




CLOUSTON associates



 Department of Planning
and Environment

Issued under the Environmental Planning and Assessment Act 1979
Approved Application No: SSD 10344

Granted on: 1 December 2022

Signed: PB Sheet No: 219 of 280

Landcom
KELLYVILLE AND BELLA VISTA STATION PRECINCT
Landscape Master Plan and Open Space Strategy
S18-0057

Issue N • 17/06/2020



Cover Image:
Looking at Elizabeth Macarthur Creek

Inside Cover:
Lewis Jones Dr Reserve on the eastern side of Elizabeth Macarthur Creek



CLOUSTON associates
 KELLYVILLE AND BELLA VISTA
 STATION PRECINCT
 MASTER PLAN

Client:
Landcom



Prepared by

CLOUSTON Associates
 Landscape Architects • Urban Designers • Landscape Planners
 Level 2, 65-69 Kent Street • Sydney NSW 2000
 PO Box R1388 • Royal Exchange NSW 1225 • Australia
 Telephone +61 2 8272 4999
 Contact: Crosbie Lorimer
 Email • sydney@clouston.com.au
 Web • www.clouston.com.au

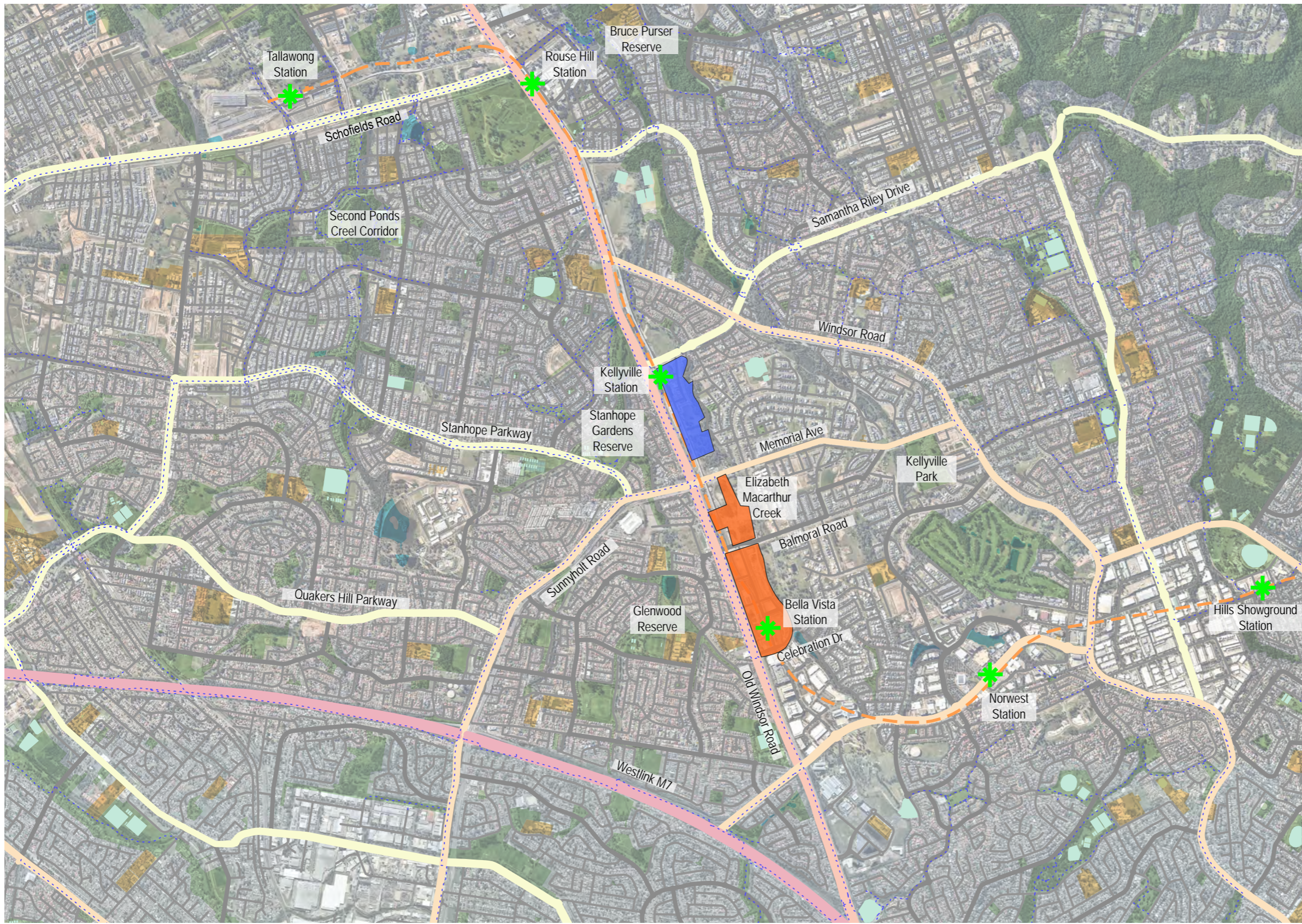
Document	Issue	Date	Status	Reviewed	Verified	Validated
S18-0057 R01	A	01/03/2019	STORYBOARD	CC	CL	-
S18-0057 R01	B	30/05/2019	DRAFT	CC	CL	-
S18-0057 R01	C	19/07/2019	FINAL	CC	CC	CL
S18-0057 R01	D	31/07/2019	FINAL	CC	CC	-
S18-0057 R01	E	12/08/2019	FINAL	CC	CC	-
S18-0057 R01	F	13/08/2019	FINAL	CC	CC	-
S18-0057 R01	G	14/08/2019	FINAL	CC	CC	-
S18-0057 R01	H	29/08/2019	FINAL	CC	JH	-
S18-0057 R01	I	08/04/2020	FINAL	CC	JH	-
S18-0057 R01	J	30/04/2020	FINAL	AD	CC	-
S18-0057 R01	K	03/06/2020	FINAL	AD	CC	CL
S18-0057 R01	L	04/06/2020	FINAL	CC	CC	CL
S18-0057 R01	M	09/06/2020	FINAL	CC	CC	CL
S18-0057 R01	N	17/06/2020	FINAL	CC	CC	CL

TABLE OF CONTENTS

Title	page
1.0 INTRODUCTION	3
2.0 SITE OVERVIEW AND CONTEXT	5
3.0 SITE APPRECIATION AND VIEWS ANALYSIS	6
4.0 PLANNING CONTEXT	8
5.0 DESIGN PRINCIPLES AND STRATEGY	15
6.0 CONCEPT MASTER PLAN	17
7.0 OPEN SPACE PRECEDENTS	21
8.0 OPEN SPACE HIERARCHY AND FUNCTION	30
9.0 STREET TYPOLOGIES	41
10.0 CONCLUSION	58
11.0 REFERENCE AND APPENDICES	59



Elizabeth Macarthur Creek near Celebration Drive and Brighton Drive



- LEGEND**
- KELLYVILLE PRECINCT WITHIN SSD BOUNDARY
 - BELLA VISTA PRECINCT WITHIN SSD BOUNDARY
 - EXISTING GREEN CORRIDORS
 - EXISTING SPORT FACILITIES
 - EXISTING WATER BODIES
 - EXISTING PUBLIC INFRASTRUCTURE
 - MOTORWAY
 - MAIN ROAD
 - ARTERIAL ROAD
 - COLLECTOR ROAD
 - LOCAL ROAD
 - METRO LINE
 - EXISTING CYCLE NETWORK
 - METRO STATION

NOT TO SCALE

Figure 1.1 Site location and context



Client:
Landcom

1.0 INTRODUCTION

BACKGROUND

The Bella Vista and Kellyville Station Precincts form part of a network of eight station precincts along the Metro North West Line (MNWL).

The NSW Government has identified both as Priority Precincts to support and drive the urban renewal of surplus lands from the construction of the MNWL Metro into a new urban environment.

Bella Vista and Kellyville Station Precincts are envisaged to provide for up to 9,400 and 1,000 new jobs respectively and the delivery of up to 8,400 new homes, shared between both precincts. (GLN planning 2019).

KELLYVILLE STATION PRECINCT

The Precinct spans the alignment of the MNWL corridor, comprising an approximate 900m stretch of government owned land. Extending from Samantha Riley Drive in the north towards Memorial Avenue in the south, and bound by Old Windsor Road to the west. As well as existing Roads and Maritime Services (RMS) land to the south and Elizabeth Macarthur Creek to the east. (See Figure 1.1 overleaf)

The land immediately surrounding Kellyville Station is predominantly occupied by construction activities associated with the development of the MNWL, including site compounds and car parking areas.

A commuter car park is situated adjacent to Samantha Riley Drive, accessed via a temporary roundabout. Lands south of Wuban Avenue to the southern extent of the precinct remain largely undeveloped and in their existing rural residential state.

BELLA VISTA STATION PRECINCT

The Precinct spans the alignment of the MNWL corridor comprising an approximate 1.4 km stretch of government owned land, extending from Celebration Drive in the south to Memorial Avenue in the north and generally bound by Old Windsor Road to the west and Elizabeth Macarthur Creek to the east. (See Figure 1.1 overleaf)

The Precinct is occupied by new road and railway infrastructure and the new Bella Vista Station is located at the southern end of the Precinct.

Other existing site activities and works include a multi-storey commuter car park immediately north of the station and a construction site compound in the north of the precinct between Balmoral Road and Memorial Avenue (GLN planning 2019).

THE STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSDA)

This Landscape Master Plan and Open Space Strategy Report has considered the entire precinct in the following aspects:

- open space hierarchy, provision and distribution
- open space and precinct connection into wider context
- public domain and street typologies
- connection between both precinct and Elizabeth Macarthur Creek

The Concept SSD Application will set out the concept proposal for the future development of the Kellyville and Bella Vista Station Precinct. The application is only required to demonstrate and consider the likely impacts associated with the concept proposal, not the likely impact of any development that would be subject to a separate development application.

Development consent will be sought for a concept development application pursuant to section 4.22(1) of the Environmental Planning and Assessment Act 1979 (EP&A Act), which sets out the concept proposal for each station precinct. For more detailed information regarding the station precinct proposals, please refer to the Kellyville and Bella Vista Urban Design Reports.

The concept SSDA does not seek development consent for any physical works. All development set out in each concept proposal will be subject to a separate approval pathway.

PREVIOUS STUDIES AND REPORTS

In 2015 Landcom (then UrbanGrowth NSW) engaged consultants, Roberts Day, to prepare a preliminary concept Master Plan for the Kellyville and Bella Vista precincts. The Roberts Day Master Plan formed the starting point for the detailed Master Planning of the precincts, establishing an urban form that locates all land uses and built form, street types, public realm and landscape. This document describes and details the public realm and landscape aspects of the Master Plan.

PROJECT OBJECTIVES

Landcom's key objectives for this project are to:

- establish a framework to support the urban renewal of the precinct for a mixed use development that delivers new residential dwellings, integrates land use, transport and infrastructure
- create an urban environment built upon the principles of transit orientated development that fosters high patronage of the Sydney Metro Network
- make provision for a range of new community and open space social infrastructure to support the social needs of the future Kellyville and Bella Vista Station Precincts residents and worker communities, including new town squares and linear open space network along the western fringe of Elizabeth Macarthur Creek
- secure a site with a minimum area of 1 ha, collocated with local open space for the establishment of a future educational establishment for primary school aged students
- enhance pedestrian and cyclist connections between the station precinct and surrounding urban environments to maximise patronage of the Sydney Metro and associated amenities
- enhance customer experience and urban amenity through the development of an integrated design concept that ensures delivery of a quality public domain area with strong connections to the site's surroundings
- embrace sustainability initiatives, including the implementation of reduced car parking requirements, water cycle management and water-sensitive design and measures intended to improve the environmental performance of buildings.

LANDSCAPE AND PUBLIC REALM OBJECTIVES

The public realm and landscape proposals described and illustrated in this document draw on national and international best practice and align with the core project objectives of developing a Master Plan and strategy that:

- provides a landscape and public realm that responds to the landscape values and community development within the locality
- conserves and enhances the site's natural, cultural and heritage values
- promotes and integrates liveability, walkability, recreation and active transport
- meets the outdoor leisure and recreation needs of its new population
- uses street planting and landscape to reduce the impacts of the urban heat island effect in the public domain
- connects and enhances Elizabeth Macarthur Creek.

Importantly, the precincts are bounded by Old Windsor Road and Elizabeth Macarthur Creek. The Master Plan seeks to extend pedestrian and cycle connections (both on and off-road) into the adjoining locality.

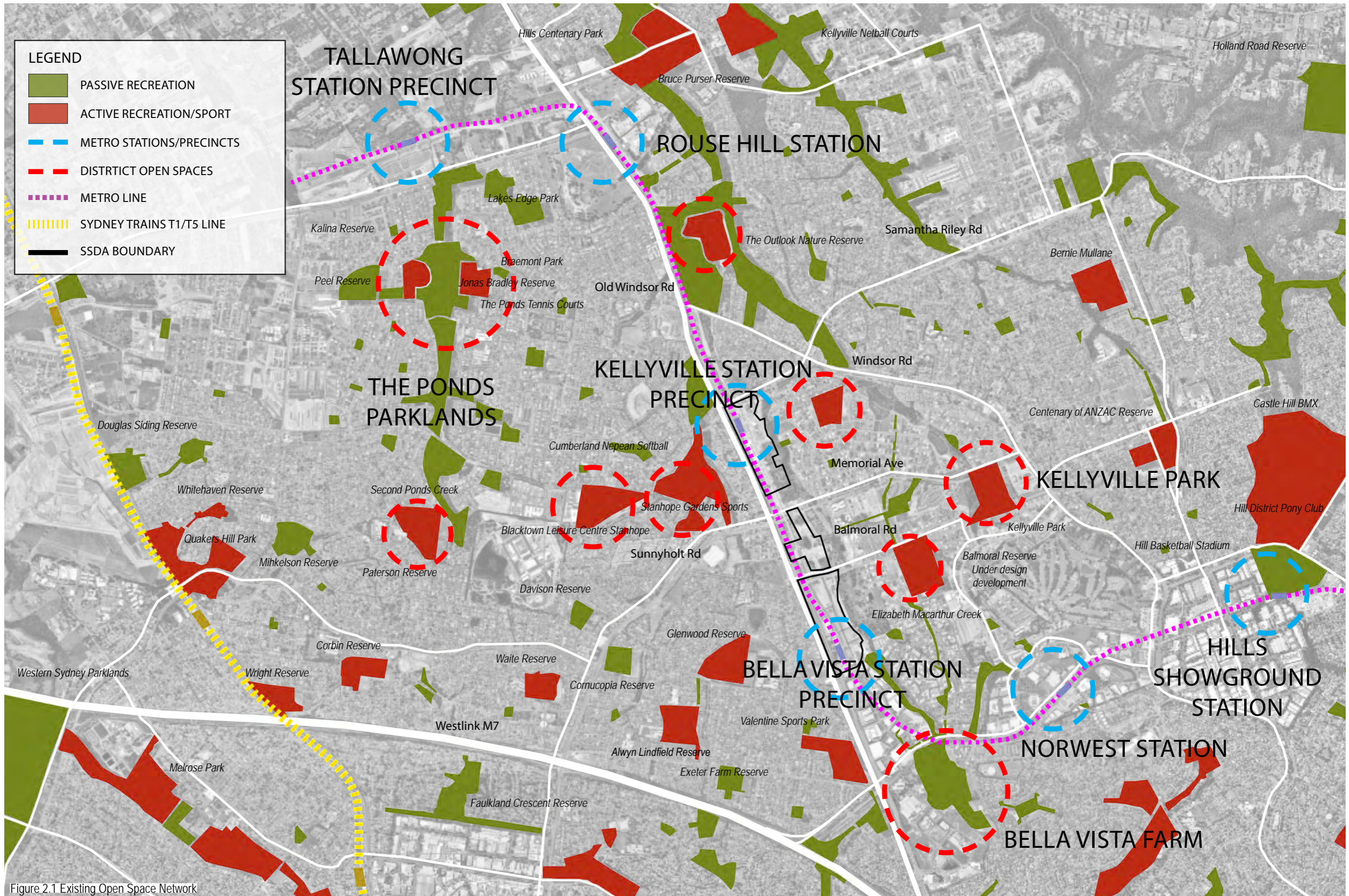
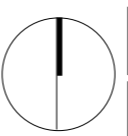


Figure 2.1 Existing Open Space Network



2.0 SITE OVERVIEW AND CONTEXT

THE SITE

The Kellyville Station Precinct site is approximately 18.8 hectares in area and is comprised of 18 allotments of government owned land, extending from Samantha Riley Drive in the north to Memorial Avenue in the south.

The Bella Vista Station Precinct site is approximately 33.79 hectares in area and is comprised of 1.4km stretch of government owned land, extending from Memorial Avenue in the north to Celebration Drive in the south.

Both Precincts lie immediately to the west of the Elizabeth Macarthur Creek corridor.

The annotated photos in Section 3 - Site Appreciation and Views Analysis illustrate the site's existing character and in particular demonstrate the precincts' relationship to Memorial Avenue, Samantha Riley Drive and Celebration Drive. Well established, existing trees are found to the east of Elizabeth Macarthur Creek Corridor, see Image 1 in Section 3 - Site Appreciation and Views Analysis.

OPEN SPACE IN THE LOCALITY AND DISTRICT

The existing public open space and associated environmental corridors in the wider district context of the precincts are illustrated in Figure 2.1.

As can be seen, the immediate locality and district is well serviced with existing public open space, the principal sites of which are listed below under their respective setting types.

Unstructured Recreation Parks

- Waite Reserve
- Faulkland Crescent Reserve
- Whitehaven Reserve
- Douglas Siding Reserve
- Davison Reserve
- Second Ponds Playground
- Kalina Reserve Park
- Tanunda Park
- Greenview Park
- Arrowroot Park
- Lakes Edge Park
- Braemont Park
- Connor Greasby Park
- Reserve 636
- The Gathering Park
- Edgewood Park

- Stoddart Park
- Lewis Jones Drive Reserve
- Barker Street Reserve

Sports Reserves

- Exeter Farm Reserve
- Valentine Sports Park
- Alwyn Lindfield Reserve
- Cornucopia Reserve
- Caddies Creek Reserve
- Glenwood Reserve
- Corbyn Reserve
- Wright Reserve
- Paterson Reserve
- Mihkelson Reserve
- Quakers Hill Park
- Harvey Park
- Peel Reserve
- Jonas Bradley Reserve
- The Ponds Tennis Courts
- Blacktown Leisure Centre
- Stanhope Garden Sports
- Bernie Mullane
- Hills District Pony Club
- Hills Basketball Stadium
- Kellyville Park
- Centenary of ANZAC Reserve
- Hills Centenary Park
- Bruce Purser Reserve
- Kellyville Netball Courts

Bushland

- Second Ponds Creek Conservation Area
- The Outlook Nature Reserve
- Caddies Creek Reserve

Creek Corridors

- Second Pond Creek

- Strangers Creek
- Elizabeth Macarthur Creek
- Breakfast Creek

Future Open Space

- Balmoral Reserve
- Rutherford Reserve

OPEN SPACE ACCESS AND CONNECTIVITY

The open space connection to the wider context has been investigated of particular note are the following:

- Old Windsor road is a major barrier between both precincts and the open spaces located to the west, highlighting the need for improved pedestrian and cyclists connections
- There are opportunities to maximise connections across Elizabeth Macarthur Creek
- A shared path along Elizabeth Macarthur Creek will be a significant contribution to open space connections
- Connection to the Elizabeth Macarthur Creek corridor for walkers and cyclists heading in a northerly direction will have options to follow a shared path to Caddies Creek Reserve
- Connections into existing Sydney Metro cycle paths network.

The accessibility and connectivity for walkers and cyclists between the Kellyville and Bella Vista precincts and open spaces in the locality are illustrated in Section 5 Design Principle and Strategy.

