
Likelihood of Impact:	Likely
Overall Impact Rating:	High (+VE)





Environment

Potential impacts to the natural and built environment can impact on way of life, local character and the community's sense of connectedness to a place. The impacts to the natural environment are considered in the way that peoples' surroundings are affected, including access to and use of the natural and built environment and their aesthetic value and/or amenity.

While amenity refers to the comfort and pleasantness of an environment/location, it also has a physical (or tangible) component as well as a psychological and social component. Amenity can affect the ability of a resident, visitor, and/or the general community to enjoy or undertake activities within the local area.

The Sustainability Strategy prepared by Atelier Ten provides a comprehensive approach to increase the environment as well as the health and wellbeing aspects of Five Dock Village and suggested actions include:

- canopy cover - 25% and 40% for publicly accessible areas and green roofs
- native and evapo-transirative trees
- community garden

- flora and fauna information/education
- bird boxes and bee habitats.
- preambled ground cover for groundwater recharge with biofilter.

The planning proposed greenery and landscaping will help to alleviate any concept will have a positive visual impacts from the built design perspective and the addition of the new park and landscaping, if delivered with improve the local environs and amenity and the local ecosystem.

Based on the planning proposal and concept designs, the post mitigation rating is:

Magnitude of Impact:

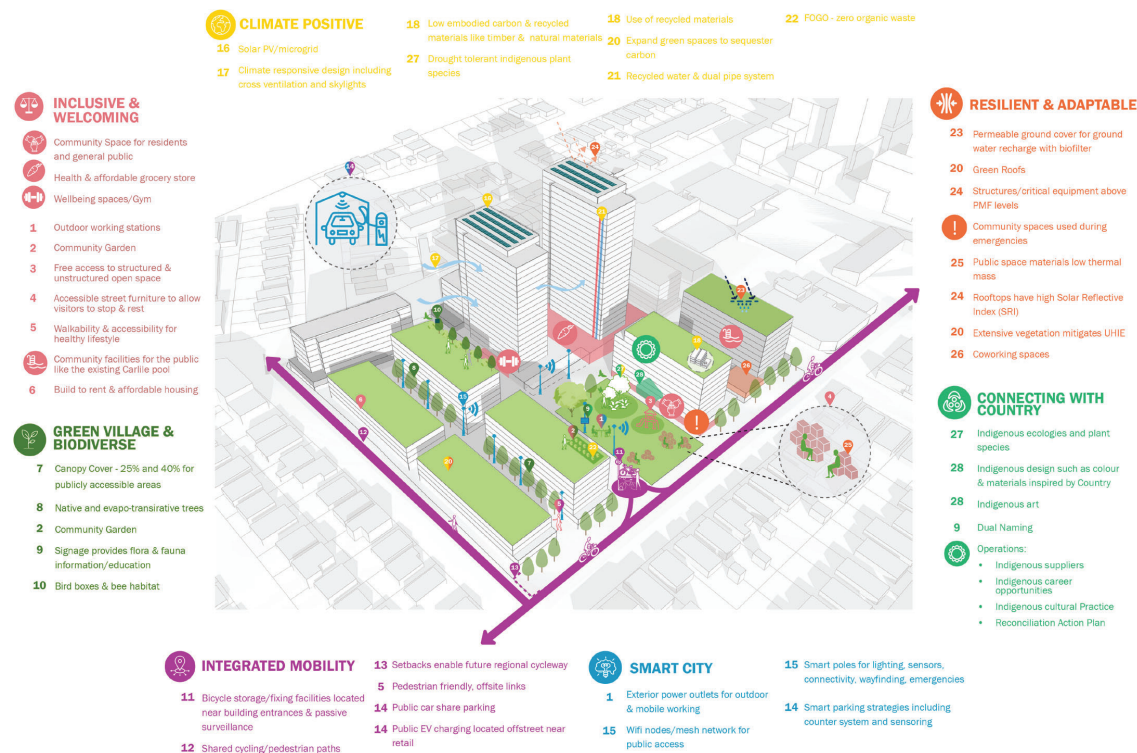
Moderate

Likelihood of Impact:

Likely

Overall Impact Rating:

High (+VE)





Civic Engagement + Systems

Community consultation is a key component of the successful planning and delivery of the Proposal. Initial engagement with residents about the planning proposal has been undertaken with existing residents along Courland Street. This engagement has resulted in letters of support for the proposal.

The design process as well as the eventual redevelopment of the site will have varying impacts through the stages of construction and operation. Ongoing engagement particularly with neighbouring landowners, and Rosebank College will be critical to ensure those people most impacted by the site redevelopment and the ongoing operation of the site will be consulted as the project processes.

To ensure a meaningful representation of culture, engagement with the Local Aboriginal Traditional Owners and Elders is also suggested to identify opportunities for the integration of culture and stories within the design of the future development.

Throughout the initial construction phases it is considered that the impact will be almost certain and have a "moderate" to "major" level of impact in the short term, especially in relation to construction noise, congestion and dust. Therefore, it is suggested that mitigation measures such as having a development liaison person will help to effectively manage issues as they arise.

Based on the planning proposal and concept designs, the post mitigation rating is:

Magnitude of Impact:	Moderate
Likelihood of Impact:	Likely
Overall Impact Rating:	High (+VE)



Part 5.
Conclusion

Overall, the assessment and evaluation against the established categories of social impact demonstrates that the proposal is likely to generate a range of positive social improvements to the people and place within the immediate locality and can adequately manage and mitigate negative social impacts that result from the proposal, particularly through the construction phase of the project.

Recommended mitigations have primarily related to minimising impacts during demolition and construction of new structures, to minimise disruption primarily to surrounding businesses.

The proposal represents renewed and increased housing as well as providing improved amenity of this site to surrounding residents. The proposed controls have the potential to deliver 1,000 - 1,050 residential dwellings within a vibrant mixed use community, close to public transport. These new dwellings are delivered across a range of building heights and will allow for a diversity of apartment typologies to be delivered.

The proposal for the site stipulates a much higher rate of affordable housing contribution: 7.5% of residential GFA, nearly double the existing requirement of 4% of residential GFA. Further, the proposal would apply this rate for development across the entire site, including the portion not currently subject to Council's AHCS.

The assessment undertaken by HillPDA compared potential affordable housing contributions based on the indicative development scheme for the site, across four contributions scenarios. [They concluded that] the proposal would result in more than double the anticipated 'base case' affordable housing contributions under the existing AHCS area and contribution rate.

Further, we note that the under a true 'base case' scenario, the contributions would be far lower than shown in our assessment, as the indicative scheme would not be possible. The actual increase in affordable housing contribution between that achievable at the site under existing controls and the proposal would, therefore, be far greater". (pg.31)

The masterplan envisions the creation of a new street, a community hub, significant retail and a covered food and beverage plaza fronting a 2,090m² sun-lit park fronting Queen Street, a 490m² multipurpose community space, pedestrian site-through links, retail and co-working spaces. The social infrastructure proposed is greater than currently required under the planning controls and if delivered, will support the creation of a unique place for the new and existing community.

The proposal responds to the existing streetscape character of residential dwellings through concentrating height at the centre of the site and to the south of the park to minimize potential impacts. This also allows for a lower-scale to surrounding street interfaces that better integrates the proposed development seamlessly into the surrounding urban context.

The evaluation concludes that with the appropriate mitigation measures in place, the proposal has the ability to provide significant social benefit to the existing and future community within the Five Dock area. The proposed development controls and design response is also able to alleviate, minimise and/or avoid any of the minor, negative social impacts identified, particularly through the construction phase.

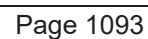




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TOGA Five Dock Sustainability Strategy

Revision 02, April 2024

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Acknowledgment

We acknowledge the Traditional Owners of Country throughout Australia, recognising their continuing connection to land, waters, skies, and community.

We acknowledge especially the Gadigal People of the Eora nation and the Bunurong Boon Wurrung and Wurundjeri Woi Wurrung peoples of the Eastern Kulin Nation, custodians of the lands where our offices are located.

We are inspired by and learn from knowledge and stories of Country.

We pay our respects to Traditional Owners, their cultures, and to Elders past and present.

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01 INTRODUCTION

1.1 Executive Summary

This Sustainability Strategy sets out the key sustainability ambitions for Toga Five Dock, and an approach to embed environmental, social, and economic sustainability into the Toga Five Dock Master Plan.

The planning proposal seeks to amend the planning controls within the Canada Bay LEP 2013 (CBLP2013) and Chapter K20 of the Canada Bay DCP (CBDP) for the following sites in Five Dock:

- 33-43 Queens Road
- 49-51 Queens Road
- 51-61 Parramatta Road
- 75-55 Parramatta Road;
- 2A-10 Harris Road
- 5-29 Courland Street

In particular, the planning proposal seeks to deliver new planning controls to enable a comprehensive renewal of the block bounded by Courland Street, Queens Road, Harris Road and Parramatta Road Five Dock, including:

- New MU1 Mixed Use zone with a maximum permissible FSR of 3.0:1 and additional permitted uses of 'residential flat buildings and multi-dwelling housing';
- A mix of uses across the site including retail (supermarket and ancillary retail), community facility, residential accommodation, co-living and co-working foospace;
- New building heights across the site ranging from 2.5m (park) to 80m (3-24 storeys);
- New RE1 zone with new public park, and public plaza adjoining and new public through-road; and
- Affordable housing contribution of 7.5% in perpetuity.

This sustainability report is structured into four key sections which develop the narrative and provide the evidence base for its application.

SECTION 01 INTRODUCTION

Describes the purpose of this framework as providing guidance to all future infrastructure investment and property development in the precinct across all stages of the project lifecycle from planning and design, to construction and operation. The methodology for establishing the evidence-base for future decision making and synthesising it into a TOGA Five Dock-specific Sustainability Vision and Framework for delivery with accompanying Strategies.

It provides a background summary of sustainability in TOGA Five Dock at diminishing scales from Inner-Western Sydney, to the City of Canada Bay, and finally to Kings Bay East.

SECTION 02 CONTEXT

Establishes the sustainability context in which Inner-Western Sydney operates, and includes an exploration of the public policy framework.

It concludes with a summary of sustainability compliance requirements for development in the area, and synthesises key findings into a series of recurring attributes which represent

sustainable development.

SECTION 03 SUSTAINABILITY FRAMEWORK

Introduces TOGA Five Dock's overarching Sustainability Vision and proposes a series of Sustainability Themes which reflect organisational ambitions, statutory requirements, industry and public expectations, and sustainability challenges in the built environment. The seven themes outlined are:

- Connected with Country
- Climate Positive
- Resilient and Adaptable
- Green Village & Biodiversity
- Integrated Mobility
- Inclusive & Welcoming
- Smart City

To structure a delivery approach, this Sustainability Framework Strategy builds on the the Sustainability Themes, and for each describes:

- **UN SDGs** | how each Sustainability Theme aligns with the UN SDGs
- **Vision Statement** | what will TOGA Five Dock do for sustainability
- **Rationale** | why this is critical to delivering a successful and sustainable place
- **Principles** | fundamental outcomes which represent positive achievement

The Sustainability Framework Plan follows this with the practical applications for the Strategies in terms of:

- **Opportunities** | potential actions to deliver sustainability across the development lifecycle

SECTION 04 SUSTAINABILITY STRATEGY

This section of the report discusses the importance of assurance for giving absolute confidence that the claimed outcomes will be achieved, introduces third-party sustainability rating tools as a mechanism for doing this, reiterates the requirements embedded in the local and state government compliance documents, and begins to explore the complexities associated with them.

The Sustainability Strategy Plan therefore provides:

- **Benchmarks** | quantifiable indicators which align with existing policies or frameworks
- **Supports** | specific frameworks or policies that it contributes to or facilitates

The following page outlines the Planning Controls which the Sustainability Strategy adheres to and supports.

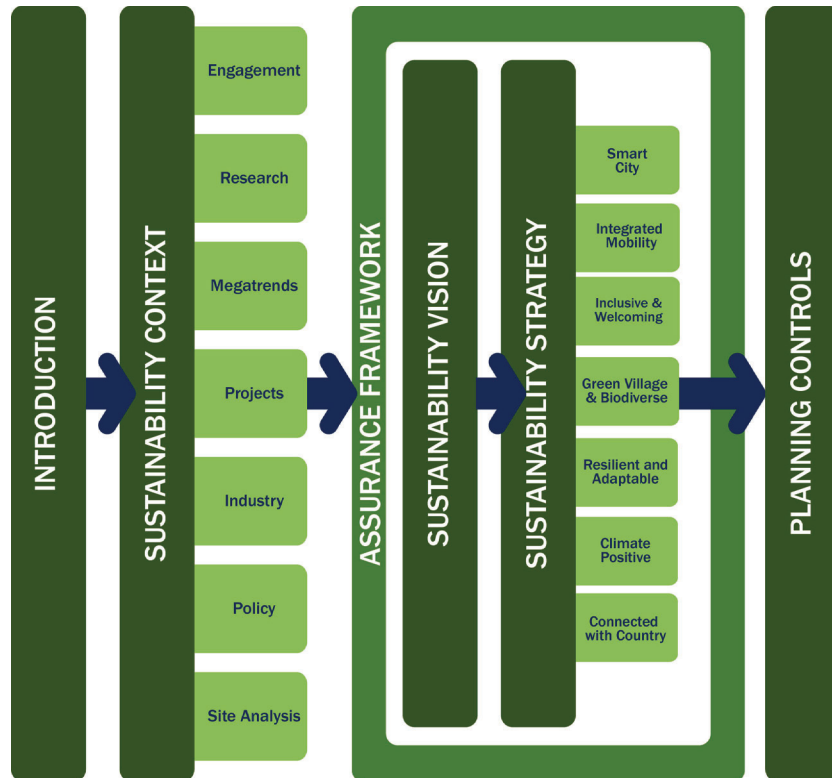


Figure 1.1 TOGA Sustainability Strategy document structure (Source: Atelier Ten)

SECTION 05 CONCLUSION

Summarises how to utilise this document in the subsequent development stages:

- guidance to the project team throughout the master planning design process
- opportunities to be explored with the Technical Assurance Panel through the ongoing co-design process
- part of the complying development pathway

02 CONTEXT

2.1 Site Context

Located 500m from Five Dock Metro Station in Kings Bay East, this project provides the first opportunity for density at scale close to the station and town centre. Located within the City of Canada Bay, in the Inner West region of Sydney, the site is bounded by Parramatta Road to the south, and Queens Road to the north. Iron Cove is located to the east, and Homebush Bay to the west, with the Parramatta River to the north. Located approximately 11km's from the Sydney CBD, the area also contains a large Italian Community (13%).

Strengths

- Proximity to the Metro Station
- Nearby public amenities like the Return and Earn Depot, Leisure Centre, Reserves, College etc.
- Proximity to shopping, villages and shopping centres

Constraints

- May be community resistance to loss of nearby Carille
- Swimming Pool and Health Centre
- Surrounding low rise residential may be impacted negatively
- Heavily trafficked area

Opportunities

- Potential growth in younger and culturally diverse population
- Increased sustainable living through increased density of housing, affordable housing and pedestrian/cycling infrastructure



2.2 Policy and Planning Context

The Policy and Planning Context outlines statutory requirements and ambitions for sustainable development in New South Wales, drawing from global agreements to local regulations.

Report	Report Cover	Key Findings	Implications
Transforming Our World: The 2030 Agenda for Sustainable Development, United Nations		• Eradicate poverty in all its forms and dimensions. • Combat inequality within and among countries. • Preserve the planet and sustainably manage its natural resources. • Ensure prosperous and fulfilling lives in harmony with nature. • Foster peaceful, just, and inclusive societies. • Strengthen global partnerships to support and achieve the agenda.	• Align operations and development plans with SDGs • Adopt sustainable practices to support ecological balance and resource conservation. • Reducing inequalities and ensuring the well-being of all community members. • Resilience to environmental challenges through adaptive management and climate action. • Collaborate with local and global partners to advance sustainability goals
The Paris Agreement, United Nations		• Aiming to restrict global warming to well below 2° C, targeting efforts towards 1.5° C. • Enhancing the capacity of countries to address the impacts of climate change. • Steering financial flows in favour of low greenhouse gas emissions and climate-resilient development. • Emphasising the significance of transparency, adaptation, and support in realising these objectives.	• Incorporating sustainable design and construction practices to minimise environmental impact • Ensure resilience to climate change, serving as a model for future developments
Environmental Planning and Assessment Regulation 2021, NSW Government		• The Precautionary Principle • Inter-generational Equity • Conservation of Biological Diversity and Ecological Integrity • Improved Valuation, Pricing, and Incentive Mechanisms	• Incorporating robust environmental risk assessments and mitigation strategies in the planning and development processes. • Sustainable land use and development practices • Integrating biodiversity conservation measures within the industrial precinct's design and operations. • Adopting sustainable resource use and waste management practices, aligning with the "polluter pays" approach and incentivizing eco-efficient solutions.
Net Zero Plan Stage 1: 2020-2030, NSW Government		• Accelerated adoption of emissions reduction technologies. • Empowerment of consumers and businesses towards sustainable decisions. • Investment in next-generation emissions reduction innovations. • Demonstrative leadership by the NSW Government in sustainability.	• Adopting state-of-the-art sustainable technologies for emissions reduction. • Promoting sustainable practices • Exploring investment opportunities in innovative technologies and practices that align with NSW's net-zero ambitions. • Leveraging support and initiatives provided by the NSW Government

Sustainable Buildings SEPP	Residential:	Non-Residential:	Residential:	Non-Residential:
	• An increase of the thermal performance standard from an average of 5.5-6 stars to 7 stars NABERS rating • An increase of between 7-11% in greenhouse gas reduction (depending on location and type of residential development proposed)	• Embodied emission measurement and reporting for all developments • Energy standards for large commercial development with energy performance to be verified after the building is occupied and offsets purchased for residual emissions • Minimum water standards for large commercial development • Certain developments to be 'all electric' or capable of converting to operate without fossil fuels by 2035	• All residential developments with a Capital Investment Value of over \$50,000 will need to meet the new BASIX requirements as part of the planning approvals process, except for homes in the north coast climate zone (spanning Tweed Shire to the north, Nambucca Valley to the south, and Clarence Valley to the west) and small apartment buildings of up to five storeys. • For multi-unit developments that are 5 storeys or lower, there are no changes from the current thermal comfort requirements • To assess the embodied emissions of materials used to construct each dwelling, a new Materials Index will require Applicants to enter additional information about the development to calculate and report on embodied emissions of key building materials within the BASIX certificate. This includes new requirements for measuring and reporting of embodied emissions for residential dwelling	• All large commercial Development Applications (DAs) and certain State Significant DAs must be accompanied by a net zero statement • All non-residential DAs must be accompanied by an embodied emissions report
	• Direction 1: Connected Community • Direction 2: Sustainable and Thriving Environment • Direction 3: Vibrant Urban Living • Direction 4: Infrastructure and Transport • Direction 5: Civic Leadership	• Foster an inclusive community where diversity is welcomed and celebrated in buildings and open space • Equitable access to a range of programs, services, and facilities • Promote active lifestyles • Increase urban tree canopy on site • Reduce GHG emissions • Enhance native flora and fauna • Built environment respects neighbourhood character and responds to evolving community needs • Community engages in issues/decisions		

TOGA Five Dock Sustainability Strategy
Revision 02, April 2024

Canada Bay Local Housing Strategy 	Main housing demographics: - Dominant age range of residents is 25-34 - Major growth in people aged 55+ 75% increase in residents aged 75+ - Couple families with no children is expected to grow considerably 20% of apartments in this LGA are now occupied by families with children - In 2016 42% of households renting in the LGA experienced rental stress	- Ensure a diverse range of housing types for the elderly, families in apartments, affordable housing - Provide communal facilities and open space for the people highlighted in these demographics	Emissions Reduction Action Plan, City of Canada Bay 	Net zero Council operations by 2030. Triple the amount of solar PV capacity in Canada Bay by 2025. This means further 17 MW of solar PV capacity across all sectors of the community, as monitored and reported by the Clean Energy Regulator (CER).	- The project will support grid decarbonisation - Buying clean energy - Generate the precincts own renewable energy through solar - Energy efficiency measures throughout the building and metering - Sustainable transport aligning with the Local Movement Strategy
Resource Recovery and waste strategy for the City of Canada Bay 	Reducing waste sent to landfill per person by 20% by 2030. Increasing diversion of landfill from 38% to 60% by 2027. Organics collection and recycling program diverting waste from landfill by 2026. 100% of Council procurement for civil works, construction and street furniture to include preference for locally sourced recycled content by 2023.	- Provide different waste streams including recycling, organics and any other popular waste stream like e-waste - Implement an organics collection program for compost use - Encourage and facilitate composting	Urban Tree Canopy Strategy, City of Canada Bay 	The following priorities and actions contain short and medium term strategies to support urban canopy: 1. Protect and value 2. Renew and grow 3. Support and sustain 4. Engage and create 5. Manage and create	- Align with local DCP and LEP canopy targets - Ensure the protection of existing trees, including pruning and replanting - Investigate a process of tree bonds where trees are at risk throughout construction - engage residents and key stakeholders about benefits of trees - Increasing tree planting during road renewals - tree offset policy - use of innovative techniques for water sensitive
Social Infrastructure (Open Space) Strategy and Action Plan, City of Canada Bay 	Open space action plan principles: - Optimise capacity - Diversity – meet needs of age groups, cultures and genders - Accessibility & Connectivity - Partnerships & collaboration - Well-designed – Adaptable and future-proof: co-location, multipurpose, shared use, diverse and flexible - Sustainability – Environmental and financial sustainability	- Consider increase of elderly, families living in apartments, diverse cultures of residents with the design of open space. The use of multipurpose areas that can cater to diversity - Connectivity to active transport, implement greenery to streets - Build resilience to future climate change impacts	Environmental Strategy 2020, City of Canada Bay 	Targets and goals are within these principles: 1. Biodiverse 1. Connected to nature 1. Resilient City 1. Resource efficient community - waste, energy and water 1. Leading by example	- Increase canopy cover to 25% across the City by 2040 - Include WSUD principles - Embed climate resilience - No decrease in native fauna, plant species, area of vegetation communities - Build resilience through emergency response for community and vulnerable occupants such as elderly and non-English speakers - Collaboration with different stakeholders including the community - Access to sustainable transport like the nearby Metro and train stations through easy walkability and cycle accessibility, minimise private car use - Improved health outcomes to occupants of the development
Electric Vehicle and Action Plan 2023, City of Canada Bay 	Design Principles: - Increase transport resilience - Collaborate for integrated transport solutions - Protect and enhance the neighbourhoods - Support the local community to navigate the transition	Support provisions for electric vehicles such as charging stations	An Intelligent Plan, Our Smart City of Canada Bay 	Improve sustainability through leveraging efficiency - Share knowledge by connecting and collaborating with our community - Employ the cloud and internet of things, and adapt to emerging technology for our City - Support community creation of smart solutions to improve our neighbourhoods	Consider supporting community and environmental sustainability through implementing smart technologies as listed

Canada Bay
Biodiversity
framework and
action plan



- Native Vegetation: Protecting, managing and restoring Canada Bay's Native Vegetation
- Urban Waterways
- Corridors and Connectivity: Enhancing landscape linkages
- Public Spaces: Managing reserves to promote biodiversity and community interaction
- Urban Habitat: Protecting and managing biodiversity in the urban landscape
- Green Infrastructure
- The key findings are useful to implement in open space and corridors on site to protect and enhance flora and fauna

Social
Infrastructure
(community)
Strategy and
Action Plan



- Affordable programs and services for children, families and young people
- Increasing diversion of landfill from 38% to 60% by 2027.
- Communal facilities within high density
- Programs for seniors
- Shared use of underutilised facilities
- Increased senior's housing
- Support the social infrastructure plan goals as listed
- Implement affordable programs and services for the community in particular families, young people and seniors

03 SUSTAINABILITY FRAMEWORK

3.1 Sustainability Vision for TOGA Five Dock

The Sustainability Strategy is a key component of the Master Plan. It turns the requirements and ambitions for sustainable development in New South Wales into a cohesive vision, supported by practical, actionable strategies.

This strategy is designed to guide the urban design team in creating the master plan, individual lot developers in the design of individual buildings, GDC and City of Canada Bay in their operations, and the planning team in the development of the complying development controls. It outlines specific initiatives with spatial implications, and suggests potential planning controls. It ensures that every aspect of the master plan development, both public and private, aligns with the aim of a vibrant, sustainable future for Inner-Western Sydney.

3.1.1 Sustainability Vision

TOGA Five Dock will exemplify innovative development by leading the shift to a circular economy and enhance the green village, while assisting in the creation of a resilient and adaptable Inner-Western Sydney community, and working to protect global environmental and climate health.

3.1.2 Framework of Pillar and Themes

The sustainability framework of TOGA Five Dock is structured around one core overarching Theme that underscores a commitment to meaningful and enduring progress:

- **Connecting with Country:** Embracing the profound cultural significance of this land, we honour its Indigenous heritage, fostering a deep-rooted relationship between people and place.

Within this framework, six further distinct Sustainability Themes guide our path forward, each encapsulating a targeted area of focus:

- **Climate Positive:** Targets actions that significantly lower carbon footprints and foster a climate-resilient future through renewable energy and innovative practices.
- **Resilient and Adaptable:** Prioritises the development of communities and infrastructures capable of thriving amidst environmental, economic, and social shifts.
- **Green Village and Biodiverse:** Envisions landscapes where biodiversity flourishes and ecosystems are revitalised, integrating nature into urban development.
- **Integrated Mobility:** Promotes sustainable and accessible transportation networks, encouraging a shift towards public transit, walking, and cycling.
- **Inclusive and Welcoming:** Focuses on creating inclusive environments that enhance physical and mental well-being for all community members.

- **Smart City:** Leverages technology and data to enhance urban living, improving resource management, service delivery, and community engagement.

3.1.3 Structure of the Sustainability Themes

The Sustainability Themes are structured for effective implementation, each defined by a vision statement and rationale to guide development:

- **Vision Statement:** Outlines goals for each theme, setting a clear direction.
- **Rationale:** Highlights the importance of each theme in creating a sustainable place.

Delivery through this process is detailed in subsequent sections:

- **Master Plan:** Specifies initiatives within the master plan that embody these visions, integrating sustainability into spatial planning.
- **Complying Development:** Presents development controls that help developers align with sustainability goals, ensuring projects meet both requirements and aspirations.

This approach ensures Sustainability Themes translate into actionable steps, fostering a cohesive and sustainable development environment.



3.2 Sustainability Framework Strategy for TOGA Five Dock

The Sustainability Framework Strategy is a key component of the Master Plan. It turns the requirements and ambitions for sustainable development in New South Wales into a cohesive vision, supported by practical, actionable strategies.

Sustainability Theme	UN SDGs	Vision Statement	Rationale	Principles
	            	Connecting with Country underpins all sustainability themes and ambitions for TOGA and ongoing operations.	A strong understanding of and connection to Country will produce a development that has a distinct identity, shaping a unique sense of place that is necessary to attract investment and ensure longevity, social justice and inclusion. A place that actively engages in connecting with Country will continually be contributing to sustainability and resilience.	- Acknowledge Traditional Owners and other Aboriginal peoples in the local and regional communities. - Develop mutually beneficial relationships with Country. - Incorporate shared histories of cultural landscapes into project design principles. - Cultural heritage sites are protected and accessible to local Aboriginal communities for ongoing cultural practices. - Indigenous ecosystems endemic to the local area have been regenerated. - Indigenous culture, heritage, and knowledge of local country is embedded and evident in the built and cultivated environments of the development. - Opportunities for Indigenous communities are regularly created through ongoing development. - Create meaningful, ongoing engagement between Aboriginal communities and precinct authorities.
	            	TOGA will be an urban refuge for locally sourced products and services, connecting to the wider region.	Restoring and regenerating the unique local and regional ecosystem will provide shade and cooling to the area and make a more resilient development and regional built environment. Protecting waterway health will sustain indigenous agricultural interests, support aquatic animals, and help restore regional watersheds beyond.	- Preserve and protect existing natural ecosystems, and enhance local habitat, including both native flora and fauna. - Establish a biophilic environment that provides regular immersion in and contact with nature and natural systems. - Maximise future mature tree canopy and vegetation coverage in public domain. - Prioritise nature-based solutions wherever possible. - Eliminate pollutant discharge into the waterways from wastewater and stormwater.
	            	TOGA will exemplify forward looking development by mitigating exposure to foreseen risks, being resilient to disruption, recovering rapidly, and being adaptable to societal advancement.	Adapting to the direct effects of climate change on the environment and our settlements, as well as the indirect effects on society and the economy is critical to creating communities that will thrive long into the future, and will have greater capacity to support neighbouring communities and contribute to the resilience of the region as a whole.	- Resilient to short term shocks (extreme weather, utility failures). - Adaptable to long term stresses (climate change, increasing energy costs). - Flexible to changing market conditions and environmental performance expectations.
	            	Net zero emissions in construction and operation by 2030. Restorative and regenerative by design: achieving sustainable energy use, and closing nutrient, material, and product cycles.	A zero carbon future is central to all sustainability strategies and policy documents at all tiers of government. A zero carbon present is rapidly becoming the basic expectation for innovative and thought leading industries like those targeted for investment in this development.	- Minimise upfront greenhouse gas emissions. - Eliminate on-site fossil fuel combustion. - Prioritise passive design to minimise operational energy use. - Eliminate waste to landfill. - Maximise building and infrastructure longevity. - Embed end of life considerations. - Maximise precinct self-sufficiency. - Support responsible procurement practices. - Integrate strong economy practices. - Capture water resource flows for reuse on site where appropriate.
	            	Transparent sustainability performance, and data generates value and provides safety and efficiency for occupants and the community, while privacy and security are maintained for all stakeholders.	Digital infrastructure can improve quality of life, facilitate tracking and tracing of resource flows, monitor materials, building elements, landscapes and ecosystems. Smart infrastructure will support other parts of the vision, especially connected mobility and zero carbon.	- User, worker, client and visitor experience enhanced through digitally enabled places and spaces. - High Quality ICT infrastructure. - Affordable, zero emissions utilities are supported by smart city digital technology.
	            	Movement of people and goods is healthy, efficient, zero emission, and sustainable within the development and to and from the surrounding localities.	The success of the development will depend on diverse, flexible, and connected mobility options for goods and people. These systems must be adaptable to future transport systems. Corridors should prioritise pedestrians and be protected for future transportation systems.	- Walking or cycling is the most convenient option for short trips within the precinct or to nearby destinations. - Efficient, reliable and easy-to-understand public transportation serves most regular workers trips, and a substantial share of visitor trips, to and from the precinct. - Seamless connectivity between precinct and airport. - Minimal landscape given over to vehicular transportation corridors.
	            	TOGA will create a place that is welcoming to all people, regardless of their age, size, gender, culture, disability or ability, and enrich the health and wellness of worker, visitors and the community.	Prioritising wellbeing, inclusion, mobility options, access to resources, affordability, and welcoming spaces creates successful places that improve livability and resilience, achieve higher commercial value and faster sales, encourage further good design in an area, and demonstrate a commitment to corporate social sustainability.	- Foster a vibrant, cohesive social environment that is reflective of community history and identity. - Encouraging active mobility and recreational exercise. - Nature, biophilia, safety, and enhancing social engagement. - Built environment is welcoming to diverse users communities. - Built environment is fully physically accessible and inclusive. - Public spaces are designed to be safe and enjoyable. - Promote responsible labour practices and support human rights

3.3 Sustainability Strategy for TOGA Five Dock



04 ASSURANCE

The following table provides responses to the controls of the PRCUT DCP for King's Bay in relation to sustainability. It is noted that the Canada Bay LEP 2013 does not contain provisions for sustainability and therefore has not been included in the tables below. Note - Canada Bay's existing DCP is in alignment with the proposed Sustainability Strategy outlined within this document.

PRCUT King's Bay

K20.19 Sustainability & Resilience	C1. A residential flat building or a mixed use development (that contains dwellings) which complies with Table K20-1 is eligible for an amount of additional residential floor space (above that already permitted elsewhere under this Plan) equivalent to that which exceeds the floor space ratio as shown on the Floor Space Ratio Map or Incentive Floor Ratio Map (as applicable to that development) by up to 5%, subject to the consent authority being satisfied that this additional residential floor space does not adversely impact on neighbouring and adjoining land in terms of visual bulk and overshadowing.	C1 Accepted
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Table K20-1 Energy and Water Targets by Use

Use	Energy Target	Water Target
Residential		
<14 storeys	BASIX Energy 50	BASIX Water 50
15 - 29 storeys	BASIX Energy 40	
30 - 39 storeys	BASIX Energy 35	
40+ storeys	BASIX Energy 30	
Commercial and Retail Development < 10,000m² GFA*		
Smaller scale non-residential development is governed by the National Construction Code, and should demonstrate consistency with relevant requirements of the Code.		
Commercial Development ≥ 10,000m² GFA*		
Base building and/or individual tenancies	NABERS 5-star	NABERS Water 4-star NABERS Water 5-star should be pursued where recycled water is available
Shopping Centre Development*		
Base building only	NABERS 5-star	NABERS Water 4-star NABERS Water 5-star should be pursued where recycled water is available

*Source: PRCUTS Planning and Design Guidelines, Urban Growth, Nov 2016

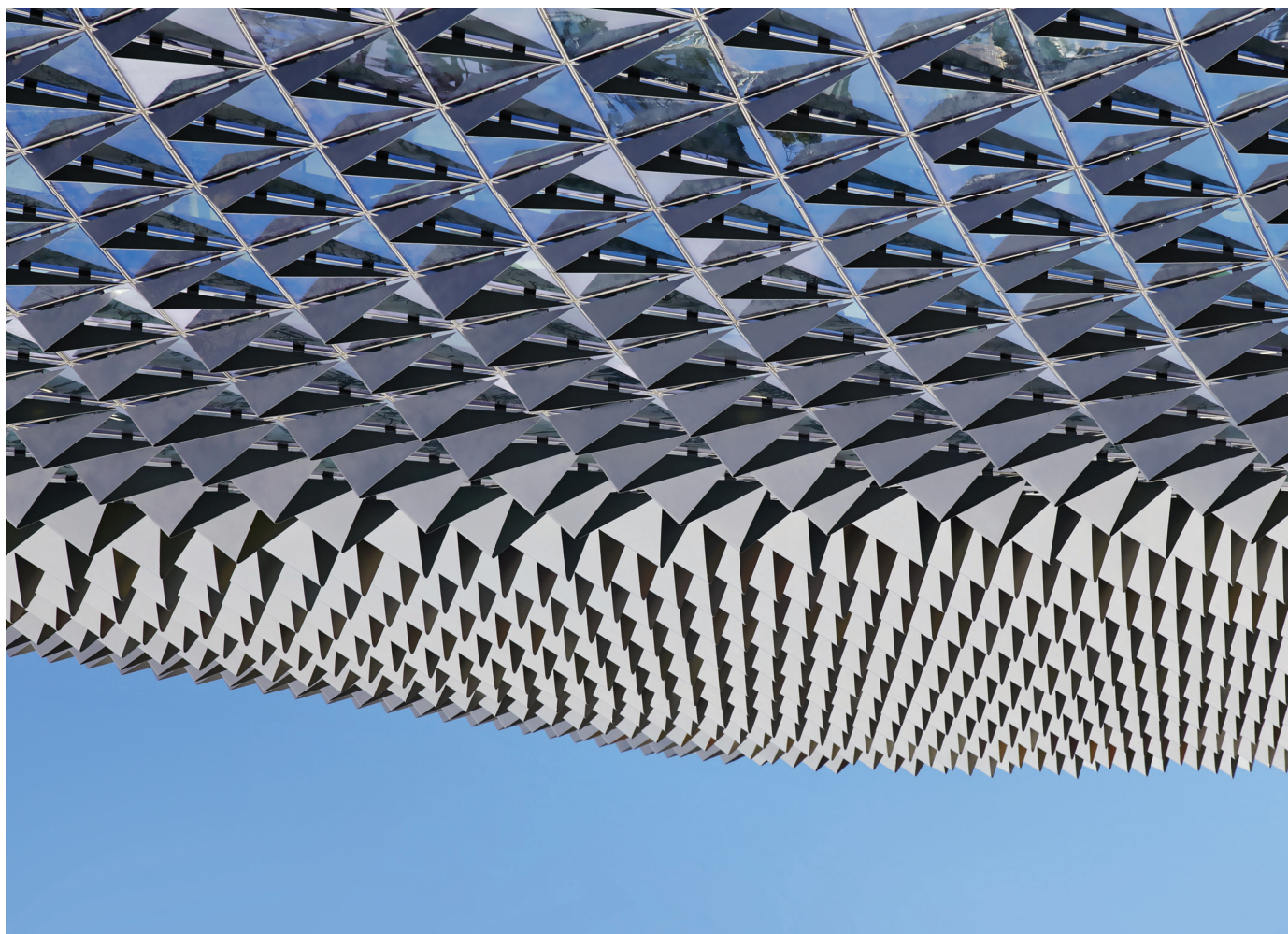
Figure 4.1 Energy and Water Targets by Use from the PRCUTs DCP King's Bay

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Transport Assessment

Five Dock Village Planning Proposal

51-73 Parramatta Road and 31A-43 Queens Road, Five Dock

8/05/2024

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P2590r01v02_Transport Assessment_ 51-73 Parramatta Road & 31A-43 Queens Road, Five Dock 

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1 Introduction

1.1 Background

Ason Group has been engaged to provide traffic, transport and parking related advice and prepare a transport assessment as part of the Five Dock Village Planning Proposal to facilitate a diverse mixed-use development at 51-73 Parramatta Road and 31A-43 Queens Road, Five Dock.

