

APPENDIX 3

Urban Design Study



Campbelltown Northern Precinct Plan Urban Design Study

In support of a Planning Proposal for:

2 Farrow Road
Campbelltown
NSW

Prepared for
Hyside Projects Subone Pty Ltd

Issued
29 April 2020

Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

We create amazing places



At SJB we believe that the future of the city is in generating a rich urban experience through the delivery of density and activity, facilitated by land uses, at various scales, designed for everyone.

Ref: 6160
Version: 06
Prepared by: WM, LV, BL, TH, FL
Checked by: JK

Contact Details:

SJB Urban
Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia

T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

SJB Architecture (NSW) Pty Ltd
ABN 20 310 373 425
ACN 081 094 724
Adam Haddow 7188 John Pradel 7004

| Issue Revisions | | |
|-----------------|----------------------------|------------|
| 01 | Draft for review | 30.03.2020 |
| 02 | Draft for review | 03.04.2020 |
| 03 | Draft for review | 14.04.2020 |
| 04 | Draft for review | 23.04.2020 |
| 05 | Draft for review | 24.04.2020 |
| 06 | Final issue for submission | 29.04.2020 |

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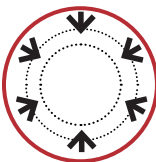
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1.1 Purpose of this Report

SJB have been engaged by Hyside Projects Subone Pty Ltd to prepare an Urban Design Study for a site located at 2 Farrow Road, Campbelltown. The study has been prepared in support of a Planning Proposal that seeks amendments to the current LEP controls for the subject site.

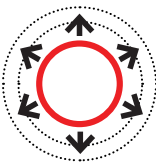
This study offers a development strategy for the subject site within a wider investigation precinct that includes Local and State Government as well as privately owned land surrounding the site as shown opposite. The vision is aspirational and is derived from a high level understanding of current and emerging policy documents, market conditions, road upgrades, community services provision and future public transport projects - specifically rail infrastructure.

The urban design strategy works at two scales in parallel:



Precinct Structure Plan

At this scale, strategic high level opportunities and constraints along with the community vision and priorities are identified. A response to these items is embedded in an urban framework and structure plan which demonstrates the merit in the delivery of the vision for Campbelltown's CBD as a whole.



Subject Site

Informed by built form testing of the wider precinct, the key focus at this scale is to explore the site specific potential and assess the viability and potential public benefits as well as the impact of options on the surrounding context. This includes the balancing of new open space, community infrastructure, additional employment space and ground level activation against the likely impacts on the amenity of these items.

Our strategic framework research identifies an opportunity for greater densities than are currently present in the local area, driven by the site's unique location adjacent to Campbelltown Station Interchange, a demand for future increased housing supply, employment floorspace and infrastructure delivery within wider Western Sydney. The site specific indicative reference scheme aims to achieve a sustainable balance between the provision of residential dwellings, commercial and retail activation, the quantum of open space, community facilities, the capacity of local road networks and access to public transport and services.

In order to achieve this, the Planning Proposal proposes the following amendments to Campbelltown LEP 2015 (CLEP 2015):

- Amending the CLEP 2015 Height of Buildings Map in accordance with the proposed height of buildings map, as shown within the planning report.
- Amending the CLEP 2015 Land Zoning Map in accordance with the proposed land zoning map, as shown within the planning report.
- As outlined within the planning report, the inclusion of a new clause / item in Schedule 1 of CLEP 2015 to permit residential accommodation to be provided at the ground floor levels (if appropriate) in addition to active street frontages.

The appropriate information to support the planning proposal is contained in this report, and includes the following:

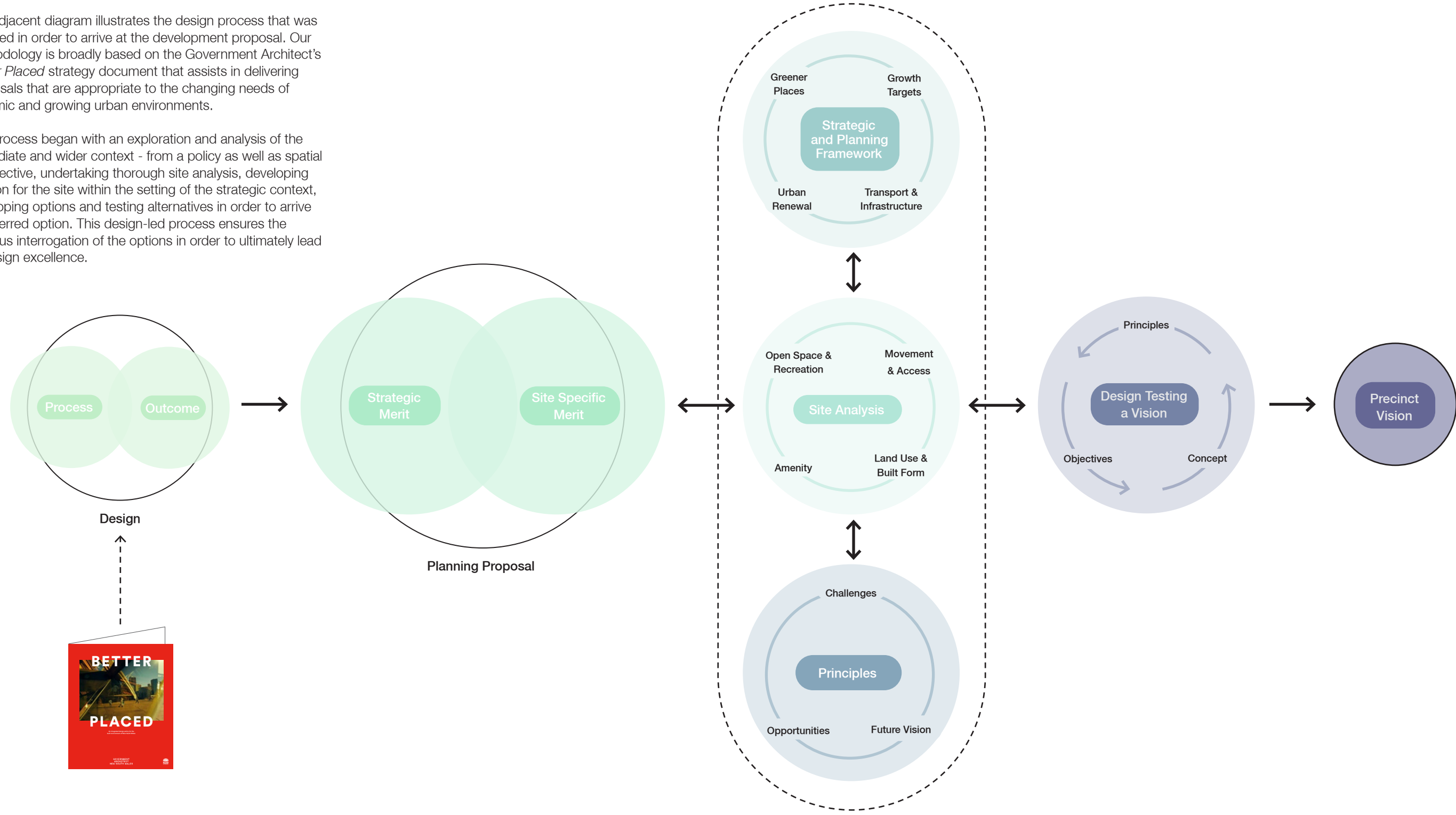
- An introduction to the site, its context and relevant planning frameworks
- A strategic framework and benchmarking analysis
- A thorough understanding of the local and urban context and an analysis of the design implications
- Key design principles that will inform the future character, quality of the proposed development and underpin the building design
- An indicative reference scheme for the subject site (and wider investigation precinct) to help convey how the proposed LEP amendments may manifest themselves in future



1.2 Approach Methodology

The adjacent diagram illustrates the design process that was followed in order to arrive at the development proposal. Our methodology is broadly based on the Government Architect’s *Better Placed* strategy document that assists in delivering proposals that are appropriate to the changing needs of dynamic and growing urban environments.

The process began with an exploration and analysis of the immediate and wider context - from a policy as well as spatial perspective, undertaking thorough site analysis, developing a vision for the site within the setting of the strategic context, developing options and testing alternatives in order to arrive a preferred option. This design-led process ensures the rigorous interrogation of the options in order to ultimately lead to design excellence.





Setting the Scene

1

Setting the Scene

1.1 Regional Context

'The Campbelltown CBD has long been considered as the regional centre for south-west Sydney, providing jobs and higher order facilities, services and opportunities for the Macarthur area and beyond. Our city has also been identified as the gateway to Southern Sydney. More recently, the Campbelltown-Macarthur Centre has been identified as one of four key metropolitan centres for Greater Sydney's Western Parkland City, along with the future Aerotropolis, and the existing centres of Liverpool and Penrith.'

Source: Campbelltown City Council Draft LSPS

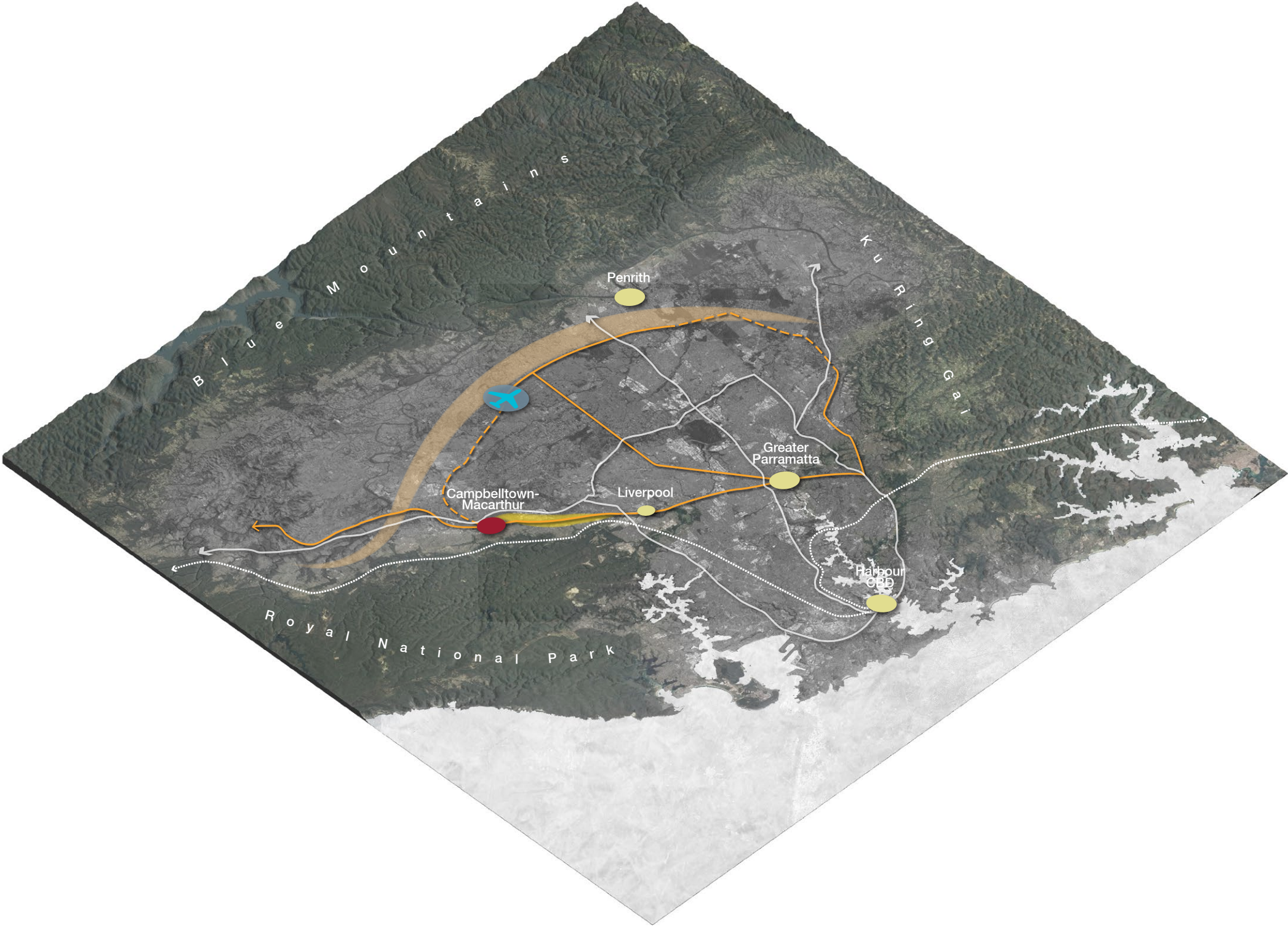
The Greater Sydney Region Plan - A Metropolis of Three Cities was released by the Greater Sydney Commission (GSC) in 2018. The Plan provides high level strategic guidance for the development of Greater Sydney to 2056. It is based on a vision of three cities – the 'Eastern Harbour City', 'Central River City' and 'Western Parkland City' – whereby people can access jobs and services in their nearest metropolitan city within 30 minutes, by public transport.

Campbelltown is located approximately 50km to the south-west of the Harbour CBD, on the edge of the Sydney Metropolitan Area and within the Greater Sydney Commission's Western Parkland City. Significant future regional improvements in infrastructure will include;

- North-South Rail Link line to Campbelltown - Macarthur currently under investigation
- High speed rail corridor upgrades planned to Sydney CBD
- Other large scale development proposals planned for W / SW Sydney associated with the new 'aerotropolis'

'The Western Sydney Airport will be the economic catalyst to transform the Western Parkland City over the next 40 years. It will attract globally significant defence and aerospace activities, and have significant freight and logistics strengths. The development of a new Western Economic Corridor with north-south access for the Western Parkland City and the Western Sydney Airport and Badgerys Creek Aerotropolis at its heart, will agglomerate the economic activities of the city. The established centres of Liverpool, Greater Penrith and Campbelltown-Macarthur will be critical locations for commercial and retail businesses and health, education and other services as the city grows.'

Source: Greater Sydney Commission - A Metropolis of Three Cities



Setting the Scene

1.2 Campbelltown Local Government Area (LGA)

Land Use and Activity

‘The Campbelltown LGA is characterised by a variety of urban and rural land uses. The dominant housing form is low density detached dwellings with groupings of medium density housing in some suburbs, and the recent emergence of apartment buildings in close proximity to the city’s main centres.

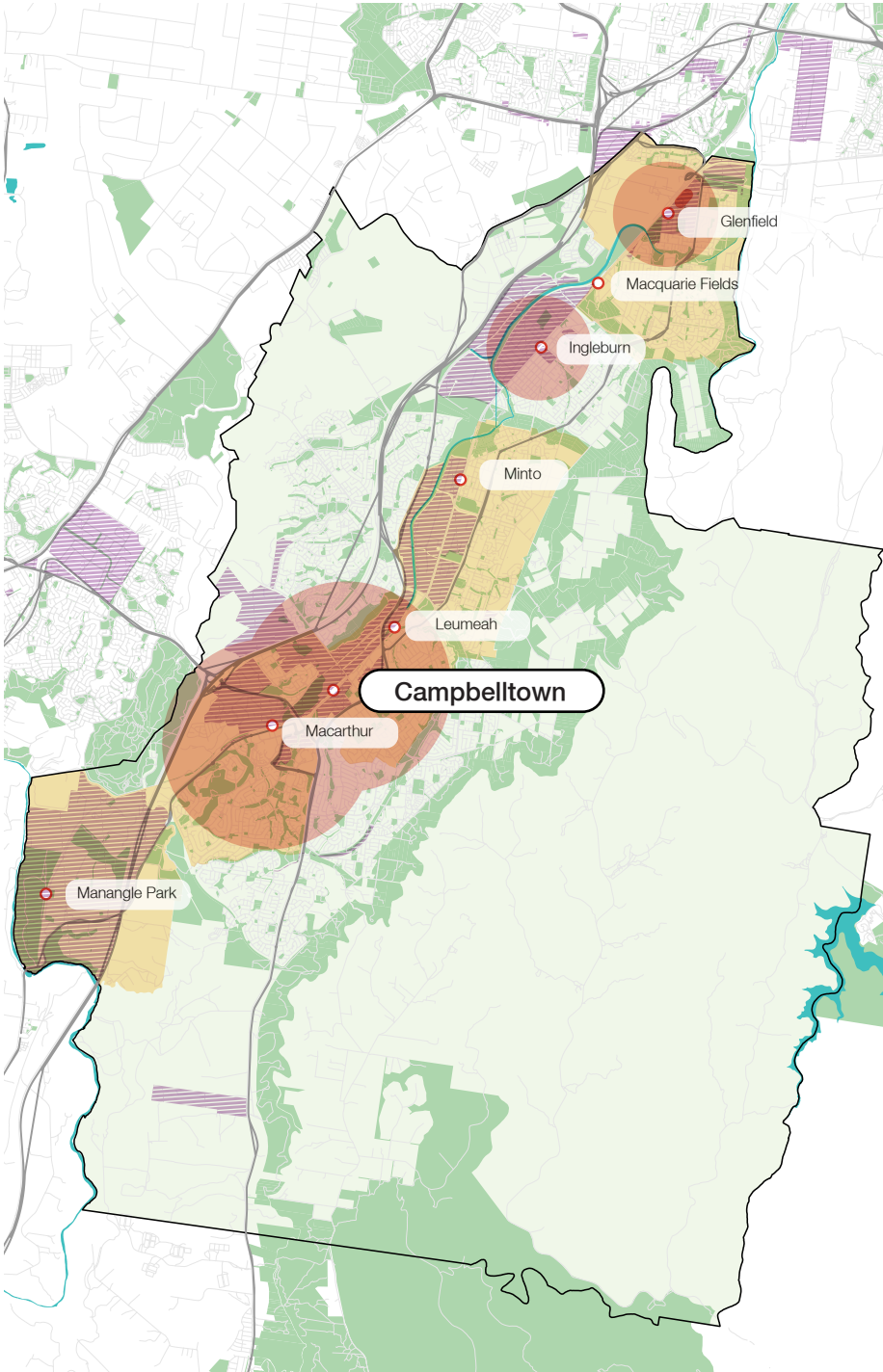
The Campbelltown LGA is bordered by corridors of environmental protection land with the shallow gullies of the Nepean River and broad rolling hills and landscape feature of the ‘Scenic Hills’ to the west, the Georges Rlver Corridor landscape occurring at the moderate to steep gullies of the Georges River to the east, and Gilead and the Wedderburn Plateau to the south and south east of the LGA.’

Source: Campbelltown City Council Draft LSPS

There are 8 main urban centres: Glenfield, Macquarie Fields, Ingleburn, Minto, Leumeah, Campbelltown, Macarthur and Manangle Park. Of these, Campbelltown and Macarthur are the most significant offering a concentration of commercial and retail activities as well as clusters of medium to high density housing.

The land use breakdown is as follows:

- 11,800 Ha of land in infrastructure zones
- 6,545 Ha of land in environmental zones, including National Park
- 4,910 Ha of residential zoned land
- 3,195 Ha of open space
- 2,400 Ha of rural land
- 752 Ha of industrial zoned land
- 375 Ha of land in business zones



Movement

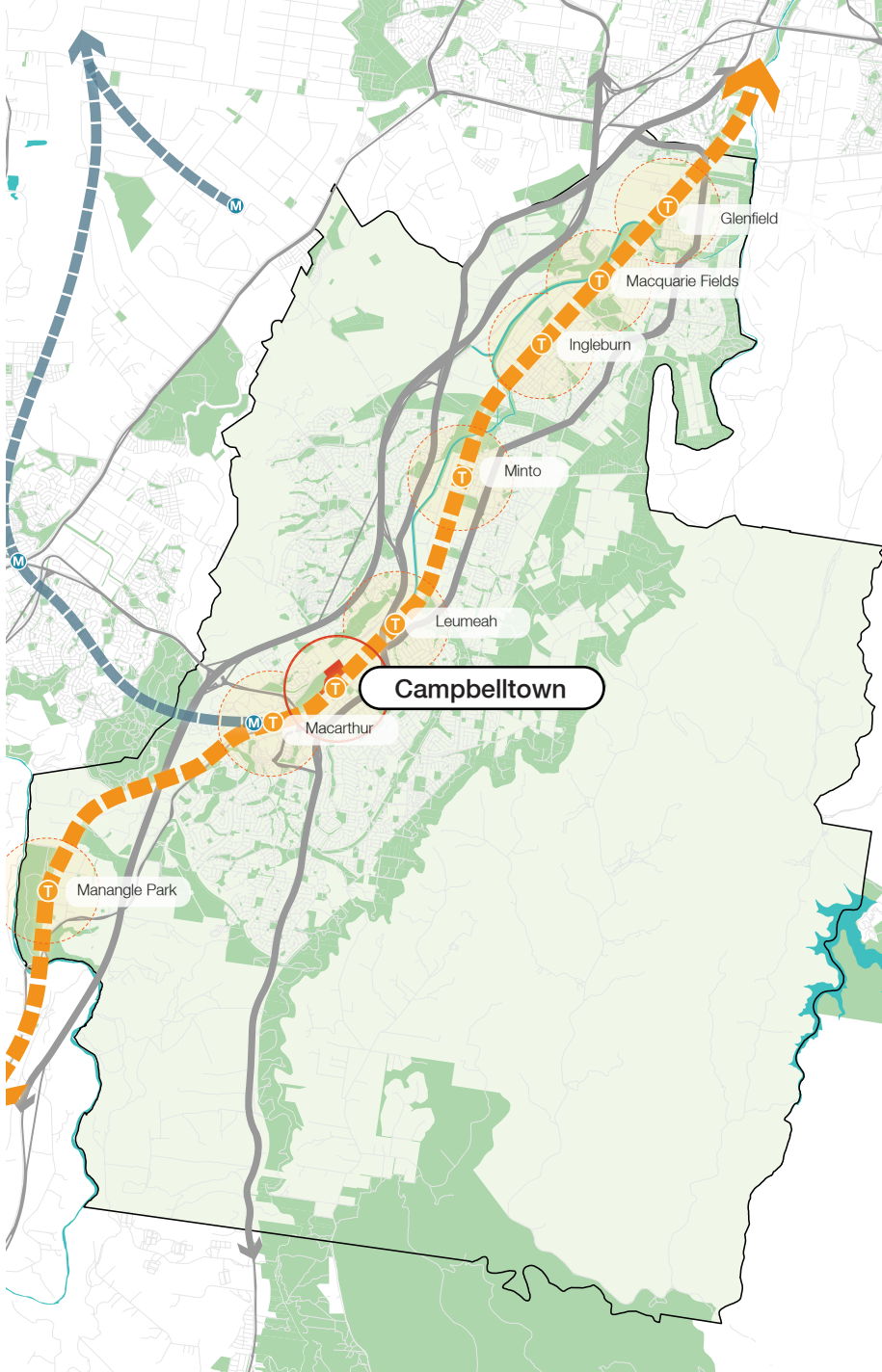
‘The Campbelltown CBD (Campbelltown, Macarthur and Leumeah) is strategically positioned around three key railway stations. It has a strong existing urban structure with great potential for revitalisation and capacity to grow, including the ability to leverage significant Council assets as major city shaping elements.

Campbelltown is strategically positioned both regionally and geographically to become a major destination for businesses looking to develop, build or relocate. Our accessibility, transport links, connectivity to Sydney CBD and airport, and availability of land located in key employment precincts, are part of what makes our city attractive.’

Source: Campbelltown City Council Draft LSPS

The main transport corridors transversing Campbelltown LGA include the T8 railway corridor (with 8 train stations along the corridor that correspond to the major centres) as well as the Hume Motorway running north-south which connects to all of the primary arterial roads.

Campbelltown-Macarthur has been identified as a potential rail interchange along the North-South – Rouse Hill to St Marys and Badgerys Creek Aerotropolis to Macarthur route which will emphasise the area as the southern gateway to Sydney.



Setting the Scene

1.3 Local Context

The subject site, 2 Farrow Road, is located due north of the Campbelltown Railway Station and bus interchange. It is framed by Badgally Road to the north east, Farrow Road to the south east, the vacant 4 Farrow Road to the south west (council owned land) and the channelised Bow Bowing Creek to the north west.

The site is located on the northern side of the rail infrastructure and as such, is somewhat disconnected from Campbelltown town centre itself with the two nearest crossing points being Campbelltown Road and Narellan Road to the north-east and south-west respectively (with the exception of the pedestrian footbridge within the station).

The wider surrounding area generally offers a mixture of light industrial / warehousing / car parking uses with good access to major vehicular infrastructure in the near vicinity.

Northern Precinct site area: approx. 175,967 sqm / 17.6 Ha

Key

Northern Precinct Boundary

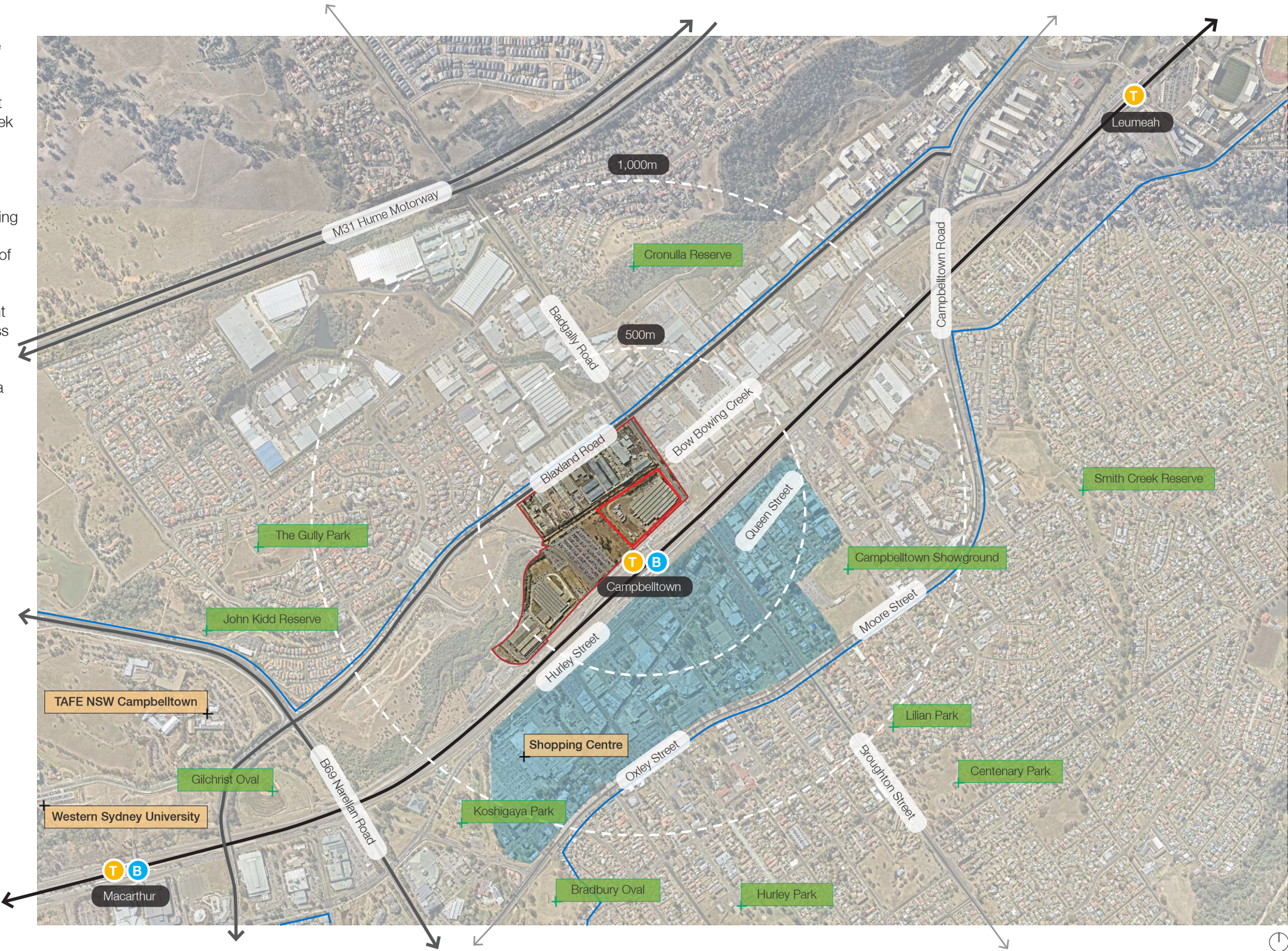
Site Boundary

Rail Infrastructure

Significant Road Infrastructure

Campbelltown City Centre

Campbelltown Core CBD



Setting the Scene

1.4 Context Photographs

The surrounding context offers a varied mix of built form, uses and architectural styles.

Typically, to the north of the railway line, the built form comprises low rise / large floorplate warehouses and general industrial buildings which are served by Blaxland Road and broadly defines the northern extent of Campbelltown’s Business Development district with the exception of the Blair Athol residential suburb to the west. On the southern side, there is a greater variety of building uses, styles and densities. Typically, older buildings are of lower height but taller, more contemporary, infill structures are beginning to emerge.

A large proportion of the ground plane of the local area is dominated by vehicular infrastructure with almost no tree canopy (especially to the north of the railway) that offers vital shelter for pedestrians (from sun, wind and rain) especially important given the climate of Western Sydney.

Building setbacks are often excessive, further reducing the benefits of shading pedestrian footpaths and inadvertently creating significant areas of landscape that must be maintained by either by Council or privately.

Farrow Road, fronting the station, has limited footpaths connecting to the main commuter car park, suffers from a lack of activation, shelter, identity and offers little non-incidental soft landscaping.

The channelised Bow Bowing Creek to the north west, is an underused asset which suffers from some degree of misuse.



01 - Recent residential flat building with commercial units at ground



02 - Campbelltown Civic Centre and tree lined Hurley Street



03 - Pedestrian station approach (including underpass)



04 - Existing railway infrastructure looking north



05 - Existing stand of trees on council land



06 - Extensive warehouse and distribution buildings



Site photo plan



07 - Blank facades and remnant parcels of land



08 - Discarded shopping trolleys in Bow Bowing Creek



09 - Intersection of Blaxland and Badgally Roads to the north

Setting the Scene

1.5 Site Context

The subject site is located at 2 Farrow Road, Campbelltown.

The current single storey warehouse building covers approximately 50% of the site area, with the remainder generally providing informal surface car parking. There are two stands of existing trees along the north east and north west boundaries with a few other additional specimens along the Farrow Road boundary.

There are two existing vehicular (and pedestrian) entry points on Badgally and Farrow Roads.

Bow Bowing Creek (to the north west) is currently channelised in the immediate vicinity of the site but is naturalised to the south. In its current condition, it provides little ecological value to the existing network of open spaces and waterways.

The site topography is generally flat with a slight fall from Farrow Road towards Bow Bowing Creek of between 1.2 and 3 metres.

Campbelltown Railway Station to the south of the site is listed as a heritage item.

Subject site area: approx. 28,110 m² / 2.81 Hectares



Site Aerial Photograph

Setting the Scene

1.6 Site Photographs

The subject site contains a large floorplate warehouse building positioned towards the north east boundary. The remainder of the site offers a mix of informal and formal parking for a variety of vehicle types and some semi-vegetated areas.

The existing brick and metal warehouse has a south facing sawtooth roof with numerous entrances / loading bays around its perimeter. A two storey portion of the warehouse structure provides some office space close to Farrow Road. The building is currently occupied by two different tenancies.



01 - Site from station pedestrian bridge



Site photo plan



02 - Sawtooth roofing of existing warehouse building



03 - Informal vehicle loading bay



04 - Channelised Bow Bowing Creek forming the northern site boundary

Setting the Scene

1.7 Topography and Open Spaces

Situated within a wider valley context, the area has an undulating topography with a ridge line that runs along the north west of the City towards the Western Sydney University. Over time, this has been heavily modified by infrastructure - particularly the Hume Motorway.

Localised peaks on the northern side of the railway include Cronulla and Harvey Brown Reserve which provide extensive views of the wider area - particularly to the south east. On the southern side of the railway, the topography gently slopes upwards towards Centenary Park, ‘sitting on the high crest behind St Elmo house, [which offers] sweeping views of the city and was originally earmarked as a site for Campbelltown Hospital, and then the TAFE. These plans were abandoned and in 1981 the State Government handed the hilltop to Council as a public reserve, possibly a lookout.’

Source: Campbelltown City Council: History of Campbelltown

Bow Bowing Creek has shaped the landscape over time (as is evident to the west of the site, but the historic line of the waterway has been lost throughout the urban and peri-urban areas due to the extensive channelisation.

Dissected by the Creek, the precinct (including the subject site itself) is relatively low lying and is generally flat with approximately 4m of level change from north to south.

KEY

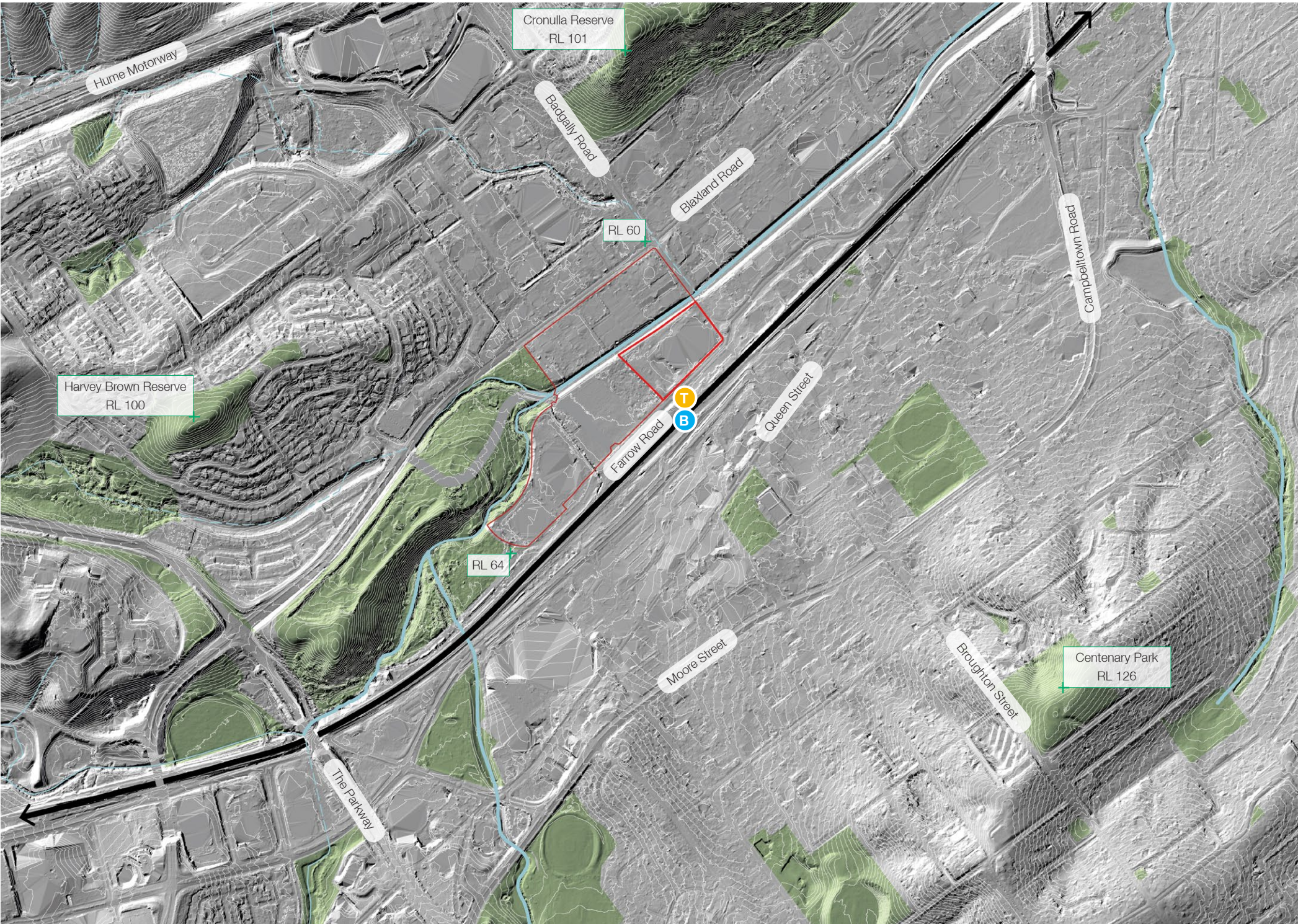
Precinct Boundary

Site Boundary

1m Contour Intervals

Waterways

Open Spaces



Setting the Scene

1.8 Movement and Access

The precinct is bounded by Blaxland Road to the north (a major arterial road), Badgally Road to the east and by the railway corridor to the south.

The railway corridor creates a significant barrier dividing the north and south into two distinct areas. The Parkway and Campbelltown Road are the closest vehicular crossing points whilst Campbelltown Station provides the only pedestrian crossing point in the vicinity.

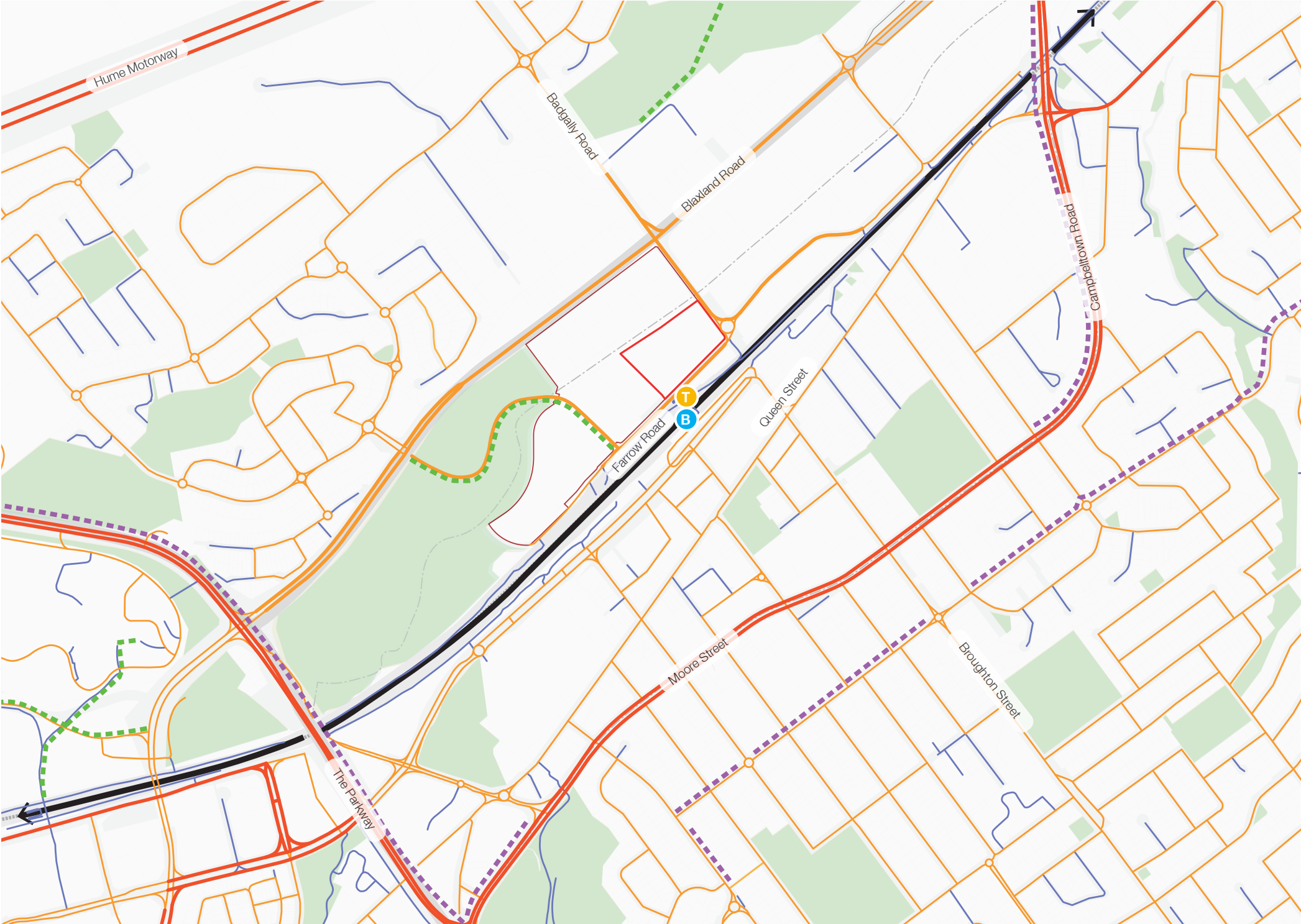
Campbelltown City Centre's street network offers a clear grid structure with few dead ends and good connectivity.

The northern side of the railway, characterised by light industrial units and single detached dwellings, has been developed more recently and as such, has a less legible road structure compared to the city centre.

The bicycle network is extremely limited with only a few segregated cycleways.

KEY

- Precinct Boundary
- Site Boundary
- Railway Corridor
- Distributor Road
- Collector Road
- Local Road
- Segregated Cycle Path
- Shared Path



Setting the Scene

1.9 Land Zoning

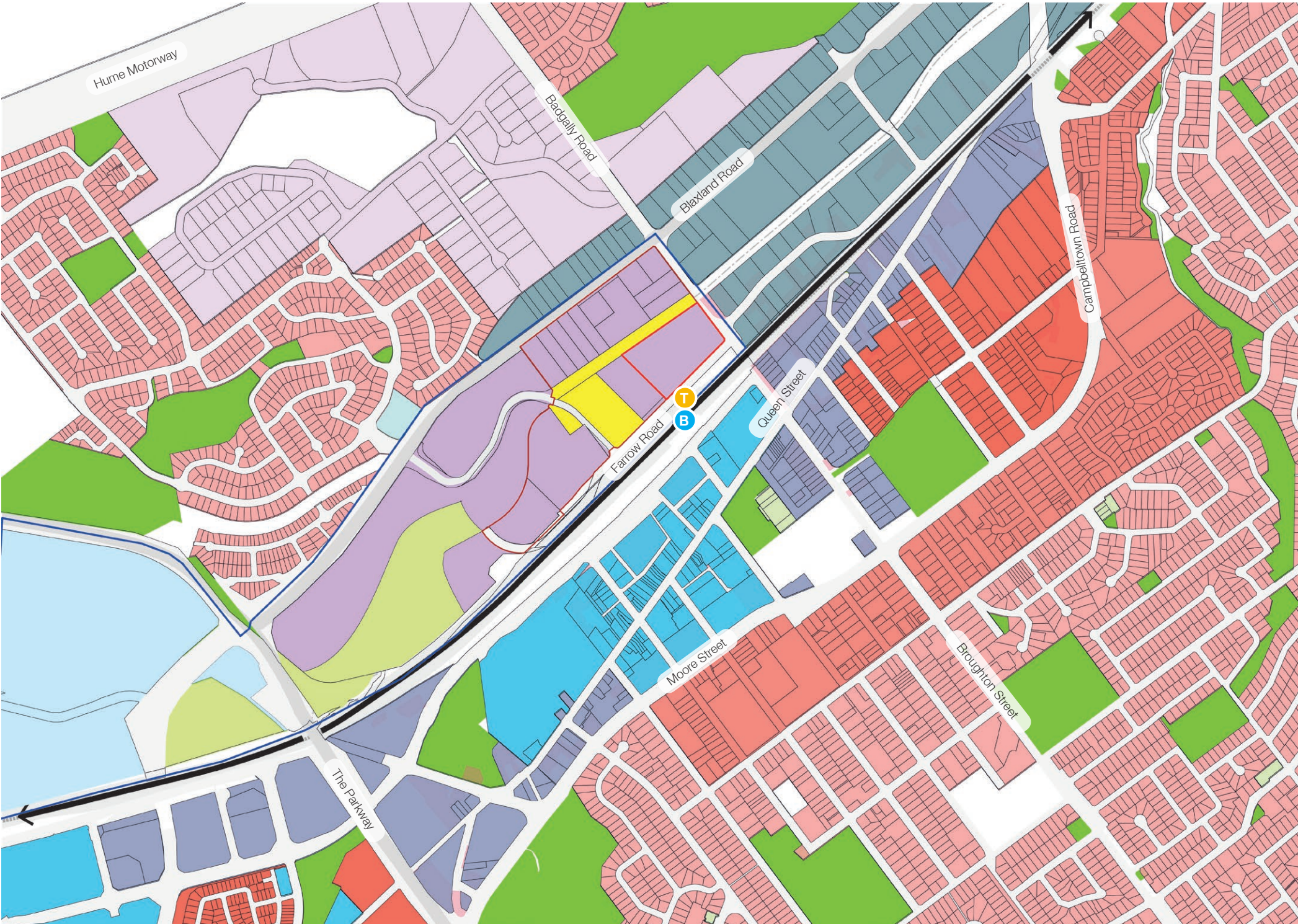
On the southern side of the railway, the majority of the City Centre is zoned as B3 - Commercial Core, transitioning to B4 - Mixed Use and then to various densities of residential areas.

To the north of the site, surrounding development is zoned as B5 - Business Development which enables a mix of business and warehouse uses, and specialised retail premises that require a large floor area, in locations that are close to, and that support the viability of centres.

The area indicated (which includes the site) is subject to Deferred Area Zoning and as such, *Campbelltown (Urban Area) Local Environmental Plan 2002 - Zones* is applicable. The subject site, along with the majority of the precinct is zoned as 4(b) Industry B with the remainder being 5(a) Special Uses A - Drainage and Parking. These areas are occupied by Bow Bowing Creek and Campbelltown Commuter Car Park(s) respectively.

KEY

- Precinct Boundary
- Site Boundary
- B1 Neighbourhood Centre
- B2 Local Centre
- B3 Commercial Core
- B4 Mixed Use
- B5 Business Development
- IN2 Light Industrial
- R2 Low Density Residential
- R3 Medium Density Residential
- R4 High Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- Deferred Area Zoning Boundary
- 10(a) Regional Comprehensive Centre
- 6(a) Local Open Space
- 4(b) Industry B
- 5(a) Special Uses A - Drainage and Parking



Setting the Scene

1.10 Maximum Building Heights

The highest permissible heights of 45m and 38m currently exist along Hurley Street and help to form a cluster of increased density in close proximity of the train station at the heart of the Campbelltown CBD.

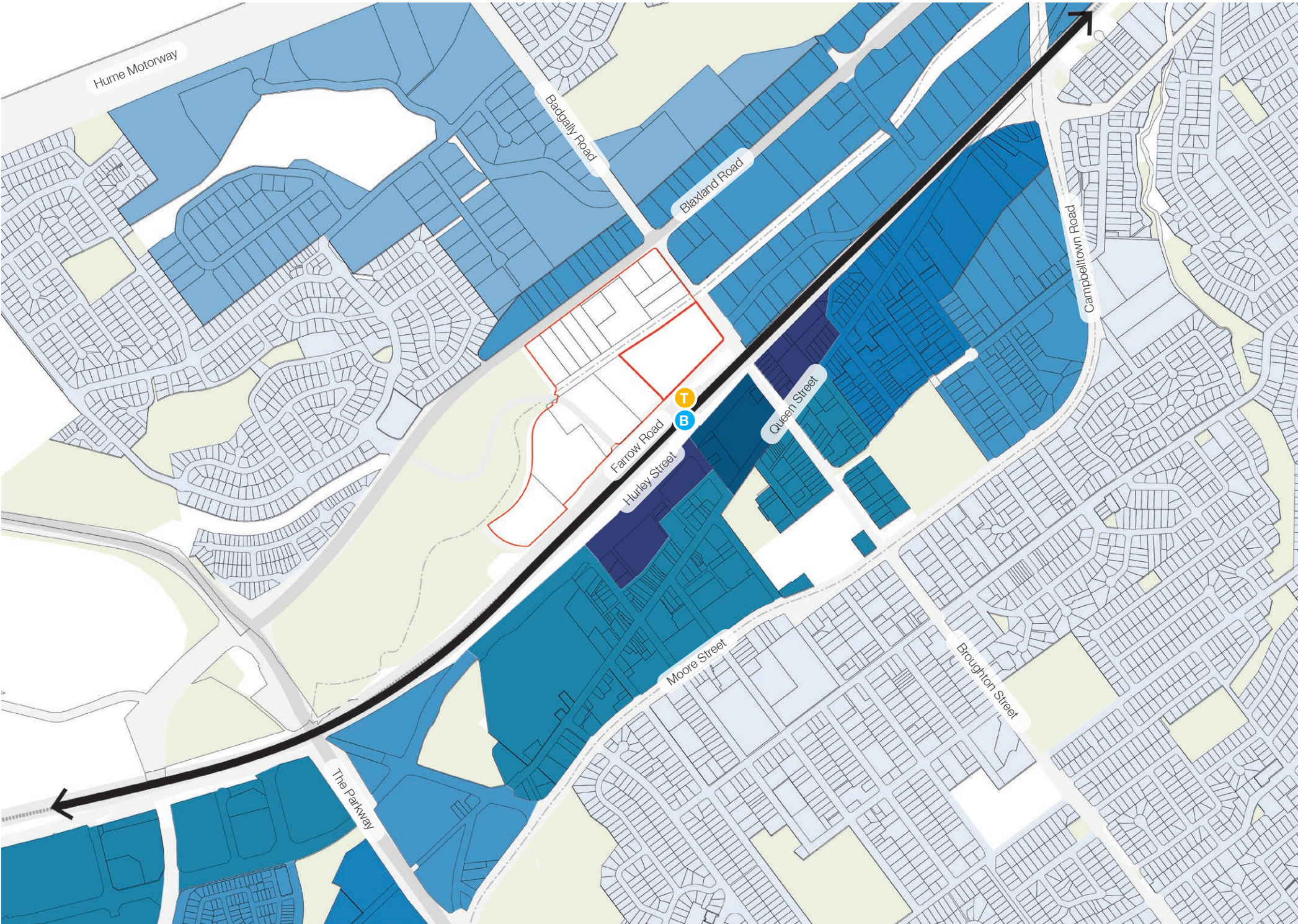
To the south, there is an intermediate 32m maximum building height comprising the retail and commercial core of Queen Street transitioning down to 15m to the north of The Parkway which envelopes Koshigaya Park.