ADEQUACY OF EXISTING OPEN SPACE

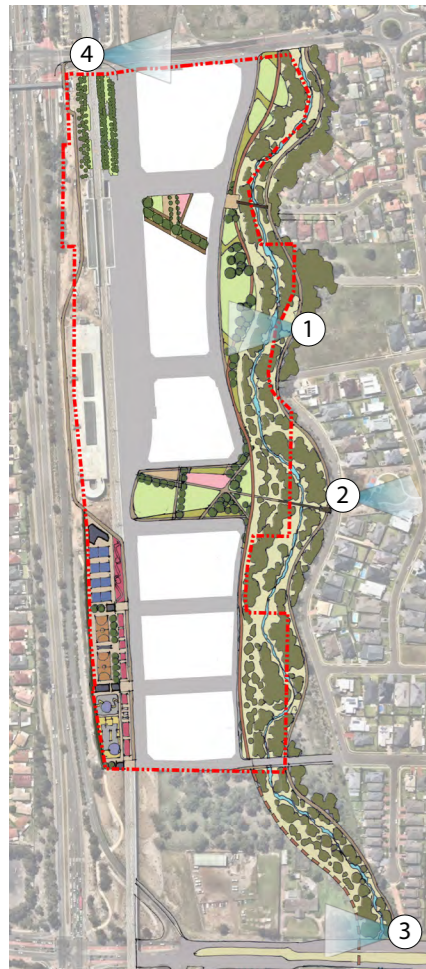
The provision of the existing open space and diversity of recreation opportunities in the locality, provides a baseline from which future open space in the precincts can be evolved.

On this basis, a district level, several local and contributory open spaces along with the adjoining open space network will assist in meeting the future needs of the precinct's community.

SITE APPRECIATION

An illustrated overview of the existing site is provided in captioned photographs overleaf.

3.0 SITE APPRECIATION AND VIEWS ANALYSIS



KELLYVILLE PRECINCT

1



View of Elizabeth Macarthur Creek from Lewis Jones Drive, where existing mature trees will be retained. They will provide a backdrop for Kellyville Station Precinct. Sydney Water is developing proposals for the upgrade of the creek.

3



View across the site down Memorial Avenue from the corner of Arnold Avenue and Memorial Avenue, opportunities for pedestrian and cycleway connection to the wider open space network.

2



Existing park located on the eastern side of the creek, with potential for future connections to Kellyville Station Precinct to reinforce the wider open space network.

4



View from corner of Old Windsor Road and Samantha Riley Drive, the existing pedestrian crossing and footbridge connect the Kellyville Station Precinct and the open spaces on western side of Old Windsor Road.

3.0 SITE APPRECIATION AND VIEWS ANALYSIS

5



View across the riparian corridor from corner of Free Settlers Drive and Hodges Road, vegetation should be retained where possible to maximise the tree canopy coverage for both Kellyville and Bella Vista Station Precincts.



View of existing creek, located within close proximity of Bella Vista Business Park. The extension of this shared path network along the creek has been taken into consideration in the landscape Master Plan through both precincts.

7



View across Celebration Drive and the road bridge across the creek. This will be one of the major intersections for vehicles travelling from the eastern side of the creek.



View from Old Windsor Road and Memorial Avenue intersection. Upgrade on Memorial Avenue due to commence late 2019 by RMS.

6

8



BELLA VISTA PRECINCT

4.0 PLANNING CONTEXT

PROJECT OPPORTUNITY

1. Parramatta River Foreshore
2. Parramatta Light Rail
3. Great West Walk: Parramatta to Penrith
4. Duck River Corridor
5. Sydney Metro Northwest
6. Sydney Metro Northwest Potential Extension
7. M7 Motorway Pedestrian and Cycle Link
8. M2 Motorway Pedestrian and Cycle Link
9. Western Sydney Parklands and NW Link
10. Cattai and Caddies Creek Corridors
11. Darling Mills Creek Corridor
12. Parramatta to Penrith Rail Corridor
13. Little Duck Creek Corridor
14. Parramatta to Bankstown Rail Corridors
15. Prospect Reservoir Water Pipeline
16. Prospect Creek Parklands
17. Sydney Metro Northwest to T1 Western Line
18. Windsor Road Active Transport Corridor
19. Duck Creek
20. Rookwood Cemetery
21. M4 Overpass and A'Beckett Creek
22. Parramatta Road Urban Transformation
23. Toongabbie and Blacktown Creeks
24. Lidcombe TAFE, Sydney Uni Precinct
25. Ropes Creek Corridor
26. Second Ponds Creek and The Ponds
27. Parramatta to Strathfield Rail Corridor
28. Blue Gum, Scaly Bark and Guppy Creek
29. Blacktown Creek and Rail Corridor
30. Prospect to Seven Hills Elec Easement
31. North Parramatta and Dundas Creeks
32. Carlingford Rail Line
33. Upper Haslams Creek and Wyatt Park
34. Powells Creek and Mason Park
35. Clay Cliff Creek and Jubilee Park
36. Bells Creek, Marsden Park
37. Killarney Chain of Ponds and Ponds Ck
38. Breakfast Ck and Nth Blacktown CBD
39. Shane's Park and Wianamatta Nature Res
40. Marramarra National Park and Trails
41. Rural Area: Pitt Town to Dural
42. North Parramatta Urban Renewal
43. South Creek
44. First Ponds Creek
45. Hawkesbury River to Wisemans Ferry
46. Old Northern Road to Wisemans Ferry
47. Little Cattai Creek
48. M4 Motorway Corridor
49. Great Western Highway Corridor
50. Lake Parramatta and Hunts Creek
51. Marsden Park Elec Easement



Figure 4.1 West Central District, Sydney Green Grid - Spatial Framework and Project Opportunities by Tyrrell Studio for Government Architect NSW

INTRODUCTION

A number of related planning policies and strategies have been sourced to inform and underpin the rationale for the project site's access to open space, both within and adjoining the site. A brief summary of which is outlined below.

The fundamental premise guiding all best practice in public realm planning is the goal of a 'Liveable City'. In this regard the concept of the "8-80 City" seeks to offer equity to all; what meets the basic needs of an 8 year old or an 80 year old will likely meet the needs of everyone in between.

Central to this objective is the aim of maximising incidental and planned physical activity in which walkability and cycle friendly streets are major drivers. The following summary of best practice and relevant policies draw on this notion.

BEST PRACTICE METRICS FOR OPEN SPACE

Over the last thirty years in Australia and throughout much of the developed world a shift has occurred in the approach to the planning of public open space that is characterised by a move away from a quantity based approach to a more balanced qualitative rationale in which quantity still remains a key consideration.

The NSW State Government is currently preparing a suite of documents that will integrate best practice metrics for open space planning. While there is no clear indication as to the metrics that will be adopted for later guideline documents. The following are some of the KPIs that are currently considered best practice in the field - here in Australia and overseas - and which have been adopted for the purposes of this plan:

- **Access** - accessibility to open space is accepted as a critical metric, with a 400m walking catchment from most residences to public open space suitable for suburban environments. For high density populations (ie 40-60 dwellings/ Ha and above) a 200-250m catchment is considered more appropriate. Access to sports facilities are generally considered to be required at optimally 2kms and no more than 5kms from most residences.
- **Size** - current guidelines typically recommend an optimal 0.5-2 Ha size for local parks, with a minimum of 0.3Ha in more dense urban environments, while District Level Parks are typically recommended to be of 2-5 Ha (dependent on the setting type and larger for sports facilities - usually 10Ha+). Smaller spaces such as carefully located social spaces (eg street corners) also contribute to the fine grain of the public realm, especially in denser developments.
- **Quality** - open space in urban developments should be of high quality and well designed to attract use and activation for a broad range of ages, backgrounds and abilities. The design of open space should focus on social needs and minimise user conflicts; it should also be of robust but appealing design to foster engagement while catering for high levels of use.

4.0 PLANNING CONTEXT

- **Quantity** – there has been a shift away from calculating the amount of open space required in any locality based on Ha/per 1000 person standard towards a more context specific quantum using access and size metrics as above to establish distribution within denser urban environments. For suburban greenfield sites there remains some focus across Australian States on a percentage of total developable area metric (typically between from 8-12%).
- **Diversity** – while the culture of Sydney's population is highly diverse, for the most part people of all ages and backgrounds share a common desire for basic recreation needs. Accordingly, it is important to provide safe places to walk, to sit in shade or sun according to season, for play, social interaction, physical health and fitness and for contact with nature.
- **Social Engagement** - a well planned public realm is one of the key contributors to social and community cohesion. Features such as clear lines of sight, frequency of path crossing, places to sit and talk and 'offline' places from which to observe others without commitment to engagement are critical to fostering social engagement.
- **Activation** - the provision of community and cultural infrastructure will encourage community events, gatherings and activities that foster community capacity building. This infrastructure will allow the public realm to be activation-ready, fostering social cohesion within the community.
- **Contact with Nature** - the direct links between the ecological services that open space can return to urban environments (wildlife corridors, water management, heat island mitigation etc) and the increasing awareness of the health and wellbeing benefits of contact with nature require an integrated approach and commitment to green infrastructure in our streets and open spaces. Native planting and natural materials (stone, timber, etc) play an important role in this metric.
- **Health and Wellbeing** - the direct relationship between levels of lifestyle related diseases and accessibility or otherwise to quality open space are widely researched and documented. Ease of access, safety, quality and sense of place for public open space are the critical drivers in enhancing communities wellbeing.
- **Character and Identity** – a clear sense of place for all public spaces that draws on the heritage and landscape character of a locality generates high levels of community ownership. District views, use of locally endemic planting and local materials as well as the integration of public art all assist in cementing a sense of local identity in the users and the wider community.
- **Safety and Amenity** – a sense of personal safety is critical to the use of open space; in that respect a central tenet of Crime Prevention Through Environmental Design (CPTED) is passive surveillance, both from within the public realm and from adjoining buildings. Clear lines of sight, active spaces and good night lighting enhance a sense of safety. Likewise winter sun, summer shade and cooling breezes enhance amenity in public spaces.
- **Green and Grey Infrastructure** – increasingly the recreational values of natural and infrastructure corridors are being realised, especially for walking and cycling. Providing easy access to such corridors is shown to generate higher levels of recreational participation. The Sydney Green Grid provides a strong framework for such planning (see Figure 4.1 and Figure 4.2).
- **Walk and Cycle Friendly Streets** - pedestrian and cycle friendly streets also encourage physical daily activity for commuting, social or recreation uses. Safety, shade and amenity are key design considerations in this regard.
- **Heat Island Mitigation and Water Sensitive Urban Design** – the public realm is a critical contributor to moderating temperatures and humidity as well as in managing stormwater run-off. Extensive tree canopy, especially along streets, and planted roof gardens have a direct impact on lowering temperatures as do areas of irrigated grass and planting. In the same vein harvesting stormwater for reuse domestically and in irrigation reduces downstream volumes and impacts while reducing energy costs.

The core elements of these values and metrics, from Greener Places - Open Space for Recreation Guide by Government Architect NSW, will be incorporated in the Kellyville and Bella Vista Station Precincts.

THE SYDNEY GREEN GRID

The Sydney Green Grid was published in 2017 by the Government Architect's office of NSW (GANSW) to document the network of natural corridors (coastal foreshore, rivers, creeks and bushland) and built form corridors (rail, road, canal, service infrastructure) that should also serve as recreational corridors for walking and cycling. The three aims of the Green Grid are, in summary, to:

- conserve, improve and expand Sydney's strategic network of open spaces
- reinforce a sense of place within Sydney's subregions
- safeguard and plan the green infrastructure of Sydney.

The relevant section of the Green Grid and its relation to the project site is illustrated in Figure 4.1. The corridors of most relevance to this project include:

- Sydney Metro Northwest (5)
- Cattai and Caddies Creek Corridor (10) .

'GREENER PLACES' - GREEN INFRASTRUCTURE POLICY

The recently released draft policy document Greener Places (GANSW 2018) outlines the essential role of Green Infrastructure in the delivery of sustainable landscapes and communities.

Greener Places proposes a design approach for urban environments that promotes nature as a key driver and the policy cites four core principles in realising that objective:

- **Integration:** combine Green Infrastructure with urban development and grey infrastructure
- **Connectivity:** create an interconnected network of open space
- **Multi-functionality:** deliver multiple ecosystem services simultaneously
- **Participation:** involve stakeholders in development and implementation.

The application of these four principles to the landscape design of Kellyville and Bella Vista Station Precincts is outlined later in Section 5 - Design Principles and Strategy.

OPEN SPACE AND RECREATION RECOMMENDATIONS

The Social Infrastructure and Open Space Assessment prepared by Elton Consulting in May 2019 provides comprehensive recommendations for proposed open space in the Kellyville and Bella Vista Station Precincts. A summary of these recommendations can be found in Table 4.3.

TECHNICAL STUDIES

A range of technical studies were commissioned specifically to inform the Urban Design, Built Form, Civil Engineering, Public Domain and Landscape Design of both precincts.

URBAN DESIGN REPORTS

The Urban Design Reports prepared by SJB for Kellyville and HASSELL for Bella Vista integrate a series of urban design, public domain and built form guidelines. Of particular note in relationship to public domain and landscape are the following areas that the documents illustrate:

- Character areas
- Open space and community infrastructure
- Land use
- Street Typologies
- Building height
- Setbacks
- Solar Access



Figure 4.2 Sydney Green Grid - West Central District

4.0 PLANNING CONTEXT

CONSIDERATION	BEST PRACTICE METRICS	KELLYVILLE STATION PRECINCT - PROPOSED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	BELLA VISTA STATION PRECINCT - RECOMMENDED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	RECOMMENDATION FROM ELTON CONSULTING	APPLICATION
Access	<ul style="list-style-type: none"> 200-250m catchment for high density populations (ie 40-60 dwellings/Ha and above) 2kms and no more than 5kms from most residences to access to sports facilities. 	<ul style="list-style-type: none"> To facilitate convenient movement, with safe and direct pedestrian and cycle connections between key locations To provide appropriate opportunities for public access and recreation along creek corridors. 	<ul style="list-style-type: none"> Pedestrian and cycle access should be addressed throughout the precinct, including connections from roads and public open space To provide appropriate opportunities for public access and recreation along creek corridors Footpaths are to be provided on both sides of every street. Pavement width is to allow for comfortable walking, unimpeded by obstacles. 	<p>For a high-density neighbourhood, residents must be within:</p> <ul style="list-style-type: none"> A 2–3 minute walk / 200m walking distance to a local park; a maximum of 25 minute walk / 2 km proximity to any district park district-level open space area that provides a range of activities (2ha+); a maximum of 30 minutes travel time on public transport or by vehicle to regional open space (5ha+); 10 minutes walking or 800m (400m preference for high density areas) to linear open space that is minimum of 20m wide; within 20 minutes safe walking or 2km to district level organised sport and recreation spaces such as field sports Open space should be within 400m of workplaces and schools. 	<ul style="list-style-type: none"> Open spaces have been spread across both precincts to achieve 400m catchment and 200-250m catchment in high density environment A shared path is proposed along the riparian corridor to reinforce open space connection in the wider context A connected open space network with footpaths/share paths. Steps and ramps will be provided where necessary for all abilities access throughout Proposed footbridge in Kellyville to connect the eastern side of Elizabeth Macarthur Creek A district park will be centrally located between Memorial Avenue and Balmoral Road.
Size	<ul style="list-style-type: none"> Recommend an optimal 0.5-2 ha size for local open spaces, with a minimum of 0.3ha in high density urban environments Recommend an optimal 2-5 ha size for district open space (dependent on the setting type). 	<ul style="list-style-type: none"> Sport fields - 57 000m² Local park - 14 000m² Sporting courts under the train line - 13 000m². 	<ul style="list-style-type: none"> Park/s in the creek corridor - 7000m² Local Parks - 2-1.5ha Shared way minimum 3m in width were parks follow the length of Elizabeth Macarthur Creek to join the Kellyville path in the North and the Norwest business park in the south. 	<ul style="list-style-type: none"> One large district park of approximately 3ha Six to Eight local parks with an average park size of 0.4ha and a minimum size of 0.2ha (3.0 ha in total). 	<ul style="list-style-type: none"> 2.74ha district park is provided Minimum 0.3ha for local parks.
Quality	<ul style="list-style-type: none"> Open space should be of high quality and well designed to attract use and activation for a broad range of ages, backgrounds and abilities The design of open space should focus on social needs and minimise user conflicts; it should also be of robust but appealing design to foster engagement while catering for high levels of use. 	<ul style="list-style-type: none"> To provide high quality landscaping of existing and new public open space to cater for passive recreation for residents and workers. 	<ul style="list-style-type: none"> To provide high quality landscaping of existing and new public open space to cater for passive recreation for residents and workers. 	<ul style="list-style-type: none"> visual and physical access landscape setting condition of facilities and equipment maintenance number of activations within the space size, shape, and topography adjacent land uses amount of vegetation biodiversity outcomes. 	<ul style="list-style-type: none"> The design for the open spaces provides a variety of spaces, activities and opportunities for social interaction The parks shall be designed to gain optimal solar access An ongoing maintenance management strategy shall be established.

Table 4.3 Application of best practice and planning requirements for open spaces

4.0 PLANNING CONTEXT

CONSIDERATION	BEST PRACTICE METRICS	KELLYVILLE STATION PRECINCT - PROPOSED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	BELLA VISTA STATION PRECINCT - RECOMMENDED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	RECOMMENDATION FROM ELTON CONSULTING	APPLICATION
Quantity	<ul style="list-style-type: none"> For suburban greenfield sites there remains some focus across Australian States on a percentage of total developable area metric (typically anywhere from 8-12%). 	No Specific Requirement	<ul style="list-style-type: none"> Provide for 3 to 5 local parks amongst new development. 	<ul style="list-style-type: none"> 8ha of open space in total consists of 2ha riparian linear park, 3ha of local parks, 3ha of local sports facilities 6 to 8 local parks in various sizes. 	<ul style="list-style-type: none"> One district open space is provided (2.74ha) 3 local parks are provided Squares / Plazas are provided for each precinct 5.63ha of Primary Open Space has been provided across Kellyville and Bella Vista 2.4ha of Contributory Open Space has been provided, eg managed lawns along the riparian corridor Additional sport courts under viaduct in the Kellyville Station Precinct.
Diversity	<ul style="list-style-type: none"> Provide safe places to walk, to sit in shade or sun according to season, for play, for social interaction, for physical health and fitness and for contact with nature. 	No Specific Requirement	No Specific Requirement	No Specific Indication	<ul style="list-style-type: none"> Native and exotic species including deciduous tree species to maximise the opportunities for winter summer and summer shade Different characters of open space eg civic space, local park and woodland park.
Social Engagement	<ul style="list-style-type: none"> A well-planned public realm is one of the key contributors to social and community cohesion. 	<ul style="list-style-type: none"> To provide opportunities for collaboration between artists and designers in the development of creative, innovative, memorable, integrated and sustainable public art projects. 	<ul style="list-style-type: none"> To provide opportunities for collaboration between artists and designers in the development of creative, innovative, memorable, integrated and sustainable public art projects. 	<ul style="list-style-type: none"> Collocated community facility and library of 1,650sqm to be located in Bella Vista town centre. 	<ul style="list-style-type: none"> Square/ Plaza spaces are capable of hosting community events and markets Clear lines of sight encouraging incidental meetings and ample seating in social arrangements Proposed multi-storey community facility will be located adjacent to the Station Plaza in Bella Vista.
Activation	<ul style="list-style-type: none"> Provision of community and cultural infrastructure will encourage community events, gatherings and activities that foster community capacity building. 	<ul style="list-style-type: none"> The park should be defined by public streets on three sides. 	No Specific Requirement	No Specific Indication	<ul style="list-style-type: none"> The parks have three sides street frontages and direct pedestrian access The open spaces shall accommodate significant clear green open space to incorporate a variety of unstructured recreation activities.