This report details the extent of the proposal and assesses the existing transport environment together with describing the impact of rezoning the site and surrounding properties that make up the block bound by Parramatta Road, Harris Road, Queens Road and Courland Street on the surrounding transport network. This assessment also includes context with respect to broader major transport infrastructure projects that effect the local and regional area, namely WestConnex and Sydney West Metro, with historical City of Canada Bay and relevant State agency consultation key.

The planning proposal seeks to amend the planning controls within the Canada Bay LEP 2013 (CBLEP2013) and Chapter K20 of the Canada Bay DCP (CBDPC) for the following sites in Five Dock:

- 33-43 Queens Road
- 49-51 Queens Road
- 51-61 Parramatta Road
- 75-55 Parramatta Road
- 2A-10 Harris Road
- 5-29 Courland Street.

In particular, the planning proposal seeks to deliver new planning controls to enable a comprehensive renewal of the block bounded by Courland Street, Queens Road, Harris Road and Parramatta Road, Five Dock, including:

- New MU1 Mixed Use zone with a maximum permissible FSR of 3.0:1 and additional permitted uses of 'residential flat buildings and multi-dwelling housing'.
- A mix of uses across the site including retail (supermarket and ancillary retail), community facility, residential accommodation, co-living and co-working floorspace.
- New building heights across the site ranging from 2.5m (park) to 80m (3-24 storeys).
- New RE1 zone with new public park, and public plaza adjoining and new public through-road.
- Affordable housing contribution of 7.5 per cent in perpetuity.

1.2 Key Objectives

This document has been prepared to provide a detailed assessment of the transport impacts of the planning proposal on the surrounding infrastructure and to help guide the overarching approach to transport. It similarly focuses how to facilitate incorporation into the surrounding area whilst recognising recent major infrastructure changes and intended future planning with respect to land use planning, density and access to existing, under construction and planned public and active transport. This report specifically considers the following:

- existing pedestrian and transport conditions surrounding the site
- strategic context and transport infrastructure
- precinct layout and consistency with broader planning intent
- quantum of parking in the context of the Kings Bay Precinct

- pedestrian and bicycle requirements
- the traffic generating characteristics of the proposal
- suitability of the proposed precinct access and active travel through site links
- the transport impact of the development proposal on the surrounding road network.

1.3 Key References

In preparing this transport assessment, key planning documents and transport standards and guidelines have been referenced, including but not limited to:

- Parramatta Road Corridor Urban Transformation Strategy: Precinct Transport Report, Reference Report, UrbanGrowth, November 2016.
- Local Planning Directions, NSW Department of Planning and Environment, date commenced 15 December 2022 (Focus Area 5: Transport and Infrastructure)
- Local movement and strategy and action plan, City of Canada Bay, 2019.
- City of Canada Bay Development Control Plan (DCP) 2023.
- Canada Bay Local Environmental Plan 2013 (LEP) 2013.
- Transport for New South Wales, Guide to Traffic Generating Developments 2002.
- Transport for New South Wales, Guide to Traffic Generation Developments Updated Traffic Surveys 2013/04a 2013 (TD2013/04a).
- Guide to Transport Impact Assessment, Technical Guidance for Transport Practitioners, Draft for Industry Consultation (referenced as a guide only).
- Architectural plans prepared by Bates Smart and Planning Proposal Design Report, dated May 2024.
- Other documents as referenced in this report.

2 Existing Conditions

2.1 Site Location

The site is at 51-73 Parramatta Road and 31A-43 Queens Road, Five Dock and comprises of various lots. It covers approximately 2.5 hectares and has a northern frontage of 140 metres to Queens Road and southern frontage of 160 metres to Parramatta Road.

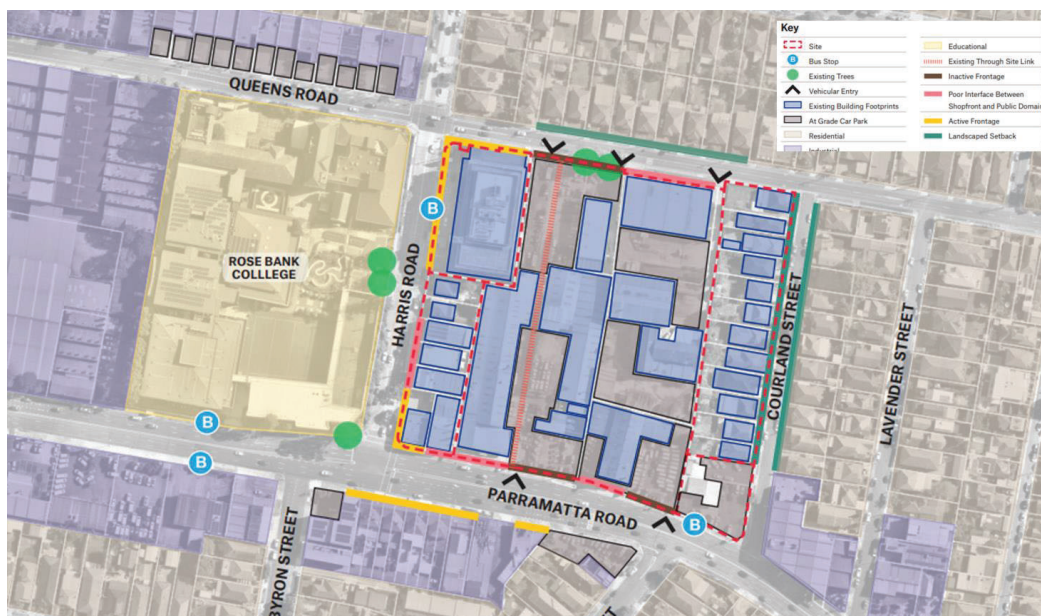
The site falls within IN1-General Industrial zone on the northern section of the lot and B6-Enterprise Corridor on the southern section. It is occupied by several low rise industrial and commercial sites with the surrounding area including a mix of light industrial and commercial buildings, along with medium and low-density residential dwellings, educational facilities and recreational areas. Commercial buildings front Harris Road to the west with Rosebank College further to the west. Bardwell Gold Club, Parramatta River and Five Dock Leisure Centre are all within one kilometre. Five Dock town centre is within a 650 metre walk to the east.

The site sits within the eastern extent of the Kings Bay precinct as defined by the Parramatta Road Corridor Urban Transformation Strategy (PRCUTS) and classified as a residential precinct facilitating through site links and open space. The location of the site and the surrounding environs is shown in **Figure 1** to **Figure 3**.



Source: Nearmap aerial imagery

Figure 1: Site location



Source: Bates Smart Planning Proposal Design Report, May 2024

Figure 2: Local area context



Source: Google maps

Figure 3: Site perspective (looking north-west)

2.2 Road Network

2.2.1 Road Hierarchy

Roads are classified according to the functions they perform. The purpose of defining a roads' functional class is to establish the policies which guide the management of the road according to their intended service or qualities.

State roads are strategically important as they form the primary network used for the movement of people and freight between regions and across the State. Transport for NSW (TfNSW) is responsible for funding, prioritising and carrying out works on State roads. State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act.

TfNSW defines the levels of road hierarchy, ranking from high mobility and low accessibility to high accessibility and low mobility. This includes arterial roads, sub-arterial roads, collector roads and local roads. The key roads surrounding the site are described below noting that both Queens Road and Parramatta Road are each arterial roads carrying traffic through the area. They combine to form the key east-west traffic routes through Five Dock and Burwood noting that traffic volumes have been in decline over several years associated with the staged delivery of WestConnex. Details and context around local and regional traffic is discussed later in this report.

Queens Road

Queens Road is a two-way arterial road that runs in east-west direction between Great North Road in the east and Gipps Street in the west. It provides one traffic lane in each direction along the northern boundary of the site within an approximate 15-metre-wide road reserve. No kerbside parking is permitted in the immediate vicinity widening to the east to provide parking on both sides of the road. Queens Road intersects with Harris Road at a signalised intersection north-west of the site. Queens Road is shown in **Figure 4 to Figure 6**.

Parramatta Road

Parramatta road is the key two-way arterial road through the area and runs along the southern boundary of the site. It provides a variable carriageway width of between 17 metres and 20 metres with three traffic lanes in each direction and additional turning bays at key intersections. It includes a posted speed limit of 60km/h with 40km/h school zones in place on school days in the vicinity of Rosebank College. Parramatta Road intersects with Harris Road at a signalised intersection south-west of the site. Parramatta Road is shown in **Figure 7**.

Harris Road and Courland Street

Harris Road is a two-way local road that runs in a north-south direction between Parramatta Road in the south and Lyons Road West in the north. It provides one traffic lane and one parking lane in each direction between Parramatta Road and Queens Road with some school period restrictions in place. Additional capacity is provided on approach to Queens Road and Parramatta Road to ensure capacity through the signalised intersections. It has a posted speed limit of 50km/h with 40km/h school zones in place on school days. Harris Road provides access to Rosebank College and the existing commercial buildings along the eastern side, adjacent to the subject site to the east.

Courland Street is a two-way local road that runs in north-south direction between Queens Road and Parramatta Road east of the site. It is a local road that generally provides for kerbside parking on both sides and a single two-way central traffic lane accommodate local area traffic. Low density residential dwellings front Courland Street with left turns permitted at the intersection with Parramatta Road and the priority-controlled intersection at Queens Road facilitating full turning movements.



Source: Google Streetview (all images)

Figure 4: Queens Road (looking east along the site boundary)



Figure 5: Queens Road (looking west to the site)



Figure 6: Queens Road (looking east to Harris Road intersection)



Figure 7: Parramatta Road environment

2.3 Public Transport

TfNSW Guidelines state that bus services influence the travel mode choices of sites within 400 metres (approximately 5 minutes' walk) of a bus stop. The site is serviced by bus routes 461N and 461X stopping adjacent to the site on Parramatta Road with several other services within a short walk on Harris Road west of the site. The bus services combine to provide frequent connections to a range of key destinations 7-days per week with the existing services detailed in **Table 1** and shown in **Figure 8**.

TABLE 1: EXISTING BUS SERVICES

Route No.	Route	Route Description	Service Frequency
415	Campsie to Chiswick	Kingsgrove, Campsie, Belfield, Enfield, Five Dock and Abbotsford	7-day service, 20-40min weekdays, 30-60min Saturdays, 60min Sundays
530	Chatswood to Burwood	Chatswood, Lane Cove, Linley Point, Hunters Hill, Drummoyne, Five Dock and Burwood	7-day service, 20-30min weekdays, 30min weekends
461N (night service)	City Hyde Park to Burwood	Hyde Park, Chippendale, Camperdown, Haberfield, Five Dock and Burwood	7-day service, 8 services weekdays, 5 Saturdays, 4 Sundays
461X	Burwood to City Domain	Hyde Park, Chippendale, Camperdown, Haberfield, Five Dock, Canada Bay and Burwood	7-day service, 10-20min



Source: [Inner West and Southern region network](#)

Figure 8: Existing Bus Services

The site is also adjacent to the TfNSW On Demand public transport service area (as shown in Figure 8) which allows users to book a vehicle and be picked up from home or a convenient nearby location and dropped off at a local transport hub or point of interest. It is easy to book using an app, online or by phone. There is potential for the coverage to expand and cover the site should demand for the service increase.

Burwood Station is about two kilometres south-west of the site and services the T2 Inner West and Leppington Line and T9 Northern Line. The station provides frequent heavy rail services during peak and off-peak periods.

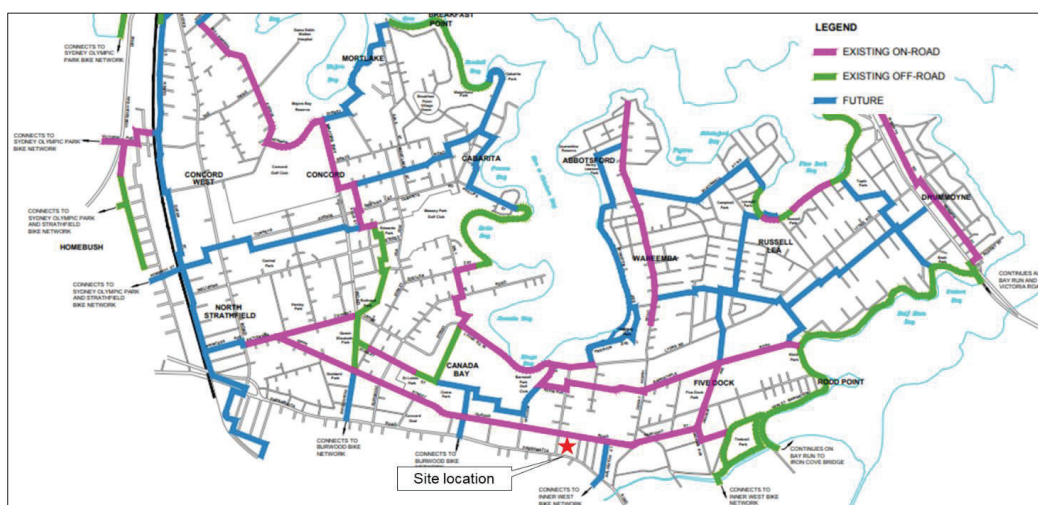
Sydney Metro West is also currently under construction with the future Five Dock station on Great Northern Road some 800 metres east of the site. Sydney Metro West is planned to double rail capacity between Sydney

CBD and Greater Parramatta, providing new rail connectivity to Sydney Olympic Park, Burwood North, Five Dock and The Bays.

2.3.1 Pedestrian and Cycling Infrastructure

Pedestrian footpaths are provided on all major roads within the immediate network, ensuring good connectivity across the local area. Pedestrian crossings are provided at all signalised intersections along Queens Road and Parramatta Road in the vicinity. The paths provide good access to local parks and shops, with the relatively flat topography providing good walking and cycling conditions. Council has prepared the Interim Bike Network Map, detailing on and off-road cycling routes in the local area.

The site is well located in the local cycling network with on-road bicycle routes on Queens Road. The on-road bicycle routes on Queens Road/ Harris Road and Queens Road/ William Street connects Five Dock with suburbs to the east and west. The existing and planned future bike network map is shown in **Figure 9**.



Source: [Interim Bike Network Map](#)

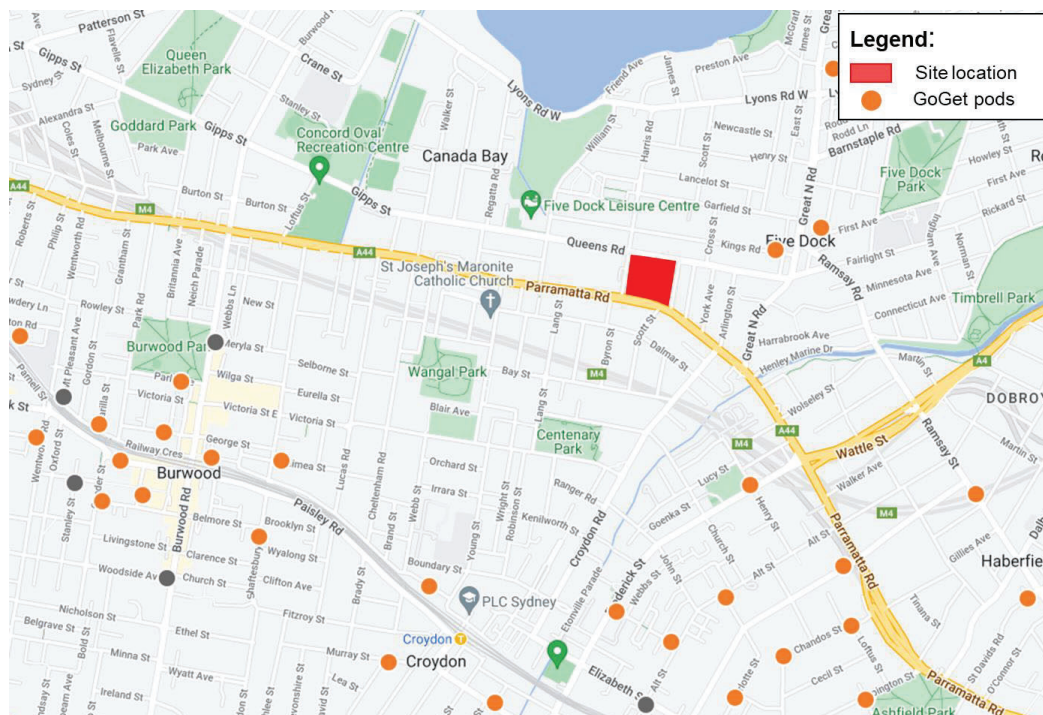
Figure 9: Existing and Planned Cycling Network

2.3.2 Car Share

GoGet, along with other car share providers, has gained popularity across Sydney and is acknowledged as a practical transportation choice for drivers throughout the city. It has become a widely used service, particularly in the inner suburbs, where parking availability is limited and the cost of parking near the Sydney CBD is high. GoGet provides a feasible alternative to private cars for short distance trips and is expected to be advantageous for prospective owners/ tenants of the proposal.

Research suggests that a single car share vehicle can replace 7 to 10 private vehicles and (on average) service 23 members. Based on this, the provision of car share vehicles on-site would have the potential to significantly reduce private car ownership and/ or usage.

GoGet car share pods located near the site are shown in **Figure 10** with the closest pods near Majors Bay Road north-east of the site. In this regard, there is obvious opportunity to expand the provision of car share as part of the proposal.



Source: [GoGet pod locations](#)

Figure 10: Surrounding GoGet pods

2.3.3 Existing Travel Mode Share

The existing travel patterns of residents and workers within the surrounding locality was surveyed within the 2016 Census, with the Australian Bureau of Statistics making the Journey to Work (JTW) data available. It is noted that 2021 data is available however is not considered appropriate, as it includes a significant portion of “work at home” as a reflection of the COVID-19 period.

Table 2 shows a breakdown of travel mode for people living in the Five Dock-Abbotsford Statistical Area Level 2, which suggests that 29 per cent of residents use public or active transport for their journey to work.

TABLE 2: EXISTING MODE SHARE – TRAVEL FROM FIVE DOCK

Travel Mode	Mode Share
Car Driver	64%
Car Passenger	4%
Train	5%
Ferry	4%
Bus	17%
Bicycle	1%
Walk	2%

Table 3 shows a breakdown of key travel modes for people working within Five Dock have been reviewed using the Destination Zone 113862612 / TZ 738, TZ 744 which indicates that 16 per cent of employees use public or active transport for their journey to work.

TABLE 3: EXISTING MODE SHARE – TRAVEL TO FIVE DOCK

Travel Mode	Mode Share
Car Driver	74%
Car Passenger	6%
Train	6%
Ferry	0%
Bus	4%
Bicycle	0%
Walk	6%

Despite the relatively close proximity of the site to Sydney CBD, existing residents in the local area have a slightly higher private vehicle mode share (64 per cent) compared with the average for the wider Sydney region (61 per cent). Public transport travel is also slightly lower than the wider Sydney average noting the surrounding areas have historically been limited to bus services unless connecting at Burwood or Strathfield stations. Metro West would be expected to significantly change this. Active travel modes such as walking, and cycling remains similar to the Sydney average, at around five per cent.

2.4 Existing Traffic Volumes

Ason Group commissioned traffic surveys at the key intersections surrounding the site in early March 2024 to understand existing traffic conditions across the local area. The surveys covered the key peak periods between 6:30am and 9:30am and 2:30pm and 6:30pm on a typical weekday and between 10:00am and 2:00pm on a Saturday. The surveys established the baseline traffic flows on the surrounding road network and covered the school peak periods given the proximity to Redbank College and potential influence on traffic volumes in the local area.

The surveys were completed at the following locations noting all intersections are signalised:

- Queens Road/ William Street
- Queens Road/ Harris Road
- Queens Road/ Great North Road/ Fairlight Street
- Parramatta Road/ Great North Road
- Parramatta Road/ Harris Road.

Tube counts were also completed on both Queens Road and Parramatta Road adjacent to the site. The data is important in determining the daily traffic volumes trends along the key arterial road corridors and particularly relevant given the recent opening of Rozelle Interchange as part of WestConnex and in the context of the planned positive effects associated with its staged delivery.

Overall, the survey data confirmed that the peak hours are 7:45am to 8:45am and 5:00pm to 6:00pm on weekdays and 11:00am to 12:00pm on Saturday. The existing traffic volumes for all three peaks are shown in **Figure 11**.

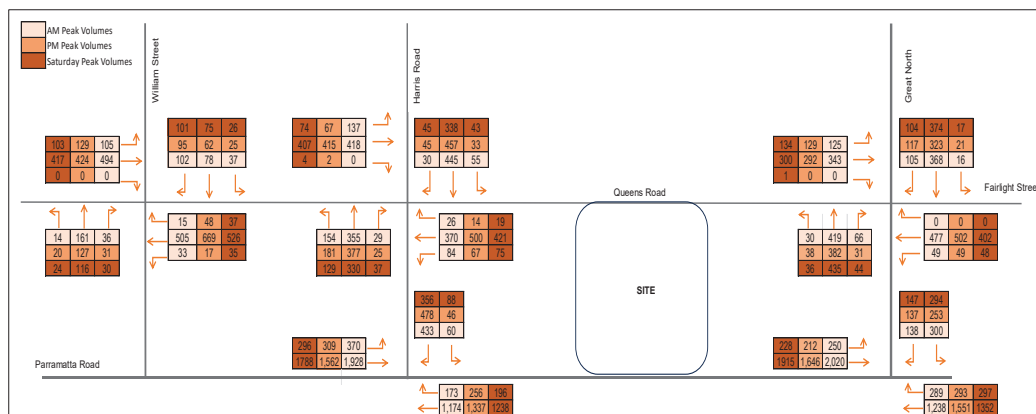


Figure 11: Existing peak hour traffic volumes

Surveys were also completed as part of earlier planning on the site to capture all in and out movements at the existing Queens Road and Parramatta Road site access driveways. Overall, the existing combined sites generate about 60 vehicle trips per hour in the weekday AM peak hour, with 30 trips in the PM peak.

2.5 Existing Intersection Operation

Baseline traffic modelling has been completed using SIDRA INTERSECTION to assess the existing operation of the study intersections. The commonly used measure of intersection operation, as defined by TfNSW is vehicle delay. SIDRA determines the average delay that vehicles face and provides a measure of the level of service. **Table 4** shows the criteria that SIDRA adopts in assessing level of service.

TABLE 4: SIDRA OPERATIONAL CRITERIA

Level of service (LOS)	Average delay per vehicle (sec/veh)	Traffic signals, roundabout	Give way & stop sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

Traffic signal timing data (SCATS) has also been provided by TfNSW to ensure consistency with traffic signal phasing and timing, with the traffic survey data adopted for the traffic volumes through the intersections.

The SIDRA summary outputs are shown in **Table 5** with the key criteria of LoS, Degree of Saturation (DoS) and average delay (AVD) in seconds highlighted. Generally, in the weekday AM and PM commuter peaks, all modelled intersections operate well overall, achieving an LoS B/C. The DoS showed that several movements at the Parramatta Road/ Great North Road intersection are currently close to or already at

capacity. Both the southbound and westbound right turn movements at this intersection, as well as the eastbound left turn and through movements all recorded a DoS over 0.90. Movements at all other intersections performed better, indicating available spare capacity.

Modelling of the weekend peak showed worse performance at the Parramatta Road/ Great North Road intersection, with DoS reported to be five per cent higher than the AM peak. This resulted in some degradation in the modelled delays, operating at an overall LoS D. Other modelled intersections showed comparable results to the weekday commuter peaks, highlighting some spare capacity and acceptable intersection operation.

TABLE 5: EXISTING INTERSECTION OPERATION

Intersection	Weekday AM (7:45-8:45am)			Weekday PM (5:00-6:00pm)			Saturday (11:00am-12:00pm)		
	DoS	AVD	LoS	DoS	AVD	LoS	DoS	AVD	LoS
Parra Rd/ Great Nth Rd	0.92	37.8	C	0.82	26.0	B	0.97	46.9	D
Great Nth Rd/ Queens Rd	0.76	28.6	C	0.71	25.3	B	0.68	26.7	B
Parramatta Rd/ Harris Rd	0.81	27.4	B	0.77	30.3	C	0.75	26.3	B
Queens Rd/ Harris Rd	0.68	25.7	B	0.71	26.0	B	0.71	20.7	B
Queens Rd/ William St	0.55	27.5	B	0.64	16.5	B	0.59	19.9	B

3 Strategic Context

3.1 Overview

Reference has been made to the relevant State, regional and local planning documents which are considered relevant in the context of the site. With significant infrastructure work in planning, under construction or recently completed across the inner west, understanding the scope and location of such works is key to recognising how they relate to the site to ensure the intent of and benefits from are recognised.

In this regard, the key change in the inner west includes implementation of PRCUTS, WestConnex delivery and Sydney Metro West. WestConnex has contributed to a decrease in traffic volumes and improved travel times on Parramatta Road and adjacent roads in the vicinity of the site. Sydney Metro West is similarly expected to significantly improve connectivity along the corridor. Such public transport improvements will strengthen the connection to vital employment hubs such as Sydney and Parramatta CBDs and noticeably alleviating demand on the existing heavy rail network.

The Parramatta Road corridor has played a key role in influencing development opportunities by fostering increased housing, economic activity and social infrastructure. The movement and place strategies adopted by Council aim to deliver a more liveable environment in the Kings Bay Precinct. This ensures improved pedestrian connectivity and safety with local amenities and opportunities to experience better living.

The key reference documents and planning policies are discussed in the following sections.

3.2 Transport Oriented Development Program

Transport Oriented Development (TOD) is a strategic planning urban planning method promoting sustainable and diverse development near transportation hubs, fostering lively, pedestrian friendly neighbourhoods.

TOD aims to address the housing crisis by providing much needed housing around 39 transport hubs. This will increase the provision of well-located homes, close to work and in places where people want to live. This not only benefits the yet to be built housing, but the existing community will also benefit from the improved transport options such as new metro stations, walkable neighbourhoods, public open spaces, vibrant nightlife and other new amenities and services. TOD when executed well, minimizes the necessity for long and costly daily commutes, eases financial strain on households and mitigates traffic congestion by providing improved active modes of transportation such as walking and cycling.

The TOD program has selected eight precincts to be developed with development applications expected from mid-2024 and state-led rezonings in the selected precincts planned to be completed by late 2024.

The vision for this precinct closely aligns with the goals set by the TOD. The proposal aims to create a harmonious blend of various elements, including:

- High-density residential development: The site intends to accommodate a significant number of residential apartments, fostering a vibrant and bustling community.
- Retail and commercial spaces: By incorporating retail and commercial areas, the proposal seeks to enhance convenience for residents and visitors alike. These spaces can house shops, food and beverage and other necessary services.
- Supermarkets: The inclusion of supermarkets ensures easy access to groceries and daily necessities, promoting a self-sufficient and well-connected neighbourhood.

- Community hub: A central gathering place will serve as a focal point for social interactions, events, and shared activities. It's where neighbours can come together, fostering a sense of belonging.
- Open public spaces: These green and communal areas provide opportunities for relaxation, recreation, and interaction. Residents can enjoy amenities within the development, creating a more liveable environment.

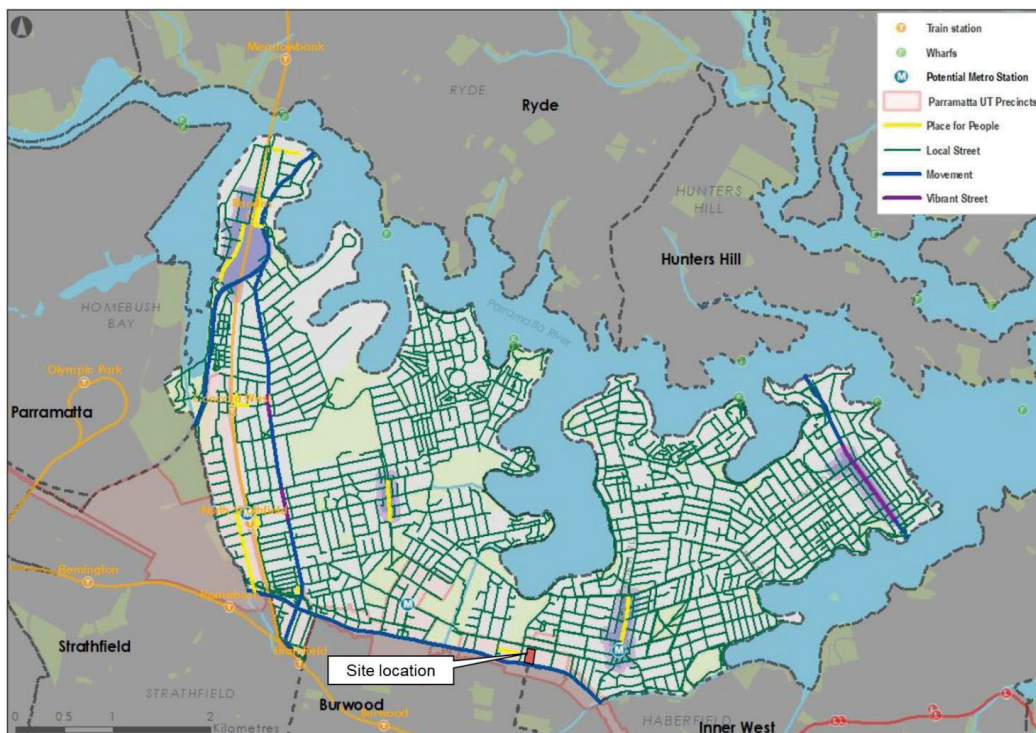
Overall, the proposal aims to create a vibrant, integrated community that balances density, convenience, and quality of life.

3.3 Movement and Place Strategies

The Movement and Place Framework, integral to Future Transport, aims to enhance the liveability of spaces by effectively allocating road space. As an integrated tool for land use and transport planning, the framework prioritizes customer-focused outcomes, contributing to the overall health and well-being of the community. It defines the future function of the road network based on land use and transport objectives in Canada Bay LGA, focusing on the roles of roads and streets in facilitating the movement of people and goods, as well as the importance of adjacent land uses. Guiding principles within the framework recognize the dynamic needs of transport customers and communities in different street environments, emphasizing the prioritization of diverse customer groups. The framework distinguishes between motorways, movement corridors, vibrant streets, local streets, and places for people.

The framework identifies priorities in different areas by distinguishing between the straightforward Movement axis and the multifaceted Place axis, which includes locations for various activities. Challenges emerge in "Vibrant streets," where balancing both movement and place is crucial. Here, a lateral planning approach and a holistic definition of success are essential to manage potential conflicts.

In mid-2019, Council engaged GTA Consultants to prepare a local movement and strategy and action plan to identify the issues and potential for future developments within the LGA. The subsequent Local Movement Strategy report (dated August 2019) provides an indicative movement and place classification for Canada Bay in 2036. The report classifies Five Dock town centre as a place for people, as shown in **Figure 12** and identifies potential upgrades to improve the relationship between movement and place along various roads.



Source: [Local Movement Strategy](#)

Figure 12: Movement and Place for Canada Bay LGA

The proposal aims to deliver a mix of retail floor space that seeks to improve amenity for future residents and the immediate surrounding community without detracting from existing retail in the surrounding key centres. Such space aims to positively influence the amenity of the area and significantly boost pedestrian activity in the vicinity. This aligns with Council's vision to realise a better balance between movement and place across the LGA.