On the northern side of the railway, a 15m building maximum height transitions down to 8.5m as one moves away from the City Centre.

The subject site (and wider precinct) do not have maximum building heights under Campbelltown Local Environmental Plan (LEP) 2015.

KEY

- Precinct Boundary
- Site Boundary
- Railway Corridor
- 45m
- 38m
- 32m
- 26m
- 22m
- 15m
- 9.5m
- 8.5m



Setting the Scene

1.11 Open Space, Recreation and Community Infrastructure

Community infrastructure tends to be clustered along Queen Street within the City Centre with a wide variety of facilities available. In contrast, there is a general lack of community infrastructure on the northern side of the railway corridor due to lower population densities and more diverse land uses.

Open space accessibility is also concentrated on the southern side of the railway with Hurley Park and Bradbury Oval both offering substantial open spaces (i.e. sports ovals) for sports and recreation. Similarly, there is a lower concentration of recreational spaces to the north.

There are significant parcels of vacant / undeveloped land and open space located to the south west of the subject site including the River Flat Eucalypt Forest of Bow Bowing Creek.

KEY

Precinct Boundary

Site Boundary

Railway Corridor

200m Catchment

RE1 Zones

Vacant / Undeveloped Land

Childcare

Educational Facility

Primary School

Secondary School

University

TAFE

Retail hub

Post Office

Community Facility / Centre

Library

Theatre

Centrelink

Medical Centre

Church / Cemetery

Police Station

Fire Station

This map illustrates the Campbelltown Northern Precinct Plan, highlighting various infrastructure and open space elements. The map features a railway corridor running diagonally from the bottom left to the top right. Key roads include the Hume Motorway, Badgally Road, Blaxland Road, Farrow Road, Queen Street, Moore Street, Campbelltown Road, Broughton Street, and The Parkway. Several parks and reserves are marked, including The Gully Park, Harvey Brown Reserve, John Kidd Reserve, Cronulla Reserve, Mawson Park, Koshigaya Park, Bradbury Oval, Hurley Park, Lilian Park, Centenary Park, and Smith Creek Reserve. The map also shows various community facilities such as schools, libraries, and medical centers, as well as recreational areas like Bradbury Oval and Hurley Park. A legend on the left side of the map provides a key for the symbols used, including precinct boundaries, site boundaries, railway corridors, 200m catchments, RE1 zones, vacant/undeveloped land, childcare, educational facilities, primary and secondary schools, universities, TAFE, retail hubs, post offices, community facilities, libraries, theatres, centrelink, medical centers, churches/cemeteries, police stations, and fire stations.

SJB

Campbelltown Northern Precinct Plan

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Setting the Scene

1.12 Key Campbelltown LGA Demographics

The LGA has a diverse mix of residential, commercial and industrial communities sitting cheek by jowl. Campbelltown is host to the most sizeable residential population as well as there being significant employment areas based around the three main centres of Leumeah, Campbelltown and Macarthur.

The population across the LGA 'is expected to grow by about 70% from 161,408 in 2016 to a possible 275,778 in 2036. The age group 0 – 49 will grow by about 70%. The late working age group between 55 – 69 years is expected to grow by less than 30% whereas the retirees age group 70 and above, will more than double.

The population growth will not be distributed evenly. It is estimated that there will be an additional 18,500 people in Campbelltown CBD'... housed in an additional 7,900 dwellings.

'These figures suggest priorities for the provision and design of community facilities, both new facilities and retrofitting existing facilities.

The proportion of household types such as couples with families, couples without dependents, group households, lone person households and one parent families is estimated to remain generally unchanged over the next 20 years.

The proportion that will be small lot housing, medium and high density housing is expected to increase over the next 20 years.

The increase in population will generate the need for additional recreation facilities. The highest demand for new recreation facilities will be around Campbelltown CBD and in the new residential areas.'

Source (text and statistics): Campbelltown City Council - Final Draft Local Strategic Planning Statement, 2020



78.7% Detached house
16.6% Semi-detached
4.4% Flat or apartment



3.3 Bedrooms
Average per dwelling
3 in NSW



70%
Overweight or obesity rate
in adults
63.3% in NSW



8,751 Jobs
Employed in the retail sector,
Campbelltown's largest



3.8%
Aboriginal and Torres Strait
Islander population
1.5% in Greater Sydney



53.3%
2 or more motor vehicles
per dwelling
50.8% in NSW



3 People
Average
household size
2.6 in NSW




33.4%
Households where a non
English language is spoken
26.5% in NSW



15.4%
Achieved Bachelor degree
level and above
23.4% in NSW



38%
Born overseas

30.8% with English, Irish or
Scottish heritage

Setting the Scene

1.13 Indigenous Heritage

We acknowledge the Dharawal people as the Traditional Custodians of the Country that this urban design report focuses upon and we acknowledge the elders past, present and emerging.

Campbelltown has one of the largest urban populations of Aboriginal and Torres Strait Islander people in New South Wales. The strong spiritual and physical connection with the land is a foundation of Aboriginal culture and it is our intention to explore how the unique character of a riparian biome site such as Bow Bowing Creek would have allowed the Dharawal people to live and prosper and how it may inform any future strategic vision and design response.

Settlement at Campbelltown and the Cowpastures

‘Campbelltown, south-west of Sydney, was permanently occupied by Europeans from 1809... The Aboriginal people who lived in the Campbelltown region were called the Cowpastures tribe by the Europeans. Anthropologists have concluded that they spoke the Dharawal language and that their territory covered a region from Botany Bay south to the Shoalhaven River and inland to Camden. Their neighbours on the north were the Dharuk of the Hawkesbury district. To the south and south-west, in the mountain highlands, lived the Gandangara and eastward, on the coastal plain of the Illawarra, were the Wodi Wodi. The Dharawal travelled widely through the country of the Hawkesbury-Nepean river system, (see adjacent) occasionally leaving their own territory to visit other Aborigines at Prospect, Parramatta and Windsor, east to Botany Bay and as far north as Broken Bay, west to Bathurst and south-west to Lake Bathurst.’

Source: Carol Liston - The Dharawal and Gandangara in Colonial Campbelltown, New South Wales, 1788-1830

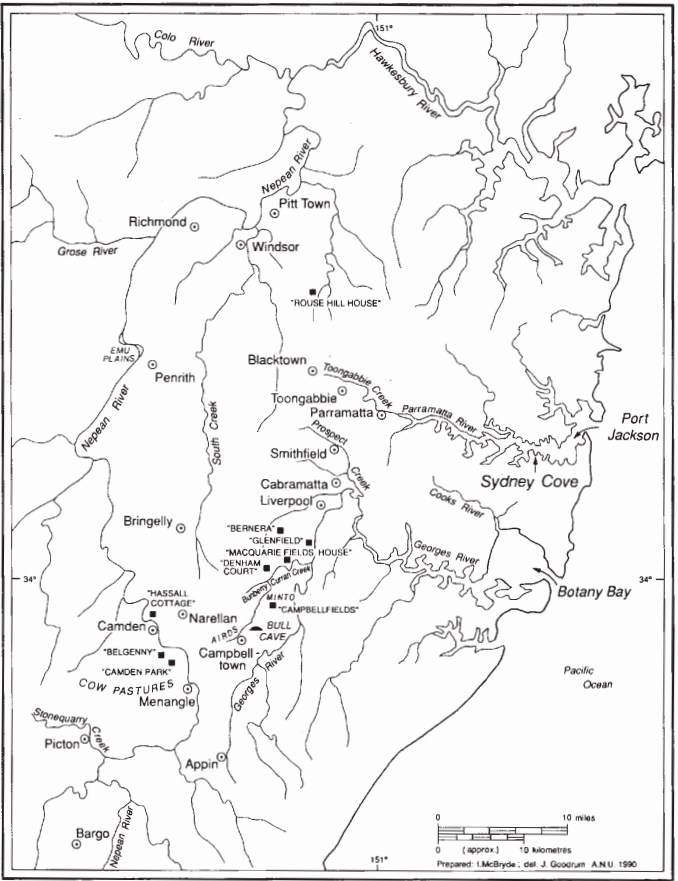
‘Natural resources supplied all their material needs. The land of the Georges River and its tributaries provided water, food and shelter. The streams and swamplands offered a variety of food. The forest lands sheltered possums, lizards, kangaroos and wallabies and there were roots, berries and seeds to gather. Birds also provided meat and eggs.

Along the Georges River, sandstone eroded, forming rock overhangs which provided shelter. Those facing north, caught the sunlight and held warmth through the night. The walls of these shelters were often decorated with images and hand

stencils outlined in red ochre, white clay or charcoal. Evidence of the tracks, camps and significant sites are scattered across the region, even today.’

Source: Campbelltown City Council - Campbelltown’s Aboriginal History

‘The Dharawal left tangible evidence of their initial reaction to European settlement. Six months after the arrival of the First Fleet, two bulls and four cows, the colony’s only source of fresh meat, disappeared from the settlement at Sydney Cove. The cattle wandered south, crossed the Cook and Nepean Rivers and established themselves on good grazing land in the Menangle-Camden area about ninety kilometres from Sydney. The Dharawal saw these strange creatures and sketched them on the wall of a sandstone shelter... The drawings in Bull Cave (see below) date to the first years of European settlement as the colonial offspring of these animals had horns when rediscovered in 1795.’



Source (text and image): Carol Liston - The Hawkesbury, Campbelltown and Appin districts in the early nineteenth century

Campbelltown Northern Precinct Plan

The Dharawal Calendar with six seasons representing their knowledge of seasonal and ecological changes in Country

| | | |
|---|--|--|
| Burran January - March | Gadalung Marool “Hot and dry” | <p>The behaviour of the male kangaroos becomes quite aggressive in this season, and it is a sign that the eating of meat is forbidden during this time. This is a health factor; because of the heat of the day meat does not keep, and the likelihood of food poisoning is apparent.</p> <p>The blooming of the Weetjellan (Acacia implexa) is an important sign that fires must not be lit unless they are well away from bushland and on sand only, and that there will be violent storms and heavy rain, so camping near creeks and rivers is not recommended.</p> |
| Marrai’gang April - June | Bana’murrai’yung “Wet becoming cooler” | <p>The time of the year when the cries of the Marrai’gang (Quoll) seeking his mate can be heard through the forests and woodlands, and when the lilly pillys ripen on the trees.</p> <p>However, when the lilly pillys start to fall, it is time to mend the old warm cloaks from last cold season, or make new ones, and begin the yearly trek to the coastal areas.</p> |
| Burrugin June - late July | Tugarah Tuli “Cold, frosty, short days” | <p>This is the time when the male Burrugin (echidnas) form lines of up to ten as they follow the female through the woodlands in an effort to wear her down and mate with her. It is also the time when the Burringoa (Eucalyptus tereticornis) starts to produce flowers, indicating that it is time to collect the nectar of certain plants for the ceremonies which will begin to take place during the next season.</p> <p>It is also a warning not to eat shellfish again until the Boo’kerrikin blooms.</p> |
| Wiritjiribin August | Tugarah Gunya’marri “Cold and windy” | <p>The lyrebirds’ calls ring out through the bushland as he builds his dancing mounds to attract his potential mates. It is the time of the flowering of the Marrai’uo (Acacia floribunda) which is a sign that the fish are running in the rivers.</p> <p>At the end of this time the Boo’kerrikin (Acacia decurrens) flower, which indicates the end of the cold, windy weather, and the beginning of the gentle spring rains.</p> |
| Ngoonungi Sept - Oct | Murrai’yunggory “Cool, getting warmer” | <p>The time of the gathering of the flying foxes. A magical time of the year when the flying foxes gather in the darkening skies over D’harawal Lands. They come in from the north-east, the north, the north-west and the west, and swirl over the Sydney area in a wonderful, sky-dancing display just after sunset, before setting off for the night-time feeding grounds to the south.</p> <p>But it is also a very important ceremonial time for the D’harawals, which begins with the appearance of the bright red Miwa Gawaian (Telopea speciosissima) in the bushland.</p> |
| Parra’dowee Nov - Dec | Goray’murrai “Warm and wet” | <p>This season begins with the Great Eel Spirit calling his children to him, and the eels which are ready to mate make their way down the rivers and creeks to the ocean.</p> <p>It is the time of the blooming of the Kai’arrewan (Acacia binervia) which announces the occurrence of fish in the bays and estuaries.</p> |

Source: bom.gov.au - D’harawal Calendar - <http://www.bom.gov.au/iwkw/calendars/dharawal.shtml>

Setting the Scene

1.14 Site Heritage

‘The discovery of the large herd of wild cattle in 1795 gave the area its European name, the Cowpastures. Visits to the district remained rare until the early 1800s when attempts were made to domesticate the cattle. The fresh meat attracted European visitors and the governor appointed constables to prevent unauthorised travel into the area.

Following severe flooding along the Hawkesbury in the winter of 1809, the colonial government encouraged new farming settlements away from the river in the open forest lands south-west from Parramatta in the Districts of Cabramatta, Bringelly and Minto. By November 1810, when Macquarie visited Minto and the Cowpastures, the district was already under the plough with fields of wheat and grazing sheep and cattle.

The town of Campbelltown was formally established by Macquarie in 1820 and, until the mid 1820s, it was the southern limit of European settlement. It was a different frontier to the later male-dominated pastoral frontier of the 1820s-40s. The Districts of Airds, Appin and Minto were settled by family groups, mainly ex-convicts who brought with them their women and children and extended families of brothers-in-law, parents and other kin.’

Source: Carol Liston - The Dharawal and Gandangara in Colonial Campelltown, New South Wales, 1788-1830

‘Arrival of the a Governor, Sir Thomas Brisbane, saw plans for Campbelltown indefinitely shelved. In 1823, the chief architect, Standish Harris, stated that apart from a church, a school, and a few bark huts, the town had little to offer.

Years rolled by as Brisbane’s staff dallied and delayed, while Macquarie’s dream sat unfinished, except for a scattering of buildings and homes outside the official town boundary. It wasn’t until 1827, a year after Brisbane was replaced as Governor by Sir Ralph Darling, that the first measured plan of “Campbell Town” was finally drawn up by a surveyor called Robert Hoddle. His grid pattern was the foundation for the new town.

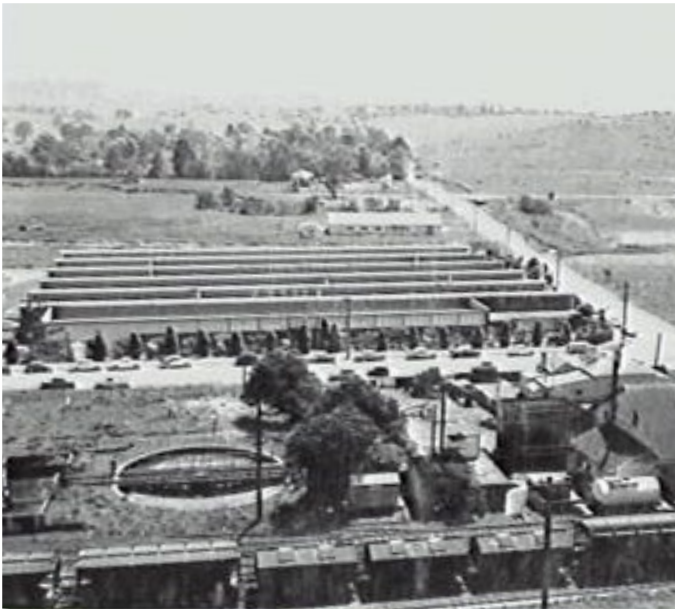
It wasn’t until October 1831 - eleven years after Macquarie’s proclamation - that the first settlers were allowed to take possession of their own land. Construction of a convict-built reservoir next to modern-day Hurley Park, and the resulting water supply, saw land values skyrocket.

The “Gold Rush” years saw the railway line hurtle south from Sydney to Goulburn, and for some years Campbelltown was a major railhead, with its station opening - with much fanfare - on May 4, 1858.

Campbelltown Public School opened in January 1876, and Campbelltown Council formed in 1882. It soon made plans for new surveys and alignments of its streets, most of which were gravel, crushed stone or dirt. But well into the early 1900s, Campbelltown was still contained within the framework set by Governor Macquarie in 1820.

By 1924, four years after celebrating its centenary, electric power was available.

Campbelltown was rocked in 1955, when the giant manufacturer Crompton Parkinson Pty Ltd announced it wanted to build a new factory on rural paddocks west of the railway station. The township had no factories at the time, and the hundreds of new jobs it would create stirred huge excitement... Council decided to create an entire industrial estate next to the Crompton Parkinson site. In 1956, it officially resumed the land to develop new streets and blocks. Surrounded by small farms, Badgally road had already existed for years. It was named after its destination, the hill on which St Gregory’s College now stands. Earlier this century, Badgally was actually pronounced “Badjally”.



“Nile Industries Pty Ltd” building on subject site. Date unknown

Blaxland Road was created as part of the industrial estate, but was little more than a dirt path and ran much shorter than its current length. It was presumably named in memory of explorer Gregory Blaxland, who succeeded in crossing the Blue Mountains in 1813... Other new roads recognised families who road owned the land resumed. Farrow Road, next to the railway station, recalled farmer William Farrow.

By 1960, the wisdom of locating an industrial area west of the railway was being questioned. Factories already established had found it was flood prone and remote. The only access was via a railway level crossing linking Broughton Street and Badgally Road, and motorists were subjected to long delays due to shunting and hold-ups at the nearby railway station.

So, for the rest of the 1960s and much of the 1970s, anyone wanting to get into the industrial area had to drive over the Campbelltown Road railway overbridge, enter Kialba Road, turn into Rose Street, and then head along Blaxland Road. By 1974, the pot-holed, maze-like entrance to the Industrial area was causing outrage. An angry Chamber of Commerce demanded Blaxland Road be extended to Camden Road to form a new access.

Meanwhile, in January 1979, Blaxland Road in the north had been linked with Campbelltown Road anyway, and the difficult Kialba Road entrance had been closed off.



Source: Central Mapping Authority of New South Wales - 1:10 000 base map series, New South Wales, Australia, 1972 - 1977

With the massive expansion of Campbelltown in the 1970’s, there was major concerns about the traffic congestion in Queen Street. It claimed a bypass was needed for through-traffic - a plan which called for the realignment and extension of two older roads, to form the Moore-Oxley Bypass... which opened to traffic in November 1980.

The busy intersection of Queen Street and Lithgow Street was closed in August 1979, and a year later it was redeveloped as the Lithgow Street Mall - a “peaceful haven for shoppers”. Part of the main street itself was closed in the mid-1980’s, to create a leafy Queen Street Mall near the famed cluster of 1940’s heritage buildings.’

Source: Campbelltown City Council - History of Campbelltown (abridged)

‘As a result of this distinctive setting, the urban areas of Campbelltown are well-defined. Today, it is a linear city – a network of compact urban centres, connected by a central railway spine, united by blue spine and framed in rolling green hills.’

Source: Campbelltown City Council - Re-imagining Campbelltown City Centre

The (compiled) map below from 1972 - 1977 shows the natural line of Bow Bowing Creek before channelisation as well as the significant upgrades to Blaxland Road.

Setting the Scene

1.15 Urban Heat Island Effect (UHIE) in Campbelltown

‘The compounding effects of climate change and rapid urbanisation cause cities to heat up... Today, the communities of Campbelltown in the southern region of the Greater Sydney Basin already experience extreme summer temperatures and heatwave conditions on an annual basis. Climate predictions point toward amplification of summer heat. Already today these conditions represent a serious threat to the quality of life, public health and economic prosperity in the region.’

In October 2019, *Benchmarking Heat Across Campbelltown, New South Wales*, funded by Western Sydney University and Campbelltown City Council, released its findings on the microclimatic variations across the LGA. The research was based upon nearly 1.5 million air temperature measurements from 102 locations in and around the LGA during the summer of 2018/19.

‘A pronounced Urban Heat Island Effect, where urban centres remain warmer during the night compared to nearby rural areas, was documented for the Campbelltown LGA. This effect was most pronounced during periods of extreme heat (i.e. heatwaves), where temperatures around urban centres like Campbelltown CBD and Ingleburn were up to 5°C warmer compared to those measured in Wedderburn or Gilead in the south.

To assess patterns of urban heat and the UHIE across Campbelltown CBD, heat loggers were placed around this area at strategic locations... The absolute highest temperature was measured at the central locations, with 43.8°C in the Milgate Arcade car park and 43.3°C in Queen Street [both in close proximity to the subject site].

The UHIE was most prominent during the night where temperatures around the city centre remained higher compared to surrounding suburbs. Especially large temperature differences between the CBD locations and nearby Macarthur Heights were present during heatwave nights, demonstrating the effect of heat emission from impervious surfaces and buildings in the CBD. During the heatwave at the end of December 2018, night-time temperatures remained 4-5°C higher in the CBD.

Our measurements document that people living across the LGA are exposed to more extreme heat than previously known. Based on these data, it becomes clear that vulnerability of local communities against heat is a critical

issue already today, but can be expected to become increasingly critical with continued climate warming and urbanisation in the region.

Measurements documented that extreme summer heat occurred much more frequently across the LGA i.e.;

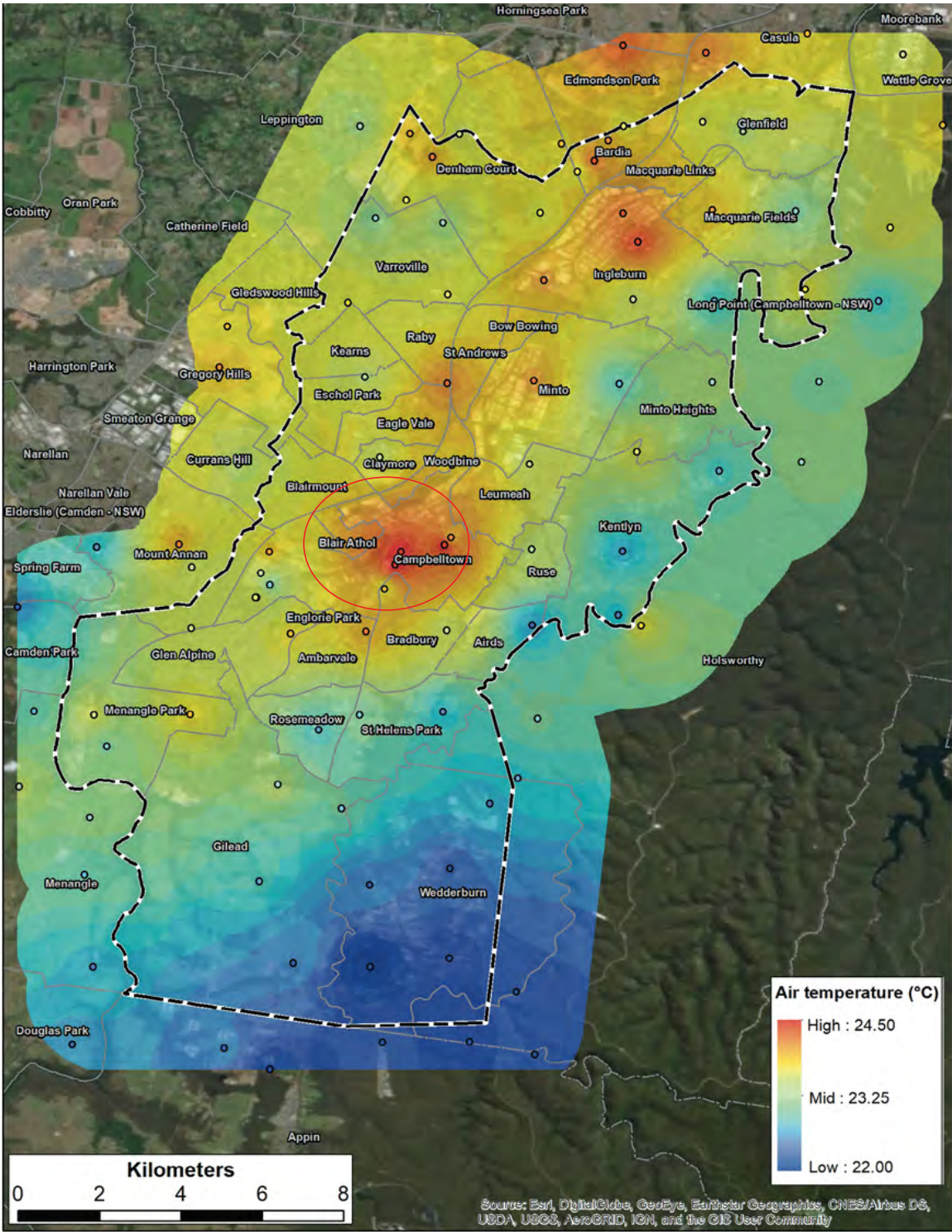
- 54 days where temperatures were >35°C,
- 22 days where temperatures were >40°C

Based on findings of this research the following applicable actions were recommended (amongst others):

- We recommend that Council **establishes and advertises a network of Cool Zones** across the urban centres of Ambervale, Campbelltown, Leumeah, Minto, Ingleburn, Bardia and Edmondson Park. **Cool Zones can be parks, playgrounds, sports fields, local reserves and other assets with minimal presence of grey infrastructure.**
- We recommend to **raise legal barriers to remove existing tree canopy, while at the same time commence tree plantings** in these areas today, with the **long-term goal of establishing 40-45% tree canopy cover by 2040.** This ‘provident approach’ will deliver effective cooling benefits for the inhabitants of the new suburbs.
- We recommend that this knowledge is used to inform urban planners to **incorporate structures for storm water harvesting** when designing the new suburbs. **Storm water can be used to irrigate newly planted and existing trees.**

In a presentation at Campbelltown Arts Centre on Thursday 6th February 2020, the author of the report (Dr. Sebastian Pfautsch) outlined a further ongoing detailed study considering how the urban fabric affects temperatures and presented preliminary findings of adopting various site specific strategies;

| Site Strategy | Temperature Reduction |
|--|-----------------------|
| Reduce road / building footprint from 70 to 30% | 0.7 °C |
| Increase green space from 20 to 50% | 0.3 °C |
| Increase blue space to 20% (to maximise evaporative cooling) | 1.7 °C |



Benchmarking Heat Across Campbelltown, New South Wales - mean temperature during summer 2019

Setting the Scene

1.16 Tree Canopy Coverage

‘Street trees have fulfilled various purposes in our cities. They have been considered variously as aesthetic make-up and creators of space; as territorial markers and instruments of defense, emancipation, and empowerment; as sanitisers and air conditioners; as upholders of moral values; as economic engines, scientific instruments; and as ecological habitat.’

Sonja Dümpelmann - Multitasking Street Trees, Biophilic Cities Journal

As described by the Greater Sydney Commission in a *Metropolis of Three Cities*, ‘the urban tree canopy is a form of green infrastructure providing shade, which reduces ambient temperatures and mitigates the heat island effect. The urban heat island effect is where large amounts of hard and dark-coloured surfaces like roads and roofs cause localised warming. Every 10 per cent increase in tree canopy cover can reduce land surface temperatures by 1.13°C.

As Greater Sydney grows and urban areas become denser, extending urban tree canopy is one of the most effective ways to improve amenity. A target has been set to increase tree canopy cover to 40%, up from the current 23%’ which also broadly aligns with the *Benchmarking Heat Across Campbelltown* document target for the LGA.

The Northern Precinct has an existing tree canopy cover of just 4.4% whilst the subject site of 2 Farrow Road offers 5.9% mainly due to a row of existing coniferous trees on the southern bank of the channelised Bow Bowing Creek.

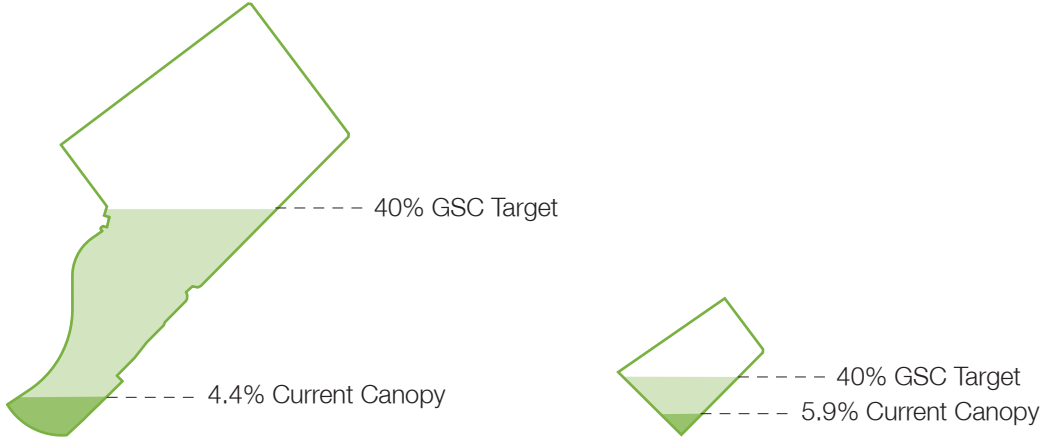
The naturalised riparian corridor of Bow Bowing Creek (south of Farrow Road) comprises an extensive area of River Flat Eucalpyt Forest yet is largely inaccessible to the public.

The main pedestrian route in and around the site (from the commuter car park to the train station) offers very limited tree canopy cover, with the conditions exacerbated in parts by an absence of footpaths on the northern side of Farrow Road.

KEY

- Precinct Boundary
- Site Boundary
- Existing Tree Canopy
- Vehicular Infrastructure
- Bow Bowing Creek
- ↔

 Key Pedestrian Routes



01 - Pedestrian route from Commuter Car Park to Station

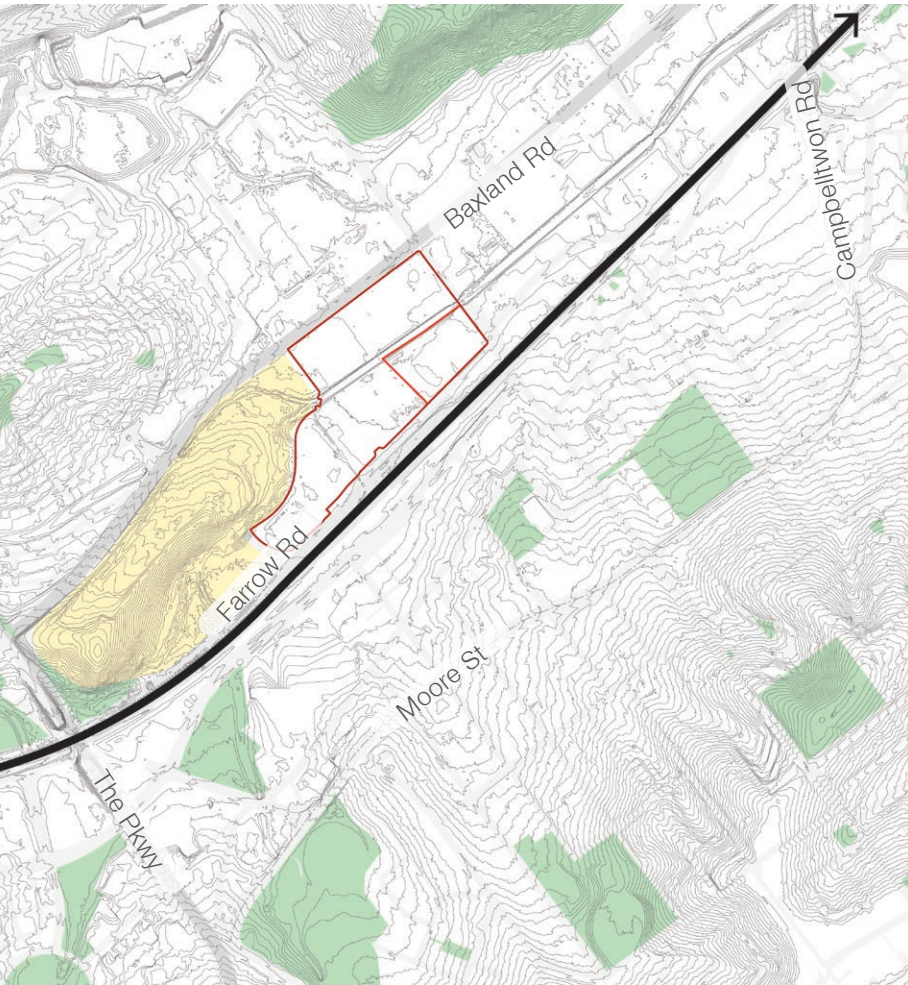


02 - Council owned remnant land with existing mature trees



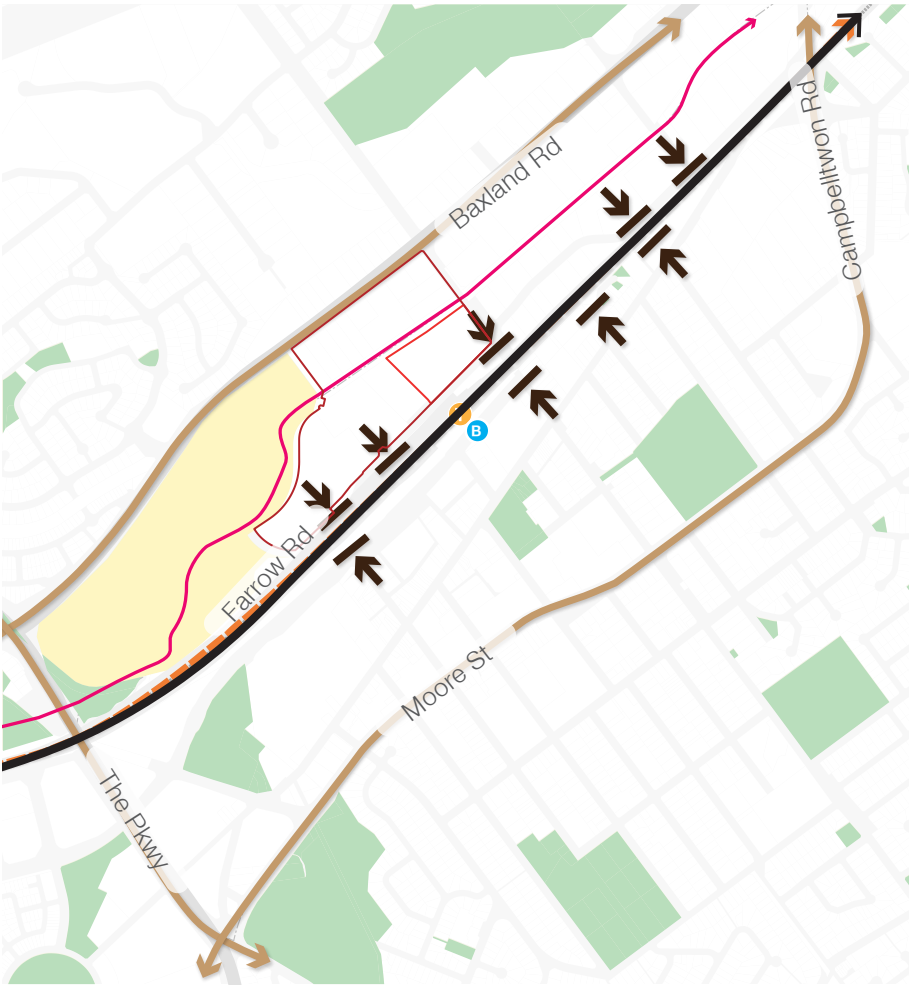
03 - Transition between naturalised and channelised sections of the Creek

1.17 Strategic Constraints



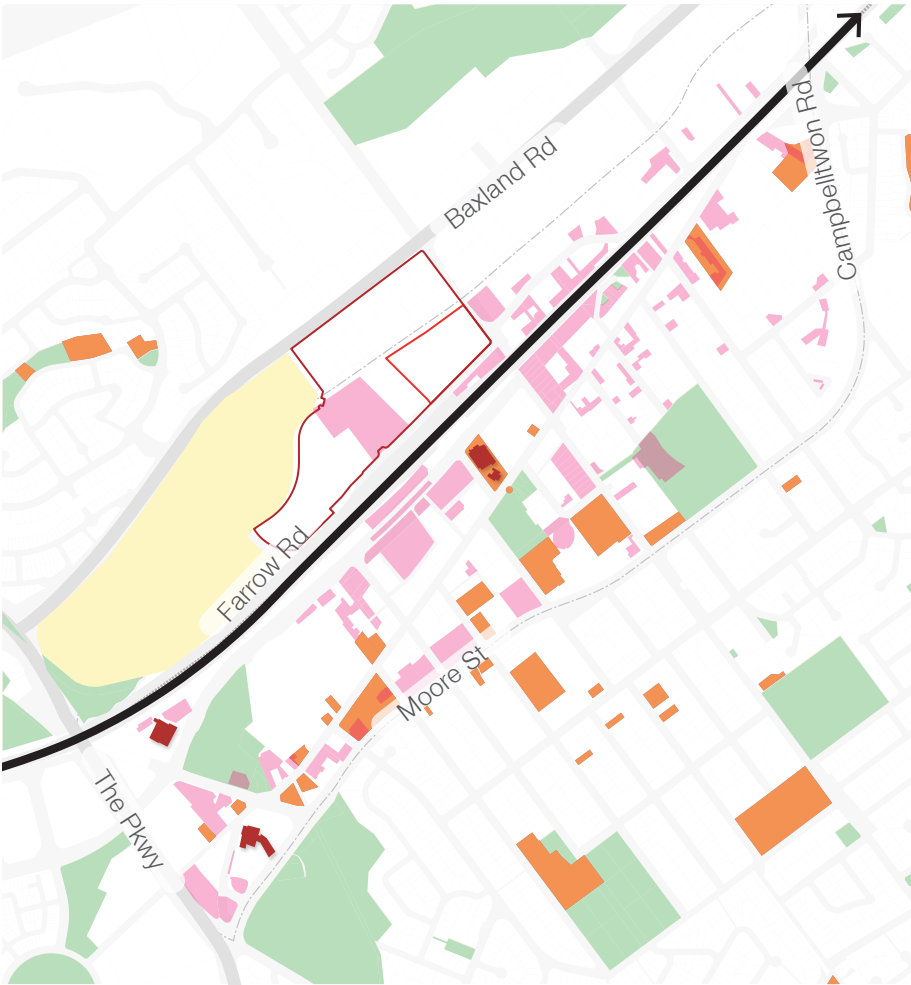
Open Space, Landform and Ecology

- Campbelltown CBD currently has very low tree canopy coverage which results in a hot environment not pleasant to pedestrians
- Large parcel of land are undeveloped and currently unused
- Hilly landform following waterways path. Flood prone land to be considered in residential developments.



Movement and Access

- Extreme car dependency with 89% of daily trips are by car and half of the trips are less than 5km
- Roads are congested and dominate the city
- Railway corridor pedestrian and vehicular barrier
- Slow all stops rail service to Sydney CBD
- Indirect rail service to Parramatta
- Lack of shelter at bus stops
- No cycle paths to encourage active transport

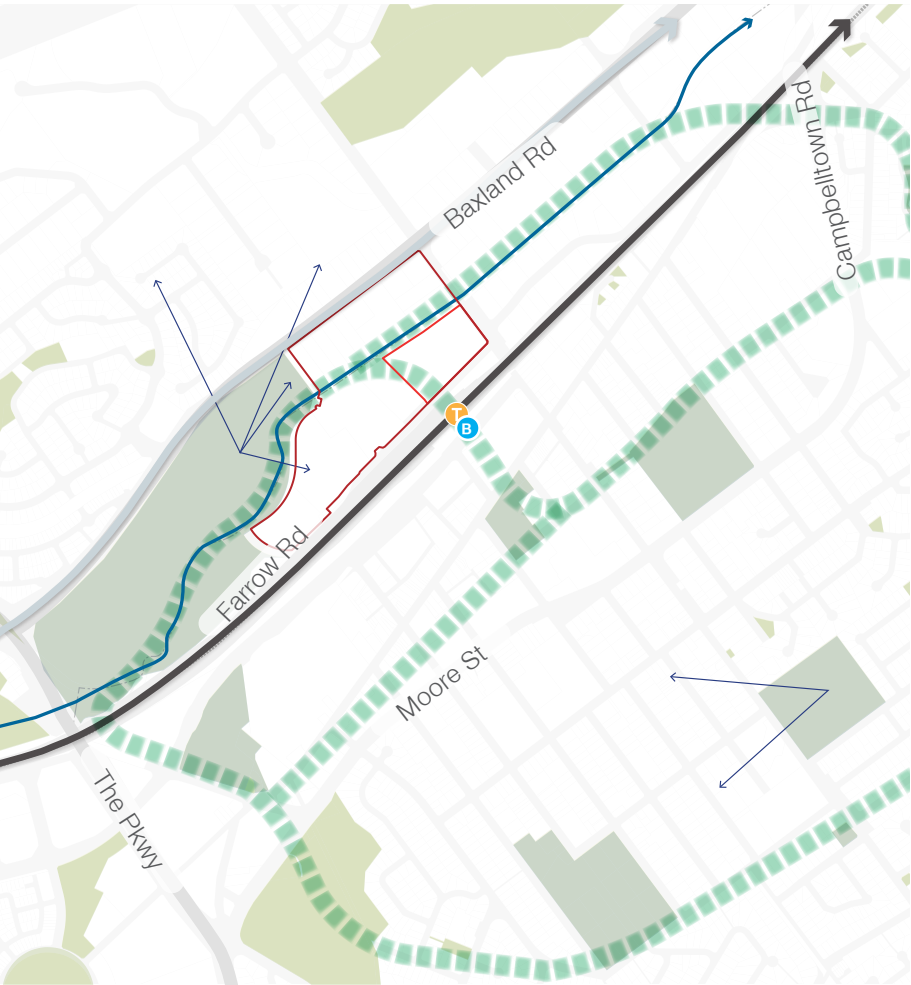


Land Use

- Surface dominated by car parks and increasing heat island effect
- Community facilities are currently disparate and not easily accessible from the train station
- Local shops, open space and services are dispersed

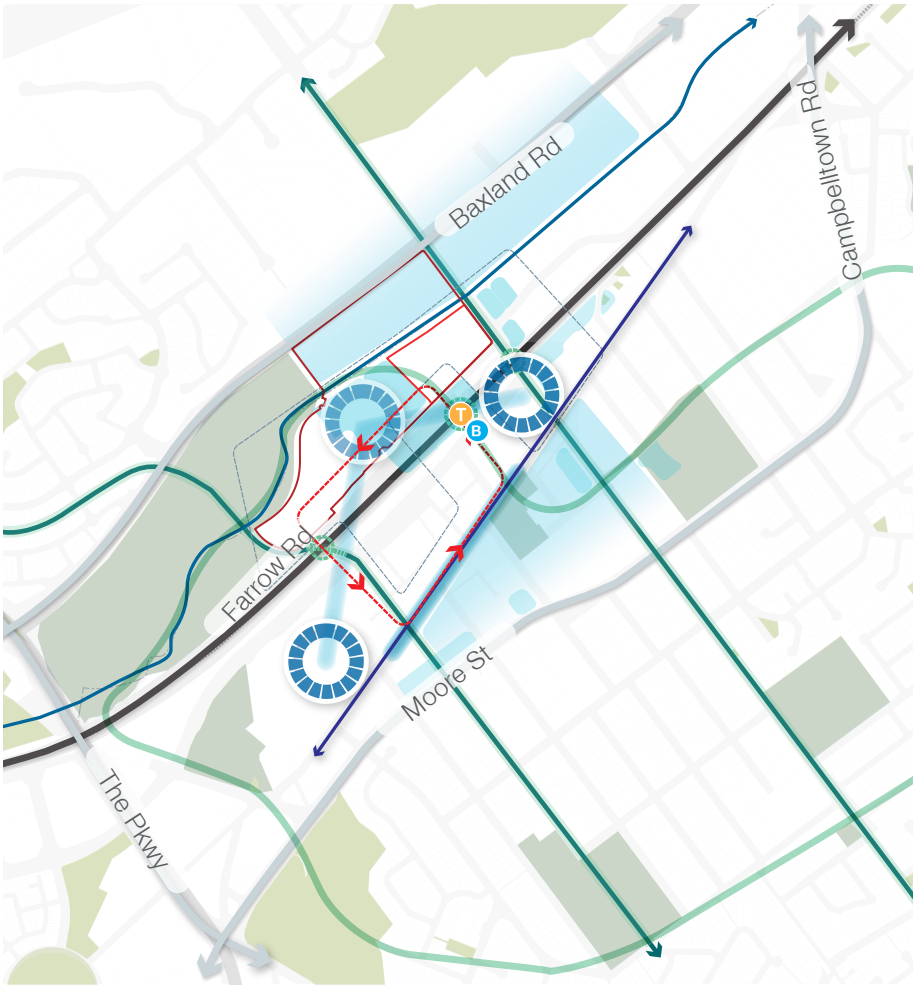
| KEY | |
|-----|-------------------|
| | Precinct Boundary |
| | Site Boundary |
| | Railway Corridor |
| | Car Parks |
| | Heritage Items |
| | Major Roads |
| | Rail Line |
| | Barriers |
| | Creek Line |

1.18 Strategic Opportunities



Open Space, Landform and Ecology

- Opportunity to investigate views and vistas, particularly to the surrounding National Parks
- Campbelltown has a high proportion of open space per person and a great distribution of open space but quality is lacking
- Opportunity to create an integrated network of open spaces that stitch together precincts
- Opportunity to provide necessary amenity for high density living



Movement and Access

- Opportunity to increase north-south connectivity
- Opportunity to deliver two new additional pedestrian crossing and deliver pedestrian loop around the train station connecting Campbelltown north with the town centres and the community infrastructure
- Possibility to extend connectivity to the train station from the north through green links
- Opportunity to deliver the green grid and interconnect the recreational space in a wider network



Land Use

- Celebrating history of Campbelltown and expressing heritage items in the public domain
- Potential to develop car park surfaces into recreational and/or residential developments and increase tree canopy cover and reduce heat island effect
- Opportunity to deliver density and jobs and meet Greater Sydney Commission targets

| KEY | |
|--|-------------------|
| — | Precinct Boundary |
| — | Site Boundary |
| → | Railway Corridor |
| | Car Parks |
| | Heritage Items |
| | Open Space |
| → | N-S Connections |
| - - - | Green loops |



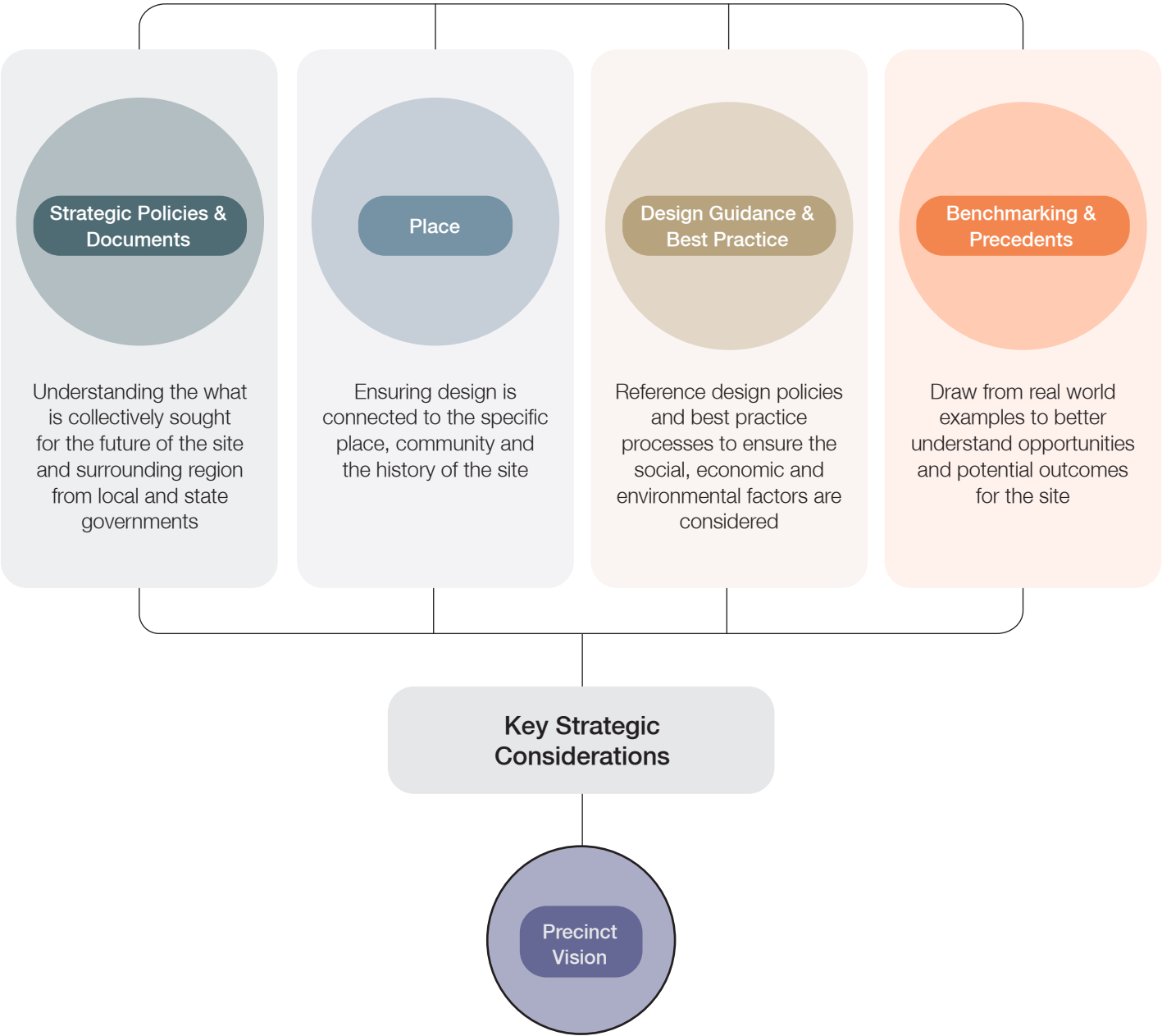
Strategic Framework

2.1 Strategic Framework Overview

This strategic framework underpins this urban design study and brings together an understanding of what is collectively sought for the future of the site from a range of government policies, strategies, stakeholders with best practice processes and precedents which will enable the best social, economic, and environmental outcome for the site.