Table 4.3 (Continued)

4.0 PLANNING CONTEXT

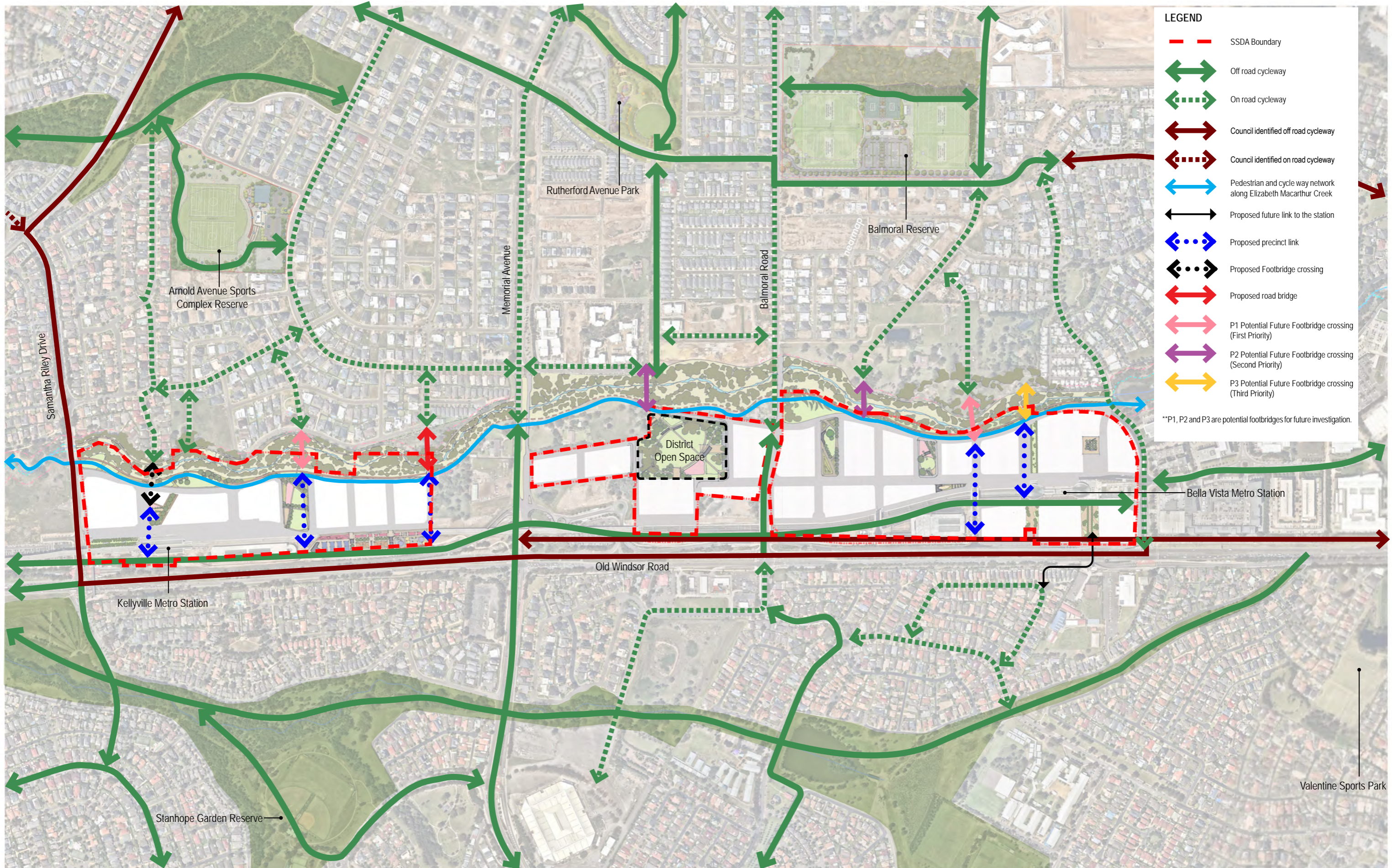
CONSIDERATION	BEST PRACTICE METRICS	KELLYVILLE STATION PRECINCT - PROPOSED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	BELLA VISTA STATION PRECINCT - RECOMMENDED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	RECOMMENDATION FROM ELTON CONSULTING	APPLICATION
Contact with Nature	<ul style="list-style-type: none"> Direct links between the ecological services that open space can return to urban environments (wildlife corridors, water management, heat island mitigation etc) Increasing awareness of the health and wellbeing benefits of contact with nature. 	<ul style="list-style-type: none"> To contribute to the enhancement of ecological values Sufficient tree planting to provide shade and greenery. 	<ul style="list-style-type: none"> Retain hollow/bearing trees and fallen logs/ snags etc for native fauna Provide access to the creek edge at key locations. 	No Specific Indication	<ul style="list-style-type: none"> Maximises the number of existing trees/ woodland that can be retained A shared path is proposed along Elizabeth Macarthur Creek to encourage interaction with nature Mitigating the impact of the urban heat island effect through street tree planting Minimises cut and fill (in balance if/where required).
Health and Wellbeing	<ul style="list-style-type: none"> The direct relationship between levels of lifestyle related diseases and accessibility or otherwise to quality open space are widely researched and documented. 	<ul style="list-style-type: none"> To encourage residents to walk or cycle to shops, Kellyville Station, recreation, community and other facilities Provide a variety of sporting fields Provide sporting fields that function well under the viaduct (eg basketball, tennis, skating, outdoor futsal). 	<ul style="list-style-type: none"> To encourage residents to walk or cycle to shops, Kellyville Station, recreation, community and other facilities Provide a range of sport opportunities within local park. 	<ul style="list-style-type: none"> Improve walking, cycling and public transport connections, including through the Greater Sydney Green Grid Provide public realm and open space focus. 	<ul style="list-style-type: none"> Open spaces provide opportunities for walking, exercise, play and social engagement Diversity of open spaces eg active and passive open spaces.
Character and Identity	<ul style="list-style-type: none"> A clear sense of place for all public spaces that draws on the heritage and landscape character of a locality generates high levels of community ownership. 	<ul style="list-style-type: none"> Provide interpretive installation of the White Hart Inn foundations Potential aboriginal heritage interpretation installations. 	<ul style="list-style-type: none"> Landscaping and choice of materials unite and relate to the other spaces throughout the Town Centre Where High Ecological Value Cumberland Plain Woodland Vegetation Community occurs, protect and manage to maintain values In creek corridor areas all species must be endemic to the Cumberland Plain Woodland Use native pasture species for lawn areas within creek corridor. 	No Specific Indication	<ul style="list-style-type: none"> Maximises the opportunities to retain the existing Cumberland Woodland and Alluvial Woodland characters Preferred vegetation types for streetscape plantings have been advised by the design guidelines to contribute to precinct character and reduce the impact of urban heat island effect.

Table 4.3 (Continued)

4.0 PLANNING CONTEXT

CONSIDERATION	BEST PRACTICE METRICS	KELLYVILLE STATION PRECINCT - PROPOSED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	BELLA VISTA STATION PRECINCT - RECOMMENDED DEVELOPMENT CONTROL PLAN AMENDMENTS - THE HILLS 2015	RECOMMENDATION FROM ELTON CONSULTING	APPLICATION
Safety and Amenity	<ul style="list-style-type: none"> A sense of personal safety is critical to the use of open space; in that respect this is a central tenet of Crime Prevention Through Environmental Design (CPTED). 	<ul style="list-style-type: none"> Provide streetlighting within the park for safe use at night. 	<ul style="list-style-type: none"> Provide street lighting within the park for safe use at night. 	No Specific Indication	<ul style="list-style-type: none"> Lighting in the parks shall be well considered Local and district open spaces are bordered by public streets on three sides to enable passive surveillance Sight lines will be optimised by restricting the heights of shrub planting below eye level.
Green and Grey Infrastructure	<ul style="list-style-type: none"> Increasingly the recreational values of natural and infrastructure corridors are being realised, especially for walking and cycling. 	<ul style="list-style-type: none"> Sufficient tree planting to provide shade and greenery Provide large open grass area Allow for bridges over the creek to encourage connectivity. 	<ul style="list-style-type: none"> Where natural vegetation exists, all trees are to be preserved in accordance with The Hills LEP 2012. 	No Specific Indication	<ul style="list-style-type: none"> A shared path is proposed along the riparian corridor to reinforce open space network The lawn open space in local parks shall be substantial to accommodate different activities The parks shall be designed to optimised solar access.
Walk and Cycle Friendly Streets	<ul style="list-style-type: none"> Pedestrian and cycle friendly streets also encourage physical daily activity for commuting, social or recreation uses. 	<ul style="list-style-type: none"> To create an attractive and comfortable streetscape for pedestrians and cyclists that comprises consistent and high quality paving, street furniture and street tree plantings. 	No Specific Requirement	<ul style="list-style-type: none"> Improve walking, cycling and public transport connections, including through the Greater Sydney Green Grid. 	<ul style="list-style-type: none"> The various path systems including the shared path, dedicated cycle way and pedestrian paths combine to create a network which connects the surrounding areas. The open spaces form an important walking and cycling route to and from the riparian corridor.
Heat Island Mitigation and WSUD	<ul style="list-style-type: none"> The public realm is a critical contributor to moderating temperatures and humidity as well as in managing stormwater run-off. 	<ul style="list-style-type: none"> To contribute to the management of stormwater. 	<ul style="list-style-type: none"> Floodwater management and water quality provided by landscape swales, detention basin and constructed wetlands to polish stormwater and slow runoff from streets before entering natural creek system To contribute to the management of stormwater. 	No Specific Indication	<ul style="list-style-type: none"> A balance of greenspace and hard surfaces has been emphasised to minimise urban heat island effect Wide canopy trees shall be selected to maximise summer shade and mitigate temperature.

Table 4.3 (Continued)



LEGEND

- - - SSDA Boundary
- ↔ Off road cycleway
- · - · On road cycleway
- ↔ Council identified off road cycleway
- · - · Council identified on road cycleway
- ↔ Pedestrian and cycle way network along Elizabeth Macarthur Creek
- ↔ Proposed future link to the station
- · - · Proposed precinct link
- ↔ Proposed Footbridge crossing
- ↔ Proposed road bridge
- ↔ P1 Potential Future Footbridge crossing (First Priority)
- ↔ P2 Potential Future Footbridge crossing (Second Priority)
- ↔ P3 Potential Future Footbridge crossing (Third Priority)

**P1, P2 and P3 are potential footbridges for future investigation.

Figure 5.1 Precinct Connections

65-69 KENT STREET • SYDNEY NSW 2000 • PO BOX R1388 • ROYAL EXCHANGE NSW 1225 • sydney@clouston.com.au • TELEPHONE +61 2 8272 4999 • FACSIMILE +61 2 8272 4998

5.0 DESIGN PRINCIPLES AND STRATEGY

DESIGN PRINCIPLES

The public realm and landscape design illustrated in the following pages has addressed the six project objectives outlined in the introduction as follows:

1. Create a memorable experience

- Create an identifiable image that builds upon the creek system
- Create a strong sense of arrival and unique character
- Build a sense of community - activities, events, programmed space as well as flexible open space
- Use public art and interpretation to enrich the experience of residents and visitors.

2. Connect people with places

Rather than being an island, the site should have a meaningful relationship with the surrounding neighbourhood, town centre, train station and district parks.

- Provide pedestrian links to and through the site
- Create opportunities for recreational walking and cycling.
- Provide a legible sense of arrival and orientation
- Use the linear nature of the creek line for regional connections
- Provide connections across the creekline.

3. Create places to play and learn

Public spaces need multiple and varied areas for human interaction. By fostering a sense of belonging (whether it is fleeting, temporary or regular/ongoing) people establish a connection with their experience of the site. This can be achieved by:

- Provide a series of recreational spaces that cater for different ages and social groups
- Use recreational spaces and commercial facilities to activate spaces and destinations
- Include loosely programmed areas where people can find individual expression in open space that hasn't been designed for a single purpose or predominant culture
- Create moments for people to interact with their environment, enhancing a sense of place
- Provide linkages to local / regional open space.

4. Celebrate the creek

The creek must have recreational appeal, and become a coherent connection that forms a familiar rhythm through the site.

- Maximise exposure to the creek for residential use and optimising adjoining land values
- Use the creek for recreation and open space beyond complementing its riparian corridor role
- Slow water down to build soil moisture profile
- Extend the length of the flow of water on site
- Manage external water-borne pollution into the site
- Use flood management to enhance rather than detract from the site's qualities
- Protect the environment and enhance biodiversity.

5. Look after the landscape

Ongoing stewardship of the landscape with maximise amenity and presentation of the parklands:

- Strategically maintain the parklands for estate presentation
- Focus high maintenance areas to key sites
- Provide infrastructure that is robust, vandal resistant and easily maintained
- Carefully locate high-value infrastructure, facilities and electrical equipment above flood levels if possible
- Manage upstream weeds and water pollutants
- Consider how the landscape can adapt to climate change.

6. Reduce urban heat island effect

The landscape in the network of open space can make a major contribution to reducing urban heat island impacts:

- Use street planting and landscape to reduce the impacts of urban heat island effect in the public domain
- Use street trees to increase canopy coverage throughout the precinct to reduce impacts of the urban heat island effect
- Provide green roofs that offer shade and remove heat from the air through evapotranspiration
- Irrigate high use lawn areas to assist heat mitigation.

GREENER PLACES APPLICATION

The application of the Greener Places policy to this project results in the following responses:

Integration

The design integrates green and grey infrastructure in a number of ways including:

- Trees in streets
- Recycled water use
- Interaction between Kellyville and Bella Vista Precincts and Elizabeth Macarthur Creek
- Balance of recreational space and tree planting to achieve canopy cover.

Connectivity

The site performs a core role as a hub in a network of connecting open spaces through:

- Shared paths and cyclepaths
- Reinforcement of links to Elizabeth Macarthur Creek
- Ease of pedestrian access North / South and East / West

Multifunctionality

The ecosystem services within and beyond the site are served by a variety of design responses including:

- North/south and east/west canopy species connectivity, providing habitat, refuge and connection for native fauna and avifauna both within the site and to the Elizabeth Macarthur Creek corridor
- User demands and needs
- Connectedness, interaction and stewardship
- Contribution to understanding of place
- Integration of public art.

Participation

Landcom has adopted a highly participatory approach to the development of the site design through:

- Consultation and design iteration with agencies
- Engagement with various State government agencies (TfNSW, DPIE, Sydney Water and The Hills Shire Council)
- Engagement with Landcom's Design Advisory Panel (DAP)
- Community consultation
- Balancing interests of varying stakeholders
- Equity of access through engagement.

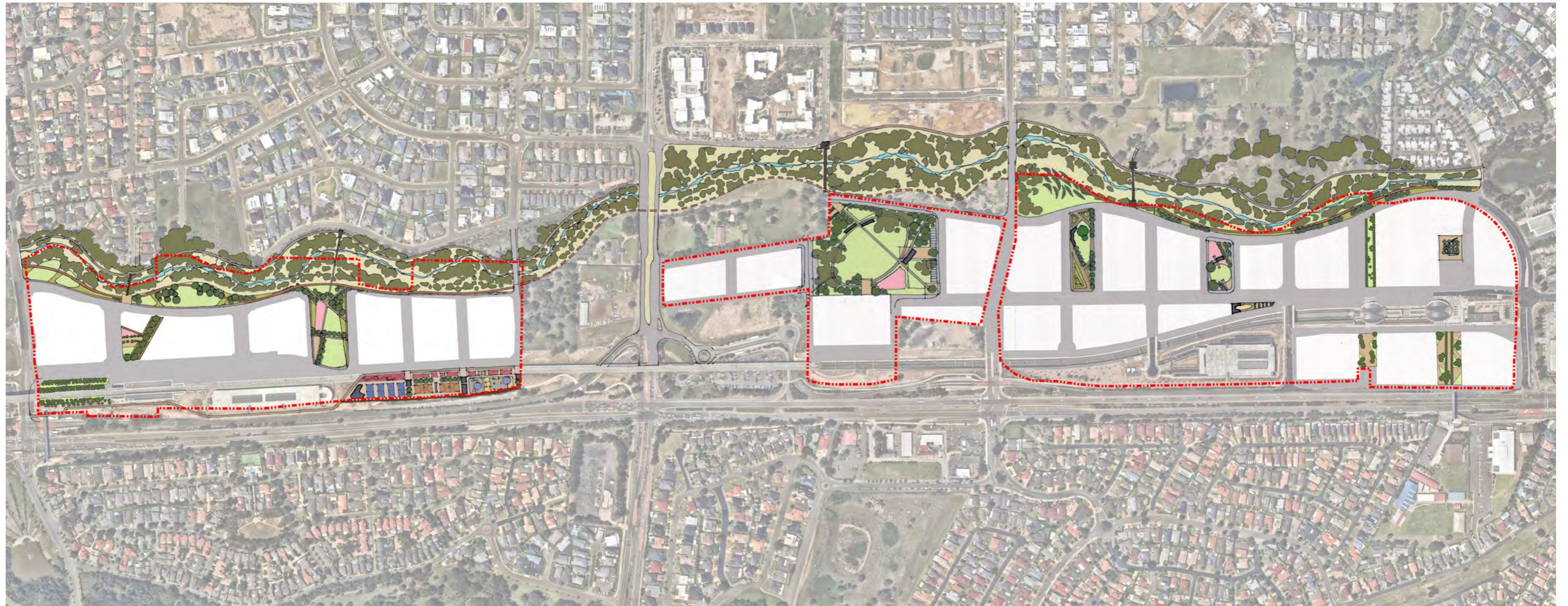


Figure 6.1 Landscape Master Plan

6.0 CONCEPT MASTER PLAN

OVERVIEW

The Concept Master Plan illustrated opposite (Figure 6.1) and explored in more detail in the following pages describes a highly connected precinct offering opportunities for the community to enjoy a public realm network which links day-to-day destinations (transport, work, school, shops etc) with an accessible and integrated parkland system that responds to and is informed by, the distinct character and qualities of the Elizabeth Macarthur Creek corridor along its eastern boundary.

The considered distribution and quantity of public open space along the length of the Kellyville and Bella Vista urban precincts provides all residents with the opportunity to access an open space within a 5-10 minutes / 200-400 metres walking distance from any home, via a network of safe, walkable streets and off-road pathways.

In addition, these open spaces cater for a diverse range of formal and informal recreational opportunities and activities such as walking, cycling, jogging, play, exercise, kickabout, informal sport, picnicking, socialising, engagement with nature and the like.

PUBLIC OPEN SPACE

The proposed public open space network provides a quantum and distribution of open space and recreation connections that meets current best practice and is aligned with site specific analysis of open space requirements as identified in the recreation needs analysis undertaken by Elton Consulting. The locations and qualities of the public open spaces within the precinct celebrate the identity of the surrounding landscape, reconnecting the development to the creek and maximising its recreational opportunity. The open spaces accommodate a broad spectrum of informal recreational and social opportunities complimented by community amenities and facilities.

It is important to note that while informal sports activities, such as kickabout, fitness training, skate and courts sports have been accommodated within the precinct, the community's requirements for organised field sports will be provided at neighbouring district and regional sports facilities such as Caddies Creek Sporting Complex and Kellyville Park, and will be readily accessibly by active transport via the Elizabeth Macarthur Creek corridor path network and integration into the existing cycle and pedestrian network.

Caddies Creek Sporting Complex will incorporate four new single playing fields, two associated amenities buildings and parkland. This upgrade is scheduled to be completed in late 2019

Detailed information on the number, hierarchy, catchment, size, setting, function, users and uses and character of each open space are outlined later in this document. (Refer to Section 8 Open Space Hierarchy and Function).