3.4 Sydney Metro West

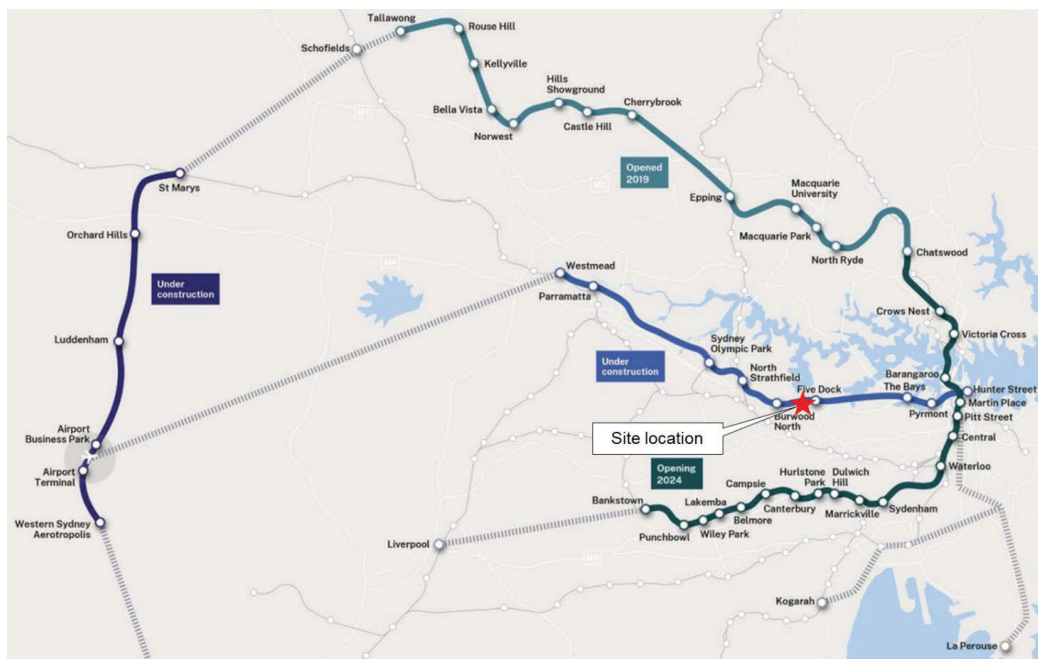
Sydney Metro stands as the largest public transport project in Australia, with the mission to revolutionize how people travel across Sydney. It aims to enhance connectivity by offering dependable turn-up-and-go metro services. Sydney Metro has a targeted capacity of approximately 40,000 customers per hour, nearly doubling the capacity of Sydney's existing suburban system. The comprehensive Sydney Metro network will comprise four metro lines, encompassing 46 stations and introduce 113 kilometres of new metro rail lines.

This extensive network is designed to connect Sydney's established and growth regions with **Figure 13** showing the four new metro lines, as outlined below:

- Northwest Metro: Opened in May 2019 providing services every four minutes in peak hours at the 13 stations between Chatswood and Tallawong.
- Metro City and Southwest: Due to open in mid-2024, providing a 30km extension of the Northwest Line into the CBD and southwest to Sydenham (and ultimately Bankstown).
- Metro West: Connection between Greater Parramatta and Sydney CBD, with a total of nine confirmed stations at Westmead, Parramatta CBD, Sydney Olympic Park, North Strathfield, Burwood

North, Five Dock, The Bays, Pyrmont and Hunter Street in the CBD. Construction commenced in 2020 with completion estimated by 2032.

- Metro Western Sydney Airport: Connects the new Western Sydney Aerotropolis and Western Sydney Airport to existing heavy rail services at St Mary's. Planned to open in conjunction with the commencement of airline passenger services around 2026.



Source: [Rail infrastructure, stations, precincts and operations EIS summary book](#)

Figure 13: Sydney Metro

Sydney Metro West is poised to double the rail capacity between Sydney CBD and Greater Parramatta, introducing fresh rail connections to Sydney Olympic Park, Burwood North, Five Dock, and The Bays. The alignment is designed to facilitate the planned expansion of employment opportunities and an increase in housing supply in the region.

The construction of Metro West Five Dock station is currently underway and located within an 800 metre walk of the site along Queens Road and Great North Road. As shown in **Figure 14**, the site is well within a practical walk of future Metro services.



Source: Bates Smart Planning Proposal Design Report, May 2024

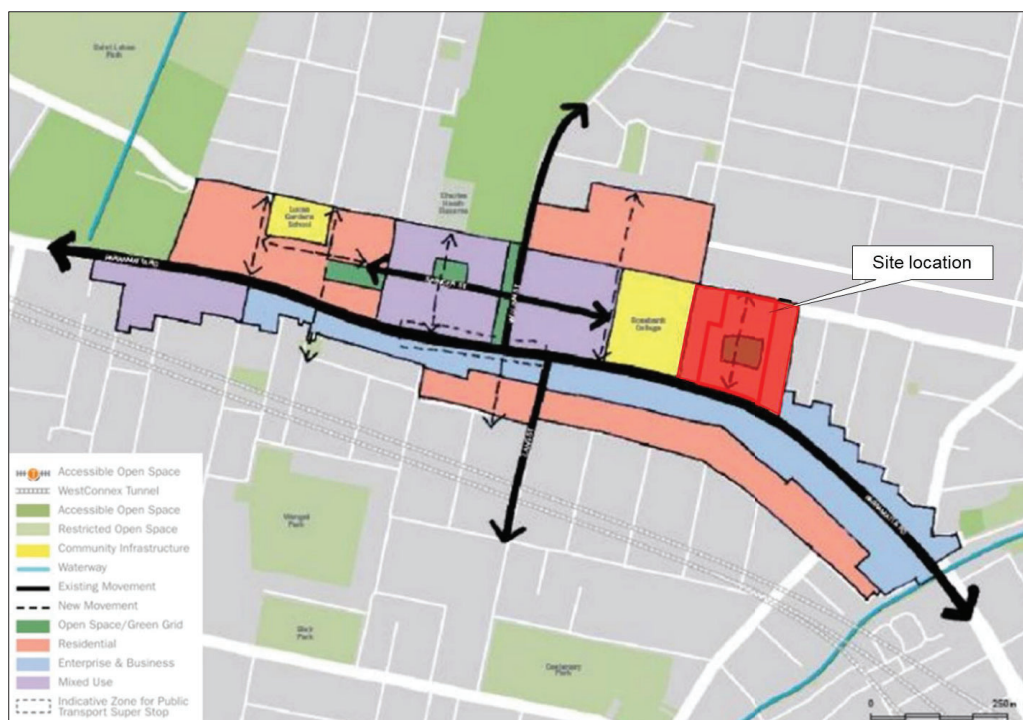
Figure 14: Sydney Metro Five Dock walking catchment

3.5 Parramatta Road Corridor Urban Transformation Strategy

The Urban Transformation Strategy for the Parramatta Road Corridor, formulated by UrbanGrowth NSW in 2016, has been officially endorsed by the NSW Government. The strategy emphasizes the augmentation of housing, economic activities and social infrastructure along the Parramatta Road Corridor. It has acquired legal standing through a Ministerial Direction pursuant to Section 117 of the Environmental Planning and Assessment Act 1979. The strategy is designed to serve as a strategic framework and provisional plan, guiding development initiatives along the corridor for the next 30 years.

The strategy is accompanied by an implementation toolkit, offering guidance and insights for the comprehensive execution of the strategy. In July 2021, then NSW Department of Planning, Industry and Environment (now Department of Housing and Infrastructure) issued an update to reflect adjustments made to align with recent developments in planning and policy contexts. Additionally, reference reports have been generated, delivering in-depth information on research, data and existing government policies that played a role in shaping the overarching strategy.

The "Precinct Transport Report" within the Parramatta Road Corridor Urban Transformation Strategy (UrbanGrowth NSW, 2016) outlines the planned land use, transport initiatives and enhancements to public spaces for the eight precincts along Parramatta Road. The specified site is located at the eastern end of the Kings Bat Precinct, as illustrated in **Figure 15**.



Source: [Parramatta Road Corridor Urban Transformation Precinct Transport Report, Urban Growth November 2016](#)

Figure 15: Kings Bay Precinct – Structure Plan

The following existing road network constraints within the Kings Bay Precinct in close proximity to the site have been identified by the Precinct Transport Report:

- Harris Road and Regatta Road intersections at Parramatta Road and Queens Road.
- Vehicle and pedestrian conflicts at Regatta Road, William Street, Courland Street, Lavender Street and York Avenue due to the lack of pedestrian crossings.
- North-south vehicle connectivity across Parramatta Road.

Furthermore, the report notes that given the availability of limited Council or commuter off-street parking within or in close proximity to the precinct, it is imperative for new developments to furnish sufficient off-street parking to meet the site demands.

Notwithstanding the above, the Precinct Transport report outlines various transport objectives/ strategies for future developments, including.

- enhancing links to Croydon Station so that it is easier to access rail services with a focus on north south connectivity across Parramatta Road
- enhancing access to open space areas to the north with improved active travel infrastructure between Parramatta Road and the foreshore
- encouraging greater land use mix and create a distinct place for residents by providing a series of new laneways and through links within the existing road network grid
- improving walking and cycling connections to regional recreation and open space facilities, particularly via the Patterson-Gipps-Queens Road cycle route toward the leisure routes around Canada Bay

- reducing car dependency by lowering parking rates in areas with good access to public transport and capitalising on the rapid bus network along Parramatta Road
- investigating reprioritising intersection signals post implementation of WestConnex Stage 1B (M4 East) to allow additional green time for north-south streets at all signalised intersections in the precinct, including Harris Road
- investigating local bus network needs before and after the implementation of the Parramatta Road Corridor on-street rapid transit route.

Regarding the objective of reducing the parking rates across the precinct, the Precinct Transport Report recommends maximum car parking rates. The parking rates are determined in accordance with the accessibility of the precinct, with the whole of the Kings Bay Precinct falling within Category 2 – medium accessibility locations. This categorisation is based on the following:

- entire precinct falls within an 800m walking catchment to high frequency public transport
- there is good access to a strategic centre (Burwood) and a variety of local services.

The maximum car parking rates for the Kings Bay Precinct are shown in **Table 1**.

TABLE 6: MAXIMUM KINGS BAY PRECINCT PARKING RATES

Residential (spaces per dwelling)					Other land uses		
Studio	1-bed	2-bed	3-bed	Visitor	Commercial	Retail	Light Industrial
0.3	0.5	0.9	1.2	0.1	1 per/ 100m ²	1 per/ 70m ²	1 per/ 120m ²

In parking Category 2 zones, it is also recommended to incorporate a residential car share ratio of one car share space per 40 dwellings. When a car share scheme is proposed, regulations allowing a reduced provision of parking can be explored, with one car share space recognised as substituting for three parking spaces.

The anticipated revitalisation of the Parramatta Road corridor, as outlined in the Precinct Transport Report, is expected to lead to improved public and active transport connections in Kings Bay Precinct. This urban renewal initiative encompasses the addition of 10km of new bus lanes and a review of existing pedestrian crossings along Parramatta Road to enhance pedestrian and cyclist crossing times.

The proposed walking and cycling network for the Kings Bay Precinct is shown in **Figure 16** and includes a desired through site link connecting Parramatta Road and Queens Road between Harris Road and Courland Street.



Source: [Parramatta Road Corridor Urban Transformation Precinct Transport Report, Urban Growth November 2016](#)

Figure 16: Proposed Walking and Cycling Network

3.6 Kings Bay Precinct (DCP strategy)

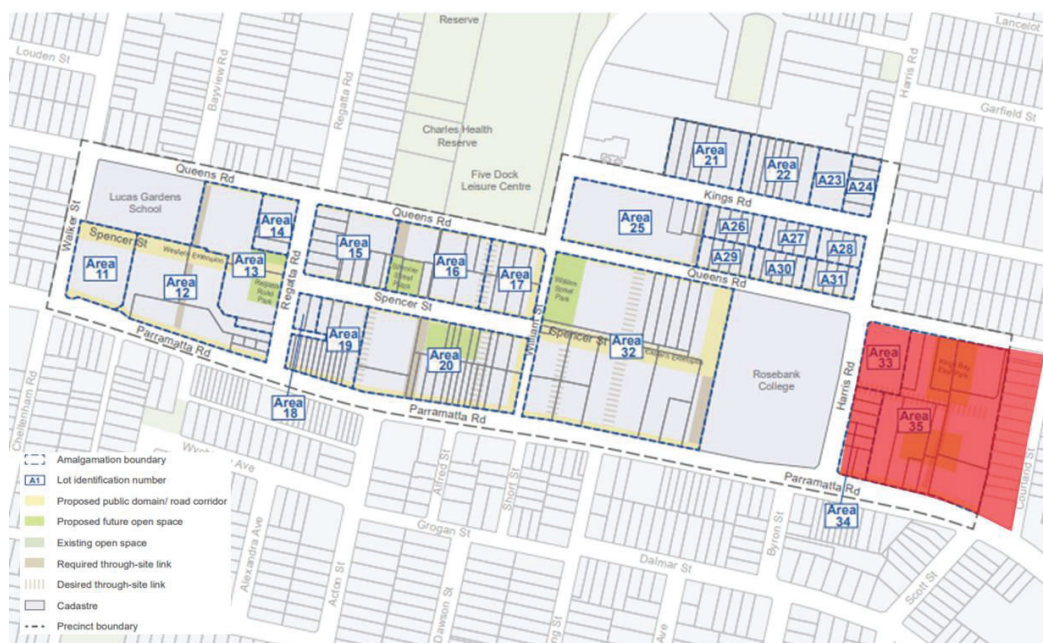
Canada Bay DCP has been prepared to support the implementation of the Parramatta Road Corridor Transformation Strategy (PRCUTS). The Kings Bay masterplan has been meticulously crafted. Its purpose is to consolidate various planning efforts, including the PRCUTS and other relevant studies and plans to inform and amend the DCP.

The DCP includes a public domain plan and site amalgamation plan, as shown in **Figure 17** and **Figure 18**.



Source: Bates Smart Planning Proposal Design Report, May 2024

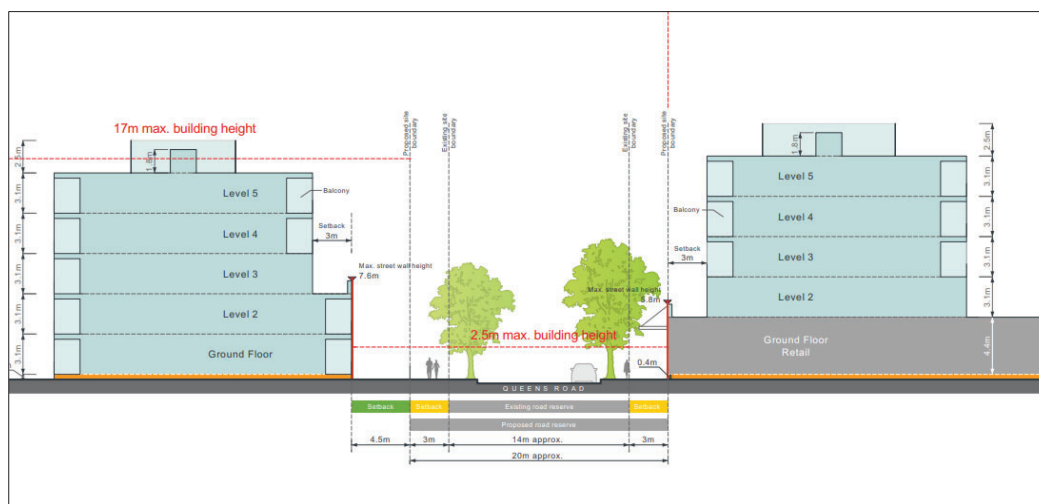
Figure 17: Kings Bay Public Domain Plan



Source: [Canada Bay DCP - Special Precincts - Kings Bay](#)

Figure 18: Kings Bay Site Amalgamation Plan

The DCP also determines the street setbacks, road reserve width as an integral part of the streetscape to improve the amenity and character of a place with the precinct. The DCP provides built form envelope of Queens Road shown in **Figure 19**.



Source: [Canada Bay DCP - Special Precincts - Kings Bay](#)

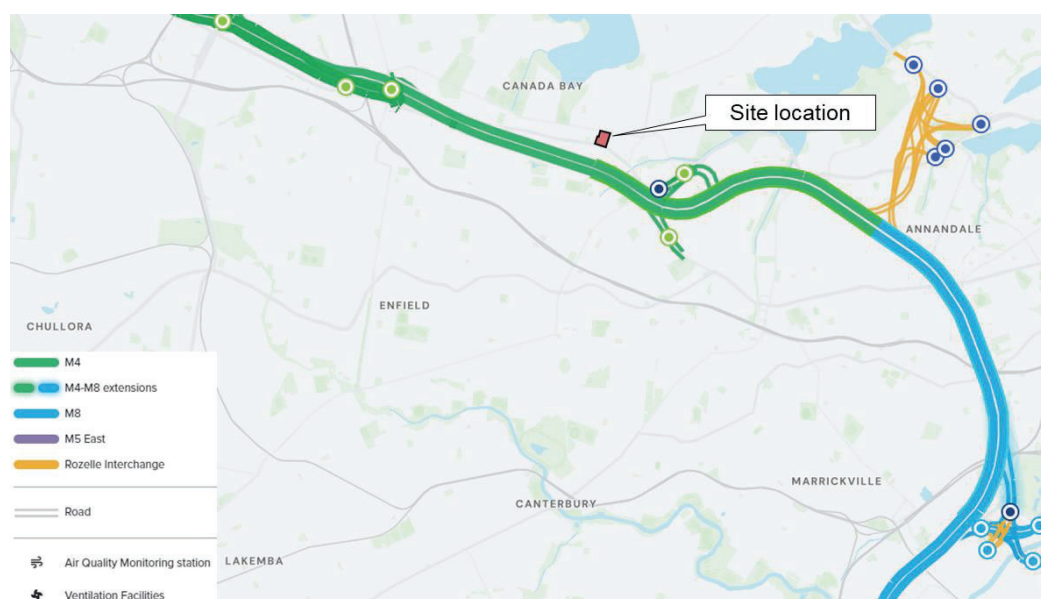
Figure 19: Queens Road built form envelope

3.7 WestConnex

The WestConnex project comprises of approximately 33km of new and expanded toll roads which will provide high quality connections between Sydney's west, CBD, south and airport. Currently the largest transport project in Australia, WestConnex is a priority strategic project for Sydney that aims to ease congestion, create jobs and connect communities. The project is being delivered in stages with effective completion achieved in late 2023, with the key elements described as follows:

- Stage 1 (M4 Widening and M4 East Extension): as part of this stage, the M4 was widened to four lanes in each direction between Parramatta and Homebush. The M4 East component of Stage 1 involved the construction of a new 5km twin tunnel along the Parramatta Road corridor between the M4 at North Strathfield and City West Link at Haberfield - opened July 2019. The new M4 tunnel has provided an alternative route for motorists driving along Parramatta Road. Since the opening of M4, significantly improved traffic conditions have been observed in Parramatta Road and has resulted in less travel time and congestions.
- Stage 2 (New M8): this stage involved the duplication of the M5 East, creating new twin tunnels with three lanes in each direction between Beverly Hills to St Peters – opened July 2020.
- Stage 3 (M4 – M5 Link): this stage of WestConnex connected the M4 with the M5 through a new tunnel comprising three lanes in each direction – opened in early 2023.
- Stage 4 (Rozelle Interchange): this stage involves a new interchange, largely underground connection between the M4 – M5 Link and Anzac and Iron Cove Bridges, and the future Western Harbour Tunnel (and potentially Beaches Link) – opened in late 2023. With Rozelle Interchange being mostly underground, the project delivers new active transport options in Rozelle and up to 10 hectares of new open space.

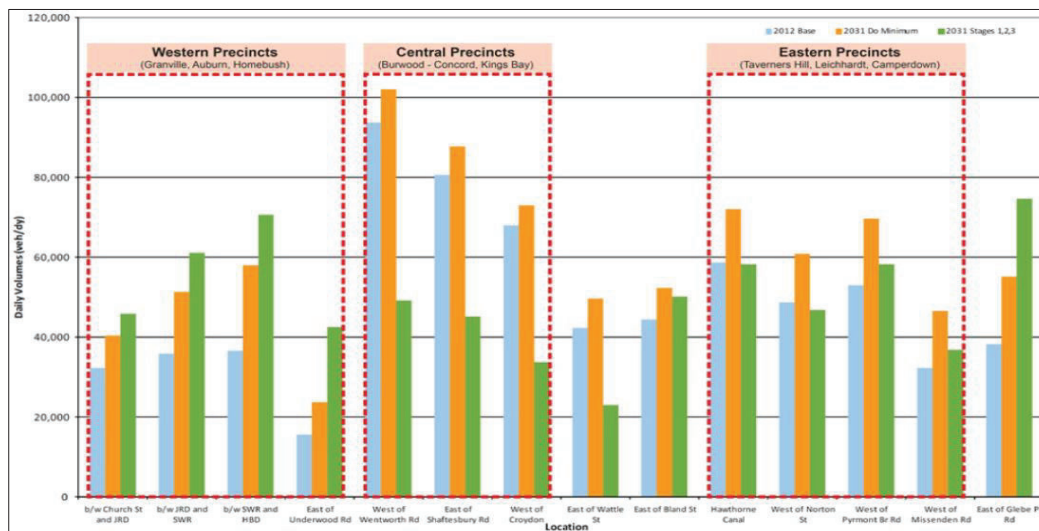
The alignment of WestConnex in relation to the site is shown in **Figure 20**.



Source: [WestConnex](#)

Figure 20: WestConnex alignment in relation to the site

Stage 1 of the WestConnex provides an efficient bypass for the segment of Parramatta Road adjacent to the site, resulting in significantly decreased traffic volumes. Figure 21 illustrates a breakdown of the anticipated traffic volumes along Parramatta Road in 2031. This breakdown encompasses traffic volumes from 2012 along with a comparison of the projected 2031 traffic volumes with and without WestConnex.



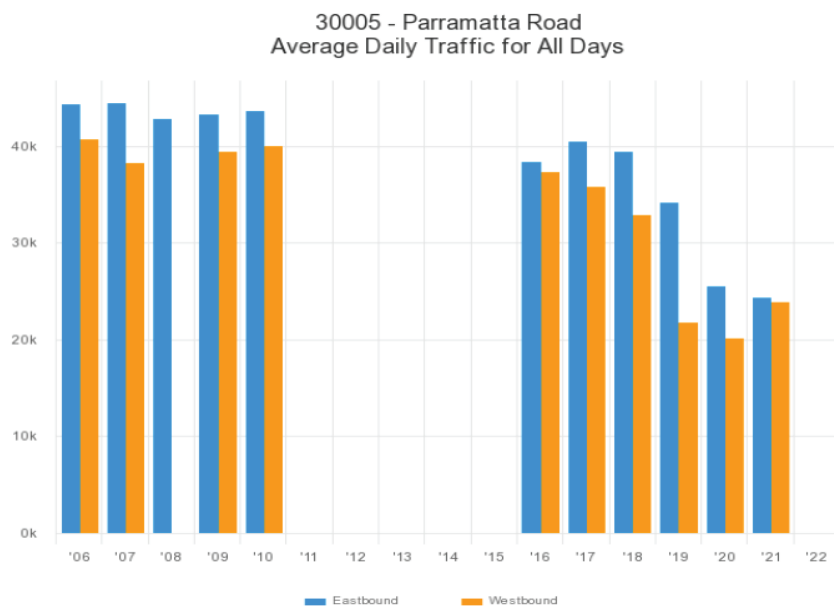
Source: [Parramatta Road Corridor Urban Transformation Precinct Transport Report, Urban Growth November 2016](#)

Figure 21: Parramatta Road Traffic Volume forecast for year 2031

Figure 21 illustrates a significant decrease in traffic volumes for the Central Parramatta Road precincts as a result of the WestConnex project, as opposed to the 'do minimum' scenario without WestConnex. This reduction is estimated to range between 35,000 and 50,000 vehicle trips per day. Additionally, WestConnex is anticipated to lead to a reduction of approximately 7,000 forecasted truck volumes on Parramatta Road, west of Croydon.

The traffic volume counter on Parramatta Road, located west of Cheltenham Road, Five Dock (1km west of the site), administered by TfNSW, has been examined to assess the current impact on traffic volumes subsequent to the inauguration of WestConnex Stage 1 in July 2019. As shown, the average daily traffic volumes have fallen by approximately 15,000 vehicles in the eastbound direction and 12,000 in the westbound direction during the period from 2018 to 2021. This marks a 40 per cent reduction in total average daily volumes. While acknowledging the influence of Covid-19 on these reductions, it is noteworthy that 2019 also exhibited an initial distinct downturn.

The decreased traffic volumes along Parramatta Road are presumed to have had a comparable impact on other east-west roads in the vicinity, including Queens Road.



Source: TfNSW Volume Viewer, accessed February 2024

Figure 22: Historic Parramatta Road Traffic Volumes – 50m west of Cheltenham Road, Five Dock

Additional tube counts were also installed in early March 2024 on Parramatta Road and Queens Road to understand current traffic volumes and the impact of the staged delivery of WestConnex on surface road traffic volumes. To ensure accurate comparison, traffic data from TfNSW traffic volume viewer was also accessed for the first week of March in 2021 with **Figure 23** illustrating the comparison between 2021 and 2024 volumes.

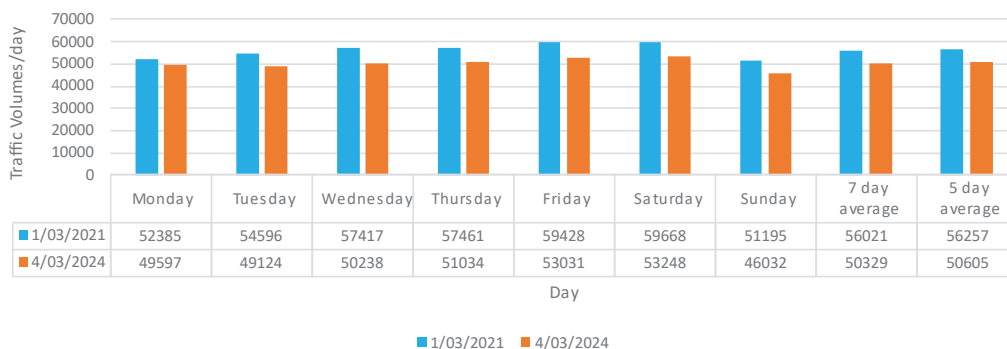


Figure 23: Parramatta Road traffic volumes

The above further confirms that WestConnex and in particular, delivery of Rozelle Interchange has further reduced traffic volumes on Parramatta Road. The two-way volumes have decreased 11 per cent between 2021 and 2024 to now be around 50,350 vehicles per day. This compares favourably with the historical minimum 80,000 vehicles per day per the TfNSW count data. Such volumes confirm that delivery of WestConnex has achieved the desired outcomes with Parramatta Road and other arterial roads (such as Queens Road) now showing spare capacity which aids delivery of housing and improved amenity as planned.

4 Planning Proposal

4.1 Overview

The Five Dock Village Planning Proposal aims to deliver a mixed-use precinct across several separate buildings in close proximity to the future Five Dock Metro Station. The Planning Proposal contemplates up to 1,046 residential and co-living/ build-to-rent apartments and more than 13,000m² of non-residential floor space incorporating a local supermarket, food and beverage, community hub and open space.

The Planning Proposal considers development of the entire block to ensure consistency with the broader planning intent. In this regard, traffic associated with the existing residential dwellings to the east (on Courland Street) and the commercial buildings to the west (on Harris Road) have not been discounted to account for this net change. This results in a conservative assessment that could be generally considered a theoretical maximum and therefore highly robust in estimating the transport impacts of the proposal. Similarly, existing traffic associated with the light industrial and mixed-use buildings on the site have not been discounted.

An overview of the proposed land uses that make up the planning proposal are detailed in **Table 7** with the proposed site layout plan shown in **Figure 24**.

TABLE 7: PROPOSED DEVELOPMENT SCHEDULE

Land Use	Yield
Residential	
1-bedroom	358
2-bedroom	409
3-bedroom	37
Co-living (Built to Rent)	242
Sub-total	1,046 apartments
Non-residential	
Retail	2,244m ²
Retail (supermarket)	2,500m ²
Co-working/ commercial	8,064m ²
Community hub	490m ²



Source: Bates Smart Planning Proposal Design Report, May 2024

Figure 24: Proposed site layout

4.2 Vehicle Access

Vehicle access is proposed a new through local access road with all vehicles using new intersections on Queens Road and Parramatta Road.

The Queens Road site access is proposed as the main site access, with a new signalised intersection to include dedicated turn lanes permitting full turning movements in and out of the site. Additional road reserve could be accommodated via boundary setback consolidation, if necessary. Access via Parramatta Road is also key to ensure equitable distribution of traffic across the site and minimise traffic-related impacts on nearby intersections and Queens Road. Access will be limited to left turns, incorporating an entry slip lane and considering Austroads design requirements and largest design vehicle.

A separate single driveway crossover is also proposed in the north-west corner of the site with direct access via Queens Road. This access would provide access to a single residential building (building 1) and likely to generate low resident only traffic volumes. All non-resident parking is proposed via the central access road only.

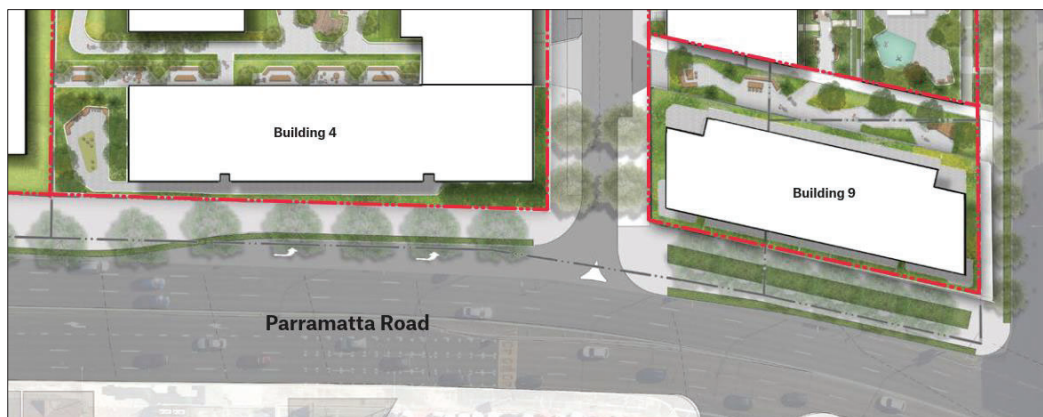
The proposed site access arrangements are shown in **Figure 25** and **Figure 26**.

Further detail on the design of the site access arrangements and internal road alignment will form part of future Development Applications on the site. The architectural plans have been developed to an appropriate detail and designed to accommodate a range of vehicles up to 12.5m heavy rigid vehicles.



Source: Bates Smart Planning Proposal Design Report, May 2024

Figure 25: Proposed Queens Road signalised access



Source: Bates Smart Planning Proposal Design Report, May 2024

Figure 26: Proposed Parramatta Road access

5 Parking Requirements

5.1 Car Parking Requirements

The car parking requirements for different development types are set out in the Precinct Transport Report. The proposal considers both the mix of land uses across the site and residential apartment split between 1, 2 and 3-bedroom apartments. Accordingly, the maximum quantum of parking across the site is shown in **Table 8**.

TABLE 8: MAXIMUM KINGS BAY PRECINCT PARKING REQUIREMENTS			
Land Use	Yield	Parking Rate	Parking Requirement
Residential			
1-bedroom	358	0.5 spaces per dwelling	179
2-bedroom	409	0.9 spaces per dwelling	368
3+ bedroom	37	1.2 spaces per dwelling	44
Visitors	804 dwellings	0.1 spaces per dwelling	80
Co-living dwellings [1]	242	0.2 spaces per dwelling	48
Residential sub-total			719
Non-Residential			
Retail	2,244m ²	1 space per 70m ² GFA	32
Supermarket	2,500m ²	1 space per 70m ² GFA	36
Co-working / Commercial	8,064m ²	1 space per 100m ² GFA	81
Community Hub	490m ²	1 space per 100m ² GFA	5
Non-residential sub-total			154
Total			873 spaces

[1] Co-living is provided as built to rent apartments, with corresponding applicable SEPP Housing (2021) parking rates applied.

Based on the above, the planning proposal could provide a maximum of 873 parking spaces across the site. This includes about 720 residential spaces and 155 retail spaces.

The central access road is also designed to allow for on-street parallel parking to activate the ground level and ensure equitable use. With the ability to facilitate about 20 spaces with potential for timed loading zones aswell, this supply could be considered in light of basement parking provision and overall parking supply across the site. Detailed parking assessments will be included as part of future development applications on the site.

5.1.1 Accessible Parking

Parking rates for accessible parking have been adopted from the National Construction Code (formerly Building Code of Australia). According to the accessibility parking standards, the proposed uses necessitate one accessible space for every 100 car spaces provided.

Considering a maximum parking provision of 873 spaces, the site would require a total of nine accessible parking spaces. Additionally, adaptable apartments would also necessitate consideration, and assuming 10 per cent of 1,046 apartments, an additional 105 accessible spaces may also be required.

5.2 Bicycle Parking and End of Trip Facilities

The bicycle parking and end of trip facility requirements have been adopted as outlined in the Precinct Transport Report, as presented in **Table 9**.

TABLE 9: BICYCLE PARKING REQUIREMENTS

Land Use	Yield	Bicycle Parking Rate		Requirement	
		Residents/ staff	Visitors	Residents/ staff	Visitors
Residential	1,046 dwellings	1 space/ dwelling	1 space/ 10 dwellings	1,046	105
Retail	2,244m ²	1 space/ 250m ²	2 spaces + 1 space/ 100m ²	9	24
Retail (supermarket)	2,500m ²	1 space/ 150m ² GFA	1 space/ 400m ²	17	17
Co-working/ commercial	8,064m ²	1 space/ 150m ²	1 space/ 400m ²	54	20
Community hub	490m ²	1 space/ 100m ² GFA	2 spaces + 1 space/ 100m ²	5	7
Total				1,131	173
Lockers		1 per bicycle space		84	
Shower and change cubicles		1 space plus 2 per 10 bicycle spaces over 10 spaces		18	

Table 9 shows that the proposal may require provision of up to 1,300 bicycle parking spaces comprising 1,130 resident and staff spaces and 173 visitor spaces. Resident bicycle parking is either in the form of bicycle storage rooms in the basement or as part of individual storage cages if provided for each (or many) apartments. 84 lockers and 18 shower and change cubicles are also necessary, for use by staff.

5.3 Loading and Servicing requirements

The provision of service vehicle facilities for each land use is defined in the DCP with **Table 10** summarising the quantum of loading bays having regard for the breakdown of land uses across the site.

TABLE 10: DCP LOADING REQUIREMENTS

Land Use	Yield	Parking Rate	Parking Requirement
Residential	1,046 dwellings	1 space for the first 50 dwellings or serviced apartments plus 0.5 spaces for every 50 dwellings or part thereafter	11
Retail	2,244m ²	1 space per 350m ² GFA, or part thereof, up to 2,000m ² ; then 1 space per 800m ² GFA thereafter	6
Supermarket	2,500m ²	1 space per 350sqm GFA, or part thereof, up to 2,000m ² ; then 1 space per 800m ² GFA thereafter	6
Co-working / Commercial	8,064m ²	1 space per 3,300m ² GFA, or part thereof for the first 50,000m ²	2
Total			27 spaces

On this basis, the DCP requires the proposal to deliver up to 27 loading spaces across the site. This can be considered an overprovision noting that detailed service vehicle and loading facilities, other referenced material and loading dock management and dock booking systems would form a part of future development applications on the site with the intention to realise greater dock efficiency and more balanced use across the day. Consultation with Council will also be key to delivering an equitable loading provision.