A thorough understanding of existing government strategies and policies will establish the base assumptions and drivers for the project, and enable the urban design study to incorporate and respond to the higher level thinking than has already taken place. The study inform a future masterplan that will become a vehicle for the implementation through combining aspirations for the project with an understanding of the planning context which supports its delivery.

The policies and plans shown to the right have been considered as part of the masterplan’s strategic framework. Select documents have been explored in more detail in the following pages.



Strategic Framework



2.2 Strategic and Design Policy Documents

1 Greater Sydney Region / Western City District Plan (March 2018)

This plan was released with the Greater Sydney Region Plan - A Metropolis of Three Cities by the Greater Sydney Commission (GSC) in 2018. The District Plans are a bridge between regional and local planning, and inform local environmental plans, community strategic plans and the assessment of planning proposals

2 Greater Macarthur 2040 (November 2018)

Greater Macarthur is a Growth Area incorporating Glenfield to Macarthur urban renewal precincts and the land release precincts south of Campbelltown. The document prepared by the Department of Planning, Industry and Environment sets out the planning framework for the Macarthur area, bringing new homes, local centres and jobs to Macarthur.

3 Campbelltown Precinct Plan (November 2017)

Campbelltown Precinct Plan reflects the findings and vision established by Greater Macarthur 2040. It envisions Campbelltown as a metropolitan city centre, providing a gateway to the South West and serving the wider growth area. It is one of four metropolitan cities that make up the Western City.

4 Campbelltown Local Strategic Planning Statement (March 2020)

The LSPS is Campbelltown City Council's (CCC) plan for the community's social, environmental and economic land use needs over the next 20 years. This is structured around the priorities and direction set out by the Greater Sydney Region Plan and Western City District Plan. It provides context and direction for land use decision making within the Campbelltown Local Government Area (LGA) and will inform future LEP / DCP amendments.

5 Re-imagining Campbelltown City Centre Masterplan (April 2020)

This document, produced by CCC, explores how the city centre might be re-imagined in the context of its role as a strategic metropolitan centre that serves the broader Macarthur region. There is particular focus on four key areas; Strategic Context and Vision, Place Framework: Pillars & Commitments, Delivery Framework: City Making Moves & Actions and Implementation.



GSC: Greater Sydney Commission
CCC: Campbelltown City Council
TfNSW: Transport for NSW
GANSW: Government Architect NSW
DPIE: NSW Department of Planning, Industry and Environment
INSW: Infrastructure NSW

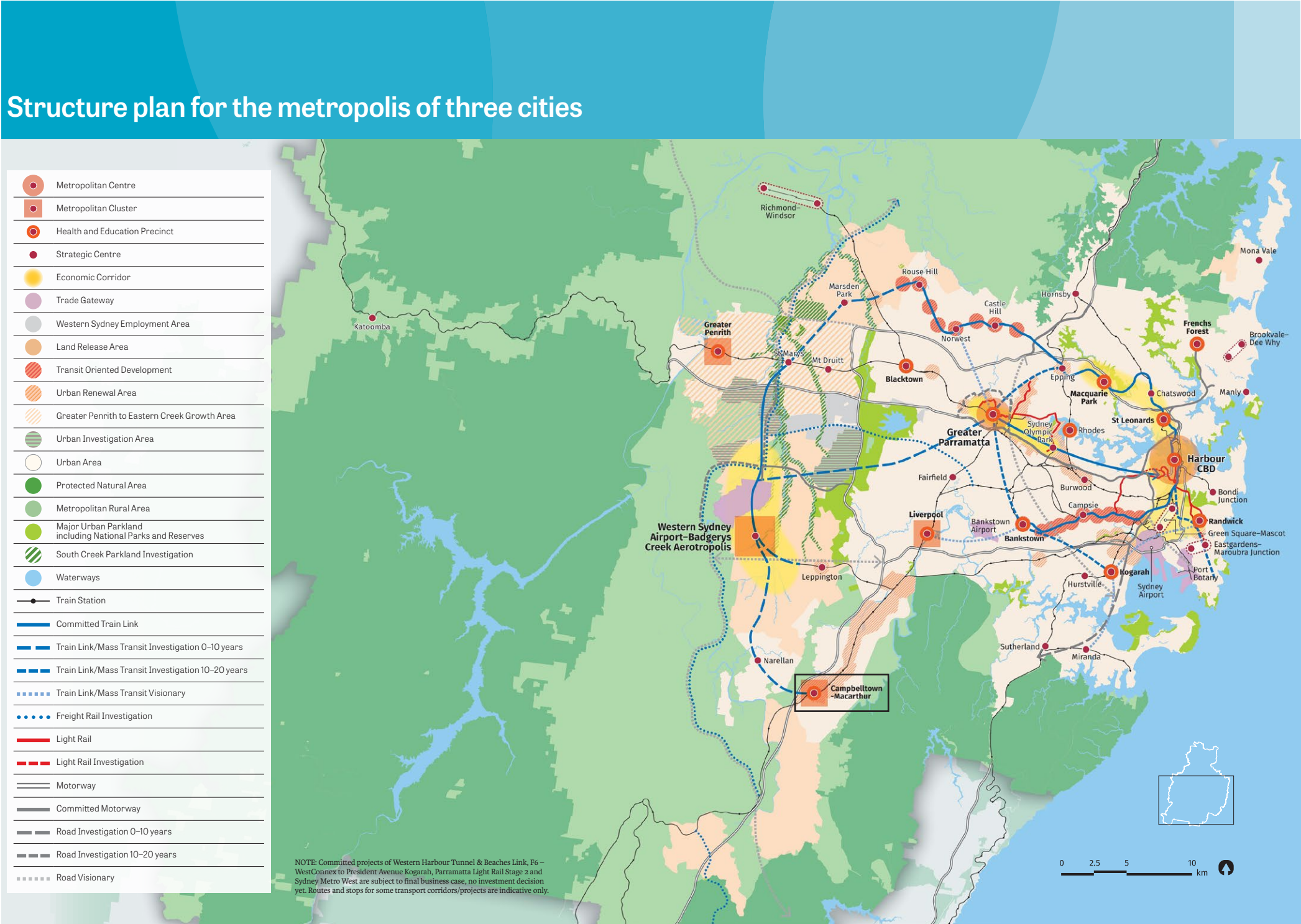
2.3 A Metropolis of Three Cities (2018)

The Greater Sydney Region Plan - A Metropolis of Three Cities was released by the Greater Sydney Commission (GSC) in 2018. The Plan provides high level strategic guidance for the development of Greater Sydney to 2056. It is based on a vision of three cities – the ‘Eastern Harbour City’, ‘Central River City’ and ‘Western Parkland City’ – whereby people can access jobs and services in their nearest metropolitan city within 30 minutes, by public transport.

The subject site is located within the ‘Western Parkland City’, the population of which is projected to increase from 1.06 million people to 1.52 million by 2036 where ‘the number of residents aged over 85 is expected to grow by 206 per cent. Although couples with children are expected to remain the dominant household type in the District, the number of single-person households is expected to grow by 72 per cent. Growth in these households is expected in the local government areas of Camden (238 per cent), Liverpool (91 per cent) and Wollondilly (87 per cent). As a result, there will be comparatively fewer working age people (20–64 years) living in the District by 2036.

These demographic changes mean that an additional 184,500 homes will be required in the District by 2036.’

Source: <https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/western-district-plan-0618.pdf>



Source: 'Structure Plan for the Metropolis of Three Cities' - Greater Sydney Region Plan, GSC, p.7

2.4 Western Parkland City Plan (2018)

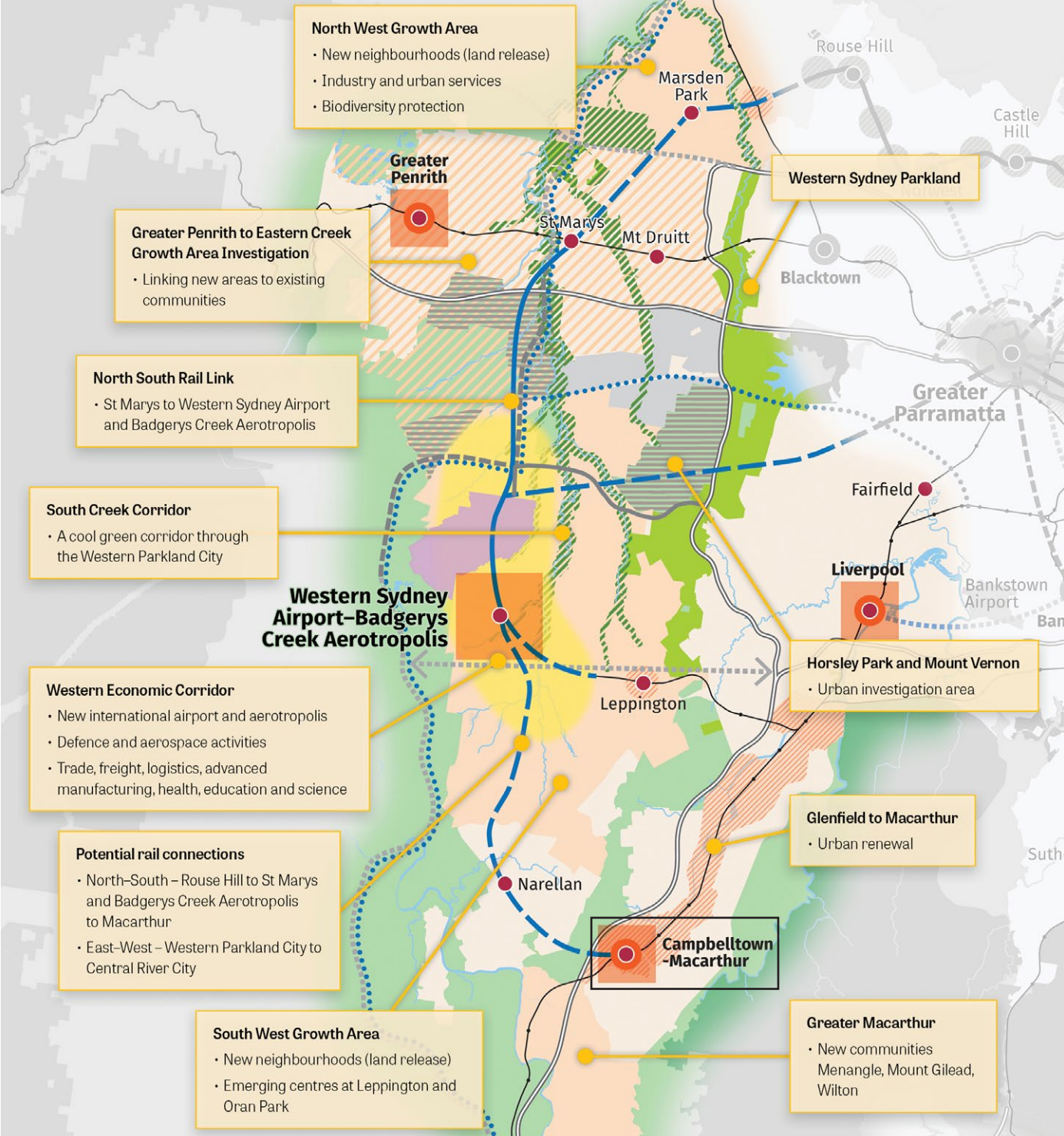
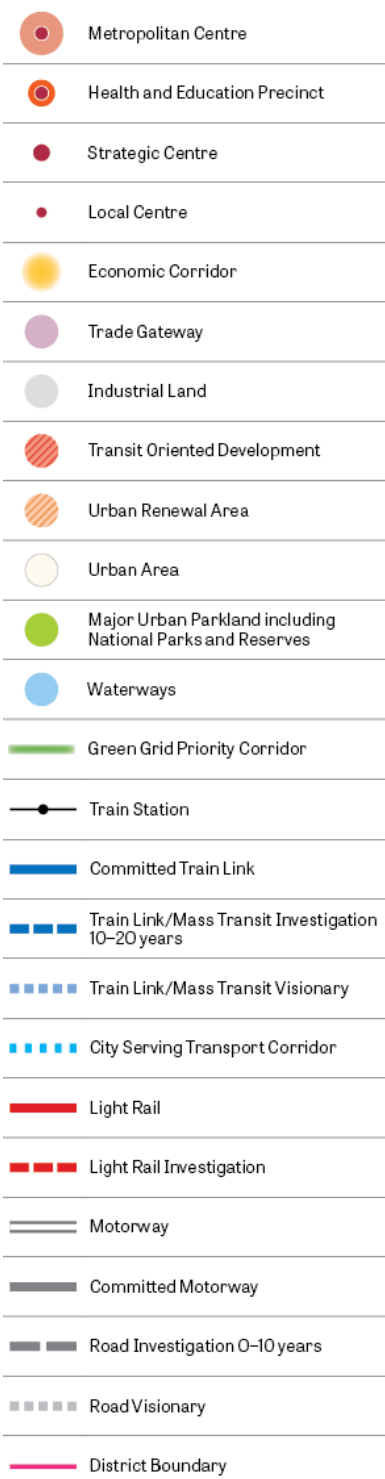
In conjunction with the Greater Sydney Region Plan, the GSC released five District Plans as a guide for implementing the Region Plan at a district level. The purpose of the District Plans is to manage development growth alongside economic, social and environmental matters over a 20 year period (2018-2038), in order to achieve the 40-year vision put forwards in the Greater Sydney Region Plan. The District Plans are a bridge between regional and local planning, and will inform local environmental plans, community strategic plans and the assessment of planning proposals.

‘Campbelltown-Macarthur is developing into Greater Sydney’s newest health and medical hub with research and specialist community-based care. It contains Campbelltown public and private hospitals, Western Sydney University Campbelltown Campus, and TAFE NSW Western Sydney. Collectively, these elements form the health and education precinct...’ and is known as a ‘Collaboration Area’. *‘This also includes Macarthur Square, Campbelltown Mall and surrounding government services. The centre has the potential to grow up to 31,000 jobs (a 52 per cent increase) by 2036.*

The Collaboration Area will enable a focus on opportunities to generate growth in economic activity, employment and investment. There are opportunities to:

- *Protect and grow core health and education activity*
- *Provide new research facilities and related commercial premises*
- *Plan for complementary uses and increased cultural, creative, digital or technology businesses and employees*
- *Establish, enhance and promote the interdependencies between health and education to grow innovation, start-up and creative industries*
- *Improve east-west connections and liveability of the area*
- *Support affordable housing opportunities for students and moderate income households.’*

Source: <https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/western-district-plan-0618.pdf>



Source: 'Western Parkland City Structure Plan' - GSC

2.5 DPIE - Greater Macarthur 2040: An Interim Plan for the Greater Macarthur Growth Area (2018)

'Greater Macarthur is a proposed Growth Area incorporating Glenfield to Macarthur urban renewal precincts and the land release precincts to the south of Campbelltown. The Department of Planning and Environment has prepared Greater Macarthur 2040: An Interim Plan for the Greater Macarthur Growth Area which sets out the strategic planning framework for the Growth Area. When finalised, Greater Macarthur 2040 will guide precinct planning within the Growth Area.

The vision for Campbelltown is the metropolitan city centre providing a gateway to the South West and serving the wider growth area... It will be a world-class health and education precinct, based around existing facilities and will provide a range of business, investment and work opportunities as well as a range of shopping choices. Campbelltown will provide jobs, homes, cultural facilities and retail areas to support a growing community...

Rezoning within this precinct can now occur through:

- Planning proposals submitted by landowners to Campbelltown City Council. These proposals need to be consistent with the Greater Macarthur Growth Area Implementation Plan and relevant precinct plan;
- Council led local environmental plan amendments; or
- State Government led planning for certain precincts.

Once rezoning occurs, Campbelltown City Council will be responsible for implementing the precinct plan.'

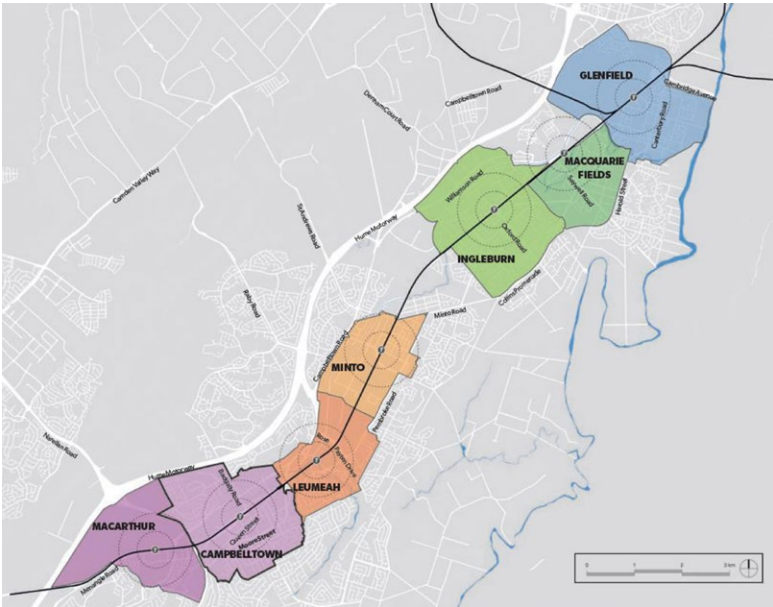
Potential Infrastructure Items that have been considered within the scope of this urban design study and indicative reference scheme.

'Key infrastructure needs for the Glenfield to Macarthur Corridor have been identified in consultation with government agencies and utility providers. The Government is investigating the creation of a Special Infrastructure Contributions (SIC) scheme to fund new infrastructure. The SIC will create a framework for developers to share the costs and allows Government to coordinate delivery of major new transport and community infrastructure. The SIC will complement Council's own infrastructure planning and development contributions planning (through a 'Section 7.11' Plan or planning agreements).'

Source: <https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Greater-Macarthur-Growth-Area/Infrastructure-schedule>

| Item | Measure | Planning Responsibility | Timing | Funding Mechanism |
|--------------------------------------|--|-------------------------|---|---|
| Public Transport | | | | |
| 1 | Increased rail services to meet the needs of the precinct's growth | TfNSW | Train service levels are reviewed continually by TfNSW. The stopping patterns and level of service will be matched to the growth of the precinct | TfNSW delivery responsibility |
| 2 | Investigate opportunities to improve direct connections and reduce travel times for the suburban bus network to create a more connected system that provides direct routes to, from and through the corridor | TfNSW | Bus service levels are reviewed continually by TfNSW and RMS. Detailed planning for a new suburban bus route to be investigated based on development in the area. | TfNSW delivery responsibility |
| 3 | Additional 450 commuter car parking spaces near Campbelltown Station interchange | TfNSW | To be determined as precinct develops | TfNSW funding responsibility |
| Walking & Cycling | | | | |
| 4 | New regional cycle routes parallel and perpendicular to the railway line to provide better connections to the station and surrounding area | TfNSW | To be determined as precinct develops | TfNSW funding responsibility |
| 5 | Series of local cycle network improvements, including: <ul style="list-style-type: none">Heading east through Mawson Park, connecting to Condamine StreetHeading west towards Blaxland Road | Council | To be determined as precinct develops | Delivery as part of Council's Section 94 Plan/VPA |
| 6 | Streetscape works such as footpath improvements, pedestrian crossings and refuges, street tree planting, bicycle storage facilities and lighting | Council | To be determined as precinct develops | Delivery as part of Council's Section 94 Plan/VPA |
| 7 | Potential extension of Badgally Road across the rail corridor to improve connectivity | TfNSW/Council | Subject to engineering and road planning. Further transport investigations to be undertaken as the precinct develops | Subject to further funding and delivery mechanisms |
| Education & Community Infrastructure | | | | |
| 8 | Potential longer term need for a new primary school to service the Campbelltown and Macarthur precincts | Department of Education | To be determined as precinct develops | Delivered as part of DE's School Cluster Asset Plan |
| 9 | Potential development of a multipurpose community centre and expanded central library servicing the Campbelltown and Macarthur precincts | Council/developer | To be determined as precinct develops | Delivery as part of Council's Section 94 Plan/VPA |

Campbelltown Precinct Plan 2017 - Infrastructure Analysis



Glenfield to Macarthur Urban Renewal Precincts

2.6 DPIE - Campbelltown Precinct Plan (2017)

‘The Campbelltown Precinct is bounded by the Hume Highway to the north, including the suburb of Blair Athol, Narellan Road to the west, George Street to the south and a significant drainage corridor to the east. The boundary of the precinct is based on a radius of 800m–1.5km from Campbelltown Station, which represents a 10–20 minute walking trip.

The precinct is the major business and cultural centre for the region, with a mix of commercial, cultural, retail, civic and residential land uses. Campbelltown is one of the important centres of the West that will grow and become the Western City, with links to the new Western Sydney Airport.’

Source: NSW DPIE - Campbelltown Precinct

Within this NSW DPIE strategic document, the subject site is considered to be appropriate for High Rise Residential (7 storeys and over) which is in contrast to Council’s Local Environmental Plan 2015 / 2002 where the area is subject to Deferred Matters Zoning and zoned Industry (B) and Special Uses (A) - see Section 2.8 Planning Context.

As such, for the purposes of this study and associated Planning Proposal, the extents of the DPIE proposed change of use has been adopted.

Directly adjacent to the site, a ‘Potential Connection’ over the existing railway infrastructure is also suggested to connect Badgally Road and Broughton Street. **This has also been considered as part of this study and Planning Proposal** given its potential impact on the subject site.

Legend

Precinct Boundary

Station

Train Line

Existing Connection

Potential Connection

Green Link

Potential Green Link

Active Frontage

Precinct Gateway

Open Space

High Rise Residential (7 storeys and over)

Medium Rise Residential (3 to 6 storeys)

Low Rise Residential

Mixed Use Retail & Residential

Commercial & Retail Core

Business Park

Employment

Industry & Innovation

Community Infrastructure

Cultural & Leisure

Public School

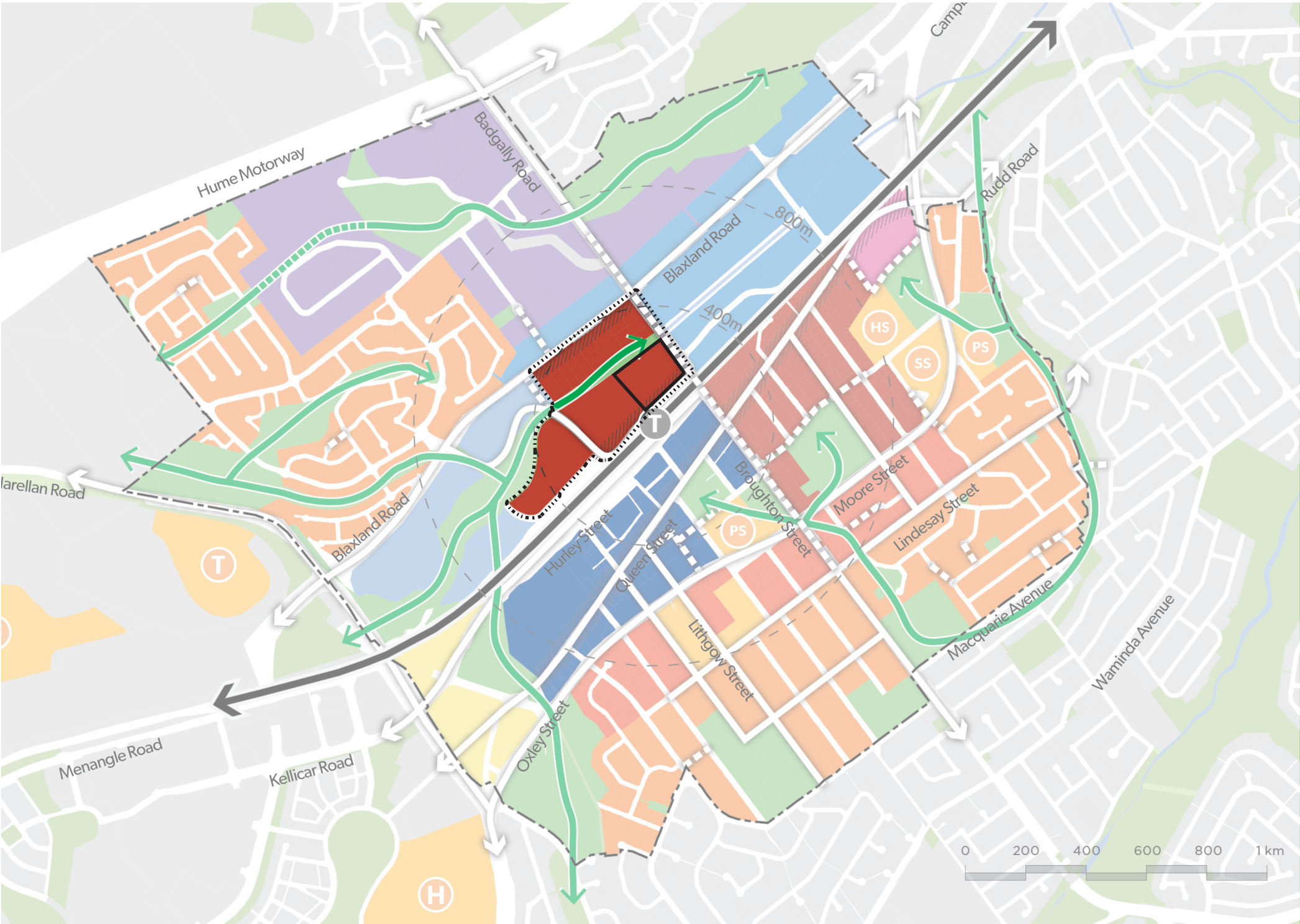
High School

Special School

TAFE

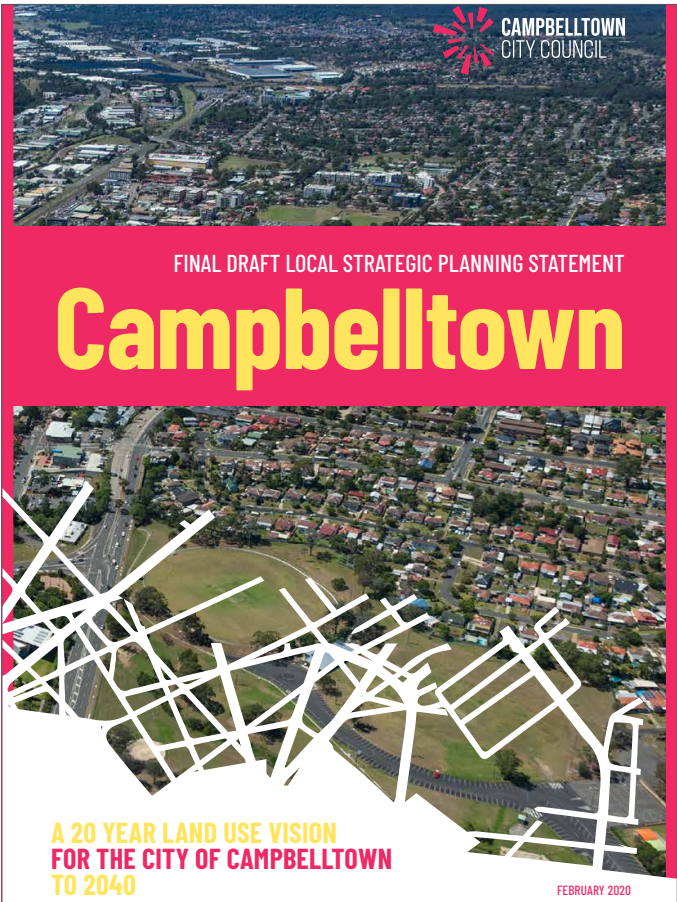
University

Hospital



Source: DPIE - Campbelltown Precinct Plan

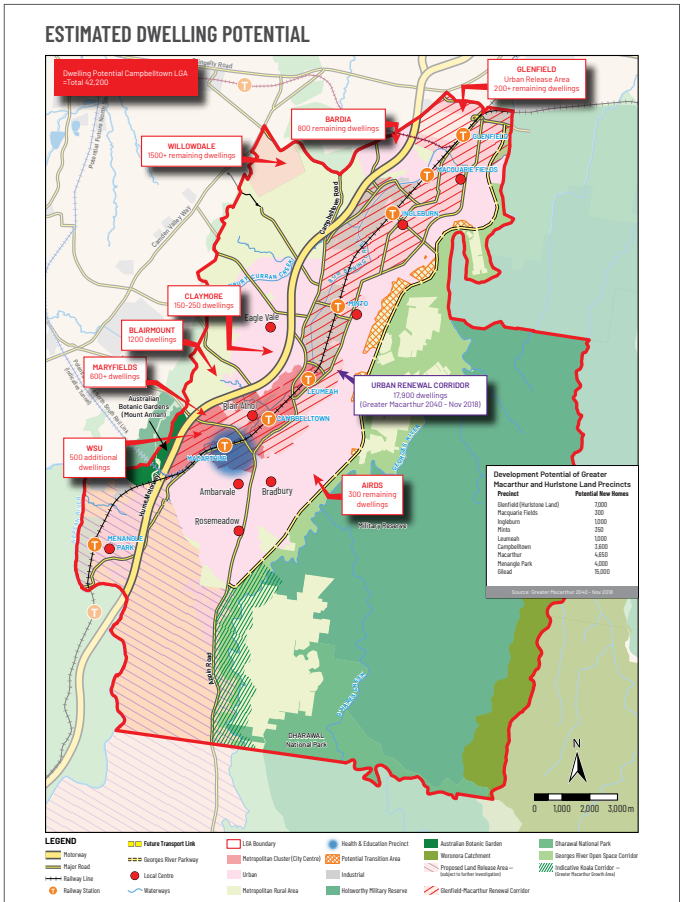
2.7 Campbelltown Local Strategic Planning Statement (LSPS) (2020)



Campbelltown LSPS

The Campbelltown Local Strategic Planning Statement (LSPS) sets out a 20-year vision for land use planning and the priorities / actions needed to achieve the vision. It provides a high-level description of the key issues, community priorities and current policy position on planning priorities under the themes of:

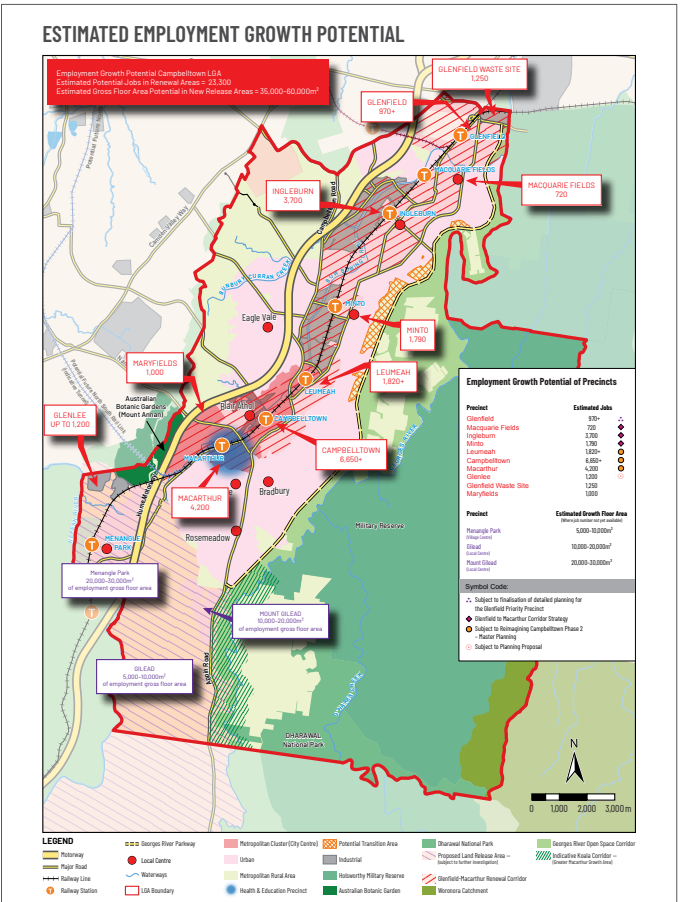
- A Vibrant, Liveable City
- A Respected and Protected Natural Environment
- A Thriving, Attractive City
- A Successful City



Campbelltown LSPS - Estimated Dwelling Potential

Campbelltown City Council forecasts that approximately:

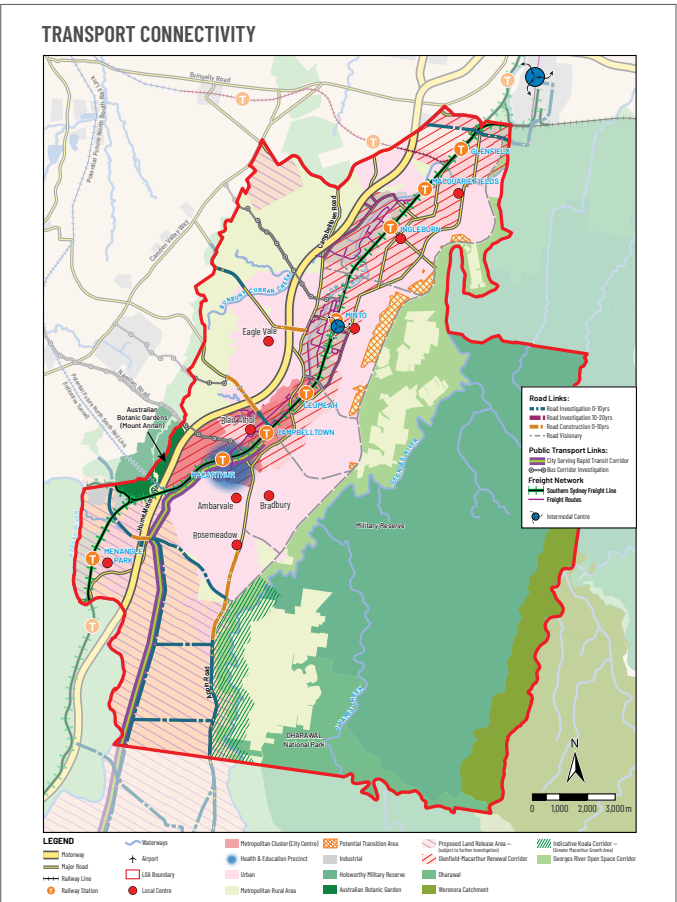
- **42,200** additional dwellings will be needed in the LGA to accommodate a population of 275,000 people by 2036.
- **3,600** of these will be needed within the Campbelltown Precinct.



Campbelltown LSPS - Estimated Employment Growth Potential

Campbelltown City Council forecasts that approximately:

- **6,650+** jobs will be created within the Campbelltown Precinct by 2036 (subject to *Re-imagining Campbelltown Phase 2 - Master Planning*).



Campbelltown LSPS - Transport Connectivity

Campbelltown City Council are considering:

- **Badgally Road / Broughton Street link** - creation of a new road link, traffic management works and cycleway links identified in the City Wide Contributions Plan.
- **Improve pedestrian and cycle connections** between Campbelltown and Macarthur Railway Stations
- **Facilitate increased tree canopy**, increased water surfaces and reduced hard dark surfaces in the urban environment by increased street tree planting, review of residential street design, increased tree planting in public lands such as parks, drainage corridors and road reserves where appropriate as part of *Re-imagining Campbelltown CBD Phase 2 - Master Planning*.

2.8 Planning Context

The subject site (and wider precinct) is within an area identified as “Deferred Matters” under Campbelltown LEP 2015 and as such, Local Environmental Plan 2002 (CLEP 2002) remains in force.

However Council is in the process of reviewing its 2015 LEP as part of which “Deferred Matter” areas are proposed to be replicated on a “like-for-like” basis within the new / revised LEP. A Planning Proposal is currently on exhibition to this effect.

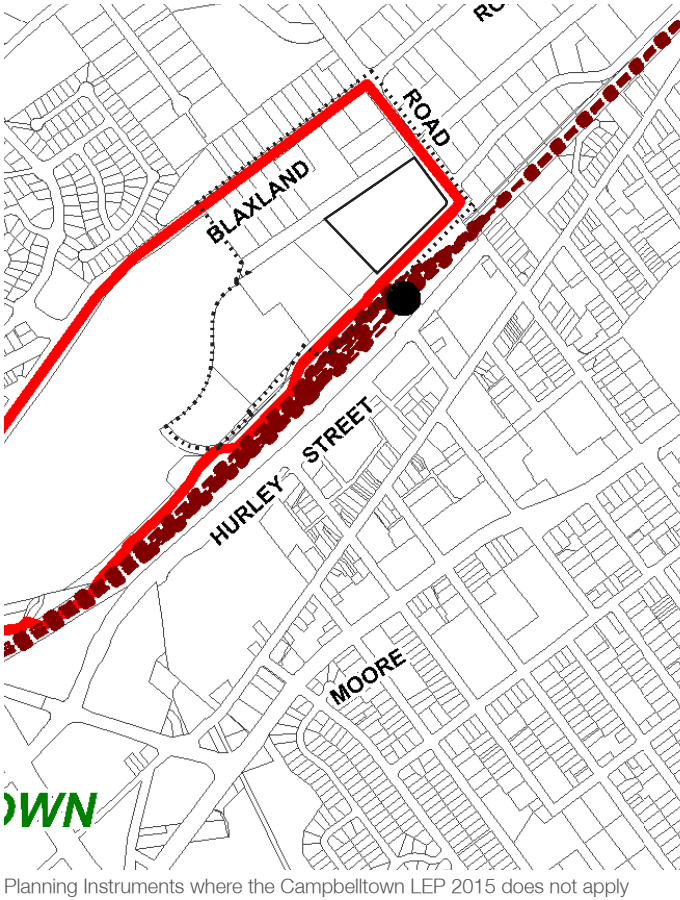
It is further noted that ‘Council is currently undertaking detailed work to support the amendment of planning controls like zoning and maximum building height for these precincts. This involves changing Campbelltown Local Environmental Plan 2015 to permit development which is generally consistent with the released Precinct Plans. Additional work is also being undertaken to identify the infrastructure and open space requirements for each precinct and develop a funding strategy to provide them.

There are several ways that the planning controls can be changed. These include:

- Planning Proposals submitted by property owners to Campbelltown City Council. Notably, **Council does not encourage individual planning proposals** (spot rezoning requests) in the corridor for the following reasons:
- Such proposals are likely to only consider the impacts of their individual proposed development on the locality. A more comprehensive approach consider the cumulative impacts of the proposed ‘up lift’ of densities of the whole precinct and will result in a fairer distribution of infrastructure costs and a reduction in planning costs for individuals’

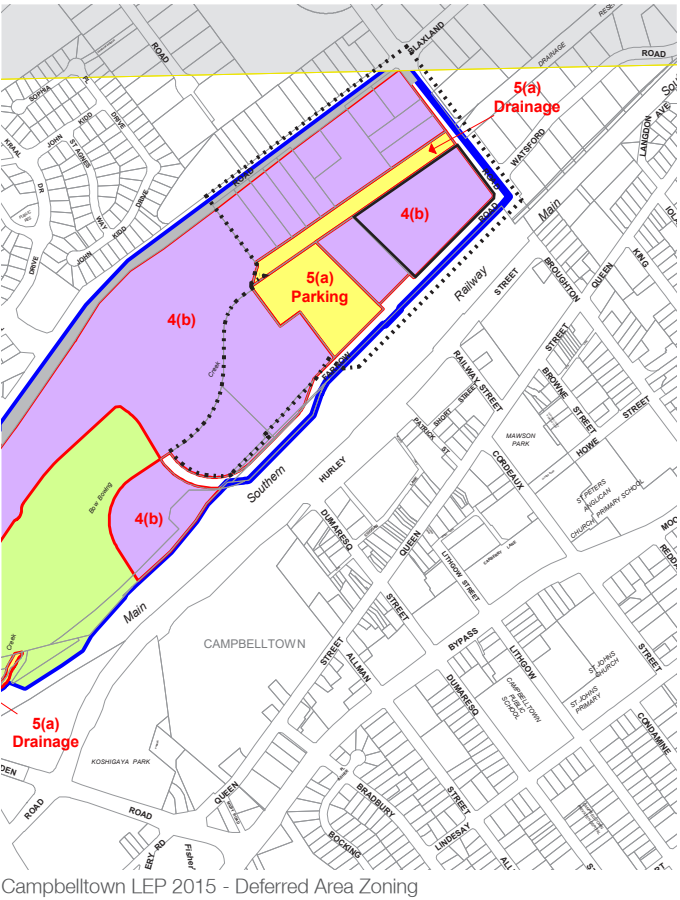
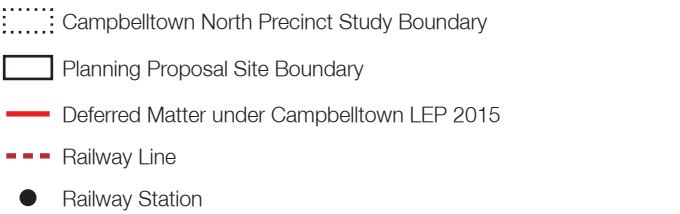
Source: <https://www.campbelltown.nsw.gov.au/BuildAndDevelop/PlanningfortheFuture/GlenfieldToMacarthurUrbanRenewalCorridor>

In response to the above, the subject site has been carefully considered within the context of the wider ‘Campbelltown Northern Precinct’. The extents of this precinct captures all of the land suggested to be rezoned by the DPIE to High Density Residential as well as a high proportion still subject to Deferred Matters / Campbelltown LEP 2002.



Planning Instruments and Development Control Plans where the Campbelltown LEP 2015 and Campbelltown (Sustainable City) DCP 2015 does not apply

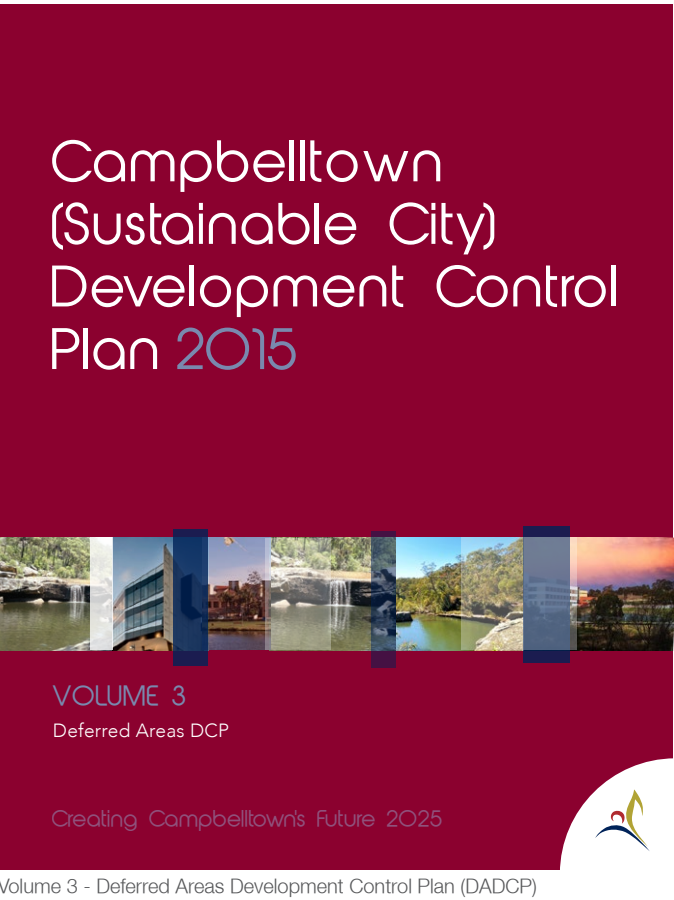
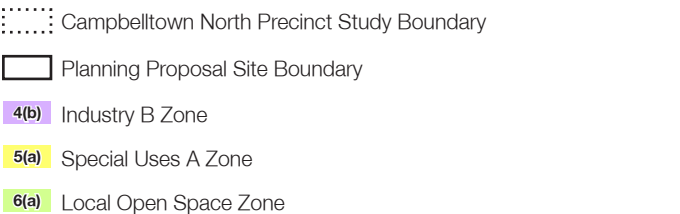
The site is shown as a Deferred Matter (DM). As a result, the Campbelltown LEP 2002 and SCDP 2015 (Volume 3) (Sustainable City Development Control Plan) applies.



Deferred Area Zoning (Campbelltown LEP 2002)

The applicable relevant Planning Instruments extract information from:

- Local Environmental Plan 2002 (LEP 2002)
- Local Environmental Plan (District 8)
- Interim Development Order (IDO) No 15



Volume 3 - Deferred Areas Development Control Plan (DADCP)

‘Volume 3 of the Plan is called Deferred Areas Development Control Plan (DADCP)... The purpose of the DADCP is to provide more detailed provisions to supplement Campbelltown (Urban Area) Local Environmental Plan 2002 (LEP 2002), Local Environmental Plan (District 8) and Interim Development Order (IDO) No 15.

Council (the consent authority) is required under Section 79C of the Act, to take into consideration the relevant provisions of the DADCP in determining development applications on land located within the Campbelltown Local Government Area (LGA).’

2.9 Re-imagining Campbelltown City Centre Masterplan 2020

The following pages summarise pertinent extracts from the “draft for exhibition” version of the report that have helped inform the development of this Planning Proposal.

‘Re-imagining Campbelltown City Centre Master Plan builds on the GSC’s work.. to ensure planning and land use of the Greater Sydney Region is respectful, equitable and sustainable. It is a master plan with an ambitious vision towards a more liveable future that will leverage our growth to tell our stories, celebrate our place, build resilience and reduce impacts of climate change. It has been prepared concurrently with the Campbelltown-Macarthur Place Strategy.

While there is some overlap, the priorities and actions contained in the two documents have largely been delineated as follows:

- **Shared:** Vision, objectives and City Centre boundary.
- **Master Plan:** Actions to be led by Council.
- **Place Strategy:** Actions requiring a high degree of multi-stakeholder collaboration to deliver.

Importantly, both the Place Strategy and the Master Plan are not land-use planning documents. Rather, they identify the complex, place-specific priorities and actions required to support Campbelltown City Centre realise a future that is sustainable, resilient and prosperous, and that fulfils its metropolitan role.’