STREETS AND PATHS

A hierarchy of streets that service the precincts also form a crucial aspect of the public realm, offering safe, pedestrian and cycle orientated movement, passive surveillance on all streets and to open spaces to satisfy CPTED requirements and provide extensive tree canopy to mitigate the urban heat island effect.

The varying street types and associated landscape elements are described and illustrated in detail later in this document. (Refer to Section 9 Street Typologies).

COMMUNAL OPEN SPACE

The communal and privately owned and managed open spaces within the development compliment and expand upon the network of public open spaces to provide further opportunities for recreational activity, social interaction and cohesion within the community, providing more intimate and reflective spaces for the residents.

These spaces will be accessible, both physically and visually, to the wider public open spaces and will respond to adjacent retail and commercial opportunities, providing informal breakout office space, social corners and opportunities for outdoor dining.

SHARED PATH ALONG ELIZABETH MACARTHUR CREEK

The public open space specifically provided through this SSDA will be complemented by and contribute to the broader network of open spaces in the region through a series of connected paths and pedestrian bridges along the Elizabeth Macarthur Creek corridor. The proposed shared path for pedestrian and cyclist is a critical feature that aims to:

- Connect Kellyville and Bella Vista Precincts into the wider open space networks especially to Caddies Creek Sporting Complex
- Provide a safe, walkable and cycle-friendly environment
- Encourage physical connection between both precincts and nature (Elizabeth Macarthur Creek)

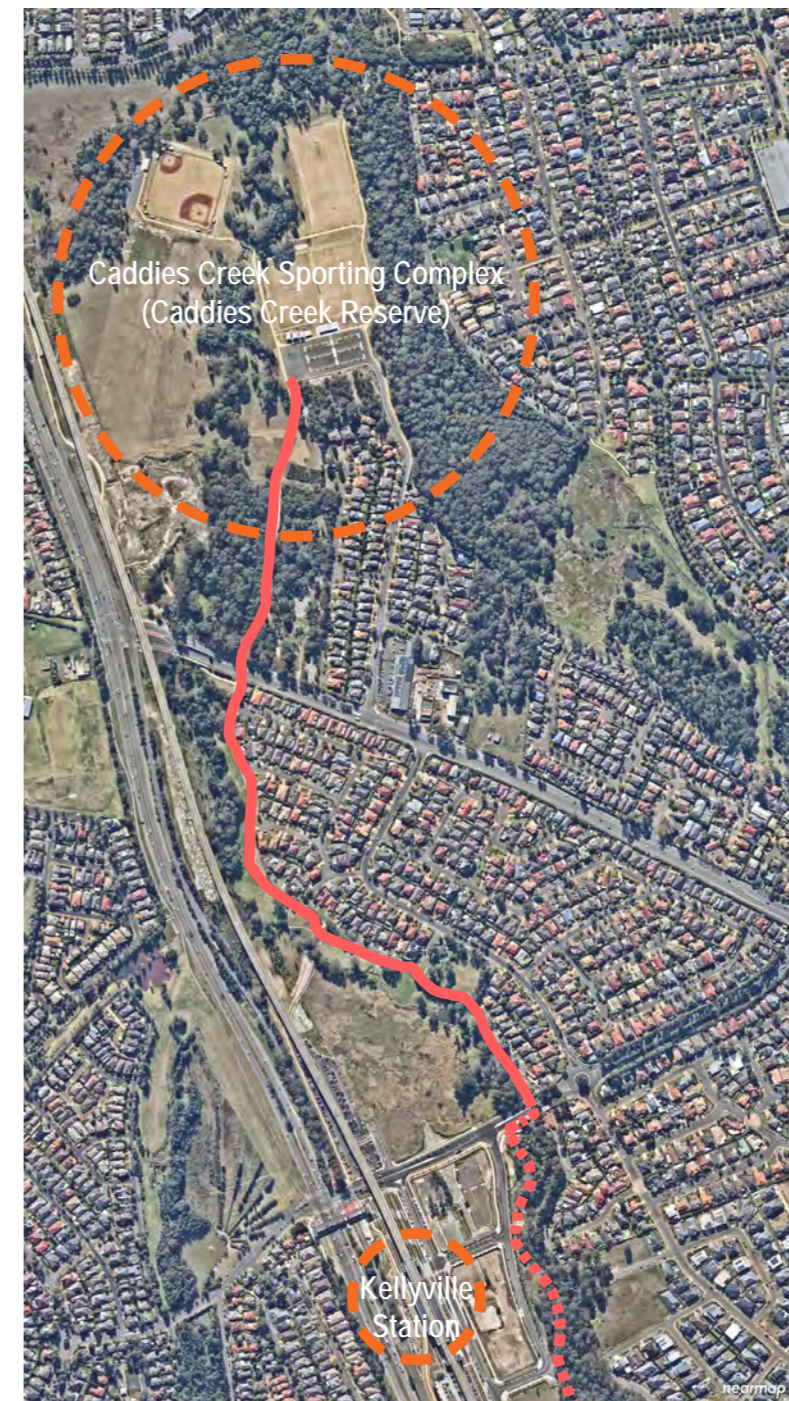


Figure 6.2 Shared path connection to Caddies Creek Sporting Complex

- Existing shared path connects to Caddies Creek Sporting Complex
- - - Proposed shared path along Elizabeth Macarthur Creek

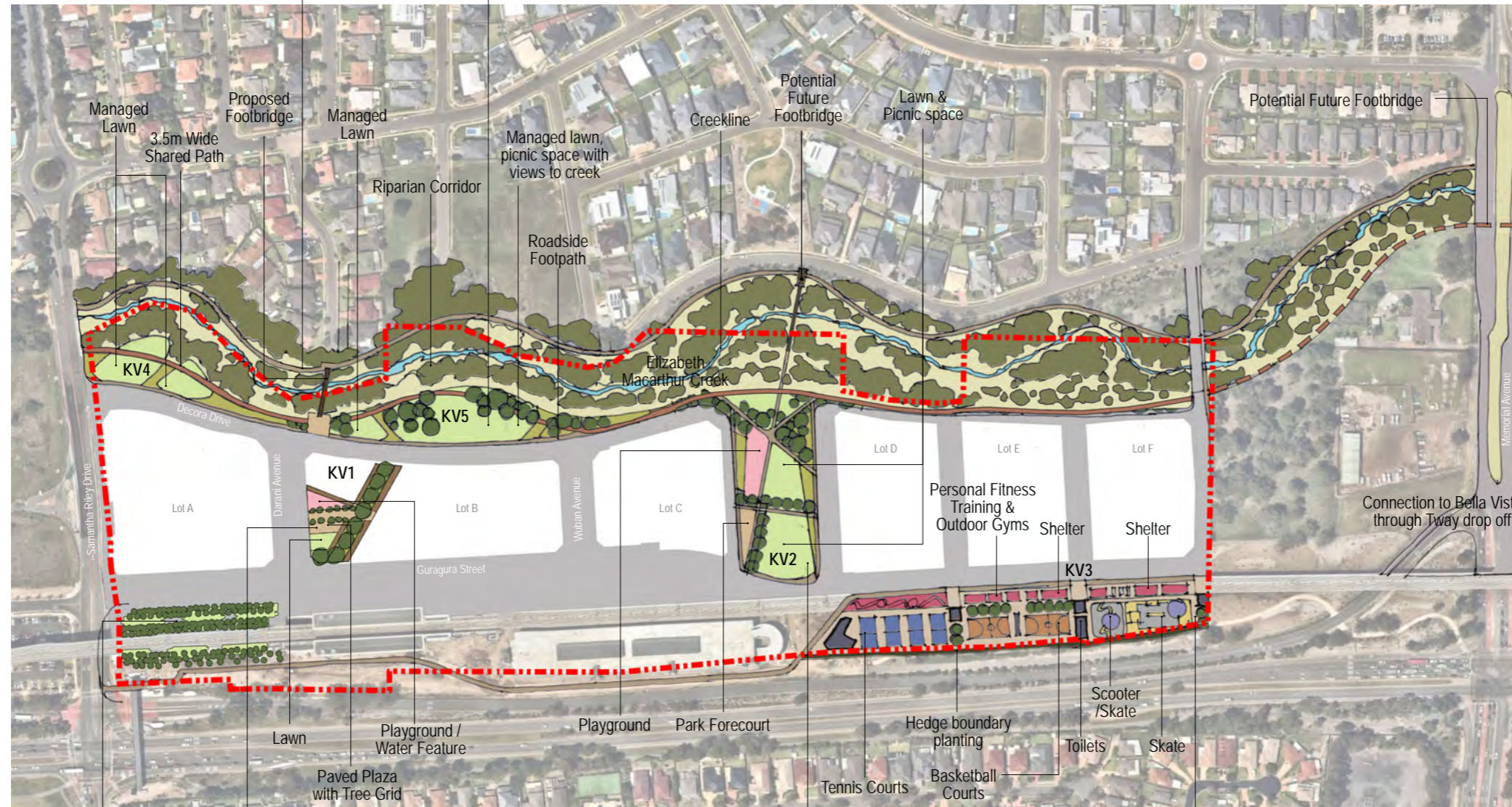
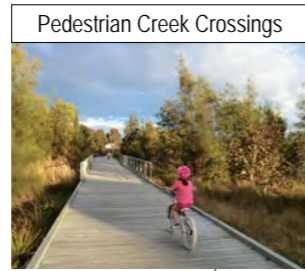


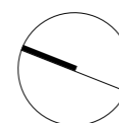
Figure 6.3 Kellyville Concept Master Plan



Client: Landcom

1:4000 @A3

0 50 100 200m



KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

KELLYVILLE CONCEPT MASTER PLAN

Page 18

17/06/2020



Figure 6.4 Bella Vista Concept Master Plan



7.0 OPEN SPACE PRECEDENTS



Public square with water feature in Rouse Hill Town Centre

7.0 OPEN SPACE PRECEDENTS

The following pages provide a series of precedent projects and images that are used to convey the general design character, function and potential users and uses intended for open spaces within the precincts.

These precedents are categorised as follows:

- 7.1 Open Space Precedents - Urban Plaza
- 7.2 Open Space Precedents - 0.1 - 0.3ha
- 7.3 Open Space Precedents - 0.4 - 0.5ha
- 7.4 Open Space Precedents - 0.5 - 0.9ha
- 7.5 Open Space Precedents - >1ha
- 7.6 Open Space Precedents - Activities and Uses

Four small, contemporary urban plazas are described identifying some of the common design elements and facilities found in plazas of similar size and within similar urban contexts to those within the precinct. (Refer to page 22 to 23)

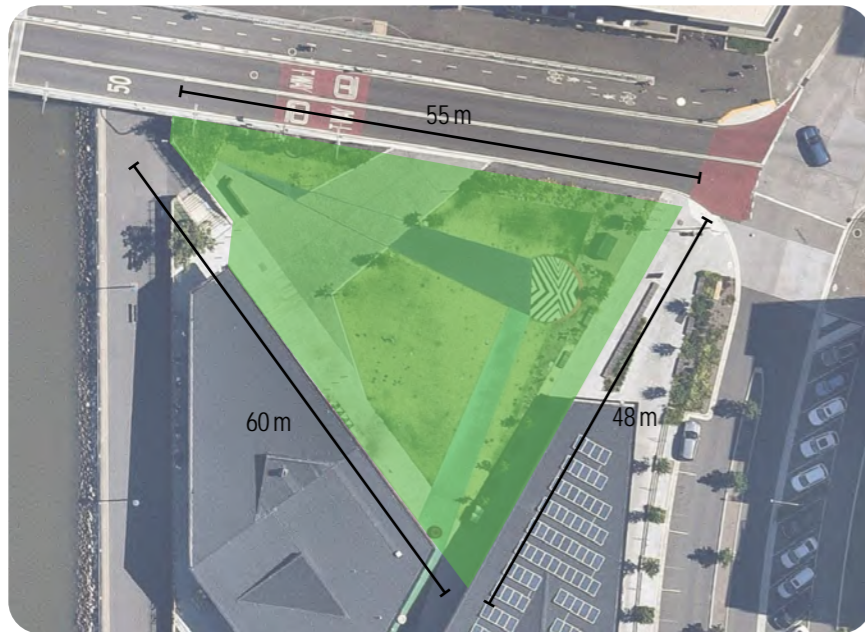
In addition, a number of open space precedents of varying sizes have been investigated to highlight the potential form and function of local and district open spaces in Kellyville and Bella Vista Station Precincts. (Refer to page 24 to 28)

These precedents have been selected based on current best practice, size and relevance to the project, and provide percentages of open space, vegetation and play space for each precedent.



The images above illustrate the opportunity to integrate fine grain walkable streets in high density environments in the SW1 precinct on Brisbane's Southbank. They also demonstrate how the transitions between public, communal and private open space can be managed without loss of privacy or use of screening. The borrowed landscape that is visible to the public enhances the sense of space in a very dense environment, without loss of privacy.

7.1 OPEN SPACE PRECEDENTS - URBAN PLAZA



Plaza

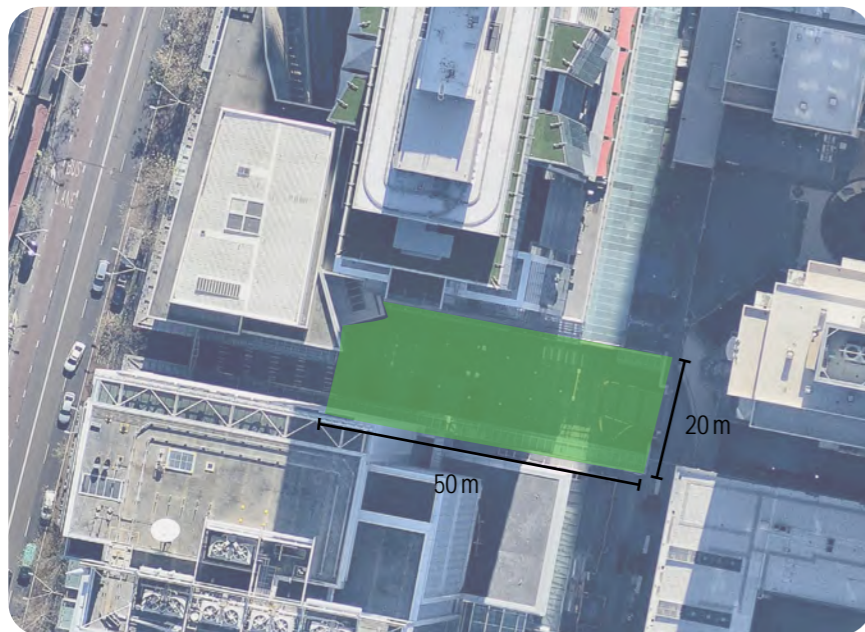


Place: **The Connection (Rhodes Community Centre)**
 Location: Shoreline Drive, Rhodes
 Area: 0.15 ha

The Connection is located on the corner of Shoreline Drive and Gauthorpe Street adjacent to Bennelong Bridge in Rhodes. The open space is located immediately adjacent to a cafe and the community centre. It acts as the public plaza / space for the community centre and waterfront promenade. High quality hard paving along with formal and informal seating, planting and lawn provide amenity for the visitors.

Average dimensions: Triangular shape with three edges, 48m, 55m and 60m.

Relevance: Urban Plaza KV1, KV6, BV4, BV6 and BV7



Plaza



Place: **World Square, Sydney**
 Location: George Street, Sydney
 Area: 0.1 ha

The World Square plaza is surrounded by cafes, retail and restaurants within the World Square. This is also a thoroughfare to Central Station for high volume of foot traffic. The space is mainly paved with flexibility to host various events during different seasons. Mass planting beds, seating and outdoor dining along shop frontage are also provided.

Average dimensions: 50m x 20m

Relevance: Urban Plaza KV1, KV6, BV4, BV6 and BV7

7.1 OPEN SPACE PRECEDENTS - URBAN PLAZA



Plaza

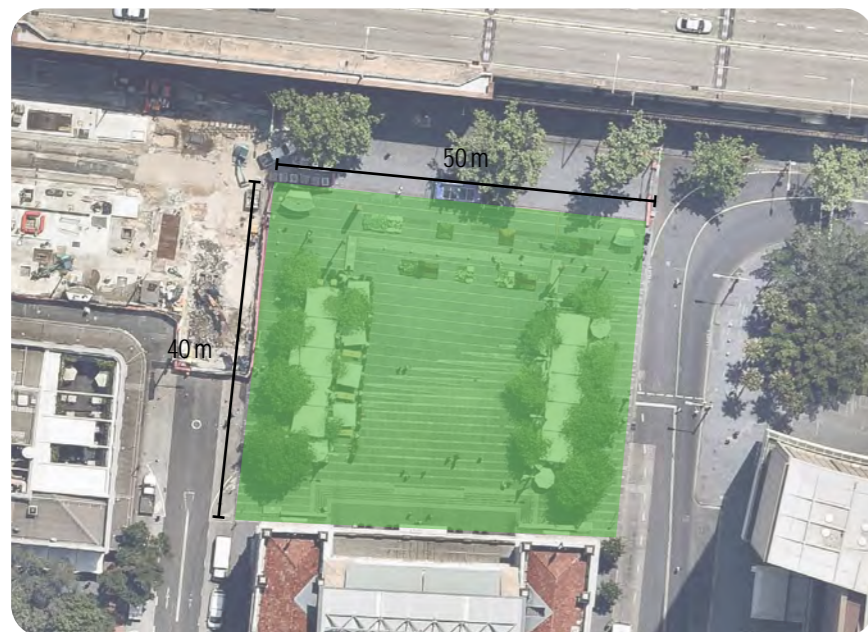


Place: **Rouse Hill Town Centre**
 Location: Main Street, Rouse Hill
 Area: 0.08 ha

Rouse Hill Town Centre Square is located on the corner of Main Street and Civic Way within Rouse Hill Town Centre. The square acts as the public space for the shopping centre and is activated by cafes and retail outlets along the northeast edge with a library fronting the southern facade. The space is mainly paved and included a water feature, formal and informal seating and planting provide amenity for this precinct.

Average dimensions: 30m x 30m

Relevance: Urban Plaza KV1, KV6, BV4, BV6 and BV7



Plaza



Place: **Customs House, Sydney**
 Location: Young Street, Sydney
 Area: 0.23 ha

Customs House Plaza is located between Circular Quay Train Station and Customs House at Circular Quay. Cafes and outdoor dining are located on the east and west sides of the square with trees defining the space. The plaza is mainly paved with a flexible centre space to host various events. Tree planting defines eastern and western edges.

Average dimensions: 50m x 40m

Relevance: Urban Plaza KV1, KV6, BV4, BV6 and BV7

7.2 OPEN SPACE PRECEDENTS - 0.1 - 0.3HA



■ OPEN SPACE 65% ■ VEGETATION SPACE 5%
■ PLAY SPACE 30%



Place: Matron Ruby Grant Park
 Location: Joynton Avenue, Zetland
 Area: 0.3 ha

The Matron Ruby Grant Park occupies the former South Sydney Hospital site, and is at the heart of the Green Square cultural and community precinct in Zetland. The park seamlessly integrates with the surrounding community while preserving the historical and cultural roots of the place.

Relevance: Local Open Space BV2.



