




**Riverstone East Stage 3
Social Infrastructure
Needs Assessment**

**Dept Planning & Environment |
Blacktown City Council**

26 September 2023 [Final]

Prepared by:





The Planning Studio acknowledges the Traditional Custodians of the lands and waters across Australia and particularly the Dharug, people whose land Riverstone East is on, and pay our respect to Elders, past and present.

We deeply respect the continued Connection to Country of Aboriginal peoples, as part of the oldest living culture and who are the original storytellers, planners, designers. We acknowledge the impacts of displacement and the need for healing through truth telling + deep listening.

We value the stories of place, culture and custodianship and are committed to listen, learn and walk alongside as we plan with communities for equitable, sustainable, generous and connected places and communities.

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Front Cover Photo: Little Athletics at Riverstone Park (source: Riverstone Little Athletics)

Inside Cover Photo: Second Ponds Creek, (source: NSW Government)

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Part 1: Introduction

“The network of social infrastructure contributes to social identity, inclusion and cohesion and is used by all Australians at some point in their lives, often on a daily basis”.

Infrastructure Australia

This Social Infrastructure Needs Assessment is one of the technical documents that inform the preparation of the Riverstone east Stage 3 Structure Plan [Package A] led by Hatch RobertsDay.

This assessment forms part of the wider investigations and precinct planning for Riverstone East Stage 3 being undertaken for Blacktown City Council and the Department of Planning and Environment.

The stage 1 gap analysis report and Enquiry by Design (EbD) workshop developed the initial baseline that this assessment builds on.

The Study Area

The Riverstone East Stage 3 forms part of the Riverstone East Precinct within the North West Growth Area. The Riverstone East Precinct consists of three separate stages (as identified in Figure 1) and within the Blacktown Local Government Area (LGA). It is located less than 50km north west of Sydney's central business district and 20km from Parramatta.

The Riverstone East Stage 3 covers approximately 378ha and is bound by Windsor Road to the northeast, lands designated for Rouse Hill Regional Park in the east, the developing lands within the Tallawong Station Precinct to the south, the developing Riverstone East Stage 1 and 2 lands to the west, and First Ponds Creek in the northwest.

Purpose

This needs assessment focuses on the social infrastructure provision within the Riverstone East Precinct to support the future community. It confirms the potential future social infrastructure demand against the approved benchmarks and assessment criteria and assesses the preferred design outcomes against best practice social planning principles to support the future Riverstone East stage 2 and wider Riverstone East precinct.

The focus of the Riverstone East Stage 3 social infrastructure needs assessment is to:

- Articulate the social planning principles to guide the provision and design of community facilities, parks and open spaces within walking distance of residents and workers.
- Assess the social infrastructure needs, based on demographic analysis, that provides for infrastructure that responds to the projected growth and change.
- Articulate the potential future demand for local, district and regional social infrastructure, prioritising the location of public open space in desirable and well-connected locations.
- Identify the type, size, location and function of the future social infrastructure provision
- Provide recommendations that identifies the likely cost, timing and delivery mechanisms for social infrastructure (**costs not provided in this report, but will be provide by QS once infrastructure needs are confirmed by DPE and BCC**).

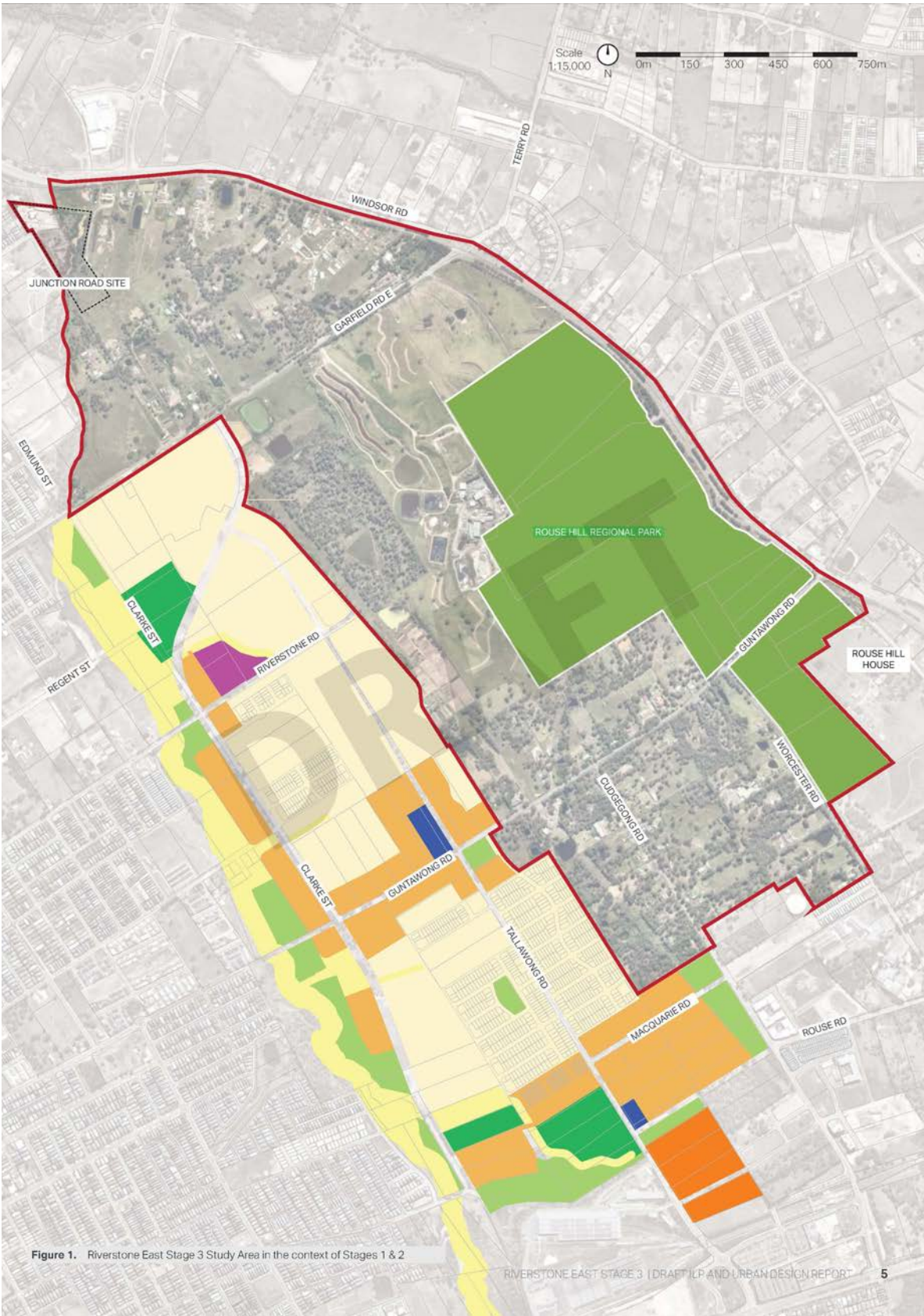


Figure 1. Riverstone East Stage 3 Study Area in the context of Stages 1 & 2

Figure 1: Riverstone East Precinct and Stage 3 (source: Hatch RobertsDay Urban Design Report)

Riverstone East Precinct Stages 1+2 Social Infrastructure + Open Space Planning

While this assessment is focused on the Riverstone East Stage 3, it is part of a larger redevelopment area - the 378.62ha Riverstone East Precinct.

The following provides an overview of the previous planning and recommendations for Riverstone East Stages 1 and 2, which has been the starting point for the social infrastructure and open space recommendations for Riverstone East Stage 3.

This section also summarises previous analysis undertaken by Blacktown City Council subsequent to Stage 1 and 2 approvals and the implications of the increased densities.

Riverstone East Precinct Stages 1 + 2

Riverstone East Stages 1 and 2 are 160ha and 124.6ha respectively. The planning for Stages 1 and 2 was finalised and the land rezoned in August 2016.

The approved Indicative Layout Plan (ILP) for stages 1 and 2 planned for 3,500 dwellings (or up to 10,800 new residents)* and included the provision of social infrastructure such as a primary school **A** and community facilities **B** and open spaces. Table 1 details the type and size of the social infrastructure and open spaces included in the final ILP.

The stages 1 and 2 open space provision (combined) is 34.2ha, which exceeds required provision, based on the 2.83ha/1000 people benchmark that Blacktown City Council has adopted. The main areas proposed include:

- C** along the riparian corridor (First Ponds Creek)
- D** playing fields and passive open space in Stage 1, north of the Sydney Metro Train Facility (SMTF);
- E** playing fields in Stage 2 on the realigned sub-arterial road;
- F** pocket parks located centrally and at the corner of Tallawong and Guntawong Roads in Stage 1; and
- G** additional pocket park centrally in Stage 2

Stage 1 active and passive open space provision

A large area of active and passive open space is proposed north of the SMTF, providing passive open space, a double playing field, and drainage supporting a creek. **C¹** **D**

An area of existing native vegetation is being retained across the southern portion of the entire open space area in accordance with the biodiversity certification requirements for the Precinct and the North West and South West Priority Growth Areas.

Proposed pocket park in Stage 2

Pocket parks are located for the immediate residential area they serve, providing safe and easy access for residents, not needing to cross major roads. They are all located on high points to provide views to and from the open space.

Due to concerns raised by Blacktown Council about a lack of accessible passive open space located amongst the residential area in Stage 2, a pocket park of 0.6ha was included as a post-exhibition change (Lot 1 DP 30211). **G** While there is passive open space located along the riparian corridor within Stage 2, users must cross the sub-arterial road for access. The final location of the pocket park being centrally located within the residential area was agreed upon by DPE and Council post exhibition.

Stages 1 and 2 Social Infrastructure provision

The Social Infrastructure Assessment prepared for the Precinct recommended that a secondary multi-purpose community hub be provided within the new town centre for Cudgegong Road Station Priority Precinct. **B** (Figure 2).

The primary community centre for the area will be located within the Riverstone Priority Precinct and this secondary centre would serve the combined Riverstone East and Cudgegong Road Station populations.

As a result of a merit assessment of potential locations for the community facility, the proposed location of the community facility is within the village centre of the Riverstone East Stage 2 Precinct. This location was agreed as it will achieve the co-location of public facilities with retail uses, shared car parking arrangements and public transport access.

* Prior to the original exhibition, the predicted total dwelling numbers for Stages 1 and 2 were approximately 3,200 (9,000 people based on an estimated density of 15 dwellings/ha. However, following the exhibition, the estimated density was increased to 18 dwellings/ha resulting in a revised and approved dwelling estimate being 3,500.