Source: CCC - Re-imagining Campbelltown City Centre Masterplan 2020

The illustrative masterplan (p.33) has the potential to create:

- 4,500+ full-time equivalent jobs over the next 20 years
- 17,200 new dwellings over the next 80 years
- \$2.23bn additional GRP
- 39% increase in tree canopy
- +62 ha of new open space
- 13.1% increase in wages

IMAGINE

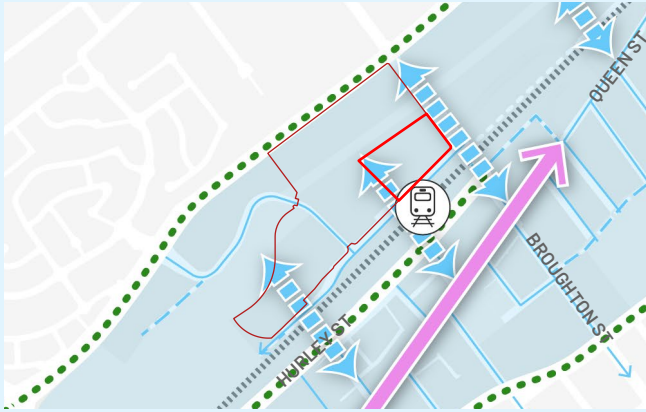
Vision

- Bow Bowling Creek a green-blue amenity spine anchoring the **tech and city servicing innovation precinct** on the western side of the railway
- **Mixed-use high density living** with the convenience of inner city amenities
- A **new civic, community and justice precinct** includes multi-jurisdictional courts, emergency services, civic spaces and a vertical learning campus and library
- Campbelltown transit interchange - a new major CBD
- Campbelltown City Centre comprises **arrival gateway**
- **A-grade commercial office** buildings include multi-storey parking solutions
- A **low carbon** precinct

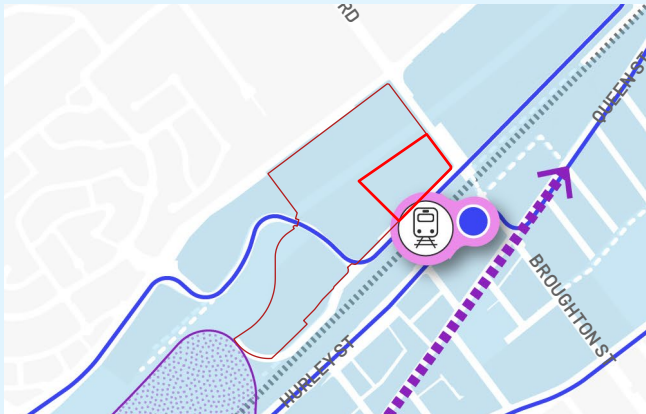


Connected Place

East-west Rail Connections: Campbelltown’s City Centre will be highly permeable with both sides of the railway accessible by pedestrians with a series of cross rail connections located between key attractions and destinations.

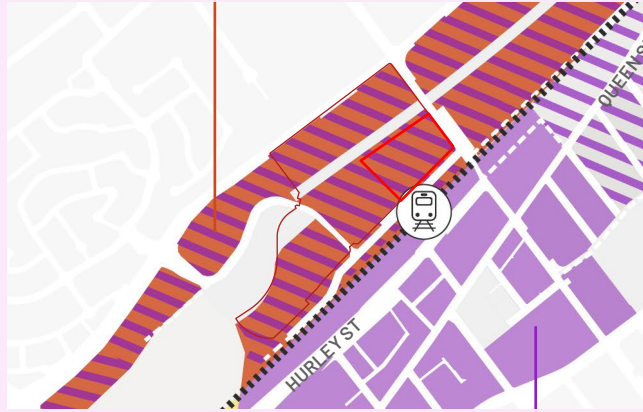


Effective City Centre Parking Management: Parking provision within the City Centre is effectively managed using a strategic city-wide approach to parking provision that promotes sustainable travel choices. Parking in the City Centre is sleeved into development to limit visibility, with shared parking facilities on the City Centre’s periphery, ensuring effective use of available land.

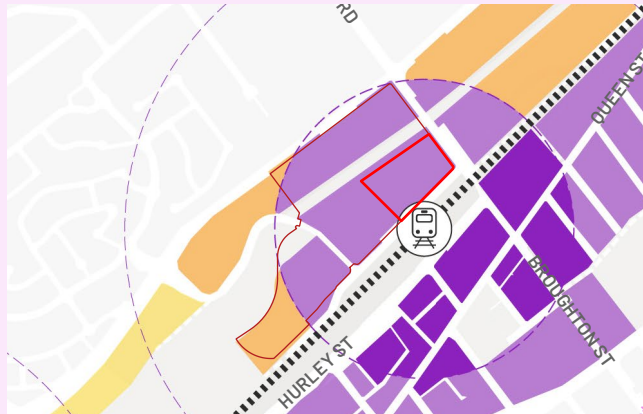


Centre of Opportunity

Tech and City Servicing Innovation Precinct: Strategically located west of Campbelltown train station, the land along Bow Bowling Creek and Blaxland Road accommodates a range of tech, manufacturing and city servicing uses, as well as accommodation uses in the longer term. This mix of higher value industrial uses benefits from its high amenity, public space, ease of access to the CBD, and high public transport accessibility.



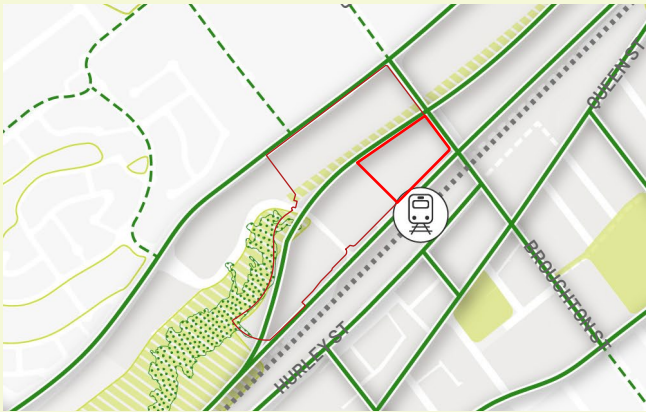
High Intensity Core CBD: As the commercial and civic heart of the City Centre and broader LGA, the Core CBD is home to higher intensity commercial buildings, tertiary education campuses, and civic facilities (e.g. libraries). Complementary retail and non-retail uses provide amenity to residents, students and workers, as well as activate the street.



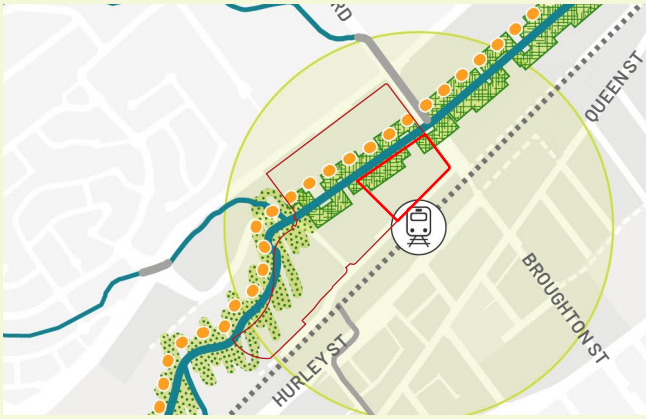
No Grey to Be Seen



Active and Healthy People Places for Urban Liveability: Our Green Grid network supports a generous network of parks, open spaces, squares and plazas to support and promote a healthy lifestyle through relaxation and play.



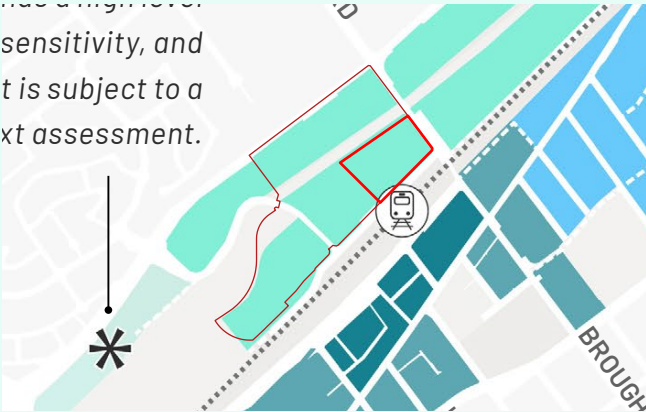
Bow Bowling Creek; The creek is the primary blue spine in the city centre connecting Leumeah to Campbelltown and Macarthur. It restores ecological, hydrological and biodiversity health to the waterway whilst managing flooding. Shared pathways provide active transport connections alongside the waterway and connect adjacent development with much needed amenity.



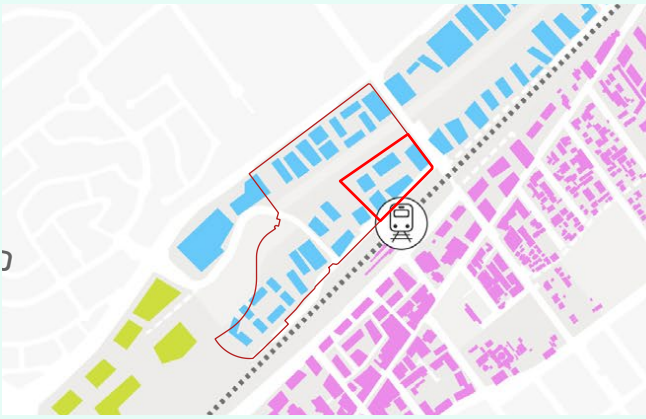
City & Bush



A City Skyline Framed in Green: The following map identifies the distribution of height based on intensification of land, proximity to transport and access to amenity. Taller building forms are clustered near the three train stations, and transitions down to the city centre fringe.



Tech and City Servicing: On the fringe of the city centre, these buildings will continue to primarily serve the role and function of their use and precinct. Despite large building footprints and simple facades these buildings will contribute to the quality and character of the local context and feature active frontages to enliven city streets.



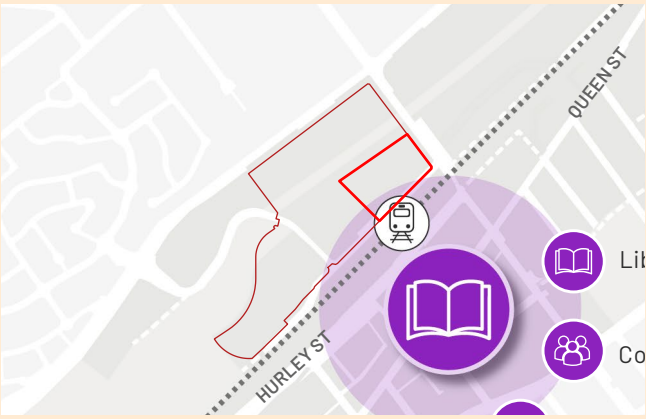
The Good Life



Density Done Well: The city centres' urban design seamlessly transitions from high to medium density enabling the dissemination of activity through integrated transport, connected walking and cycling networks and enticing public, communal and private open spaces. The site is marked as having 'potential for future residential to be integrated as part of Tech and City Servicing Innovation Precinct.'



A Bustling City Centre Community Hub: A new community hub, including community uses and a civic library. The hub will beckon people to meet, learn connect and create. It will facilitate partnerships between public, private and not-for-profit groups, creating new social synergies within the City Centre.



Priority Project

4.1



**ACTION 4.1
TRANSFORM BOW
BOWING CREEK**

Bow Bowling Creek is unlocked as the central green spine at the heart of the city centre. a unique and defining element. Enhancements to the waterway and surrounding open space creates a vibrant multi-use landscape offering active connections, enhanced liveability and environmental benefits for new development. The length of the creek transitions from densely vegetated naturalised settings to more engineered landscape interventions creating a continuous green corridor.

| STAKEHOLDERS |
|--|
| Sydney Water, CRC for Water Sensitive Cities, Department of Planning, adjoining landowners |
| STEPS TO DELIVERY |
| 1. Prepare plan with community and stakeholder engagement |
| 2. Update City Centre Planning Controls & Guidance |
| 3. Implementation Plan & Delivery |

Strategic Framework



2.10 Capturing Place

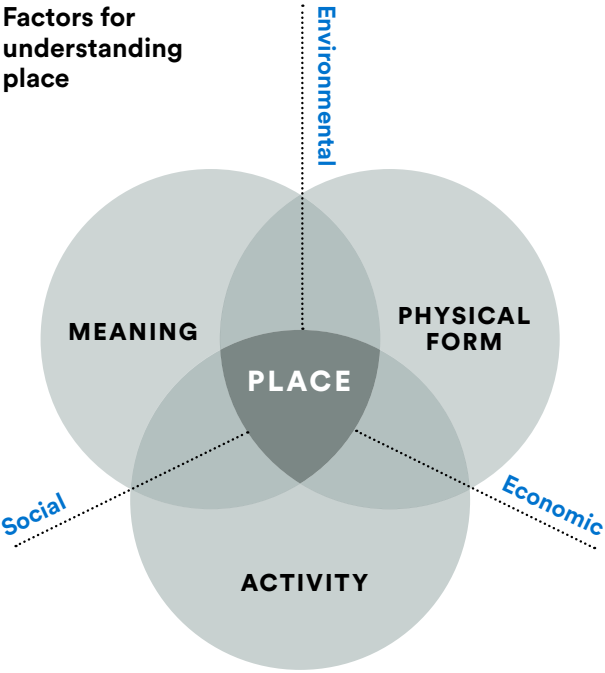
Coupled with an understanding of what is collectively sought for the future of the precinct from local and state governments at a strategic level (through an appreciation of documents such as *Campbelltown-Macarthur Collaboration Area Place Strategy*), a thorough understanding of place will enable better social, economic and environmental outcomes for the precinct as a whole. When designed in response to place and a shared desired future character, the precinct will *'be more sustainable, contribute to good quality of life and attract investment.'*¹

As outlined in the GANSW Aligning Movement and Place *'Place is the layout, division and built form of built environments, its patterns, landscape, density, development, land use and mix, these aspects set the groundwork for places to flourish.'*

*Places are multi-layered and diverse environments within the broader context of society. Individual places can be described or understood by people in different ways and different scales. They are made up of interrelated layers and elements which are understood through physical form, activity and meaning. Places have a clear and strong identity and character.'*²

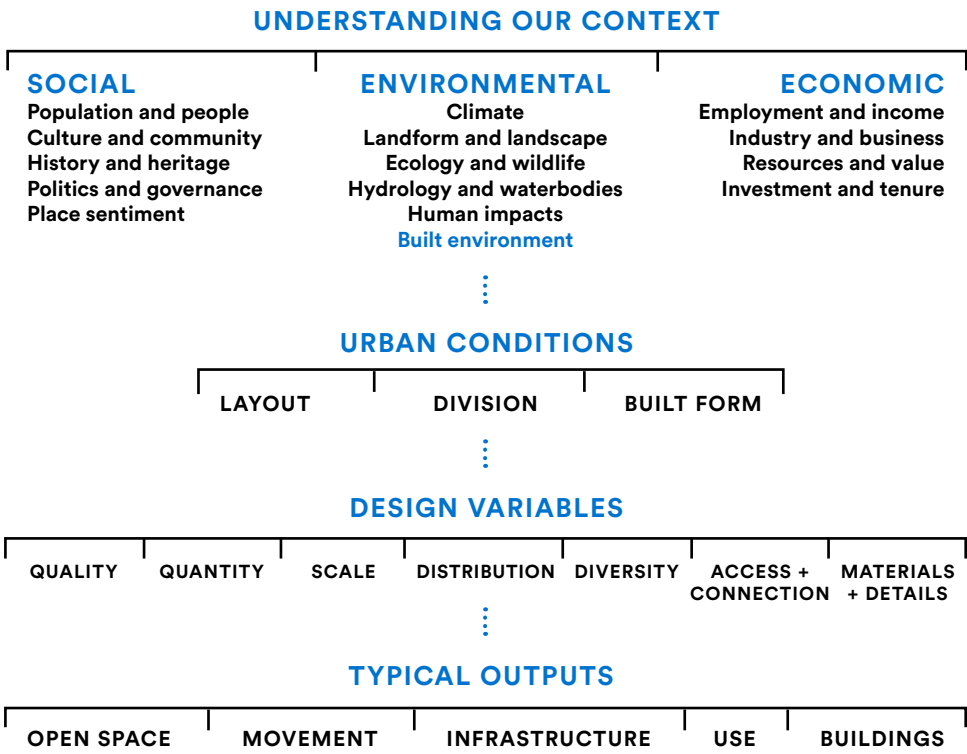
Our understanding of the elements of place that make up this precinct have been explored through our analysis in *Chapter 1: Setting the Scene*. It acknowledges the significance and opportunity of Bow Bowling Creek, existing and proposed public transport infrastructure, roads, land use, landscape and ecology. The precinct vision has been prepared in response to the analysis.

Source:
1 - DPIE, Local Character and Place Guideline, p5
2 - GANSW Aligning Movement and Place, p7



Source: GANSW Aligning Movement and Place

Areas of analysis to understand place





2.11 Design Objectives

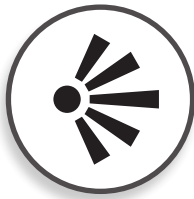
The precinct vision has been informed by a set of overarching design objectives. These objectives reflect the design objectives provided in GANSW's Better Placed policy document and outlined below. The correlation between the Better Placed objectives and the site principles are represented through the colour coding system.

Design Objectives - Better Placed, GANSW

| | |
|----|---|
| 1. | Better Fit - contextual, local and of its place |
| 2. | Better Performance - sustainable, adaptable and durable |
| 3. | Better for Community - inclusive, connected and diverse |
| 4. | Better for People - safe, comfortable and liveable |
| 5. | Better Working - functional, efficient and fit for purpose |
| 6. | Better Value - creating and adding value |
| 7. | Better Look and Feel - engaging, inviting and attractive |



i. Integrate development with the existing and future movement network, facilitating transit-oriented development and promoting active and public modes of transport



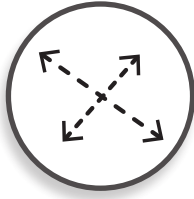
ii. Respond to the landscape setting, retaining and utilising key view corridors to and from the site



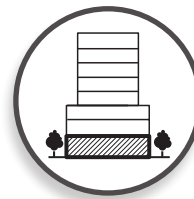
iii. Provide a mix of housing types and affordability, accounting for the diversity of users and needs of the local area



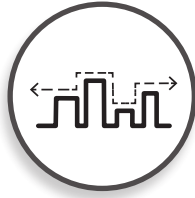
iv. Deliver high quality public open space and social infrastructure that responds to current and projected trends or deficiencies in the area



v. Create a permeable development site that ensures a high level of accessibility and integration with existing neighbourhoods



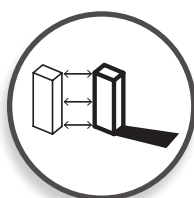
vi. Engage with the streetscape through considered setbacks and streetwall heights, providing opportunities for active uses and passive surveillance at ground level



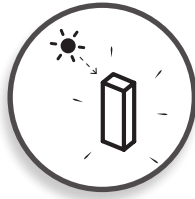
vii. Respond to the height and scale of the surrounding built environment through fit or transition of built form



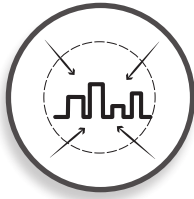
viii. Respond to the existing landform and environmental conditions, minimising impact on ecologically sensitive areas



ix. Minimise impact on surrounding context, maintaining solar access and views through adequate separation and orientation of built form



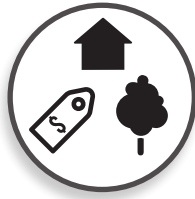
x. Demonstrate design excellence through a quality development of architectural merit, that ensures a high level of amenity and sustainability



xi. Respond to significant qualities of the existing and desired future character of the local area



xii. Contribute to a sense of place, engaging with the needs, demographics and values of the local community



xiii. Balance the mix of residential and non-residential uses, to support the increased density and feasibility of the development



xiv. Respond to the geological significance of areas within the site and locality



xv. Consider the staging of development to align with the delivery of infrastructure and an evolving vision for the wider context

2.12 Greener Places

Greener Places

Greener Places is an urban green infrastructure state policy released in draft by the Government Architect New South Wales (GANSW) in November 2017. This policy underpins open space aspirations embedded in the precinct vision.

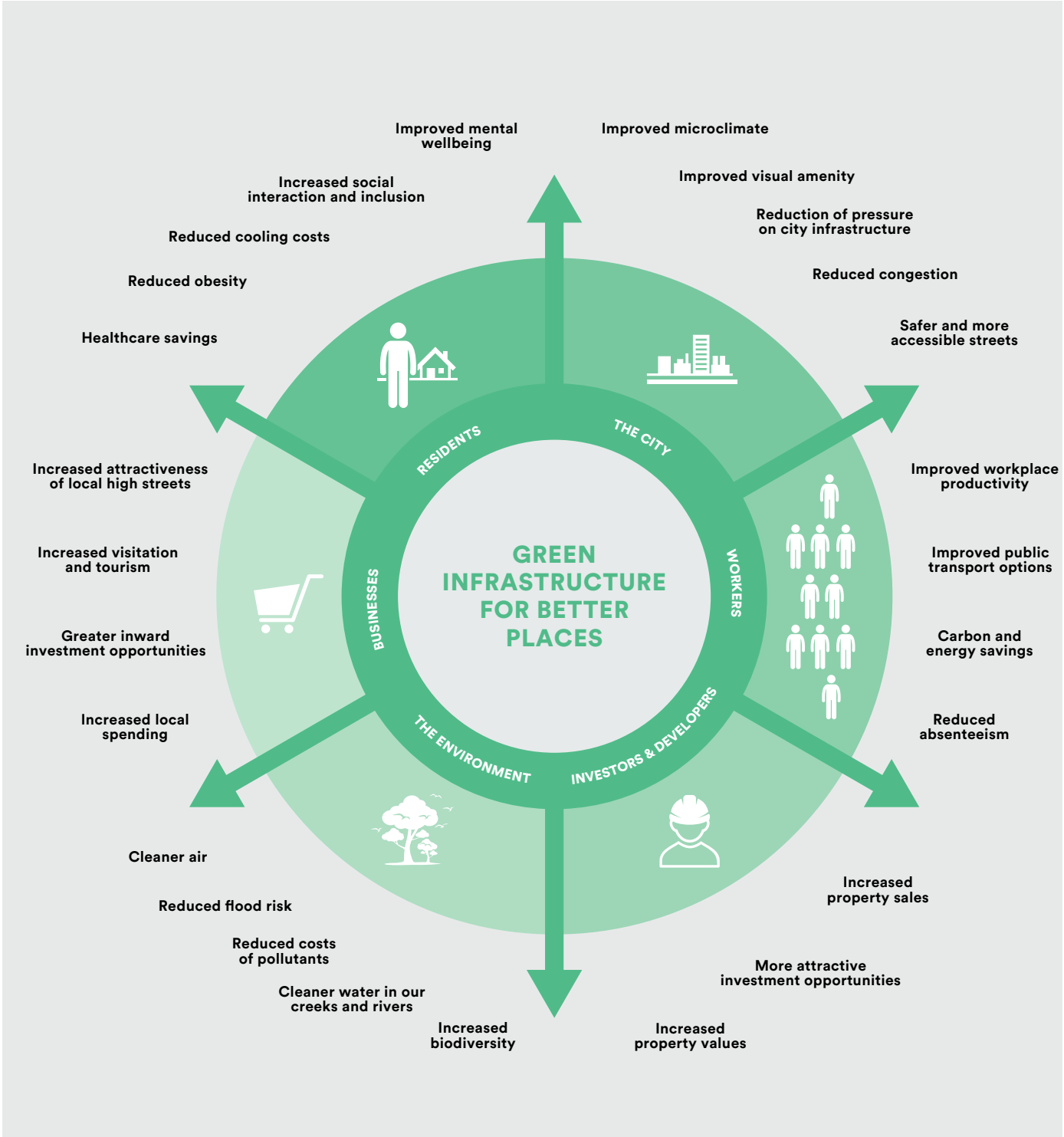
The policy establishes a framework to realise the following key green infrastructure objectives:

- To protect, conserve and enhance NSW's network of green and open natural and cultural spaces
- To secure a network of high quality, high performing and well-designed green space, establishing a crucial component of urban infrastructure to address the environmental challenges of the twenty-first century
- To promote healthy living, encouraging physical activity, social cohesion, and enhancing wellbeing by providing liveable places for the NSW community
- To create a more strategic approach to planning for Green Infrastructure, encouraging early and integrated investment through statutory planning
- To deliver better tools for the delivery of Green Infrastructure across NSW

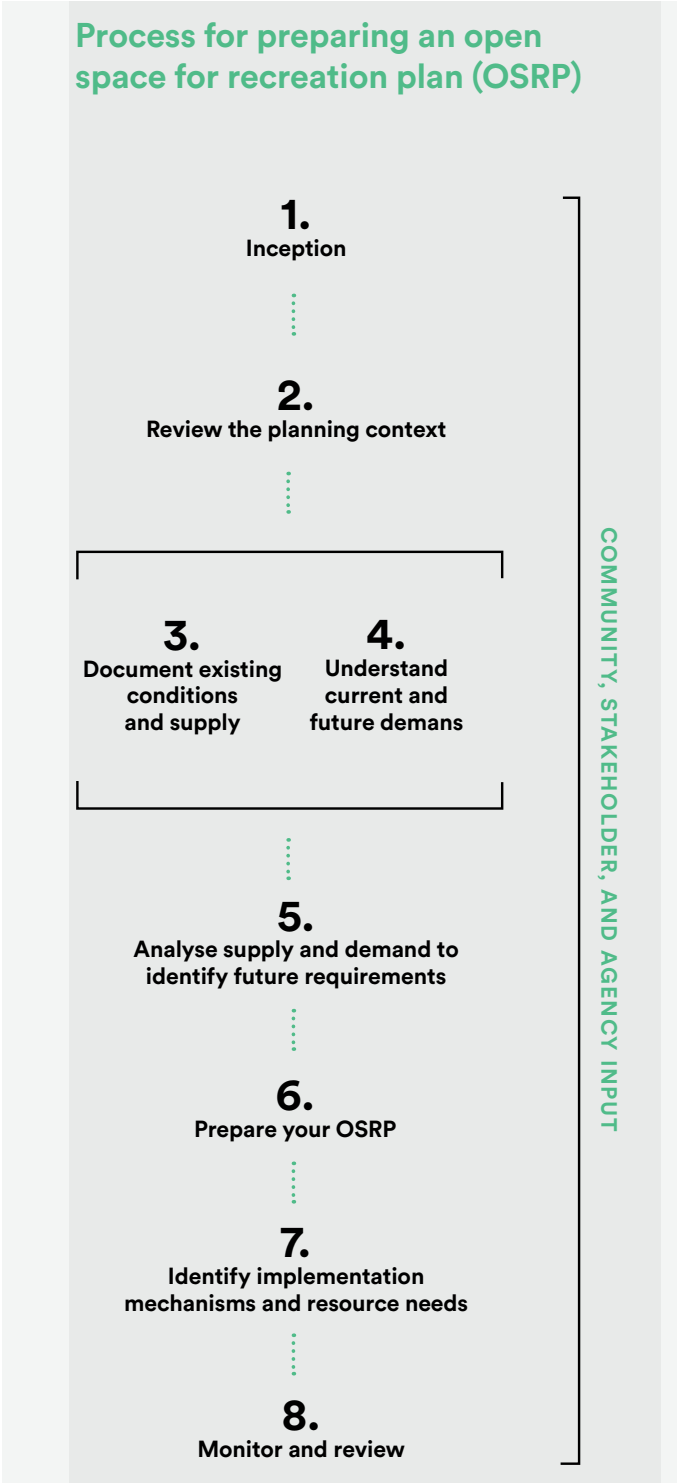
Open Space for Recreation (OSFR) Guide

The draft *Open Space for Recreation Guide (OSFR)* is a supporting document that facilitates the implementation of the Greener Places policy. Released in July 2018, the guide was intended to be used by industry professionals, private developers and government bodies in the preparation of strategic plans and architectural or urban design projects.

The guide proposes a new approach to the analysis and delivery of open space that is relevant to the current and anticipated future urban landscape for New South Wales. In particular, the document responds to the challenges of increasing density and decreasing land supply through a performance-based, as opposed to quantum-based approach.



Who Benefits from Green Infrastructure? - *Greener Places*, p.19



Process for preparing an open space for recreation plan - *OSFR Guide*, p.9

2.13 Open Space for Recreation Performance Criteria

The OSFR Guide outlines the typical process for preparing an open space for recreation plan, involving the analysis of the existing and potential future provision open space within a given area. This is assessed against performance criteria relating to accessibility and connectivity, distribution, size and shape, quantity, quality, and diversity. Each criteria has a set of performance indicators that are tailored to different development scenarios, ranging from greenfield to high density areas.

The open space performance criteria summarised opposite are provided in the OSFR Guide. A set of performance indicators is provided for each criteria, focusing on the requirements for high density areas (>60-100 dwellings/hectare), which is most relevant to the aspirations for the Precinct outlined within the Campbelltown Precinct Plan (DPIE)

These performance indicators have been used to inform the quantum, quality and location of open space within the Precinct Plan.

Accessibility and Connectivity

- For high density areas, residents must be within **2-3 minutes / 200m walking distance to a local, district or regional park**
- For medium density areas, residents must be within 5 minutes / 400m walking distance



Local, district or regional park

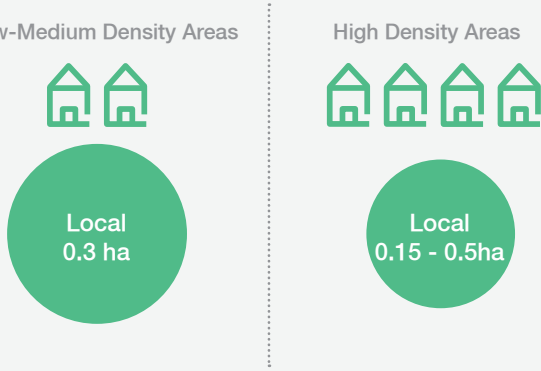
2-3 min / 200m

Distribution

- For high density areas, residents must be within **2-3 minutes walk / 200m of local open space**
- For medium density areas, residents must be within 5 minutes walk / 400m of local open space
- Residents must be within 25 minutes walk / 2km of district open space
- Residents must be within 30 minutes travel / 5-10km to regional open space
- Workplaces must be within 400m of open space
- Schools must be within 400m of open space

Size and Shape

- Desirable minimum size of a local park is **0.3 ha**
- Local open space: **0.15-0.5 ha for high density areas**
- Consider specific size / shape requirements for sporting facilities



Low-Medium Density Areas

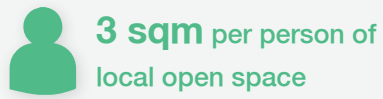
High Density Areas

Local 0.3 ha

Local 0.15 - 0.5ha

Quantity

- Quantity refers to the capacity of open space, meaning the quantum in relation to the population density within the access catchment.
- While the capacity of open space is important, other factors such as the quality and diversity of open space should also be considered.
- The World Health Organisation (WHO) states that on average, a **minimum of 9 sqm of accessible open space should be provided per person.**
- An average of 3 sqm of accessible local open space should be provided per person**
- An average of 11sqm of accessible district open space should be provided per person**



3 sqm per person of local open space

Quality

Key characteristics that may influence the quality of open space include:

- Visual and physical access
- Landscape setting
- Condition of facilities and equipment
- Maintenance
- Number of activation within the space
- Size, shape and topography
- Adjacent land uses
- Amount of vegetation
- Biodiversity outcomes

Diversity

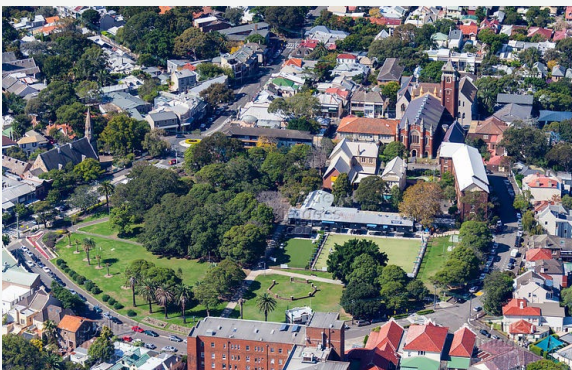
The diversity of open space is determined by the types of recreation opportunities available. These are categorised as:

- Local play for the very young
- Local children's play
- Youth recreation space
- Local recreation space
- Active recreation space
- Large community outdoor recreation area
- Fitness and exercise space
- Trail and path-based recreation
- Off-leash dog exercise area

2.14 Open Space Precedent Study

A study of open space precedents within high density neighbourhoods has been included to understand the potential scale, quality and uses needed to create successful open spaces to support a community in the Campbelltown North Precinct.

Gladstone Park



| | |
|------------|--|
| Name | Gladstone Park |
| Area | 1.7 ha |
| Location | Balmain, Sydney |
| Facilities | Seating, Active Open Space, Tennis Court, Playground |



- 1. Active Open Space
- 2. Seating
- 3. Play
- 4. Tennis Court

Joynton Park

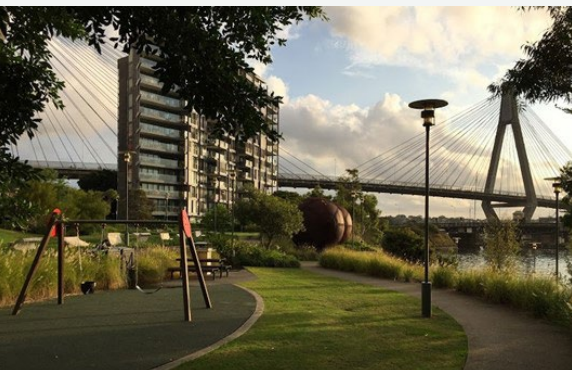


| | |
|------------|---|
| Name | Joynton Park |
| Area | 1.29 ha |
| Location | Zetland, Sydney |
| Facilities | Active Open Space, Outdoor Dining, Seating, Water Feature, Toilets, Shading |



- 1. Active Open Space
- 2. Seating
- 3. Toilets
- 4. Water play
- 5. Shading
- 6. Outdoor dining

Waterfront Park



| | |
|------------|--|
| Name | Waterfront Park |
| Area | 1.6 ha |
| Location | Pyrmont, Sydney |
| Facilities | Active Open Space, Seating, Public Art, Playground |



- 1. Active Open Space
- 2. Seating
- 3. Public art
- 4. Play

Ward Park



| | |
|------------|---|
| Name | Ward Park |
| Area | 1 ha |
| Location | Surry Hills, Sydney |
| Facilities | Active Open Space, Seating, Public Art, Playground, Toilets, Skate Park |



- 1. Active Open Space
- 2. Seating
- 3. Public art
- 4. Play
- 5. Toilets
- 6. Skate park

Turruwul Park



| | |
|------------|---|
| Name | Turruwul Park |
| Area | 2.3 ha |
| Location | Roseberry, Sydney |
| Facilities | Seating, Active Open Space, Tennis Court, Playground, Outdoor Dining, Toilets |



- 1. Active Open Space
- 2. Seating
- 3. Public art
- 4. Play
- 5. Tennis court
- 6. Outdoor dining
- 7. Toilets

Redfern Park



| | |
|------------|--|
| Name | Redfern Park |
| Area | 2.2 ha |
| Location | Redfern, Sydney |
| Facilities | Active Open Space, Seating, Playground, Public Art |



- 1. Active Open Space
- 2. Seating
- 3. Public art
- 4. Play

Pirrama Park



| | |
|------------|---|
| Name | Pirrama Park |
| Area | 1.7 ha |
| Location | Pymont, Sydney |
| Facilities | Active Open Space, Seating, Playground, Waterplay, Toilets, Shading |

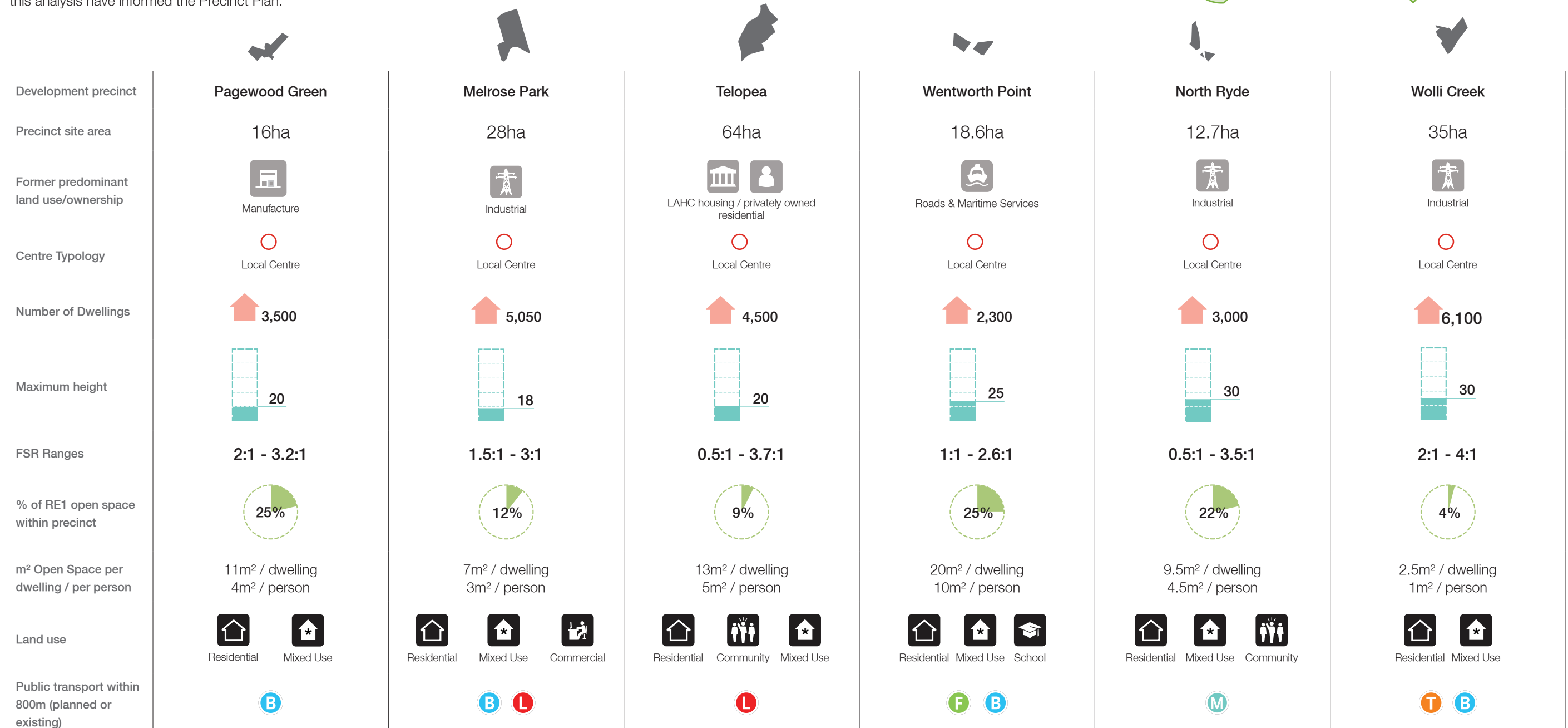


- 1. Active Open Space
- 2. Seating
- 3. Toilets
- 4. Play
- 5. Shading




















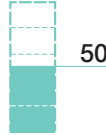


























Strategic Framework

2.15 Precinct Benchmarking

The benchmarking analysis below provides examples of significant centres across a range of different scales in Sydney. They provide an understanding of potential scales of development / dwelling quantum underpinned by public transport and open space provision. The key findings from this analysis have informed the Precinct Plan.



2.16 Benchmarking and Precedent Lessons

| | | | | | |
|--|---|--|---|---|-------------------|
| |  |  |  |  | |
| Development precinct | Burwood | Epping | Thornton | Parramatta CBD | Learning Outcomes |
| Precinct site area | 53.8 ha | 240 ha | 40 ha | 130 ha | |
| Former predominant land use/ownership |  Mixed use local centre and surrounding private residential |  Mixed use local centre and surrounding private residential |  Defence housing |  Mixed use local centre and surrounding private residential | |
| Centre Typology |  Strategic Centre |  Strategic Centre |  Metropolitan Cluster (Penrith) |  Metropolitan Centre | |
| Number of Dwellings |  5,180 |  4,690 |  1,050 |  15,650 | |
| Maximum height |  42 |  29 |  11 |  50 | |
| FSR Ranges | 2-6:1 | 0.5:1 - 6:1 | 0.5:1 - 3.5:1 | 0.5:1 - 19:1 | |
| % of RE1 open space within precinct |  13% |  5% |  17% |  8% | |
| m² Open Space per dwelling / per person | 13.5m² / dwelling 5m² / person | 25.5m² / dwelling 9m² / person | 65m² / dwelling 29.5m² / person | 6.64m² / dwelling 2.5m² / person | |
| Land use |  Residential  Mixed Use |  Residential  Mixed Use |  Residential  Mixed Use  Community |  Residential  Mixed Use  Commercial | |
| Public transport within 800m (planned or existing) |   |    |   |      | |

Height

Buildings achieving these maximum heights are generally clustered around public transport infrastructure and delivered as mixed-use buildings to support the quantum and needs of building residents.

FSR

A significant range in permissible FSR supports the delivery of diverse land uses and typologies. It also enables a transition down to the existing surrounding uses in and around Campbelltown City Centre.

Open Space

Open space provision is not only about the quantum of open space but the quality of open space and how it supports the surrounding population. Pagewood Green has been able to deliver the largest quantum of open space per dwelling through a whole precinct approach that considers the final amount of dwellings to be supported by open space. This precinct was also formerly an industrial area with no open space amenity, similar to the Campbelltown Northern Precinct, and thus this same approach has been used to drive a significant proportion of open space within the precinct plan.

As many of the other centres are more established, increases in residential densities have not been supported by a proportional increase in open space.

Land Use

More significant centres including Parramatta CBD feature increased commercial office space in comparison to smaller strategic centres. This leverages proximity to public transport infrastructure and are usually supported by higher residential densities. Mixed use development in other centres will likely include proportionally more retail, food and beverage and small scale commercial space. Larger regeneration precincts that been included are generally mixed use, with a focus on delivering housing in high amenity areas adjacent to rail infrastructure, open space, employment, retail or to support existing city centres - which are of particular relevance to the Campbelltown Northern Precinct.



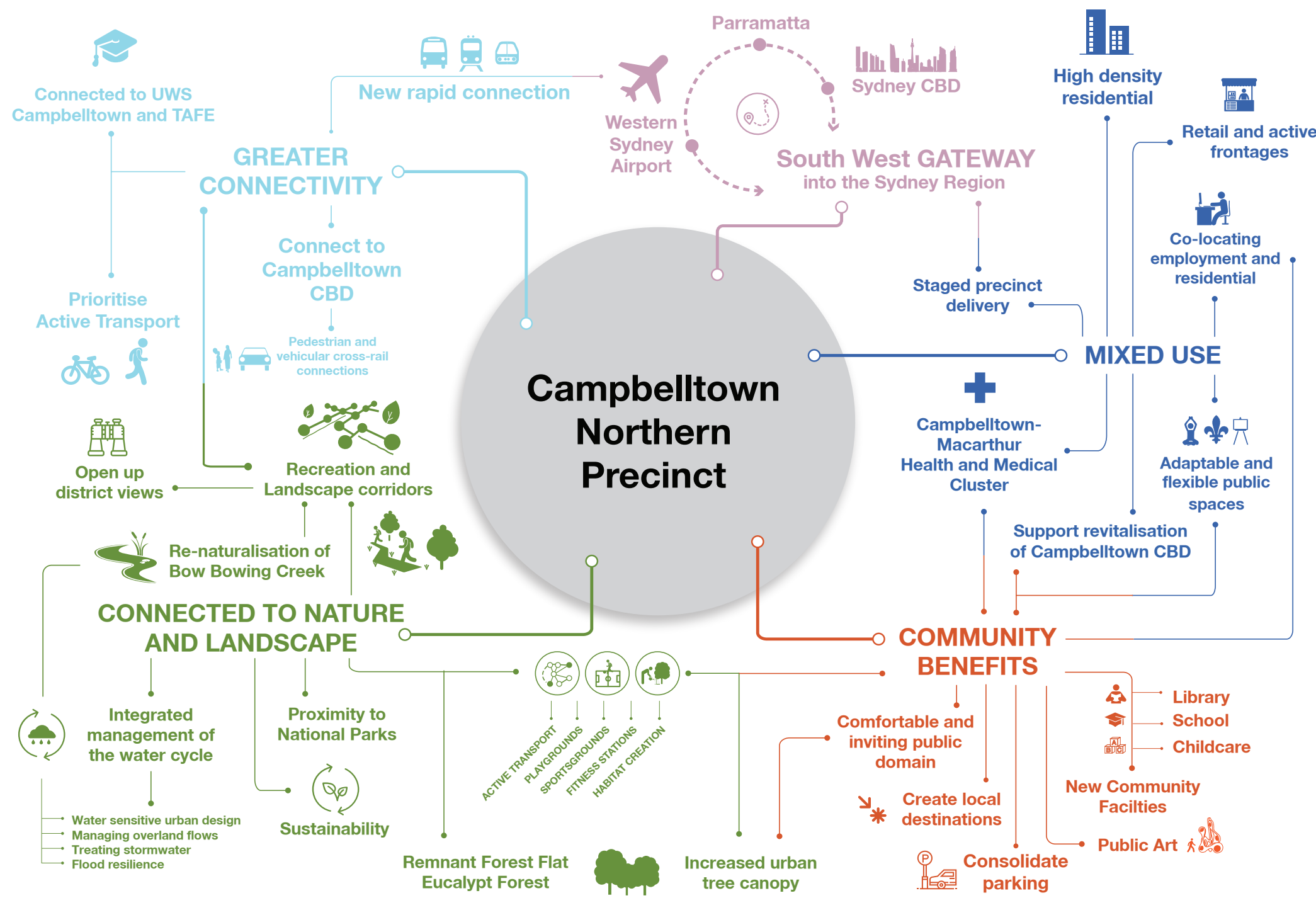
Precinct Plan

3.1 Project Vision

The Campbelltown Northern Precinct be will an active and inviting mixed-use precinct connected into Campbelltown CBD. Unlocking the potential of an underutilised industrial site, the precinct has the opportunity to deliver larger scale development, more diverse building typologies, services and amenities, unencumbered by the existing fine grain development pattern and fractured ownership of the CBD. It presents opportunities to realise the strategic aspirations for Campbelltown-Macarthur as a Metropolitan Cluster, building upon health, medical and public transport investment. Campbelltown-Macarthur will deliver significant employment especially higher order jobs, and access to goods and services that support increased residential densities.

The precinct will celebrate the unique ecological and hydological features of the site, stitching together remnant natural features including fragmented pockets of Forest Flat Eucalypt Forest. A revitalised Bow Bowling Creek will form a key landscaped spine through the precinct and serve as a structuring and wayfinding element.

A holistic approach to environment, landscape and whole-cycle water management enables sustainability to be embedded at the heart of the approach. Integrated at this early stage, this focus will permeate through to future stages of detailed design and delivery.



Precinct Plan

3.2 Precinct Concept

The Campbelltown Northern Precinct will be place for people that is well served by public transport, offers excellent amenity in regard to open space, is connected to its surrounding landscape and is intrinsically tied into Campbelltown City Centre.

It will be mixed use precinct with cultural and commercial opportunities for residents and visitors alike. Connected with green gridded streets, bridges and landscaped waterfront, it will be a focal point for the growing Western Sydney metropolis and place for everyone.

KEY

Precinct Boundary

Site Boundary

Railway

City Boulevards

High Streets

Waterways

East-West Rail Crossings

Western Sydney Airport Future Connection

Future Pedestrian Connections

Campbelltown City Centre

Campbelltown Core CBD

Open Spaces

TAFE NSW - Campbelltown

Western Sydney University Campus

Campbelltown Hospital

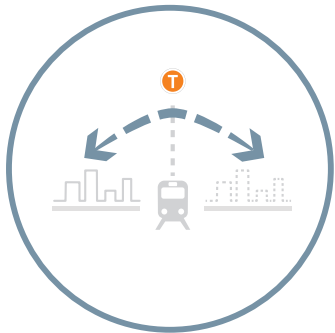


3.3 Key Project Drivers

There are ten shared key project drivers which emerge from the local and state government policies, design guidance, benchmarking and precedents within the strategic framework. They will form the foundation for the Campbelltown North Precinct Vision and will be embedded within the Precinct Plan.