In addition to the above and given that the DCP does not provide any details on the breakdown or vehicle size of each bay, reference is made to the TfNSW Urban Freight Forecasting Model (UFFM) to provide a more accurate assessment of service vehicle demand for the proposal. The UFFM is a useful tool developed by TfNSW which has two main functions:

1. Provides daily profiles of the volume and types of freight and servicing activity that a building is likely to generate across a typical weekday, based on building information entered by the user.
2. Assesses the performance of loading dock parking spaces provided by a development to manage the freight demand generated by the building.

The objective of the model is to assist planners and developers in understanding the facilities that will be appropriate for a development to be self-sufficient in managing its own freight and servicing activity. The following key outputs can be produced by the model:

- Projected vehicle arrival profiles by loading spaces (HRV, MRV, SRV and cars, vans, utes etc.).
- Estimated distribution of demand throughout the day.
- Efficiency of the loading dock (dock performance).

The inputs for the UFFM model are listed in **Table 11** with the model outputs summarised in **Table 12**.

TABLE 11: UFFM CALCULATION INPUTS

Land Use	Size (GFA) / No.
number of floors	ranges up to 24
commercial area	8,064m ²
Residential area	65,192m ²
number of apartments	1,046
retail area	4,744m ² (specialty and supermarket)
availability of a dedicated goods lift	Yes

TABLE 12: PARKING SPACES FOR COMMERCIAL VEHICLES

Vehicle Type	Demand
Small (B99, vans, utes)	4
Medium (SRV, small truck)	3
Large (MRV, HRV, large trucks)	1

The UFFM suggests that the proposal may need to provide up to eight loading bays, including four for vans/utes, three for small rigid vehicles and one for large trucks. The proposal includes provision for a minimum five formal loading bays across two loading docks plus capacity for timed on-street loading spaces for smaller vans and utes along the central through road. In combination, eight bays located close to the key land uses and internal lift cores will be able to be delivered and detailed as part of future development applications. Council's waste truck and 12.5m heavy rigid vehicle are the largest design vehicles, with swept paths completed to confirm the intended design and movement throughout the internal roads and via the proposed intersections.

6 Traffic Assessment

6.1 Trip Rates

6.1.1 Residential

The trip rates for the high-density residential dwellings have been adopted from the TfNSW Technical Direction Updated Traffic Surveys (TDT 2013/04a) and the TfNSW Draft Guide to Transport Impact Assessment, which stipulates the following rates:

- Weekday AM peak: 0.134 trips per car space, plus 4.6 trips.
- Weekday PM peak: 0.2 trips per car space.
- Saturday peak: 0.145 trips per car space, plus 5.6 trips.

For high density residential land uses, the trip rates can vary and needs to consider a range of factors including site location, access to existing and future high-frequency public transport services and overarching demographics (including car ownership rates and travel mode share). Lower parking rates also mean less relativity between the quantum of residential apartments and traffic generation. In this regard, application of the turnover of parking space calculation has been applied to the proposal.

6.1.2 Commercial

The trip rates for the commercial component have been adopted from the trip rates of 'office blocks' as per the TDT 2013/04a. The below rates are broadly accepted as representative of commercial land uses and allows for the delivery of a range of like land uses thus avoiding the need for more defined breakdown and/or detailed assessment. In adopting the following rates, it is noted that much of the co-working space is likely to be used by future residents on the site and hence generate no additional traffic. In this regard, the below rates are considered highly conservative.

- Weekday AM peak: 0.49 trips per car space.
- Weekday PM and Saturday peak: 0.33 trips per car space.

6.1.3 Retail

The TfNSW Guide 2002 suggests that the retail traffic generation rate during the weekday PM peak hour is 4.6 trips per 100m² of GLFA for specialty retail and 15.5 trips per 100m² GLFA for supermarkets. To estimate the traffic generation rate for retail during the weekday AM peak hour, a standard 50 per cent reduction has been applied to the weekday PM peak hour rate. This adjustment accounts for slower trade during the morning road network peak hour when many retailers are closed.

It is anticipated that specialty retail will complement the proposed residential and commercial uses and the existing surrounding land uses. Broader retail-based analysis suggests that approximately 40 per cent of retail activity within town centre mixed-use developments is generated by the residential component of the same site. Therefore, a conservative 30 per cent reduction has been applied to reflect this, suggesting that up to 70 per cent of traffic movements could be external to the development.

An important aspect of the traffic generation of retail uses is the categorization of different trip types, which include:

- 'Primary Trips'
- 'Link-diverted trips'
- 'Non-link-diverted trips'

Primary trips and link-diverted trips involve a vehicle either making a special trip or modifying the route to an existing trip. In contrast, non-link-diverted trips corresponds to those that do not involve a diversion from initial planned route. These trips are generated by passing traffic and do not impact the external road network significantly. For the proposal, it is expected that 25 per cent of retail trips will be non-link diverted trips, as per the TfNSW Guide 2002. Further details on trip generation and passing trade will be detailed as part of development applications on the site.

6.1.4 Community Hub

It is expected that the community hub will primarily be used by residents on the site for the purposes of social events and gatherings. And on this basis, no external trips are considered associated with this land use.

6.2 Traffic Generation

On the basis of the above adopted traffic generation rates, **Table 13** summarises the likely and forecast peak hour traffic generation possible as part of delivering the planning proposal.

TABLE 13: ESTIMATED PEAK HOUR TRAFFIC GENERATION

Land Use	Yield	Traffic generation rate			Traffic generation estimate (vehicle trips per hour)		
		AM	PM	Sat	AM	PM	Sat
Residential	719 spaces	0.134 trips/ space + 4.6 trips	0.2 trips/ space	0.145 trips/ space + 5.6 trips	101	144	110
Retail	2,244m ² GLA	2.3 trips/ 100m ²	4.6 trips/ 100m ²	4.6 trips/ 100m ²	36	72	72
Supermarket	2,500m ² GLA	7.8 trips/ 100m ²	15.5 trips/ 100m ²	15.5 trips/ 100m ²	136	271	271
Co-working/ commercial	80 spaces	0.49 trips/ space	0.33 trips/ space	0.33 trips/ space	38	24	24
Total trips					311	511	477

Notes:

Gross leasable area (GLA) has been adopted for the purposes of this assessment.

A 30 per cent reduction has been applied to the retail land uses to consider internal resident trips

[1] Based on the calculated high-density residential rate defined in the Draft Guide to Transport Impact Assessment.

[2] The weekday PM generation rates have also been conservatively applied to Saturday for all non-residential land uses.

Overall, the proposal is estimated to generate about 510 vehicle trips in the weekday PM peak hour and about 480 trips on Saturdays. Less traffic is expected on weekday mornings, with around 310 trips generated.

6.3 Traffic Distribution

Future SIDRA Network modelling has been completed to better understand the likely or anticipated theoretical maximum traffic impacts on the surrounding road network. To do this, the directional split of traffic both spatially (which roads do they use on approach and departure) and proportionately (differential split on arrival and departures depending on the individual land use) has been completed and defined in the following sections.

6.3.1 Directional Split

Noting that the traffic generation above represents two-way movements (or trips), and based on patterns of other similar developments, the directional splits of inbound and outbound traffic have been adopted for the purposes of estimating the likely future traffic impacts.

For residential and commercial land uses, it is broadly accepted that there is an 80:20 split in arrivals and departures during the respective peak periods. For residential land uses, this is reflected by vehicles exiting in the AM and returning in the PM with an 80:20 outbound: inbound split applied during the weekday AM peak, reversed in the PM peak. These proportional splits are similarly reversed for commercial land uses.

For the retail and supermarket, an even 50:50 split between arrivals and departures during the respective peak periods has been adopted.

6.3.2 Directional Distribution

The following assumptions for directional distribution have been determined by considering the surrounding arterial road network, existing performance of intersections providing access between the local and arterial road network, distribution of residential households in proximity of the site, configuration of site access and location of commuter 'destinations' (i.e., commercial hubs/ CBDs, industrial estates, business precincts, etc.).

Vehicles accessing the site would use the proposed signalised intersection on Queens Road and left-in/ left-out access on Parramatta Road. Subsequently, traffic would disperse in both east and west directions along these corridors, connecting to the surrounding road network.

Considering the above and acknowledging the existing traffic patterns in the vicinity, it is assumed that 55 per cent of traffic travels to/ from the west during morning and afternoon peaks, with 45 per cent to/ from the east. An estimated 60 per cent of all traffic generated by the site is also expected to use the Queens Road access with 40 per cent using Parramatta Road.

6.4 Future Traffic Flows

Having regard for the adopted traffic rates and arrival and departure splits, and accounting for the configuration of the surrounding road network, the resulting projected development traffic volumes on the surrounding road network is shown in **Figure 27** with the cumulative traffic volumes shown in **Figure 28**. The traffic volumes have been distributed across the road network with consideration for existing traffic volumes and preferred travel paths.

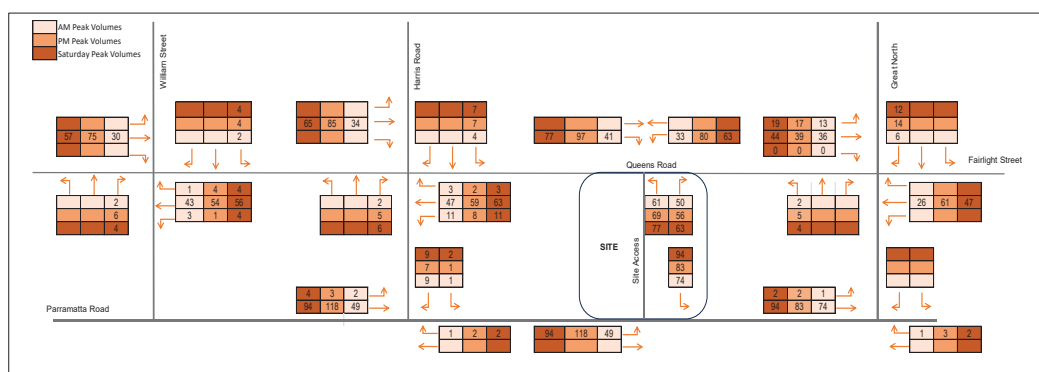


Figure 27: Estimated peak hour site generated traffic

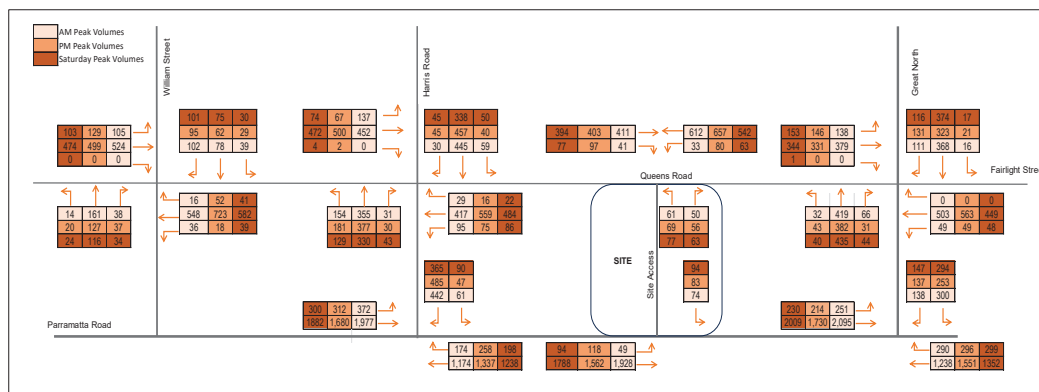


Figure 28: Estimated post development peak hour traffic volumes

6.5 Traffic Impacts

With consideration to the forecast traffic generation and distribution, the future operation of the surrounding road network has been modelled to test the future intersection operation.

Traffic impacts of the proposal in the AM peak hour are provided in **Table 14**. Additional development traffic has had an insignificant impact on intersection operation. All intersections operated at an acceptable LoS C or better, and DoS values were in-line with the Base Case model. The proposed site access points also operate well at LoS A with the DoS not exceeding 0.64.

TABLE 14: WEEKDAY AM POST DEVELOPMENT INTERSECTION OPERATION

Intersection	Base Case			Project Case			Difference		
	DoS	AVD	LoS	DoS	AVD	LoS	DoS	AVD	LoS
Parra Rd/ Great Nth Rd	0.92	37.8	C	0.94	41.3	C	+0.02	+3.5	-
Great Nth Rd/ Queens Rd	0.76	28.6	C	0.79	30.2	C	+0.04	+1.6	-
Parramatta Rd/ Harris Rd	0.81	27.4	B	0.83	28.4	C	+0.02	+1.0	B to C
Queens Rd/ Harris Rd	0.68	25.7	B	0.73	25.7	B	+0.06	-0.0	-
Queens Rd/ William St	0.55	27.5	B	0.59	28.8	C	+0.03	+1.3	B to C
Queens Rd/ site access	-	-	-	0.64	9.9	A	-	-	-
Parramatta Rd/ site access	-	-	-	0.39	0.3	A	-	-	-

Table 15 shows a comparison between base and project case model findings in the PM peak hour. As with the AM peak hour, the impact of the proposal was negligible with delay fluctuating by no more than 2.2 seconds, and DoS increasing by 10 per cent or less. The site accesses operated well overall, with the proposed indicative intersection layouts ensuring sufficient capacity for all movements.

TABLE 15: WEEKDAY PM POST DEVELOPMENT INTERSECTION OPERATION

Intersection	Base Case			Project Case			Difference		
	DoS	AVD	LoS	DoS	AVD	LoS	DoS	AVD	LoS
Parra Rd/ Great Nth Rd	0.82	26	B	0.83	27.9	B	+0.01	+1.9	-
Great Nth Rd/ Queens Rd	0.71	25.3	B	0.76	27.5	B	+0.05	+2.2	-
Parramatta Rd/ Harris Rd	0.77	30.3	C	0.80	31.0	C	+0.04	+0.7	-
Queens Rd/ Harris Rd	0.71	26	B	0.81	26.5	B	+0.10	+0.5	-
Queens Rd/ William St	0.64	16.5	B	0.72	16.5	B	+0.07	-0.0	-
Queens Rd/ site access	-	-	-	0.93	27.7	B	-	-	-
Parramatta Rd/ site access	-	-	-	0.31	0.4	A	-	-	-

Table 16 shows the Saturday peak hour model operation. The proposal had a minor impact on the Parramatta Road/ Great North Road intersection, with delays increasing by seven seconds, noting that several movements at this intersection were approaching capacity in the Base Case. Reported LoS for this intersection remained at an acceptable LoS D under the Project Case demand, and the DoS remained below 1.00. As with both commuter peaks, other intersections showed comparable performance to the Base Case. Again, both proposed site accesses operated well, achieving a LoS B, and provided sufficient capacity for all movements.

TABLE 16: SATURDAY POST DEVELOPMENT INTERSECTION OPERATION

Intersection	Base Case			Project Case			Difference		
	DoS	AVD	LoS	DoS	AVD	LoS	DoS	AVD	LoS
Parra Rd/ Great Nth Rd	0.97	46.9	D	0.97	53.9	D	+0.00	+7.0	-
Great Nth Rd/ Queens Rd	0.68	26.7	B	0.75	29.8	C	+0.07	+3.1	B to C
Parramatta Rd/ Harris Rd	0.75	26.3	B	0.78	26.6	B	+0.03	+0.3	-
Queens Rd/ Harris Rd	0.71	20.7	B	0.83	23.4	B	+0.11	+2.7	-
Queens Rd/ William St	0.59	19.9	B	0.65	20.8	B	+0.05	+0.9	-
Queens Rd/ site access	-	-	-	0.62	9.8	A	-	-	-
Parramatta Rd/ site access	-	-	-	0.36	0.4	A	-	-	-

As discussed, while it is recognised that the Parramatta Road and Queens Road arterial roads carry significant traffic volumes, these have noticeably declined over the past five years and very much aligned with the staged delivery of WestConnex. The previous traffic congestion and locational constraints appear to have eased with capacity returning to both the existing road network and even when potential development traffic is added. This aligns with the intent of PRCUTS and recognises the importance of greater housing density within a practical walk of high frequency future metro services through Five Dock town centre. The site is well located in this regard with the traffic impacts showing no discernible impact on the key surrounding intersections.

7 Design Commentary

The proposal includes a range of building scales and height with the major buildings centrally located and towards the south-west section of the site. The two key buildings (buildings 2 and 3) cover between 18 and 24 levels with no more than eight levels in building 4 fronting Parramatta Road. The residential only buildings (buildings 6 and 8) are east of the central through road and cover 11 levels, lowering to three and four levels fronting Courland Street. The open space area is adjacent to the community hub (in building 1) in the northern central part of the site with generous open space and shared areas to the south and ground level retail and food and beverage as part of the mixed-use buildings.

As discussed, site access is proposed via a central through road that provides for the bulk of site generated traffic. The road allows for a 20m wide corridor for low volume and low speed vehicle movements, on-street indented parking plus generous pedestrian footpath and shared path. A single driveway crossover for building 1 in the north-west corner along Queen Street ensures that overall, the proposal significantly reduces the number of crossovers on Queens Road and Parramatta Road and in-turn ensures a noticeably improved public domain throughout. The central road includes a small mountable roundabout to allow for all turning movements, including access by a range of service vehicles. The east: west loading dock access would generate low traffic volumes and is best delivered as a shared area dissecting the open space to the north and retail to the south. A centralised basement car park access would provide for all resident and retail customer access with resident only access opposite as part of a consolidated basement.

Active travel routes are delivered by way of a shared path along the east side of the central through road with east: west pedestrian links connecting Courland Street and (potentially) Harris Road.

All necessary setbacks have been accommodated, including along Parramatta Road where some minor widening of the road corridor may be necessary as part of planning for future expansion of public transport services along this corridor. The left-turn entry slip lane also maintains the necessary setbacks with overall improvements to pedestrian amenity throughout. The proposed traffic signals on Queens Road also improve pedestrian amenity and safety by way of the signalised crossings and encourages use through improved provision.

The basement access ramps will be designed in accordance with Council requirements and Australian Standards where necessary. This includes transitions, maximum gradients, and grades across the through road footpath. Sightlines for exiting vehicles to pedestrians on the adjacent footpaths will also be observed.

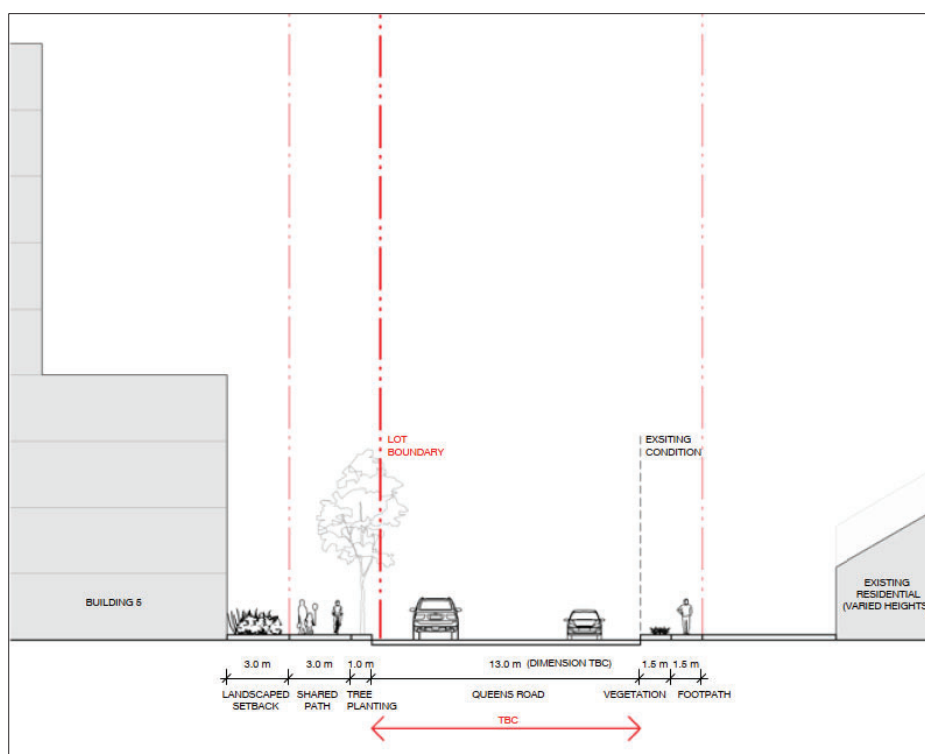
The site access, car park and loading arrangements for the various land uses that make up Five Dock Village will be designed to comply with the following Australian Standards.

- Australian Standard 2890.1:2004 Parking Facilities – Off Street Car Parking (AS2890.1:2004).
- Australian Standard 2890.2:2018 Parking Facilities – Off Street Commercial Vehicle Facilities (AS2890.2:2018).
- Australian Standard 2890.3:2015 Parking Facilities – Bicycle Parking (AS2890.3:2015).
- Australian Standard 2890.6:2022 Parking Facilities – Off Street Parking for People with Disabilities (AS2890.6:2022).

Future development applications will further define the site layout and design details, with vehicle swept paths and detailed assessment to confirm site access arrangements, staged delivery intent, pedestrian amenity and appropriate on-site car parking layouts and service vehicle access and loading dock arrangements. All vehicles would enter and exit each site in a forward direction. Vehicle swept paths have already informed the site access arrangements on Queens Road and Parramatta Road and internal roads and intersection layouts.

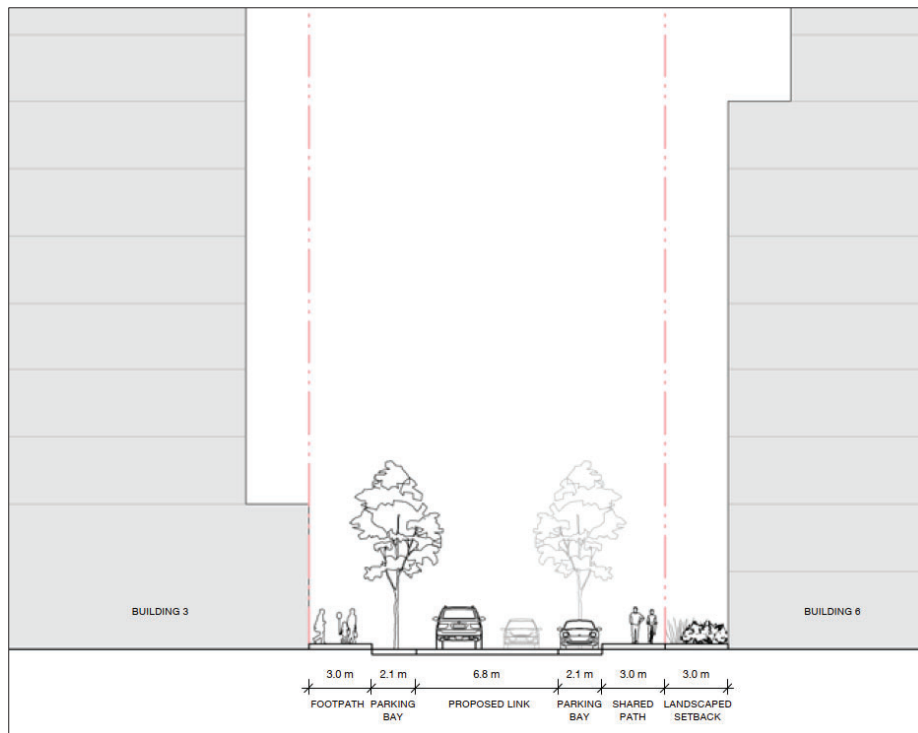
It is also important to ensure consistency along the Queens Road frontage to ensure all users are appropriately accommodated. The 3m wide shared path on the northern alignment (with a 1m wide landscape zone) is consistent with broader planning. The road adjacent to the site is planned to be 10.9m wide allowing for two traffic lanes in each direction and a dedicated turning bay into the site. The southern road reserve allows for a 1.5m wide pedestrian footpath and landscaping zone of the same width. The cross-section is shown in **Figure 29**.

The new through road cross-section internal to the site is shown in **Figure 30** and allows for one traffic lane and one parking lane in each direction. A 3m wide shared path/ footpath are provided on each side with landscaping setbacks and tree planting zones allowed for within the indented parking bays. It is noted that the central through road is envisaged to be completed as part of Stage 1 works and be in place until all remaining developments are completed as part of the Masterplan.



Source: Bates Smart Planning Proposal Design Report, May 2024

Figure 29: Queens Road cross section



Source: Bates Smart Planning Proposal Design Report, May 2024

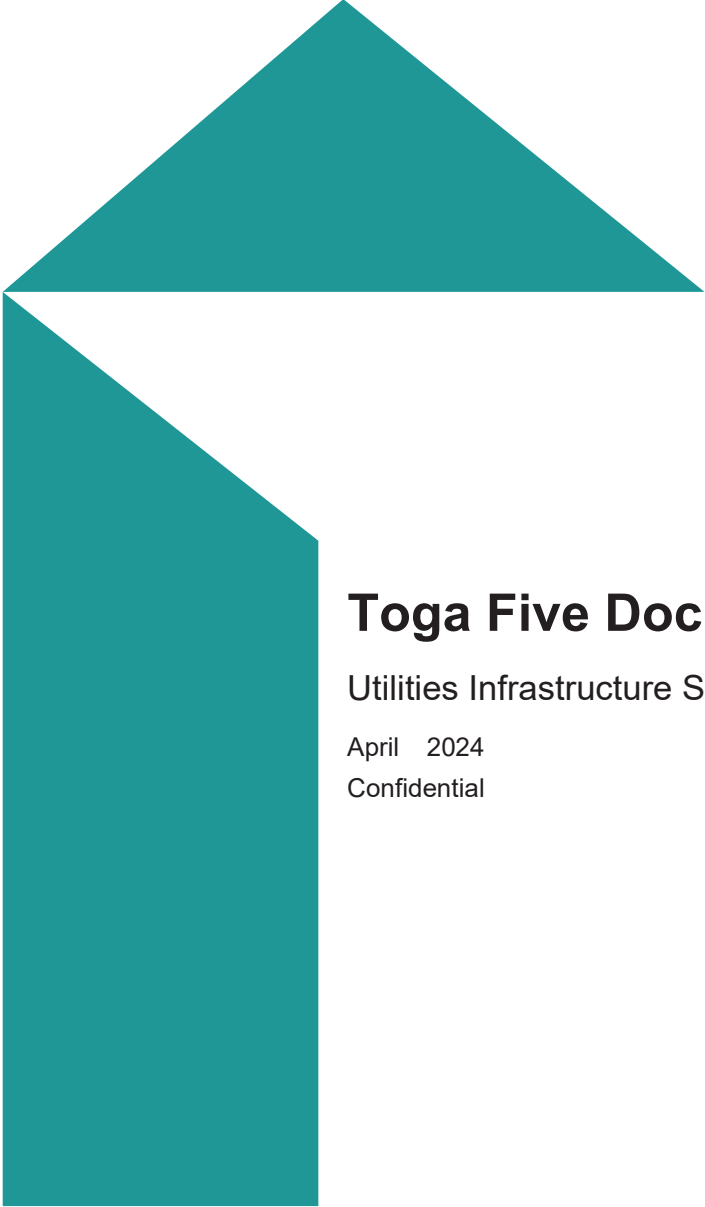
Figure 30: New through road cross section

8 Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- This transport assessment has been prepared to support the Five Dock Village Planning Proposal which aims to deliver a mixed-use precinct across several separate buildings in close proximity to the future Five Dock Metro Station.
- There is significant infrastructure work in planning, under construction or recently completed across the inner west. The site sits within the eastern extent of the Kings Bay precinct as defined by the Parramatta Road Corridor Urban Transformation Strategy and classified as a residential precinct facilitating through site links and open space. The staged delivery of WestConnex and future Sydney Metro West are also key to the precinct realising its potential.
- The strategic planning context is important in recognising the precinct opportunities as part of delivering mixed-use developments across the Parramatta Road corridor while actively implementing Transit Oriented Development under the movement and place framework.
- Sydney Metro West is poised to double the rail capacity between Sydney CBD and Greater Parramatta with the alignment designed to facilitate the expansion of employment opportunities and an increase in housing supply. Five Dock Metro Station is currently under construction with the site well within a practical walk of future Metro services.
- Similarly, WestConnex is a critical transport infrastructure project completed in late 2023 that has brought about a significant decrease in traffic volumes for the Central Parramatta Road precincts. The average daily traffic volumes have fallen by up to 30,000 vehicles.
- The proposal contemplates up to 1,046 residential and co-living/ build-to-rent apartments and more than 13,000m² of non-residential floor space incorporating a local supermarket, food and beverage, community hub and open space. An activated ground plane through a north-south through site pedestrian and vehicle link and adjacent open space are key to achieving the desired planning outcomes.
- The proposal aims to deliver a mix of retail floor space that seeks to improve amenity for future residents and the immediate surrounding community without detracting from existing retail in the surrounding key centres.
- The car parking requirements for different development types are set out in the Precinct Transport Report with the proposal considering both the mix of land uses across the site and residential and co-living/ build-to-rent apartment splits. With maximum parking rates appropriate for the site location, the proposal could provide up to 873 parking spaces, including 719 for the residential land uses.
- The proposal would also include provision of up to about 1,300 bicycle spaces across all land uses plus end of trip facilities for use by staff.
- The provision of loading facilities has also been assessed against the relevant guidelines. The TfNSW Urban Freight Forecasting Model tool has also been referenced to estimate the breakdown of vehicle size and type to ensure equitable use noting the potential need for use of up to eight loading bays including four for vans/ utes, three for small rigid vehicles and one for large trucks. The proposal includes provision for a minimum five formal loading bays across two loading docks plus capacity for timed on-street loading spaces for smaller vans and utes along the central through road with Council's heavy rigid waste truck expected to be the largest vehicle requiring access.
- The proposal is estimated to generate about 510 vehicle trips in the weekday PM peak hour and 480 trips on Saturdays. Less traffic is expected on weekday mornings, with around 310 trips. No discounting for existing trips generated by the site has been made at this stage of planning.
- Future SIDRA Network modelling has been completed to better understand the likely or anticipated theoretical maximum traffic impacts on the surrounding road network. Vehicles accessing the site would use the proposed signalised intersection on Queens Road and left-in/ left-out access on Parramatta Road. Subsequently, traffic would disperse in both east and west directions along these corridors, connecting to the surrounding road network.

- A comparison between base and project case model findings in the respective peak hours indicates that the impact of the proposal is likely to be negligible, with delay fluctuating by no more than 2.2 seconds, and Degree of Saturation increasing by 10 per cent or less. The potential site accesses also operated well, with sufficient capacity for all movements. It is noted that select study intersection do already operate nearing their capacities however again, the proposal does not appear to adversely impact overall intersection operation.
- Site access is proposed via a central through road that provides for the bulk of site generated traffic. The road allows for a 20m wide corridor for low volume and low speed vehicle movements, on-street indented parking plus generous pedestrian footpath and shared path.
- A single driveway crossover for building 1 in the north-west corner along Queen Street also ensures that overall, the proposal significantly reduces the number of crossovers on Queens Road and Parramatta Road and in-turn facilitates a noticeably improved public domain.
- The Parramatta Road left-turn entry slip lane maintains the necessary setbacks (also considers some widening of the road reserve) with overall improvements to pedestrian amenity. The proposed traffic signals on Queens Road also improve pedestrian amenity and safety by way of the signalised crossings and encourages use through improved provision.
- Active travel routes are further enhanced by way of a shared path along the east side of the central through road, with east: west pedestrian links connecting with Courland Street and (potentially) Harris Road.
- Future development applications will further define the site layout and design details, with vehicle swept paths and detailed assessment to confirm site access arrangements, staged delivery intent, pedestrian amenity and appropriate on-site car parking layouts and service vehicle access and loading dock arrangements.
- Overall, the Planning Proposal is well considered and readily supported from a transport perspective.

A large teal graphic element consisting of a triangle at the top and a rectangle below it, with a diagonal cutout in the upper right corner of the rectangle.

Toga Five Dock Development

Utilities Infrastructure Study

April 2024

Confidential

Acknowledgment of Country

On behalf of Mott MacDonald, we would like to begin by acknowledging the Traditional Custodians of the land on which we meet today, and pay our respects to their Elders past and present.

We recognise and respect their cultural heritage, beliefs, continued connection to the land and water and commit to building a brighter future together.

Artwork by
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April 2024

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Executive summary

Mott MacDonald has been engaged by TOGA to develop a utility infrastructure servicing assessment to support the rezoning of the TOGA development at 51-73 Parramatta Road & 31A-43 Queens Road. This assessment will support the delivery of this site as it will identify opportunities, constraints, and risks related to civil engineering and services infrastructures. The scope of this report summarises existing utility infrastructure.

Toga development is located inner west of the Sydney in Five Dock and is within the City of Canada Bay LGA.

Utility Services

The site is currently serviced through the following means:

- **Potable Water:** Potable water is provided by Sydney Water through a number of existing mains on and adjacent to the site;
- **Sewer:** Wastewater facilities are provided by Sydney Water through a number of existing mains on and adjacent to the site;
- **Stormwater:** Stormwater assets are owned by City of Canada Bay Council;
- **Electrical:** Electrical supply is provided by Ausgrid;
- **Gas:** Gas servicing is provided by Jemena Gas; and
- **Telecommunications:** Multiple telecommunications providers service the site including NBN, Optus/Uecomm, Telstra, and TPG.

Servicing Constraints

The main servicing constraints are:

- **Potable Water:**
 - There are numerous water mains within the proposed site and along roads adjacent to the site boundary. The age, type, and conditions of these pipes vary significantly. The depths and positions of the existing key reticulation mains are also unknown;
 - Existing private water supply connections to the buildings – residential and commercial will need to be disconnected and a new supply will need to be provided for the proposed development.
- **Sewer:**
 - The exact depths and positions of the existing reticulation mains are unknown;
 - Relocate/remove a number of existing sewer mains and connections to the existing buildings on site;
- **Stormwater:**
 - The exact depths and positions of the existing reticulation mains are unknown;
- **Electrical:**
 - The exact depths and positions of the existing reticulation mains are unknown;
 - Relocation of existing substation at property 61 Parramatta Rd including conduits & cables;
 - Remove existing electrical cables/conduits connecting to the properties within the development area;
- **Gas:**
 - The exact depths and positions of the existing reticulation mains have not been confirmed;

- Removal and reconnection of low pressure gas connections on Parramatta Rd and Courland St, and medium pressure gas connections on Harris Rd and Queens Rd.
- **Telecommunications:**
 - The exact depths and positions of the existing reticulation mains have not been confirmed;
 - Removal and reconnection of existing Telstra conduits and connections to properties within the proposed development area.

The outcomes of this assessment are subject to the results of feasibility applications with each utility authority.

1 Introduction

1.1 Scope of Works

TOGA has been involved in the rezoning and development of the Five Dock Village located at 49-75 Parramatta Rd & 35-49 Queen Rd Five Dock. The development will bring about several new buildings with new apartments, new commercial spaces, open spaces, and retail spaces. Mott MacDonald has been engaged to identify existing opportunities, constraints, and risks associated with civil engineering and services infrastructure to support the delivery of the site.