Figure 2: Riverstone East Stages 1 and 2 Indicative Landuse Plan (source: Department of Planning & Environment)

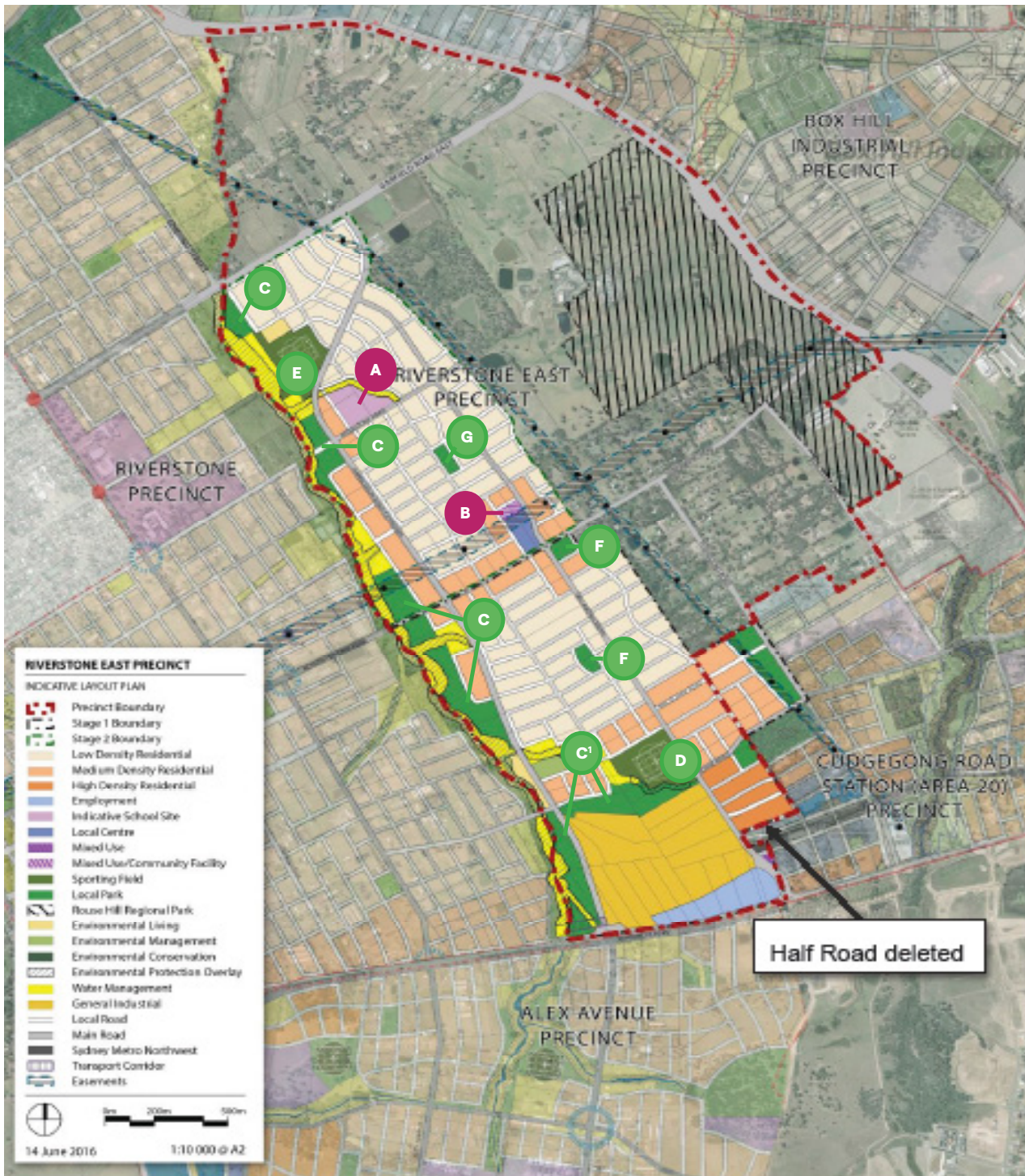


Table 1: Riverstone East Precinct Stages 1 + 2 social infrastructure and open space provision

Type	Stage 1	Stage 2
Community Facility		0.6 ha
Primary Schools		2.5 ha
Social Infrastructure TOTAL		3.1 ha
Local active open space	5.1 ha	5.3 ha
Local passive open space	17.2 ha	6.6 ha
Open Space TOTAL	22.3 ha	11.9 ha

Social Infrastructure + Open Space Assessment Methodology + Approach

Future demand for facilities within the Riverstone East Stage 3 precinct has been assessed using a range of asset-based and floorspace benchmarks, applying the agreed population estimates development as part of the Demographics and Housing Technical Report (prepared by Atlas Economics) and agreed by DPE and BCC.

The benchmarks detailed in Table 3 and 4 (page 11-12), discussed and agreed by DPE and Blacktown City Council staff, are the foundation of the methodology to assess the potential future demand for social infrastructure and open space.

The population benchmarks used in this analysis have been drawn from previous work and planning approaches used by Council and other established benchmarks used for areas with a similar context and character.

Quantitative population benchmarks take an historic approach to the assumptions of future demand and calculating the quantum of social infrastructure and open space that would be required.

It is important that provision standards be interpreted as a guide only, and used in conjunction with other necessary assessment steps, It is important to note that benchmarking processes are not without limitation and they do not take into account:

- New and innovative methods for infrastructure delivery or current leading practice which may not be aligned with current benchmark assumptions;
- How people engage with and generate demand for infrastructure due to their technological, accessibility, cultural and urban density contexts;
- The suitability of spaces including the condition of assets and the range of users serviced;
- The practicality to deliver infrastructure, especially types with significant floor space or land area requirements particularly in places of high land value or with constrained land availability; and
- Varying views as to the acceptable standard and level of infrastructure provision against which benchmarking is to be set.
- No acceptable or established standards for new and emerging types of spaces such as maker spaces, and co-working spaces.

Open Space Assessment

There are two main ways of considering the quantity of open space in a location:

- By area per head of population (population-based approach)
- By proportion of land area and performance of land area (proportion-based approach).

A standard approach to the planning of open space, and assessing the quantity of open space required for a population, is a complex task. Despite the recent release of the NSW Government's Greener Places Policy and design guidance there is still not a consistent and agreed approach in NSW.

Population Approach

Historically, NSW has taken an area-based approach. For example, the superseded Growth Centres Development Code (2006) contained a benchmark of 2.83ha per 1,000 people for 'open space and recreation'.

Whilst the Blacktown Recreation and Open Space Strategy (2017) uses a population-based benchmark of 2.83ha per 1,000 people, it also states that "this provision rate may be out-dated, in the absence of any industry or State Government, we will continue to use this as a starting point for the provision of open space the use of this benchmark"

The Draft Greener Places Design Guide, Government Architect NSW (2020), is the principle guiding document for open space planning in NSW. It argues for a performance-based approach which moves away from the quantification of space. It states:

"Planning that relies on a spatial standard such as 2.8ha per 1,000 people is only effective with high levels of quality control and often works against opportunities for multiple use and innovative solutions. Equally, past approaches such as specifying a percentage of land did not have any direct link to the demand arising from a development"

However, to remain consistent with the benchmarks used previously for the other precincts across the North West Growth Area, Blacktown City Council have confirmed a strong preference to retain the 2.83ha/1000 people as the benchmark used for Riverstone East Stage 3, which has been adopted for this needs assessment.

Performance-Based and Proportion Approach

The Greener Places Policy advocates for a performance based approach to the planning of open space based on the four principles of Integration; Connectivity; Multifunction; and Participation.

To guide performance outcomes, the draft Greener Places Design Guide outlines six core criteria to guide the planning of open space and recreation. These criterion are outlined in Table 2 (page 10). Further guidance is provided in the DPE Public Spaces Charter

Some councils use a proportion-based benchmark of 15% of Net Developable Area (NDA) to determine open space provision. This benchmark was identified in early iterations of the draft Greener Places Design Guide and the draft DPE Urban Design Guideline (which was removed alongside the draft Design and Place SEPP) as a more contemporary numerical based solution that complimented the performance criteria and was a more simple approach for greenfield areas.

For the assessment of future open space demand and provision within Riverstone East Stage 3, these core performance criteria form part of the methodology, along with the population benchmark of 2.83ha/1000 people, used to assess the future open space and recreation demand. to test and refine the concept design developed as a result of the EbD workshop.

In addition, the approach undertaken to date has considered feedback from Council to ensure that the methodology and approach is grounded in the local context. Further advice from the NSW Government Architect Office has also been requested and provided on the interpretation of Greener Places policy and design guidance which has also confirmed and strengthened this needs assessment.

Needs Assessment Methodology + Approach

A point of contention and concern for Blacktown City Council has been the identified shortfall of both social infrastructure and open space across the North West Growth Area, resulting from increased densities being achieved than was originally anticipated and planned.

As part of this needs assessment, The Planning Studio have undertaken a detailed review of Blacktown City Council's 2020 report - 'North West Growth Area – Blacktown Precincts revised growth forecasts' to better understand the forecast shortfall especially for the Riverstone East precincts. In addition, this needs assessment calculated the likely demand for social infrastructure and open space for both Stage 3 as well as the combined Riverstone East Stages 1-3

In doing this, The Planning Studio, along with Hatch RobertsDay, DPE and Council have aimed to identify additional open space and social infrastructure within the Stage 3 Structure Plan area which will contribute to closing the gap, primarily for the Riverstone East and Riverstone Precincts, but also the wider North West Growth Area.

However, in seeking to increase provision above the benchmark standards, the assessment has also been mindful of ensuring decisions are aligned to good planning principles and about the potential cost implications and funding gaps.

This assessment also considers the existing and planned social infrastructure and open space ,within the wider Riverstone and Riverstone East Precincts. The key aspects of the methodology and approach used for the Riverstone East Stage 3 Social Infrastructure and Open Space Needs Assessment are:

- **Total population Riverstone East Stage 3 is forecast to be 9191 people with a upper range of 11,000 persons.**
- **Adoption of the open space population benchmark of 2.83ha/1000 people with a 60/40 split between active and passive open space**
- **Rouse Hill Regional Park has been excluded from the calculation of future demand and open space provision given that it services a regional catchment**
- **Use of the Greener Places core performance criteria to inform the design, location and quality of open spaces and recreation spaces.**
- **Adoption of the definition of open space types as outlined in the Greener Places Policy and draft Design Guidelines.**
- **Use of the range of established social infrastructure and open space population benchmarks, as discussed and agreed by the Blacktown City Council and DPE project teams**

Table 2: NSW Government open space planning core performance criteria (source: *Draft Greener Places Design Guide 2020*)

Core Criteria	Description	Performance Indicators
Accessibility and connectivity.	Ease of access is critical for the community to be able to enjoy and use public open space and recreation facilities	<p>Local access: High-density > 60 dwellings/ha: 2–3 minutes walk /200 m walking distance to a local park (barrier free) Med-low-density < 60 dwellings/ha: 5 minutes walk/400 m walking distance to a local park (barrier free)</p> <p>District access: 25 minutes walk/2km proximity to a district park. District parks also provide local access</p> <p>Regional access: Up to 30 minutes travel time on public transport or by vehicle to regional open space Regional parks also provide local access and district access</p>
Distribution.	The ability of residents to gain access to public open space within an easy walk from home, workplaces, and schools is an important factor for quality of life. The geographic distribution of open space is a key access and equity issue for the community	<p>High-density areas (0.15–0.5 ha public open space) Distance from most houses: 200 m Distance from schools: 400 m Distance from workplaces: 400 m</p> <p>Local distribution (0.3–2ha public open space) Distance from most houses: 400 m</p> <p>District distribution (2–5ha public open space) Distance from most houses: 2km</p> <p>Regional/metropolitan distribution (>5ha public open space) Distance from most houses: 5-10km</p>
Size and Shape.	Size and shape of open space has a direct bearing on the capacity of that open space to meet and accommodate recreation activities and needs	<p>High-density areas: the minimum size of a local park is 3000 m². Smaller spaces can provide local amenity but are not adequate for a diverse range of recreational needs.</p> <p>Medium to low density areas: the minimum size of a local park is 5000–7000 m².</p>
Quality	The quality of design and ongoing maintenance and management is critical to attracting use and activating the open space network	Key characteristics of open space that influence quality include: visual and physical access; landscape setting; demographic, cultural, and community demand; condition of facilities and equipment; maintenance; number of activations within the space; size, shape, and topography; adjacent land uses; amount of vegetation and shade; biodiversity outcomes; safety; sustainability.
Quantity	In low- and high-density areas, good provision of public open space is essential to compensate for the lack of private open space to support active living and contribute to a more liveable neighbourhood.	<p>Quantity should be considered in the number of opportunities available. Larger public open space areas mean more opportunities can be provided in one location.</p> <p>Quantity of land available, along with size and shape, are critical in adequately meeting sporting needs. There are minimum areas needed for different sports.</p>
Diversity	The range of open space setting types within an urban area will determine the diversity of recreation opportunity for communities.	Provision of a range of recreation and open space types to provide a range of opportunities. They should be combined, as multi-use facilities, including playspaces for infants, children and older children; youth recreation spaces; community outdoor recreation areas; fitness and exercise space; trail and path-based recreation; organised sport spaces and off-leash dog exercise areas.