Precinct is identified for high density residential uses



Connect the north to the south across the rail corridor



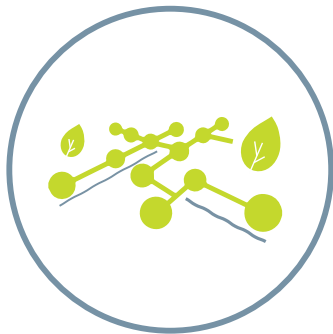
Support revitalisation of Campbelltown CBD



Deliver a diversity in housing typologies and land uses



Reduce the urban heat island effect



Enhance existing open space assets and improve connectivity to those spaces



Celebrate Bow Bowing creek



Deliver community facilities and services that support the needs of the community




Balance the integrated and efficient movement with the amenity and quality of places



Target 40% tree canopy coverage


3.4 Strategic Considerations

Challenges




Transport

- Campbelltown currently relies solely on train and buses for public transport
- There are few cycle paths to encourage active transport
- Campbelltown is not easily walkable




Growth & Housing Choice

- There is a lack of housing diversity.
- 40,000 additional dwellings will be needed in the LGA
- 3,600 additional dwellings in the Campbelltown City Centre



Public Services & Amenities


- There are very few community facilities in northern Campbelltown
- Local amenities are located in a small area, south of the train station
- Active recreation and open spaces are lacking in the local vicinity



Car Dependency


- Most daily trips by local residents are by car
- Almost all people who work in the local area arrive by car
- The town centre is dominated by car parks

Opportunities




Mass Transport Link Investigation (0-10 years)

- The mass transit link will connect passengers to the wider Metropolitan Sydney, creating a unique opportunity to introduce transit oriented design in Campbelltown
- For Campbelltown to be a place of departure and arrival with a mix of residential and commercial within 800m of the station
- Offer greater densities close to the station (within 400m)




Community

- Potential to connect to the university precinct through active transport
- To offer a new communal meeting space along the revitalised creek for community gatherings




Integrating Land Uses

- Provide a true mixed-use centre that includes residential, retail, office and community services
- Include services such as childcare, schools, libraries
- Commercial activity can thrive on activity provided by a resident population, at all times of day




Regional Growth

- Campbelltown can strengthen its role as a transit oriented centre increased commercial floor area balanced with higher densities for population growth and contribute to local economic growth
- Capitalise on available land in the area with a vibrant mix of residents and commercial job opportunities
- Leverage changes to the local character from the station interchange



Landscape and Recreation


- Improve the of quality open space around Bow Bowling Creek
- Provide programmed open space, such as sports fields and courts.
- Revitalised the creek and locate open spaces and active transport links along it.
- Provide active transport link with the university precinct
- Stitch together north and south Campbelltown




Infill and Density

- Deliver the highest densities within 400m of the station
- Consolidate the commercial/ business park area to avoid further urban sprawl
- Reduce the quantity of car parking and hard surfaces at ground level


A vibrant mixed use precinct should...




1 Improve connections to public transport




2 Include a mix of land uses to be a place to live, work and play




3 Provide a network of open space for people to gather and socialise




4 Prioritise public domain and infrastructure that can facilitate growth




5 Have a mix of housing typologies to provide a diversity of choice



6 Preserve amenity to key open spaces and surrounding areas



7 Create a hierarchy of streets that are landscaped and safe for pedestrians



8 Shape of skyline can be used to define the city core

SJB

Campbelltown Northern Precinct Plan

51

3.5 Precinct Principles



Embodying the Extant Site Qualities

The precinct principles underpin the project vision. They combine an understanding of key considerations outlined within the strategic framework with a place-based approach that seeks to enhance and capitalise on the existing social, economic and environmental features of the precinct.

The existing conditions present the precinct’s fundamental constraints and opportunities for the project. As such, embodying these conditions becomes the most significant component of the framework that shapes future development.

The site’s natural features, its existing topography, the orientation and environmental conditions, the riparian biome of Bow Bowling Creek, the transport network as well as the immediate and wider context all form vital components of site analysis and offer vital cues in developing an appropriate place based strategy.



Connectivity and Movement

The Campbelltown Northern Precinct will have a fully integrated movement network that enables the community to access retail, community, employment, open space and capitalise on proximity to Campbelltown CBD. New cross-rail connections to Campbelltown CBD will connect the precinct to the City’s heritage core and fine-grain retail.

This integrated movement network will also include connectivity to public transport including existing rail, buses and the proposed metro link to Western Sydney Airport. Connectivity to the wider regional transport network is important to enable residents to leverage the amenity and employment opportunities provided by access to different centres.

A new street network will balance the need for efficiency and speed with the creation of places for people. The nature, scale, legibility, carriage and speed of connections will look to optimise and promote sustainable and active transport modes. The creation of a highly walkable environment with landscaping and tree canopy will support an active ground plane that supports retail, food, beverage and passive surveillance.

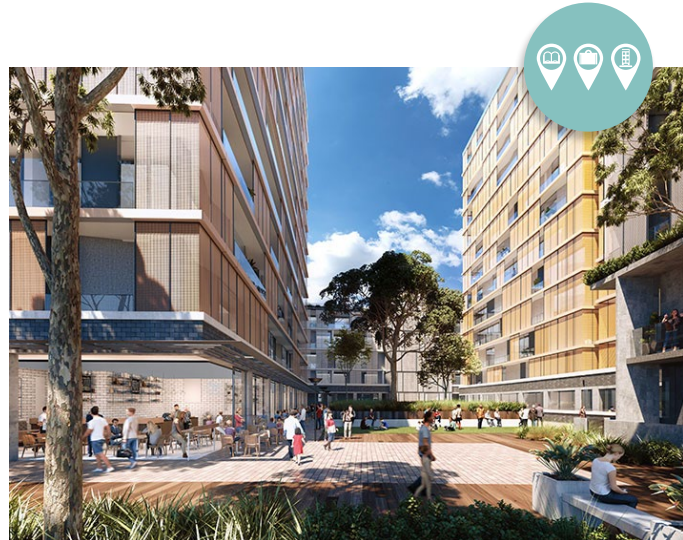


Landscape and Open Space

The precinct will respond to and celebrate the established landscape character of the region. The precinct will look to connect remnant natural features in the region to complete links in the Sydney South-West green and hydrological grid. The extension of these green and blue corridors through the precinct will be utilised as structuring elements and opportunities for recreation, respite and urban cooling. Environmental rehabilitation of Bow Bowling Creek will set a precedent for the improvement of the wider Bunbury Curran and Bow Bowling Creek Corridor.

These more linear spaces will be complemented with a range of smaller local open spaces supporting a variety of experiences including passive and active uses.

Urban tree canopy within parks, down streets and on top of built form will form a key part of mitigating the urban heat island effect. Where suitable, endemic and low water species will be utilised to ensure the precinct’s landscape is resilient



Land Use and Diversity

Located adjacent to Campbelltown Station and soon to be connected to Western Sydney Airport by road and Metro, the Campbelltown Northern Precinct will need to include the right balance and scale of land uses to establish Campbelltown-Macarthur as a Metropolitan Cluster. This includes delivering a higher concentration of higher order jobs and a wide range of goods and services coupled with significant residential density. While the DPIE Campbelltown Precinct Plan which earmarks the precinct for high density residential, supporting non-residential land uses will be required to support diverse opportunities for community engagement.

Land use will be engaged to support activation across the day and outside of traditional business hours, establish different character areas and support safety and passive surveillance.

Precinct Plan



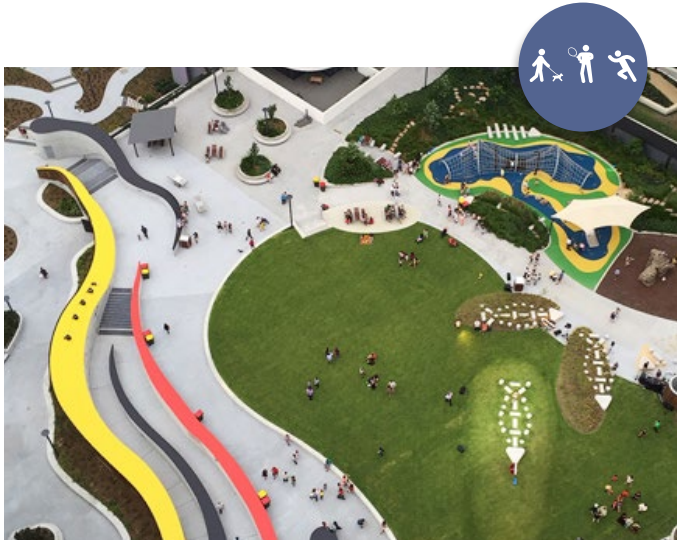
Built Form and Scale

This precinct signals the opportunity for the delivery of more diverse building typologies unencumbered by the existing fine-grain urban fabric and fractured ownership of Campbelltown CBD. Larger parcels and simple ownership patterns can support the delivery of buildings of larger scale and footprint to enable high density residential uses outlined in the DPIE Campbelltown Precinct Plan and commercial space which can enable Campbelltown to fulfil its roles as a Metropolitan Cluster.

When considered at the precinct scale, the potential environmental impact of buildings of significant height and larger footprints can be better managed. The transitioning height, shaping of building footprints and orientation of buildings can be engaged holistically to enable better solar penetration to the ground plane and SEPP65 compliance.

Consistent street walls will frame streets, facilitate active frontages and passive surveillance. Residential dwellings at ground will look to mediate the interface between public spaces through landscape.

The proposed scale and language of built form in the precinct will support the primacy of Campbelltown CBD in the region.



Amenity

Considered holistically with an understanding of the ultimate density and land use aspirations, the Campbelltown Northern Precinct will include infrastructure and spaces that cater to the future needs of the community, including childcare, entertainment, education, recreational and cultural facilities.

The provision of large public landscaped spaces, urban tree canopy, consideration of view sharing and management of the environmental impact of built form will enable the precinct to support the health and well-being of its residents, workers and visitors.



Sustainability

Social, environmental and economic sustainability will be embedded in the precinct, ensuring that the strategic aspirations for the region can be delivered and supported over time. It will build on a relationship with Campbelltown CBD, growth in the health and medical sector and the delivery of Western Sydney Airport. The precinct will be an integrated component of the south-western Sydney gateway.

The Campbelltown North Precinct will become an inclusive and inviting mixed-use precinct optimised for active and public transport. Socially sustainable, the precinct will include community infrastructure, a primary school and a range of parks and landscaped corridors which enable a network of non-transactional spaces alongside retail, residential and commercial uses.

Coupled with investment in high quality building design, on-site energy generation, integrated water life-cycle management and urban tree canopy, the precinct will be engaged with its environmental impact and seek to mitigate the urban heat island effect.

The potential staged delivery of the precinct will support increased investment in the region and the revitalisation of Campbelltown CBD.



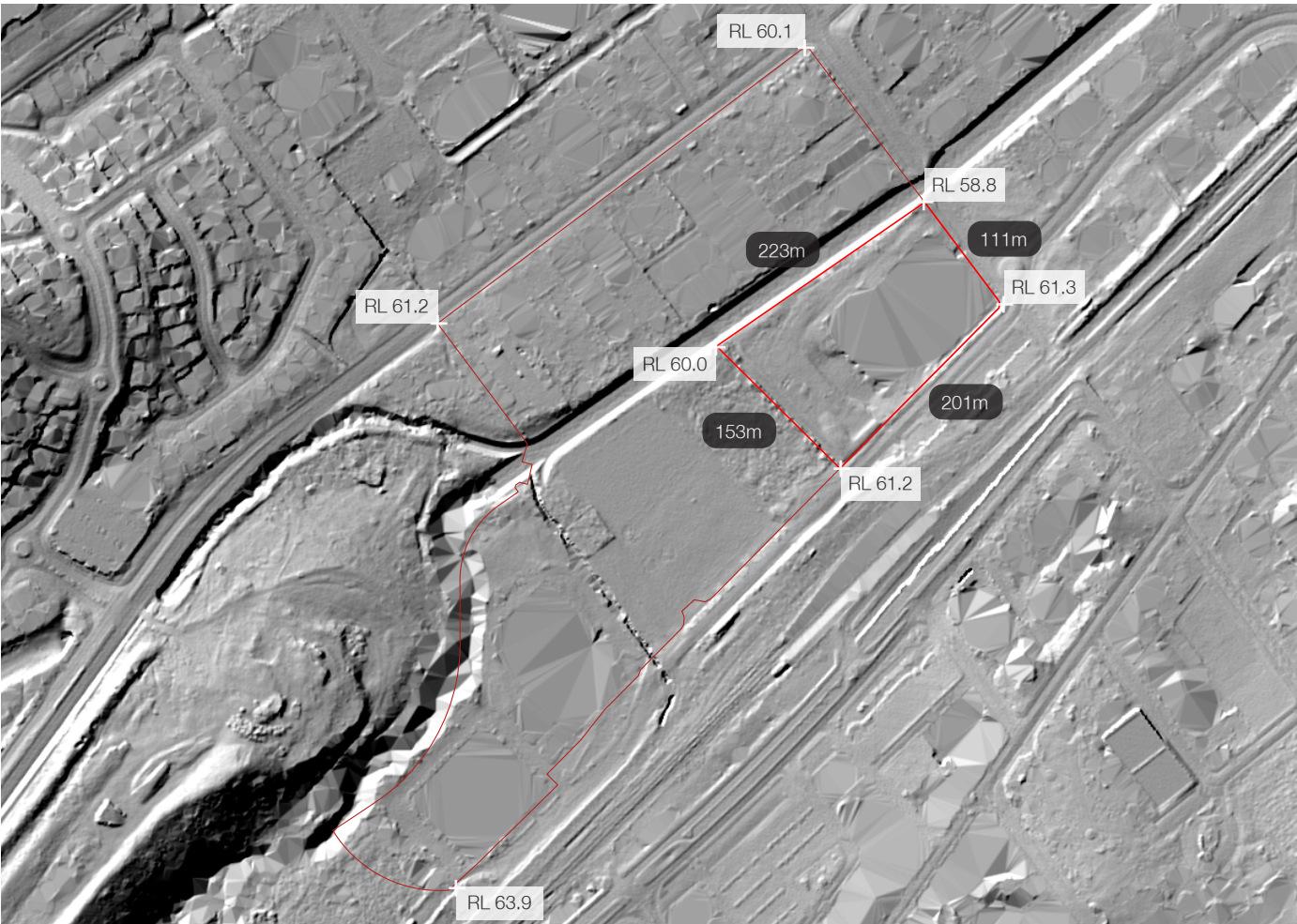
Staging and Delivery

The deliverability of the Campbelltown Northern Precinct is important to realising the strategic aspirations for the Western City and the Campbelltown-Macarthur Collaboration Area whilst also capturing the opportunities outlined in Council's Re-imagining Campbelltown City Centre Masterplan. Projects that support these strategic aspirations will need to be delivered incrementally and cannot await the completion of major infrastructure projects.

Unencumbered by the fine-grain development pattern and fractured ownership pattern of Campbelltown CBD, this precinct presents short-term opportunities to deliver on the strategic aspirations for the region. This may also incentivise increased investment in the wider region and the future revitalisation of Campbelltown CBD.



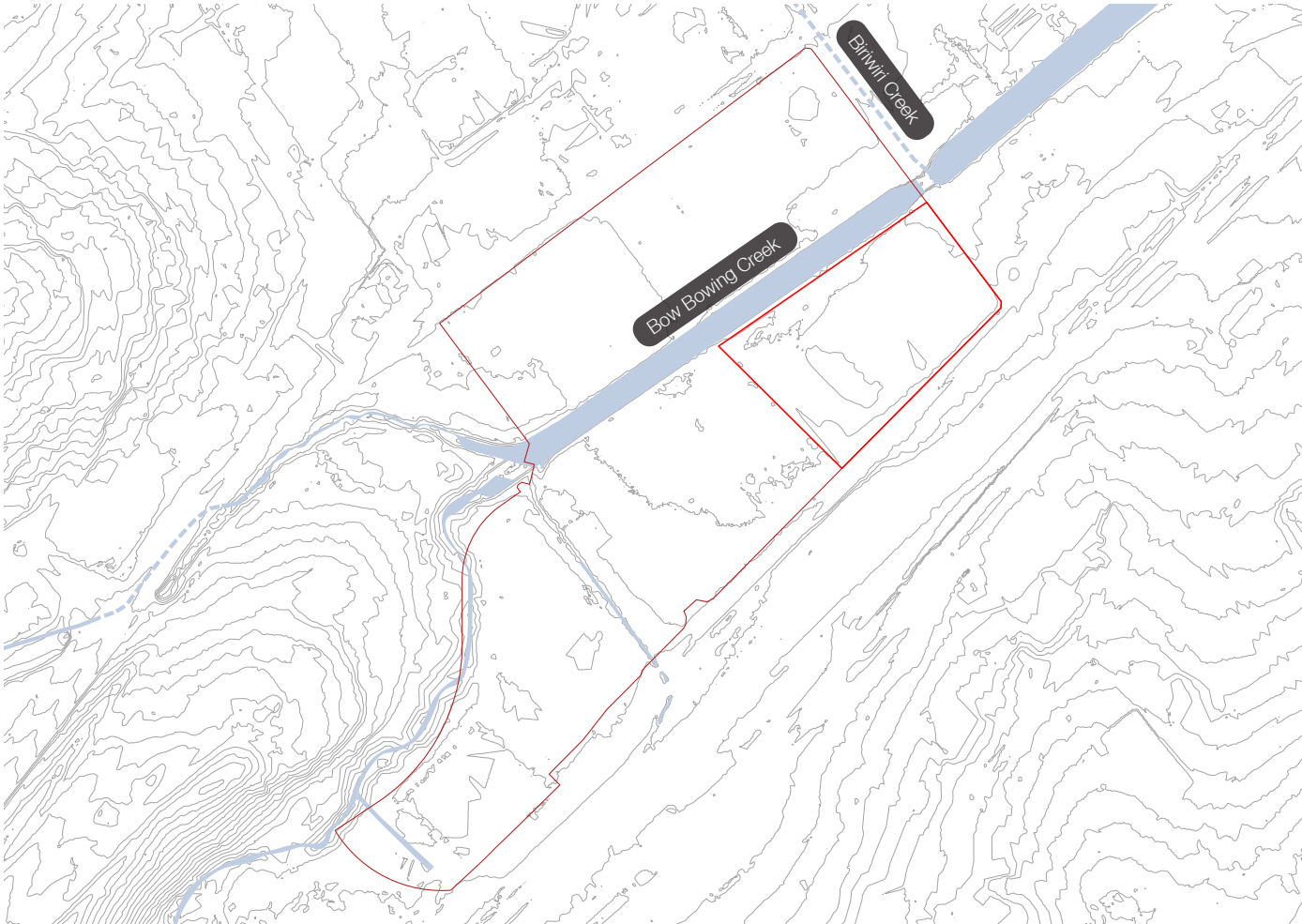
3.6 Protecting the Extant Site Qualities



Site Topography

The subject site is an irregular quadrilateral in shape, with no parallel boundaries or consistent dimensions. There is a topographic change of between 1.2 - 2.5m between Farrow Road and Bow Bowling Creek and between 0.1 - 1.2m running longitudinally.

The precinct boundary generally follows road infrastructure boundaries with the obvious exception of that following the remnant land surrounding Bow Bowling Creek to the south west. There is no significant level change across the precinct given its considerable size.



Existing Waterways

Running through the middle and providing a blue-green spine to the precinct, the Creek is the most significant opportunity to provide high quality amenity in the City Centre. Campbelltown City Council created the suburb of “Bow Bowling” (north of Minto) in 1975, ‘paying tribute to one of its city’s best-known waterways. Although its original course has changed greatly since the 1970s with the construction of wide concrete canals.

The exact origin of the Bow Bowling name is obscure. But according to an early land grant (located near the creek’s

headwaters near Glen Alpine), it was originally spelt as “Boro Borang”, possibly an Aboriginal term. But through careless writers of old deeds, the name appears to have been corrupted over the years to firstly Boro Bowling, and then Bow Bowling.’

Source: Campbelltown City Council - History of Bow Bowling

Biriwiri Creek meaning “shortcut” in the Aboriginal Tharawal language connecting to Bow Bowling Creek now lies subterranean below Badgally Road.



Potential Flood Risk

At present, there is no clause in CLEP 2015 setting out objectives for the management of flood risks on land between the flood planning level and the level of the Probable Maximum Flood (PMF). As such, further site specific studies will likely be required in due course. Within Molino Stewart's study from 2018, sites on Farrow Road were identified with the Above Floor Flooding (AFF) within the 5% Annual Exceedance Probability (AEP) as well as the commuter car park site(s).

Source: Molino Stewart - Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan (Draft, August 2018) - Map 8 Flood extents with hazard \geq H2 in the southern section of the study area

KEY

- 20% AEP
- 5% AEP
- 2% AEP
- 1% AEP
- 0.2% AEP
- 0.1% AEP
- PMF
- Sites identified with AFF from the 5% AEP



Existing Vegetation

The subject site and the wider precinct offers little in terms of existing vegetation / tree canopy cover, apart from a row of trees along the northern boundary on the southern bank of the Creek.

Enveloping the naturalised section of Bow Bowing Creek, the precinct includes an area of *River Flat Eucalypt Forest on Coastal Floodplains*. This forest type is classified as an Endangered Ecological Community under the *Threatened Species Conservation Act 1995* and is generally described as 'a tall open tree layer of eucalypts, which may exceed 40 m in height, but can be considerably shorter in regrowth stands or under conditions of lower site quality'.

Given its habitat, the community has an important role in maintaining river ecosystems and riverbank stability. It also provides habitat for a broad range of animals, including many that are dependent on trees for food, nesting or roosting.

Threats include:

- Flood mitigation and drainage works
- Human disturbance: rubbish dumping and a lack of awareness and appreciation
- Reduced water quality via input of nutrients such as fertilisers

Source: <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10787>

C

Summer temperatures in 2018 / 2019 reached a maximum daytime temperature of 43.8°C in close proximity to the site with an average daytime temperature as high as 29.0°C - far higher than what is comfortable for residents to spend extended periods if time outdoors within.

 *Benchmarking Heat Across Campbelltown, New South Wales -
Temperature data for coordinates -34.0662, 150.8132 - data logger
closest to the subject site during Summer 2018 / 2019*



①

6



Existing Land Ownership Boundaries

The precinct comprises a mixture of privately and local government owned land including the Campbelltown Commuter Car Park sites and the remnant open space adjacent to the subject site.

Local Government own a significant number of large land holdings within the Campbelltown City Centre.

KEY

State Government Owned

Local Government Owned

Strata Titled Land

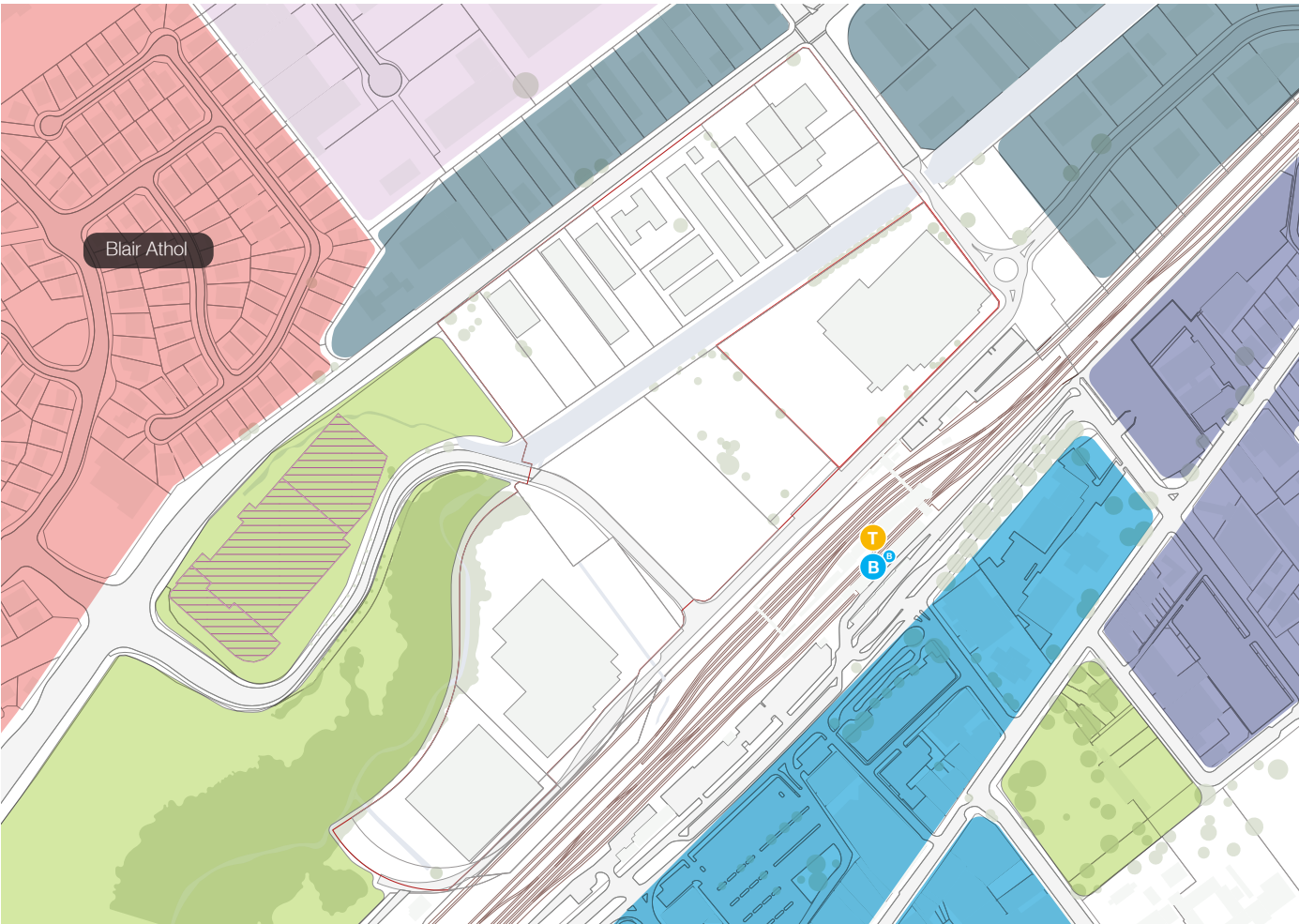


Development Parcels / Staging

The proposed vision and masterplan must acknowledge the existing property ownership and how a future staged development might be implemented. As such, any indicative structure plan must pay reference to existing site boundaries. The example staging indicated here is just one potential configuration that will need to be developed in future with collaboration and input from all relevant stakeholders.



3.8 Integrating with the Local Context



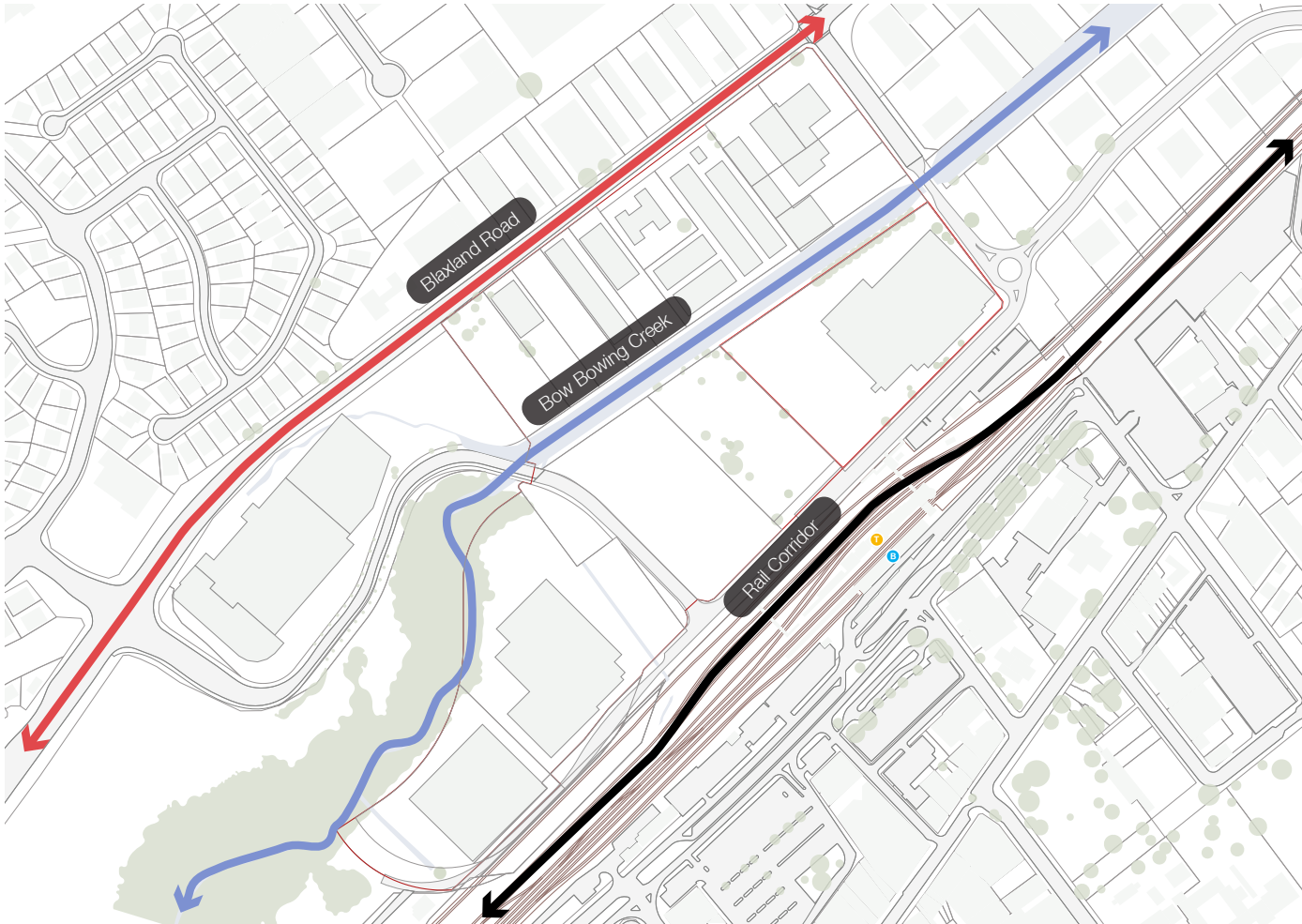
Surrounding Community Characters

The surrounding context has a number of distinct character areas that are fragmented by infrastructure connections. The precinct lies between the residential suburb of Blair Athol and the City Centre.

To the west of the site, a Development Application for a 'proposed warehouse and associated earthworks, drainage, car parking, landscaping and signage' (Bunnings Warehouse) was approved on Council land.

KEY

- Open Space
- City Centre Commercial Core
- Mixed Use
- Business Development
- Light Industrial
- Low Density Residential
- DA approved for Bunnings Warehouse



Bridging Barriers

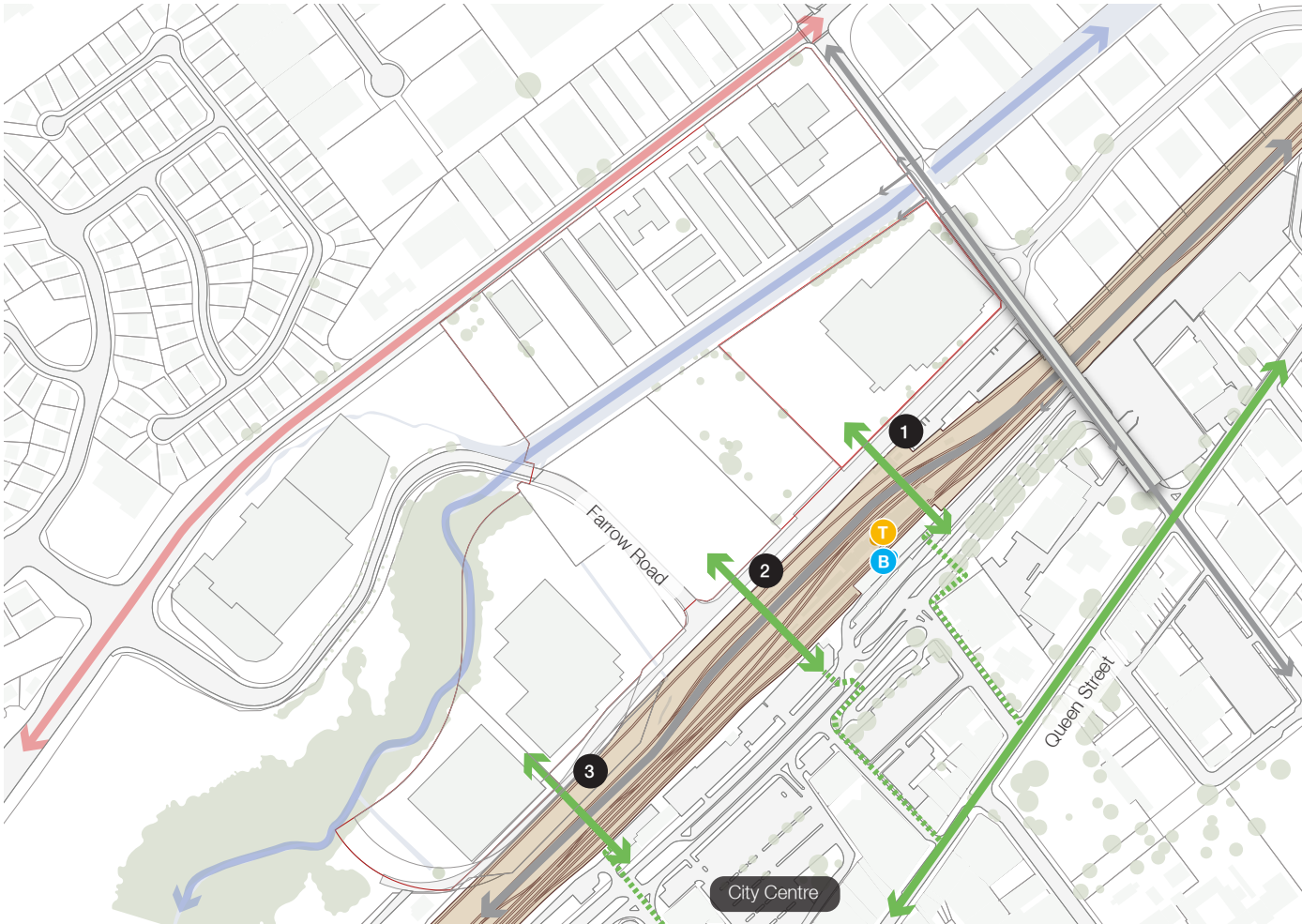
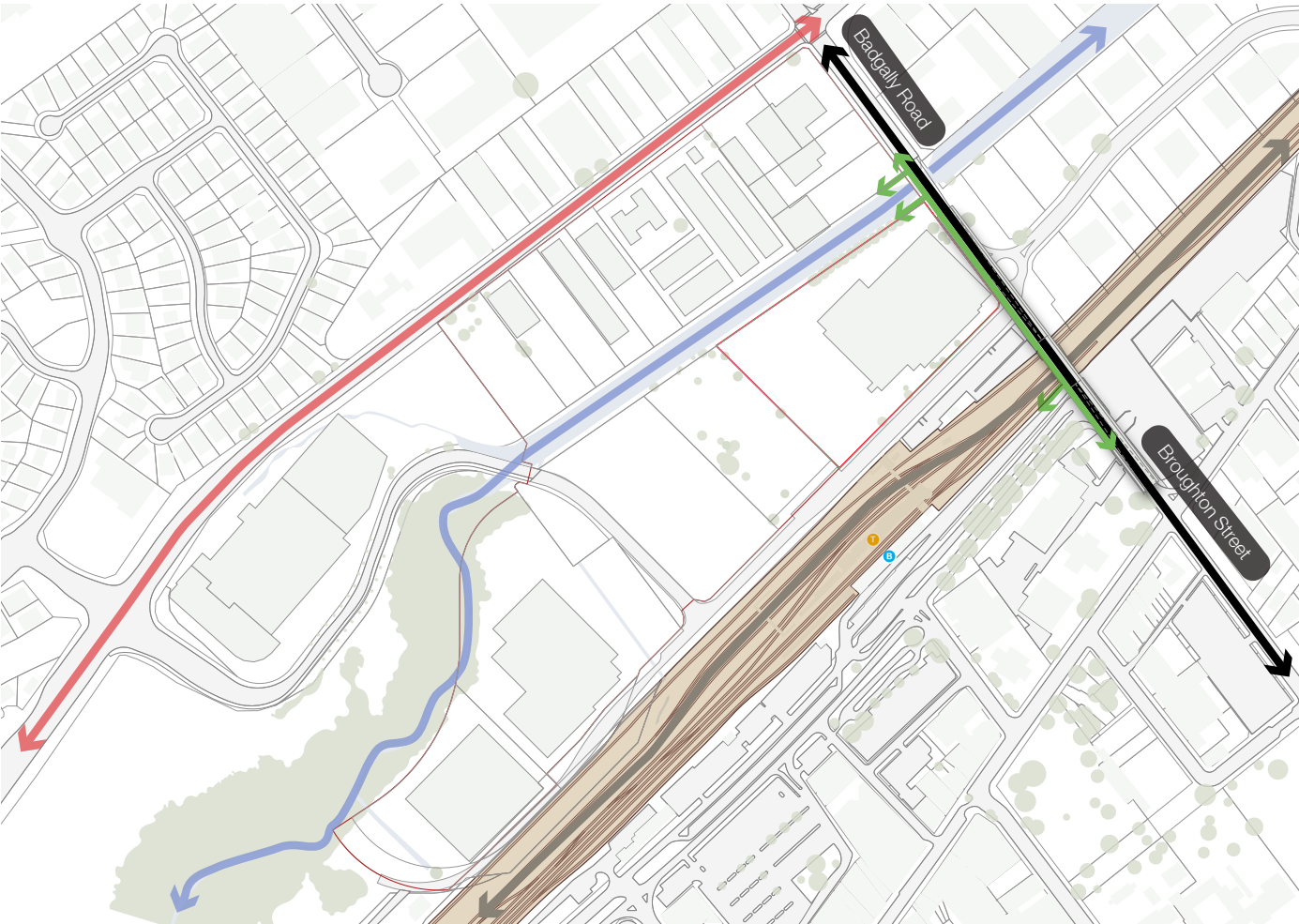
All running NE - SW, Blaxland Road, Bow Bowing Creek and the railway corridor all create significant infrastructure barriers that affect NW - SE permeability and connectivity.

With minimal existing bridging connections, the proposed Campbelltown Northern Precinct must create a fully integrated movement network that enables the community to access retail, community, employment, open space and capitalise on its proximity to Campbelltown City Centre.

This integrated movement network will also include connectivity to public transport including existing rail, buses and the proposed link to Western Sydney Airport.



CZWG - The Green Bridge, Mile End, London, UK



Potential New Railway Bridge

It is understood that Council (and others) are currently investigating the provision of a bridge connecting Broughton Street and Badgally Road over the rail infrastructure, which is currently under internal review. It is noted, however, that the approach ramps required in Badgally Road for such a bridge may extend past the site, and therefore any traffic generated by the site would not have any access to the bridge or significantly effect the traffic flows entering and exiting the subject site.

The indicative scheme within this report has carefully considered how it may respond to both the existing and potential future condition of this bridge being constructed.



ASPECT Studios - Caulfield to Dandenong Level Crossing Removal, Melbourne, Victoria

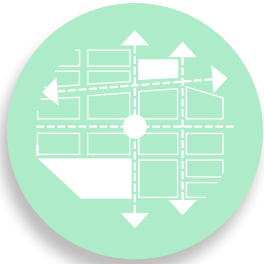
Connecting to City Centre and Public Transport

Connecting to the City Centre and Queen Street, new cross-rail connections will connect the precinct to the City's heritage core, community services, public transport connections, fine-grain retail and places of employment. This includes:

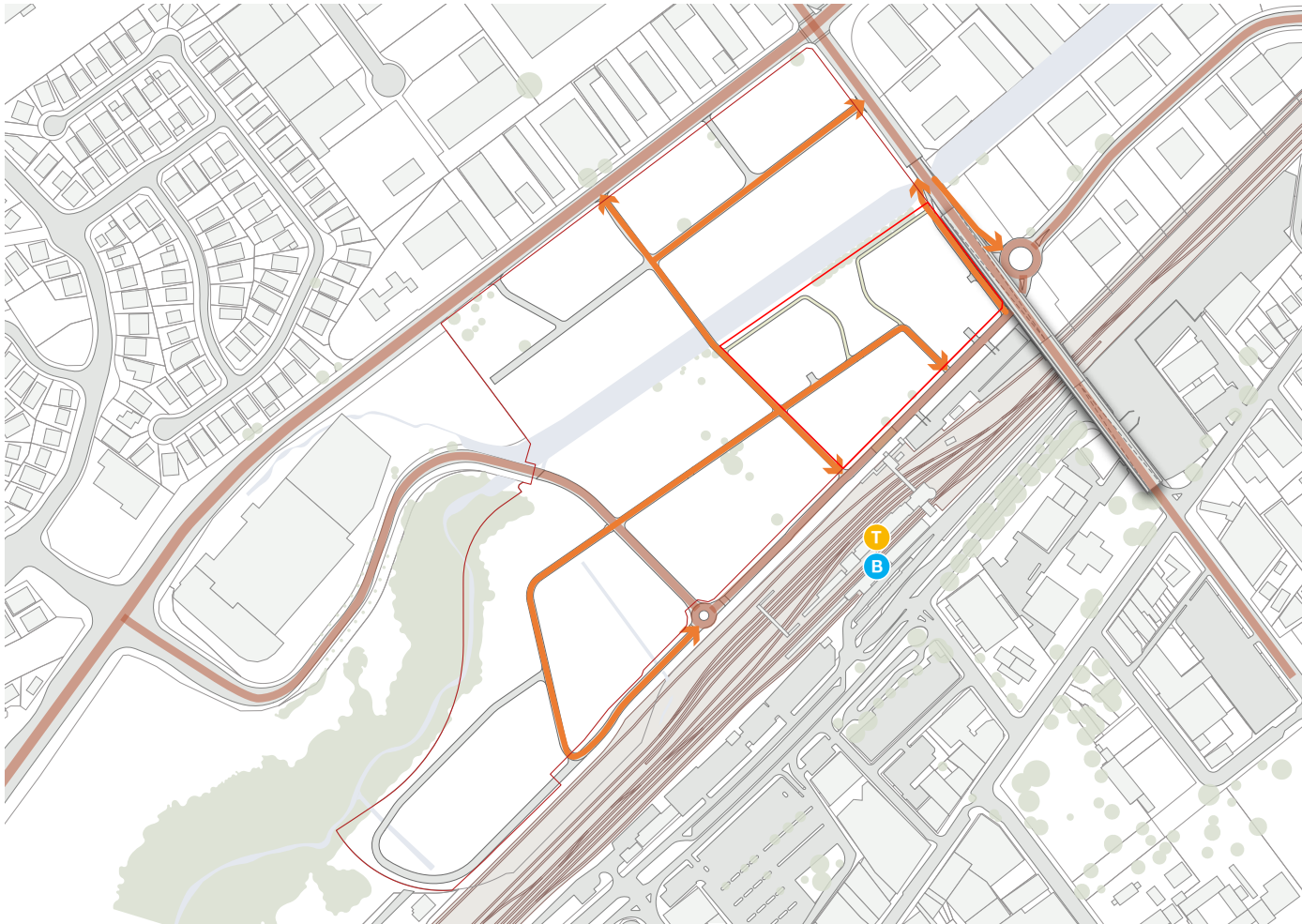
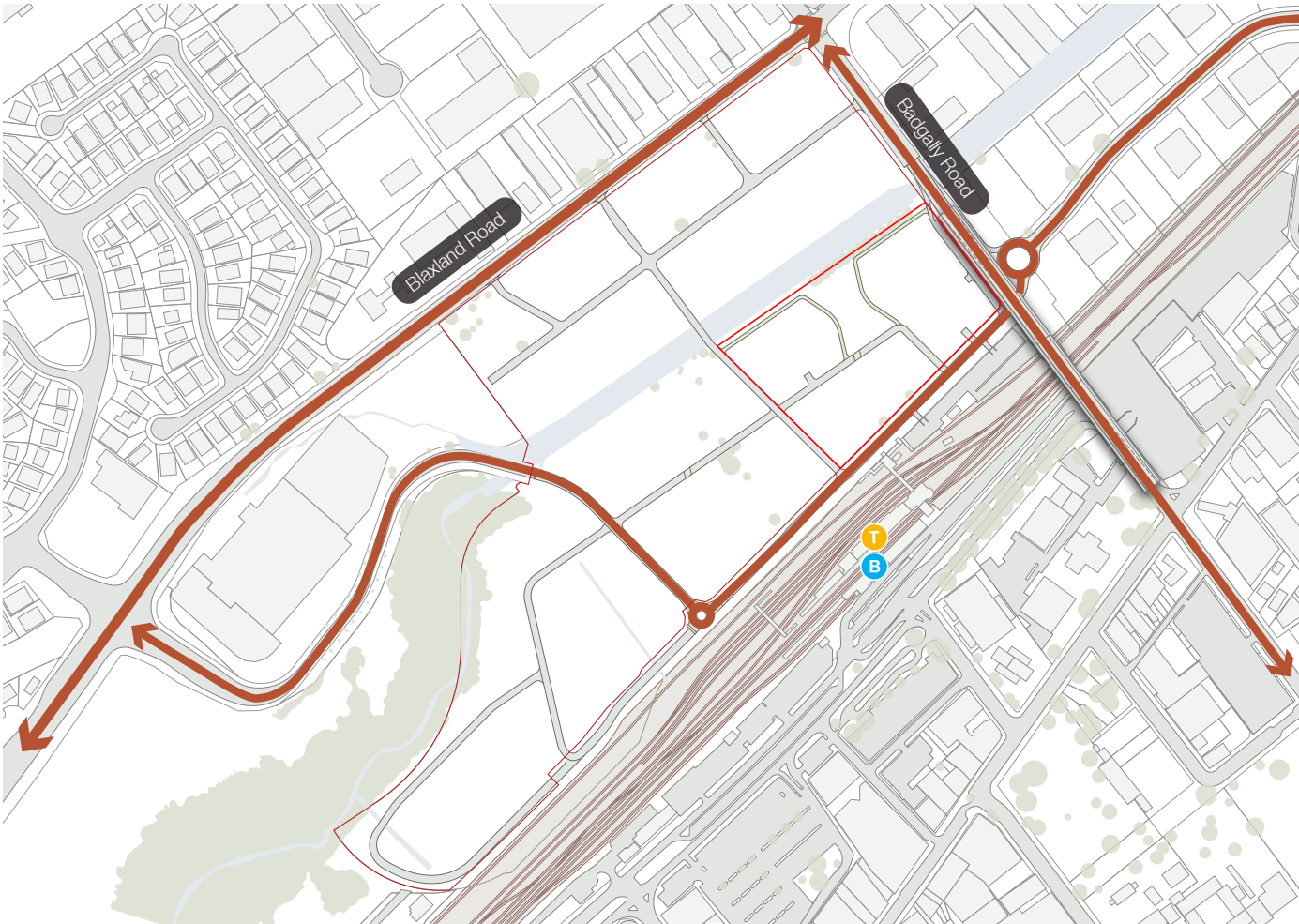
- 1 Utilisation of the existing station pedestrian bridge.
- 2 Potential extension of the existing pedestrian bridge (currently private and located within the rail corridor) by extending it for public use to better connect to Farrow Road and the Blair Athol communities to the north.
- 3 A new pedestrian / cycle bridge to provide a connection to the southern end of the precinct with the City Centre and Campbelltown Mall.



AL_A - MAAT Footbridge, Lisbon, Portugal



3.9 Vehicular Movement and Street Hierarchy



Regional Roads

Regional roads connect the precinct to arterial roads and wider regional destinations. Farrow Road and the southern portion of Badgally Road will be transformed into new regional roads connecting to Blaxland Road in the north and Campbelltown CBD to the south. These roads will create a high mobility loop around the precinct that will carry a substantial amount of through traffic, relieving areas internal to the precinct of significant traffic.