To assist in the preparation of the masterplan, Mott MacDonald have undertaken the following tasks:

- Undertaken a comprehensive services search, BYDA, and identified the existing service infrastructure in the vicinity of the site;
- Coordinate with the relevant service providers to determine the infrastructure requirements for the proposed masterplan;
- Assessed the existing capacity and any planned upgrades; and
- Mapped the existing services, identifying key infrastructure.

The planning proposal seeks to amend the planning controls within the Canada Bay LEP 2013 (CBLEP2013) and Chapter K20 of the Canada Bay DCP (CBDPCP) for the following sites in Five Dock:

- 33-43 Queens Road;
- 49-51 Queens Road;
- 51-61 Parramatta Road;
- 75-55 Parramatta Road;
- 2A-10 Harris Road; and
- 5-29 Courland Street.

In particular, the planning proposal seeks to deliver new planning controls to enable a comprehensive renewal of the block bounded by Courland Street, Queens Road, Harris Road, and Parramatta Road Five Dock, including:

- New MU1 Mixed Use zone with a maximum permissible FSR of 3.0:1 and additional permitted uses of 'residential flat buildings and multi-dwelling housing';
- A mix of uses across the site including retail (supermarket and ancillary retail), community facility, residential accommodation, co-living and co-working floorspace;
- New building heights across the site ranging from 2.5m (park) to 80m (3-24 storeys);
- New RE1 zone with new public park, and public plaza adjoining and new public through-road; and
- Affordable housing contribution of 7.5% in perpetuity.

1.2 Purpose of Report

The purpose of this report is to identify the existing servicing infrastructure and identify requirements to service the Five Dock Village development. These requirements include:

- Identify the existing situation, including the constraints, opportunities, key issues, and existing network capacity;
- Assess the capacity of the relevant service infrastructure networks to service the site;

- Assess the implications of any proposed land use for local infrastructure and service delivery; and
- Inform and support the preparation of the proposed planning framework including any recommended planning controls of DCP / Design Guideline.

To accommodate these requirements, this report will cover the following:

- Existing servicing strategies;
- Key constraints and opportunities; and
- Staging recommendations.

1.3 Site Context

The proposed site is located in the City of Canada Bay LGA and is 10km west of the Sydney CBD. It is bounded by the following roads:

- **North:** Queens Road;
- **East:** Courland Street;
- **South:** Parramatta Road; and
- **West:** Harris Road.

The extents of the site are shown in Figure 1-1 below:

2 Assessment Methodology

2.1 Desktop Investigation

This utilities report is based on information received from the following sources:

- 'Before You Dig Australia' (BYDA) enquiries (Enquiry dates: 11/03/24).

Utility information obtained was reviewed and has been consolidated within this report and displayed on numerous plans, which can be found throughout the report.

2.2 Utility Assessments

The methodology undertaken for the utility assessments for the site is as follows:

- Mapping the existing utilities within and adjacent to the site boundary;
- Identification of optimal locations for utility connections through assessing existing utility capacities; and
- Preliminary evaluation of potential constraints for the project.

2.3 Sustainability Initiatives

All utility works are to be coordinated with any precinct wide utility sustainability measures.

2.4 Utility Authority Consultation

Utility authorities are to be consulted to ensure:

- Development and submission of feasibility applications are provided to each utility authority with projected demands;
- Incorporation of utility agency advice on servicing options, routes, timings, costs, and timings for delivery; and
- Continual coordination around any changes to demand assessments and detailing of any further assessments or studies required to confirm supply methods (e.g., water or wastewater modelling).

As a part of the utility services assessment process, feasibility applications were prepared and sent to each of the following utility authorities with the estimated demand of the development and indicative servicing arrangements for authority review and comment:

- Sydney Water.
- NBN Co.
- Endeavour Energy.
- Jemena.

2.5 Identifying Next Steps

The following steps are to be undertaken in the next design stage:

- Plans of potential utility relocations, supply points, and potential constraints;
- Detailing of further investigations or additional works required during subsequent design stages;
- Incorporation of proposed sustainability measures; and
- Confirmation of the feasibility of obtaining utility servicing for the development.

3 Desktop Investigation

As a part of this investigation, utility information was obtained from several sources. Table 3-1 below shows a summary of the identified utility services within and adjacent to the site:

Table 3-1 Summary of Identified Utility Services

Utility	Authority Name	Potential Impacts
Potable Water	Sydney Water	Minimal
Sewer	Sydney Water	Minimal
Stormwater	City of Canada Bay	Minimal
Electrical	Ausgrid	Minimal
Communications	NBN Co NswAct	Minimal
Communications	Optus and or Uecomm Nsw	Minimal
Communications	Telstra NSW Central	Minimal
Communications	TPG Telecom (NSW)	Minimal
Gas	Jemena Gas South	Minimal
Transport	Transport for NSW	Minimal

3.1 Infrastructure Required On-Site Off-Site

Table 3-2 Summary of Required Infrastructure

Utility	Required (Y/N)	On-Site (Y/N)
Potable Water	Y	Y
Sewer	Y	Y
Stormwater	Y	Y
Electrical	Y	Y
Communications	Y	Y
Gas	N	Y

The identified existing utilities and proposed utility infrastructure works are shown in Figure 3-1. The masterplan utility infrastructure plans are shown in the Appendices.



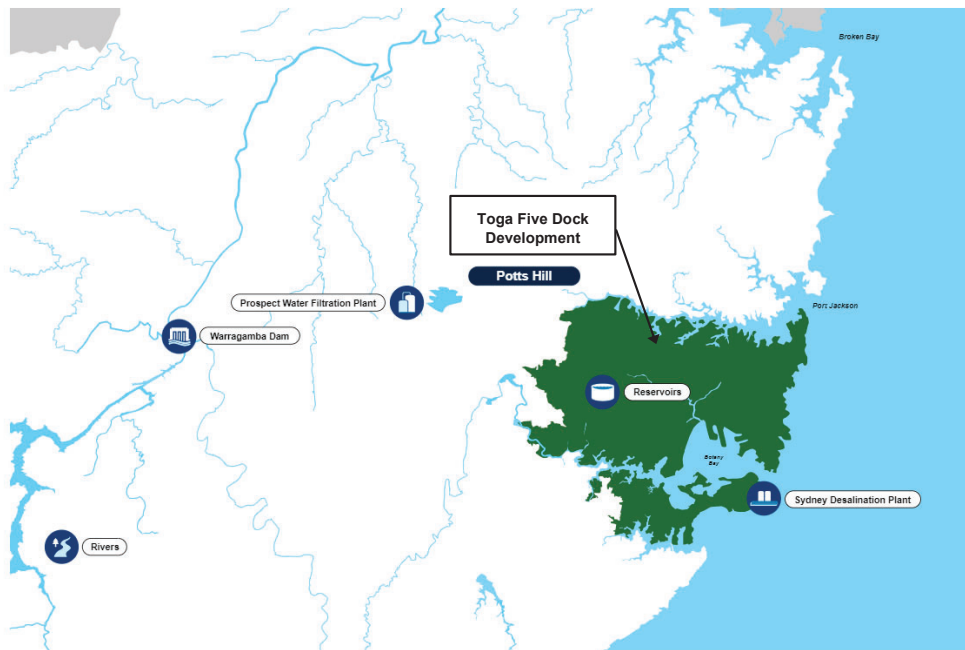
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4 Potable Water

4.1 Existing Assets

Potable water at the Cherrybrook Station Precinct is currently supplied by Sydney Water through the Potts Hill Water Delivery System.

Figure 4-1: Water Delivery System for proposed development



The main water sources for this system are the Coxs, Kowmung, Nattai, Wingecarribee, Wollondilly and Warragamba rivers. When required, additional water sources include the Cataract, Cordeaux, Avon, and Nepean rivers. Water from this system is treated at the Prospect Water Filtration Plant.

The existing potable water infrastructure on site has been identified based on Before You Dig Australia (BYDA) records. These records indicate that there are numerous water mains within and adjacent to the site boundary. The key existing water mains on site include:

- DN900 CICL water main along Queens Rd;
- DN150 CICL water main on north side of Queens Rd;
- DN100 CICL water main on Courland Rd;
- DN600 CICL water main on Parramatta Rd;
- DN150 DICL water main north side of Parramatta Rd;
- DN150 CICL water main on east side of Harris Rd.

The depths and positions of these mains are unknown. Further investigation is required to determine the exact existing layout.

It should also be noted that this only considers mains identified by BYDA. There is potential that private or infrastructure from other utility authorities exist on site. However, no records of such infrastructure have been made available for this study and have not been identified from BYDA enquiries.

The existing and proposed potable water network is shown in Figure 4-2.



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4.2 Demand Assessment

The potable water demand for Five Dock development was calculated based on the Five Dock Planning Proposal Urban Design Report (dated 24/04/24). This development yield has been referenced for the purposes of utilities infrastructure assessments only and the final architectural designs should be used to confirm the building details.

The estimated potable water demand was calculated based on the standard unit rates summarised in Table 4-1 below and the development yields. The Net Lettable Area (NLA) and number of units were obtained from the Urban Design Report.

Table 4-1: Water Supply Demand Unit Rates

Land Use	Design Criteria	Unit	Demand Rate	Source
Multi-unit (61-100 units/net/ha)	Max Day Demand	kL/unit/day	1.09	Water System Planning Guideline (Sydney Water, Version 1) Section 3, Table 3-2
City high rise commercial	Max Day Demand	kL/Nha/day	63	Water System Planning Guideline (Sydney Water, Version 1) Section 3, Table 3-3
Suburban Commercial	Max Day Demand	kL/Nha/day	41	Water System Planning Guideline (Sydney Water, Version 1) Section 3, Table 3-3
BASIX reduction (apartments only)	N/A	%	40	Building Sustainability Index

The proposed potable water demand for Toga Five Dock development was estimated to be 752kL/Day, $\pm$ 15% including BASIX reduction for residential.

4.3 Existing Utility Impact Assessment

Based on the proposed Five Dock Village Masterplan developed by BatesSmart (s11750, dated 7/03/2024), the proposed development works boundary will not impact on the existing water supply assets around the site vicinity. However, the utility impact assessment will need to be reviewed as the design progresses. Future public domain works around the new village can potentially impact on public utilities located on the adjacent roads. This will need to be further assessed when the public domain proposal becomes available.

Existing private water supply connections to the buildings – residential and commercial will need to be disconnected and a new supply will need to be provided for the proposed development. The proposed new building connections are shown in Figure 4-2. It is important to note that these designs are schematic only and further work is required in subsequent design phases to confirm the final relocations and servicing arrangements in consultation with Sydney Water.

4.4 Sustainability Initiatives

Integrating water sustainability initiatives and providing a non-potable water supply to the development can mitigate increases in potable water demand as a result of the development.

The following initiatives are recommended to reduce potable water demand:

- Onsite rainwater reuse;
- Green walls and green roofs;
- High efficiency water fixtures; and
- Stormwater harvesting and water recycling.

It should be noted that the above initiatives are preliminary only and should be investigated in future design stages.

4.5 Service Authority Consultation

A feasibility application has been submitted to Sydney Water. A response from Sydney Water was received on 22/4/24 outlining the requirements to obtain a Section 73 Certificate as well as an assessment of the water and sewer infrastructure available to service the development – see Section 11.1 of this report for further details. The outcomes of the application are summarised below:

- The minimum watermain size required to service a development that is 8-storeys and higher is DN200. However, the existing watermain in roads near the site range from DN100-DN150. Thus, these mains will need to be upsized to service this development – the sizes and extents of these upsized mains will be provided during the Section 73 application stage. It should be noted that the developer must assess the pressures for Fireflow Demand for this main.

4.6 Next Steps

The potable water strategy is to be confirmed through hydraulic modelling, with separate reports outlining the modelling outcomes to be submitted to Sydney Water. Further discussion is also to be undertaken with Sydney Water to confirm lead-in infrastructure requirements and pressures of existing potable water services. The key next steps in progressing the delivery of potable water infrastructure through detailed design, including the formal approval process for Sydney Water infrastructure consists of the following:

1. Undertake hydraulic modelling to confirm the extent of any lead-in infrastructure upgrades required – Post rezoning
2. Undertake site investigations to confirm the layout and extent of existing on-site infrastructure (including non- Sydney Water infrastructure) – Post rezoning
3. Develop an overall water master plan for the development site including staging considerations and agree this with Sydney Water – As a part of Development Applications
4. Develop diversion strategy (including any interim works to suit staging) and protection/build-over requirements for infrastructure that cannot be diverted - As a part of Development Applications
5. Establish a Head Deed to be signed by required parties (Sydney Water, Designer, WSC, Developer, Constructor) – As a part of detailed design.
6. Submit application/s for individual detailed design packages to Sydney Water with drawing of proposed works in stages, Section 73– As a part of detailed design.
7. WSC to issue of Notice of Requirements (NOR) with their requirements for water main layout, sizing and funding matters confirmed– As a part of detailed design.
8. Detailed design to be progressed based on the NOR and submitted to Sydney Water for approval – As a part of detailed design.

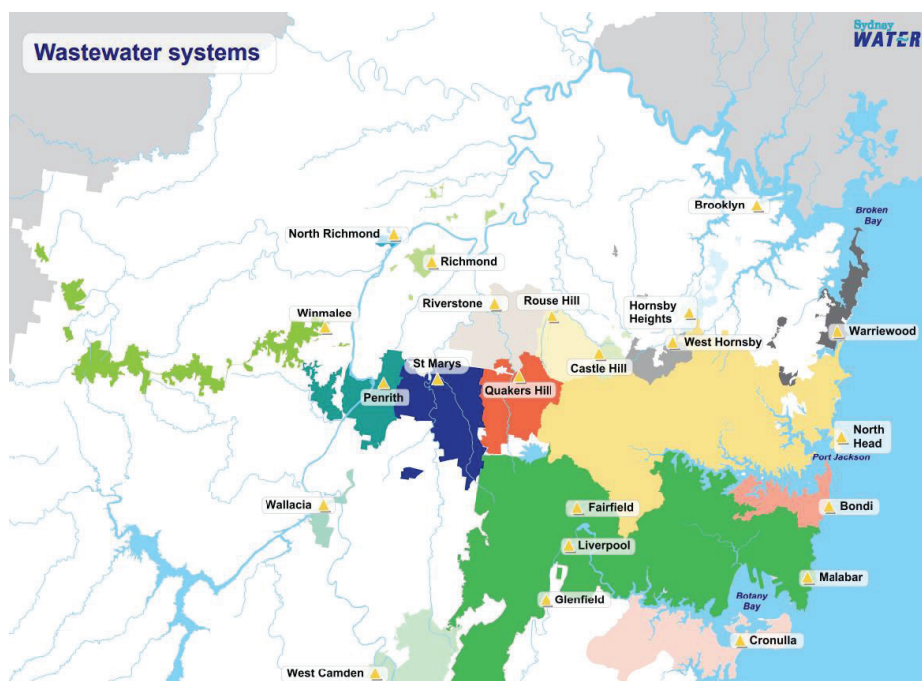
It is noted that the above is for delivery of the water network through the street network, depending on the strata arrangement individual buildings will still need to make separate applications for each connection.

5 Wastewater

5.1 Existing Assets

Wastewater servicing is provided by Sydney Water and directed to the Malabar Treatment Plant for treatment before discharging into the deep-water ocean outfall. The local sewer catchments are shown below in Figure 5-1.

Figure 5-1: Sydney Water Wastewater Systems



Wastewater from the existing development site is conveyed south through DN150 and DN225 sewer pipes from the property and Courland St to the DN300 VC sewer main on Parramatta Rd. The DN300 sewer main along Parramatta Rd is connected to the DN1350 RC sewer trunk main on Parramatta Rd between Lavender St and York Ave.

The existing wastewater infrastructure on site has been identified based on Before You Dig Australia (BYDA) records. These records indicate that there are numerous wastewater mains within and adjacent to the site boundary. The key existing wastewater mains on site include:

- DN225 VC sewer main, from 64-66 Queens Rd, continuing west, connecting to DN300 DICL concrete encased sewer main;
- DN300 DICL concrete encased sewer main in building basement of 49 Queens Rd;
- DN150 and DN225 VC sewer pipes within property lots 61-55 Parramatta Rd which connects south into DN300VC on Parramatta Rd;
- DN300 VC sewer main on Parramatta Rd starting at 61 Parramatta Rd, continues east, and connecting to DN1350 RC sewer at 29 Parramatta Rd;

- DN225 VC sewer main on Courland St collecting sewage waste from DN150 VC pipes on eastern properties along Courland St from Parramatta Rd to Queens Rd. The DN225 sewer main connects to the DN300 VC on Parramatta Rd.
- DN150 and DN225 VC sewer pipes between 33 Queens Rd and properties 21-29 Courland St connecting to DN225 VC on Queens Rd.

The depths and positions of these mains are unknown. Further investigation is required to determine the exact existing layout; this should be an investigation of the levels of the existing infrastructure from manhole surveys.

It should be noted that there are disused wastewater mains within the precinct – refer to Figure 5-2.

It should also be noted that this only considers mains within the Sydney Water network. There is potential that private or infrastructure from other utility authorities exist on site. However, no records of such infrastructure have been made available for this study and have not been identified from BYDA enquiries.

The existing and proposed wastewater network is shown in Figure 5-2.

5.2 Demand Assessment

A high-level demand assessment was undertaken for the site based on the Five Dock Planning Proposal Urban Design Report (dated 24/04/24). This development yield has been referenced for the purposes of utilities infrastructure assessments only and the final architectural designs should be used to confirm the building details.

The estimated wastewater demand was calculated based on standard unit rates summarised in Table 5-1 below and the indicative development yields. The Gross Floor Area was obtained from the Urban Design Report.

Table 5-1 Sewer Design Loading Criteria

Land Use	Design Criteria	Unit	Demand Rate	Source
High density multi storey apartments	Average Dry Weather Flow	EP/ha (gross)	375	Gravity Sewerage Code of Australia, WSA 02-2014- (Water Services Association, Version 3.1, 2014), Appendix A
High density commercial (capital city CBD)	Average Dry Weather Flow	EP/ha (gross)	300	Gravity Sewerage Code of Australia, WSA 02-2014- (Water Services Association, Version 3.1, 2014), Appendix A
Local commercial	Average Dry Weather Flow	EP/ha (gross)	75	Gravity Sewerage Code of Australia, WSA 02-2014- (Water Services Association, Version 3.1, 2014), Appendix A
ADWF	L/s/EP	0.0017		Gravity Sewerage Code of Australia, WSA 02-2014- (Water Services Association, Version 3.1, 2014), Appendix B
BASIX reduction (residential only)	N/A	%	40	Building Sustainability Index

The demand rates for 'High density multi storey apartments' and 'High density commercial (capital city CBD)' range from 375 – 4500 EP/ha(gross) and 300 – 800 EP/ha(gross) respectively. For the purposes of these demand calculations, the lower end of both ranges have been adopted.

The proposed wastewater demand based on the development profile and unit rates is estimated to range between 3.57L/s, ± 15% including BASIX reduction for residential only.

5.3 Existing Utility Impact Assessment

The proposed development based on the Five Dock Village Masterplan developed by BatesSmart (s11750, dated 7/03/2024) can potentially impact on the following utilities:

- Remove/relocate of DN225 VC sewer main connection from 49 Queens Rd basement sewer pipe, continuing south and south-east towards Parramatta Rd
- Remove/abandon DN150 VC and DN300 DICL sewer main connection from Queens Rd to DN300 concrete encased sewer pipe in 49 Queens Rd basement.
- Remove/abandon Existing DN150 VC and DN225VC sewer mains within the building development area of 55-61 Parramatta Rd

- Remove/abandon DN150 and DN225 VC sewer pipes between 33 Queens Rd and properties 21-29 Courland St connecting to DN225 VC on Queens Rd.

New wastewater gravity connections from the new development to the existing sewer network will be required to replace the existing connections.

The proposed wastewater relocations and potential new building connections are shown below in Figure 5-2. It is important to note that these designs are schematic only and further work is required in subsequent design phases to confirm the final relocations and servicing arrangements in consultation with Sydney Water.

5.4 Sustainability Initiatives

The following wastewater sustainability initiatives are recommended:

- Onsite rainwater reuse;
- Blackwater/greywater use including split system; and
- Wastewater harvesting and water recycling.

It should be noted that the above initiatives are preliminary only and should be investigated in future design stages. It should also be noted that these initiatives would impact the final wastewater demand and associated infrastructure upgrade requirements.

5.5 Service Authority Consultation

A feasibility application has been submitted to Sydney Water. A response from Sydney Water was received on 22/4/24 outlining the requirements to obtain a Section 73 Certificate as well as an assessment of the water and sewer infrastructure available to service the development – see Section 11.1 of this report for further details. The outcomes of the application are summarised below:

- There are numerous sewer mains traversing the proposed development site, which will need to be adjusted and deviated. The adjusted main sizes and their extent will be provided during the Section 73 application stage.

5.6 Next Steps

The sewer strategy is to be confirmed through hydraulic modelling, with separate reports outlining the modelling outcomes to be submitted to Sydney Water. Further discussion is also to be undertaken with Sydney Water to confirm lead-in infrastructure requirements and to check inverts of gravity pipes to ensure falls are achievable.

The key next steps in progressing the delivery of sewer infrastructure through design development, including the formal approval process for Sydney Water infrastructure, consists of the following:

1. Undertake hydraulic modelling to confirm extent of any lead-in infrastructure upgrades required – Post rezoning.
2. Undertake site investigations to confirm the layout and extent of existing on-site infrastructure (including non- Sydney Water infrastructure) – Post rezoning.
3. Develop an overall wastewater master plan for the site including staging considerations and agree these with Sydney Water. Being a gravity service, this will need to include consideration of the depth of the existing sewer infrastructure to be maintained and/or connected to (based on manhole survey) and proposed grading of the site - As a part of Development Applications

4. Develop a diversion strategy (including any interim works to suit staging) and protection/build-over requirements for infrastructure that cannot be diverted - As a part of Development Applications
5. Establish a Head Deed to be signed by required parties (Sydney Water, Designer, WSC, Developer, Constructor) – As a part of detailed design.
6. Submit application/s for individual detailed design packages to Sydney Water with drawing of proposed works in stages, Section 73 – As a part of detailed design.
7. Sydney Water to issue of Notice of Requirements (NOR) with their requirements for water main layout, sizing and funding matters confirmed – As a part of detailed design;
8. Detailed design to be progressed based on the NOR and submitted to Sydney Water for approval – As a part of detailed design.

It is noted that the above is for delivery of the wastewater network through the street network, depending on the strata arrangement individual buildings will still need to make separate applications for each connection.

6 Stormwater

6.1 Existing Assets

Stormwater assets in the Five Dock Village development area are owned by City of Canada Bay Council. The existing stormwater infrastructure has been identified based on Before You Dig Australia (BYDA) records. The desktop information indicates the presence of a number of stormwater assets in the area.

These are summarised below:

- Stormwater pits and pipes crossing Harris Rd along Queens Rd intersection;
- Stormwater pits and pipes at the intersection of Harris Rd and Parramatta Rd, continuing west along Parramatta Rd.

The depths, positions, and sizes of existing assets are unknown. Further investigation is required to determine the exact existing layout.

It should be noted that this only considers assets within The Hills Shire Council network. There is potential that private or infrastructure from other authorities are present on site. However, no records of such infrastructure have been made available for this study and have not been identified from BYDA enquiries.

Further hydraulic assessment for this site is contained within the stormwater and flooding report accompanying this report.

6.2 Existing Impact Assessment

The proposed redevelopment of buildings and common areas will not directly impact on the existing stormwater assets which are in the public domain of roads. The impact assessment will need to be reviewed in the following stages of design as public domains works may impact on existing council assets. A separate stormwater management plan should be developed to assess the impacts on the drainage capacity due to the changes of the new development.

7 Electricity

7.1 Existing Assets

Electrical servicing to the Toga development at Five Dock is provided by Ausgrid and power is serviced by the Burwood Zone Substation.

The existing electrical infrastructure in the Five Dock development area has been identified based on BYDA records. These records indicate that there are numerous electrical mains within and adjacent to the site boundary. The key existing electrical mains on site include:

- Ausgrid:
 - Two electrical substations located on the south-west corner of Harris Rd and Queens Rd intersection;
 - 2x 100GI electrical conduits crossing north-south Queens Rd near intersection with Harris Rd;
 - 10x direct buried electrical cables along Queens Rd from Harris Rd to 86 Queens Rd where 4x cables are connected to the Electric Pole Light. Cables include 1x LV, 3x SL, 2x comms auxiliary cables, 3x HV cables, 1x Lead cable;
 - 6x direct buried electrical cables along Queens Rd from 86 Queens Rd to Courland St. Cables include 2x comms auxiliary cables, 3x HV cables, 1x Lead cable;
 - 5x thermocables along Queens Rd;
 - 1x 33kV cables with approximately 1.1m cover along middle of Queens Rd;
 - 1x 33kV cable with approximately 1.1m cover along south side of Queens Rd;
 - A number of conduits and cables at the intersection of Parramatta Rd and Harris Rd on the eastern footpath. 1x125PVC with cable inside, 3x125 PVC spare conduits, 4x LV direct buried cables with approximately 0.5m cover, and 1x SL cable.
 - 5x125 PVC spare conduits, 2xHV, 2x SL, 1xLV, 2x auxiliary comms power cables direct buried with approximately 0.6m cover along Parramatta Rd on the northern footpath.
 - 1x electrical substation located within property 61 Parramatta Rd;
 - 4xLV and 2xHV direct buried cables and 2x140 AC spare conduits connecting from the electrical substation at 61 Parramatta Rd to the cables along Parramatta Rd northern footpath;
 - 2x125PVC spare conduits and 1x LV direct buried cable approximately 0.9m cover on east side of Courland St near the intersection with Parramatta Rd

The existing and proposed electrical network is shown in Figure 7-1.

7.2 Demand Assessment

A high-level demand assessment was undertaken for the site based on the Five Dock Planning Proposal Urban Design Report (dated 24/04/24). This development yield has been referenced for the purposes of utilities infrastructure assessments only and the final architectural designs should be used to confirm the building details.

The estimated wastewater demand was calculated based on standard unit rates summarised in Table 7-1 below and the indicative development yields. The Net Lettable Area (NLA) was obtained from the Urban Design Report.

Table 7-1 Electrical Design Loading Criteria

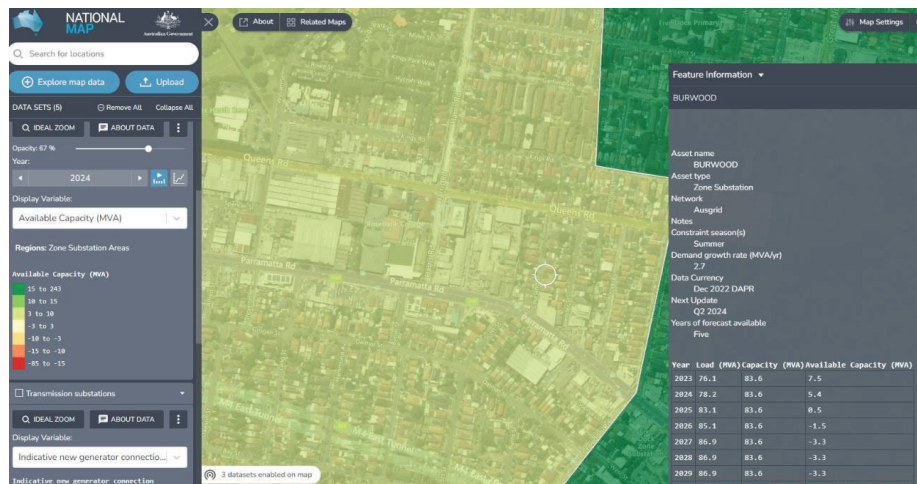
Land Use	Design Criteria	Unit	Demand Rate	Source
Apartments	AD Maximum Demand	MVA/dwelling	0.0035	Endeavour Energy Growth Servicing Plan 2019 - Table 1
Office - Electrical reheat zonal	Maximum Demand	MVA/m2	0.00011	Ausgrid NS109 - Table 4 Guide to Typical Load Densities
Shops - air conditioned	Maximum Demand	MVA/m2	0.0001	Ausgrid NS109 - Table 4 Guide to Typical Load Densities
Diversity Factor	N/A	%	80	AS3000

The proposed electrical demand based on the development profile is estimated to range between 4.71 MVA, $\pm$ 15% including a 0.8 diversity factor.

7.2.1 Available Zone Substation Capacity

The Five Dock development is located within the Burwood Substation area owned by Ausgrid. According to the data from Energy Networks Australia shown on National Map Australia, the available distribution capacity at the proposed site is approximately 5.4 MVA in 2024. The available distribution capacity is determined by the firm substation capacity net the forecast peak demand at the zone substation level. The information provided is sourced from Ausgrid. The map and forecasted available distribution capacity at Five Dock is shown in Figure 7-2.

Figure 7-2: National Map showing available electrical distribution capacity



As shown in above figure, there may be insufficient electrical capacity to service to the proposed Five Dock development as the electrical demand grows by 2025. However, the information from National Map Australia is high-level data provided from Ausgrid and should not be relied upon solely. Further consultation with Ausgrid will be required to assess the actual electrical distribution capacity at Five Dock and requirements to service the proposed development.

7.3 Existing Utility Impact Assessment

The proposed development based on the Five Dock Village Masterplan developed by BatesSmart (s11750, dated 7/03/2024) can potentially impact on the following utilities:

- Relocation of existing substation at property 61 Parramatta Rd including conduits & cables;
- Protection of two existing electrical substations at the south-west corner of Harris Rd and Queens Rd intersection (Lot F1);
- Remove existing electrical cables/conduits connecting to the properties within the development area;
- New low or high voltage conduits through the site feeding to the development site.

The proposed electrical relocations and potential new building connections are shown below in Figure 7-1. It is important to note that these designs are schematic only and further work is required in subsequent design phases to confirm the final relocations and servicing arrangements in consultation with Ausgrid.

A feasibility application has been submitted to Ausgrid to determine if there is sufficient feeder capacity in the adjacent network or if new feeders are required to the Burwood Substation.

7.4 Sustainability Initiatives

The following electricity sustainability initiatives are recommended for future consideration.

- Solar PV;
- Building orientation;
- Natural ventilation of common areas;
- Electrical car charging;
- Centralised heat extraction system;
- Geothermal cooling;
- Smart metering; and
- Glazing options to improve thermal comfort and reduce heating and cooling loads.

It should be noted that the above initiatives are preliminary only and should be investigated in future design stages. It should also be noted that these initiatives would impact the final electrical peak demand and associated infrastructure upgrade requirements.

7.5 Service Authority Consultation

A feasibility application has been submitted to Ausgrid. A response from Ausgrid was received on 19/4/24 – see Section 11.2 of this report for further details. The outcomes of the application are summarised below:

- The Ausgrid network does not have the capacity to connect the proposed 4.92MVA low voltage electricity connection. Therefore, an extension/augmentation of the Ausgrid network is required. The following are the likely works required to provide the requested capacity:
 - Installation of multiple substations;
 - Installation of 2 x new 11kV feeders from Croydon Zone substation (indicative route length to proposed developed is approximately 0.9 – 1.3km);
- S.2738 Coupland St is an Outdoor Enclosure type substation, which will need to be decommissioned as a part of the development since it is no longer supported for new connections;
- S.5322 Queens Harris is a kiosk style substation that supplies the surrounding LV network and will need to be maintained. S.35773 Queens Harris No 2 is a kiosk style substation that is predominantly supplying part of the site. Both these kiosks have potential to be used for the development as either temporary or permanent supplies.

7.6 Next Steps

The key next steps in progressing the delivery of electrical infrastructure through detailed design including the formal Ausgrid approval process consists of the following (in conjunction with further Ausgrid coordination and consultation with all placeholders):

1. Undertake site investigations to confirm the layout and extent of existing services (including non-Ausgrid assets) – Post rezoning.
2. Confirm arrangements for supply and ownership of street lighting – Post rezoning.
3. Confirm extent of existing infrastructure that can be abandoned and/or requires diversion – Post Rezoning/Development Application
4. Develop duct masterplan and make submission to set up case with Ausgrid– As a part of Development Applications
5. Develop staged designs for delivery of the new infrastructure – As a part of detailed design.
6. Liaise with Ausgrid to confirm requirements for undergrounding of existing infrastructure – As a part of Development Applications

7. Ausgrid to provide detailed requirements – As a part of Development Applications, As a part of detailed design
8. Ausgrid to issue Design Information Pack (DIP), Design Contract & Deed of Agreement As a part of detailed design.
9. Submit detailed design of individual packages for approval – As a part of detailed design.

It is noted that the above is for delivery of the duct network through the street network. It is expected that the buildings will need to make separate applications for connection, including installation of new feeders.

8 Gas

8.1 Existing Assets

Gas servicing to Five Dock development is provided by Jemena. The existing gas infrastructure has been identified based on Before You Dig Australia (BYDA) records. These include:

- 4NB into 6NB 75NY 7 kPa low pressure gas main on the northern side of Parramatta Rd approximately 1.4m from property line.
- Existing 32NY gas connection to property 51-55 Parramatta Rd.
- 4NB 75NY 7 kPa low pressure gas main on the western side of Courland St approximately 1.5m from property line.
- Multiple existing gas connections to properties on both sides of Courland St;
- 6NB 32NY 210kPa medium pressure gas main on south side of Queens Rd;
- 4NB 75NY 210kPa medium pressure gas main on north side of Queens Rd;
- DN110 NY 32NY 210kPa medium pressure gas main on east side of Harris Rd;
- Existing gas connections to 8 and 10 Harris Rd properties and 49-51 Queens Rd.

The depths and positions of existing mains are unknown. Further investigation is required to determine the exact existing layout.

There is potential that private or infrastructure from other utility authorities exist on site. However, no records of such infrastructure have been made available for this study and have not been identified from BYDA enquiries.

The existing and proposed gas network is shown in Figure 8-1.

8.2 Demand Assessment

For the purposes of the utilities infrastructure study, this report considers the potential for gas servicing to the proposed buildings and in particular residential buildings. It should be noted that any gas connections will be subject to each buildings servicing design with consideration for any future full electrification of the buildings.

A high-level demand assessment was undertaken for the site based on the Five Dock Planning Proposal Urban Design Report (dated 24/04/24). This development yield was referenced for the purposes of utilities infrastructure assessments only and the final architectural designs should be used to confirm the building details.

The estimated gas demand was calculated based on standard unit rates summarised in was obtained from the Urban Design Report.

Table 8-1 and the development yields. The number of dwellings was obtained from the Urban Design Report.

Table 8-1 Gas Design Loading Criteria

Land Use	Design Criteria	Unit	Demand Rate	Source
Apartments	Daily Demand	m ³ /day/dwelling	2.17*	Jemena Guidelines
BASIX reduction (apartments only)	N/A	%	25	Building Sustainability Index

**Based on 20GJ per year per apartment*

The proposed total gas demand based on the development profile is 1702m³/day, ±15% including 25% BASIX reduction.

8.3 Existing Utility Impact Assessment

The proposed development based on the Five Dock Village Masterplan developed by BatesSmart (s11750, dated 7/03/2024) can potentially impact on the existing gas connections to properties within the proposed development area. These include low pressure gas connections on Parramatta Rd and Courland St, and medium pressure gas connections on Harris Rd and Queens Rd.