Table 3: Approved social infrastructure benchmarks for Riverstone East Stage 3

(source: as indicated in table and as agreed by DPE and BCC staff)

Type	Scale	Agreed Benchmark [per population]	Additional Design Metrics	Source
Community Facilities				
Community floor space (generic benchmark)		80m ² per 1,000		Parramatta Community Infrastructure Strategy 2020
Multipurpose Community Hub	Local	1 facility per 6,000	450m ² - 750m ² (within 5-10 min walk for most residents)	NWGA Blacktown Precincts revised growth forecasts Riverstone East[2020]
	District	1 facility per 20,000-50,000	750m ² - 1,500m ² (more specialist services, operating a broader district catchment)	
	Regional	1 facility per 50,000+	1,500m ² - 3,000m ² . (Major facilities, libraries: 2,800m ² -5,200m ²)	
Youth Centre	District	1 facility per 20,000		NWGA Blacktown Precincts revised growth forecasts Riverstone East [2020]
Community Space	Local	1 space per 6,000		NWGA Blacktown Precincts revised growth forecasts Riverstone East[2020]
	District	1 space per 40,000		
Library	District	1 facility per 40,000	28m ² per 1,000 people, plus 20% circulation space	The NSW State Library's People Places 2012
	Branch	1 facility per 33,000	35m ² per 1,000 people, plus 20% circulation space	NWGA Blacktown Precincts revised growth forecasts Riverstone East[2020]
Cultural Spaces	Local	20m ² per 1,000		City of Ryde Social and Cultural Infrastructure Framework
Performing Arts/ Cultural Centre	Local	1 facility per 30,000		NWGA Blacktown Precincts revised growth forecasts Riverstone East[2020]
	District	1 facility per 150,000		Shared Community Facilities Review Draft Report [Meccone April, 2022]
	Regional	1 facility per 250,000		Shared Community Facilities Review Draft Report [Meccone April, 2022]
Schools	Primary + Secondary	NSW Department of Education determines needs for school places based on capacity analysis. Council identified a benchmark of 1 school / 4ha.		

Table 4: Approved recreation and open spaces benchmarks for Riverstone East Stage 3
(source: as indicated in table and as agreed by DPE and BCC staff)

Type	Scale	Agreed Benchmark [per population]	Additional Design Metrics	Source
Open Space + Recreation Facilities				
Open Space	Greenfield areas	2.83ha per 1000	Greener Places performance criteria 15% of NDA	GANSW Greener Places Design Guide Blacktown Recreation + Open Space Strategy [2017]
Aquatic Centre	District	1 facility per 20,000-50,000 people		As advised by Blacktown City Council
Indoor Recreation Facility	Regional	1 facility per 50,000		Parks and Leisure Australia, 2012
	District courts	1 per 20,000 - 25,500	Minimum 4 court facility preferred by Blacktown City Council	Parks and Leisure Australia, 2012 Blacktown City Council
Sports Fields		1 playing field per 1,850	Fields are to be provided in a minimum double playing field configuration	Blacktown Recreation + Open Space Strategy [2017]
Outdoor Courts	Netball	1 court per 3,500		Parks and Leisure Australia, Guidelines for Community Infrastructure 2012
	Basketball	1 court per 3,000-4,000		Parks and Leisure Australia, Guidelines for Community Infrastructure 2012
	Tennis	1 court per 4,000	Minimum of 4 court configuration.	Tennis Australia
Adventure Recreation (including BMX, skate park, pump track)	Regional	1 facility per 150,000	Consideration to include spaces for women, girls and gender diverse groups.	Parks and Leisure Australia, Guidelines for Community Infrastructure 2012
	District	1 facility per 25,000		Parks and Leisure Australia, Guidelines for Community Infrastructure 2012
	Local	1 facility per 5,000 [aged 5-24 years]		Parks and Leisure Australia, Guidelines for Community Infrastructure 2012
Playspace	Local	1 per 2,000 people	Playgrounds to provide a diverse mix of play opportunities within 500m walking distance of all residents	Parramatta Community Infrastructure Strategy 2020 Blacktown Recreation + Open Space Strategy [2017].
Outdoor Youth Plaza	Regional	1 facility per 50,000	Provides for recreation, social and creative spaces for young people. Minimum size: 2000sqm Consideration to include spaces for women, girls and gender diverse groups.	Randwick Open Space and Recreation Needs Study
Outdoor fitness station	Local	1 station every 1km		As advised by Blacktown City Council
Dog off leash area	Local	1 space every 3km		As advised by Blacktown City Council
Cycle paths and Fitness trails	Local		To be provided along green corridors	NSW Governments Movement and Place Framework Blacktown City Council Active Transport Strategy (draft)

Revised growth forecasts + unplanned infrastructure needs analysis

Blacktown City Council in March 2020 published a report titled “North West Growth Area – Blacktown Precincts revised growth forecasts’ which detailed an analysis they prepared that compared actual residential development activity against the NSW Government’s forecast supply within each approved precinct plan.

This report identified that residential development activity is occurring at a far greater density than was originally predicted resulting in a shortfall of social infrastructure and open space that is needed.

The report, using benchmarks from the Growth Centres Development Code 2006 that were used to guide the precinct planning, recalculated the additional social infrastructure (over what was identified in the Precinct Plan and s7.11 Contributions Plan) demand generated by the additional lots.

The report also made some assumptions about the additional ‘forecast’ social infrastructure demand that would be generated over the remaining undeveloped land.

The assumptions about the development on the areas of undeveloped land were calculated based on a combination of the actual average residential densities that have occurred to date and, where no actual average density exists, the theoretical maximum density that applies under the Precinct Plan planning controls.

The recalculation of social infrastructure and open space demand was done for the area identified as Catchment 2, which includes the individual precincts of Alex Avenue, Area 20, Riverstone, Riverstone East, and Schofields Precincts. This catchment area is illustrated on Figure 3 below.

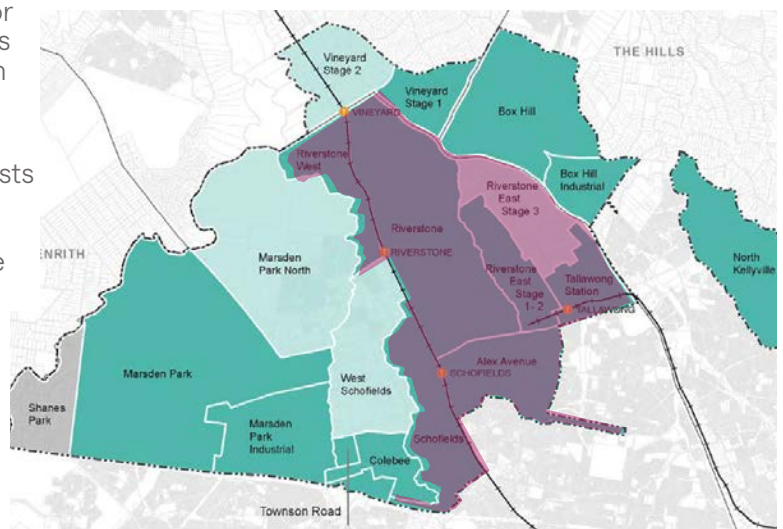
The 2020 report completed an analysis of growth forecasts and associated infrastructure demand for each of the precincts. (Appendix 1 provides a summary of the information in the 2020 report for all of the precincts located in the area identified as Catchment 2, excluding Riverstone West, of which no precinct based analysis was included).

This detailed review of the ‘North West Growth Area – Blacktown Precincts revised growth forecasts report, has been undertaken in direct response to the concerns of Council about the social infrastructure and open space shortfall across the North West Growth Area.

The key points arising from the review of Council’s 2020 report findings and subsequently discussion have informed the future social infrastructure needs of Riverstone East Stage 3 and also the identification of additional provision to contribute to the predicted shortfall.

- It is agreed that there has been an increased growth within the NWGA precincts from what was originally planned and expected,
- The report uses various revised population numbers for precincts within Catchment 2 which result in inconsistent estimates of future growth, of Catchment 2 ranging from 157,582 (46% increase) to 205,327 (110% increase), therefore, it is unclear as to the exact extent of the growth and therefore the forecast shortfall.
- It is noted that at the time this report was published some precincts had only 1% and 2% of the area developed which is difficult to extrapolate a confident development and growth trend from.
- Based on the annual rate of development to 2018 (identified in Table 12), there is a consistent trend of an approximate 32% increase in the number of dwellings and population than what was originally planned. If this trend was to continue in the precincts it would result in an estimated total population of 142,461 for Catchment 2 (excluding Riverstone West and Riverstone East Stage 3).

Figure 3: North West Growth with Catchment 2 highlighted
(source: Department of Planning & Environment)



Riverstone East Stage 3 Social Infrastructure: Summary of Recommendations

The following provides a summary of the open space and community facilities recommendations based on the quantitative and qualitative assessment undertaken.

The assessment approach, as outlined above, has utilised established benchmarks and inputs as well as those requested by the Blacktown City Council and Department of Environment and Planning project team. (see Tables 2-4).

As part of the assessment process, the benchmarks outlined in Tables 3 and 4, have been discussed and agreed to by the Blacktown City Council and Department of Planning and Environment project team.

Council have identified and expressed concerns about a forecast shortfall of social infrastructure and in particular open space across the Riverstone East Precinct and the wider North West Growth Area.

In response to this, the provision of social infrastructure within the Riverstone East Stage 3 precinct has identified opportunities to contribute to the provision for not only the future residents of Riverstone East Stage 3, but also the wider Riverstone East Precinct and beyond.

However, this assessment also considered the potential implications of providing additional open space, in regards to future funding through the existing developer contributions framework as well as the ongoing resourcing that would be required by Council.

Therefore, the future social infrastructure needs has been assessed for:

- Riverstone East Stage 3 at the higher future population estimate of 11,000 persons
- Riverstone East Stage 1 and 2 at Council's higher forecast population of 31,715 persons¹ (an increase of 20,865 persons from the planned 10,850 or a 192% increase)
- The combined total of the future Riverstone East Precinct of 42,715 persons, and also accounting for the proposed social infrastructure provision approved for Riverstone East Stages 1 and 2 (see pages 6 + 7) and documented recommendations in Council's existing studies and plans.

Part 5: Social Infrastructure Needs + Opportunities Assessment provides the detailed assessment for all social infrastructure and open space requirements. This detailed assessment, outlines the existing provision, best practise social planning considerations, and the site opportunities and constraints. It has also considered the Riverstone East Stage 3 social planning principles (see Part 4) and how the recommended provision of community facilities and open space within the stage 3 precinct can deliver on this principles.