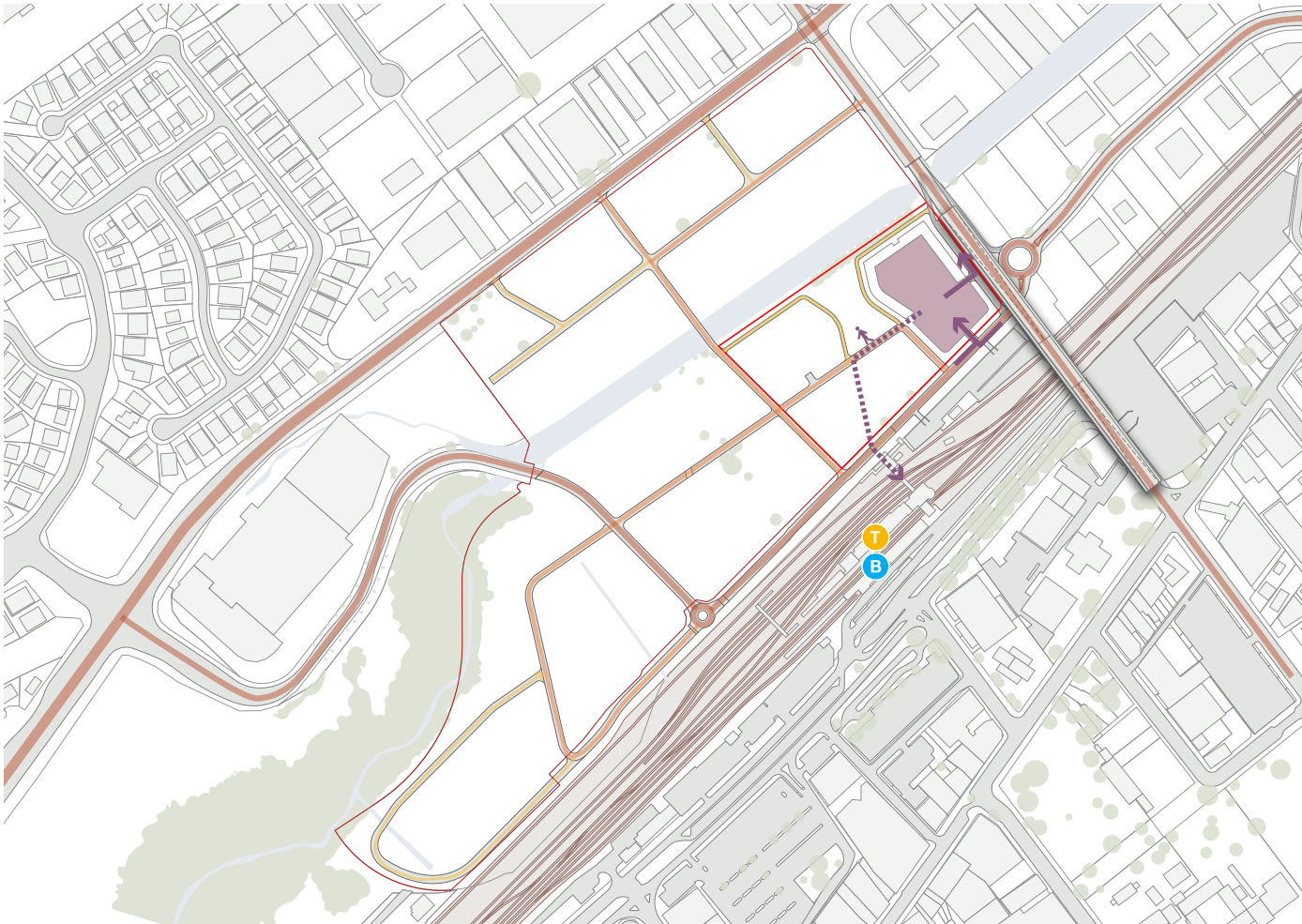
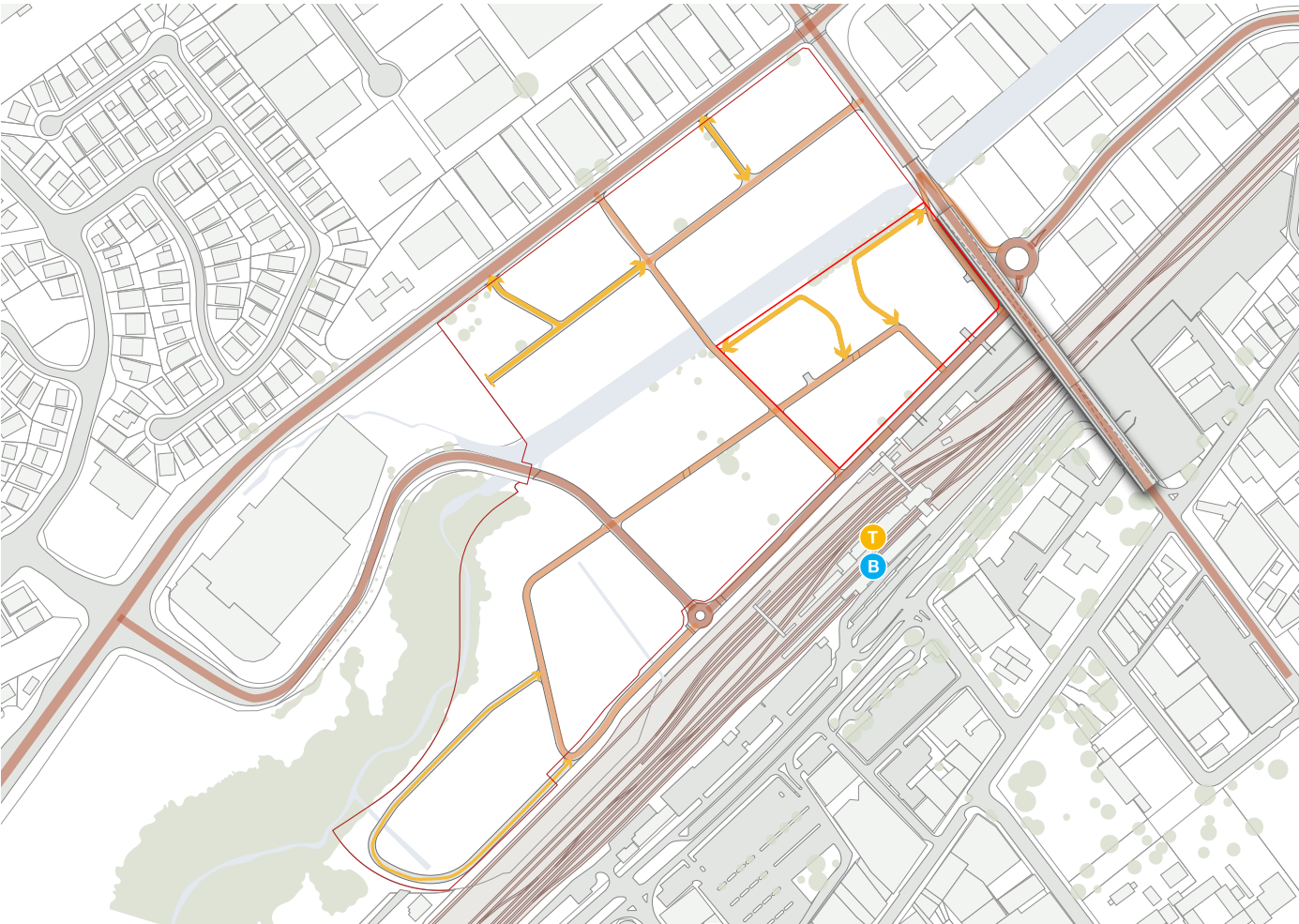
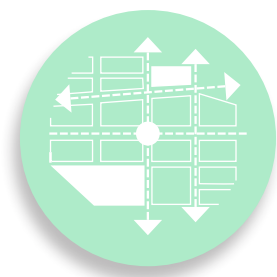
Gautier Conquet Architectes - Avenues Mermoz-et-Pinel, France

Collector Roads

Connected to regional roads, a network of collector roads will collect and distribute traffic throughout the precinct and provide direct property access. These roads are important structuring elements within the precinct and will be key spines which will stitch together a range of different land uses including residential, retail, commercial, community and open space.



Source: City of Seattle Office of Planning and Community Development, U.S.A.



Local Roads

Local roads will be used primarily for direct access to properties and will carry less traffic than regional and collector roads. Servicing smaller pockets of the precinct, the design and use of these roads is important in underpinning unique local character of these areas by creating welcoming and inclusive places for the community to spend time. Local roads may also manifest as shared spaces, laneways and access ways.



Source: Andrew Besold - "Shared Space" Streetscapes

Commuter Car Parking (Podium)

In line with DPIE's *Greater Macarthur 2040: An Interim Plan for the Greater Macarthur Growth Area* (November 2018), the scheme will offer a 450 space Commuter Car Park within a sleeved podium (to limit visibility) that is in close proximity to the Train and Bus Interchange as well as the City Centre.

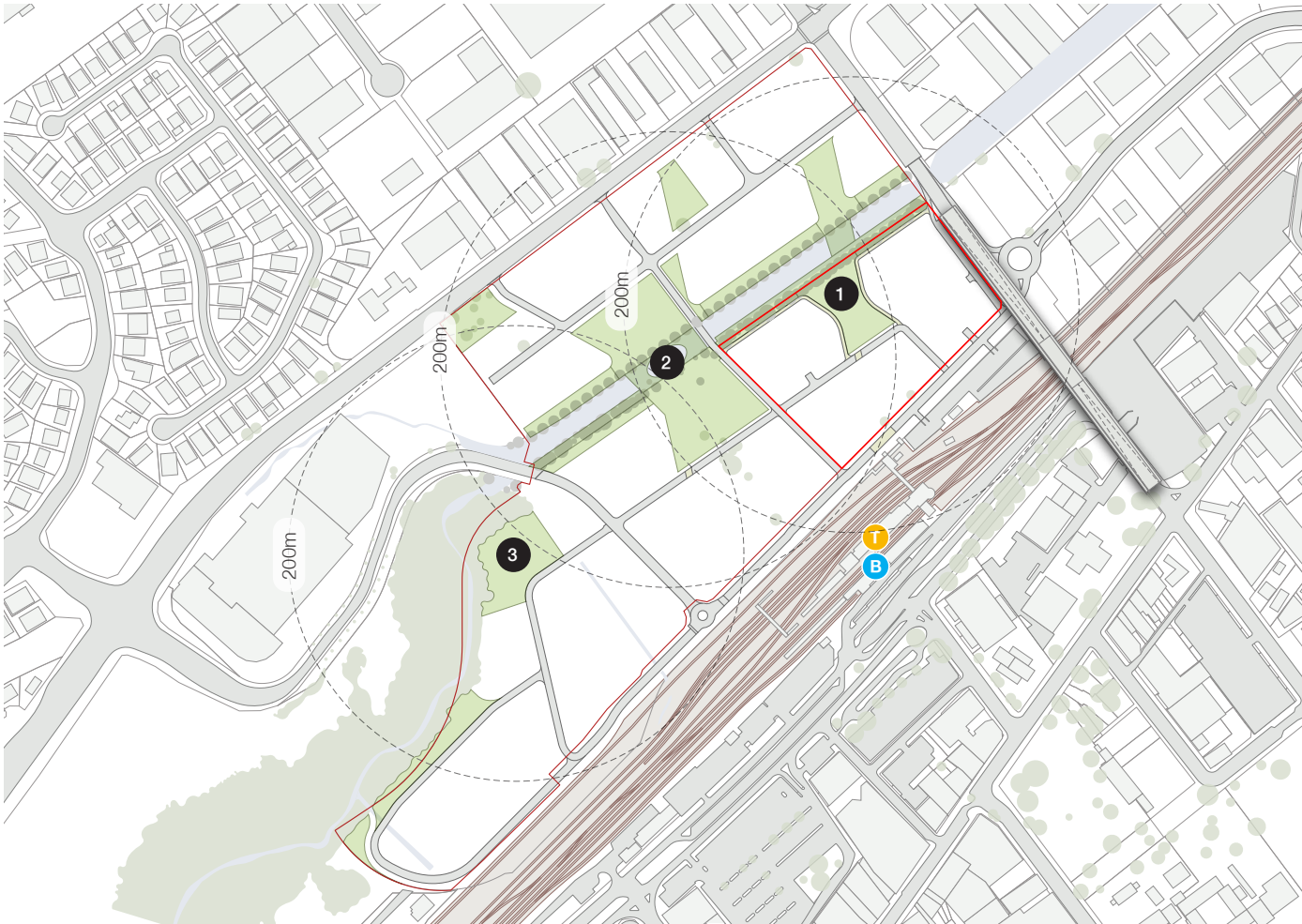
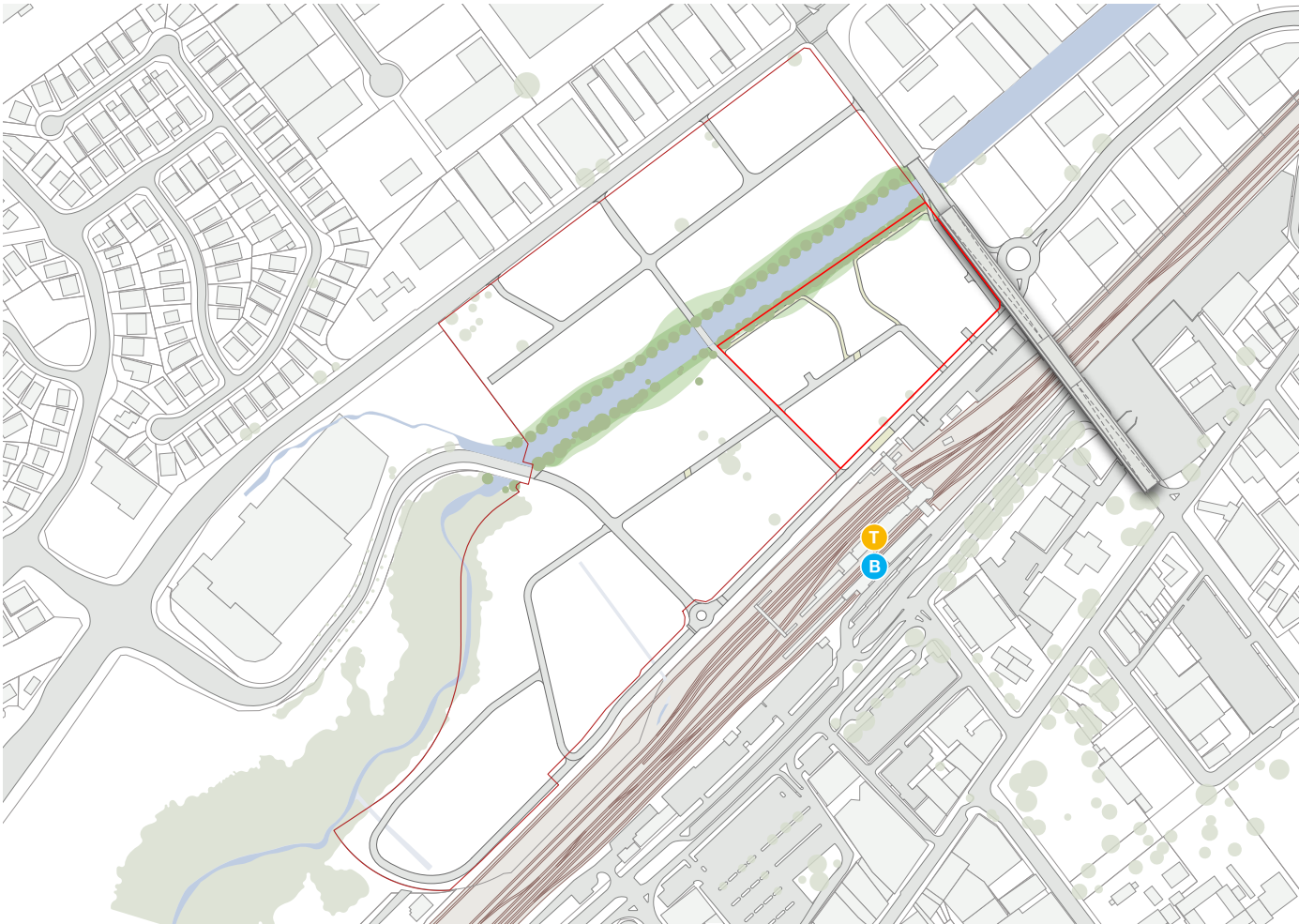
Providing space within an appropriately designed podium will allow for adaptive reuse of the parking facilities in the future - i.e. potential conversion to commercial and residential premises as required with properly considered floor-to-ceiling heights etc.



City of Santa Monica Public Parking Structure, Santa Monica, U.S.A.

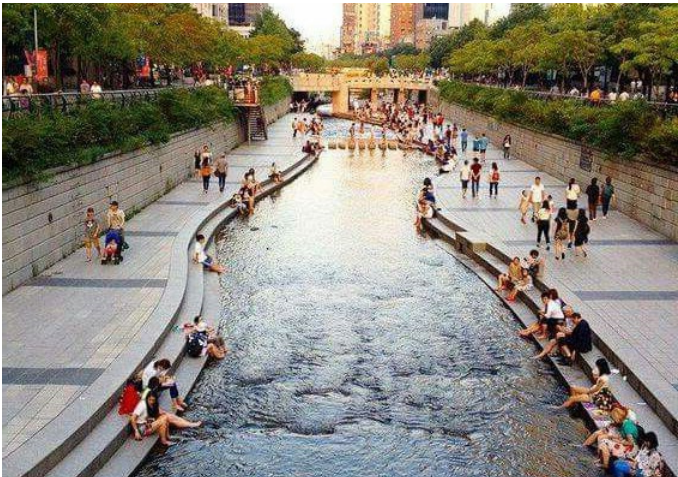


3.10 Integrating Public Places to Landscape



Re-vitalisation of Bow Bowing Creek

The re-vitalisation of Bow Bowing Creek will provide a new landscaped spine through the precinct with new opportunities for recreation and community gathering. Its re-vitalisation will make visible the role and significance of water in this region and will set a precedent for the improvement of the wider Bunbury Curran and Bow Bowing Creek Corridor. This has been outlined as a project opportunity in the GANSW South West District Sydney Green Grid and has been identified by CCC as a Priority Action within the Re-imagining Campbelltown City Centre Masterplan document.



Cheonggyecheon Public Recreation Space, Seoul, South Korea

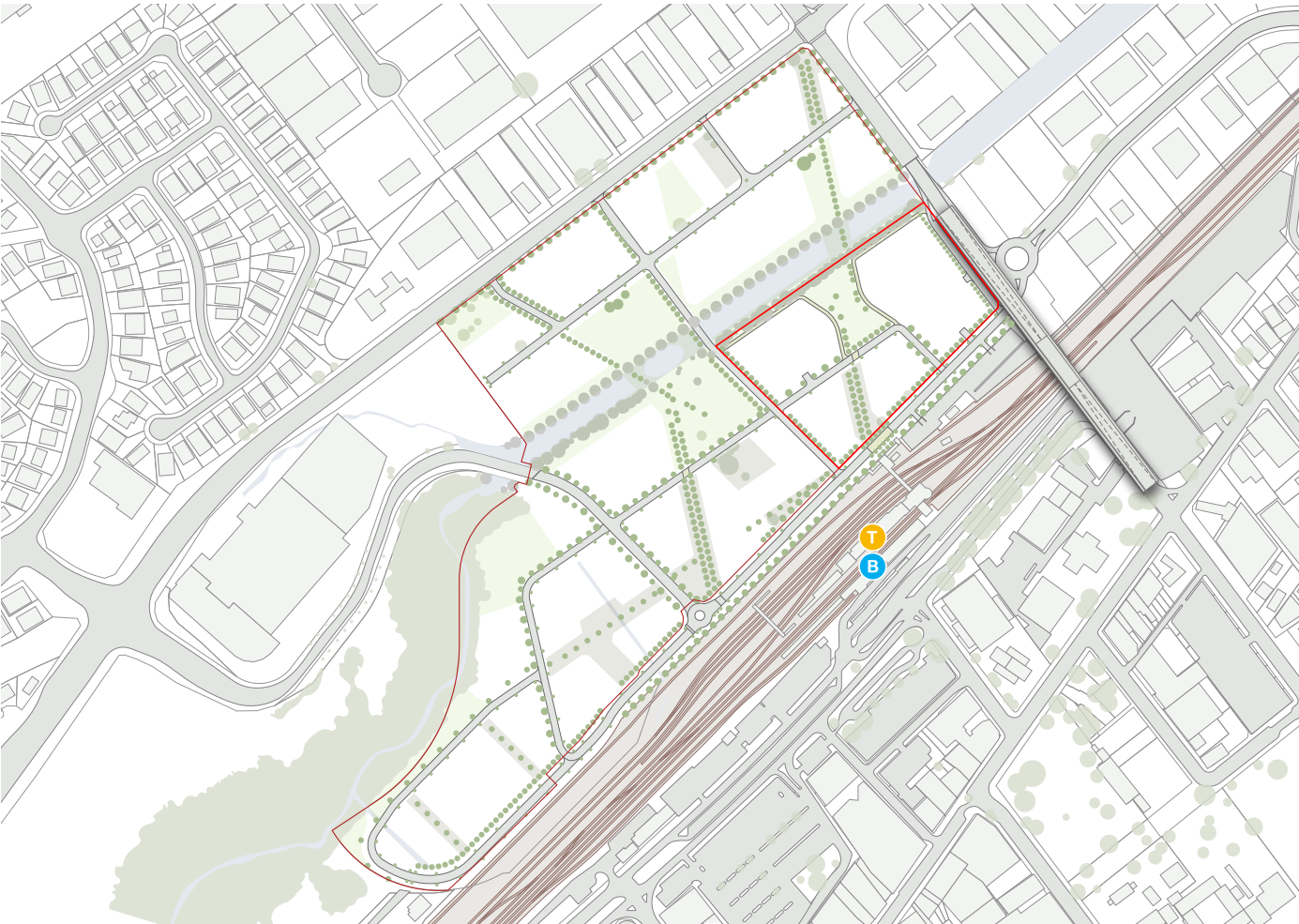
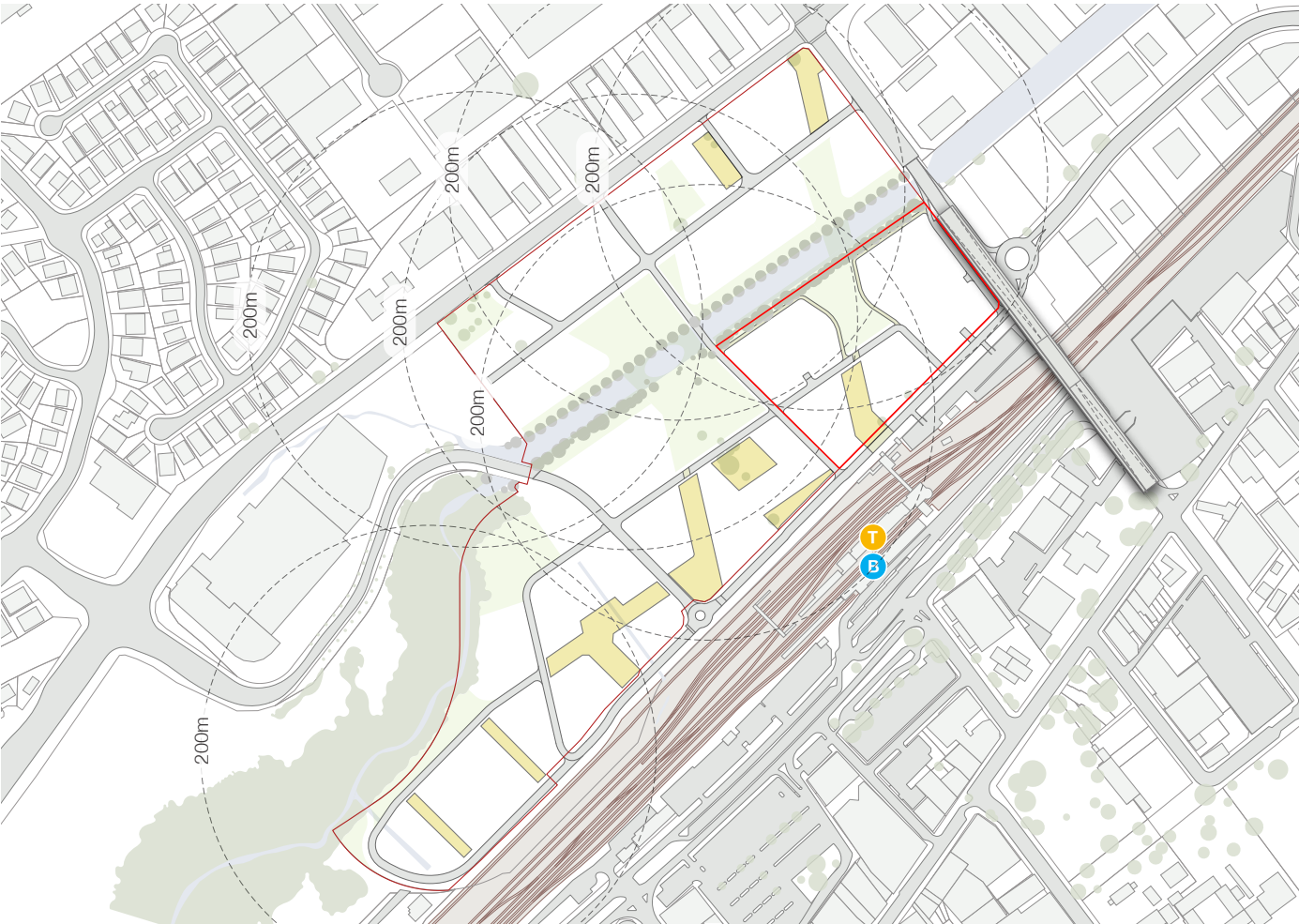
Generous Spaces for Active and Community Use

A network open spaces will support a range of uses for the community across the precinct. Provided in a range of different sizes, they will be home to community sport, events and markets. These larger spaces (a minimum of 0.3 ha as per the OSFR Guide) provide opportunities for relief between buildings, the provision of tree canopy and different types of activation along their edges.

- 1 Community Park within the subject site - c. 0.3 ha.
- 2 Central heart space that bridges and intersects the Creek providing space for active recreation for the whole community - c. 1 ha.
- 3 A mini oval space in a bushland setting - c. 0.35 ha.



Source: Visit Eau Claire - Eau Claire's Phoenix Park



Pocket Parks and Plazas for Passive And Individual Use

A range of smaller pocket parks and plazas will be located across the precinct to support passive and individual use. These spaces are key to supporting significant residential and commercial densities around Campbelltown train station and providing connections to larger open spaces to the north and west.

These aim to satisfy the need to provide local open spaces of 0.15 - 0.5 ha (as per the OSFR Guide) within a 200m walking distance of residents in high density areas such as this.



Lola Domènech Arquitecta - Paseo de St Joan, Barcelona, Spain

Significant Increase of Tree Canopy

There will be significant tree canopy delivered across the precinct to provide comfortable and shaded spaces for the community and contribute to mitigation of the Urban Heat Island Effect (UHIE). Streets, open spaces and Bow Bowling Creek will be lined with new trees to support this aspiration. The selection of endemic and low water species will establish a low maintenance approach across the precinct that ensures that the tree canopy will remain and flourish well into the future.

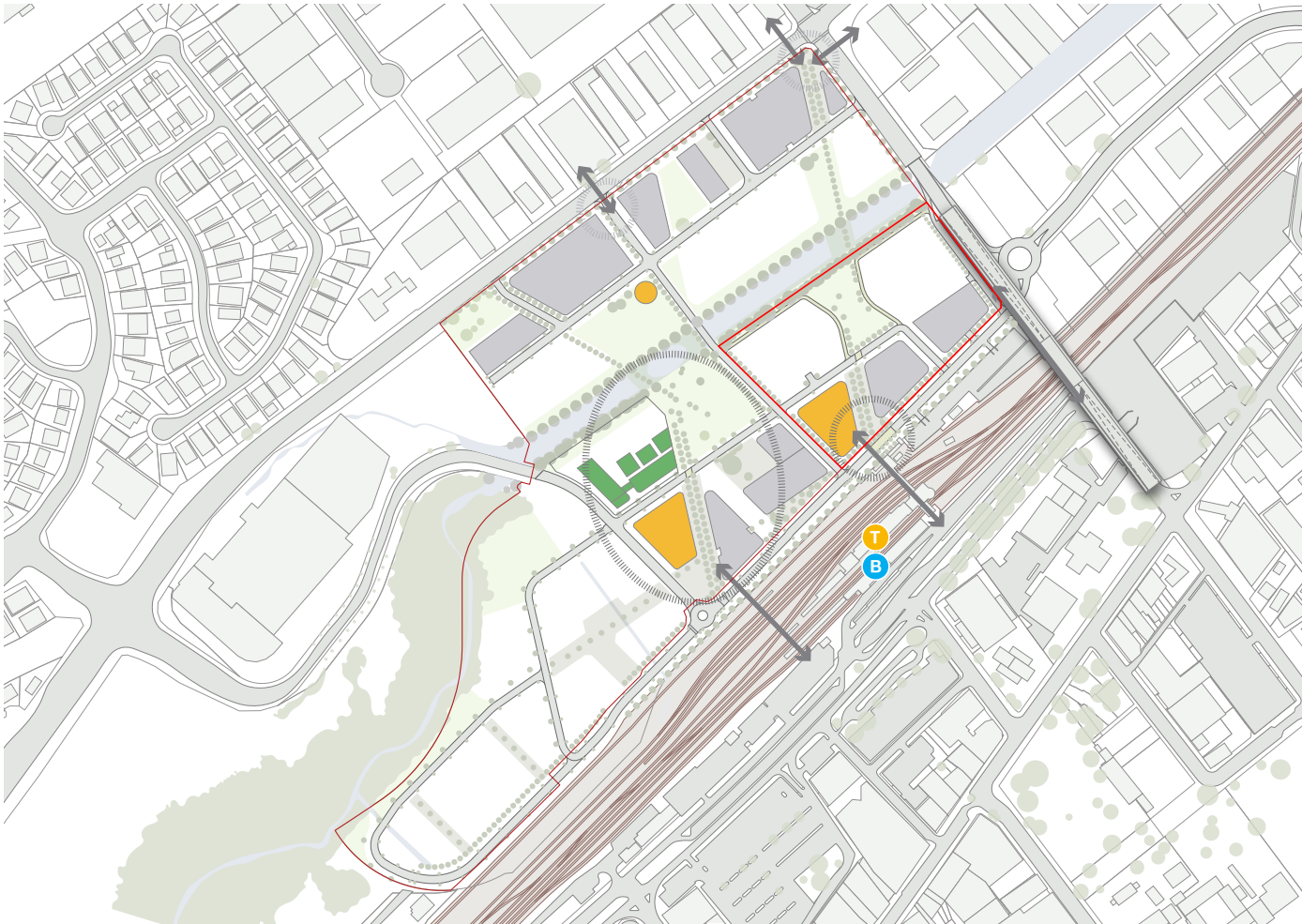
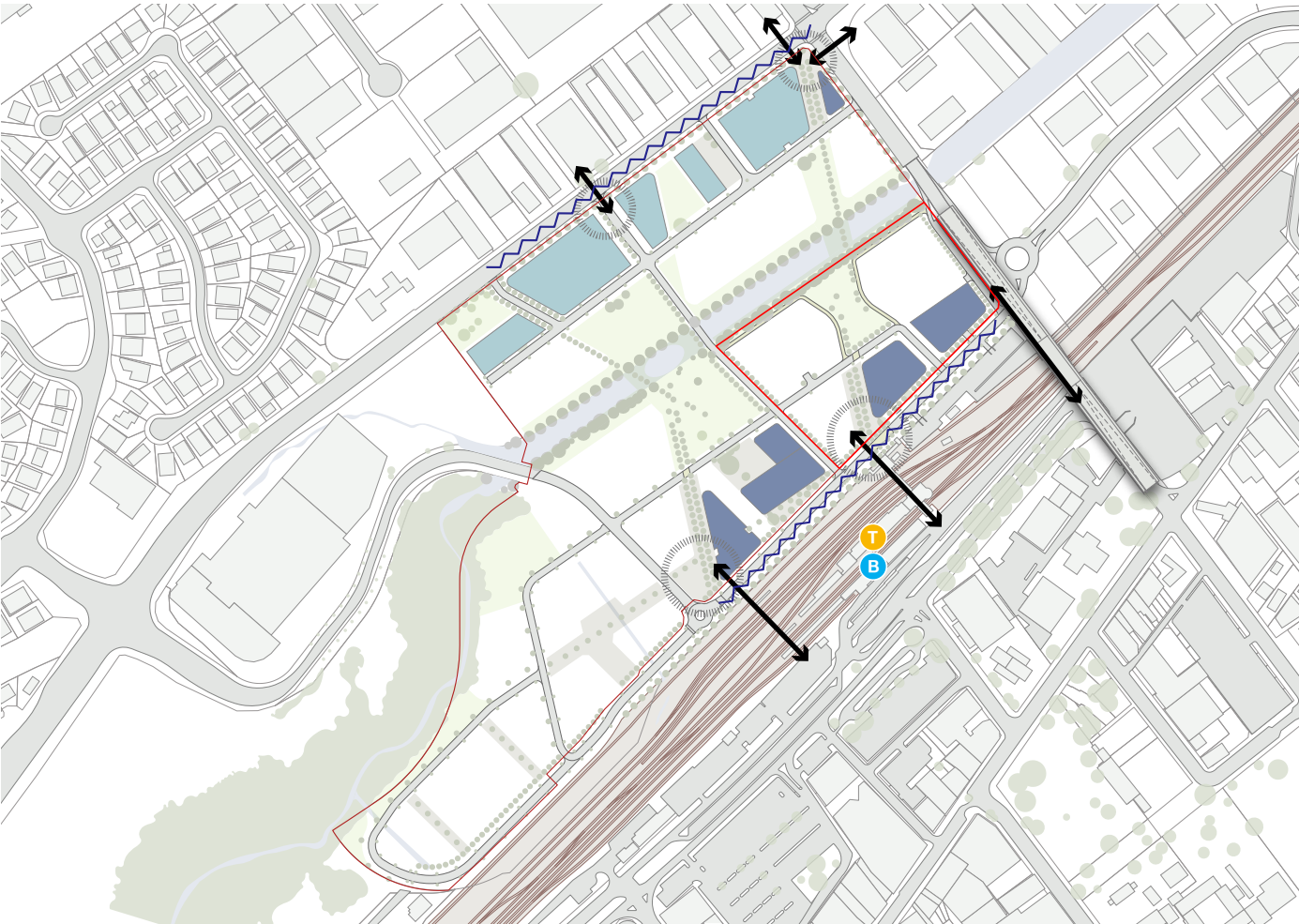
The precinct will aspire to the CCC / GSC / GANSW Urban Tree Canopy Guide tree canopy coverage target of 40%.



Source: 40th Annual UMass Community Tree Conference, UMA



3.11 Precinct Land Uses



Active Street Edges, Passive Creek Spine

Active street frontages will be created through the provision of non-residential uses at ground along the main street interfaces. These will enable:

- Distribution of tech and city servicing floorspace employment floorspace across the precinct
- Increased accessibility to day-to-day services from residential uses; including supermarkets, restaurants and cafes
- Better passive surveillance
- The provision of a range of tenancy sizes and tenures supporting uses that will be tailored to meet the needs of the immediate context



Central Park, Sydney, NSW

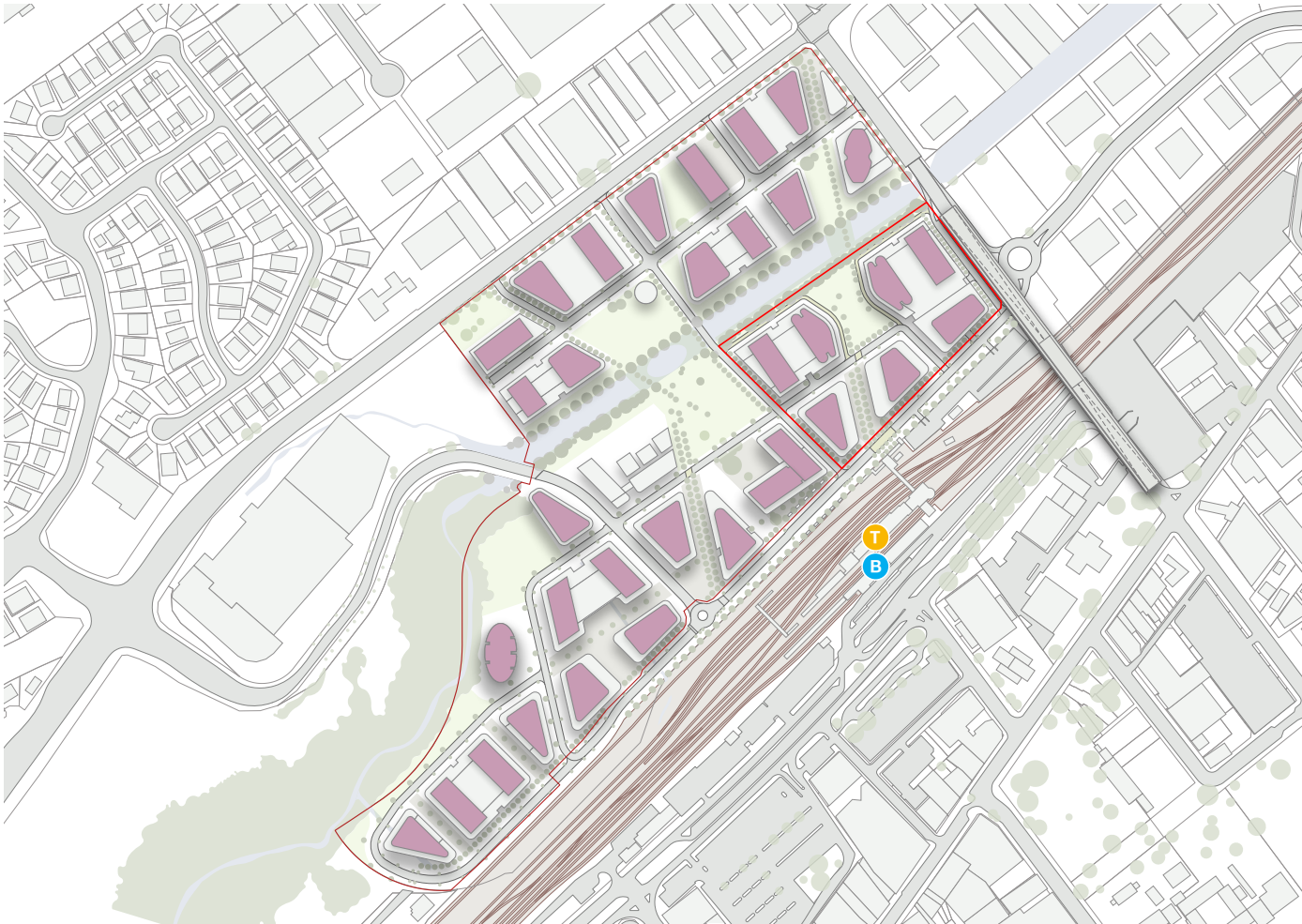
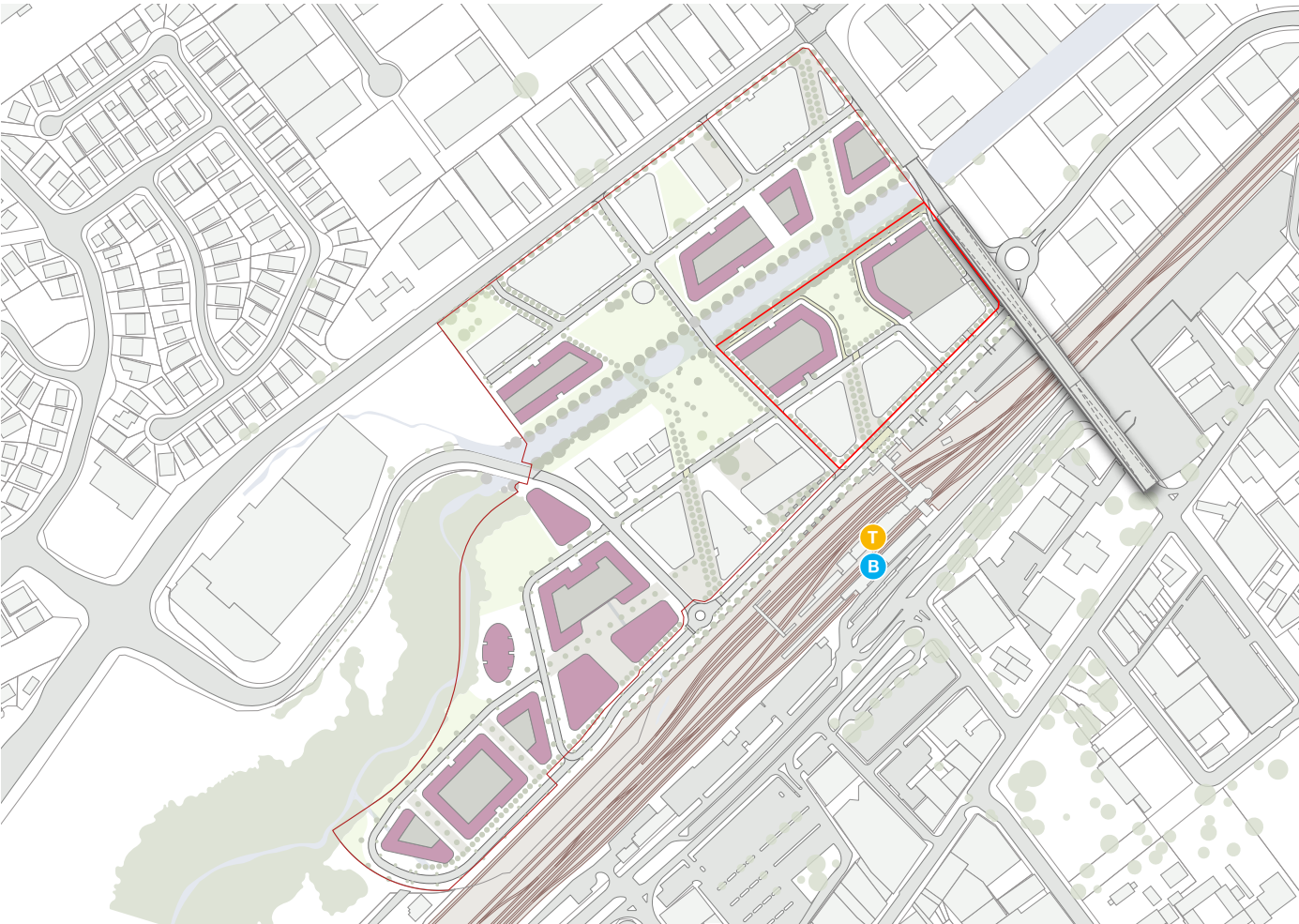
Community Uses and Primary School

Community facilities, including a new primary school, will be appropriately sized and strategically located to best serve the new and existing communities. Locations have been selected that are adjacent to regional and collector roads, close to good public transport infrastructure and take advantage of proximity to open space assets and public domain activation.

Based upon the current configuration, the primary school is capable of offering c.1,000sqm of open space on site and accomodate c.500 students. Open space provision within the adjacent public open space can provide and additional c.4,000sqm.



St Andrew's Scots School, Victoria, Argentina



Active Residential Street Frontages

Residential dwellings at ground level will be provided on along the Bow Bowing Creek spine and in the quieter southern portion of the precinct. These will provide passive surveillance, an increased sense of ownership, improve real and perceived levels of safety, encourage social interaction and provide an invaluable contribution to the quality and character of the neighbourhood streets / local roads.



New Road, Brighton, UK

Residential Towers

The precinct will have a significant residential offering to capitalise on the amenity of public transport, community and open space infrastructure, the employment opportunities of the future tech and city servicing floorspace as well as the proximity to Campbelltown City Centre. Considered holistically, residential towers in the precincts have been shaped, located and oriented to take advantage of regional views, support solar access to the ground plane and comply with SEPP65 requirements. These towers are predominantly situated above podia which aid in the mitigation of wind impact on the ground plane and reduce the visible bulk of the building from the street.



Australia Towers, Sydney Olympic Park, Sydney

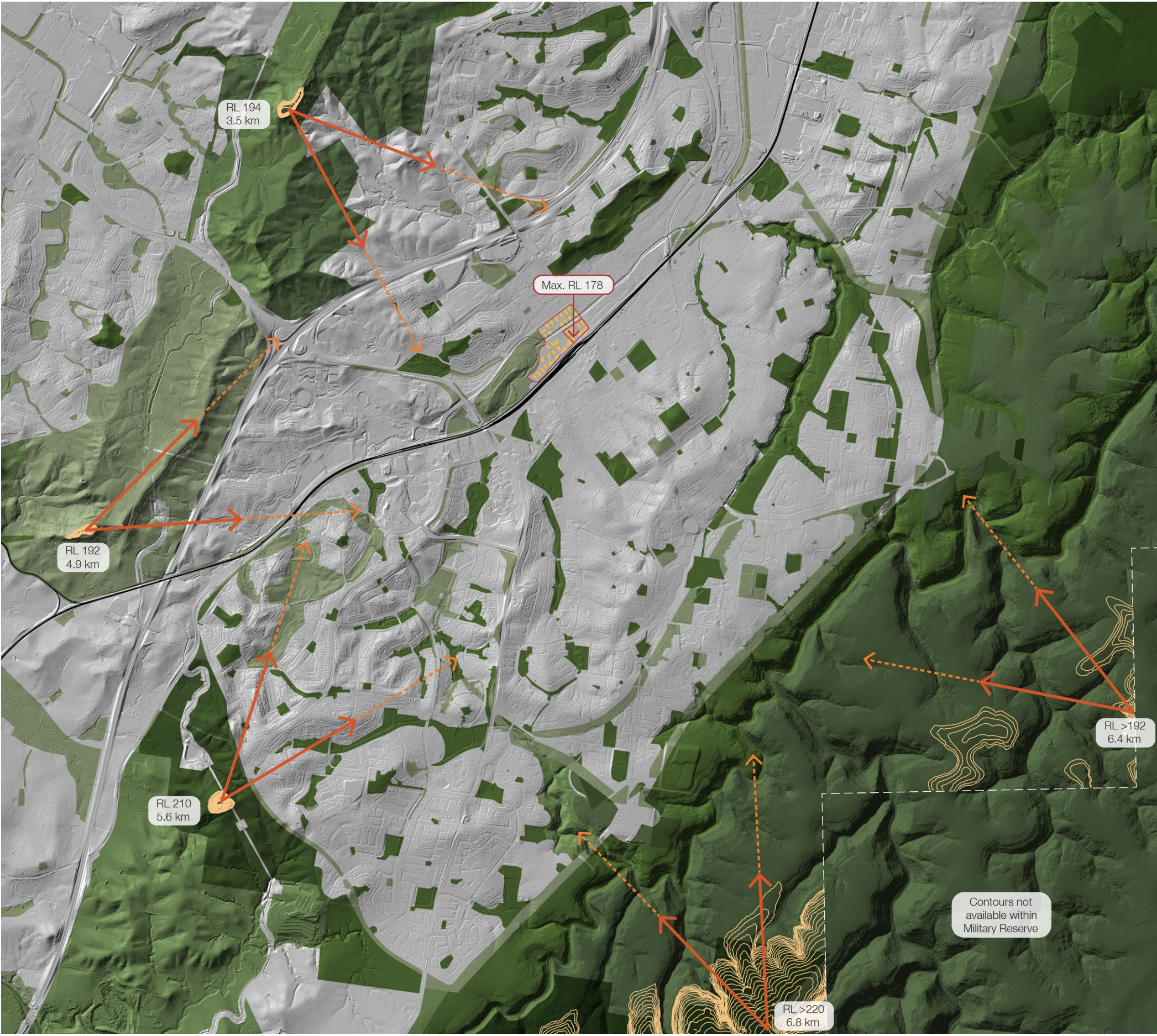
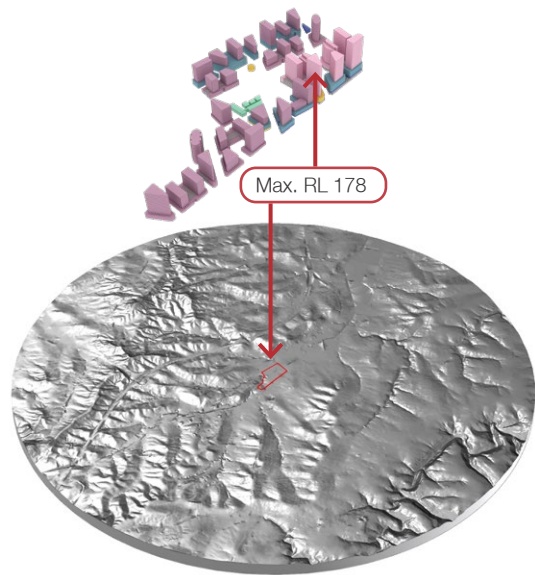
Precinct Plan

3.12 Urban and Peri-Urban Morphology

Building height and its location, distribution and contribution to the broader city context has been carefully considered in response to Council's *Re-imagining Campbelltown City Centre Masterplan* document and our work for various local authorities and state government agencies. In preparing the precinct plan and the site specific response, the following strategies (continued on the next page) were applied to building height;

Urban Morphology - sitting within the valley floor, taller buildings have less of an impact when viewed from greater distances and key vistas, including the surrounding hills and high-points. Only the tallest extents of the building are visible, as this places a greater emphasis on the form, quality and presentation of tall towers - which can be managed through design excellence provisions. The tapering of height as development transitions away from the CBD core and station can also contribute to a unique urban morphology, or skyline, that is currently missing from Campbelltown and, if managed correctly, can have a positive outcome for the branding of the city - a statement of intent that indicates the desired future character.