New gas connections from the new development to the existing gas network will be required to replace the existing connections.

The proposed new building connections are shown below in Figure 8-1. It is important to note that these designs are schematic only and further work is required in subsequent design phases to confirm the final relocations and servicing arrangements in consultation with Jemena Gas.

8.4 Sustainability Initiatives

Although gas is currently less carbon intensive than grid electricity per unit of energy, it is still a fossil fuel and releases greenhouse gases during combustion. To reach a zero-carbon economy by 2050, such emissions must be reduced. Thus, replacing gas for a sustainable electrical supply for heating and cooking, should be considered for this development in future design stages.

8.5 Service Authority Consultation

As there is limited planned gas, a feasibility application to Jemena was not submitted.

8.6 Next Steps

Jemena does not have a formal approval process, with supply arrangements being confirmed by Jemena as part of their quotation for construction to be provided following submission of applications for connection.

The formal approval process for provision of Jemena infrastructure to be progressed through detailed design processes consists of the following main steps:

1. Undertake site investigations to confirm the layout and extent of existing services (including non-Jemena infrastructure) – Post rezoning.
2. Submit masterplan including staging of delivery to Jemena for agreement – As a part of detailed design.
3. Submit application for design to Jemena for individual detailed design packages (to include proposed alignment) – As a part of detailed design.
4. Jemena will provide a quote for construction works – As a part of detailed design.

It is noted that the above is for delivery of the gas network through the street network, depending on the strata arrangement individual buildings will still need to make separate applications for each connection.

9 Telecommunications

9.1 Existing Assets

There are numerous telecommunications mains within the site with a majority of the mains located in roads within and adjacent to the site. The types and locations of these existing mains are summarised in the following sections.

The existing and proposed telecommunications network is shown in Figure 9-1.

9.1.1 NBN

The proposed Five Dock development site is well serviced by NBN, as there are trenches containing in-service/constructed (copper/RF/fibre) cables on all adjacent streets. The main NBN assets within the site vicinity include:

- 1-3 NBN cables located within Telstra owned P100 conduit along northern footpath of Parramatta Rd;
- 1-5 NBN cables within Telstra P50, G20 and P30 conduits along western footpath of Courland St;
- 1-6 NBN cables within Telstra P50 and P100 conduits along eastern footpath of Courland St;
- Direct buried NBN cables for property connections along both sides of Courland St;
- 4-5 NBN cables within Telstra P50 and P100 conduits on south side of Queens Rd;
- 1-3 Direct buried NBN cables for property connections from Queens Rd to properties within development site;
- 1-6 NBN cables within Telstra P20 and P50 conduits on north side of Queens Rd;
- 1-6 NBN cables within Telstra P35, P50 and P100 conduits on east side of Harris Rd;
- 1-2 Direct buried NBN cables for property connections from Harris Rd to properties on east side;

9.1.2 Telstra

The key Telstra assets around the proposed development site include:

- A number of Telstra direct buried conduits along north side of Parramatta Rd footpath;
- Existing Telstra property connections on north side of Parramatta Rd;
- P20, P30, P50 and P100 Telstra conduits with various cables along both sides of Courland St;
- P50 and direct buried Telstra cables along south side of Queens Rd;
- Direct buried Telstra cables along north side of Queens Rd;
- P50 and P100 Telstra conduits and direct buried cables along east side of Harris Rd on the footpath;
- Existing property connections for Telstra and other carriers on Harris Rd, Queens Rd, and Courland St;

9.1.3 Optus/Uecomm

The key Optus assets around the proposed development site include:

- Optus underground IOF cables at the corner of Parramatta Rd and Harris Rd;

- Optus underground IOF cables along eastern footpath of Harris Rd from the Optus pit to the intersection with Queens Rd;
- Optus underground IOF cables on north side of Queens Rd;
- Optus underground cable within property 49 Queens Rd;

9.1.4 TPG

The key TPG assets around the proposed development site include PIPE network duct on east footpath of Harris Rd along property 49 Queens Rd.



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9.2 Demand Assessment

No demand has been calculated for telecommunications infrastructure as it cannot be estimated in the same way as other utilities.

9.3 Existing Utility Impact Assessment

The proposed development based on the Five Dock Village Masterplan developed by BatesSmart (s11750, dated 7/03/2024) can potentially impact on the existing Telstra conduits and connections to properties within the proposed development area. These include Telstra conduits with cables from other carriers on Parramatta Rd, Courland St, and Queens Rd.

New Telstra communication connections from the new development to the existing Telstra network will be required to replace the existing connections.

The proposed new building connections are shown below in Figure 9-1. It is important to note that these designs are schematic only and further work is required in subsequent design phases to confirm the final relocations and servicing arrangements in consultation with Telstra.

9.4 Sustainability Initiatives

No current sustainability initiatives have been proposed for telecommunications infrastructure, however there may be the opportunity to bundle telecommunications supply into a combined precinct utility system.

9.5 Service Authority Consultation

As there is sufficient telecommunications infrastructure adjacent to the site, a feasibility application to NBN was not submitted as a part of this process.

9.6 Next Steps

Confirmation is required from NBN Co that the site is eligible for supply from their network. Following this, an initial application is required, and a formal agreement entered between NBN Co. and the developer prior to construction works commencing (this does not prevent designs from being approved). The next steps generally consist of the following:

1. Undertake site investigations to confirm the layout and extent of existing services (including private infrastructure associated with previous land-uses) – Post rezoning.
2. Liaise with existing telecommunication providers to confirm the requirement for diversion and/or relocation of their existing infrastructure – Post rezoning.
3. Confirm proposed infrastructure master plan (including staging) and in principle supply arrangements with NBN or other provider - As a part of Development Applications
4. Initial application submitted to NBN Co. for supply of the site from their network - As a part of Development Applications
5. NBN Co. to confirm supply can be provided and provide draft agreement – As a part of detailed design.
6. Revisions of agreement where required – As a part of detailed design;
7. The developer to sign NBN Co. agreement – As a part of detailed design;
8. Liaise with existing telecommunication providers for quotes for diversions or abandonments including any interim works – As a part of detailed design; and
9. Submit detailed design of individual packages for approval – As a part of detailed design.

It is noted that the above is for delivery of the NBN pit and pipe network through the new street network, it is expected that the buildings will need to make separate applications for connection.

10 Conclusion

This Utilities & Infrastructure Servicing Assessment has concluded that servicing is available to the site with indicative connections for each service being:

- Potential removal/relocation of multiple sewer mains and property connections, due to impacts of proposed development blocks.
- Potential removal of multiple existing Telstra property connections to allow for reconnection with new block development;
- Existing private water supply connections to the buildings – residential and commercial may need to be disconnected and a new supply will need to be provided for the proposed development.
- Potential relocation of existing substation at property 61 Parramatta Rd including conduits & cables;
- Removal existing electrical cables/conduits connecting to the properties within the development area;
- Potential removal and reconnection of low pressure gas connections on Parramatta Rd and Courland St, and medium pressure gas connections on Harris Rd and Queens Rd.

It should be noted that the above assessment will also continue to be developed in subsequent detailed design stages in consultation with the utility authority providers.

11 Appendix

11.1 Sydney Water Feasibility Response



Case Number: 214130

April 22, 2024

Toga Pty Ltd
c/- MOTT MACDONALD AUSTRALIA

Feasibility Letter

Developer: Toga Pty Ltd
Your reference: 703102938
Development: Lot 10 DP1286, Lot 12 DP665711, Lot 2 DP126591, Lot 3 DP126591 and Lot 4 - 9 DP1286 Parramatta Rd, Five Dock

Development Description: Toga has been involved in the rezoning and development of the Five Dock Village located at 49-75 Parramatta Rd & 35-49 Queen Rd Five Dock. The development will bring about several new buildings with new apartments, new commercial spaces, open spaces and retail spaces. The total site area is approximately 25,684m². Please refer to feasibility letter.

Your application date: April 4, 2024

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what our requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed development. **The information is accurate at today's date only.**

We have not allocated any system capacity to your proposal from the investigation into this Feasibility advice. This advice is only an indication of our systems and possible requirements as of today. Where there is system capacity, it may have been fully utilised by the time you obtain a Consent. The requirements applied to any approved Development proposal may differ significantly in the future since the original advice was issued.

SYDNEY WATER CORPORATION

2

Case No: 214130

If you obtain development consent for that development from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (WSC).

We'll then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed)
or
- Certificate.

These documents will be the definitive statement of our requirements.

There may be changes in our requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application
- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

Infrastructure contributions for drinking water and wastewater will be payable on all developments that require a Section 73 Compliance Certificate to be issued from 1 July 2024 onwards. Infrastructure contributions help recover the cost of providing infrastructure to new developments. Please refer to the Costs section of this letter for more information.

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from us and to the extent that it is able, we limit its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

What You Must Do To Get A Section 73 Certificate In The Future.

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting [Plumbing, building & developing](#) page on our website.

1. **Obtain Development Consent from the consent authority for your development proposal.**
2. **Engage a Water Servicing Coordinator (WSC).**

You must engage your current or another authorised WSC to manage the design and construction of works that you must provide, at your cost, to service your development. If you wish to engage another WSC (at any point in this process) you must write and tell us.

You'll find a list of WSC's at [Listed providers](#) on our website.

The WSC will be your point of contact with us. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including our costs).

4. Water and Sewer Works

4.1 Water

Your development must have a frontage to a water main that is the right size and can be used for connection.

We've assessed your application and found that:

- The minimum size of watermains to service 8 storeys and higher building is DN200. The sizes of existing watermains in the peripheral roads of the development site are DN100-DN150.
- **These mains will need to be upsized to service this development. The sizes of the upsized mains and their extent will be provided during Section 73 application stage.**
- The developer must assess the pressures for Fireflow Demand whether a designed DN200 main in the peripheral roads will be big enough to deliver the required Fireflow. Your WSC can advise.

4.2 Sewer

Your development must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within your development's boundaries.

We've assessed your application and found that:

- There are numerous sewers traversing the proposed development site. These sewers will need to be adjusted and deviated.
- The adjusted sewer sizes and their extent will be provided during Section 73 application stage. All sewer related adjustment and deviation works must comply with the relevant WSAA code and will be sized in accordance with that assessment. Your WSC can advise you about this matter.

5. Ancillary Matters

5.1 Asset adjustments

After we issue this Notice (and more detailed designs are available), we may require that the water main/sewer main/stormwater located in the footway/your property needs to be adjusted/deviated. If this happens, you'll need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. We'll need to see the completed designs for the work, and we'll require you to lodge a security. The security will be refunded once the work is completed.

5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use our **Permission to Enter** form(s) for this. You can get copies of these forms from your WSC or on our website. Your WSC can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of

mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

Infrastructure Contributions

Infrastructure contributions for drinking water and wastewater will be payable on all developments that require a Section 73 Compliance Certificate to be issued from 1 July 2024 onwards.

The infrastructure contributions are set in accordance with the Development Servicing Plans registered with the Independent Pricing and Regulatory Tribunal (IPART) and in accordance with *Independent Pricing and Regulatory Tribunal Act*.

The contributions will be gradually reintroduced such that they will be capped at 25 percent in 2024-25 and 50 percent in 2025-26, with full contributions payable from 1 July 2026 onwards, in line with a transition plan approved by the NSW Government.

You can find more information on the reintroduction of drinking water and wastewater contributions at <https://www.sydneywatertalk.com.au/infrastructure-contributions>.

6. Multi-level individual metering requirements

Your development must either allow for or provide individual metering. This means that you must:

1. comply at all times and in all respects with the requirements of our “*Multi-level Individual Metering Guide*”. You can find this in the [Meters & metered standpipes](#) page on our website.
2. provide and install plumbing and space for individual metering in accordance with our “*Multi-level Individual Metering Guide*”.
3. if and when you implement a strata/ stratum plan (or strata/ stratum subdivide) you must:
 - a. engage an Accredited Metering Supplier (“**AMS**”) to provide individual metering in accordance with the “*Multi-level Individual Metering Guide*” and meet the cost of the meters and metering system.

- b. transfer the meters and metering system to us once the Testing Certificate has been issued by us to the AMS and the AMS has confirmed that payment for the meters and metering system has been paid in full.

Before the Section 73 Certificate can be issued, you will be required to sign an undertaking to show that you understand and accept these metering requirements and associated costs.

Visit [Meters & metered standpipes](#) to see the *Multi-level individual metering guide* and find out more.

OTHER THINGS YOU MAY NEED TO DO

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement from us in the future because of the impact of your development on our assets. You must read them before you go any further.

Approval of your building plans

Please note that your building plans must be approved. This can be done on our Tap in™ system [Sydney Water Tap in](#)™ or call 13 20 92.

This is not a requirement of the Certificate, but the approval is needed because construction/building works may impact on our existing assets (e.g. water and sewer mains). In any case, these works MUST NOT commence until we have granted approval.

Your WSC can tell you about the approval process including:

- Possible requirements
- Their costs
- Timeframes.

We recommend that you apply for Building Plan Approval early as in some instances your WSC may need to refer your building plans to us for detailed review. You'll be required to pay us for the costs associated with the detailed review.

Note: You must obtain our written approval before you do any work on our systems. We'll take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.

Backflow Prevention Water supply connections

A backflow prevention containment device appropriate to the property's hazard rating must be installed at the property boundary. The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to reduce the risk of contamination by backflow from these supplies.

A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of our Backflow Prevention Policy and a list of backflow accredited plumbers [Plumbing, building & developing](#).

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the development and the ability of our systems to provide that flow in an emergency. Sydney Water's Operating Licence directs that our mains are only required to provide domestic supply at a minimum pressure of 15 m head.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to our water main. This work must meet our standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Disused Sewerage Service Sealing

Please don't forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to our sewer main. This work must meet our standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

SYDNEY WATER CORPORATION

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Case No: 214130

Please be aware that floor levels must be able to meet our soffit requirements for property connection and drainage.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. We may be involved with other aspects of your development and there may be other fees or requirements. These include:

- plumbing and drainage inspection costs
- the installation of backflow prevention devices; and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from us and to the extent that it is able, we limit its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END

11.2 Ausgrid Feasibility Response

Preliminary Enquiry – Response Letter



19/04/24

Webform ref: 1902076

Mott Macdonald
Attention: WINSTON PHAN
Via email: winston.phan@mottmac.com

Premises address: **PARRAMATTA ROAD, FIVE DOCK**
Ausgrid AE Reference: **700009126**

Dear WINSTON

I refer to your preliminary enquiry regarding the electricity connection at the above address and provide the following information.

- ☐ The Ausgrid network does not have the capacity to connect the proposed 4.92MVA low voltage electricity connection. An extension/augmentation of the Ausgrid network is required. Following is the likely work(s) required to provide the request capacity.
 - Installation of multiple substations.
 - Installation of a 2 x new 11kV feeders from Croydon Zone substation (Indicative route length to proposed development – approx 0.9 – 1.3 km)
- ☐ S.2738 Coupland St is an Outdoor Enclosure type substation. This type of substation is no longer supported for new connections and will need to be decommissioned as part of your development.
- ☐ S.5322 Queens Harris is a Kiosk style substation. This substation supplies the surrounding LV network. This supply will need to be maintained.
- ☐ S.35773 Queens Harris No 2 is a Kiosk style substation predominately supplying part of the development site.
- ☐ Both kiosks have potential to be used for the development. As either temporary or permanent supplies.
- ☐ An extension/augmentation of the Ausgrid network is Contestable and requires the customer to engage accredited service providers to undertake the design and construction of the required works. Information on how to connect to the Ausgrid network can be found on our website at the following link: <https://www.ausgrid.com.au/Connections>
- ☐ Alterations to the existing Ausgrid network (ie relocation works) is also Contestable as detailed above and is fully funded by the applicant.
- ☐ Ausgrid is unable to provide costs or timeframes for Contestable works. However, accredited service providers may be able to provide the information.
- ☐ The electrical connection will require Ausgrid to provide auxiliary services that only Ausgrid can provide. The auxiliary services and the associated fee are detailed in the Ausgrid document **Alternative control services fee schedule**. The document is available on our website at the following link: <https://www.ausgrid.com.au/Connections/charges>
- ☐ To proceed further in obtaining a new or altered electrical connection to the property a Connection Application will need to be submitted. The various application forms are available on our website at the following link: <https://www.ausgrid.com.au/Connections>

It should be noted that the above advice is based on Ausgrid's policies and network status as of today and are subject to change.

Connections to the Ausgrid network are governed by a set of laws and rules referred to as the National Energy Customer Framework (NECF). Included in the NECF is the National Electricity Rules (NER). Under these rules, a binding contract may only be formed after a connection application is lodged and Ausgrid has made a connection offer in response to that application. Accordingly, to make arrangements for the electricity connection of the development to the Ausgrid network you should lodge a completed connection application.

For Official use only

Should you require any further information please contact me.

Yours sincerely,

Dane Davis

Ausgrid

Direct Telephone Number: 0295855923

Email: ddavis@ausgrid.com.au

For Official use only



mottmac.com



FIVE DOCK VILLAGE SYDNEY, NSW

PEDESTRIAN WIND ASSESSMENT

PROJECT # 2301385
APRIL 30, 2024

SUBMITTED TO

Michael Sherman

Development Manager

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DOCUMENT CONTROL



Version	Status	Date	Prepared By	Reviewed By
A	Draft	16/04/2024	AMC	MJP
B	Final	30/04/2024	AMC	MJP

NOTE

The information contained in this document produced by RWDI is solely for the use of the client identified on the front page of this report. Our client becomes the owner of this document upon full payment of our **Tax Invoice** for its provision. This document must not be used for any purposes other than those of the document's owner. RWDI undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.

QUALITY ASSURANCE

RWDI Australia Pty Ltd operates a Quality Management System which complies with the requirements of AS/NZS ISO 9001:2015. This management system has been externally certified by SAI Global and Licence No. QEC 13457 has been issued for the following scope: The provision of consultancy services in acoustic engineering, air quality and wind engineering; and the sale, service, support and installation of acoustic monitoring and related systems and technologies.



1. INTRODUCTION

RWDI Australia Pty Ltd (RWDI) was retained to undertake a pedestrian wind assessment of the planning proposal for Five Dock Village, located at 49-77 Parramatta Road, 2-10 Harris Road, 35-57 Queens Road, and 5-29 Courland Street in Five Dock NSW. The site is located in Five Dock within the Kings Bays area, situated in the Canada Bay Local Government Area (LGA). It is bounded by Queens Road to the north and Parramatta Road to the south. Rosebank College is approximately 200 meters west of the site, while the Parramatta River is less than 1 kilometer to the north. The location of the site within its broader existing surrounding context is shown in Image 1.

The proposed development comprises 11 mixed-use buildings, encompassing a diverse range of functionalities such as residential apartments, affordable housing units, student accommodation, co-living dwellings, food markets, retail areas, commercial spaces, and parklands. These buildings vary in height, ranging from 3 storeys to 24 storeys, as illustrated in Images 2a and 2b.

This desk-based report provides a review of the potential wind conditions around the site and offers conceptual wind control measures and design advice suitable for early design of the development. The key outdoor pedestrian accessible areas of interest associated with the development include the open park spaces on the ground level, pedestrian footpaths around the site, the entrances to the buildings, and the potential amenity spaces on ground and upper levels.

RWDI # 2301385

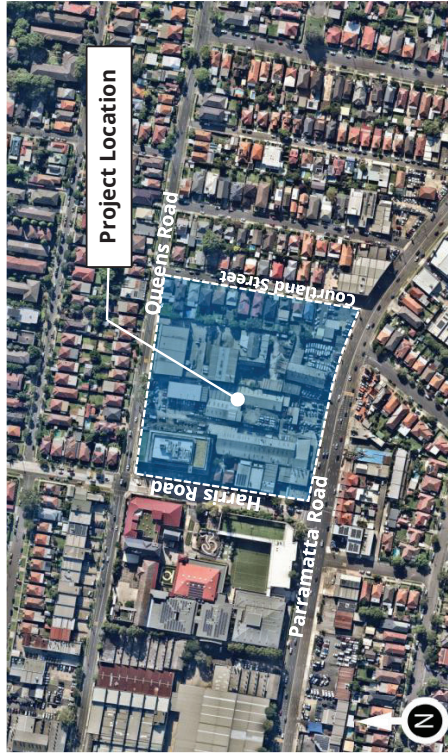


Image 1: Project Site and Existing Surroundings

Source: Nearmap



Image 2a: 3D Massing of the Proposed Development and Building Numbering

Pedestrian Wind Assessment

3

1. INTRODUCTION



Image 2b: Site Masterplan and Number of Building Storeys

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Pedestrian Wind Assessment

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2. METHODOLOGY

Predicting wind speeds and occurrence frequencies around a building is a complex process, encompassing an assessment of factors such as building geometry, orientation, surrounding building heights and positions, terrain upstream, and the local wind climate. RWDI has amassed extensive expertise through conducting numerous wind-tunnel model studies and Computational Fluid Dynamics (CFD) assessments specifically focused on pedestrian wind conditions around buildings. This wealth of experience, complemented by comprehensive literature, facilitates a reliable and efficient desktop estimation of pedestrian wind conditions for concept designs without the need for wind-tunnel testing or detailed CFD studies.

This qualitative approach delivers a preliminary assessment of potential wind conditions on the ground plane. It offers a conceptual framework for wind control measures aimed at enhancing wind comfort, if and where necessary. To further validate and refine the predicted conditions discussed in this report or to fine-tune the suggested wind control measures, physical scale model tests in a boundary-layer wind tunnel or CFD simulations will be required. These detailed studies offer a quantitative validation and enable a more detailed assessment, ensuring the accuracy and effectiveness of proposed wind control strategies.

RWDI # 2301385



Therefore, RWDI's assessment is based on the following:

- A review of the regional long-term meteorological data;
- Drawings and information received by RWDI in April 2024.
- Wind-tunnel studies, CFD simulations, and desktop assessments undertaken by the microclimate team for projects in the region;
- Our engineering judgement, experience, and expert knowledge of wind flows around buildings^{1, 2}; and,
- RWDI Criteria for pedestrian wind comfort and AWES criteria for pedestrian wind safety.

Note that other microclimate issues such as those relating to cladding and structural wind loads, door operability, building air quality, noise, vibration, etc. are not part of the scope of this assessment.

1. H. Wu and F. Krikic (2012), "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, vol.104-106, pp.397-407.
2. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", 10th International Conference on Wind Engineering, Copenhagen, Denmark.

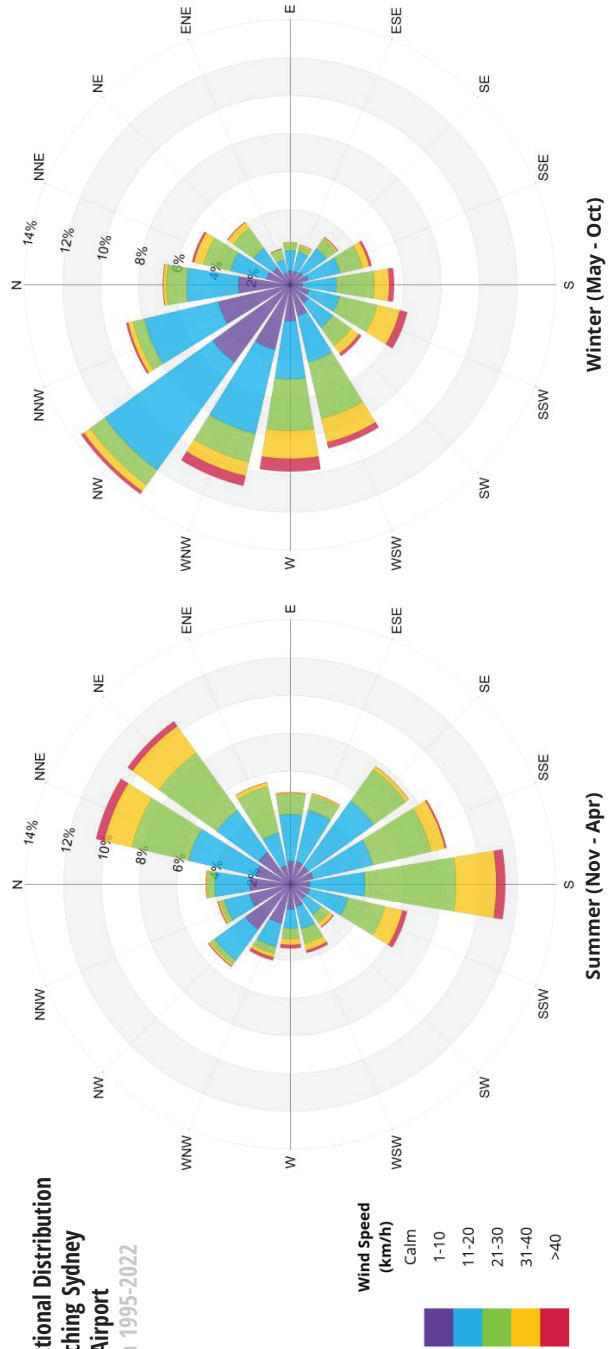
3. METEOROLOGICAL DATA



Meteorological data recorded at Sydney International Airport from 1995 to 2022 were used as a reference for wind conditions in the area. The distributions of wind frequency and directionality for the summer (November through April) and winter (May through October) seasons are shown in Image 3. The records indicate that winds from the northeast and the southern sectors are predominant during the summer season. Wind from the west and northwest directions are predominant in the winter season and can have an impact on the perceived outdoor thermal comfort of a space.

Strong winds with a mean speed exceeding 30 km/h, as measured at the airport at a height of 10 meters, occur with roughly equal frequency during both seasons. These winds are predominantly observed from southerly directions. However, during summers, strong winds from the northeast are also common, while during winters these often originate from the west to northwest. Depending on the site exposure and the design of the development, these winds have the potential to create uncomfortable or unsafe wind conditions.

**Image 3: Directional Distribution
Winds Approaching Sydney
International Airport**
Recorded from 1995-2022



RWDI # 2301385

Pedestrian Wind Assessment 6

4. RWDI PEDESTRIAN WIND CRITERIA



4.1 Safety Criterion

Pedestrian safety is associated with excessive gusts that can adversely affect a pedestrian's balance and footing. The criterion for pedestrian safety is based on the guidelines of the Australasian Wind Engineering Society (2014): If the maximum average 3-second gust speeds more than 83 km/h occurs for more than 9 hours (0.1% of the time) on an annual basis, the wind conditions are considered severe. These are assessed qualitatively in the report and might coincide with areas of high winds noted.

4.2 Pedestrian Comfort Criteria

The Canada Bay DCP 2017 lacks specific directives or guidelines for evaluating pedestrian wind effects. Therefore, for the purposes of the current assessment, the RWDI pedestrian wind comfort criteria is utilised. These criteria, depicted in Image 4, are based on gust-equivalent mean wind speeds that combine the impact of mean winds and gusts on pedestrian comfort. Widely accepted by municipal authorities, building designers, and the global city planning community, these criteria offer a comprehensive framework for evaluating pedestrian comfort.

The wind comfort levels are categorised based on typical/intended pedestrian activity and are expressed in terms of their suitability for various levels of human activity. The categorisation is based on conservative wind speeds; higher the activity level, higher the wind speed one can typically tolerate while engaged in the activity. Wind

conditions are assessed at a typical pedestrian chest height and are considered suitable for the intended use of the space if the associated winds are expected for at least 80% of the time. These criteria for wind forces represent average wind tolerance and can be subjective with regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. also impacting and individual's perception of the wind climate. Wind control measures are typically required at locations where the occurrence frequencies of wind speeds exceed the threshold values for specific pedestrian activities.

		Calm or light breezes desired for outdoor seating areas where one can read a paper without having it blown away
		Gentle breezes suitable for main building entrances, bus stops and locations where pedestrians may linger (private and communal terraces)
		Moderate winds that would be appropriate for strolling along a downtown street, plaza or park where the objective is not to linger
		High Winds that can be tolerated if one's objective is to walk, run or cycle without lingering - Also suitable for certain sporting activities
		None of comfort categories above are met - Represents conditions that might be dangerous to the elderly and children and are of a considerable discomfort to others

Image 4: RWDI Pedestrian Wind Comfort Criteria

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5. RESULTS AND DISCUSSION



5.1 General Wind Flow around Buildings

In our discussion of wind conditions on and around the proposed development, reference may be made to the following generalised wind flows (see Image 5). If these building / wind combinations occur for prevailing winds, there is a greater potential for increased wind activity and uncomfortable or potentially unsafe conditions. Design details such as setting back a tower from the edges of a podium for a prevailing wind direction, deep canopies close to ground level, wind screens / tall trees with dense landscaping, etc. can help reduce high wind activity. The choice and effectiveness of these measures would depend on the exposure and orientation of the site with respect to the prevailing wind directions and the size and massing of the proposed buildings.

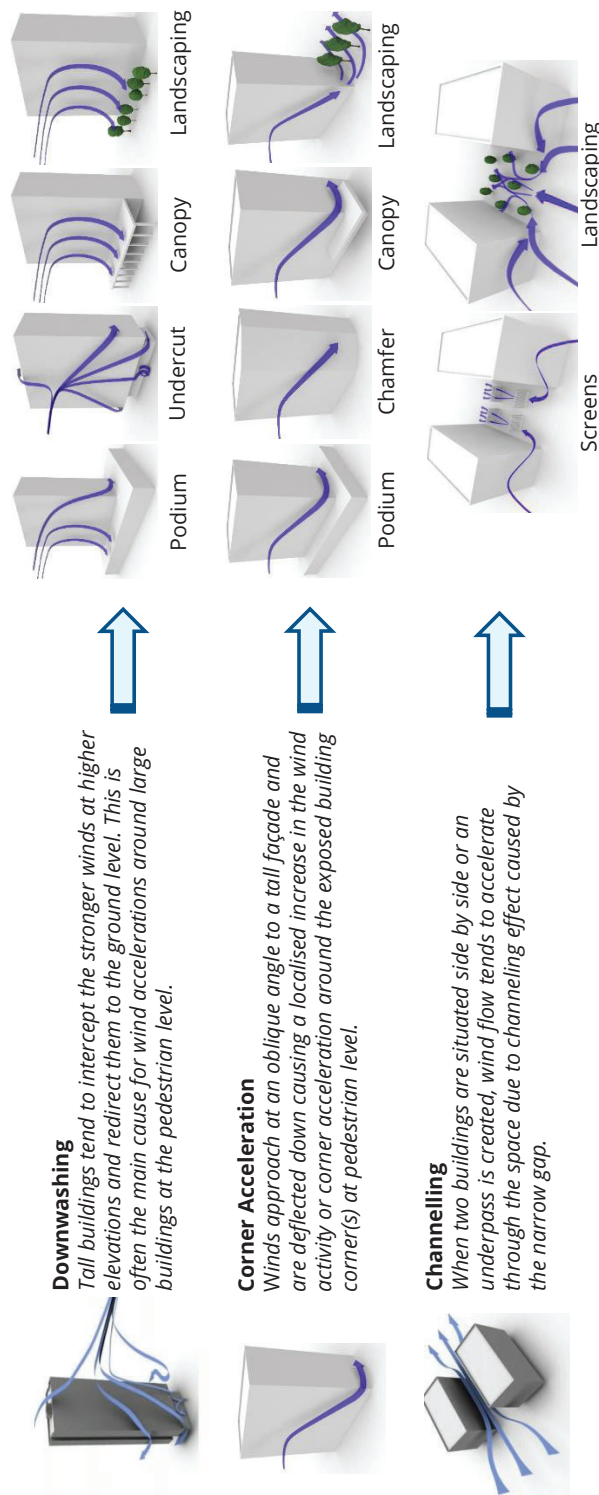


Image 5: General Wind Flow around Buildings with Examples of Common Wind Measures

5. RESULTS AND DISCUSSION



5.2 Site Exposure and Existing Conditions

The exposure of the site to regional prevailing winds is illustrated in Image 6. The existing site comprises mostly of low-rise buildings. The surrounding area is a mix of industrial and commercial buildings as well as residential dwellings, educational facilities, and recreational opportunities. Most of these structures are low-rise, apart from 49 Queen Road which is a mid-rise building featuring extensive setbacks. Therefore, these buildings are not expected to significantly impact the overall wind environment. The prevailing wind conditions for the existing site are, hence, likely to be governed by the alignment of existing roads with regional winds and the natural topography of the area which exhibits an elevation increase from west to east along both Queen Road & Parramatta Road.

Given the local wind climate and site exposure, it is anticipated that the wind environment around the existing site will generally be suitable for passive standing use during summers, largely due to the alignment of summer winds with the roads. However, during winters, slightly windier conditions may be experienced in areas near the intersection of Harris Road and Queen Road. Additionally, the elevation increase along the roads from west to east might contribute to higher wind speeds. Therefore, during winters, conditions are likely to range from standing use to strolling use.

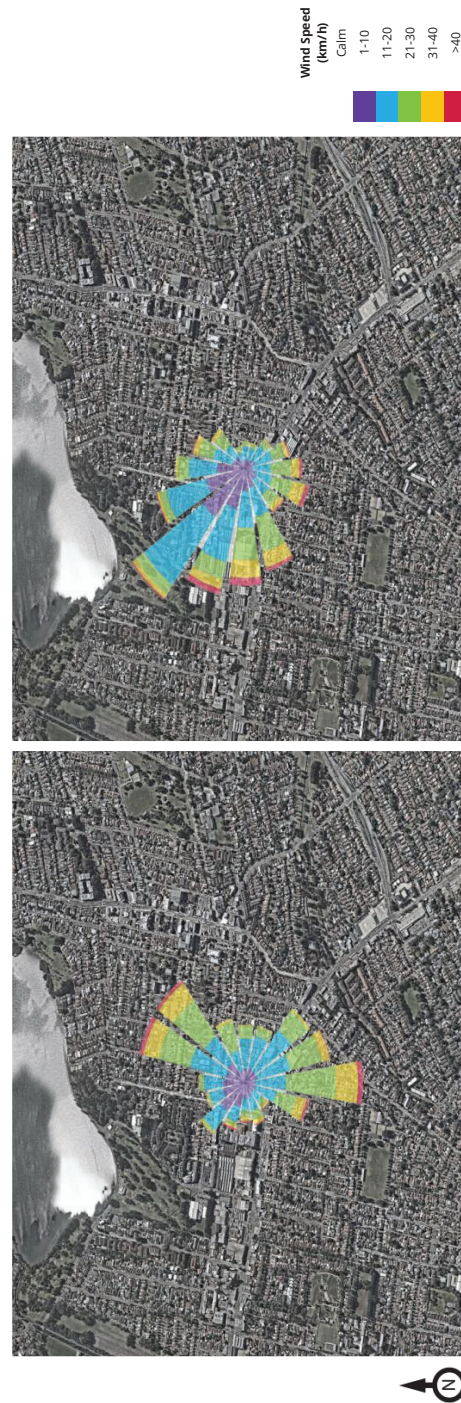


Image 6: Exposure of Site to Regional Prevailing Winds

RWDI # 2301385

Pedestrian Wind Assessment

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5. RESULTS AND DISCUSSION

5.3 Proposed Site Conditions

The interactions of the regional prevailing winds with the proposed massing and expected wind flow patterns around the precinct are shown in Image 7a-7d. Key interactions are noted below with expected wind conditions shown in Image 8:

- The proposed layout of the various buildings around the site, with indicated setbacks, is expected to decrease overall wind exposure on most ground-level areas. However, wind channelling is likely to persist between Buildings 4 & 9 and between Buildings 10 & 11. As a result, outdoor usage in these areas is likely to be impacted.
- Lobby entrances to the various buildings are located towards the center of the buildings and are, therefore, likely sheltered from stronger winds that can occur closer to the corners.
- The communal spaces on ground level between Buildings 5 & 7 and between Buildings 6 & 8 are relatively well-sheltered areas with some seasonal exposure. It is anticipated that conditions within these spaces will be comfortable for passive sitting to standing use.
- The Park adjacent to Building 1 is likely to experience some wind exposure near the northern and southern perimeters. However, these winds are anticipated to be buffered by the proposed dense landscaping. The central areas of the Park are relatively sheltered from prevailing winds and also benefit from the perimeter landscape. Therefore, wind conditions are likely to be suitable for sitting to standing use.