■ OPEN SPACE 65% ■ VEGETATION SPACE 10%
■ PLAY SPACE 25%



Place: Chelsea Street Playground
 Location: Chelsea Street, Redfern
 Area: 0.1 ha

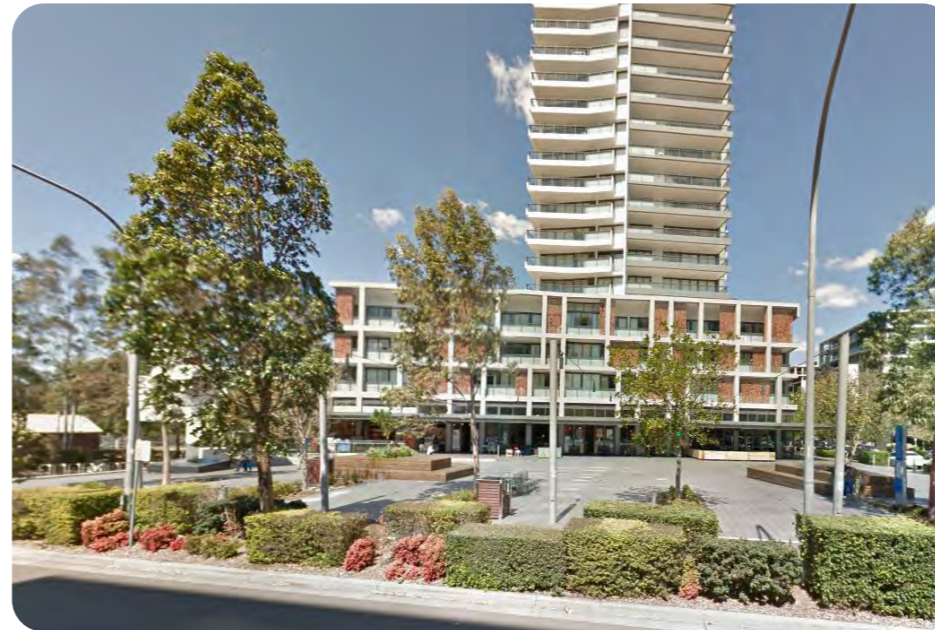
Chelsea Street Playground is a small local park located within the high density suburb of Redfern, Sydney. The playground contains a communal play area with small play structures and shelters, while also featuring a barbecue area, veggie patch and dog lawn, all contained within an area of 1,045 square metres.

Relevance: Local Open Space BV2.

7.2 OPEN SPACE PRECEDENTS - 0.1 - 0.3HA



■ OPEN SPACE 85% ■ VEGETATION SPACE 15%
■ PLAY SPACE 0%



Place: Union Square
 Location: Rider Boulevard, Rhodes
 Area: 0.15 ha

Union Square is located on the corner of Rider Boulevard and Mary Street adjacent to Rhodes Train Station. The space acts as the public square for the Rhodes Waterside development and is activated by restaurants along its southern edge. High quality hard paving along with formal and informal seating, planting and public art provide amenity for the surrounding high density housing population.

Relevance: Local Open Space BV2.



■ OPEN SPACE 60% ■ VEGETATION SPACE 30%
■ PLAY SPACE 10%



Place: The Rope Walk 2
 Location: Archibald Avenue, Zetland
 Area: 0.3 ha

The Rope Walk 2 is a Pocket Park with a Pocket Playground for toddlers and young children. The park is part on the ongoing redevelopment of Zetland, Victoria Park and Green Square. This Park is rectangular with access from Archibald Ave and Sam Sing Street, but it flanked on its long edges by newly completed private residential buildings, somewhat compromising its amenity.

Relevance: Local Open Space BV2.

7.3 OPEN SPACE PRECEDENTS - 0.4 - 0.5HA



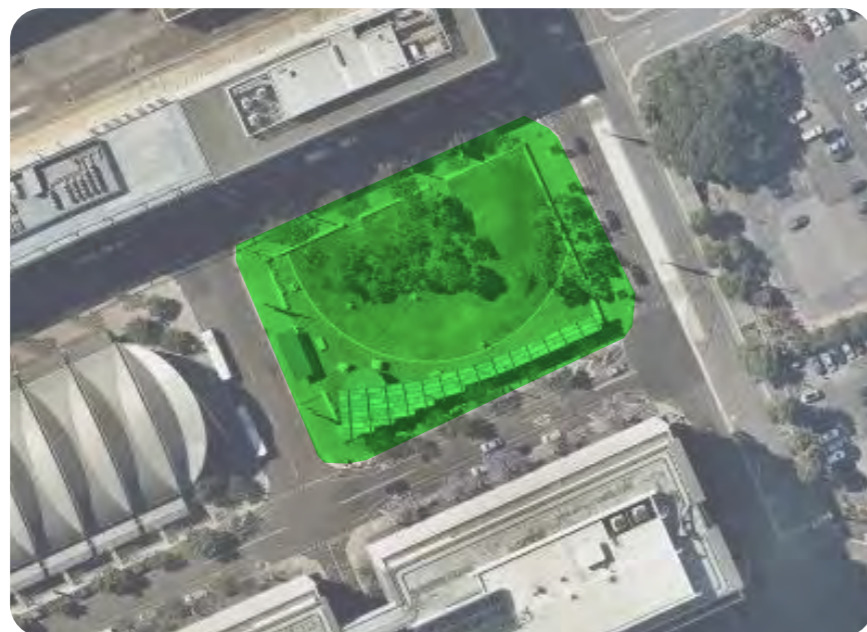
■ OPEN SPACE 65% ■ VEGETATION SPACE 35%
■ PLAY SPACE 0%



Place: Mary Ann Park
 Location: Mary Ann Street, Ultimo
 Area: 0.45 ha

Mary Ann Park is located along Mary Ann Street in the inner city suburb Ultimo. The Sydney Technical College building faces the park and is located across the street. Manicured lawns and native plants give it the park oasis-like qualities within the previously industrial environment. The park includes amenities such as shelters, benches and BBQ stands, providing handy rest-stop areas for walkers, residents, business people and students.

Relevance: Local Open Space KV2



■ OPEN SPACE 100% ■ VEGETATION SPACE 0%
■ PLAY SPACE 0%



Place: Jacaranda Square
 Location: Murray Rose Ave, Sydney Olympic Park
 Area: 0.4 ha

The Jacaranda Square sits within Sydney Olympic Park. The square is located adjacent to Olympic Park Station and is close to cafes and other services. The space provides a vibrant town square for visitors and residents and features a formal edge of wall and seats. Visitors are protected from the elements via a perimeter network of shelters and tree canopies.

Relevance: Local Open Space KV2

7.3 OPEN SPACE PRECEDENTS - 0.5 - 0.9HA



■ OPEN SPACE 60% ■ VEGETATION SPACE 15%
■ PLAY SPACE 25%



Place: **Wulaba park**
 Location: Amelia Street, Waterloo
 Area: 0.5 ha

Wulaba Park is a dynamic play space located on O’Dea Avenue, Waterloo. The design integrates public art, a strong colour theme, sustainable materials including recycled bricks and sustainable water management practices.

Relevance: Local Open Space KV2



■ OPEN SPACE 85% ■ VEGETATION SPACE 5%
■ PLAY SPACE 10%



Place: **Rhodes Foreshore Park**
 Location: Shoreline Drive, Rhodes
 Area: 0.85 ha

Rhodes Foreshore Park is located along the shoreline of Homebush Bay adjacent to The Connection event venue. The park has easy access to Rhodes Train Station. The park is linear in shape with a small play space and large kickabout lawn. The western edge of the park connects into the foreshore walk around Homebush Bay.

Relevance: Local Open Space KV2

7.4 OPEN SPACE PRECEDENTS - >1 HA



■ OPEN SPACE 75% ■ VEGETATION SPACE 10%
■ PLAY SPACE 15%



Place: Pirrama Park Play Area
 Location: 20 Pirrama Rd, Pyrmont
 Area: 1.8 ha

Pirrama Park is located at Jones Bay, about 1.5km from CBD. The play area inside of the park includes playground, shelter, waterplay and seating features.

Relevance: District Open Space BV1



■ OPEN SPACE 75% ■ VEGETATION SPACE 20%
■ PLAY SPACE 15%



Place: Chatswood Oval
 Location: Orchard Road, Chatswood
 Area: 2.8 ha

Chatswood Park is strategically situated at the heart of the suburb of Chatswood at the intersection of Albert Ave and Orchard Road. Chatswood Park can currently be characterised by two distinct zones. There are the northern park area, with mature exotic trees, mass planting and a play space and skate park. The second zone is the oval precinct with the sportsfield and supporting facilities and buildings.

Relevance: District Open Space BV1

This page is intentionally blank.



Legend

- District Open Space (Primary)
- Local Open Space (Primary)
- Urban Plaza (Primary)
- Open Space (Contributory)

OPEN SPACE HIERARCHY

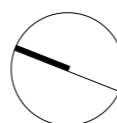
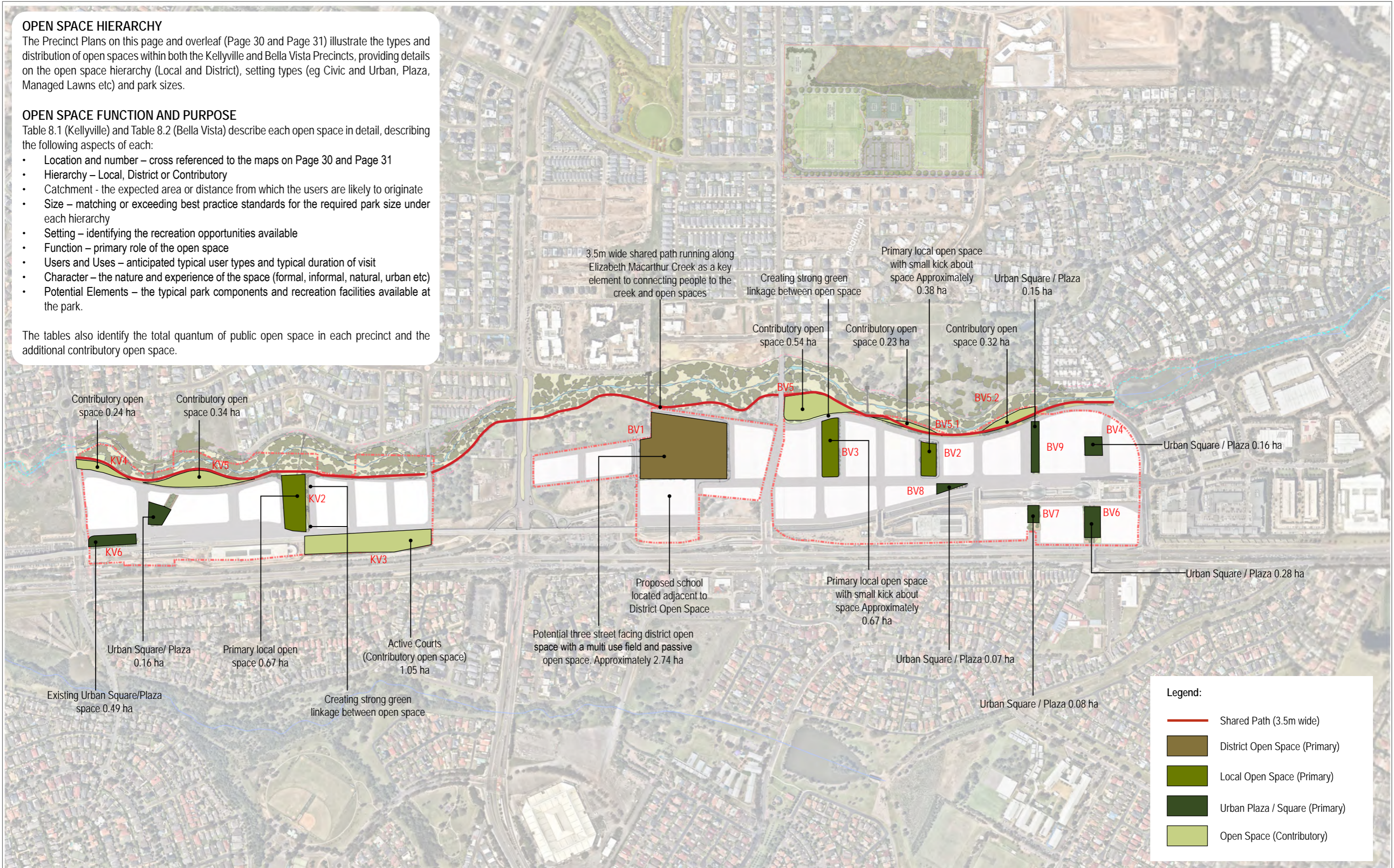
The Precinct Plans on this page and overleaf (Page 30 and Page 31) illustrate the types and distribution of open spaces within both the Kellyville and Bella Vista Precincts, providing details on the open space hierarchy (Local and District), setting types (eg Civic and Urban, Plaza, Managed Lawns etc) and park sizes.

OPEN SPACE FUNCTION AND PURPOSE

Table 8.1 (Kellyville) and Table 8.2 (Bella Vista) describe each open space in detail, describing the following aspects of each:

- Location and number – cross referenced to the maps on Page 30 and Page 31
- Hierarchy – Local, District or Contributory
- Catchment - the expected area or distance from which the users are likely to originate
- Size – matching or exceeding best practice standards for the required park size under each hierarchy
- Setting – identifying the recreation opportunities available
- Function – primary role of the open space
- Users and Uses – anticipated typical user types and typical duration of visit
- Character – the nature and experience of the space (formal, informal, natural, urban etc)
- Potential Elements – the typical park components and recreation facilities available at the park.

The tables also identify the total quantum of public open space in each precinct and the additional contributory open space.



8.0 OPEN SPACE HIERARCHY AND FUNCTION - KELLYVILLE

PARK NO.	HIERARCHY	CATCHMENT	SIZE	SETTING	FUNCTION	USERS AND USES	CHARACTER	POTENTIAL ELEMENTS
Kellyville								
KV1	Primary - Urban Plaza / Square	200- 400m	0.16ha	<ul style="list-style-type: none"> Civic and Urban Space 	<p>Multi-use space directly associated with transport and retail hub.</p> <p>A place to sit and have a coffee, eat lunch or catch up with neighbours met while shopping. Public seating should be available as well as café seating for adjoining businesses.</p>	<p>To provide for day-to-day use by adjoining residents, retailers, commuters to and from the station, lunchtime breaks for local employees and visitors to adjoining shops and community facilities.</p> <p>Duration of stay likely to be short (15-20 mins)</p>	<ul style="list-style-type: none"> Strong civic focus Robust design suitable for extensive pedestrian movement Sun and shade balance. 	<ul style="list-style-type: none"> Plaza space for events, stalls etc plus water feature Seats, seating walls Connected pathways, steps and ramps Planting for shade and seasonal interest Potential public art All abilities access throughout Wayfinding signage.
KV2	Primary - Local Open Space	200- 400m	0.67ha	<ul style="list-style-type: none"> Parkland 	<p>To provide local passive open space and day to day use by adjoining residents.</p> <p>To provide level open space.</p> <p>Potential connection/ interaction with KV3.</p> <p>Three sides to streets to provide easy access and potential on street parking.</p> <p>Balance of hardscape and softscape to maximise the opportunities for different informal activities.</p> <p>Potential opportunities for stormwater detention, water harvesting and WSUD capacity.</p>	<p>Potential lunchtime breaks for local employees and visitors to adjoining shops and community facilities.</p> <p>Duration of stay likely to be medium during the week (15-30 mins) and longer for residents at the weekend (45-60 mins).</p>	<ul style="list-style-type: none"> Town park character Semi formal design Spaces defined by planting Balance of quiet spaces and open lawn. 	<ul style="list-style-type: none"> Large kick about lawn (irrigated) Children's playground Potential space for events, markets etc Shelters, seats, picnic settings and BBQs Connected pathways. Steps and ramps if applicable Feature trees with seasonal colour, shrubs defining areas and social seating Potential public art Wayfinding signage All abilities access throughout.

Table 8.1 Open space hierarchy, function and design elements for Kellyville Station Precinct

8.0 OPEN SPACE HIERARCHY AND FUNCTION - KELLYVILLE

PARK NO.	HIERARCHY	CATCHMENT	SIZE	SETTING	FUNCTION	USERS AND USES	CHARACTER	POTENTIAL ELEMENTS
Kellyville								
KV3	Contributory Open Space	200- 400m	1.05ha	<ul style="list-style-type: none"> Informal Active Space 	Informal sport courts, skate park with amenities. Picnic shelter and seatings. Potential connection/ interaction with the KV2.	To provide informal active open space for day-to-day use by adjoining residents and local employees. Duration of stay likely to be longer for residents (30-60 mins).	<ul style="list-style-type: none"> High energy space Intense activities in small space Clearly defined spaces for different activities. 	<ul style="list-style-type: none"> Informal sport courts for different sports eg basketball, tennis etc Combination of passive and active open space Potential public art Shelter and shade structures All abilities access throughout Wayfinding signage Night lighting for evening use and safety.
KV4 KV5	Contributory Open Space	200- 400m	0.24ha 0.34ha	<ul style="list-style-type: none"> Managed Lawn Space 	To provide additional passive open space for adjoining residents and users of the riparian corridor (cyclists and walkers). Located along the riparian corridor. Seatings and potential shelter with picnic setting.	For local residents and riparian corridor users, both cyclists and walkers. Various duration of stay.	<ul style="list-style-type: none"> Calm reflective space Views into and along creek Strong natural vegetation framework, including commuters. 	<ul style="list-style-type: none"> Informal passive open space Managed and irrigated lawn Small runabout space suitable for young children Wayfinding signage.
KV6	Existing Primary - Urban Plaza / Square	200- 400m	0.49ha	<ul style="list-style-type: none"> Existing Civic and Urban Space 	Provides day-to-day use for adjoining residents, retail, commuters to and from the station, lunchtime breaks for local employees and visitors to adjoining shops. A place to sit and have a coffee, wait for Metro users, eat lunch or catch up with neighbours met while shopping. Public seating is available for users under the established tree canopy of the plaza.	Lunchtime breaks for local employees and visitors. Duration of stay likely to be short during the week (15-20 minutes) and longer for residents at the weekend (30 mins).	<ul style="list-style-type: none"> Gateway of Kellyville Precinct Urban plaza setting in a mixed use environment Mainly paved space with shaded public seating and low planting. 	<ul style="list-style-type: none"> Plaza has been fully delivered as part of the Metro Works and therefore has no potential elements.

Table 8.1 (Continued)

Total Primary Open Space: 1.32 ha
 Total Contributory Open Space: 1.63 ha

8.0 OPEN SPACE HIERARCHY AND FUNCTION - BELLA VISTA

PARK NO.	HIERARCHY	CATCHMENT	SIZE	SETTING	FUNCTION	USERS AND USES	CHARACTER	POTENTIAL ELEMENTS
Bella Vista								
BV1	Primary - District Open Space	2 - 5km	2.74ha	<ul style="list-style-type: none"> District Park with multi-use 	<p>Multi-use space that can accommodate a range of large and small group activities, including periodic sports use (school, junior training and occasional exhibition matches etc) and offer opportunities for cultural expression and environmental education.</p> <p>Typical functions would include:</p> <ul style="list-style-type: none"> Sports Events and celebrations Picnic and play Youth activities Off-leash areas Public gardens Community facilities. 	<p>Residents within 2-5km catchment.</p> <p>Adjoining school informal use</p> <p>Duration of stay likely to be longer for residents (60- 120 mins). Longer when events held.</p>	<ul style="list-style-type: none"> District Park character Town Oval character Space for different activities, both active and passive Balance of quiet space and open lawn Softscape dominant with existing Cumberland vegetation to be retained, where present Balance of winter sun and summer shade. 	<ul style="list-style-type: none"> Major Open Space in the Kellyville and Bella Vista Precinct A large multi-use level grass space Space for events, stalls etc plus water feature Multi- use community facility building including community room, toilets, change facility, storage etc Seats, seating walls Connected pathways, steps and ramps Planting for shade and seasonal interest Potential public art All abilities access throughout Wayfinding signage. <p>Other possible uses may include:</p> <ul style="list-style-type: none"> Community gardens and nursery Community / public art and other interpretative items Youth spaces including multi-use areas and skate facilities Off-leash dog exercise areas On and off street car parking areas.
BV2	Primary - Local Open Space	200 - 400m	0.38ha	<ul style="list-style-type: none"> Parkland 	<p>To provide local passive open space and day to day use by adjoining residents.</p> <p>To provide level open space.</p> <p>Three/Four sides to streets to provide easy access and potential on street parking.</p> <p>Balance of hardscape and softscape to maximises the opportunities for different activities.</p>	<p>Potential lunchtime breaks for local employees and visitors to adjoining shops and community facilities.</p> <p>Duration of stay likely to be medium during the week (30 minutes) and longer for residents at the weekend (45-60 mins).</p>	<ul style="list-style-type: none"> Semi formal design Space defined by both planting and open lawn A sense of comfortable and safe space for residents to gather Encourages use and interaction among residents. 	<ul style="list-style-type: none"> Large kick about lawn (irrigated) Children's playground Potential space for events, market etc Shelters, seats, picnic settings and BBQs Connected pathways. Steps and ramps if applicable Feature trees with seasonal colour, shrubs defining areas and social seating Potential public art Wayfinding signage All abilities access throughout.