Part 6 of this document provides the social infrastructure and open space recommendations from the detailed assessment and a review of the current draft LIP for Riverstone East Stage 3.

1. Information from table 9: Riverstone East Precinct - growth forecasts and infrastructure demand Blacktown City Council, 2020 North West Growth Area – Blacktown Precincts revised growth forecasts, Appendix 1G, pg35

Table 5: Recommended Social Infrastructure Provision for Riverstone East Stage 3

Type	Riverstone East Stage 3 Demand	Riverstone East Total Demand	Considerations and Recommendations
	Based on high growth scenario of 11,000 people.	Based on BCC's high growth scenario of 42,715 people.	
Open Space	31.13ha	121ha Stages 1 + 2: 89.75ha Stage 3: 31.13	<p>The future demand for open space is calculated based on the benchmark of 2.83ha/1000 persons, which is consistent with Blacktown City Council's approach and the that used for the wider Riverstone East Precinct. The provision of open space has also excluded the 96.53ha at Rouse Hill Regional Park, located within the Stage 3 precinct and other areas as discussed and agreed with BCC and DPE project team (see table 6). The Riverstone East Stage 3 open space planned provision illustrated in the draft ILP totals 63.17ha.</p> <p>Blacktown City Council have identified a potential shortfall of open space provision, based on revised growth forecasts for the Riverstone East Precinct (2020 report). Based on Council's high growth scenario for Riverstone East Stages 1 and 2, the potential open space demand is 89.75ha. The planned open space provision for Riverstone East Stages 1 and 2 totals 34.2ha, representing a potential 55.55ha shortfall (if the high growth scenario occurs)</p> <p>The planned provision within Stage 3, not only represents more than double the calculated population benchmark demand for Riverstone East Stage 3, it also provides a significant contribution (36.05ha) to this potential open space provision gap of 55.55ha across the whole of the Riverstone East Precinct. An overview of the spaces proposed in the Stage 3 draft ILP are outlined in Table 6 (page 17).</p> <p>The open space areas identified within the draft ILP have the ability to meet the minimum size requirements in the draft Greener Places Design Guide of .0.5-2ha for local parks and minimum 2ha for district parks. However, when assessed against the Greener Places performance criteria and objectives, the revised location of the northern playing fields presents significant design and delivery challenges. It is recommended that the challenges and constraints of this location be further considered with the finalisation of open space and recreation locations and configurations during subsequent planning and detailed design stages.</p>
Aquatic Centre	Up to 0.55 district facility	1 district facility	<p>There is a recognised shortfall of aquatic facilities in the broader Blacktown LGA, and in the Hills Shire LGA. The future Riverstone East Stage 3 population alone only generates modest demand for aquatic facilities, which could be met by existing facilities. However, the combined forecast population for the whole of the Riverstone East Precinct (Stage 1-3) does generate demand for at least 1 district scale aquatic centre.</p> <p>The Blacktown <i>Open Space and Recreation Strategy</i> has identified an action to investigate works required at Riverstone Swimming Centre to meet the demand for a district level facility with a mix of recreation opportunities. [Action 10.1].</p> <p>This assessment confirms this action, and recommends that this action to upgrade and expand the existing Riverstone Swimming Centre in a district level facility be progressed to accommodate the predicted future demand.</p>
Sports Fields	up to 6 local playing fields	Up to 23 local fields	<p>The future population of Riverstone Stage 3 alone generates a demand of up to 6 local playing fields, which have been accommodated within the Stage 3 draft ILP.</p> <p>The southern and central locations are co-located and meet the Greener Places performance criteria and objectives. However, the revised location of the northern playing fields does not meet the Greener Places performance criteria and objectives. It is recommended that the challenges and constraints of this location be further considered during subsequent planning and detailed design stages. in terms of its accessibility and the environmental constraints identified in this location.</p>
Play space	Up to 5.5 local play spaces	Up to 21 local play spaces delivered as combination of a district playspace and local playspaces.	<p>The future population of Riverstone Stage 3 alone generates a demand of up to 5 local playspaces. It is recommended that the distribution of these spaces are located within 500m walking distance from all residents to maximise the walking access of homes and key destinations. There is potential to provide for a range of play, including: Nature based play spaces, incorporated within linear parks; play spaces co-located within larger district parks, with outdoor courts or half courts to provide for a range of age groups and preferences.</p>

Table 5 cont.

Type	Riverstone East Stage 3 Demand	Riverstone East Total Demand	Considerations and Recommendations
	Based on high growth scenario of 11,000 people.	Based on BCC's high growth scenario of 42,715 people.	
Indoor Recreation Facility	Up to 0.22 regional scale facilities	Up to 0.8 regional scale facilities	The future population of Riverstone Stage 3 alone generates a modest demand for indoor recreation facilities which can be accommodated within existing facilities located near the precinct and through shared use agreements with SINSW. However, the combined population (high scenario) of Riverstone East does generate potential demand for at least 1 district level indoor recreation facility, which could be provided at various locations throughout the broader Riverstone East precinct.
	Up to 0.55 local facility or minimum 2 indoor courts	Up to 2 facilities or up to 8 indoor courts.	
Multipurpose Outdoor Courts	2-3 multipurpose courts	up to 10 courts	The Draft ILP has included the provision of 5 full size outdoor multipurpose courts to accommodate netball, basketball, futsal and other recreation activities. Additional courts could be provided within the areas of open space identified across the draft ILP.
	Up to 3 netball courts	Up to 12 netball courts	
	Up to 3.5 basketball courts	Up to 14.5 basketball courts	
	Up to 2.75 tennis courts	Up to 10.7 tennis courts	
Adventure Recreation	Up to 0.4 district scale space	1 district scale space	There is a demand for Adventure Recreation within the broader Riverstone East Precinct, especially given the scarcity of these facilities across the broader region. The draft ILP provides opportunities for such a facility to be designed to be multipurpose and to also provide outdoor youth plazas. These facilities should be co-located with other active uses and be designed and located so as to ensure passive surveillance is achieved
	Up to 0.7 local scale space	1-2 local scale spaces	
Multipurpose Community Hub	Up to 2 local facilities	up to 1 district and 2 local facilities	The draft ILP and existing plans for Riverstone East Stage 1 and 2 provide a range of community facilities including: <ul style="list-style-type: none"> - a 0.6ha community facility in Stage 2; - 2 community facility sites (north and south locations) in Stage 3
Youth Centre	0.55 district scale facilities	Up to 2 district scale facilities	There is a shortage of youth focused spaces and facilities across the broader LGA. The future demographic profile of Riverstone Stage 3 is predicted to be a significant proportion of couples with children. Therefore it is recommended that the southern community hub location, which is co-located with the school, be designed with a focus on young people with the location of outdoor facilities (ie. skate park/youth recreation space) This location is also relatively close to the central area of Riverstone East Stages 1 and 2.
Schools	Based on SINSW assessment and advice.		Two investigation sites for educational facilities have been identified following discussions with SINSW at the Ebd. The location and size of these sites is subject to further review by SINSW.
Library	Up to 0.33 branch scale library or approx. 759m² total floorspace	Up to 1 district scale library or up to approx. 2000m ² total floorspace	While the demand from Riverstone Stage 3 is modest, the combined demand of the Riverstone East Precinct (high growth scenario) is sufficient to require 1 district scale library. The existing Riverstone Library and Digital Hub is located within 5km of the Riverstone East Stage 3 precinct and is well located in close proximity to the Riverstone Train Station. Therefore, this assessment recommends that the required library floorspace be provided within one of the proposed community hubs and could be delivered as a smaller kiosk style library, that provides space for the return and pick up of library books and materials, reading and meetings spaces. To accommodate demand generated by the development of the Riverstone East Precinct (stage 1-3), investigation into the potential expansion of the existing Riverstone Library, depending on current utilisation and other performance criteria should be undertaken.
Cultural Spaces	approx.220m² local scale space	approx. 854m ² local scale space	The demand for cultural spaces and a stand along performing arts/cultural centre generated by Riverstone East Stage 3 is modest and even when combined with Stage 1 and 2 does not warrant the delivery of a large scale, stand alone facility within the wider precinct. However, consideration should be given for the incorporation of some creative and/or cultural spaces within the proposed multipurpose community hubs to allow for local access to spaces for making and creative activities (ie. maker spaces), or local cultural performance and presentation (indoor or outdoor performance area with access to appropriate infrastructure). Performance spaces can also be accommodated in schools to meet the need of populations for community-based performances and events.
Performing Arts/Cultural Centre	0.4 local scale facility	1 local scale facility	

Table 6: Detail of proposed open space provision for Riverstone East Stage 3

Classification	Uses	Gross Area Proposed
<p>Active Open Space</p> <p>Larger flat land areas that allow for a diversity of active sport and recreation uses, both structured and unstructured. Areas for amenities, supporting infrastructure as well as play spaces and general green spaces</p>	<ul style="list-style-type: none"> - Sports grounds + fields - Outdoor courts - Play grounds and play spaces - Adventure Youth recreation space - Exercise and fitness spaces - Dog off-leash areas - Shade, shelter, picnic tables, regular places to stop and rest, drinking water, public toilets, bins, wayfinding signage etc. 	15.7ha
<p>Passive Open Space</p> <p>Smaller parks that are primarily for passive activities such as picnic, reading and gathering, rest and respite or connecting with nature. Depending on size, may also provide some small scale active uses such as a children play ground, half court or kick-about space</p>	<ul style="list-style-type: none"> - Linear parks - Exercise and fitness spaces - Dog off-leash areas - Shade, shelter, picnic tables, regular places to stop and rest, drinking water, public toilets, bins, wayfinding signage and other amenities. 	36.51ha
<p>Corridors + Connectors</p> <p>Linear parks and spaces which critical links between green spaces and activity centres, as well as biodiversity corridors. These spaces provide important amenity for the precinct, are places to sit and contemplate, provide safe pathways for cycling and walking and with the location of outdoor fitness equipment can be a health and fitness route as well as a getting people from A to B.</p>	<ul style="list-style-type: none"> - Active transport corridors - Natural bushland areas - Riparian corridors - outer edge of riparian vegetated zones. (assumes 20m along corridor) - Seating, bike repair stations and water bubblers - Outdoor fitness/exercise equipment 	2.3ha
<p>Urban Bushland</p> <p>Natural areas and areas of bushland contribute to the amenity of places, the health and wellbeing of the community, enable strong connections to Country and provide environmental benefits, from supporting ecological communities to reducing urban heat and providing shade.</p>	<ul style="list-style-type: none"> - Endangered Ecological Communities 	8.66ha
TOTAL OPEN SPACE PROPOSED		63.17ha
<p>Green Infrastructure</p> <p>These areas are critical to maintain the natural systems such as stormwater. and primarily provide amenity and other environmental and ecological benefits</p>	<ul style="list-style-type: none"> - Inner riparian vegetated zones - (assumes 20m along corridor) - Flood detention - Stormwater and WSUD infrastructure - Vegetated street verges 	31.54ha
<p>Environmental Conservation</p> <p>Areas including non-certified lands (excluding the proposed playing fields within non-certified land)</p>		8.6
<p>Rouse Hill Regional Park</p> <p>Regional parkland under the management of NPNSW providing a range of active, passive and natural open space opportunities.</p>		96.53ha
ADDITIONAL OPEN SPACE WITHIN STAGE 3 PRECINCT		136.67ha

Part 2: Defining Social Infrastructure + Open Space

Defining social infrastructure

Social infrastructure is an important part of our everyday lives – from local public swimming pools, community centres and the local park, to major sporting stadiums, beaches and museums.