RWDI # 2301385



- The setbacks are likely to capture the winds redirected by the building massing above and reduce overall impacts on the ground level. However, this can cause high localised wind impacts at the exposed corners. Wind conditions around these localised hotspots, as shown in Image 8, have the potential to exceed the wind comfort and safety limits. Therefore, the usage of these areas should be carefully considered.
- High winds are expected to persist in and around Buildings 2 and 3 due to their relative height above the rest of the masterplan site. The winds captured and redirected by these towers are likely to result in strong impacts on the communal outdoor areas proposed atop the shared podium. It is important to highlight that winds exceeding comfort and safety limits are anticipated to occur between Buildings 2 and 4, primarily due to the larger aspect of the building presented to the westerly and northwesterly winter winds. Similarly, strong winds are also likely to persist between Buildings 2 & 11.
- Private balconies that are inset within the planform of the buildings or employ corner screening are expected to have comfortable conditions throughout the year. However, balconies located at the corners of the buildings or the wider terraces on the upper levels (e.g., L09 terrace of Buildings 1 & 5 etc.) are likely to be exposed to stronger winds.
- The Level 5 roof gardens between Buildings 1 and 10 is likely to experience channelling winds throughout the year. However, other rooftop gardens are relatively sheltered with only localised wind impacts likely.

Pedestrian Wind Assessment 10

5. RESULTS AND DISCUSSION

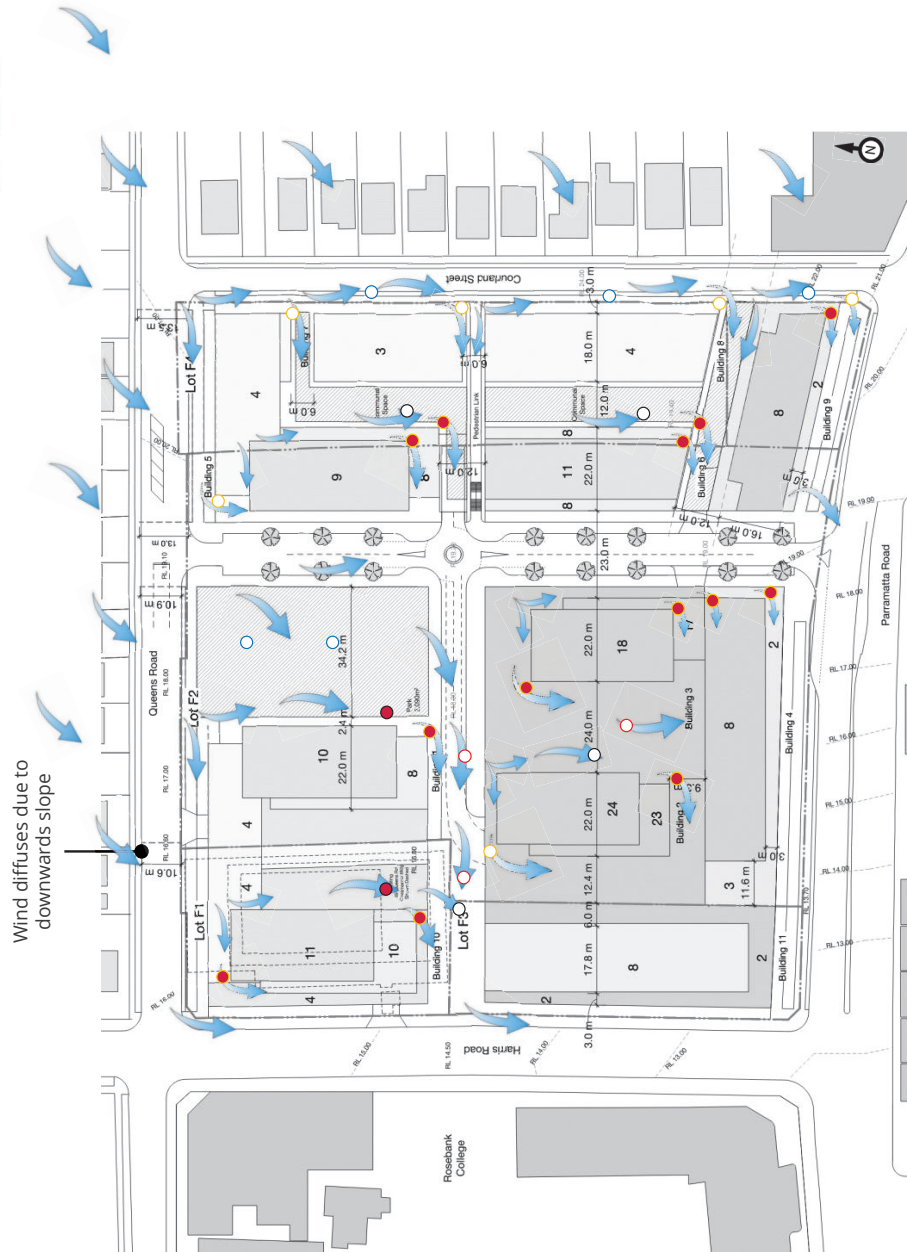
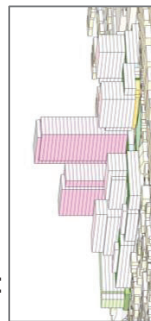


Image 7a: Expected Wind Flow Patterns within the Proposed Development Site due to Northeast Sector Winds

Approximate Wind View



General Wind Effects

- Corner Acceleration*
- Channelling Winds*
- Redirected / Downwash Winds*
- Streaming Wind Flows
Tend to pick up speed if left uninterrupted
- * Red Infill – Critical

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5. RESULTS AND DISCUSSION

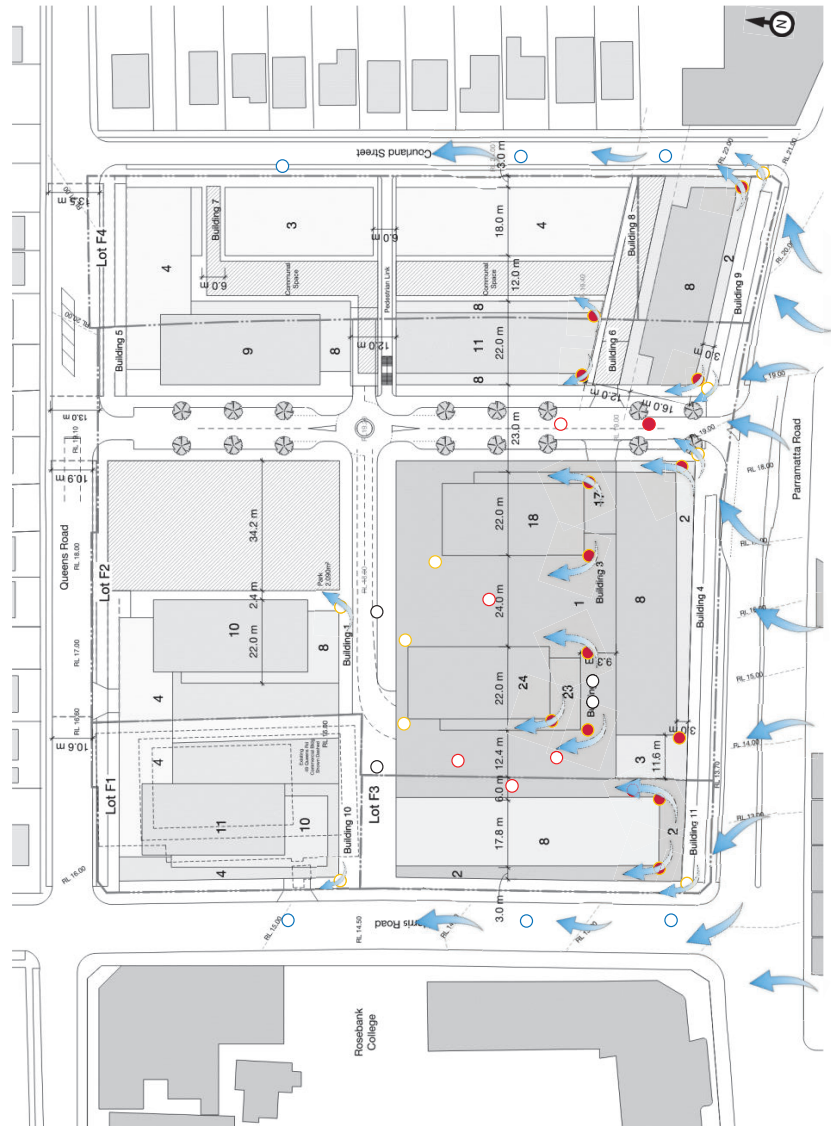


Image 7b: Expected Wind Flow Patterns within the Proposed Development Site due to South Sector Winds

Approximate Wind View



General Wind Effects

- Corner Acceleration*
- Channelling Winds*
- Redirected / Downwash Winds*
- Streaming Wind Flows
Tend to pick up speed if left uninterrupted
- * Red Infill – Critical

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Pedestrian Wind Assessment 12

5. RESULTS AND DISCUSSION

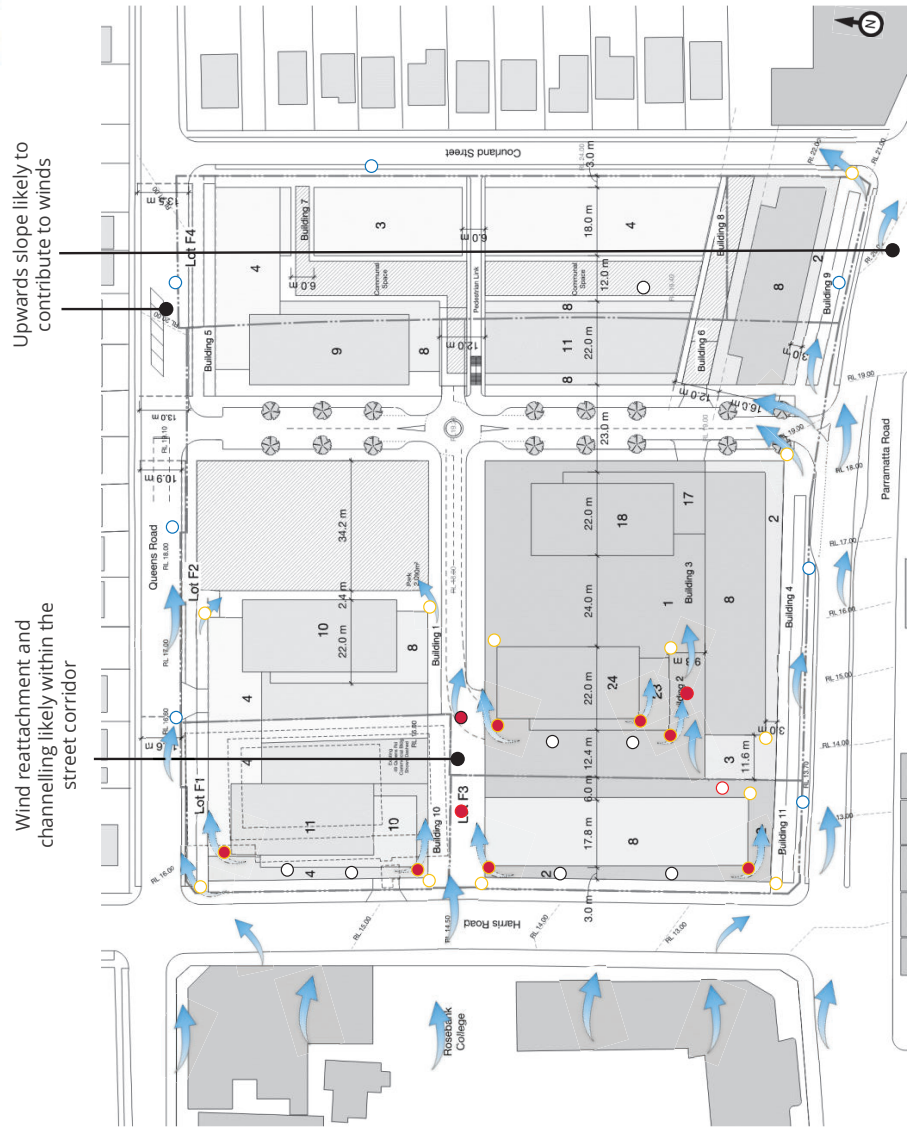


Image 7c: Expected Wind Flow Patterns within the Proposed Development Site due to West Sector Winds

Approximate Wind View



General Wind Effects

- Corner Acceleration*
- Channelling Winds*
- Redirected / Downwash Winds*
- Streaming Wind Flows
Tend to pick up speed if left uninterrupted
- * Red Infill – Critical

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Pedestrian Wind Assessment 13

5. RESULTS AND DISCUSSION

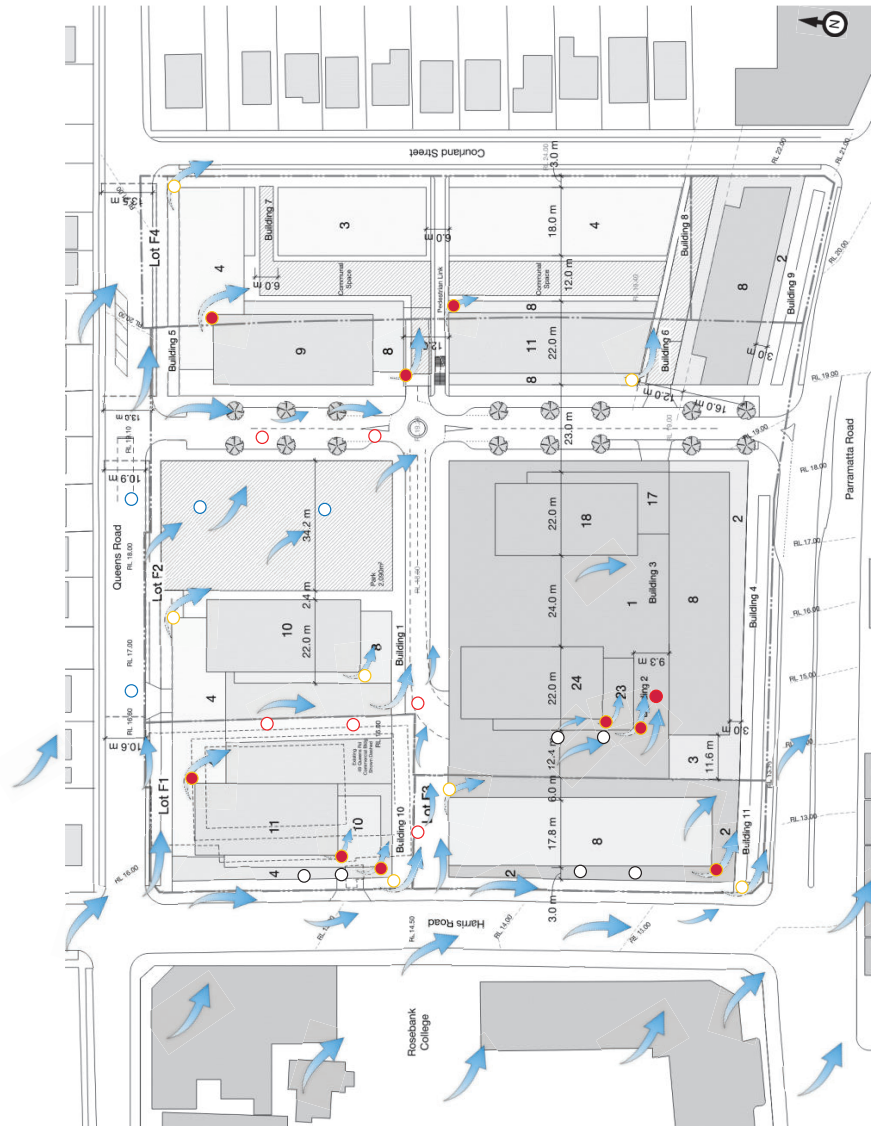
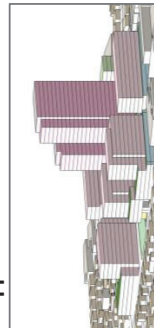


Image 7d: Expected Wind Flow Patterns within the Proposed Development Site due to Northwest Sector Winds

Approximate Wind View



General Wind Effects

- Corner Acceleration*
- Channelling Winds*
- Redirected / Downwash Winds*
- Streaming Wind Flows
Tend to pick up speed if left uninterrupted
- * Red Infill – Critical

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Pedestrian Wind Assessment 14

5. RESULTS AND DISCUSSION

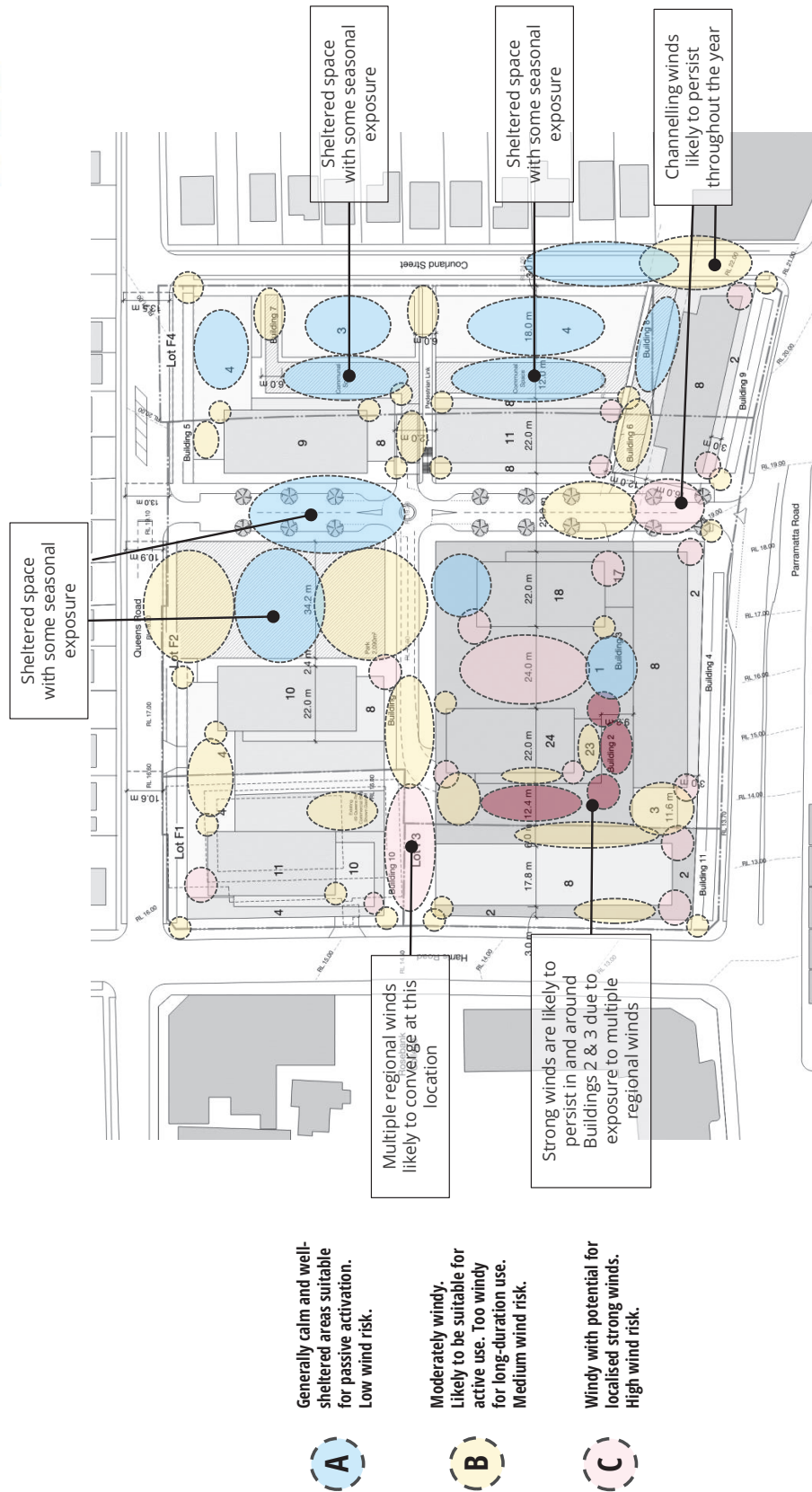


Image 8: Heat Map showing expected Wind Conditions and Wind Risk

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5. RESULTS AND DISCUSSION

5.5 Design Advice and Recommendations

Review of the proposed WIP landscape design (Image 9) shows that the development site will be planted with numerous trees along all street fronts and within the through-site links. Plantings with large crowns and dense foliage, complemented with underplanting, are likely to assist in reducing wind activity immediately around these areas and can help with reducing wind channelling impacts. These should be maintained. Other key recommendations are noted below (examples shown in Image 10):

- The overall built-form is anticipated to dictate the predominant wind flows around the site. Consequently, built-form articulation encompassing recesses, variation in building geometry, and horizontal / vertical façade elements, can be leveraged to disrupt the winds. Building corners should be rounded to reduce downwash and corner wind effects.
- Dense landscaping in the form of trees with interlocking canopies are recommended between Buildings 10 & 11. These should be evergreen to mitigate winter winds.
- Strategic landscaping around corners should be retained / included to reduce pedestrian movement near areas susceptible to high winds. This is particularly recommended for the hotspots noted in Image 8.
- Trees with dense interlocking canopies along the street fronts at the base of the buildings can also act to reduce wind effects and should be retained. Those located along Harris Road should be evergreen to mitigate winter winds.

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- It is recommended to recess the lobby entrances to Buildings 2, 3, 10 & 11 by approximately 1.5 m. This adjustment would facilitate a transitional space for individuals exiting controlled indoor environments to acclimatise to outdoor conditions effectively. All other entrances to the retail and commercial elements on the ground floor should also be located away from the building corners.
- Any outdoor seating areas should correspond to favourable wind locations. Therefore, locating these away from corners on the ground level is recommended. Inclusion of localised measures such as planting/screening is also recommended
- It is recommended to incorporate a 3-meter-wide awning along southern and western aspects of Buildings 2 & 3. Note that the awning design can be impermeable or porous (50% porosity) but should be continuous with no gaps. Porous vertical screening or batons, aligned east-west, should also be incorporated within the communal terrace particularly around seating areas between the buildings.
- Full-height end screening along one of the open aspects is recommended for all corner balconies and wider terraces, where applicable. Alternatively, it is recommended to incorporate 1.5 m high impermeable balustrades or intermittent screens around the perimeter of these spaces to reduce direct wind impacts (see Image 10b).
- The rooftop terraces will benefit from perimeter screening with a minimum height of 1.5 to 1.8 m. Localised canopies and dense landscaping are also recommended (Image 10c).

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5. RESULTS AND DISCUSSION

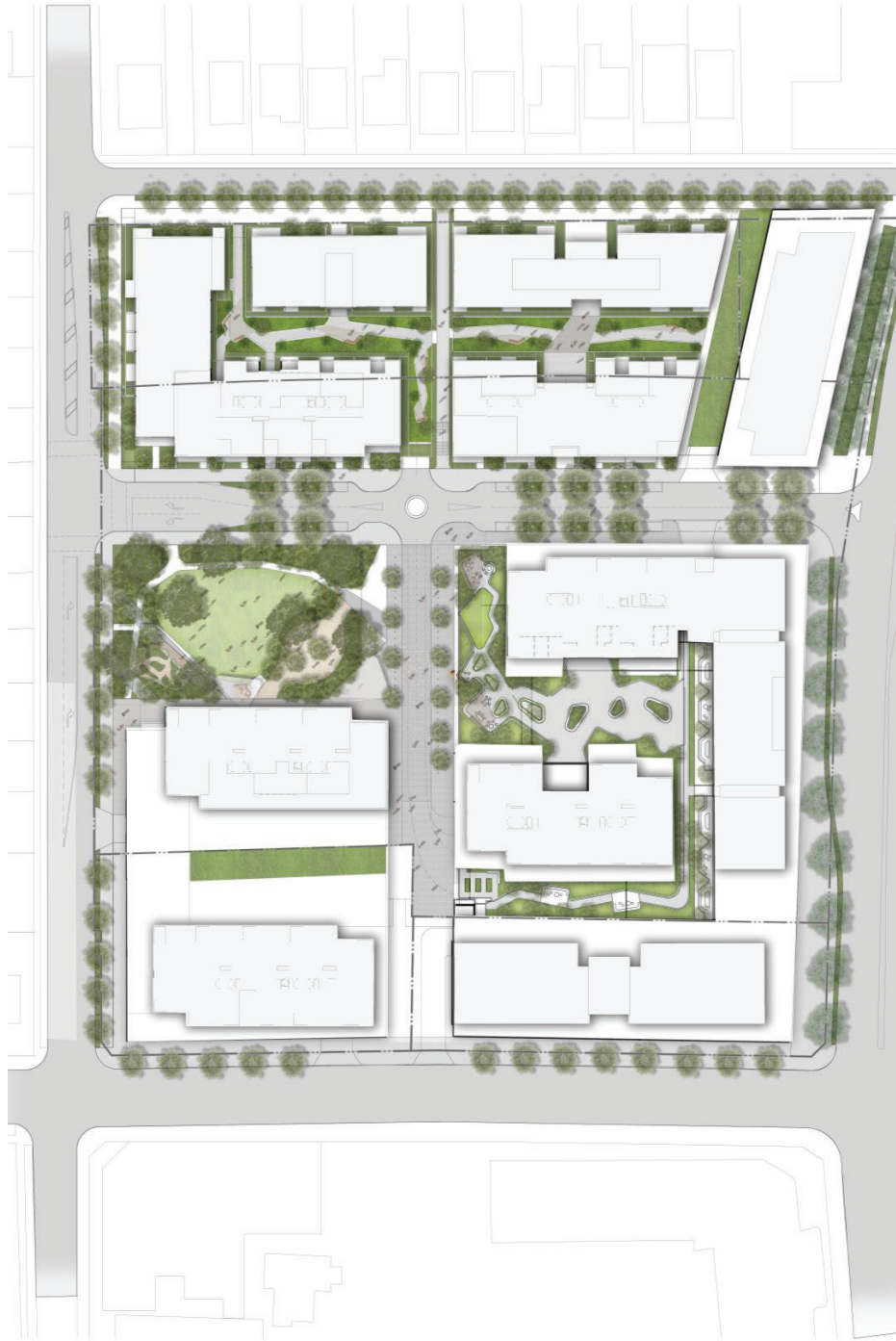


Image 9: Proposed Landscape Plan
Source: WIP shared by DesignInc

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5. RESULTS AND DISCUSSION

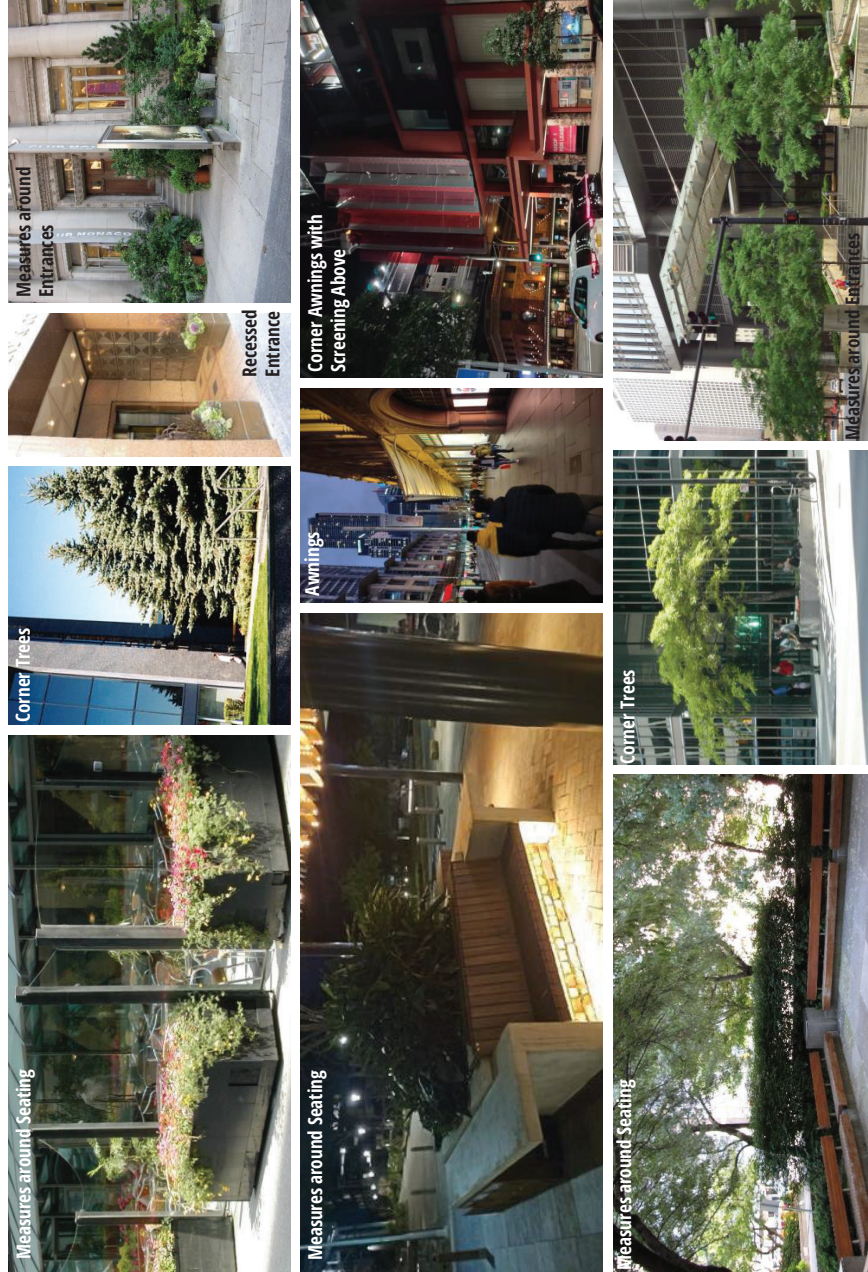


Image 10a: Examples of Wind Control Measures – Landscape, Entrances and Seating Areas

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5. RESULTS AND DISCUSSION



Image 10b: Examples of Wind Control Measures – Corner Balconies and Wide Terraces

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5. RESULTS AND DISCUSSION

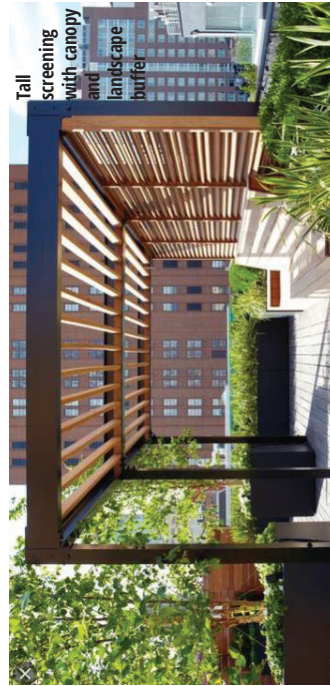
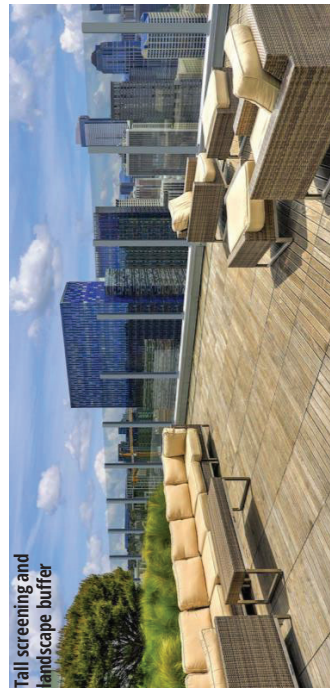


Image 10c: Examples of Wind Control Measures – Rooftop Terraces

6. SUMMARY

Wind conditions on and around the planning proposal for Five Dock Village located at 49-77 Parramatta Road, 2-10 Harris Road, 35-57 Queens Road, and 5-29 Courland Street in Five Dock NSW are discussed in this report. The qualitative assessment is based on the review of local wind climate and the current design of the proposed development. The impact of the surrounding buildings and the local land topography has also been considered. The assessment is based on RWDI's experience with wind tunnel testing and CFD analysis of similar buildings within the region.

Conceptual wind flows around the proposed precinct are discussed in the report for the prevailing wind directions to identify key wind sensitive areas. Localised areas have been identified where heightened wind exposure is likely. These are located typically in and around Buildings 2 and 3 due to the relative height of these structures above the remaining buildings within the precinct. Targeted mitigation strategies and design recommendations, outlined in the report, can be used to effectively address these issues. Design advice for upper-level areas is also provided to assist the design teams.

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Predicting outdoor wind conditions around a precinct is a complex process that involves the combined assessment of building geometry and orientation, position and height of the buildings, upstream terrain and the local wind climate. Computational Fluid Dynamics is a useful tool in this regard as it not only combines the impact of these various parameters but can also provide a visual reference for the merits of a particular design of the building. The CFD study can also be layered with a thermal comfort component to provide a more holistic understanding of total human comfort within and around the development site. The information gained can be used to better plan the usage of outdoor spaces and to refine the mitigation strategies discussed in this report. This study is highly recommended for the proposed development site.

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7. APPLICABILITY OF ASSESSMENT



The assessment discussed in this report pertains to the proposed development in accordance with the drawings and information received in April 2024. In the event of any significant changes to the design, construction or operation of the building or addition of surroundings in the future, RWDI could provide an assessment of their impact on the wind conditions discussed in this report. It is the responsibility of others to contact RWDI to initiate this process.