Table 8.2 Open space hierarchy, function and design elements for Bella Vista Station Precinct

8.0 OPEN SPACE HIERARCHY AND FUNCTION - BELLA VISTA

PARK NO.	HIERARCHY	CATCHMENT	SIZE	SETTING	FUNCTION	USERS AND USES	CHARACTER	POTENTIAL ELEMENTS
Bella Vista								
BV3	Primary - Local Open Space	200 - 400m	0.67ha	<ul style="list-style-type: none"> Parkland 	<p>To provide local passive open space and day-to-day use by adjoining residents.</p> <p>To provide level open space.</p> <p>Potential connection/interaction with the riparian corridor, BV5.</p> <p>Bordered on three/four by streets to provide easy access and potential on street parking.</p> <p>Balance of hardscape and softscape to maximises the opportunities for different activities.</p>	<p>Potential lunchtime breaks for local employees and visitors to adjoining shops and community facilities.</p> <p>Duration of stay likely to be medium during the week (30 minutes) and longer for residents at the weekend (45-60 mins).</p>	<ul style="list-style-type: none"> Semi formal design Space defined by both planting and open lawn A sense of comfortable and safe space for residents to gather Encourages use and interaction among residents. 	<ul style="list-style-type: none"> Large kick about lawn (irrigated) Children's playground Potential space for events, market etc Shelters, seats, picnic settings and BBQs Connected pathways. Steps and ramps if applicable Feature trees with seasonal colour, shrubs defining areas and social seating Potential public art Wayfinding signage All abilities access throughout.
BV4 BV6 BV8	Primary - Urban Plaza / Square	200m	0.16ha 0.28ha 0.07ha	<ul style="list-style-type: none"> Civic and Urban Space 	<p>To provide for day-to-day use by adjoining residents, retail, commuters to and from the station, lunchtime breaks for local employees and visitors to adjoining shops and community facilities.</p> <p>A place to sit and have a coffee, eat lunch or catch up with neighbours met while shopping. Public seating should be available as well as café seating for adjoin businesses.</p>	<p>Lunchtime breaks for local employees and visitors</p> <p>Duration of stay likely to be short during the week (15-20 minutes) and longer for residents at the weekend (30 mins).</p>	<ul style="list-style-type: none"> Gateway of Bella Vista Precinct An urban plaza setting in a mixed use environment Interface with community facility Mainly paved space with opportunity for outdoor dining and shaded public seating. 	<ul style="list-style-type: none"> Plaza space for events, stalls etc plus water feature Planting for shade and seasonal interest Seats, seating walls Connected pathways, steps and ramps Potential public art All abilities access throughout Wayfinding signage.
BV5 BV5.1 BV5.2	Contributory Open Space	200- 400m	0.54ha 0.23ha 0.32ha	<ul style="list-style-type: none"> Managed Lawn Space and Native Planting 	<p>To provide additional passive open space for adjoining residents.</p> <p>Located along the riparian corridor.</p> <p>Seating and potential shelter with picnic setting.</p>	<p>Duration of stay likely to be longer for residents at the weekend (20-30 mins).</p>	<ul style="list-style-type: none"> Semi formal space Managed irrigated lawn with defined edge With Riparian corridor backdrop. 	<ul style="list-style-type: none"> Informal passive open space with seating Managed and irrigated lawn Wayfinding signage.
BV7 BV9	Primary - Urban Plaza / Square	200- 400m	0.08ha 0.15ha	<ul style="list-style-type: none"> Civic and Urban Space Social Corner Pedestrian thoroughfare. 	<p>Social corner for residents/visitors to meet up while out and about.</p> <p>A place to sit and have a coffee, eat lunch or catch up with neighbours.</p> <p>A green pedestrian space with good canopy cover</p>	<p>Duration of stay likely to be short for both residents and visitors (5-20 minutes)</p> <p>Pedestrian thoroughfare with minimal stopping</p>	<ul style="list-style-type: none"> Balance of hardscape and softscape Street tree planting to provide shade. 	<ul style="list-style-type: none"> Seating Planting for shade and seasonal interest Potential public art Wayfinding signage.

Table 8.2 (Continued)

Total Primary Open Space: 4.53 ha

Total Contributory Open Space: 1.09 ha

*BV9 is a green link - a linear pedestrian, tree lined space with seating and social opportunities

8.0 OPEN SPACE HIERARCHY AND FUNCTION - CADDIES CREEK RESERVE

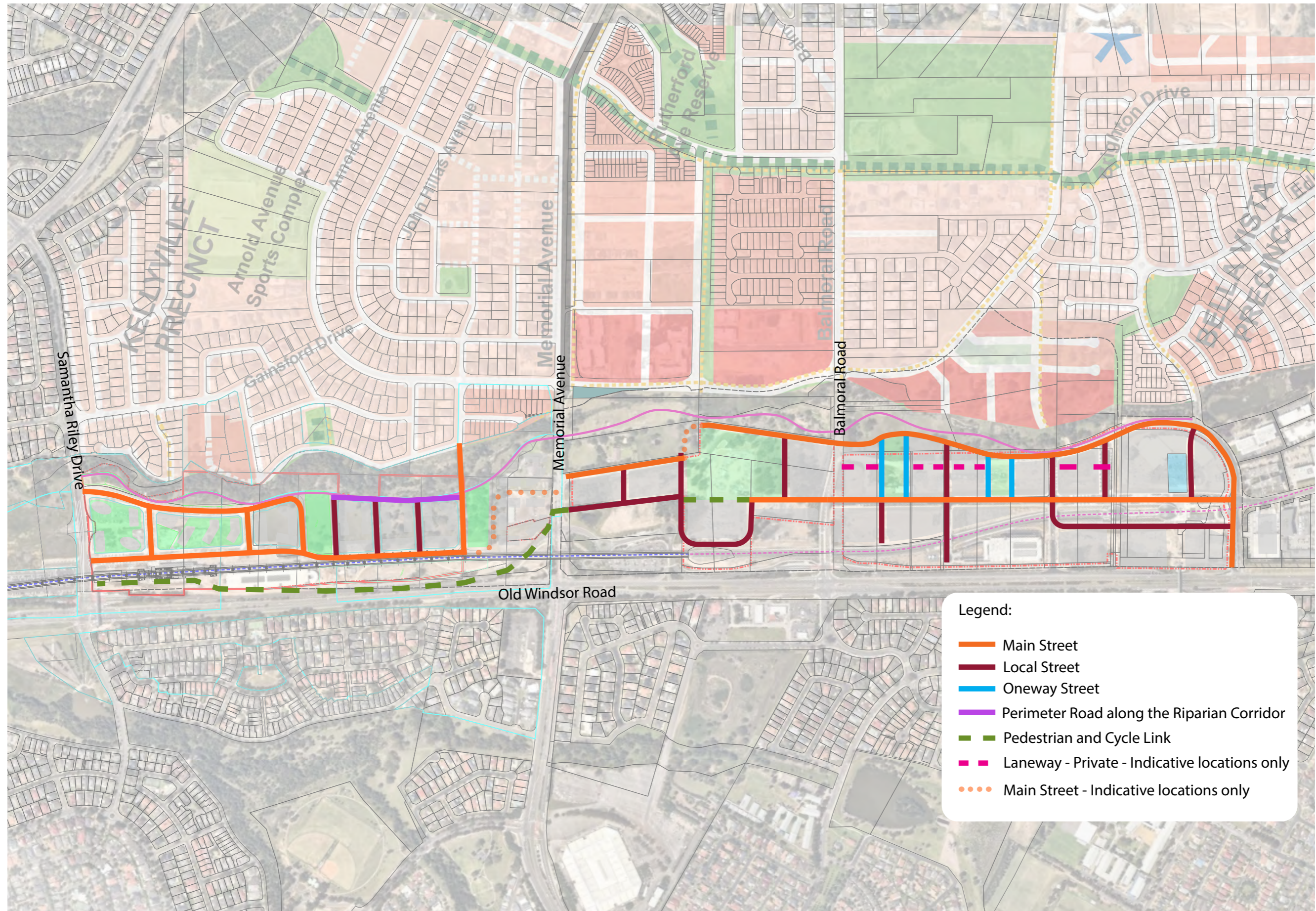
PARK NO.	HIERARCHY	CATCHMENT	SIZE	SETTING	FUNCTION	USERS AND USES	CHARACTER	ELEMENTS
Additional Open Space								
Caddies Creek Reserve	Primary - District Open Space	2 - 5km	11ha	<ul style="list-style-type: none"> District Park with multi-use 	<p>Multi-use space that can accommodate a range of large and small group activities, including periodic sports use.</p> <p>Typical functions would include:</p> <ul style="list-style-type: none"> Sports such as football, cricket and baseball Events Picnic and play Youth activities Walking trail. 	<p>Residents within 2-5km catchment.</p> <p>Duration of stay likely to be longer for residents (60- 120 mins). Longer when events held.</p>	<ul style="list-style-type: none"> District Park character Sports Reserve character Space for different activities, both active and passive Balance of quiet space and open lawn Incorporated major environmental initiatives including water recycling and environmental restoration. 	<ul style="list-style-type: none"> One of the major sport reserves in The Hills Shire Council Four sporting fields Two amenities buildings Abundant parkland Space for events, stalls etc More than 120 car parking spaces A playground More than two kilometres of shared pedestrian/ cycle path Paved walking trails Disable access.

Table 8.3 Caddies Creek Reserve function, character and elements.

8.0 OPEN SPACE HIERARCHY AND FUNCTION - CADDIES CREEK RESERVE



Figure 8.4 Existing sports fields and facilities in Caddies Creek Reserve with potential future expansion.



Legend:

- Main Street
- Local Street
- Oneway Street
- Perimeter Road along the Riparian Corridor
- Pedestrian and Cycle Link
- - - Laneway - Private - Indicative locations only
- . . . Main Street - Indicative locations only

Figure 9.1 Street typologies

9.0 STREET TYPOLOGIES

STREET TYPOLOGIES

A series of street typologies have been allocated for Kellyville and Bella Vista Precincts. The map overleaf (Sk44) illustrates the street types and their locations. The following street types are proposed:

- Main Street - 20m wide
- Local Street - 18m wide (except adjacent to the local open space in Kellyville)
- Oneway Street - 9m wide (only in Bella Vista)
- Perimeter Road along the Riparian Corridor - 10m wide (only in Kellyville)
- Laneway - Private - 8m wide (only in Bella Vista)

Some of the roads had been previously delivered as part of the Sydney Metro works, refer to Map Sk 48 for details.

IN STREET TREE PLANTING

Street tree planting in the road corridor (rather than in the pedestrian pavement corridor) is proposed for both the Kellyville and Bella Vista Precincts, using a structural soil system (Strata Vault is a commonly used system). This approach has the following typical benefits:

- Permits higher soil volumes including under trafficked areas, without entailing soil compaction
- Results in lesser impact on tree growth from in-ground services
- Detains higher volumes of urban stormwater after storm events
- Increases tree root access to more in-ground water
- Promotes increased mature canopy width and therefore increased shading of paths and parked cars
- Frees up more width for pedestrian movement on paths (and cycle movement if adjoining a shared path)
- Ensures that street lighting can be spaced to avoid being covered by tree canopy.

See the Urban Design Guidelines for further details on the structural soil system.

TREE SPACING

Street tree spacing has been integrated with on-street car park spacing so that on-street car park capacity will not be compromised. The varying spacing between trees reflects the different street widths and different tree sizes; this ensures a full canopy spread in each case. The following spacing has been proposed for the two precincts respectively:

Kellyville Precincts:

- Main Street - Tree spacing: 15m with two car parks between trees
- Local Street – Tree spacing: 8.5m with one car park between trees
- Perimeter Road along the Riparian Corridor – Tree spacing: 8.5m, no car park is proposed

Bella Vista Precincts:

- Main Street - Tree spacing: 15m with two car parks between trees
- Local Street – Tree spacing: 8.5m with one car park between trees
- One way Street – Tree spacing: 8.5m with one car park between trees
- Laneway – Tree spacing: 6m, no car park is proposed in laneway

TREE CANOPY COVERAGE

Street tree species, tree canopy overlaps and tree canopy overhanging in to property lots have also been taken into consideration. The following street tree canopy coverage (as a percentage of the public domain streets and paths) can be achieved with the above-mentioned spacing:

- Kellyville: 55.1%
- Bella Vista: 49.8%

STREET TREES (KELLYVILLE PRECINCT)

Tree selection should be based on the performance matrix below for Main Streets in the Kellyville Precinct:

- Large tree
- Australian native
- Evergreen
- Mature height at least 15-20m
- At least 12m mature canopy spread
- Provide a unique character and promote diversity in streetscape

The following species are recommended for Main Streets in the Kellyville Precinct:

- *Eucalyptus amplifolia* (Cabbage Gum)
- *Eucalyptus crebra* (Narrow-leaved Ironbark)
- *Eucalyptus moluccana* (Grey Box)
- *Eucalyptus tereticornis* (Forest Red Gum)

Tree selection should be based on the performance matrix below for Local Streets in the Kellyville Precinct:

- Medium size tree
- Australian native or exotic
- Evergreen or deciduous
- Mature height approximately 10-12m
- Mature canopy spread approximately 6-8m

The following species are recommended for Local Streets in the Kellyville Precinct:

- *Fraxinus oxycarpa* 'Raywoodii' (Claret Ash)
- *Pyrus calleryana* (Callery Pear)
- *Sapium Sebiferum* (Chinese Tallowood)

Tree selection should be based on the performance matrix below for Perimeter Road along the Riparian Corridor in the Kellyville Precinct:

- Small size tree
- Australian native or exotic
- Evergreen or deciduous
- Mature height approximately 5-8m
- Mature canopy spread approximately 6-8m

The following species are recommended for Perimeter Road along the Riparian Corridor in the Kellyville Precinct:

- *Prunus cerasifera* 'Nigra' (Black Cherry Plum)
- *Ulmus parvifolia* (Chinese Elm)

STREET TREES (BELLA VISTA PRECINCT)

Tree selection should be based on the performance matrix below for Main Streets in the Bella Vista Precinct:

- Large tree
- Australian native
- Evergreen
- Mature height at least 15-20m
- At least 12m mature canopy spread
- Provide a unique character and promote diversity in streetscape

The following species are recommended for Main Streets in the Bella Vista Precinct:

- *Eucalyptus crebra* (Narrow-leaved Ironbark)
- *Eucalyptus tereticornis* (Forest Red Gum)
- *Melaleuca styphelioides* (Prickly-leaved Paperbark)
- *Tristaniopsis laurina* 'Luscious' (Kanooka Gum)

Tree selection should be based on the performance matrix below for Local Streets in the Bella Vista Precinct:

- Medium size tree
- Australian native or exotic
- Evergreen or deciduous
- Mature height approximately 10-12m
- Mature canopy spread approximately 6-8m

The following species are recommended for Local / One Way Streets in the Bella Vista Precinct:

- *Fraxinus griffithii* (Evergreen Ash)
- *Fraxinus oxycarpa* 'Raywoodii' (Claret Ash)
- *Pyrus calleryana* (Callery Pear)
- *Sapium Sebiferum* (Chinese Tallowood)
- *Pistacia chinensis* (Chinese Pistachio)

Tree selection should be based on the performance matrix below for Laneways in Bella Vista Precinct:

- Small size tree with narrow form
- Exotic
- Evergreen or deciduous
- Mature height approximately 4-6m
- Mature canopy spread approximately 3-4m

The following species are recommended for Laneway in Bella Vista Precinct:

- *Gordonia axillaris* (Fried Egg Plant)
- *Lagerstroemia indica* (Crepe Myrtle)