The definition of social infrastructure is broad and varying. The Australian Infrastructure Audit defines social infrastructure as “the facilities, spaces, services and networks that support the quality of life and wellbeing of our communities” (2019:388). Definitions also refer to the contribution to community cohesion and resilience.

Social infrastructure is often considered in two categories – the physical (“hard”) infrastructure referring to the buildings and space and the people (“soft”) infrastructure referring to the programs, classes and community networks. The types of social infrastructure are outlined in Figure 5.

Defining open space

Open space comes in a variety of forms, from structured parks and sportsfields to natural ecosystems. All open space types have a role in supporting the social, health, environmental and economic needs of communities.

The GANSW draft Greener Places Design Guide, describes defines public open space as

“open space which is publicly owned and managed by local, State or Federal government and is accessible to the public. Open space can be used for purposes such as personal and social recreation, sport and physical activity, active transport corridors, waterway and riparian corridors, biodiversity and fauna conservation, and visual and landscape amenity. Such settings include natural areas and linkages, foreshore areas, informal parkland, sports grounds and courts, children’s playgrounds, historical sites, formal gardens, and linear walking, cycling, and equestrian tracks”

The types of open space are considered in two categories – structured and unstructured recreation. These types of open spaces are outlined in Figure 4 and 5. It is important that both structured and unstructured are considered when planning for open space. This enables diverse choice and opportunity that cater for broad recreational needs and interests.



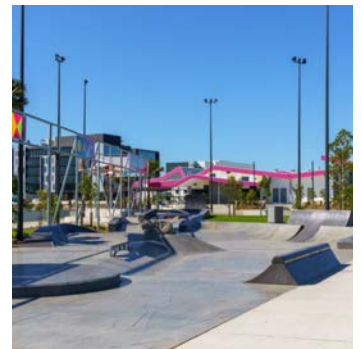
Public Parks



Community sportgrounds



Natural green spaces



Active recreation spaces



Community Gardens



Play spaces



Civic squares + plazas



Walking + Cycling corridors

“ **Social infrastructure is the facilities, spaces, services and networks that support the quality of life and wellbeing of our communities. It helps us to be happy, safe and healthy, to learn, and to enjoy life.**”

- Infrastructure Australia



Figure 5: Types of social infrastructure + open space (source: The Planning Studio)

Social infrastructure hierarchy

Social infrastructure assets are located to provide access to services for as many people as possible, but the type and size of infrastructure varies for different locations and to service different spatial scales. The spatial and environmental context of an LGA will influence the hierarchy and geographic distribution of social infrastructure.

There are currently no universal standards or approaches to the planning of social infrastructure in NSW. In the absence of these, most councils have established their own approaches, which has resulted in the adoption of different social infrastructure benchmarks in different places.

For the purpose of this analysis and strategy, the hierarchy of social infrastructure and open space is defined as being the following:

- Neighbourhood: 1,000 - 5,000 people
- Local: 5,000 - 20,000 people
- District: 20,000 - 50,000 people
- Regional: Serves the whole of the LGA or large population sub region of 100,000+ people

Table 15 provide the social infrastructure hierarchy that is the basis of this analysis.

The importance of social infrastructure

Well functioning cities, towns and places require a diversity of activities that provide social, economic, cultural and environmental value for local communities but also benefits that go beyond the local scale. A network of social infrastructure assets are critical to unlocking the inherent value that exists within Blacktown..

Social infrastructure assets such as schools, sporting clubs, and libraries are commonly the connector in local communities, while facilities such as hospitals and universities, museums and maker spaces provide economic as well as social value, providing local business and employment opportunities or being a catalyst for direct and indirect investment and attraction for new residents.

Connects to local Aboriginal cultures, stories and Country.

Aboriginal Peoples, have been caring for Country in a connected, spiritual way, through generations. Country has diverse and distinct ways of expressing and being understood depending on the people, place, and context.

It is associated with Aboriginal people’s cultural groups, where their ancestors still walk, and the places is known in physical, spiritual, and cultural ways holding these individual aspects harmoniously, storing knowledges like an eternal library. Being in public spaces is part of caring for Country¹.

Knowledge sharing can be intimate and help bond people together. It is vitally important that Aboriginal people retain authorship and control of their cultural knowledge and intellectual property, and how it is shared with others. Aboriginal people must be invited to co-design and co-manage projects rather than just be asked to provide their cultural knowledge, stories, and insights to help develop projects².

Table 8: Social infrastructure + open space hierarchy

Hierarchy	Population (ppl)	Catchment	Examples
Regional	100,000+	15km+ catchment, 30+ minute cycle or drive	- Central library - Museum, Gallery or theatre - Regional park/sports (size: 15+ha)
District	20,000-100,000	5-15km catchment, 15-30 minute walk, cycle or drive	- District branch library - Multipurpose community centre - District park/sports (size: 5-15ha)
Local	5,000 - 20,000	1-5km catchment, 15 minute walk, cycle or drive	- Local branch library - Community centre/hall - Local park (size: 1-5ha)
Neighbourhood	< 5000	800m catchment, 10 minute walk or cycle	- Small community hall - Library kiosk - Community-based childcare - Small park/pocket park (size: 04-1ha)

Creates a physical ‘heart’ of communities

Public space is where public life happens. It includes the streets we walk or cycle in, the town squares we socialise in, libraries we learn in, community halls we gather in and parks, playgrounds and sport fields where we relax or play³. Social infrastructure can be an anchor or a destination within local places and communities, big or small.

They are places the local community come together. They can be places of celebration, of respite and refuge, and places to share knowledge and find “your people”. They are places to discuss ideas and common interests, discover new skills, explore culture and creativity.

More than just a building, but a place to build communities.

The way people use public spaces and community facilities transforms them into meaningful places with layers of shared experiences, collective memories and a mixture of identities. When people feel attached to local places and have a strong sense of belonging and feel a greater connection to each other. This is likely to result in communities that are more likely to adopt, use and care for the space themselves and have a greater sense of belonging to their community⁵.

Social infrastructure provides valuable opportunities to connect with others in the community, to find “your people”, share common interests. Digital connectivity is also a powerful tool to building broad and diverse communities of interest that can cross traditional spatial boundaries, provide access to learning and information and enable greater participation for those that traditional approaches to community building are unavailable to them.

Contributes to social and environmental health and wellbeing outcomes.

Social relationships and human connection can impact our physical and mental health. Communities that have adequate provision to health services, education and prevention programs, as well as parks and open spaces will likely have improved social and wellbeing outcomes.

The design of the built environment is also an important contributors to health. Biophilic design draws from our innate attraction to nature and natural processes to improve the many spaces we live and work in. Connecting people with nature by implementing biophilic design principles in the design of community spaces can help to reduce

stress, enhance creativity and clarity of thought, improve health and well-being of individuals, and communities but also the health of the surrounding environment.

Social infrastructure that is accessible by direct, safe walking and cycling connections that can be used by people of all ages and abilities also contributes to wellbeing. This also creates greater social equity as the ability to access programs is not only for those on high incomes or that live in the strategic centres.

Supports productivity, learning + creativity

Culture and creativity are ways that communities express their identity and narrative about who they are and what they want their place to be. Social infrastructure like libraries, galleries, museums, theatres and public art offers an invitation to explore interests, learn new things, and encourage creative expression through art, performance, and cultural experiences.

Providing spaces and services that encourage learning and productivity such as meeting rooms, co-working spaces, creative studios and maker spaces offer space for collaboration, networking and entrepreneurship. They can positively contribute to the local economy by activating urban centres, fostering innovation and creativity and generate new business and job opportunities that retain investment in the local area.

All of these facilities and spaces are also attractors for locals and tourists alike to visit and experience, which generate positive economic benefits. This can provide a revenue stream and stable employment to support local creative and tourism sectors. Social infrastructure such as libraries and multipurpose community centres when located in town and strategic centres are also significant destinations, increasing foot traffic to surrounding businesses.

Blacktown City’s high rate of residents born overseas is reflected in the large number of annual tourist visits by overseas family members. Visits also tend to be longer than average tourist stays. Having high quality community facilities and spaces is vital in catering for the need of overseas visitors to our city. In the 5 years up to 2021/22, international visitors to Blacktown City were more likely to be visiting friends and relatives, accounting for 59.3% of all visitors

1. Hromek, D (2021) *Statement of Country in NSW Public Spaces Charter*, Department of Planning, Industry & Environment.
2. GANSW 2020 *Draft Connecting with Country Framework*
3. Department of Planning, Industry & Environment (2021) *NSW Public Spaces Charter*

Strengthens community resilience.

A resilient community is socially connected and has infrastructure that can withstand disaster and foster community recovery. Resilient communities promote individual and community wellbeing and cohesiveness to strengthen their communities for everyday, as well as extreme, challenges.

The social costs of natural disasters equal the more clearly defined economic costs – and are sometimes even higher. Natural disasters have wide-ranging social impacts both immediately and into the long term. These impacts are on health and wellbeing, education, employment and community networks which can profoundly affect communities.

Extensive research reveals that resilient and prepared communities are more likely to withstand the negative impacts of natural disasters and that strong social capital correlates to effective recovery.

The provision of social infrastructure that is equitably dispersed will enhance social networks and connections which are critical in times of disaster and recovery.

Blacktown Council has advised that the community hub in Riverstone already functions as a “Cool Centre” on days of extreme heat, offering respite for residents who are vulnerable to the effects of heatwaves. The centre was also used as a NSW Flood Recovery Centre. This highlights the importance of community hubs and the additional role they play during potential future disasters due to the communities location near flood and bush fire prone areas and areas prone to extreme heat waves.

Invites civic participation and involvement.

To meet the changes in people’s needs through different stages of life requires integrated planning and collaboration. We need to build opportunities for economic and civic participation for all our communities, which is critical for ensuring everyone is able to prosper and thrive. Public spaces must also be places that promote equity, inclusion, social justice and democracy. They should allow free expression, collective action, public debate and opportunities for people of all backgrounds to participate in civic life.⁴

Activity engaging communities will help in the decision making about social infrastructure so it responds to the local needs, characteristics and expectations. This also increases a sense of ownership and care for places and facilities.

4. Department of Planning, Industry & Environment (2021) 'NSW Public Spaces Charter.'

Governance

State and local government are central to enabling people to participate in community and civic life. The various roles that both the NSW Government and Blacktown City Council must play in the planning, delivery and management of social infrastructure assets is as the:



Researchers: Continuously review the evidence and data to better understand, and develop policies and plans and implement best practice approaches that support positive outcomes.



Connectors: Engage in ongoing discussions with communities + stakeholders to understand their needs, aspirations and involving them in the planning + governance of facilities + spaces. Council also connects people and organisations to encourage innovation and knowledge sharing.



Supporters: That work in partnership with local organisations and groups to unlock existing community capacity to achieve shared goals. Support can be financial, providing resources, or sharing skills and knowledge. This can be through informal support or a formal partnership to plan, deliver and manage social infrastructure assets or provide essential community services.



Leaders: Be thoughtful and responsible custodians of their community’s assets, aspirations and wellbeing. Local governance frameworks and decision-making is driven by responding to the needs of their communities.