Statement of Limitations

This report entitled '*Toga Five Dock Pedestrian Wind Assessment*', dated 30 April 2024, was prepared by RWDI Australia Pty Ltd ("RWDI"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

Appendix 17: Consistency with Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
3.2 Heritage & Fine Grain - Ensure that development in the vicinity of heritage items is designed and sited to protect the heritage significance of the item. - New development in heritage conservation areas must be designed to respect neighbouring buildings and the character of the area. Infill development should enhance and complement existing character but not replicate or mimic the architectural style, detailing or materiality of listed heritage/historic buildings. - Maintain architectural, streetscape and interpretive building elements that contribute to heritage conservation areas. - In appropriate locations, enable the consolidation of small individual lots into larger lots, but ensure the original subdivision pattern is represented or interpreted, where it is assessed as being significant. - Encourage fine grain subdivision for large sites undergoing renewal. - Maintain the prominence and legibility of heritage items, contributory buildings and streetscapes while appropriately siting and designing new development. - Ensure that new developments are of a compatible scale with the surrounding heritage items, contributory buildings or for the heritage conservation area. - Retain the prominence of heritage landmark buildings in the immediate streetscape, in the surrounding area, and from key vantage points. - Ensure that new developments are of an appropriate form and mass adjacent to or in the vicinity of heritage items, contributory buildings or heritage conservation areas.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Provisions requiring consideration of similar matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
j. Ensure new development does not physically overwhelm or dominate heritage items and heritage conservation areas by providing appropriate transitions from new development sites to existing buildings, structures and streetscapes of heritage value. k. Use sympathetic materials, colours and finishes that reflect and harmonise with original materials to maintain the character of heritage items and contributory buildings. l. Ensure design resolution is considered in totality, and in particular at the pedestrian scale. m. Reinforce and enhance the distinctive character of the historic retail strips along Parramatta Road. n. Retain, conserve and interpret significant historic signs. o. Protect the significant characteristics of buildings, streetscapes, vistas and the city skyline, while encouraging well-designed and well positioned signs which contribute to the vitality of the roadway and locale. p. Signage design and location must conserve the heritage significance of an item or heritage conservation area. q. Retain, conserve and/or reuse historic fabric in historic areas, where appropriate. r. Promote characteristic and desirable landscape treatments in different character areas.	
3.3 Creek & Watercourses a. Integrate green and blue infrastructure early in the planning process to maximise environmental and social outcomes at the lowest cost. b. Improve the environment performance and amenity of existing drainage corridors and watercourses by integrating water management initiatives that address quality and quantity management. c. Protect and enhance the local waterway and receiving waters. d. Vegetate creeks and watercourses.	Consistent There are no watercourses or creeks on the subject site. Notwithstanding, the concept plan has been designed taking these requirements into consideration through incorporation of WSUD and landscaping. Provisions requiring consideration of similar matters have been incorporated into the site specific



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
e. Provide opportunities for additional accessible pedestrian and bicycle links to creeks and watercourses. f. Enable views from the wider public domain to creeks and watercourses. g. Promote green infrastructure along creeks and watercourses such as vegetated open spaces and street trees to assist in mitigating urban heat, encourage healthy lifestyles and enhance biodiversity. h. Implement lot and street-scale stormwater run off initiatives to manage water quantity and quality before it enters the local waterway.	DCP which accompanies the application.
3.4 Open Space & Public Domain A. Open Space Requirements a. Protect and improve the quality, access and safety of existing open space. b. Provide new public open space that is: - part of a legible Green Grid network within and beyond the Corridor - landscaped and includes substantial areas for high quality and sustainable landscaping - an appropriate size to accommodate a variety of uses - suitably dimensioned and designed for the intended use in terms of quality and orientation - flexible and easily adapted to different uses in response to changing community activity and passive recreational preferences and are useable in a range of weather conditions - vibrant, inclusive, accessible and safe - linked to pedestrian and cycle paths to encourage reduced car dependency - integrated with the public domain, creeks, watercourses, or other encumbered land, if appropriate	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration through provision of a significant new public park and significant new public domain. Provisions requiring consideration of similar matters have been incorporated into the site specific DCP which accompanies the application.

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Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
ix. designed to achieve sharing of space between sports x. located with access to, or makes provision for, recycled or other sustainable water supply xi. capable of being well maintained. B. Public Domain Principles a. Increase canopy cover and provide for greenery within the public domain. b. Build local character and identity through existing site qualities and natural landscape features. c. Ensure public domain and common or shared spaces are functional and attractive for their intended users and accessible to all. d. Create public domain that promotes recreation and public engagement. e. Increase the quality and usability of the public domain through innovative built form, wider footpaths and new connections. f. All new streets should implement water sensitive urban design treatments at the point source across all catchment areas. g. Provide permeable ground surfaces, where appropriate, to allow rainwater to penetrate the soil.	
3.5 Community Facilities a. Consider providing high quality specialised spaces that are shared by developments rather than treating each development as a stand alone proposal. b. Provide opportunities for a variety of experiences and social interaction. c. Provide opportunities for structured and unstructured activities and cater to a diverse range of users. d. Create diverse 24 hour activity by providing facilities and spaces for public activity outside regular business hours.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration through provision of a community hub, subject to further discussions with Council. Provisions requiring consideration of similar matters have

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Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
e. Provide varied spaces for social interaction.	been incorporated into the site specific DCP which accompanies the application.
3.6 Traffic and Transport Requirements a. Improve north-south connectivity across Parramatta Road for all users. b. Improve street network permeability across Precincts and Frame Areas, particularly for pedestrians and cyclists. c. Improve public and active transport quality, access and connectivity to and within Precincts and Frame Areas. d. Support an improved urban environment with areas designated for greater levels of street activity. e. Facilitate local access needs for new development to support the needs of residents and businesses. f. Encourage travel behaviour change to discourage car use and support more sustainable travel choices such as public and active transport. g. Within the Rapid Transit Indicative Zone, work with Transport for NSW to integrate bus stops and rapid transit stops into the streetscape, including: a. ensuring the safety and amenity of transport users and pedestrian passers-by b. ensuring safe, efficient and reliable public transport operations c. providing convenient street crossings, canopy /awning structures, seating, public lighting, real-time travel information, bins and other required facilities. h. Provide an unobstructed and safe pedestrian and cycling network that links residential, employment and retail uses to community facilities, transport nodes and open space within Precincts and Frame Areas	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration through provision of a new public street, space of road widening along Parramatta Road and Queens Road. Provisions requiring consideration of similar matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
3.7 Street Function a. Progressively implement the Movement and Place Street Function network in accordance with the Precinct Plans and the features identified for each street function type in the Precinct Transport Report, September 2016. b. Encourage local traffic calming in residential streets.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration through provision of a new public street, space of road widening along Parramatta Road and Queens Road. Provisions requiring consideration of similar matters have been incorporated into the site specific DCP which accompanies the application.
3.8 Car Parking & Bicycle Parking A. Car Parking Requirements a. Off street parking is to be provided in accordance with the maximum rates identified in Table 3.2. b. On-street parking to be integrated to the streetscape and parallel to the kerb. c. Where possible, parking rates should be allocated to buildings (rather than dwellings) to enable the most efficient using of parking within a building. d. Parking that is unbundled or separated from dwelling and building ownership should be encouraged in all developments. A parking rate reduction of 20% should be considered for buildings with unbundled parking. e. To plan for the emergence of electric vehicles, 1 electric vehicle charge point should be provided in each new off-street parking facility in the Precinct.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Provisions requiring consideration of similar matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
B. Shared Parking Requirements a. Shared parking rates should be provided in accordance with the occupancy rates provided in Table 3.3. b. Shared parking is parking shared by more than one user, which allows parking facilities to be used more efficiently. c. Parking requirements for non-residential uses may be shared and potentially reduced where it can be determined that the peak parking requirements occur at different times (either daily or seasonally). Parking rates for shared parking shall be calculated by applying the following occupancy rates to the maximum parking requirements for a proposed use. C. Car Share and Ride Share Requirements a. On-site parking can be reduced at a rate of 5 parking spaces per 1 car share space where an active car-sharing program is made available to residents and/or employees and where ride share or other organised car pooling initiatives are available on site. b. Additional car share should be provided at a rate of 1 space per 20 dwellings without parking and 1 space per 100 dwellings with parking. c. Car share will be located in publicly accessible sites, either on-street, in public parking stations or, if provided within a building it should be accessible to all car share members. d. The following car share targets have been established for the Precinct: a. 10% - 15% of residents by 2031 b. 15% of residents by 2050. D. Decoupled Parking Requirements a. Where appropriate, sites should be identified for spatially decoupled parking to reduce on-site parking and provide parking that can be transitioned to another use.	



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
b. As an alternative to providing on-site parking, where a decoupled parking scheme provided by Council or a private operator is available and the parking spaces will be available to the development when required, developments may pay the decoupled parking operator a one-off set fee per parking space to finance the decoupled parking facility that can be used by both residents, visitors and employees of that development. c. Decoupled parking should be unbundled or separated from dwellings and building ownership, where possible. For buildings with decoupled, unbundled parking, a parking rate reduction of 40% on maximum parking rates can be applied. d. Decoupled parking should be located within walking distance of the following maximum distances with no requirement to cross a Movement Corridor as defined on the Street Function Plan. e. Decoupled parking will be transitioned to other uses when the following is met: a. major new public transport infrastructure is delivered to the community (eg: bus rapid transit, light rail or a major rail upgrade) b. parking rates for the Precinct are reduced to a more accessible parking classification c. it is deemed by Council that the parking demand is no longer required. f. Where appropriate, decoupled parking should be recommissioned to community facilities, including library, child care and public open space ahead of private residential or commercial uses.	
E. Parking and Access Design Requirements	
a. Driveway access from Parramatta Road is to be restricted. Site access should be planned from adjoining roads or laneways behind sites. b. Where possible, driveway design should emphasise the pedestrian experience. c. Where possible, parking should be delivered as an asset that can be transitioned to another asset class in the future as car parking requirements are reduced.	



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
d. Where possible, basement parking must not protrude above the level of the adjacent street or public domain. e. For above ground parking, floor to ceiling heights should be a minimum of 3.1 metres to be able to be converted to residential or retail uses, or a minimum 4 metres for commercial uses. f. Above grade parking should be screened from street frontages by active uses. g. Basement car parking along Parramatta Road must not encroach into the Green Edge setback to ensure deep soil zones can be provided. F. Bicycle Parking Requirements a. Bicycle parking is to be provided in accordance with the Table 3.4. b. Bicycle parking should be located in secure but publicly accessible locations with provision made for public bike spaces in addition to those for building occupants. c. End-of-trip facilities for non-residential developments should be provided in accordance with Table 3.5. d. Where more than one shower/change cubicle is required, separate male and female facilities should be provided with sufficient flexibility incorporated into the design to modify the mix depending on the predominant users.	
3.9 Active Transport a. Improve street network permeability across the Corridor, particularly for pedestrians and cyclists, by providing active transport routes where indicated on the Precinct Plans. b. Prioritise safe and direct links to rail stations, open spaces and community facilities. c. Connect missing links, particularly in the regional network (existing or planned). d. Separate bikes from cars, where possible.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration, through provision of a regional cycle route along Queens Road. Provisions requiring consideration of similar matters have been incorporated into



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
e. Provide bike parking and innovative, high quality and well designed end of trip facilities that promote multi-modal trips and the efficient use of existing public and private parking facilities.	the site specific DCP which accompanies the application.
3.10 Sustainability & Resilience	
a. Future development should seek to satisfy the requirements set out in Table 3.6.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Provisions requiring consideration of similar matters have been incorporated into the site specific DCP which accompanies the application.
b. Future development should demonstrate consistency with the smart parking strategies and design principles outlined in Section 3.8 – Car Parking and Bicycle Parking.	
c. Public domain and buildings shall be designed to reduce localised heat created by the urban heat island affect by: a. maximising canopy cover on all streets that are designated as being Local, Places for People, or Vibrant on the Street Function Plans b. targeting canopy cover of at least 60% over all pedestrian spaces (footpaths, trafficable pedestrian areas). c. maximising the use of vegetation on buildings, including above ground parking facilities. Vegetation, green roofs, green walls and materials with a high solar reflectance index are encouraged on at least 50% of the surfaces of all buildings. Western and northern building facades should be particular areas of focus.	
d. Flow rates from the site should not be more than pre-development site discharge.	
e. Stormwater run-off quality should seek to reduce annual loads of: a. total Nitrogen by 45% b. total Phosphorus by 65% c. total suspended solids by 85%.	



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
f. Develop design strategies and management measures to mitigate the impacts of climate change on key infrastructure and assets.	
4.2 Building Massing, Scale and Building Articulation A. Building Massing and Scale Requirements - Relate building height to street width and intended character. - Buildings, or their individual elements, should be appropriately scaled to address and define the surrounding character. - Reduce heights, increase setbacks or provide appropriate transitions to heritage buildings and places or sensitive uses. - Changes in scale should be explored to create interest and enhance the relationship with the public domain. - The GFA is to be no more than 75% of the building envelope. - Floor plates above 8 storeys should be limited to 750m² GFA to create slender tower forms. - The maximum building length should not exceed 60m. - The maximum tower length should not exceed 45 metres and is to be considered in conjunction with tower floor plate controls. - Identify and express street frontage heights with an upper level tower to create an appropriate street scale, sky views, and minimise wind down draft. B. Building Articulation Principles - Apply the relevant building articulation principles illustrated in Figures 4.2 - 4.7, based on location. - The maximum wall length without articulation is 45m.	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposed departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
c. Articulate building facades in plan and elevation to reduce the appearance of building bulk and to express the elements of the building's architecture. d. Interpret and respond to the positive attributes of a Precinct or Frame Area by incorporating dominant patterns, textures and compositions into the built form. e. Provide a sense of address and visual interest from the street through the use of insets and projections that create interest and, where relevant, the appearance of finer grain buildings, however avoid recesses that undermine the safety of the public domain. f. Integrate ventilation louvres and car park entry doors into facade designs where located on street frontages. g. Buildings on corners should address both streets.	
4.3 Setbacks and Street Frontage Heights a. Provide building setbacks and street frontage heights in accordance with Table 4.1. b. Reinforce street edges that contribute to the character of a historic or heritage conservation area. c. Design setbacks that will contribute positively to the pedestrian environment at street level. d. Retail shop fronts should reinforce the streetscape edge and integrate with footpath activity through transparent store front activity, where possible.	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposed departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been

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Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
	incorporated into the site specific DCP which accompanies the application.
4.4 Transition Zones and Sensitive Interfaces a. Implement the transitions and sensitive interfaces in accordance with the Guidelines for individual Precincts and Frame Areas illustrated in Figures 4.8 - 4.13. b. Encourage the gradual stepping up of the built form at the interface of existing low rise development and proposed higher rise development. c. Encourage new development that is sensitive and complementary in scale and site location to surrounding properties of identified heritage and/or streetscape value, and which contributes positively to the desired character of the street or area concerned.	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposed departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.
4.5 Building Typologies A. Residential Building Requirements a. Locate residential uses in accordance with the Precinct Plans. b. Provide a minimum floor to floor height of 3.1 metres.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
c. Ensure ground floor dwellings have a primary street address or are oriented to the public domain and have clear legible entries. d. Comply with the Apartment Design Guide (if relevant). B. Commercial Building Requirements a. Locate commercial uses in accordance with the Precinct Plans. b. Provide a minimum floor to floor height of 4.0 metres. c. Provide legible entry/ lobby areas accessed from a public street and address streets to provide surveillance to increase safety and activation of streets. d. Ground floor tenancies and building entry lobbies are to have entries and ground floor levels at the same level as the adjacent footpath or public domain. C. Mixed Use Building Requirements a. Provide a range of appropriately sized and configured tenancies that meet commercial or market needs. b. Incorporate non-retail uses such as supermarkets, gymnasiums, child care centres, community facilities and medical suites that service the local residential and worker population. c. Ensure the location of ground floor uses either activates or provides surveillance to the public domain. d. Create clear legible entries for each use. D. Industrial and Employment Building Requirements a. Locate office components on main road frontages. b. Use high quality materials and an appropriate colour palette where buildings are visible from the public domain and to add visual interest. c. Locate service entries and loading on secondary streets.	Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline		
Consideration		Consistency
d. Provide landscape setbacks on primary streets.		
4.6 Active and Commercial Frontages		Consistent
a. Locate Active Frontages and Commercial Frontage on streets and fronting open space, urban plaza and public domain generally in accordance with the Guidelines for the relevant Precinct and Frame Area.		As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration.
b. Create a fine grain of Active and Commercial Frontages to ensure an integrated street edge and reduce building massing.		Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.
c. Encourage ground floor activities to spill out into the public domain to create a vibrant streetscape and promote a sense of community.		
d. Screen large retail tenancies by smaller tenancies for greater street activation and retail variety where appropriate.		
e. Provide clearly defined and visible building entries which directly address the street.		
f. Provide awnings or colonnades for weather protection and shade along active frontages.		
4.7 Building Entries and Fencing		Consistent
a. Accentuate building entries through signage, street numbers and landscaping.		As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration.
b. Achieve a fine grain of entries along streets to reinforce activation, movement in and out of buildings, and for multiple 'eyes on the street'.		Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.
c. Ground floor dwellings should be accessed from the street, where possible.		
d. Avoid car parking entries and loading docks on main streets. The location and widths of any services, infrastructure and car park entries on Active Frontages must be minimised.		
e. Where possible, use low level, transparent or partially open fencing is proposed.		



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
f. Front fencing should respect existing character or contribute to the future desired character.	
4.8 Amenity A. View Requirements a. Protect significant views to and from public places. b. Configure built form to enhance or frame views to significant places or elements, or support legibility of the area. c. Buildings should not to impede key views from the public domain to important public places, parks, heritage buildings and monuments. B. Shadowing and Solar Access Requirements a. Orientate taller elements north-south to minimise overshadowing. b. Manage height of east-west buildings to allow solar access to courtyard spaces and adjoining open space and roads. c. Maximise direct solar access to adjoining properties. d. Minimise shadowing of public and private open space. C. Visual and Acoustic Amenity Requirements a. Orient and design development to optimise visual and acoustic privacy between buildings. b. Configure and landscape internal courtyards to optimise visual privacy whilst also allowing passive surveillance opportunities. c. Attenuate noise impacts between residential and non-residential components of mixed use development. d. Employ design measures to minimize loss of privacy.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
D. Air and Noise Quality Requirements a. Development on busy roads (an annual average daily traffic volume of more than 40,000 vehicles) is to consider the provisions of the State Environmental Planning Policy (Infrastructure) 2007 and Development Near Rail Corridors and Busy Roads Interim Guidelines. b. Internal habitable rooms of dwellings are to be designed to achieve internal noise levels of no greater than 50dBA. c. Adopt the planning and design approaches and architectural treatments outlined in Figure 4.14 - 4.21 to minimise noise and air quality impacts from abutting busy roads, rail corridors and other noise-generating land uses. d. Consider the Indicative Floor Plans at Appendix A when designing development on busy roads.	
4.9 Accessibility, Safety and Security A. Accessibility Requirements a. Ensure that public buildings and spaces are designed to be universally accessible. b. Incorporate accessibility into the design of new buildings, public spaces and the public domain. c. Incorporate solutions which lead to an improvement in accessibility and freedom of choice offered to the user. d. Accommodate a wide range of ancillary aids and support interactive usage through open space and public domain. e. Consider changing lifestyles and changing use of space. f. Incorporate adaptable dwelling opportunities to cater for occupants with a disability. B. Safety and Security Requirements	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
a. Ensure the design for new public spaces, streets and new development minimises crime and supports community safety by applying Crime Prevention Through Environmental Design. b. (OPTED)'s Safer by Design Guidelines. c. Encourage passive surveillance of streets and other public places. d. Ensure ground floor uses to buildings edging public space are predominantly active. e. Minimise opportunities for concealment or entrapment by removing or illuminating alcoves, or designing alcoves with splayed edges. f. Maintain unobstructed sightlines between and around buildings wherever possible. g. Remove or redesign any physical features that are known to compromise safety and security. h. Improve the quality of lighting in streets, parks and other public spaces. i. Create landscapes and physical locations that channel and group pedestrians into target areas.	
4.10 Signage and Advertising a. Signage is to comply with the requirements of State Environmental Planning Policy No 64-Advertising and Signage. b. Encourage quality signage that contributes positively to the streetscape and creates a sense of place. Advertising signs should complement the design of buildings and the overall character of streets and Precincts and Frame Areas. c. The main facades of buildings from the first floor to the rooftop or parapet are to be uncluttered and generally free of signage. d. Freestanding signs are not to be located on the top of buildings and should not impact on the skyline when viewed from the street. e. Provide appropriate directional, informational and regulatory signage.	Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
f. Signage must relate to an approved use on the property/site. g. Incorporate clear signage for access and egress around public transport and public places. h. Signs painted on or applied to the roof of a building are not permitted. i. Despite any other requirements, existing signs that have heritage value must be retained where appropriate, preferably in their original location, or adaptively reused.	
9 Kings Bay Guidelines	
9.5 Open Space, Linkages & Connections & Public Domain	
A. Open Space Requirements	
a. Provide a new green linear park at least 15 metres wide between Queens Road and Parramatta Road along the western side of William Street. b. Provide a new north-south village plaza or square connecting Spencer Street to Queens Road. The exact location and configuration of the plaza/square is to be determined as part of a future planning proposal(s). c. Provide new public open space areas on larger sites to increase the overall quantum of local open space in the Precinct. The indicative location and configuration of these open space areas is shown on Figure 9.5 and to be determined as part of a future planning proposal(s). d. Provision of three new synthetic multi-purpose playing fields on Charles Heath Reserve. e. Construction of the new Inner West Central Recreation Facility to facilitate the unlocking and reconfiguration of existing sports courts and sports stadiums to provide a wider variety of open space programs.	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposed departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application.
B. Linkage and Connection Requirements	



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
a. Wherever possible, break up long blocks with new high quality pedestrian prioritised links, and particularly where new connections facilitate access to the new local village or open space. b. Create 'green streets' through implementation of recommended building setbacks along Parramatta Road and William Street and provision of tree planting and landscaping. c. Construct the regional cycleway along Gipps Street, Patterson Street, and Queens Road. d. Provide a new strategic cycle link along Walker Street to Queens Road and Barnwell Park. e. Provide a new strategic cycle link along William Street/Short Street/Grogan Streets/Acton Street and Monash Parade to Wangal Park. Connect the new strategic cycle to existing cycle routes in Lucas Road and Princes Street. f. Provide a cycle link along Acton Street to Queen Street to promote travel to Croydon Station. g. Improve accessibility to the Iron Cove Creek corridor including investigation into new pedestrian links. h. Where possible, provide links that can accommodate both pedestrians and cyclists. C. Public Domain Requirements a. Refer to Corridor wide Guidelines at Section 3.	See further discussion within the PP Report.
9.6 Street Function & Precinct Transport a. Implement the specific objectives and recommendations of the Parramatta Road Corridor Precinct Transport Report, September 2016. b. Refer to additional Corridor-wide Guidelines at Section 3.	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise

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Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
	undertaken, it is considered that the proposes departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application. See further discussion within the PP Report.
8.7 Fine Grain a. Development on the southern boundary of the Precinct should be a maximum of three storeys to ensure a transition over the existing laneways to rear gardens of dwellings south of the Precinct. b. Where possible, provide doors and windows at the ground and first floors to provide passive surveillance opportunities to Wychbury Lane. c. Use high quality and textured materials, including brick, to complement materials used in adjoining residential dwellings. d. Enhance the pedestrian link through King Edward Street from Wychbury Lane to Parramatta Road. e. Future development on King Edward Street between Wychbury Lane and Parramatta Road should be oriented to address the street and existing open space. Side and rear fencing should be avoided. f. Noise and odour emissions from non-residential uses should be minimised.	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposes departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
	incorporated into the site specific DCP which accompanies the application.
8.8 Green Edge Setbacks, Transitions & Activity & Commercial Zones A. Setback and Transition Requirements a. Green Edge setbacks are to be provided in the locations illustrated in Figure 9.7. b. Provide a minimum 6 metre green edge setback to Parramatta Road to provide wider footpaths and facilitate street tree planting. Greater setbacks may be required where an Indicative Zone for Rapid Transit is identified. c. Demonstrate consistency with the typical section for Parramatta Road as illustrated in Figure 9.11 and Spencer Street as illustrated in Figure 9.10. d. Provide the minimum required setbacks along all other streets in the Precinct and Frame Area as identified in Section 4. e. Provide a built form transition consistent with Figure 9.9 to any new open space to ensure that at least 50% of the open space will receive a minimum of 3 hour direct solar access between 11am and 3pm on 21 June. f. Provide built form transitions consistent with Figure 9.8 - Figure 9.9 to schools, heritage items and existing residential development. B. Activity and Commercial Zone Requirements a. Active and Commercial Frontages are to be provided in the locations illustrated in Figure 9.7. b. At least the ground and first floor levels of development along the full length of Parramatta Road must be a non-residential use. c. New Through Site Links, Prioritised Pedestrian Links and open space areas (including public plazas) should be lined with Active Frontages, wherever possible. Adjacent to proposed open space areas,	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposed departures are acceptable as it results in a better outcome for the site. Provisions requiring consideration of relevant matters have been incorporated into the site specific DCP which accompanies the application. See further discussion within the PP Report.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline

Consideration	Consistency
Active Frontages should reflect the function and purpose of the proposed open space. Sympathetic uses such as community facilities, child care centres and small kiosks/cafes should be explored. d. An Active Frontage can be replaced with a Commercial Frontage if Council forms the view that an appropriate use is provided. e. The ground floor level of Active and Commercial Frontages is to match the street level. f. Provide consistent paving, street furniture, signage, planting and lighting along Active and Commercial Frontages.	
9.9 Recommended Planning Controls A. Land Use A B4 Mixed Use zone is also proposed. B. Building Heights The recommended maximum building heights are shown in Figure 9.13. The tallest buildings permitted will be located in the centre of the Precinct immediately adjoining William Street and will be up to 80 metres or 25 storeys. Building heights step down from William Street to north, east, south and west. Building heights range from 17 – 32 metres (4 – 8 storeys) in the western portion of the Precinct and 17 – 28 metres (4 – 6 storeys) in the eastern portion. Land north of Queens Road is proposed to be limited to 17 metres (4 storeys) which will enable medium density residential development to be constructed, consistent with the current zoning which will be retained. On the southern side of Parramatta Road, increased height is provided on the main road frontage while heights are reduced towards low rise areas. Transitions in scale are provided to control overshadowing of existing residential to the south. C. Densities The preferred floor space ratios (FSR) are shown in Figure 9.14. The highest densities are focused around the areas of highest accessibility and amenity in the Precinct centre and are recommended based on the	Generally Consistent As detailed in the Planning Proposal Design Report, the provided concept plan has been designed taking these requirements into consideration. Although the proposal departs from some elements of these requirements, given the context, orientation, and holistic site specific design exercise undertaken, it is considered that the proposed departures are acceptable as it results in a better outcome for the site. See further discussion within the PP Report.



Table 1 – Parramatta Road Corridor Urban Transformation Planning and Design Guideline	
Consideration	Consistency
provision of new public transport connections, infrastructure and open space being provided in line with growth. In this location, a maximum density of 1:8:1 is proposed.	









LOCAL PLANNING PANEL

PLANNING PROPOSAL

MINUTES

*Halliday Room
City of Canada Bay Council
1A Marlborough Street
Drummoyne*

8 May 2024

Present: Jason Perica (Chair)
Larissa Ozog (Expert Panel Member)
Heather Warton (Expert Panel Member)
Alison Webb (Community Representative)

In attendance: Tina Kao, Acting Manager Strategic Planning
Helen Wilkins, Senior Strategic Planner
Dimity Maike, Panels Coordinator

ITEM 1 PLANNING PROPOSAL; PP2024/0002; PARRAMATTA ROAD CORRIDOR URBAN TRANSFORMATION STRATEGY (PRCUTS) STAGE 2; BURWOOD, CONCORD AND FIVE DOCK PRECINCTS

This Planning Proposal seeks to amend the Canada Bay Local Environmental Plan 2013 (CBLEP) to implement Stage 2 of the Parramatta Road Corridor Urban Transformation Strategy (PRCUTS), with refinements that are justified by Council's comprehensive evidence-based strategic planning process and studies.

The Panel's role is to provide advice to Council for their consideration. In providing advice, the Panel considers the strategic merit and site-specific merit of the Planning Proposal.

The Panel has considered the information and material presented by Council and the matters observed during the site inspection.

RESOLVED

The Local Planning Panel ("the Panel") supports the strategic and site-specific merit of the Planning Proposal ("PP"). Indeed, there is a specific Ministerial Direction requiring a PP to be prepared, following a State-initiated Parramatta Road Corridor Urban Transformation Strategy ("PRCUTS"), completed in 2016. The PP will be a very important contributor to accommodating growth in Canada Bay and wider strategic aspirations for Parramatta Road.

The key issue for the Panel was considering where the PP deviated from the recommended planning controls within PRCUTS and "new" directions, also given the Ministerial Direction referencing consistency with that Strategy.

The Panel notes the significant work undertaken by Council staff, and the volume and depth of studies and supporting information underpinning the PP. This includes Urban Design, Heritage, Public Domain, Traffic, Infrastructure, Contamination, Sustainability, Flood Planning, Feasibility and Tree Cover. Such work is appropriate given the scope of the PP, the time passed since PRCUTS, and evolution of planning issues since that time. This supporting work comprises over 2,500 pages.

Overall, the PP is consistent with the strategic direction and intent of PRCUTS. The PP contains a number of provisions or directions not specifically included in PRCUTS.

The Panel supports:

- a) The efforts and approach to combine PRCUTS and "the missing middle" State initiatives, including the increases to height to support medium and higher density housing in certain locations close to public transport;

- b) Preparation of a draft DCP to accompany the PP, as this helps the community and property owners understand intended planning controls and implications;
- c) A zoning which supports medium-high rise residential development (although further comments are provided below);
- d) The principle of including site amalgamation requirements to qualify for greater FSR and height (although further comments are provided below);
- e) Public domain augmentation through a proposed 6m dedication and a road connection between Loftus Street and Burwood Road and other laneway widening and connections, involving utilising FSR for that land in the development of the remaining site areas;
- f) The approach of testing the feasibility of achieving FSRs and heights in PRCUTS while achieving guidelines in the ADG, and also considering implications of infrastructure provision (or protection) and contextual and heritage considerations (although further comments are provided below);
- g) The justified reduced building scale (relative to PRCUTS) adjoining the schools at Concord and adjoining clusters of heritage items (particularly for Burwood-Concord);
- h) An active frontage control along Parramatta Road;
- i) Inclusion of No. 1 Lavender Street, Five Dock within the scope of the PP;
- j) The principle of including Affordable Housing with redevelopment, while considering feasibility;
- k) The setting of reduced car parking rates for the precinct, expressed as a maximum, in light of the proximity to public transport and as identified in the Traffic Study and existing traffic congestion.

In addition to the support from the Panel, there are a number of comments and suggestions below that should be considered in the Planning Proposal at the appropriate time:

1. The Table at page 32 of the PP should be checked as some proposed FSRs (e.g. 1.1:1) do not seem to correlate with the proposed height limits. This aspect is likely to be queried by landowners, who in turn are likely to undertake their own feasibility testing. The Panel suggests additional explanation be provided of the reasons where the proposed FSR is lower than PRCUTS as a result of this more detailed review (e.g. urban design response/heritage);
2. For the land use zoning, consider mechanisms that may allow greater employment-generating uses than typically included in an R3 zone, and the

ongoing potential implications of the creation of Existing Use Rights (as a result of the proposed change in zoning), specifically along Parramatta Road;

3. For the required site amalgamations, some sites are very large (5,000-11,000sqm) and some contain several buildings. The size of these sites may warrant review over time, if they hinder practical delivery;
4. Further consider providing open space at 1C Henley Marine Drive (and generally), given likely developer contributions, or other potential mechanisms to deliver local open space for the growth in population. In this regard, a future review of the Contributions Plan would be warranted, including considering infrastructure relating to open space, intersection upgrades, community facilities and the like;
5. Given the length and complexity of the documents supporting the PP and to assist in community understanding, include a section in the PP which summarises the findings of each of the studies undertaken. As a matter of principle, the Panel supports exhibition of studies relied upon;
6. Providing greater clarity in the PP of the approach, rate and mechanism to deliver affordable housing and consider all opportunities to deliver affordable housing;
7. Consider the relocation of the pedestrian site through links to span property boundaries rather than be dedicated to only one property, where this may provide greater certainty or flexibility in provision of such links (ie 3m delivered by one site and 3m delivered later when the other site redevelops). This could provide a public benefit more efficiently and activate the links earlier;
8. Sustainability measures should consider electric vehicle charging, and waste recycling and reuse of materials where possible and inclusion of any other innovative ESD initiatives that may not be outlined in the DCP or current policies;
9. Review the proposed LEP height limit maps for specific sites to in light of the proposed variable heights proposed within each site as shown in the Urban Design Masterplan. Potential greater alignment of the desired heights as shown in the Masterplan/draft DCP and the draft LEP HOB maps should be considered;
10. Review, where necessary, block designs and proposed street wall and podium heights (which currently vary) to maintain consistency, ease of built form integration and connectivity. This review can be a desktop review rather than detailed consideration;

11. That specific objectives of the relevant development standards as they apply to PRCUTS be drafted to particularly ensure the desired urban design and environmental outcomes are explicit;
12. If possible, the objectives of each development standard that will apply should be PRCUTS-specific (as opposed to being common to all of the LGA), to ensure that the basis of each of the standards, reflecting the desired urban design and environmental outcomes, is made explicit. If PRCUTS-specific development standard objectives are not able to be inserted in the LEP, then additional objectives could be incorporated in the LEP, that reflect the principles behind the setting of the development standards for PRCUTS;
13. Including any further information regarding State-planned infrastructure (where able), including investment in schools, hospitals, public transport and road upgrades, where arising from the demand from the increased population.

VOTING

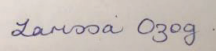
The voting in respect of this matter was 4/0.

For: Perica, Warton, Ozog, Webb.

Against: Nil.

ADOPTION OF MINUTES:

We, the undersigned members of the Canada Bay Local Planning Panel, certify that these Minutes are an accurate record of the Planning Proposal Meeting of 8 May 2024.

PANEL MEMBERS	
Jason Perica 	Larissa Ozog 
Heather Warton 	Alison Webb 



TRAFFIC COMMITTEE

26 September 2024

Via Email

MINUTES

Committee Members:

Mr Franco Guerrisi	Chair
Sergeant S Tohme	NSW Police
Mr. Andy Huynh	Transport for NSW
Ms. Stephanie Di Pasqua	Local Member of Parliament

Advisory Members:

Mr. R Ristevski	CCB Council
Mr. L Huang	CCB Council
Ms. S Tran	CCB Council
Mr. M Dizon	CCB Council
Ms. M Saini	CCB Council
Ms. A Tianias	CCB Council
Mr. J Stephens	CCB Council
Mr. A Prichard	State Transit Authority, Sydney Buses
Mr. A Clarke	Access Committee
Mr. D Martin	BayBUG – Canada Bay Bicycle Users Group
Mr. B Cantor	Busways

Minute Taker:	Ms. C Di Natale	CCB Council
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