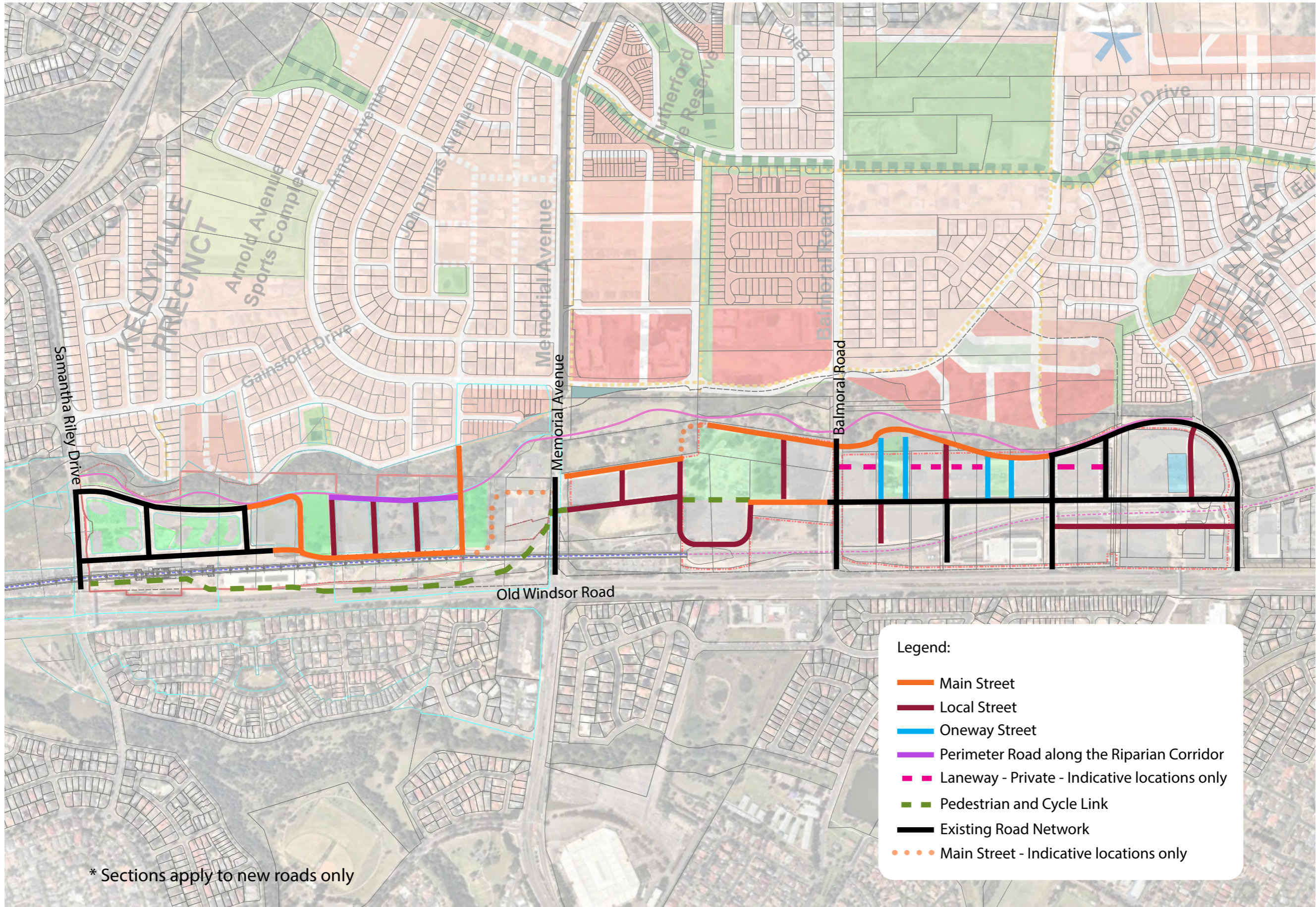
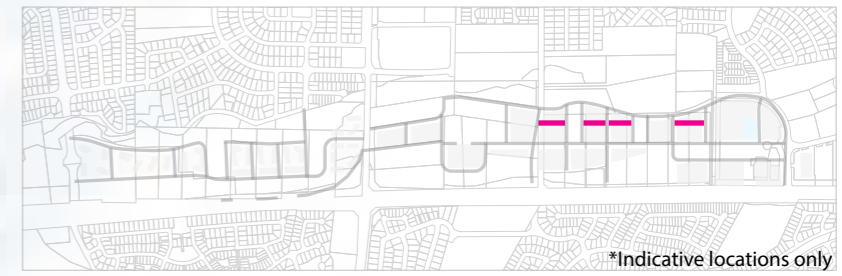
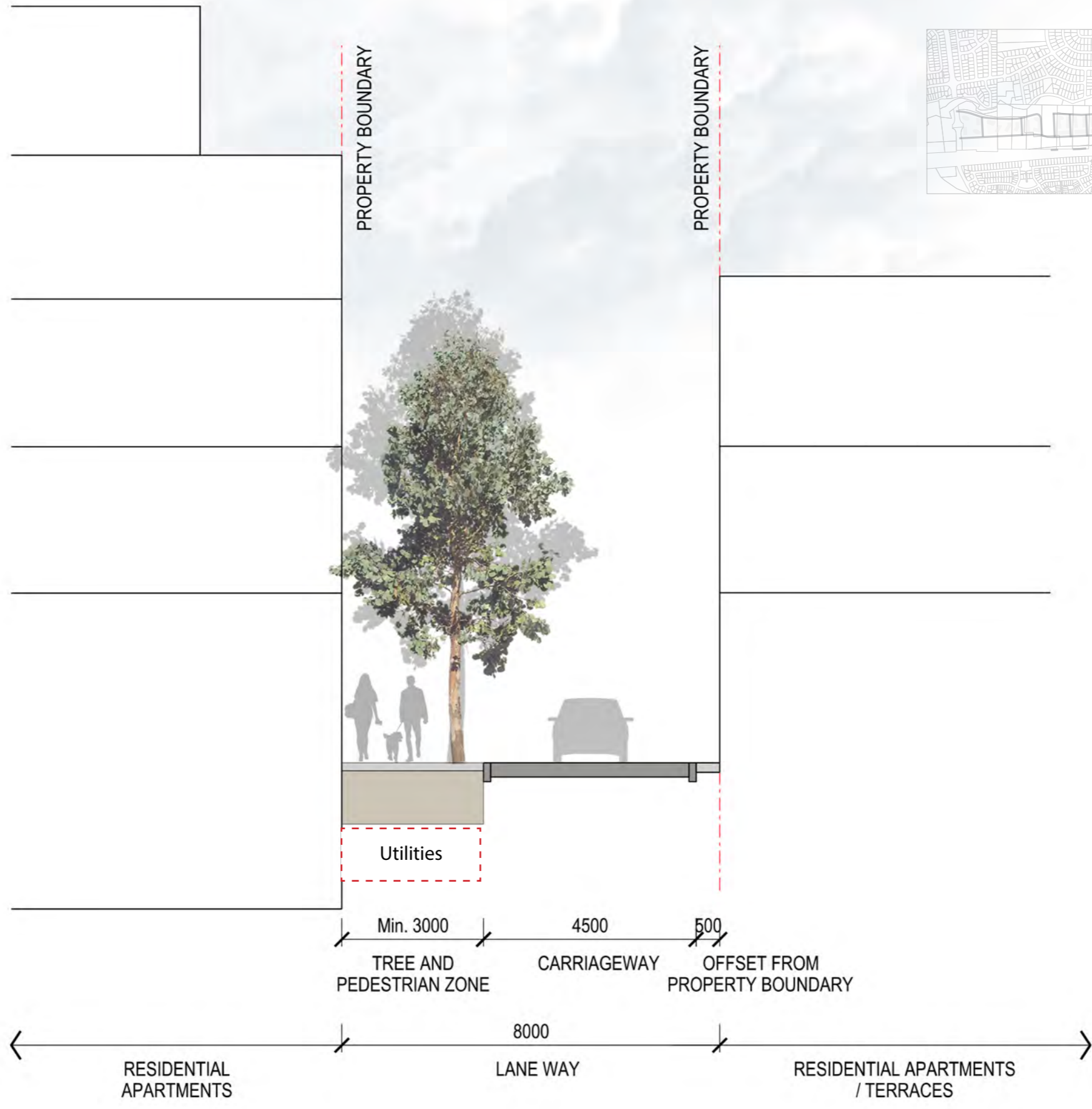


Figure 9.2 Street typologies (Road as built)



LANEWAY - PRIVATE
Bella Vista - Residential



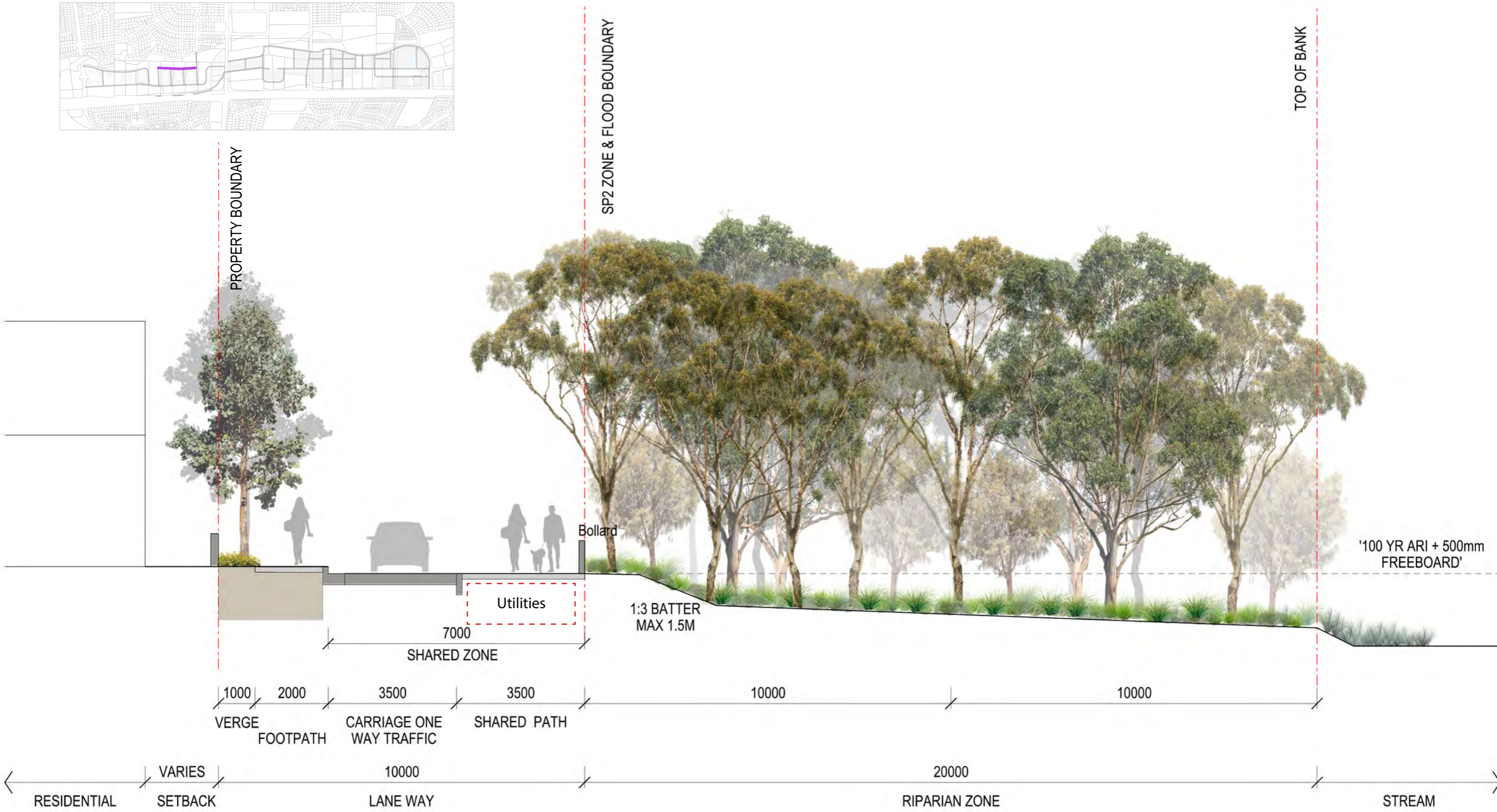
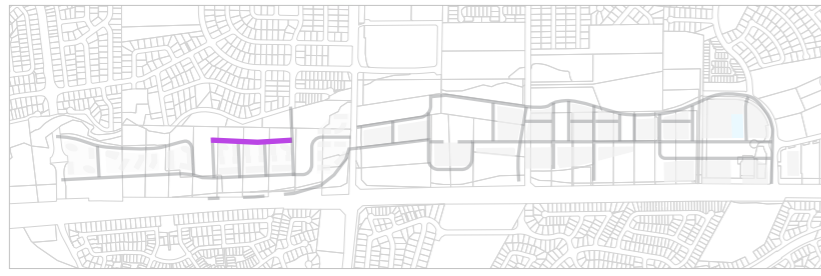
Client:
Landcom 

1:100 @A3
0 1 2 3 4 5 10m

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 41

17/06/2020



PERIMETER ROAD ALONG THE RIPARIAN CORRIDOR
Kellyville - Riparian

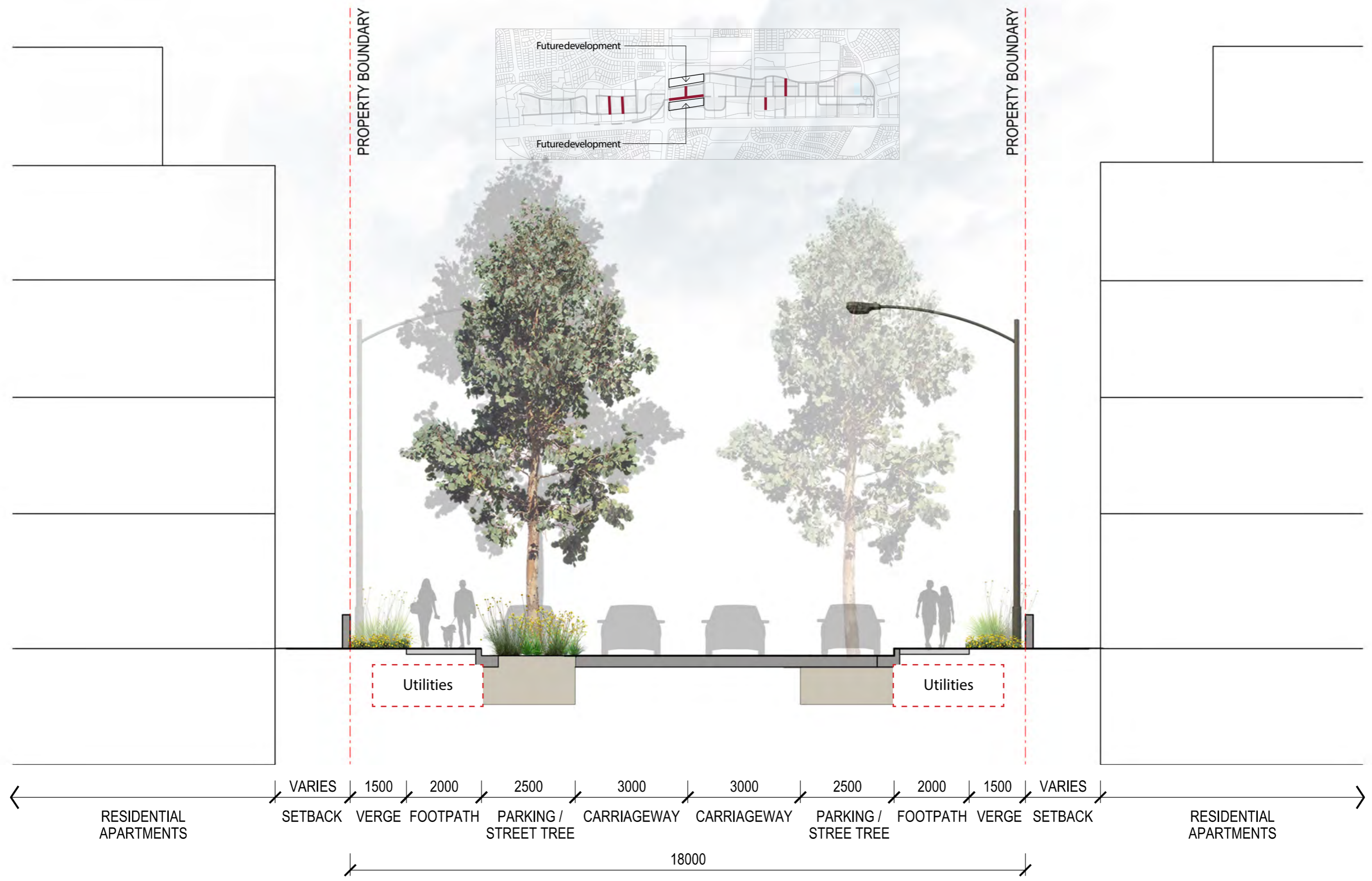


Client:
Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 42

17/06/2020



LOCAL STREET
 Kellyville and Bella Vista - Residential



Client:
 Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

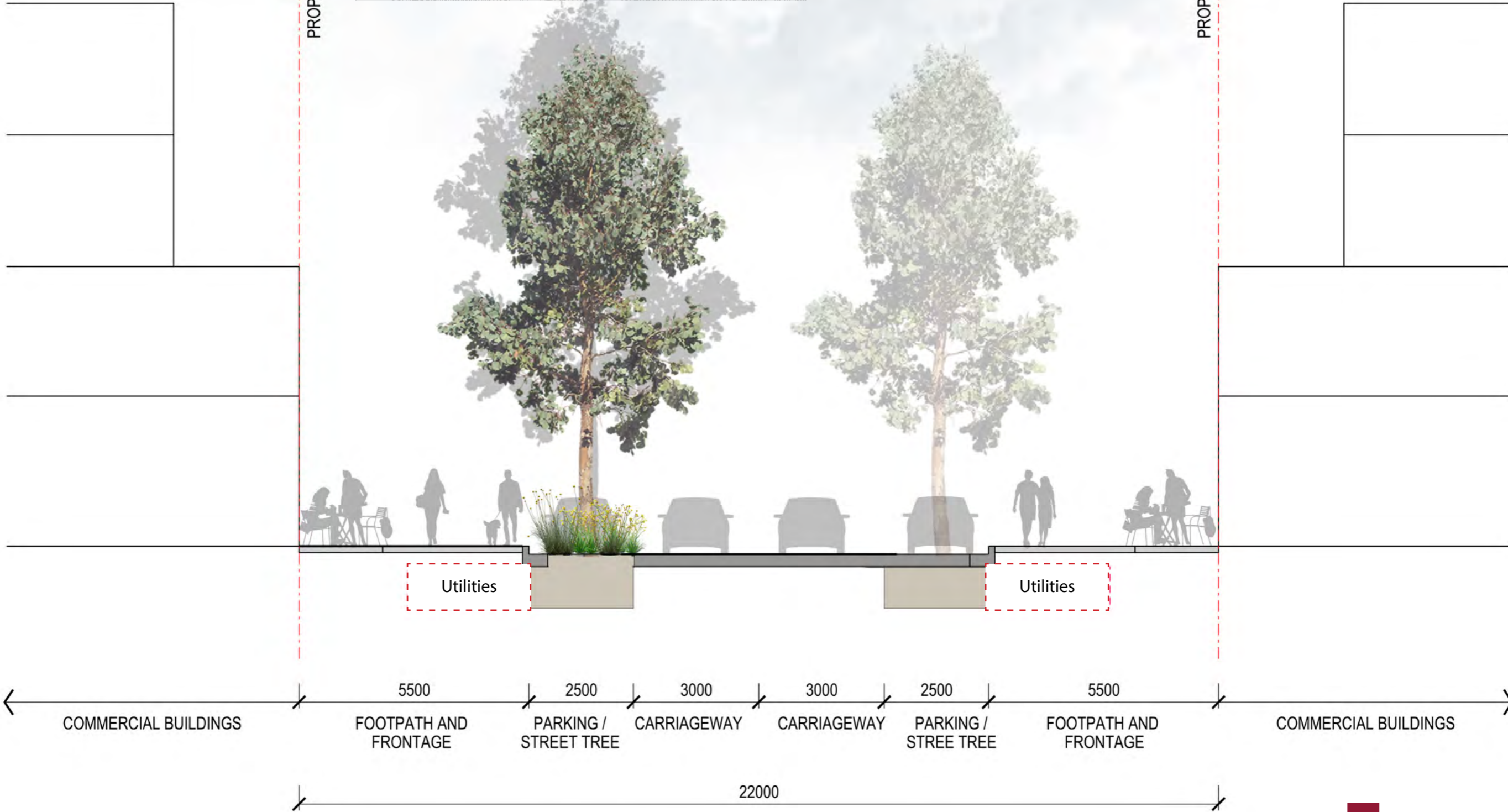
Page 43

17/06/2020



PROPERTY BOUNDARY

PROPERTY BOUNDARY



LOCAL STREET
Bella Vista - Commercial



Client:
Landcom

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 44

17/06/2020

This page is intentionally blank.