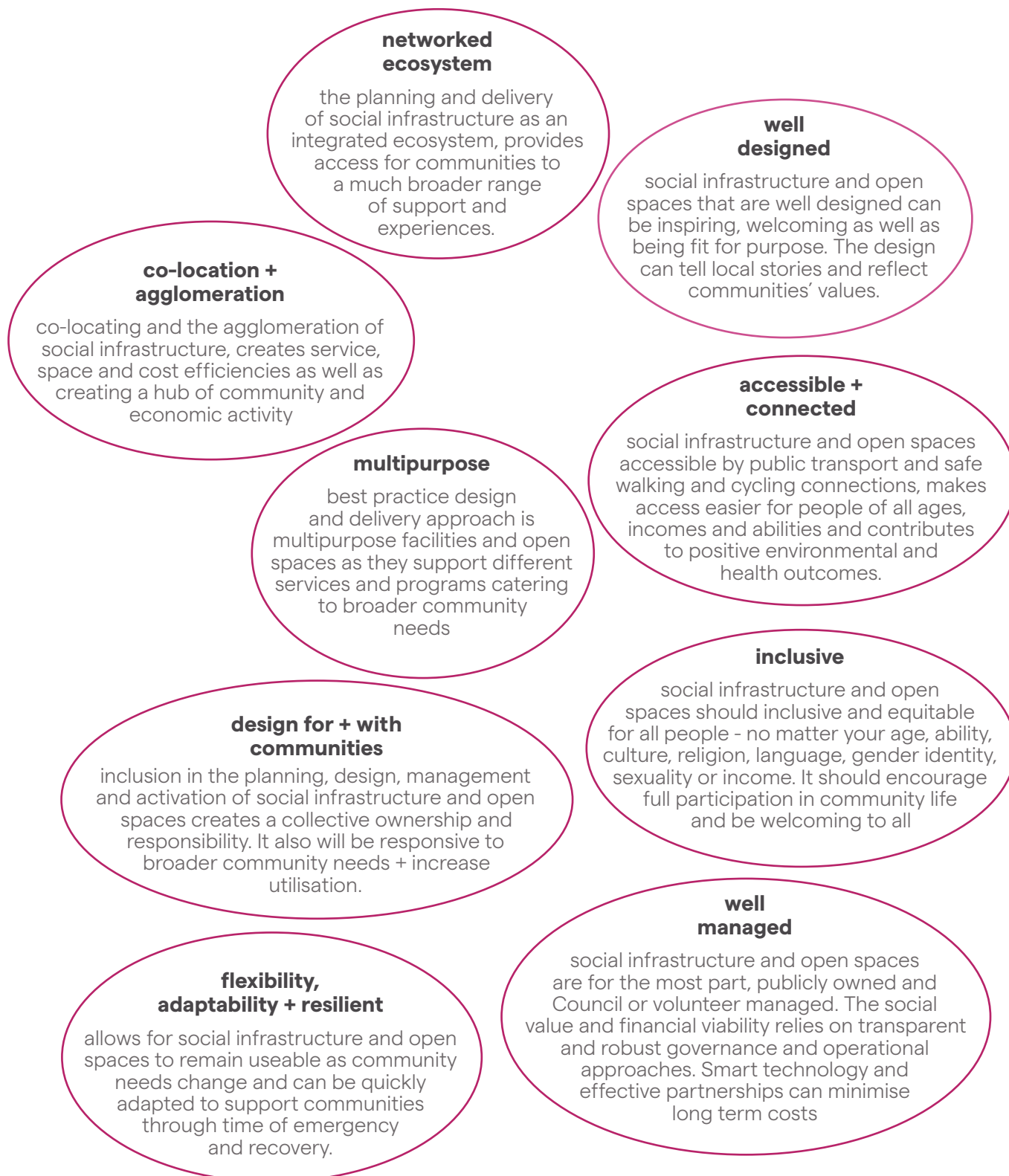
Facilitators: That plan, finance, deliver and manage facilities, infrastructure, places and spaces that strengthen the social capital of communities. They also facilitate programs and activities that provide for the interests and services where and when the community need them.



Advocates: That use knowledge, influence and voice to make positive change. Through partnerships with business, industry, neighbourhood councils and other levels of government, the position to advocate is boosted by having a variety of ideas, credibility in the diversity of people and ‘strength in the numbers.’ Through this, council’s can gain funding, new facilities, and commitment to ongoing research, dialogue and action to support the needs of communities.

Best practice social infrastructure planning + delivery

How social infrastructure is planned, designed, delivered and managed influences the experience of individuals, the resilience of communities and the sense of welcome, and belonging. The following provides best practice planning and delivery approaches that have been considered as part of the assessment approach to the social infrastructure needs and delivery.



Part 3: Strategic Context

This section provides an overview of the policy, place and people context that sets the strategic planning framework for the provision of social infrastructure in the Riverstone East Precinct.

Strategic Context | Policy

International Policy

United Nations 2030 Agenda for Sustainable Development

The United Nations 2030 Agenda for Sustainable Development is a framework of 17 Sustainable Development Goals (SDGs) with a total of 169 Targets spanning economic, environmental and social development.

The United Nations Sustainable Development Goals recognise that access to high-quality public space is critical to social, economic and environmental sustainability. The goals relevant to this study and contribute to creating great places include:

3 Good Health and Wellbeing: ‘Ensuring health lives and promoting wellbeing for all at all ages is essential to sustainable development’. Within the Blacktown LGA, the design and provision of quality public spaces and community facilities will contribute to improved health and wellbeing outcomes, including mental health.

4 Quality Education: ‘Obtaining a quality education is the foundation to improving people’s lives and sustainable development’. Providing opportunities for the community - both young and old - to continuously learn new skills and improve their understanding of the world around them is critical. Access to quality early education and school services as well as providing opportunities through libraries, cultural spaces, and parks will also contribute to the community’s cohesion and connection.

10 Reduced Inequalities: “To reduce inequalities, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalised populations”. Our libraries and public spaces are non-transitional and welcoming for all people to use and enjoy, no matter your age, income or where you are from.

Providing future spaces and facilities that are universally designed to provide equitable access and affordable particularly for socially, economically and transport disadvantaged residents is key to improving resilience and supporting those struggling with the general costs of living are still able to learn, live and be healthy.

The provision of affordable housing options, including social housing and diverse housing typologies is a significant contributor to reducing inequalities, particularly within Greater Sydney. Providing secure housing and tenure, also contributes to greater health and wellbeing outcomes.

State Government + Regional Policy

Connecting with Country [GANSW, 2023]

Connecting with Country is a framework for understanding the value of Aboriginal knowledge in the design and planning of places. Importantly it is informed by the experiences and knowledges of people who are from and work on Countries in and around the Sydney basin.

The ambition of Connecting with Country is that everyone who is involved in delivering government projects will **“commit to helping support the health and wellbeing of Country by valuing, respecting, and being guided by Aboriginal people, who know that if we care for Country – it will care for us”**.

The ambition of the commitment to improving health and wellbeing of Country is to help realise three long-term strategic goals:

- Reduce the impacts of natural events such as fire, drought, and flooding through sustainable land and water use practices
- Value and respect Aboriginal cultural knowledge with Aboriginal people co-leading design and development of all NSW infrastructure projects
- Ensure Country is cared for appropriately and sensitive sites are protected by Aboriginal people having access to their homelands to continue their cultural practices.

Designing with Country Discussion Paper

[GANSW, 2020]

This practical guidance contributes to a better understanding of, and better support for, a strong and vibrant Aboriginal culture in the built environment. The paper outlines three essential elements of designing with Country - architecture; passive design; and biophilic design (the innate relationship between people and nature). All of these elements should be the basis for the future design of social infrastructure within the Riverstone East Precinct.

Greener Places [GANSW, 2020]

The Greener Places document outlines four principles to help deliver green infrastructure in NSW. These principles have been incorporated into the overall social infrastructure principles proposed to inform the future planning within the the Riverstone East stage 3 Precinct. Identified design actions particularly relevant to Riverstone East include:

- Enable use of publicly owned assets such as disused railway corridors or land adjacent to creeks and stormwater channels.
- Investigate and enhance physical and functional connections between different green spaces to create an interlinked system.
- Create a network of green streets that are connected and encourage walking and cycling.
- Design spaces that foster interaction and stewardship, community identity, sense of connectedness and community capacity.
- Ensure that the parks contribute to the value and understanding of place.
- Create open space as part of urban renewal that connects and enhances the new project through high quality, high-performing green space.
- Determine a clear understanding of user needs and demands to understand the requirements for multi functionality.
- Discover and balance the interest of many different stakeholders to maximise the benefits of proposed green space.
- Encourage the use of currently underutilised open space corridors for local community use.

Draft Greener Places Design Guide [GANSW, 2020]

The Draft Greener Places Design Guide framework provides information on how to design, plan, and implement green infrastructure in urban areas. The draft guide provides a consistent methodology to help State and local government, and industry create a network of green infrastructure.

The guide recommends a performance based approach, encouraging consideration of its purpose, activities it will support and what opportunities area available - a focus that goes beyond the on quality rather than quantity and spatial standards. It describes six core criteria, supported by a series of performance indicators, to help guide performance outcomes, subject to precinct considerations:(see Table 2)

The strategies for providing open space for recreation outlined in the Draft Guide along with the criterion and performance indicators have been used as a basis for this assessment. They include:

- Improve the provision and diversity of open space for recreation
- Understand the demands on existing open space, and plan for open space in new and growing communities
- Improve the quality of open space for better parks and facilities
- Use open space to connect people to nature
- Link to the network of green infrastructure
- Encourage physical activity by providing better parks and better amenity.
- Provide open space that is multi functional and fit for purpose
- Design versatile, flexible spaces
- Consider life-cycle costs, management and maintenance.
-

Greater Sydney Regional Plan - A Metropolis of Three Cities [Greater Sydney Commission, 2020]

The Greater Sydney Region Plan sets a 40 year vision and establishes a 20-year plan to manage growth and change. The strategic framework of this Plan is around ten directions which also the objectives that guide the Central District Plan.

Staying Ahead: State Infrastructure Strategy 2022-2042 [INSW, 2021]

The 2022 State Infrastructure Strategy notes that “community wellbeing is supported by access to open and recreational spaces, such as parks, sporting and cultural facilities, as well as infrastructure that supports walking and cycling (active transport)” [pg.72].

The SIS also recognised the importance of local community facilities and multi use assets in the prevention, preparedness, response and recovery from shock events and increasing community resilience. It also identifies that integrating open space and active transport infrastructure into existing assets is one of the key design principles highlighted by the NSW Government Architect.

There are opportunities for Riverstone East Precinct, as a whole and Stage 3 to prioritise active transport infrastructure program to support liveability and 15-minute neighbourhood including a connected metropolitan cycling network for Greater Sydney. This was also a priority from the community for greater cycle and walking connectivity.

Better Placed [GNSW 2020]

Better Placed outlines seven objectives as to how a built environment, including public buildings, can be well-designed and:

- Is a better fit within a diverse environment, and contributes to the character and quality of place.
- Is better for the community, where all people feel welcome, included and valued, and where the streets, open spaces and community buildings are inviting and accessible.
- Is better for people because they are safe, comfortable and vibrant, supporting social interaction and enjoyable, healthy lifestyles.
- Is better working by accommodating fit for purpose activities, and also responding to changes over time, where interventions create new use potentials, while retaining the embedded value in our built environment.
- Delivers better value economically, socially, environmentally and culturally, and in return are highly valued by community.
- Reflects a better look and feel as they are refined, aesthetically considered and built to last, creating an engaging, and balanced experience.