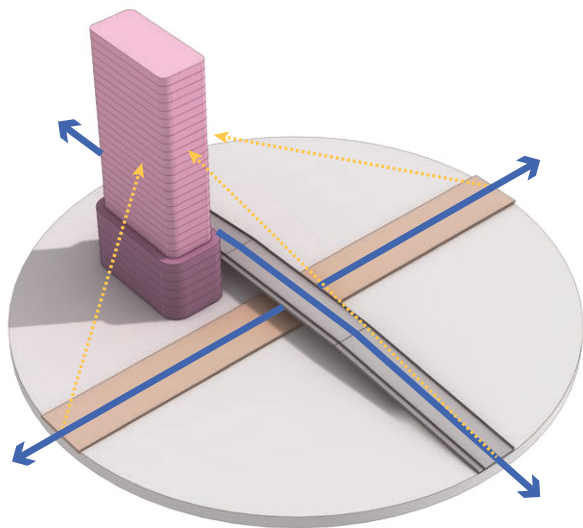
The diagram opposite highlights the surrounding regional high points above RL 178 (the maximum proposed building height) as well as the approximate distance of each from the subject site. It is evident that the proposed massing will have minimal impact on the vast surrounding valley landscape.



The City within its Valley Context - highlighting surrounding topography above RL 178

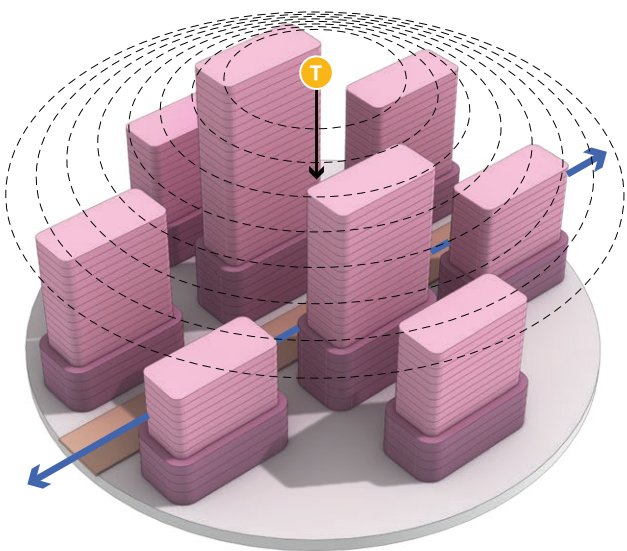
3.13 Precinct Height Strategies

Height is only perceived from a distance, the future character of the Campbelltown Northern Precinct and the broader CBD will be defined by the pedestrian experience and sense of arrival. The priority is therefore placed on the definition and quality of the street-level experience and movement corridors in and around the precinct. The height of buildings will typically be experienced from wider open spaces, or through local view corridors within close proximity to the site. In these instances, the placement, orientation and design of the buildings will be addressed through detailed design.



Establishing Precinct Arrival Points

Uniquely positioned at the intersection of the future Badgally Road - Broughton Street connection and the main railway corridor connecting Campbelltown to the Harbour CBD, taller buildings provide a distinctive identity and a means of wayfinding for local residents and visitors alike.



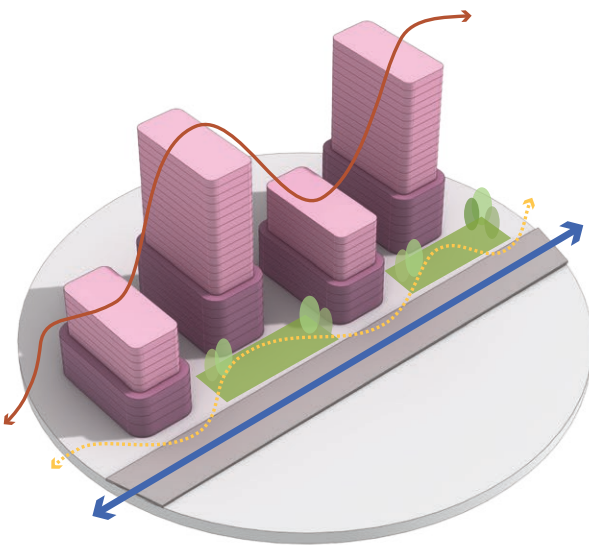
Legibility of Station Node

To improve the legibility of Campbelltown's City Centre and its Core CBD, height and density is focussed around the station - drawing movement north of the railway corridor and activating the future tech and city servicing precinct.



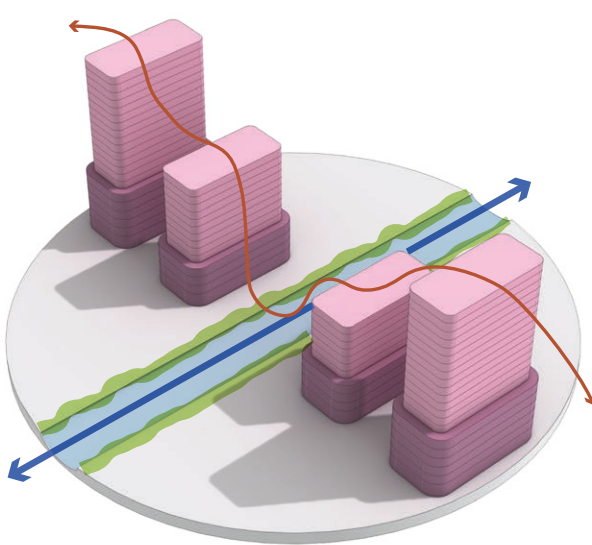
Amenity of Open Space

Building and podium heights also transition down towards the local parks / open spaces to minimise overshadowing and also offer high levels of visual amenity to the taller buildings further away.



Streetscape Variation

The tallest buildings are generally located along Farrow Road to utilise their unique position north of the rail corridor. To create a varied skyline amongst them, the buildings are staggered in plan and section with their heights having a minimum 15% in variation.

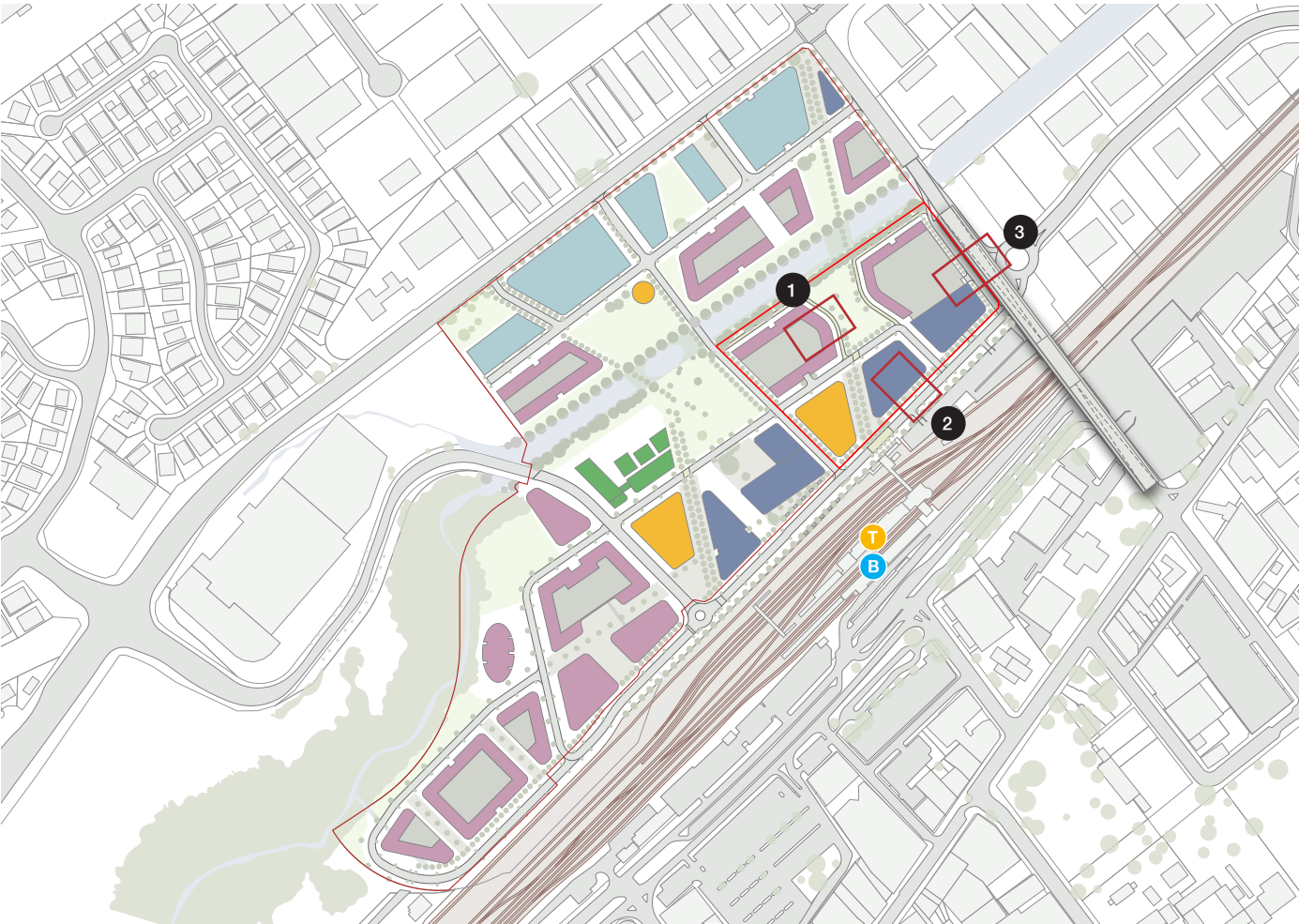


Creekside Character

Building and podium heights transition down towards the revitalised Bow Bowing Creek corridor to minimise overshadowing and also offer high levels of visual amenity to the taller buildings further away from the creek.



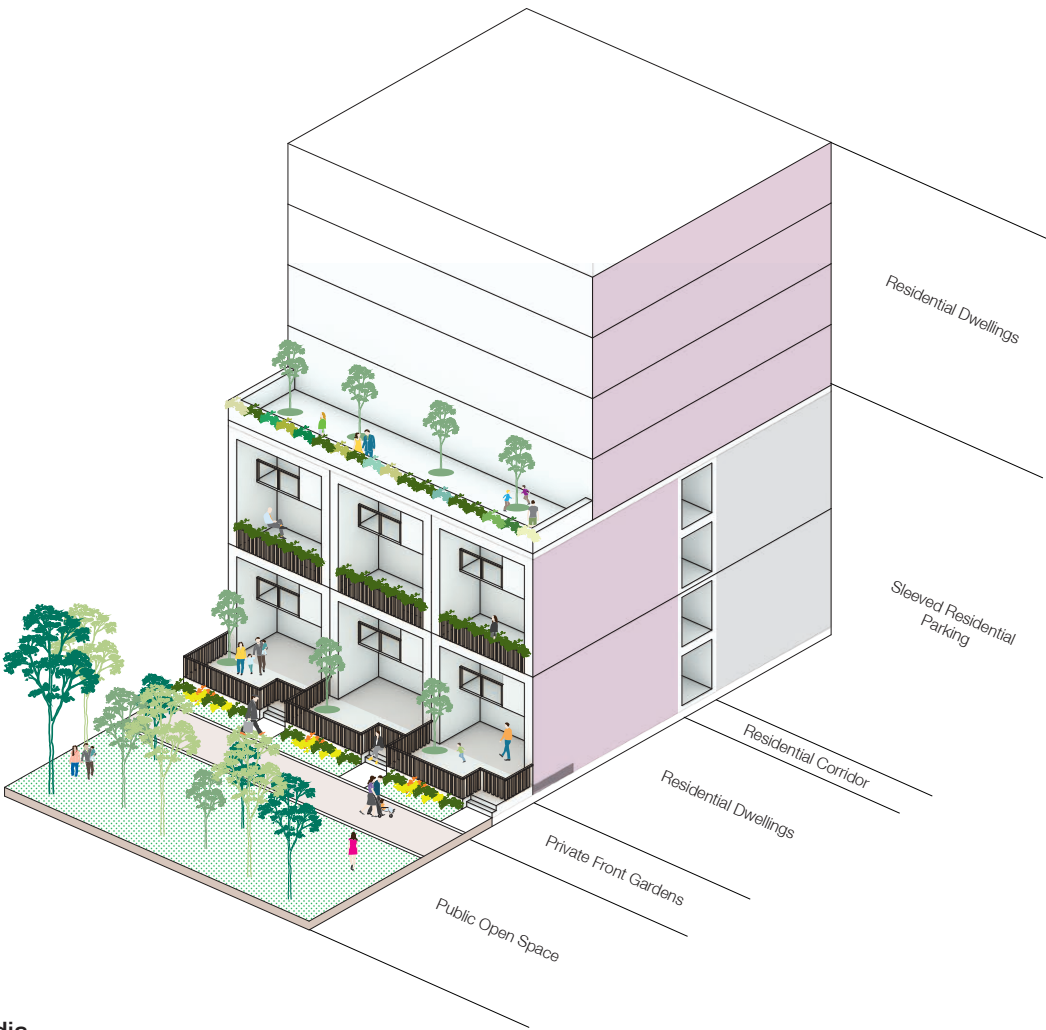
3.14 Building Typologies and Interfaces



Streetscape Frontages

Across the masterplan, there are a number of different building typologies and streetscape interfaces. The following diagrams demonstrate some typical conditions:

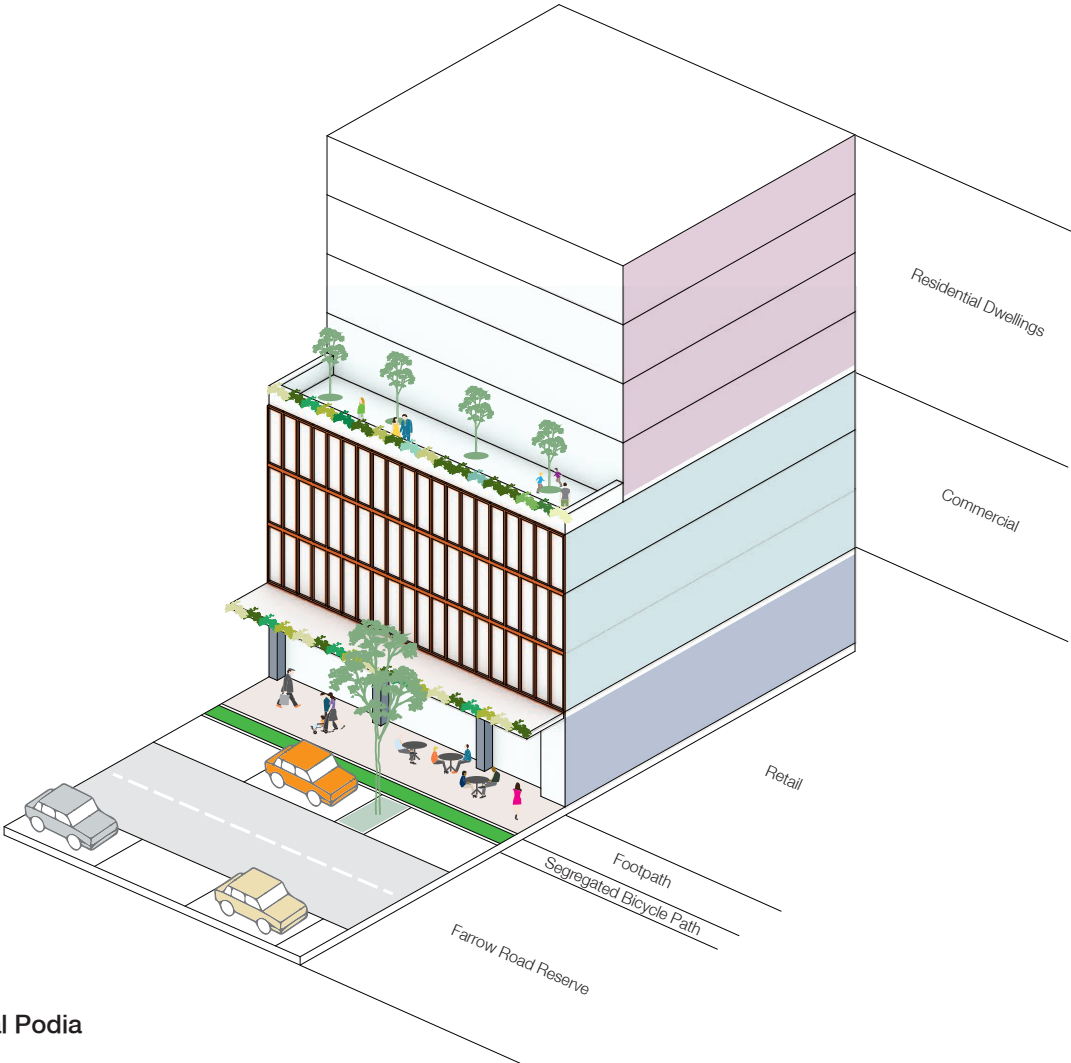
- 1 Residential podium fronting the Community Park
- 2 Mixed use podium fronting Farrow Road
- 3 Potential new railway bridge interface



1 Residential Podia

Fronting the Community Park, buildings are predominately residential in use with a 4 storey podium offering townhouses and gardens with individual private entrances. Elevated ground floors enhance privacy for residents whilst allowing surveillance of the public domain.

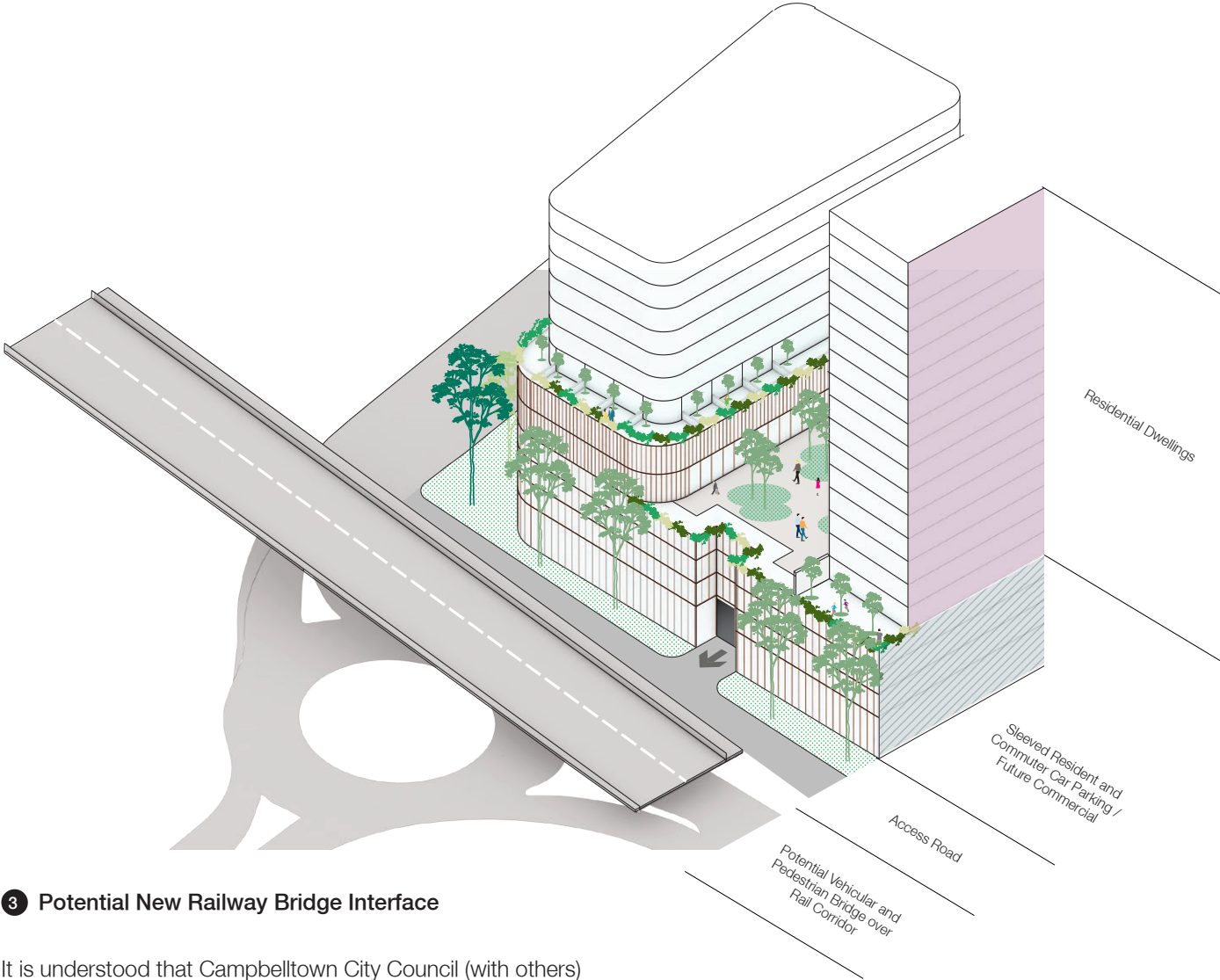
Residential dwellings within the podium are accessed through dedicated internal corridors that sleeve residential car parking.



2 Commercial Podia

Fronting Farrow Road and laying opposite the train station, the street will be heavily activated through the creation of employment floorspace and residential dwellings within the subject site and wider precinct.

Retail at ground will provide essential community services, with the remainder of the podium offer general commercial floorspace. The podium will frame the street, provide shelter and reduce the visible bulk of towers above.

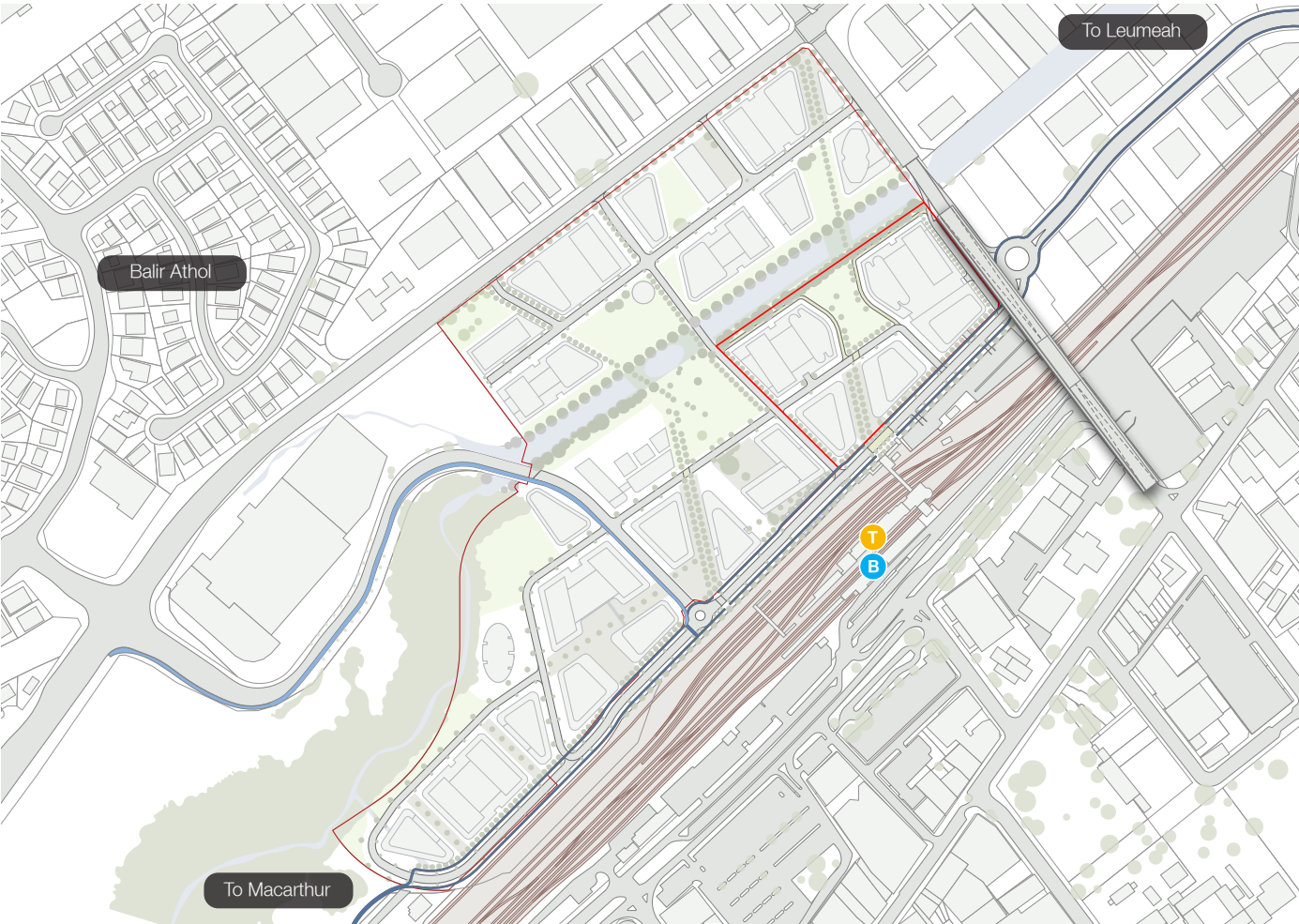


3 Potential New Railway Bridge Interface

It is understood that Campbelltown City Council (with others) are currently investigating the provision of a vehicular and pedestrian bridge connecting Broughton Street and Badgally Road over the rail corridor. If realised, this will have significant impacts on the northern boundary of the subject site. As such, all future proposals will need to be dynamic and provide flexibility to adapt to new scenarios. Providing car parking (and commercial floorspace in due course) within the podium will mitigate any impacts of the future road bridge.



3.15 Amenities for Active Lifestyles



Dedicated Bicycle Network

The precinct brings a significant opportunity to develop a well-designed and fully segregated section of a Macarthur to Leumeah bicycle route that also connects to Campbelltown Station Interchange and the existing shared path that heads north to Blair Athol.

KEY

- Existing Shared Path
- Segregated Single Direction Cycle Path



Campbell Street, Surry Hills, Sydney

Walking Trails and Creek Edge Boardwalk

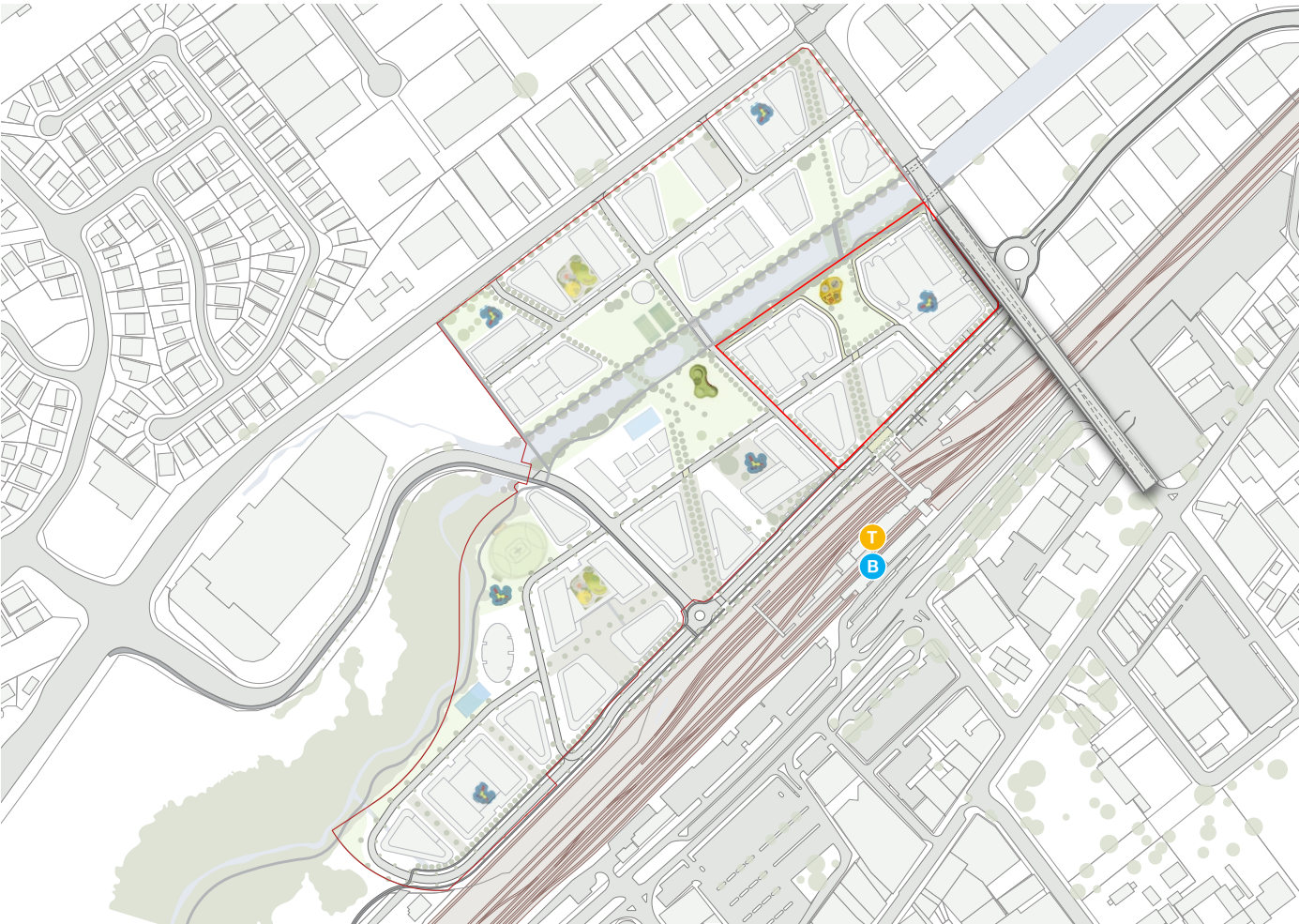
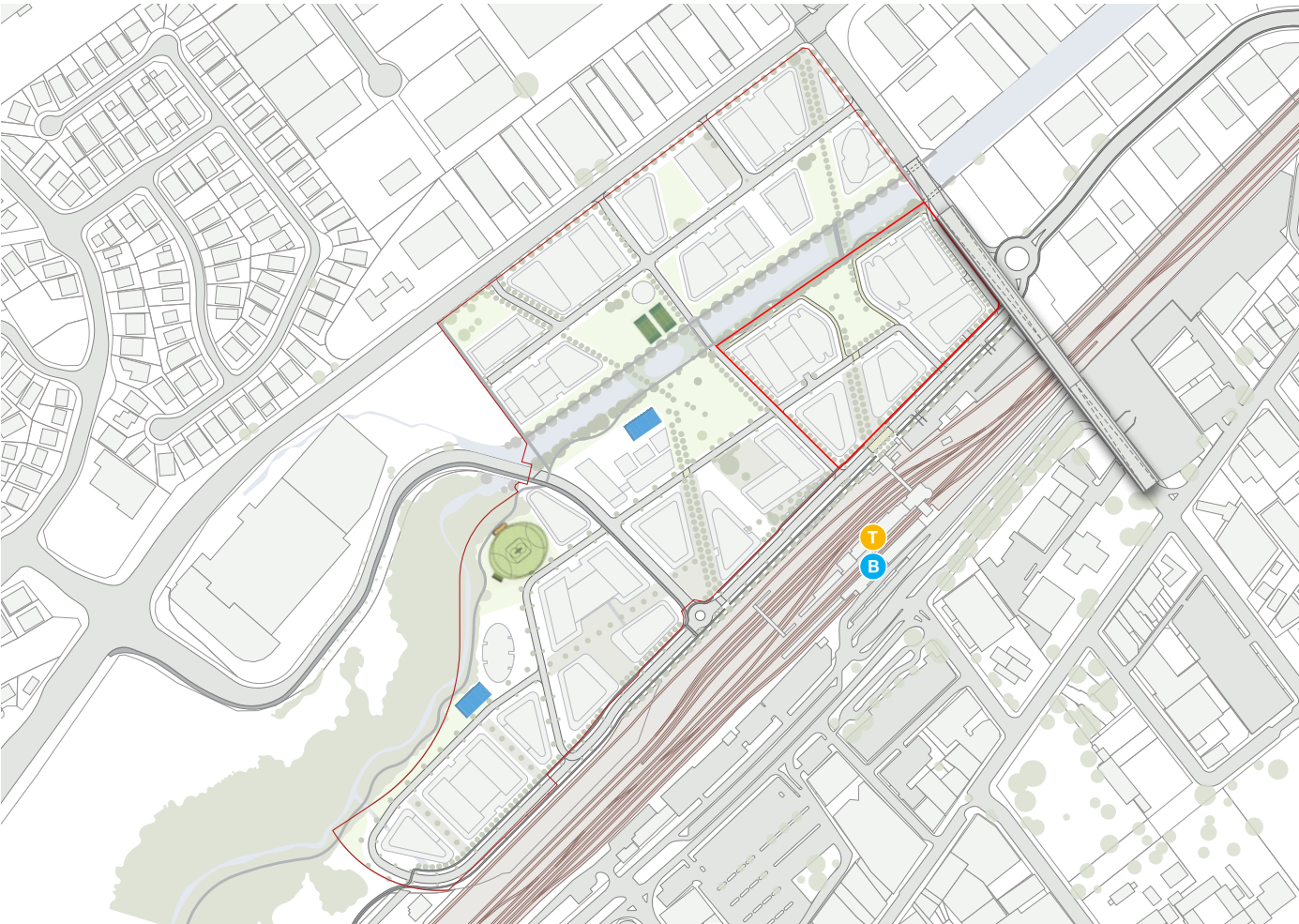
Loosely following the natural line of Bow Bowling Creek, a raised and fully accessible boardwalk would give residents and visitors the opportunity to meander through the canopy and understorey of the remnant forest as well as provide formal and informal spaces to pause and observe the native flora and fauna.

The proposed tree planting strategy / canopy will also provide high levels of shade making the routes suitable for use at all times of the day.

The route would also have the opportunity to continue into the wider context as it is developed in future.



St. Ignace Huron Boardwalk, Michigan, USA



Facilities for Sports and Recreation

Working with Council and the community to identify future needs, the precinct is capable of providing a wide variety of sports and recreation facilities for local residents. Integrating into an overarching district wide strategy will allow the development of future facilities that fill current gaps, are fully accessible and encourage Campbelltown residents to live an active and healthy lifestyle.



Clapham Common, London, UK

Playgrounds and Outdoor Gyms

Staged and offered within each sub area of the precinct, outdoor gyms and ‘play space needs to be of high quality and good design to attract children and families and become a valued part of the local environment. Poor quality, unimaginative space will not be attractive to children, will not be valued by the local community and will fall in to disuse and disrepair. Good design is a good investment.

Children’s well-being, safety, learning and social development, as well as their essential enjoyment of childhood, are affected by the extent and the quality of their opportunities to play.’

Source: Play England - Design for Play: A guide to creating successful play spaces



The Ian Potter Children’s WILD PLAY Garden, Centennial Park, Sydney



3.16 A Sustainable Vision

The Campbelltown North Precinct will be underpinned by an integrated approach to social, economic and environmental sustainability that will permeate across various scales of governance and intervention. Considering the Precinct's location in Sydney's south-west, this approach will embed an important and lasting legacy of climate resilience that will enable the population to actively combat the urban heat island effect and changes in the climate.

The Precinct will co-locate residential, employment, retail, community and education uses into a one-stop mixed-use destination. This will be tied together through a network of walkable, accessible and inviting streets which promote active transport and tie into public transport infrastructure. The quality of the public domain will be a key attractor and minimise the community's use of private vehicles.

The Precinct will also engage with opportunities unlocked through innovative building design, material selection and energy generation.

To the right are a number of key areas which have been considered as part of the Precinct Plan's approach to sustainability.



Engaged with Government and Communities

The precinct plan will serve as a tool to engage with government and the local community about the future of the Campbelltown North Precinct. It has been prepared with an understanding of the strategic framework and planning mechanisms that will support its implementation.



Healthy and Active Living

A network of open spaces and inviting streets will support opportunities for exercise, social interaction and activity. This will include sports fields and facilities. The promotion of active transport within the precinct will also encourage incidental exercise as part of the daily routine.



Adaptable and Resilient

Significant tree canopy, soft landscaping and an integrated approach to the water cycle has been integrated to reduce the impact of rising temperatures brought about by climate change. The naturalisation of the creek contributes to the mitigating the impact of flood events.



Inclusivity and Affordability

A mix of dwelling types and tenures, retail, commercial, entertainment and recreation opportunities will enable engagement across a diverse range of people in the community.



Sustainable Transport and Movement

The precinct will be optimised for active transport and tied into regional public transport networks. This will easily connect residents, workers and visitors to goods, services and employment, and discourage the use of private vehicles. This will be underpinned by a network of cool and comfortable streets.



Sustainable Buildings

Buildings will be considered across their entire life-cycle. They will feature high performance materials and engage with opportunities passive solar, cooling and on-site energy generation.



Ecological Value

The unique ecological value of the region will be enhanced through creation of new landscape corridors connecting remnant Cumberland Plain and the naturalisation of Bow Bowing Creek. Significant landscaping and endemic planting will also provide new habitats for native fauna.



Urban Heat Island Effect

Impacting people, infrastructure, the economy and the environment, heatwave conditions exist on an annual basis in Campbelltown. Heatwaves kill more Australians than any other disaster, have untold economic implications and a huge effect on transport, power and community infrastructure.



Safe Places

Streets and public spaces will form the backbone of the precinct providing a safe and inclusive places for the community. This will be supported by a range of land uses activating the precinct across the day, prioritisation of pedestrians, passive surveillance and the integration of Crime Prevention through Environmental Design Principles (CPTED)



Culture and Community

A sense of community will be fostered through the creation of public focal points for gathering and events. New facilities including a primary school and library will incorporate opportunities for education and engagement of a diverse groups across the community.



Integrated Water Cycle

Water within the precinct will be considered in a holistic manner with opportunities for water sensitive urban design, stormwater treatment, flood mitigation measures integrated into the design of the public domain and buildings. Opportunities to reduce the overall needs



Smart City

The integration of smart technologies across the precinct will enable opportunities to better adapt to changing conditions, plan for the future, acknowledge successes and prioritise projects that will support our shared vision for the place.

Precinct Plan

3.17 Illustrative Masterplan

Potential precinct wide social infrastructure could include:

- Library and Campbelltown North community centre
- New primary school
- 450 space commuter car park adjacent to station
- Local community spaces
- Child care centres
- Playground(s) (for ages 0-4)
- Playground(s) (for ages 5-11)
- Outdoor sports pitches
- Public art
- Running and walking paths
- Dedicated cycling path
- Outdoor gyms
- Co-working spaces
- Bicycle paths to Arboretum & University
- Outdoor BBQs
- Shaded seating areas

KEY

- ① Potential Pedestrian and Vehicular Bridge
- ② Pedestrian & Cyclist Bridges
- ③ Civic Arrival Plaza
- ④ Community Park
- ⑤ Bushland Threshold
- ⑥ Recreational Park
- ⑦ Revitalised Bow Bowling Creek
- ⑧ Green Bridges
- ⑨ New Cycle Paths



3.18 Primary Precinct Facilities

The provision of residential and mixed used facilities will allow for transformation and activation of Campbelltown and in the surrounding areas through expanding the town centre.



1. Tech Employment Floorspace



2. Primary School



3. After School Hours Support



4. Childcare Facilities



5. Co-working Affordable Spaces



6. Community Hub / Library

3.19 Indicative Built Form Massing



Aerial View Looking South

Building heights respond to their individual contexts with taller buildings establishing themselves as landmarks for local wayfinding (especially in close proximity to the Campbelltown Station Interchange) whilst lower buildings allow for good amenity and solar access to surrounding open spaces, building facades and the general streetscape.



Aerial View Looking North

The indicative reference scheme generally offers taller buildings along Blaxland Road to reduce overshadowing of the re-naturalised Bow Bowling Creek as well as along Farrow Road where overshadowing the rail corridor to the south is not a concern.

KEY

Site Boundary

Northern Precinct Boundary

Residential (Subject Site)

Residential

Commercial

Retail

School

Community

Podium (Sleeved) Car Parking

Existing Tree for Retention

Precinct Plan

Key Project Metrics

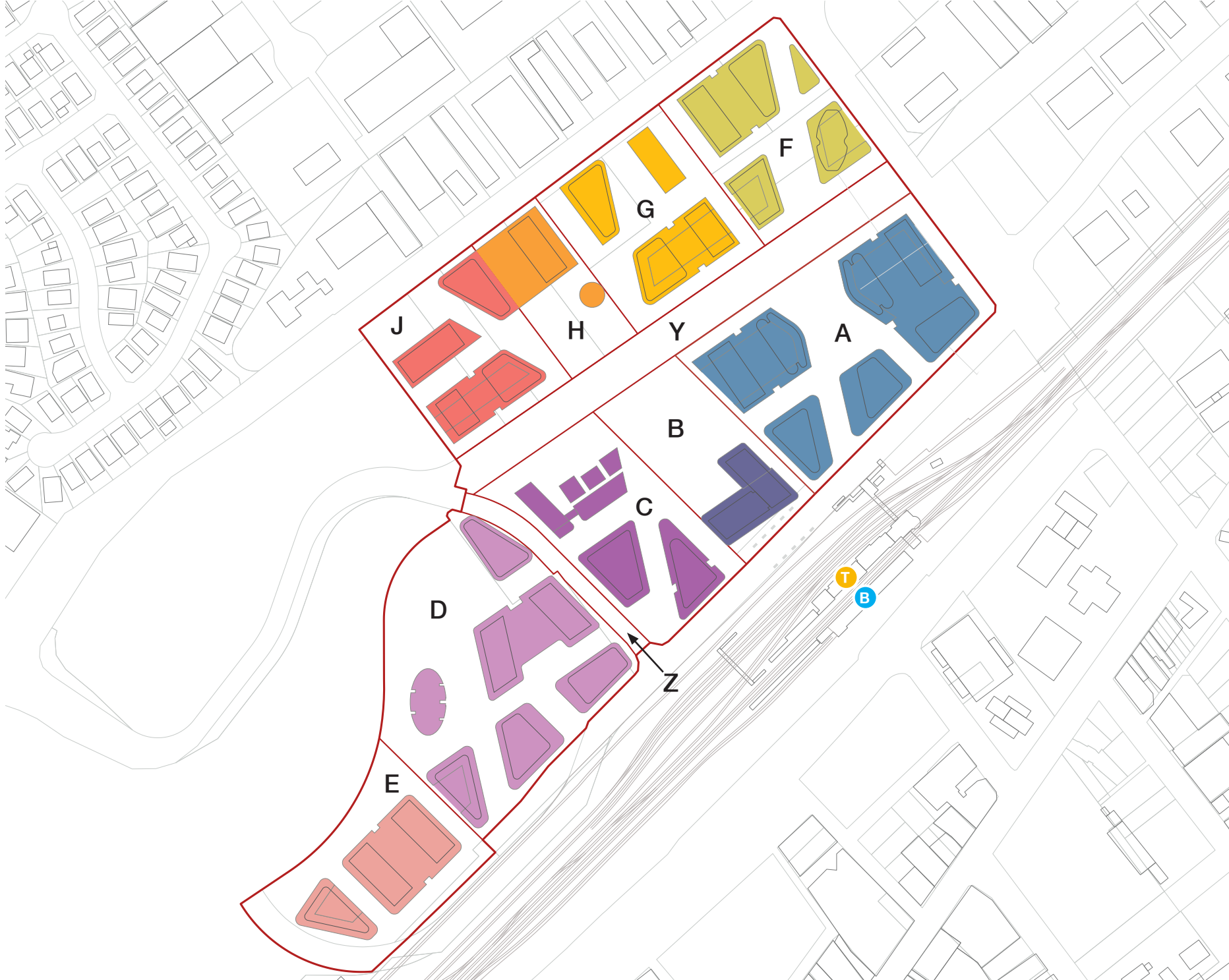
- 4,900 new dwellings
- 5,400 - 7,100 new jobs
- Primary school
- Community hub / library
- 450 space (podium) commuter car park
- 3.8 ha (22%) of public open space, including 2 sports fields
- FSR - 3.0:1 density across the precinct

3.20 Indicative Area Schedule

| Site | Site (m²) | Residential (GFA - m²) | Non-Resi. (GFA - m²) | Total (GFA - m²) |
|-------|--------------|---------------------------|-------------------------|---------------------|
| A | 28,110 | 129,931 | 25,355 | 155,286 |
| B | 12,210 | 14,617 | 9,604 | 24,221 |
| C | 17,130 | 18,128 | 15,217 | 33,345 |
| D | 31,620 | 85,455 | - | 85,455 |
| E | 17,052 | 38,883 | - | 38,883 |
| F | 16,208 | 41,157 | 20,853 | 62,010 |
| G | 16,241 | 39,386 | 8,952 | 48,338 |
| H | 8,141 | 17,272 | 16,297 | 33,569 |
| J | 14,031 | 32,699 | 13,577 | 46,276 |
| Y | 12,623 | - | - | - |
| Z | 2,621 | - | - | - |
| Total | 175,987 | 417,528 | 109,855 | 527,383 |
| | | 4,911 dwellings | | 2.99:1 FSR |

GBA to GFA Efficiencies and Assumptions

- Residential Podia - 75% GBA > GFA
- Residential Towers - 77% GBA > GFA
- Commercial - 85% GBA > GFA
- Retail - 85% GBA > GFA
- Community - 85% GBA > GFA
- Residential dwelling assumption of 85m² GFA per dwelling
- Employment rates;
 - Commercial - 14-18 m² GFA per person
 - Retail - 25-50 m² GFA per person
 - Community - 35-50 m² GFA per person
- Gross Building Area is the total floor area of the floorplate including external walls and balconies
- Gross Floor Area (as per the standard instrument definition) is assumed based upon the above stated efficiencies



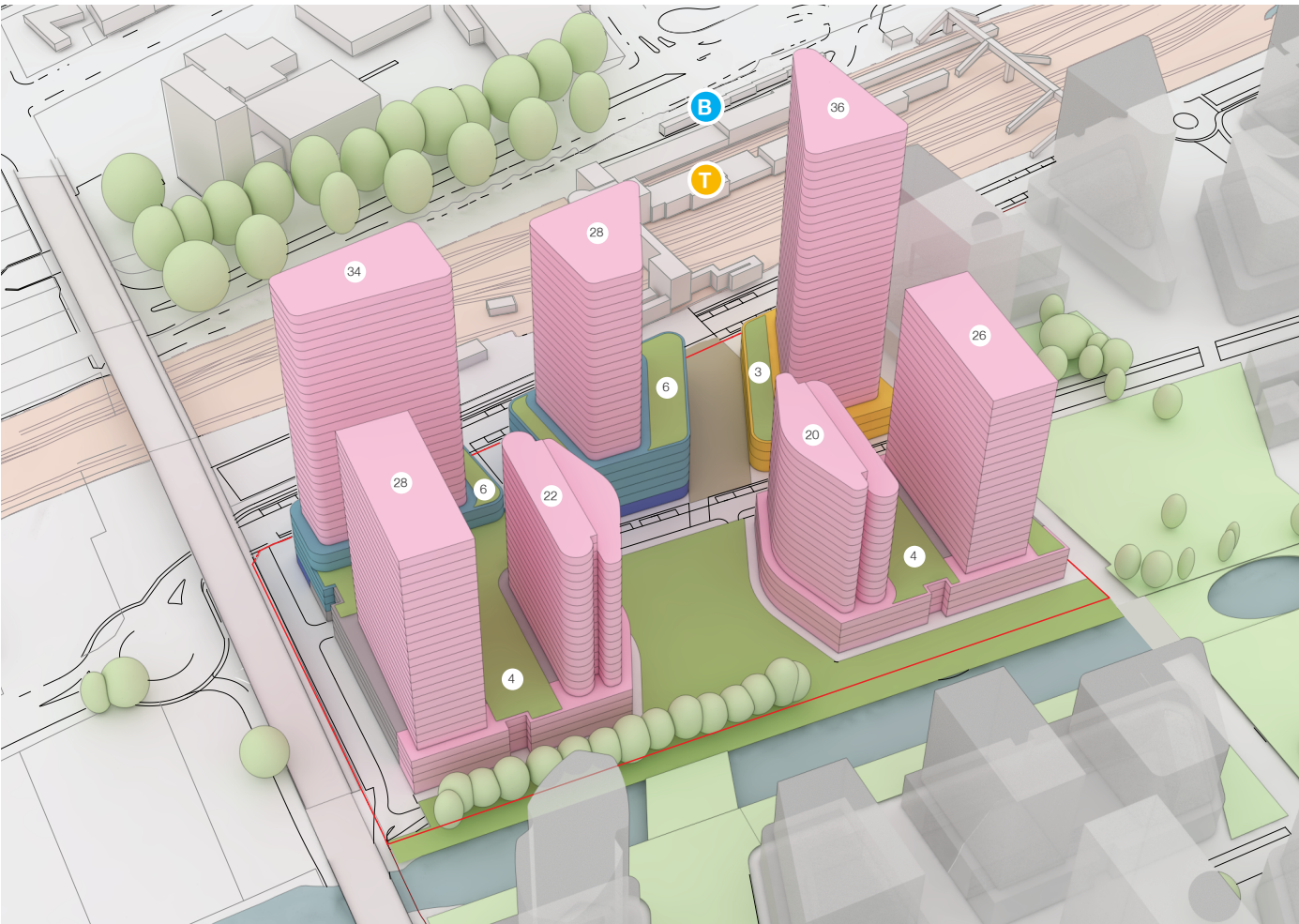


2 Farrow Road

4

2 Farrow Road

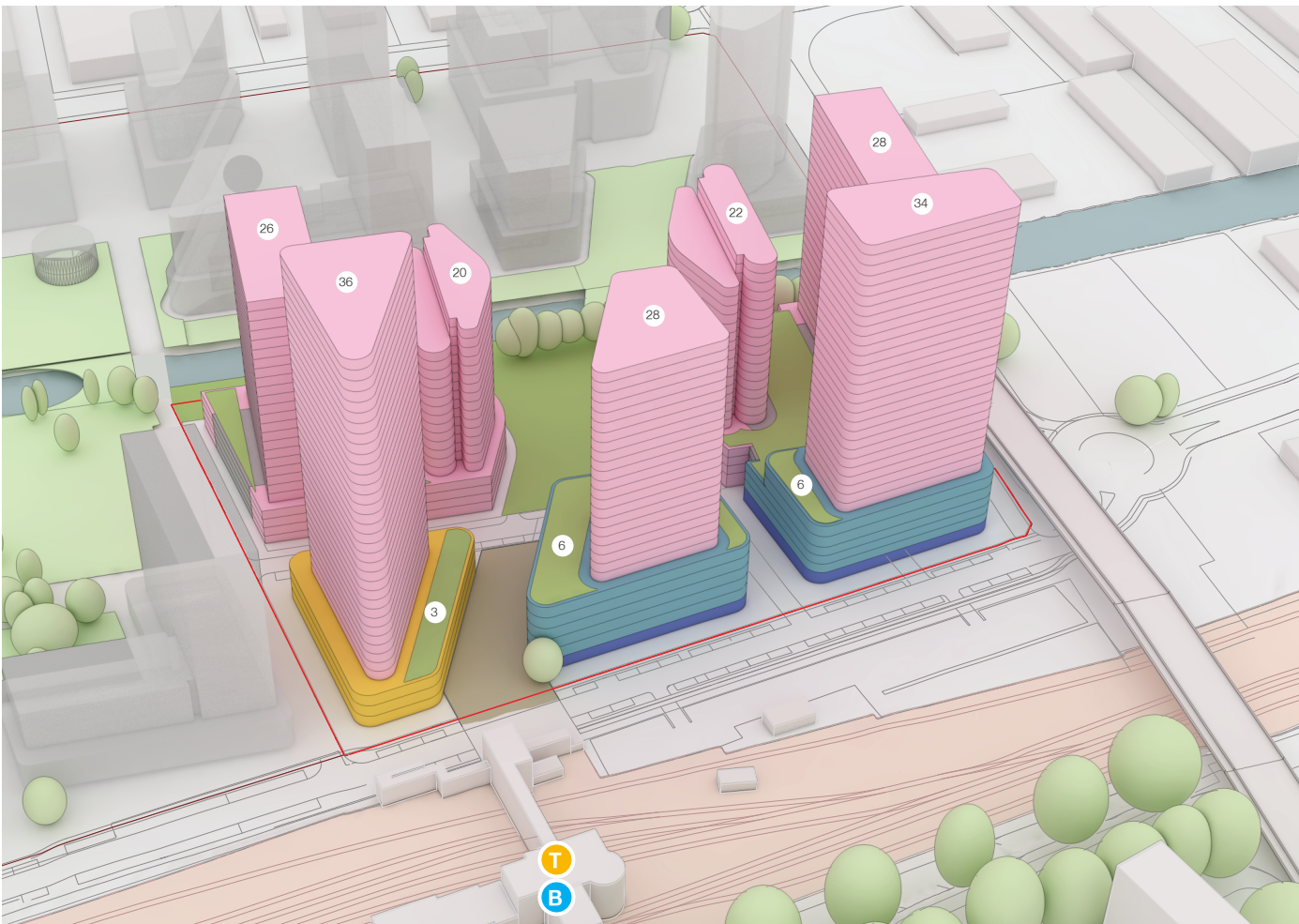
4.1 Indicative Built Form Massing



Aerial View Looking South

In line with the building height strategy for the wider precinct, building heights are tallest to denote the proximity to the station and to provide a landmark at the northern eastern corner of the precinct which will be clearly visible from the northern part of the City Centre.