Client:
Landcom



KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 45

17/06/2020



LOCAL STREET - 15M
 Kellyville - Park and Residential



Client:
 Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

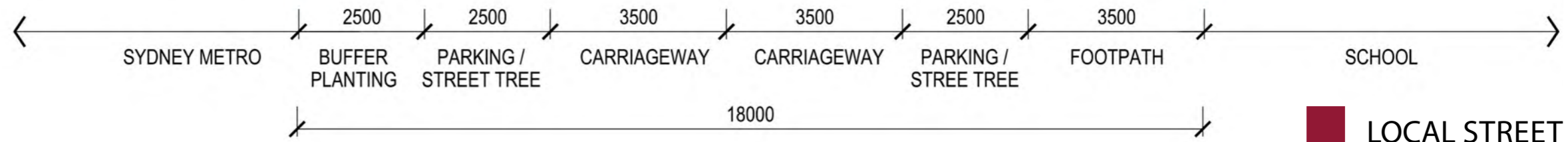
Page 46

17/06/2020



SYDNEY METRO

SCHOOL BOUNDARY



Utilities

LOCAL STREET
Bella Vista - Viaduct and School



Client:
Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

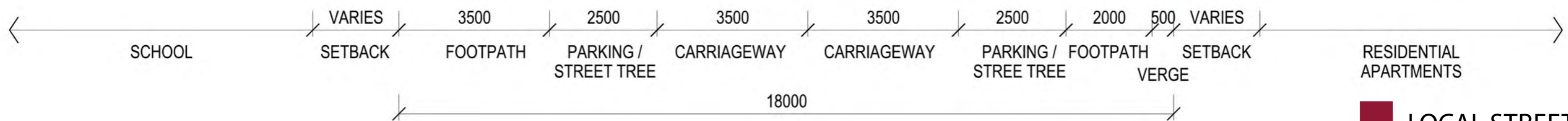
Page 47

17/06/2020



PROPERTY BOUNDARY

PROPERTY BOUNDARY



LOCAL STREET
Bella Vista - Residential and School



Client:
Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 48

17/06/2020



RESIDENTIAL APARTMENTS

VARIES
SETBACK

1500
VERGE

2000
FOOTPATH

2500
PARKING /
STREE TREE

3500
CARRIAGEWAY

3500
CARRIAGEWAY

2500
PARKING /
STREET TREE

1500
FOOTPATH

1000**

LOCAL OPEN SPACE

18000

**VERGE SPACE ADJACENT
TO OPEN SPACE GIVEN
OVER TO OPEN SPACE USE

LOCAL STREET
Bella Vista - Residential and Park



Client:
Landcom 

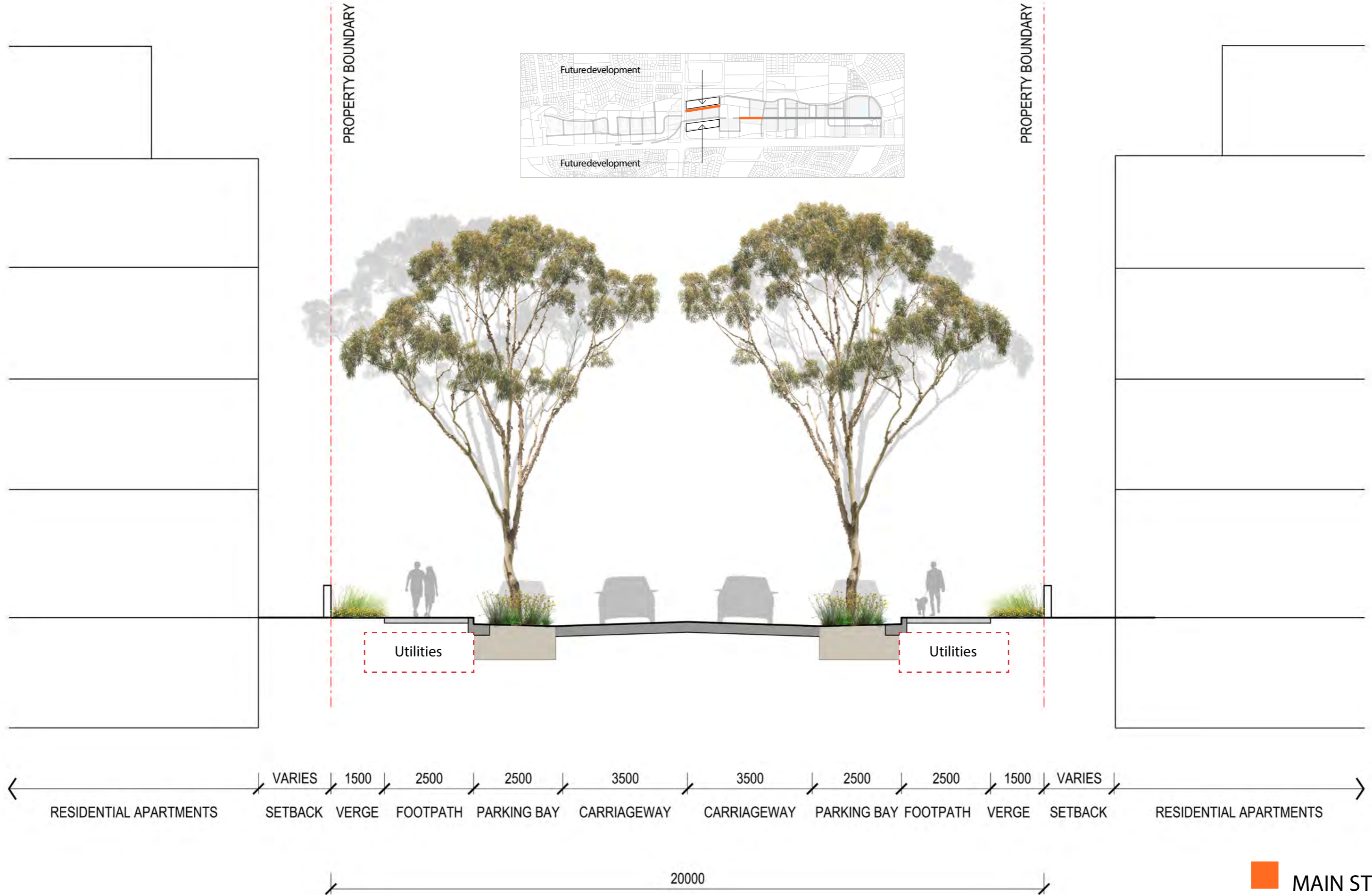
KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 49

17/06/2020



ONEWAY STREET
Bella Vista - Park and Residential



MAIN STREET
Bella Vista - Residential

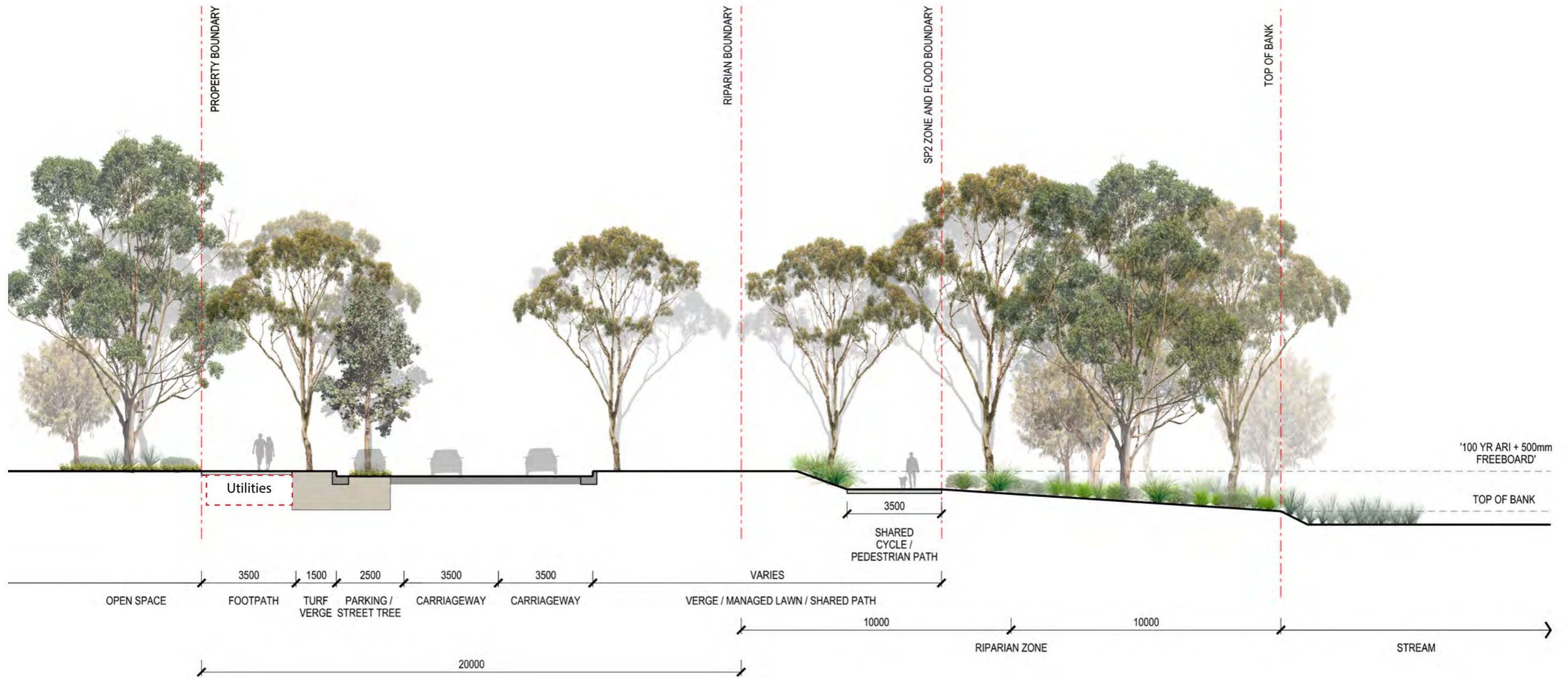
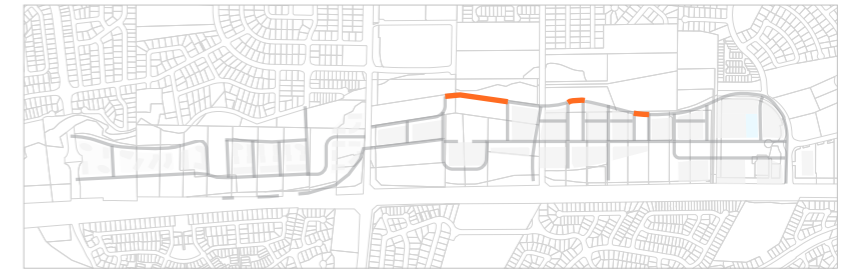


Client:
Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 51

17/06/2020



MAIN STREET
Bella Vista - Open Space and Riparian

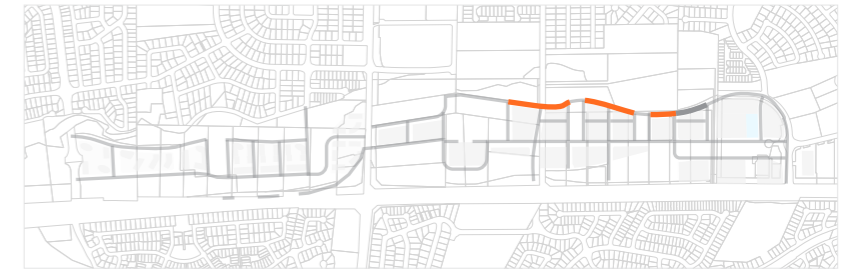


Client:
Landcom

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 52

17/06/2020



MAIN STREET
Bella Vista - Residential and Riparian

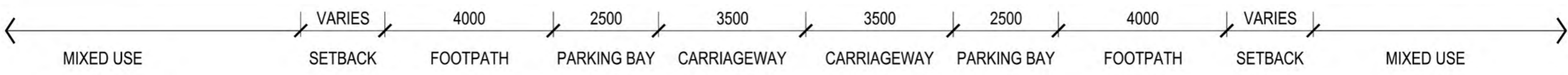


Client:
Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 53

17/06/2020



MAIN STREET (DARANI AVENUE)
 Kellyville - Town Centre



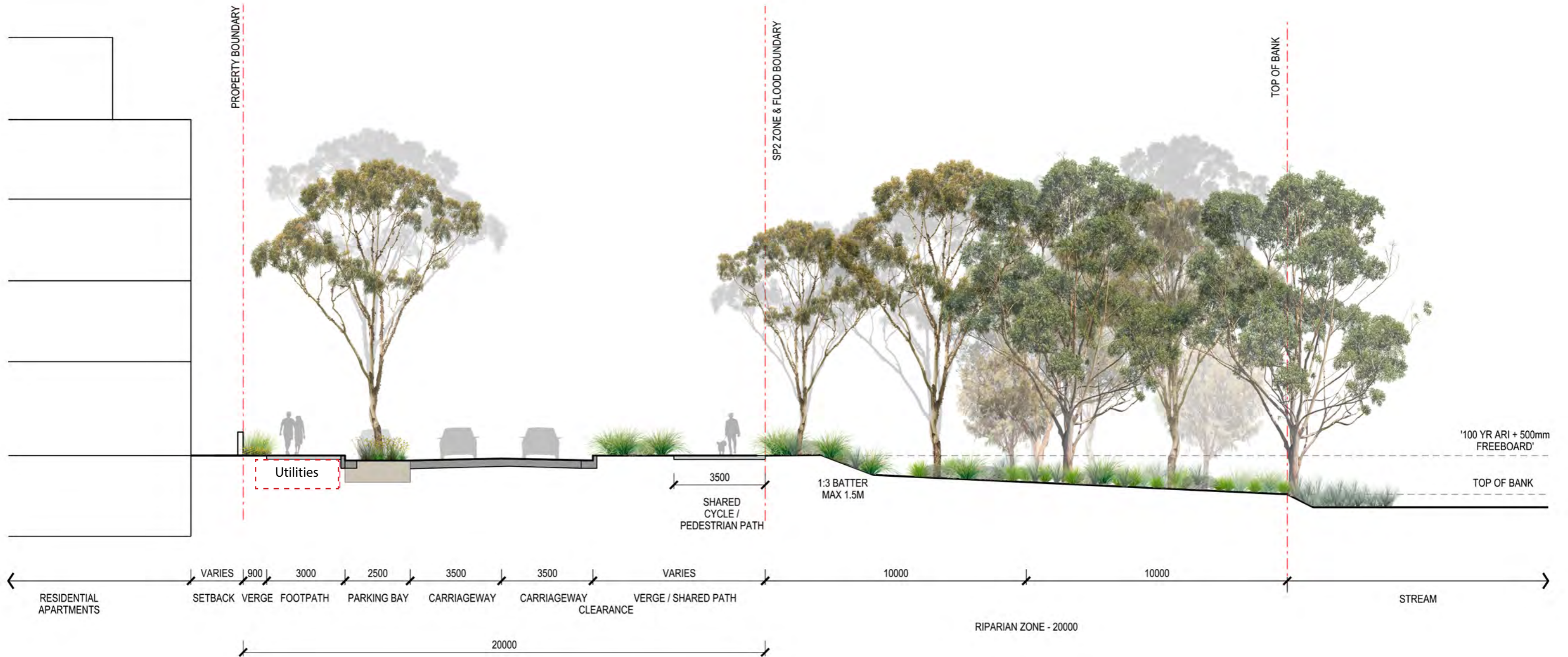
Client:
 Landcom 

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 54

17/06/2020





MAIN STREET (DECORA DRIVE)
Kellyville - Riparian



Client:
Landcom

12000

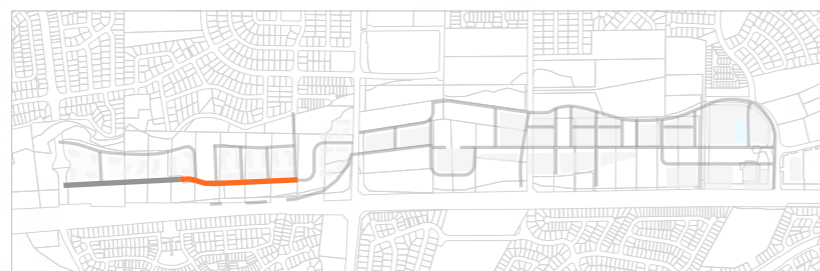
13000

CENTRE LINE OF VIADUCT

1st RESERVE - NO BUILDINGS

PROPERTY BOUNDARY

2nd RESERVE - BUILDING SETBACK



Utilities

Utilities

3500

2500

3500

3500

2500

2500

2000

VARIES

CONTRIBUTORY OPEN SPACE

SHARED CYCLE / PEDESTRIAN PATH

PARKING BAY

CARRIAGEWAY

CARRIAGEWAY

PARKING BAY

FOOTPATH

VERGE

SETBACK

RESIDENTIAL APARTMENTS

20000

MAIN STREET (ALONG THE VIADUCT)

Kellyville - Viaduct



Client:
Landcom

KELLYVILLE AND BELLA VISTA LANDSCAPE MASTER PLAN AND OPEN SPACE STRATEGY

Page 57

17/06/2020

10.0 CONCLUSION

CONCLUSION

This Landscape Master Plan and Open Space Strategy Report describes and illustrates the proposals for public open space and landscape in the Kellyville and Bella Vista precincts. The proposals are based on current best practice in public realm and landscape planning for urban development precincts of this nature. In summary the highlights of these proposals are listed below:

- the public open space network throughout the two precincts follows a consistent suite of principles while responding to the particular landscapes and development types within each precinct
- the quantum of proposed passive public open space within the SSDA boundaries of the two precincts exceeds baseline provision requirements under best practice metrics
- all residents within both precincts will have access to public open space well within the 200m (higher density) and 400m (lower density) access metrics
- the open space within the precincts is extensively linked to the surrounding locality by a network of paths and bridges
- the proposed shared path along Elizabeth Macarthur Creek is a significant element to connect both precincts to the nature and wider open space networks including Caddies Creek Reserve
- Caddies Creek Reserve is to be redeveloped as a large sporting complex to help serve the sporting needs of the new community
- the proposed public realm includes regularly spaced local parks (of varying setting types), a central district level park and path links to and within the Elizabeth Macarthur Creek corridor on the western boundary
- Elizabeth Macarthur Creek forms a critical ecological and open space corridor that bounds and integrates the two precincts
- the proposed streetscapes in each precinct will be highly walkable, cycle-friendly and extensively shaded by broad canopy street trees
- the network of footpaths and cycleways within the precincts promote recreational opportunities and reduce car dependency by permitting safe active transport access to day-to-day destinations and transport.

Importantly, the integrated public realm of parks, paths, bridges, riparian corridor and streetscapes and their associated plantings has been devised to achieve a suite of complementary outcomes for the residents and users of the precincts, including enhanced health and wellbeing, contact with nature, social connectedness, liveability and climate change adaptation.

11.0 REFERENCES AND APPENDICES

HASSELL 2019, Bella Vista Station Precinct Urban Design Report.

SJB 2019, Kellyville Station Precinct Urban Design Report.

Government Architect New South Wales (GANSW) 2018, Greener Places.

Government Architect New South Wales (GANSW) 2018, Greener Places - Open Space For Recreation Guide.

Elton Consulting 2019, Indicative social infrastructure requirements.

Elton Consulting 2019, Bella Vista and Kellyville Precinct - Open space and recreation recommendations.

Department of Planning and Environment 2015, Bella Vista Station Precinct Proposal.

Department of Planning and Environment 2015, Kellyville Station Precinct Proposal.

Department of Planning and Environment 2015, Bella Vista Station Precinct Planning Report Volume 1.

Department of Planning and Environment 2015, Kellyville Station Precinct Planning Report Volume 1.

RobertsDay 2015, Bella Vista and Kellyville Urban Design Report.



Bella Vista Station Precinct Proposal (2015)



Bella Vista Urban Design Report (2019)



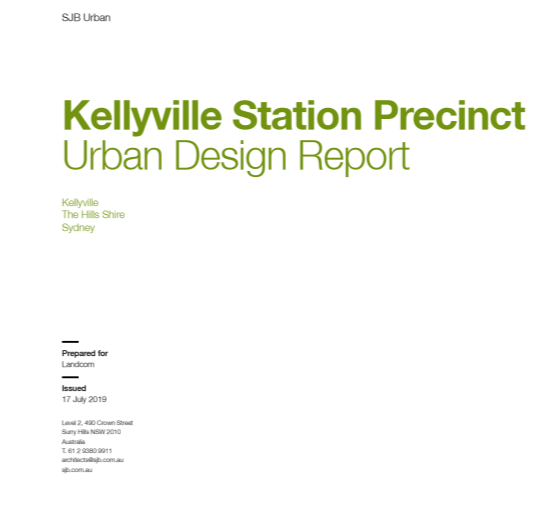
GANSW Greener Places (2018)



RobertsDay Master Plan (2015)



Kellyville Station Precinct Proposal (2015)



Kellyville Urban Design Report (2019)

PROJECT CREDITS

CLIENT
LANDCOM

CONSULTANT TEAM

CLOUSTON ASSOCIATES
Crosbie Lorimer - Director
Josh Harold - Senior Landscape Architect
Chak Chan - Landscape Architect

of

CLOUSTON Associates
Landscape Architects • Urban Designers • Landscape Planners
65-69 Kent Street • Sydney NSW 2000
PO Box R1388 • Royal Exchange NSW 1225 • Australia
Telephone +61 2 8272 4999
Contact: Crosbie Lorimer
Email • sydney@clouston.com.au
Web • www.clouston.com.au