Resilient Sydney 2030 *[Resilient Sydney 2018]*

Sydney is a metropolis that is connected, inclusive and resilient. We are one city. This strategy sets a direction and vision to strengthen Sydney's ability to adapt and thrive in the face of increasing global uncertainty and local stresses. The provision of accessible social infrastructure is one of the important ways to achieve this vision and the five supporting directions, all which have relevance to the Riverstone East Precinct.

NSW Cultural Infrastructure Plan 2025+

[CreateNSW]

The Cultural Infrastructure Plan 2025+ provides the strategic framework for how the NSW Government will invest in and support cultural infrastructure across the state until 2025 and beyond. The Plan articulates the strategic priorities for NSW to be a place where culture is recognised as an integral part of communities and a key element of creating great places for people to live, work, visit, play and do business including goals to ensure that:

- Everyone can access the infrastructure they need to make culture part of their everyday lives.
- There is an increased availability of affordable, fit-for-purpose and sustainable space to support growth of the cultural sector and creative industries.
- Cultural infrastructure delivery and funding is supported by partnerships across NSW Government, local councils, cultural organisations, philanthropists and business.
- Greater Sydney's three cities become a leading cultural capital in the Asia-Pacific and continue to grow the visitor economy, employment and growth.
- Creativity and access to culture thrives across NSW through a strategic and coordinated approach to cultural infrastructure planning.

Joint Use of Schools Facilities and Land Policy,

[Department of Education]

This policy encourages shared use of school facilities (such as open space and sporting facilities), with significant investment in new, upgraded or maintained facilities.

'Joint use' is where the Department and other parties make significant investments (land and/or capital) in new facilities, upgrading facilities or maintaining facilities.

The asset is typically shared between the school and the other parties over an extended period of time, or the lifetime of the asset. These projects are voluntary and may include cost-sharing for maintenance of school grounds and buildings, and improved access to available social infrastructure.

School Site Selection and Development Guidelines *[Department of Education, 2020]*

A range of issues need to be considered when identifying a site for a new school. Each new school site proposed brings with it a range of risks, opportunities and constraints. The suitability of any site for new or extended school infrastructure needs to be assessed on a case-by-case basis to ensure the requirements of the school development can be met appropriately.

The Guideline outlines a series of criteria relating to the size, topography and shape of sites, minimum floorspace and design standards, contextual and locational considerations. In consultation with Schools Infrastructure NSW, the criteria has been considered in the needs assessment.

Age Well in NSW: Seniors Strategy 2021-2031

[Department of Communities and Justice, 2021]

The Strategy acknowledges that there is a need to focus on older people from marginalised communities, such as Aboriginal and Torres Strait Islander peoples, the LGBTIQ+ community, people with disability and living with chronic illness, and people from cultural diverse communities.

The focus areas identified in the Strategy are key considerations in the future planning and design of social infrastructure considerations include:

- Living in age-friendly environments,
- Participation and inclusive communities, .
- Social isolation and loneliness

Her Sport, Her Way: Women in Sport Strategy,

[Office of Sport]

The Women in Sport Strategy focus areas include participation; places and spaces; leveraging investment; and leadership. Equitable allocation of playing spaces, training venues and other resources is emphasised as a key need. Equitable allocation of playing spaces, training venues and other resources is a key action to increase participation and the improvement of existing lighting and amenities to reduce immediate barriers for women and girls is a baseline action.

Everyone Can Play Guidelines [DPE, 2020]

Everyone Can Play is a set of design principles and best practice recommendations for play spaces in NSW, focusing on inclusive play spaces. An inclusive play space invites people of all ages, abilities and cultures to come together to socialise and thrive. The guidelines also explore the concepts around nature and water play as well as place and play.

NSW Public Spaces Charter [DPIE, 2021]

The NSW Public Spaces Charter supports the planning, design, management and activation of public spaces in NSW. The Charter defines public spaces as: “all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive”.

The quality of a public space is just as important as its availability. To define quality, the Charter identifies ten principles. (See Figure 3). These principles have been incorporated into the quality assessment completed as part of this baseline analysis.

The quality of a public space is reflected not only in its physical form—how its designed, maintained and integrated with its environment—but also through the activities it supports and the meaning it holds. It is what makes people feel safe, welcome and included—a place where they want to keep coming back. The Charter poses four key questions to evaluate the quality of public spaces:

- Am I able to get there?
- Am I able to play and participate?
- Am I able to stay?
- Am I able to connect?

People Places: A Guide for Public Library Buildings in New South Wales

[NSW State Library 2013]

The People Places document is a guide for developing public library buildings that provides information on the planning tools, needs assessment process. A needs assessment can be based on:

- Identified need
- Normative need
- Comparative need
- Benchmark based need

This guide has been the basis for the population benchmarking assessment of library and the potential future demand.

Central City District Plan

The Central City District Plan is a 20-year plan to manage growth in the context of economic, social and environmental factors to achieve the 40-year vision for Greater Sydney. It provides oversight and connection between regional planning set out in the Region Plan and local planning undertaken by Councils.

The District Plan informs Local Strategic Planning Statements (LSPS) and Local Environmental Plans (LEPs), as well as community strategic plans and policies.

The District Plan identifies planning priorities to achieve a liveable, productive and sustainable future for the District. It embeds relevant objectives, strategies and actions from the Region Plan to integrate the District’s challenges and opportunities with the vision for Greater Sydney as a metropolis of three cities. It ensures consistency and holistic planning occurs across local government boundaries. Within the Central District are the City of Blacktown Council, Liverpool City Council, City of Parramatta Council and Cumberland City Council.

The priorities and objectives relevant to the City of Blacktown are identified in the LSPS.

Controlled activities – Guidelines for riparian corridors on waterfront land, DPE Water

This Guideline identifies the considerations in the issuing of controlled activity approvals under the Water Management Act 2000 for development occurring along riparian corridors. This guideline seeks to ensure no more than minimal harm will be done to waterfront land as a consequence of carrying out the controlled activity.

The guideline will form an important consideration in identifying acceptable uses which occur within a riparian corridor. The guideline identifies that a riparian corridor forms a transition zone between the land and a watercourse. The guideline recognises that riparian corridors fulfill various functions but are appropriate for passive recreational uses.

Easement Guidelines - Living and working with electricity transmission lines [Transgrid]

Riverstone East Stage 3 is partially affected by Transgrid easements for transmission lines (330kV transmission line - TL20 Str 558-62). Whilst this is a site constraint, Transgrid has clear guidelines which inform what type of uses can occur within the easement. This is an important consideration in identifying locations of open space. Within the easement there is a portion which can be utilised which is identified as an exclusion zone.

These exclusion zones vary depending on the type of easement and transmission line, but for transmission lines which are 220kV and above they apply as follows:

- any area located within 30 metres of any part of a transmission line structure or guy wire; and
- any area within 17 metres of either side of the centre of the transmission line.

Outside of the exclusion zone, the following applies, subject to Transgrid review and permission:

- No unmanned aerial vehicles (drones), kite flying or model aircrafts, and "warning signs" are installed
- Any structures, obstructions, seating or features (such as picnic areas) are located outside the exclusion zone and do not block access tracks to transmission line structures or guy wires
- Parallel roads, walking tracks, footpaths, cycleways and fenced dog parks are located outside the exclusion zone Note: Roads, tracks, footpaths, cycleways and fences which propose to cross the transmission line as a thoroughfare, require Transgrid's permission.

Blacktown City Council

Blacktown City Council Local Strategic Planning Statement 2020

The Blacktown LSPS vision is that the Riverstone Precinct ***"is for people to be able to access their nearest strategic centre on high-frequency public transport. We will focus growth and development in defined Urban Renewal Precincts and we will continue to work across government to deliver well designed new communities in the NWGA (North West Growth Area)"***.

The LSPS identifies that the State significant and State funded Rouse Hill Regional Park will be expanded and include areas for active recreation such as organised sports and more places for people to exercise and relax. The Regional Park is a special place that attracts regional visitors. The Rouse Hill Regional Park's expansion will encourage more people to visit.

The LSPS also notes that the provision of infrastructure has not kept pace with the rate of development within the NWGA, despite detailed place-based planning having been undertaken. It identifies that an accelerated delivery program is urgently needed for the following major infrastructure projects to support new communities.

The document suggests that Western Sydney is generally not serviced by the same level of State-based infrastructure as in the inner and middle-ring suburbs. Concluding that this has resulted in a backlog of inadequate infrastructure.

Within the NWGA, the LSPS highlights that "new community facilities are essential for emerging communities to thrive as great places. However, current State policy does not allow the construction of community facilities to be funded from section 7.11 contributions, leaving a cumulative shortfall of more than \$300 million in the NWGA for Blacktown City alone".

The LSPS identifies that several community facilities have been planned around Riverstone such as future community hub, leisure/aquatic centre, and a library. A future Rouse Hill Health Precinct and a community hub has been planned in Riverstone East, with proposed improvements of the rail and road network and proposed provision of bus services.

Planning priorities and actions outlined in the LSPS and relevant to inform the design and provision of social infrastructure within Riverstone East Stage 3 include:

- Action 4: Continue to maintain and upgrade essential community infrastructure in areas in Blacktown City to meet contemporary standards [ongoing]
- Action 8: Collaborate with the NSW Government to improve the funding model for community facilities in the NWGA [short term]
- Action 9: Collaborate with the NSW Government to rectify the gap in planning for and provision of infrastructure arising from development occurring at higher densities than forecast in the NWGA, impacting on transport, open space, schools and other community facility needs [short term + ongoing]
- Action 11: Collaborate with the NSW Government and other education providers to maximise opportunities for shared and joint use of education facilities.
- Action 15: Plan for facilities and spaces that foster healthy, creative, culturally rich, safe and socially connected communities.
- Action 16: Plan for arts, culture, health and social interaction opportunities in the masterplanning for Strategic Centres and Urban Renewal Precincts, supported by equitable funding
- Action 35: Investigate a future health precinct around the planned Rouse Hill Hospital
- Action 49: Collaborate to address the shortfall in open space and recreation facilities in the NWGA
- Action 50: Collaborate to maximise shared and joint use of school facilities to optimise community use of recreation space
- Action 51: Plan for open space and recreation when masterplanning Strategic Centres, Urban Renewal Precincts and the NWGA

Council's LSPS identifies Riverstone as one of four key strategic precinct within Blacktown City. Riverstone Precinct is expected to align with the growth of Greater Parramatta.

Council has identified a structure plan and key moves which will guide the future of Riverstone Precinct. (Figure 6). The LSPS also identifies the provision of future community hubs across the LGA. Figure 7 shows the location of the future community hubs and facilities. Blacktown Recreation and Open Space Strategy [2017]

The Blacktown Recreation and Open Space Strategy identified a network of over 900 parks across the Blacktown LGA. and that the NWGA will add about 150 new parks to this network.

The Strategy outlines numerous objectives and actions relevant to consider in the planning for Riverstone East including

- Provide a diverse range of recreation opportunities that will benefit the health and wellbeing of our community. Actions include to increase the provision of fitness stations, and leisure based sports such as mountain biking, badminton etc)
- Provide opportunities to capture the shift towards informal sport and recreation activities., including walking and cycling.
- Improve our understanding of recreation spaces for young people in our city. Actions include to expand the provision of youth spaces from skate parks and sporting courts to areas which engage youth of all ages and abilities such as parkour areas, fitness equipment, dance spaces and areas to sit and socialise.
- Investigate works required at Riverstone Swimming Centre to meet the demand for a district level facility with a mix of recreation opportunities. [Action 10.1]
- Identify locations for indoor sporting provision in the North West Growth Centre [Action 11.1].