Building heights transition down towards the Creek to reduce overshadowing of public open space as well as the proposed built form to the south.



Aerial View Looking North

Podia of 3 to 6 storeys fronting Farrow Road will offer a mixture of retail, commercial and community uses with the towers above set back to reinforce a lower street wall. Residential podia fronting the open space and Creek will also be lower in height to reflect their context in a landscape setting.

KEY

Site Boundary

Northern Precinct Boundary

Residential

Commercial

Retail

Community

Podium (Sleeved) Car Parking

Future Precinct Development

Existing Tree for Retention

2 Farrow Road

4.2 Indicative Masterplan

The indicative masterplan is structured around a new public open space located at the heart of the precinct that has been designed to maximise solar access from 12:30 to 2:30pm on the winter solstice.

A new station plaza will connect the interchange to the wider precinct and provide community, retail and commercial functions - establishing a central place for gathering.

Internal vehicular circulation has been minimised to reduce conflicts with pedestrians but consideration has been made to ensure all dwellings will have a safe and secure front door and car drop off area.

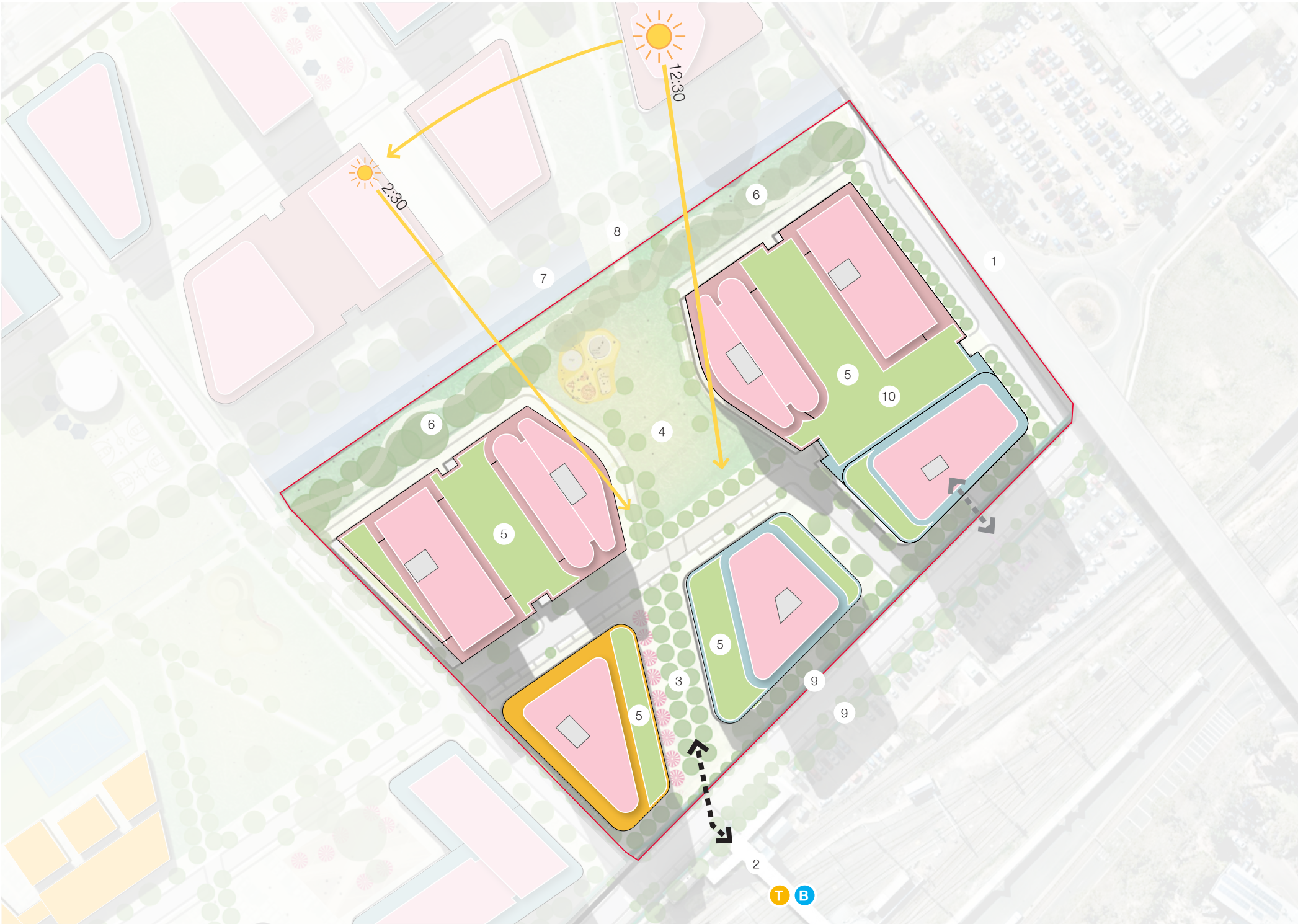
A 450 space commuter car park will be housed within the podium in the north of the site that is sleeved by commercial and residential uses. In time, this will have the capacity to be converted to commercial floorspace as the future market demand dictates.

The building uses and facades fronting the northern boundary will also have to adapt to the potential future opportunities and constraints a new vehicular and pedestrian bridge over the rail corridor will bring.

Communal roof terraces will provide significant amount of amenity for residents with easy and accessible connections down to the more public ground plane that offers larger community and creek side parks.

KEY

- ① Potential Pedestrian and Vehicular Bridge
- ② Pedestrian & Cyclist Bridge
- ③ Civic Station Plaza
- ④ Community Park
- ⑤ Communal Open Space
- ⑥ Recreational Park
- ⑦ Revitalised Bow Bowling Creek
- ⑧ Green Bridges
- ⑨ Segregated Cycling Infrastructure
- ⑩ 450 Space Podium Commuter Car Park (sleeved)



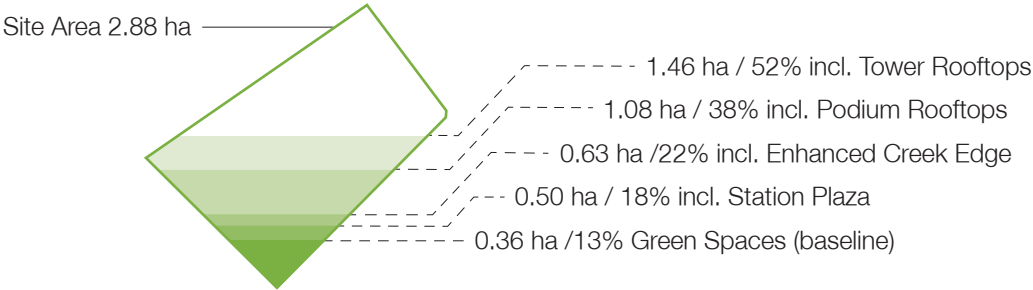
2 Farrow Road

4.3 Open Space Concept

The adjacent diagram illustrates that the indicative design scheme makes provision for up to 1.46 ha of open space or up to 52% of the subject site area meaning that existing and future residents of Campbelltown will enjoy a range of open spaces to support different lifestyles and activities within a short walk from their front door. Our open space concept is broadly based on the Government Architect’s *Greener Places* strategy document which seeks ‘to create healthier and more liveable cities and towns by improving community access to recreation and exercise, supporting walking and cycling connections, and improving the resilience of our urban areas’.

The landscape masterplan spatially implements the many themes that were established in the broader structure and vision. The key themes that have brought this concept together include:

- **Integration** - Creating synergy with the built form and surrounding context and build an unique local character.
- **Connectivity** - Considering through site links, connectivity to key local attractions and improving pedestrian and bicycle links.
- **Multi-functionality** - Ensure spaces are appropriate to a range of user groups and flexible to be able to be used at different times of days whilst also adapting to changing future needs, climate and demographics.
- **Participation** - Creating a public domain that is brought to life by the diverse residents and users of Campbelltown, encouraging informal encounters and building community.



1 Community Park



- Play spaces
- Informal seating spaces
- Large open spaces for active recreation
- Enhance biodiversity

2 Riparian Park



- Landscaped native environment
- Water sensitive urban design
- Assisting flooding mitigation
- Improve ecological resistance and improve opportunities for balanced ecological habitats

3 Station Plaza



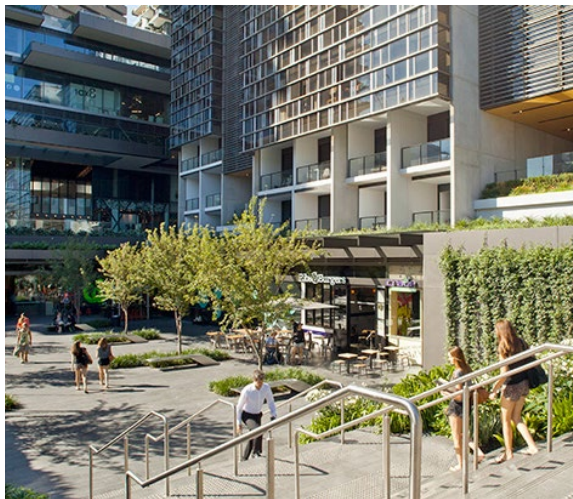
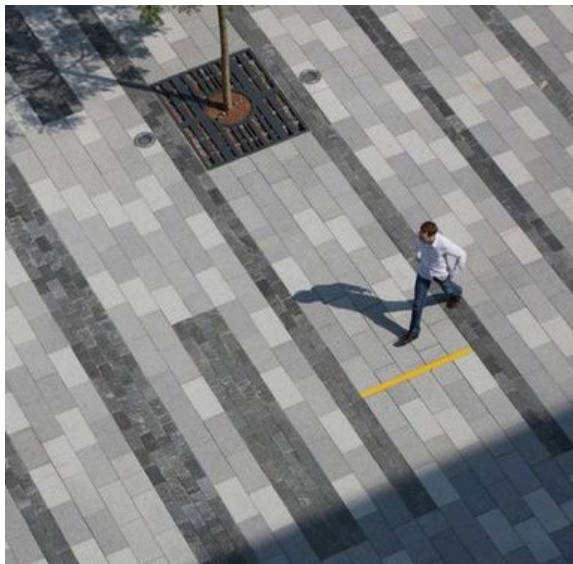
- Creates a forecourt to the station, retail and community spaces
- Place of congregation and for people to linger and socialise
- Sense of entry into the precinct
- Integration of public art

4 Communal Gardens



- Spaces for the community to congregate and gather
- Increase social interaction
- Improve opportunities for healthy living such as areas set aside for food production

2 Farrow Road





2 Farrow Road

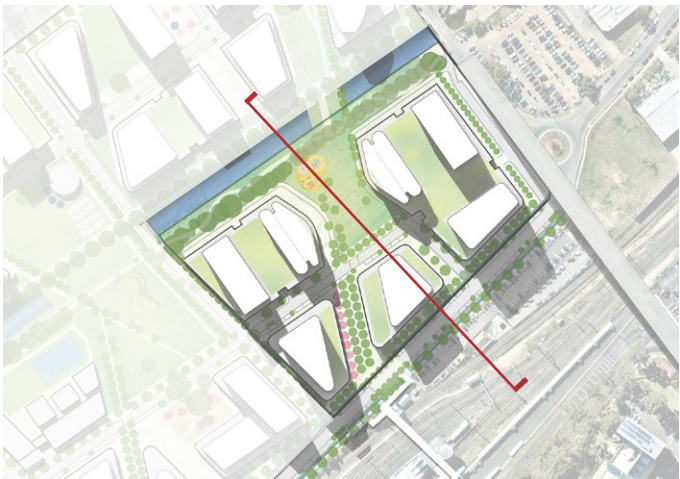
4.4 Indicative Site Section

2 Farrow Road will seek to co-locate retail, commercial and residential uses in this high amenity area directly north of Campbelltown Station Interchange.

Street and public domain across the site will have significant tree canopy to provide shaded and comfortable spaces for the community. The site's interface with Bow Bowing Creek will also be a key opportunity for recreation and landscape.

Along Farrow Road, a six storey podium will be established to frame the street and reduce the visible bulk of towers from the street. The podium in this particular block will include commercial and retail floor space. This will be bordered to the north with a community park that will enable solar access and provide a sunny outlook. Residential uses will be located above the podium, taking advantage of regional views and stepped away from the rail corridor.

Communal open spaces will be provided above podiums and towers to provide residents with opportunities for outdoor respite and relaxation. They will also be important in contributing to mitigating the urban heat island effect through greening and cooling.



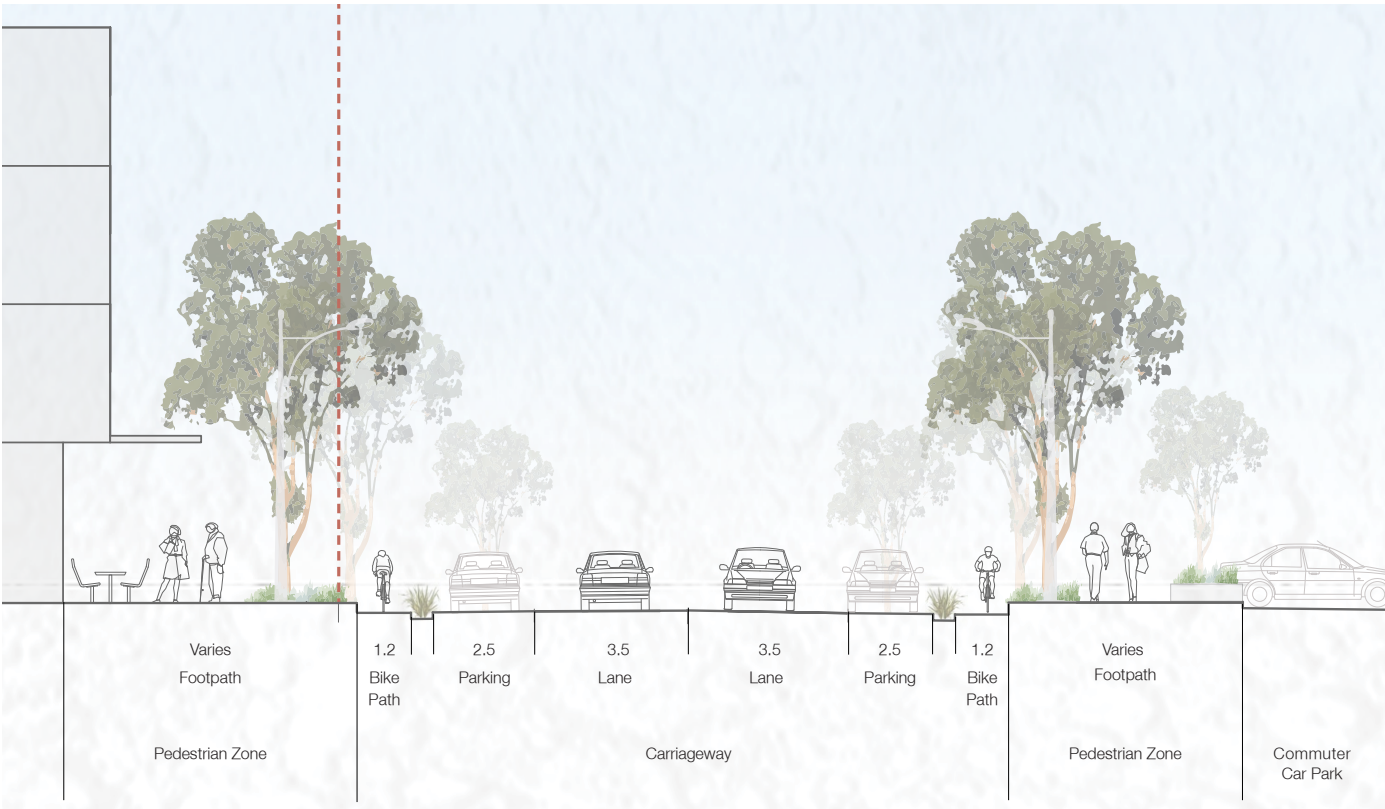
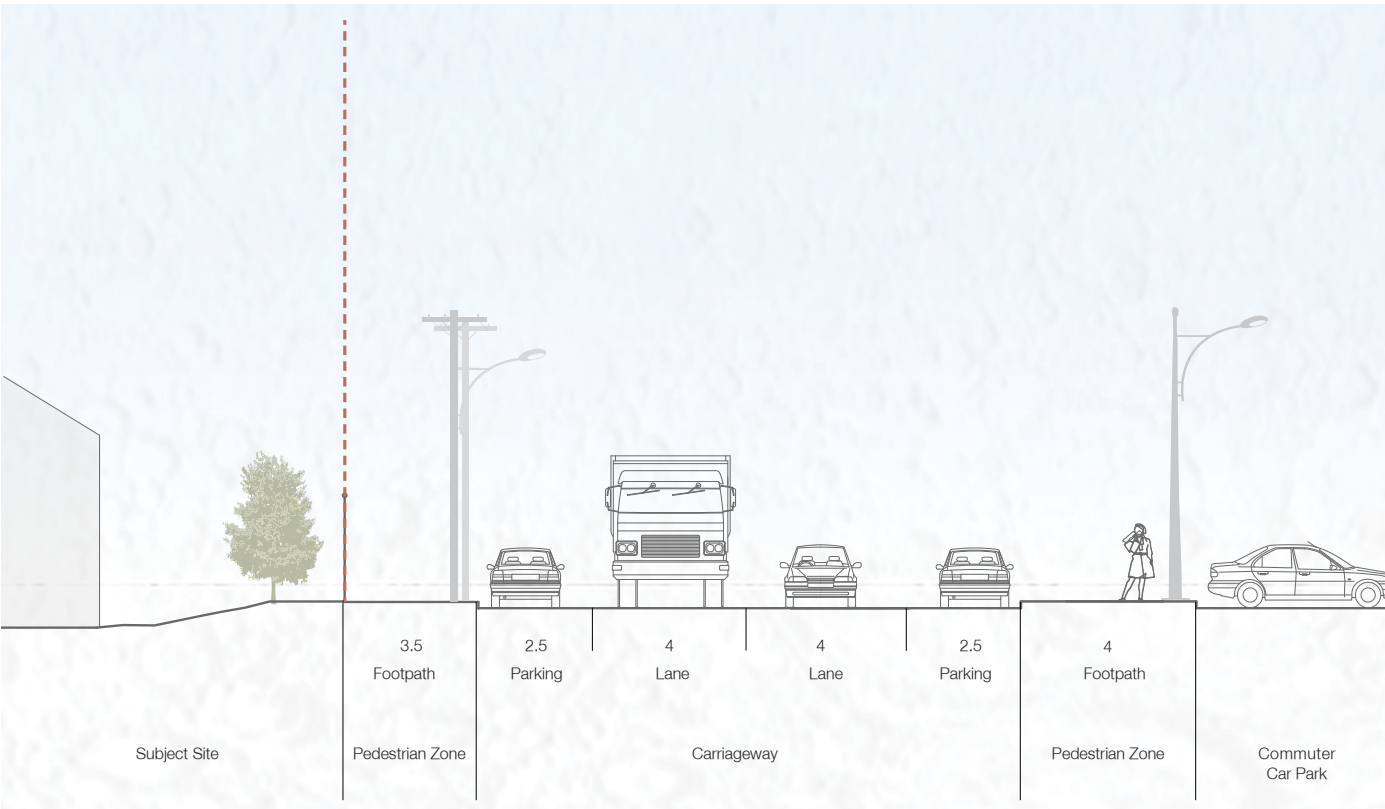
Section cut key plan



2 Farrow Road

4.5 Typical Public Domain Upgrades

Farrow Road



Current Condition

Farrow Road, fronting both the site and Campbelltown Station, currently has a wide carriageway of c.13m with two main vehicular lanes plus parking on both sides. On the southern side of the road, there is a well utilised commuter car park and to the north (the subject site), the existing warehouse building has a significant setback and is well below the level of the adjacent footpath - providing little, if not no, activation of the streetscape.

There is very little tree canopy or buildings / canopies etc. along the entire length of the road resulting in little shade and shelter for pedestrians.



Current condition of Farrow Road close to Campbelltown Station

Future Potential Condition

There is a significant opportunity to upgrade Farrow Road to drastically improve its streetscape to make it more inviting for pedestrians and active users such as cyclists. Through the introduction of a dense urban tree canopy, both footpaths have the potential to be heavily shaded, whilst also providing opportunities for activation through food and beverage, community and retail premises at street level.

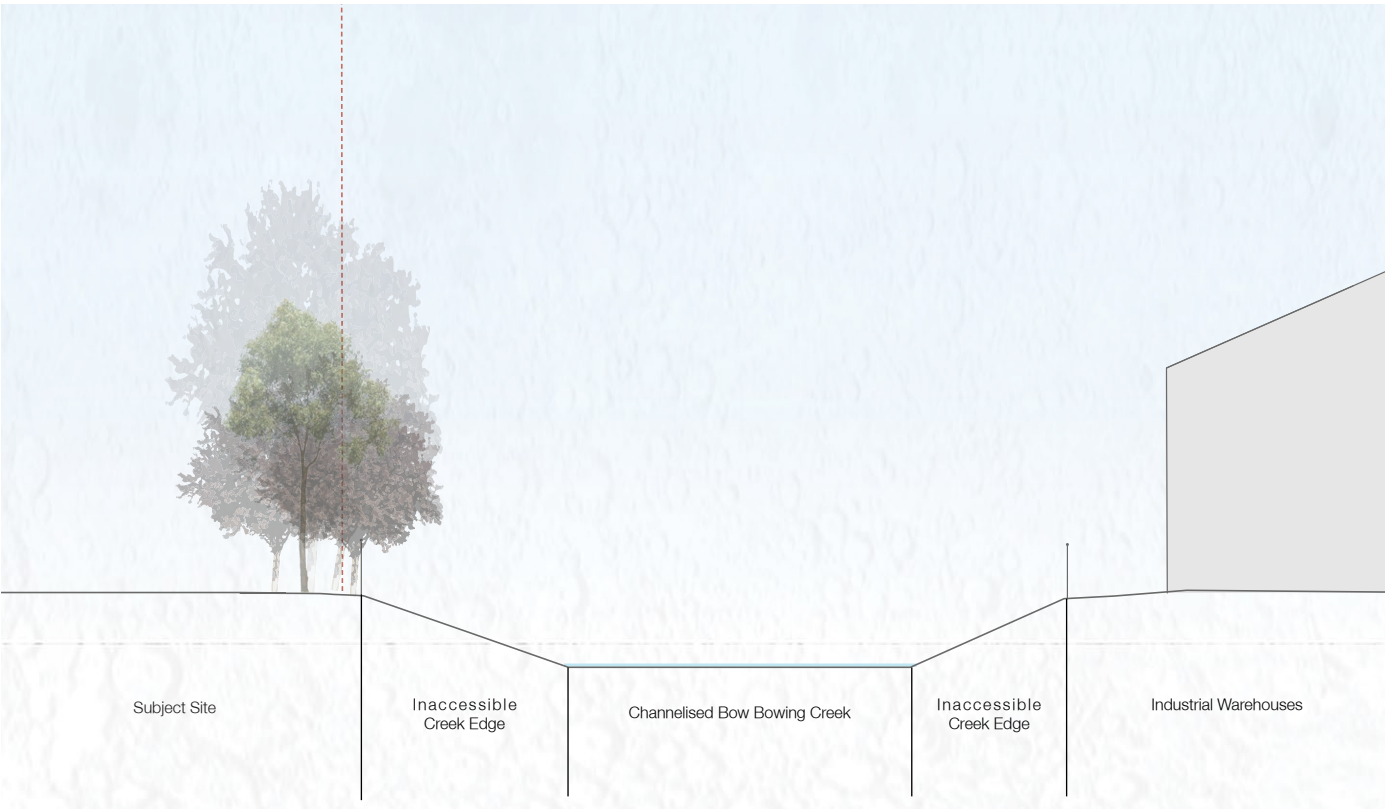
Single direction bicycle paths offer a connection to the station and are fully segregated on the footpath side of the parked cars for increased safety - especially for vulnerable users.



Section cut key plan

2 Farrow Road

Bow Bowling Creek



Current Condition

Adjacent to the subject site, but also extending to the NE and SW, the channelised and concrete lined condition of the creek provides little ecological value, a poor visual outlook and is a missed opportunity to offer amenity for local residents and workers.

The historic meandering path of the Creek has been lost and is now re-aligned with contemporary property boundaries and flood management strategies meaning almost all connection to place has been lost. Defining the character of the local area, Bow Bowling Creek must be celebrated.

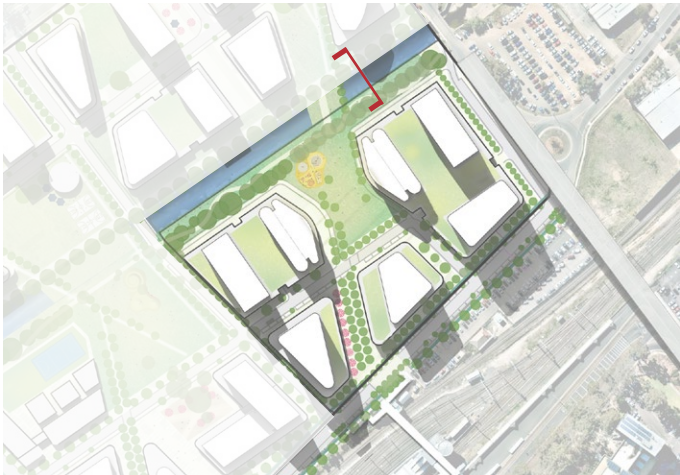


Current channelised condition of Bow Bowling Creek

Future Potential Condition

Enhancing Bow Bowling Creek has the potential to become the central blue and green spine that ties together the entire precinct and becomes a magnet for the wider communities of Campbelltown City Centre. Improving the waterway can unlock areas of open space, increase amenity, improve liveability and drastically enhance biodiversity.

Further studies will be required in due course to understand the potential for re-naturalisation / upgrades to the creek given the potential for flooding.



Section cut key plan

2 Farrow Road

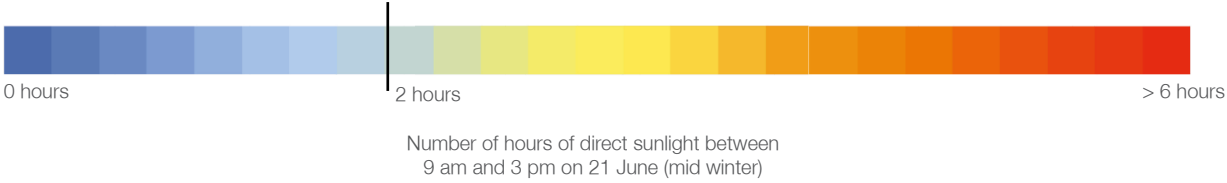
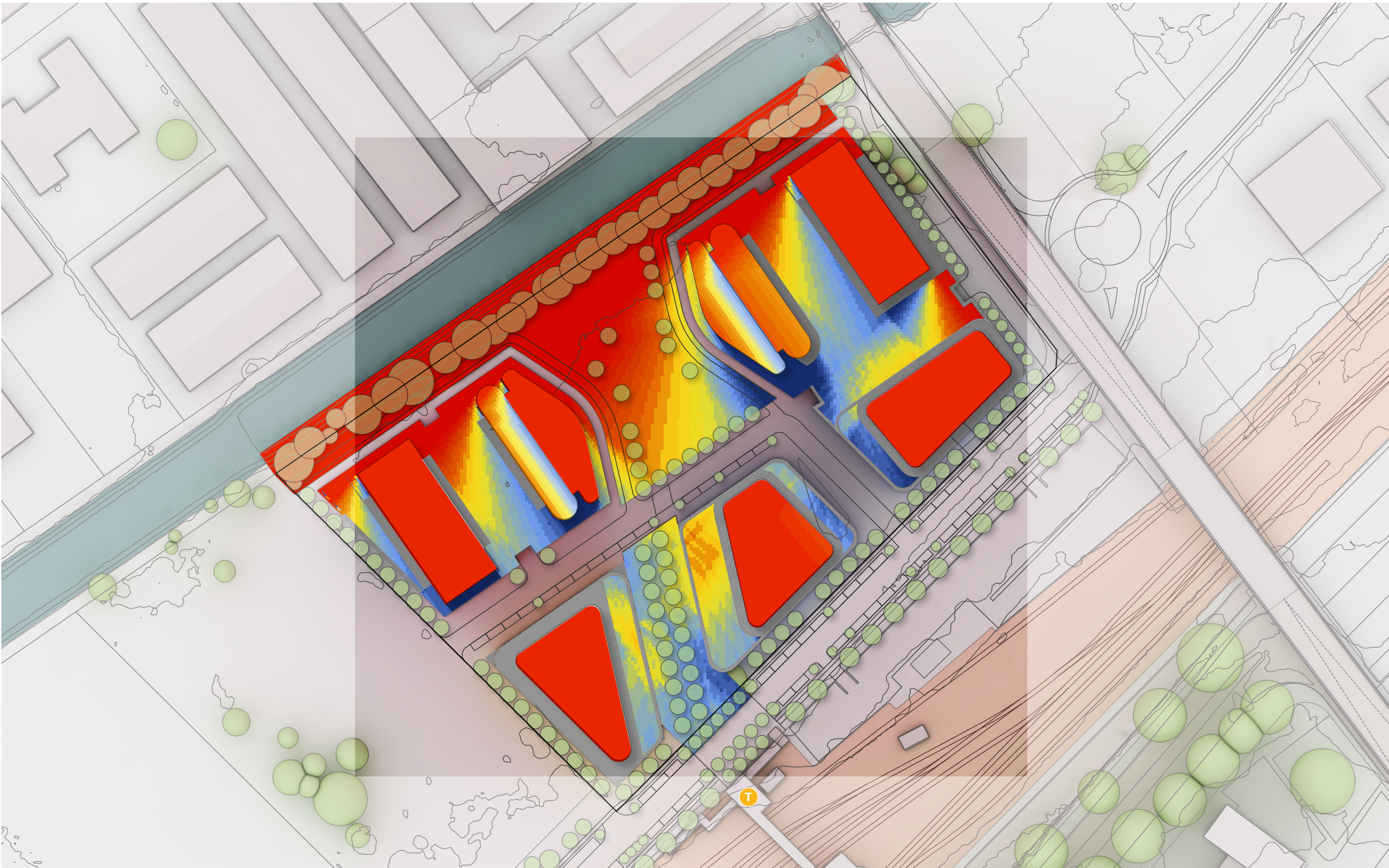
4.6 Open Space Insolation

The diagram opposite demonstrates, as stipulated by the Apartment Design Guide (ADG), that developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter).

Whilst it is necessary to demonstrate the capability of compliance, the indicative design scheme is also mindful of the significant issues that exist in Campbelltown City Centre associated with the Urban Heat Island Effect. As such, a suitable response must be carefully tailored to place and thus developing a significant tree and shading canopy within open spaces is also vital.



Source: CCC - Reimagining Campbelltown City Centre Master Plan 2020 (Draft for Exhibition)



2 Farrow Road

4.7 Indicative Typical Upper Floor Plan

The diagram adjacent presents an indicative typical upper floor plan which should be read with the associated facade solar insolation diagrams.

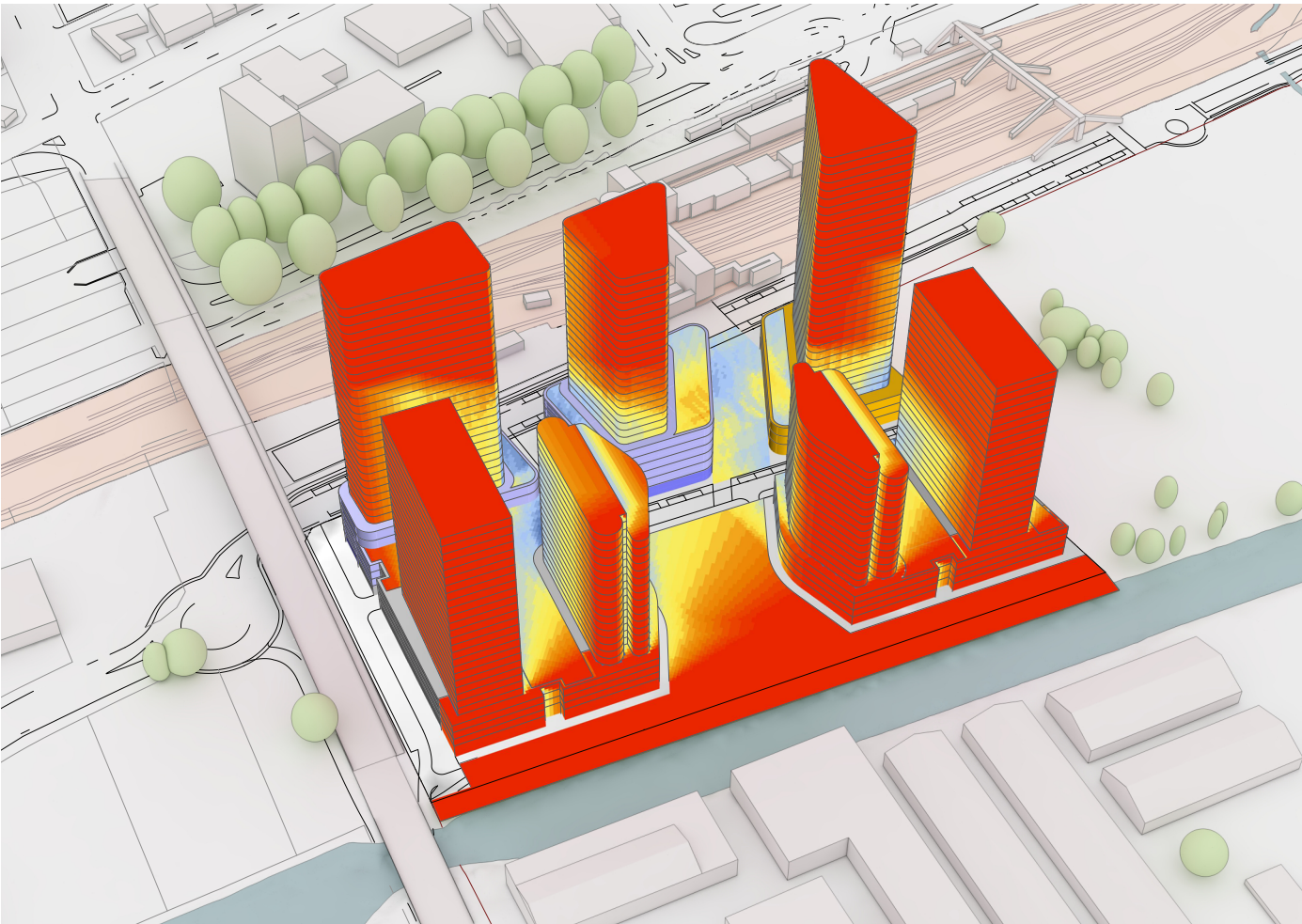
As stipulated within the ADG, living rooms and private open spaces of at least 70% of apartments in a building must receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area.

As demonstrated, the indicative structure plan is capable of complying.

| Building | Dwellings | Percentage |
|----------|-----------|------------|
| 1 | 8 / 10 | 80% |
| 2 | 7 / 10 | 70% |
| 3 | 8 / 10 | 80% |
| 4 | 8 / 10 | 80% |
| 5 | 8 / 9 | 88% |
| 6 | 8 / 8 | 87% |
| 7 | 7 / 10 | 70% |
| Total | 52 / 67 | 77% |

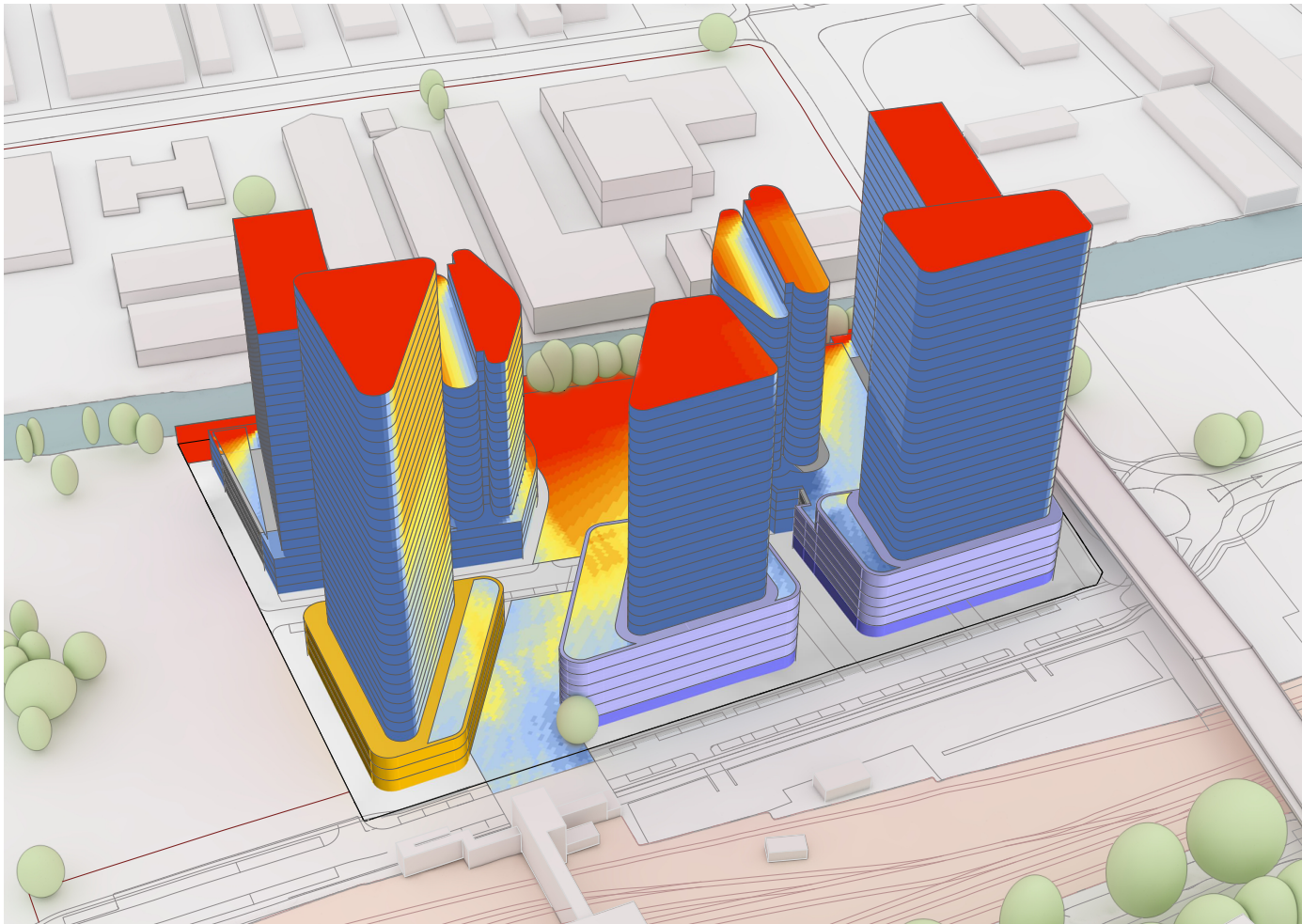


4.8 Facade Solar Insolation



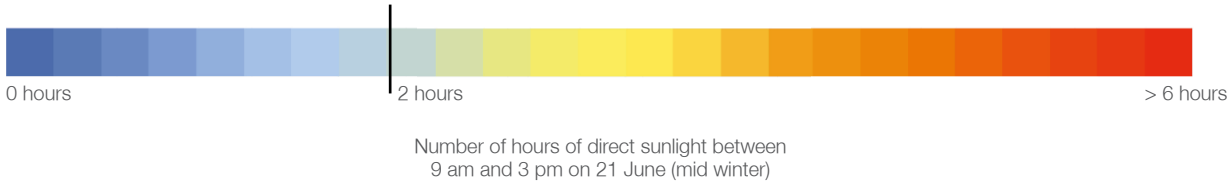
Aerial View Looking South

With no tall buildings immediately to the north of the site, the scheme is capable achieving excellent solar access. Staggering and tapering building forms also allows direct sunlight to penetrate further into the scheme.



Aerial View Looking North

Dependent on the future detailed design of the scheme, the number of apartments with a northerly aspect would typically be maximised to utilise consistent solar access throughout the day and views of the Creek and wider valley beyond, the number facing south (and the railway corridor) could therefore be minimised.



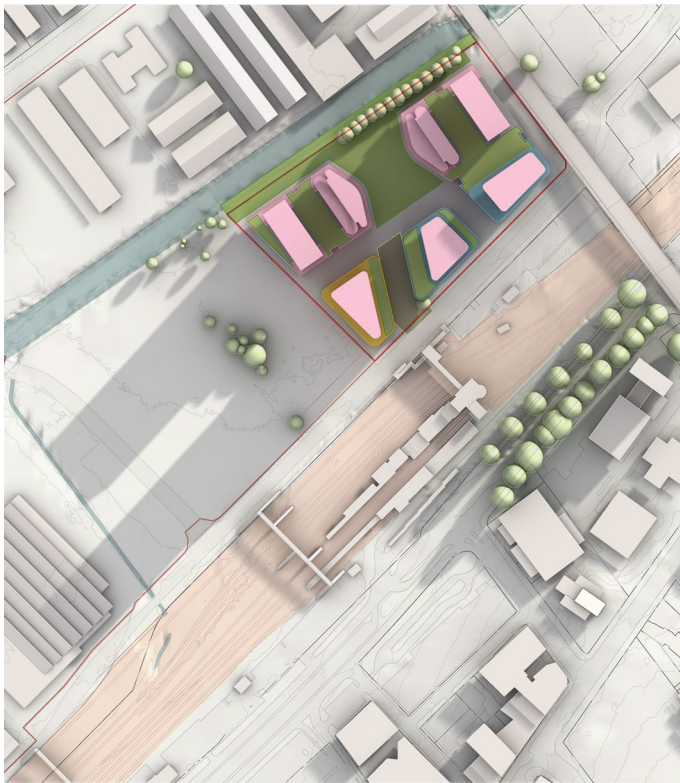
2 Farrow Road

4.9 Shadow Analysis

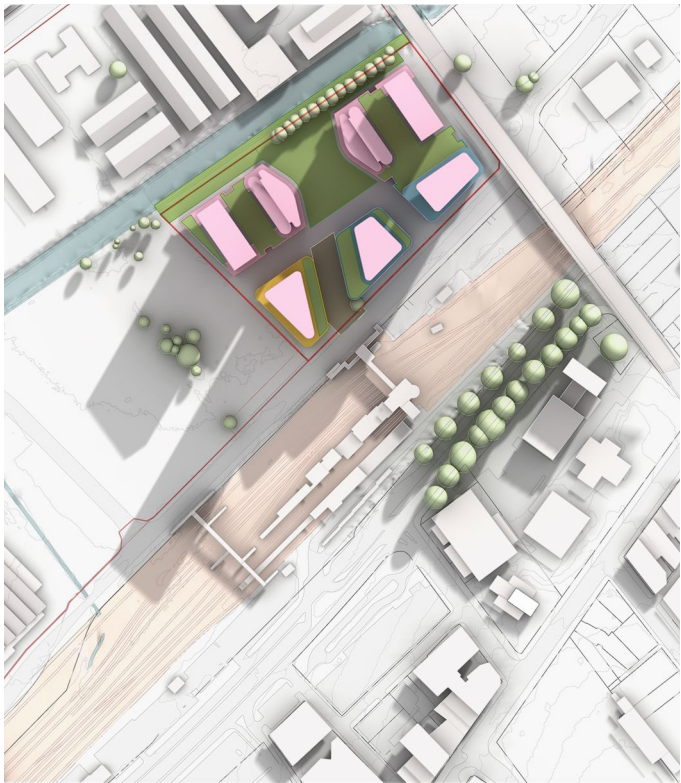
The subject site is in a fortunate position located on the northern side of the relatively wide railway corridor. As such, the potential overshadowing of neighbouring properties is significantly mitigated.

In response to Objective 3B-2 of the Apartment Design Guide, the diagrams adjacent set out the detailed potential overshadowing of the indicative reference scheme, demonstrating the impact on neighbouring properties is minimised during mid winter.

Further to this, the plan below indicates the potential overshadowing within the City Centre is limited to land zoned as Commercial Core and Mixed Use (currently used as a petrol station and a small amount of commercial space). Within the deferred zoning boundary, the majority of impacted land is either vacant or utilised for commuter car parking.



21st June - 9am



21st June - 10am



21st June - 11am



Adjacent properties potentially overshadowed by indicative reference scheme

KEY

- Precinct Boundary
- Site Boundary
- B3 Commercial Core
- B4 Mixed Use
- Deferred Area Zoning Boundary
- 4(b) Industry B
- 5(a) Special Uses A - Parking

2 Farrow Road



21st June - 12pm



21st June - 1pm



21st June - 2pm



21st June - 3pm



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Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au