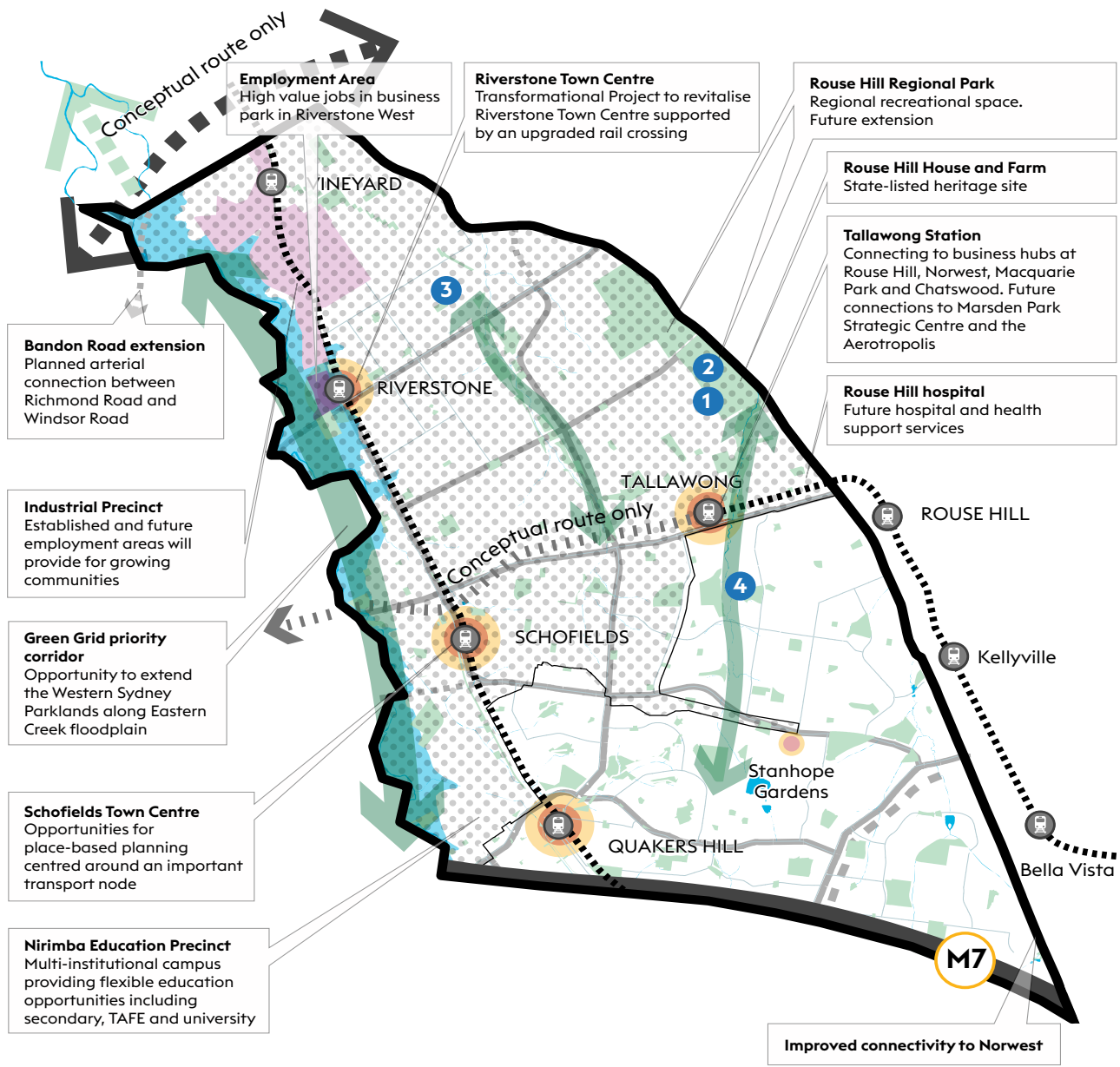
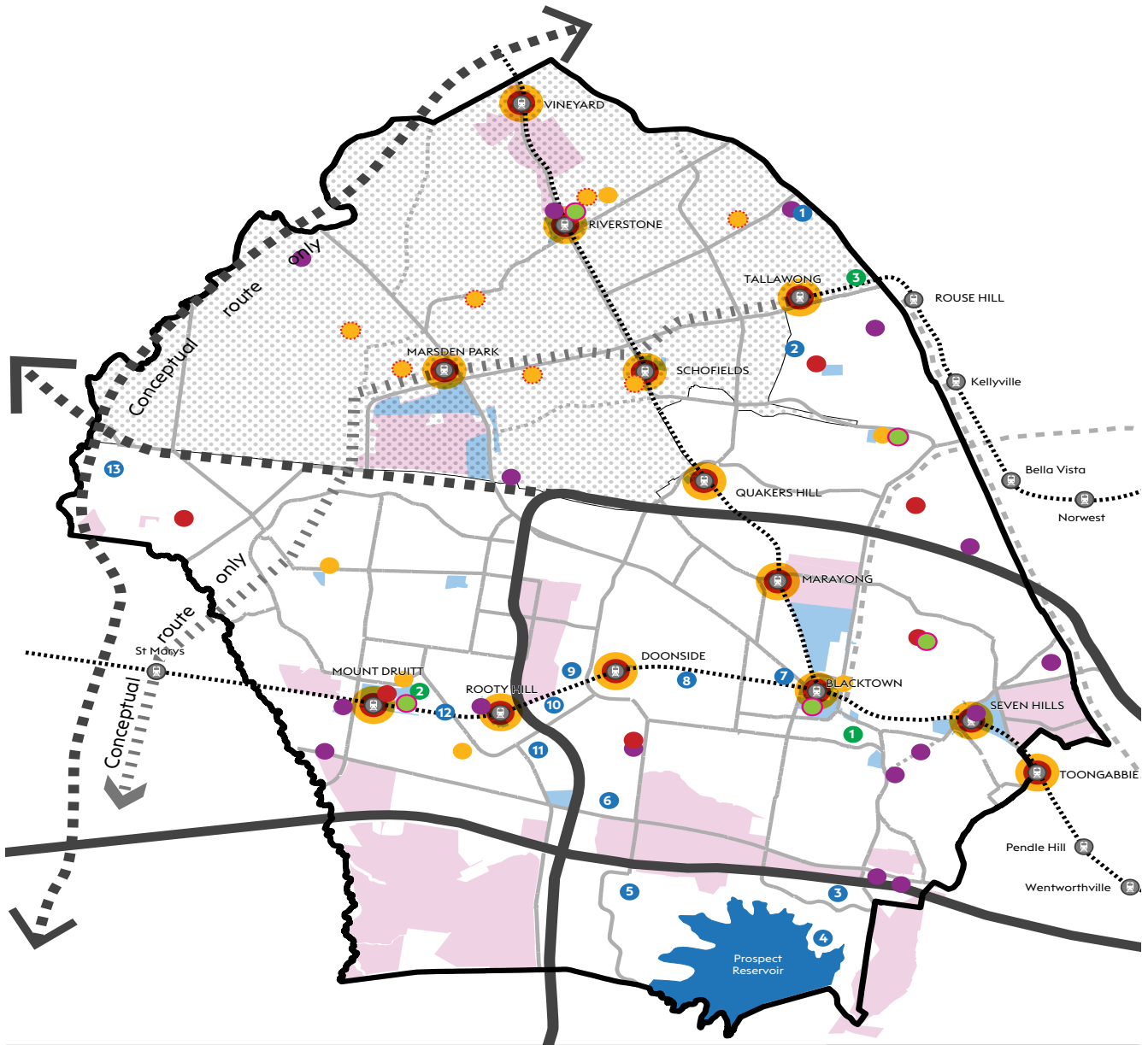


Figure 6: Riverstone Structure Plan (source: Blacktown City Council)



LEGEND		Great Places
.....	Proposed roads	<ul style="list-style-type: none"> 1. Rouse Hill Regional Park & Rouse Hill House and Farm 2. Second Ponds Creek corridor 3. Raging Waters Sydney waterpark 4. Prospect Reservoir 5. Blacktown Motorsports Precinct 6. Sydney Zoo 7. Blacktown Showground 8. Featherdale Wildlife Park 9. Nurragingy Reserve 10. Blacktown International Sportsark 11. The Rooty Hill 12. Sydney Coliseum Theatre 13. Wianamatta Regional Park
—	Major roads	
- - -	Transitway	
.....	Existing rail network and stations	
.....	Proposed rail network and stations (conceptual route only)	
—	Motorways	
- - -	Proposed motorways (conceptual route only)	
■	Employment areas	
■	Key business areas	
■	North West Growth Area	
●	Urban Renewal Precinct	Health Precincts
●	Leisure/aquatic centre	<ul style="list-style-type: none"> 1. Blacktown 2. Mount Druitt 3. Rouse Hill (future)
●	Future community hub	
●	Community hub	
●	State-listed heritage site	
●	Library	

Figure 7: LSPS, future community hubs across the LGA (source: Blacktown City Council)

Adjoining Councils

The Hills Shire Council

The Riverstone East Precinct is located at the edge of the Blacktown Council and Hills Shire Council boundaries. Accordingly, a review has been undertaken of the relevant policies of the Hills Shire Council.

The Hills Shire Council's Local Strategic Planning Statement 2019 and supporting Recreation Strategy 2019 identifies that there is sufficient active and passive open space planned for within the LGA with the exception of West Pennant Hills, subject to upgrades and improvements of existing active and open spaces. The Hills Shire Council has identified that Connie Lowe Reserve (identified on Figure 3) is to be upgraded from a local park to a suburban park.

There is a predicted short fall of indoor recreation facilities, and a need for a new Aquatic Facilities, however Council's future planning recognises the existing aquatic facilities at Stanhope Gardens and Riverstone. This review considers the open space and community facility demand within the Hills Shire LGA, noting that the future and existing community will utilise services on both sides of the boundary.

Hawkesbury City Council

Hawkesbury City Council is currently developing a Hawkesbury Social Infrastructure Strategy which is expected to guide future decisions about the planning, delivery, funding and management of open spaces, sporting and recreation facilities, and community, and cultural facilities.

Strategic Context | People

Blacktown is one of the fastest growing LGAs in Australia, and within ten years it will be home to more than half a million people.

As part of the preparation of the Riverstone East Structure Plan, Atlas Urban Economics have undertaken an analysis of the demographics of.

- 'Riverstone' - Marsden Park North, Riverstone and Riverstone East Stages 1-2.
- 'Marsden Park' - Marsden Park, Shanes North, West Schofields and Marsden Park Industrial.
- 'Schofields' - Schofields and Alex Avenue.
- 'The Ponds' - The Ponds suburb.
- Tallawong' - Tallawong

These areas are identified in Figure 8 below.

Population Growth

The Precincts recorded a population of approximately 69,800 residents in 2021. The Riverstone precinct largely accommodates Stages 1 and 2 of Riverstone East which were rezoned in 2016. Over the 2016-2021 period, the resident population of Riverstone added 5,600 new residents, to reach 12,800 residents in 2021.

The Ponds comprises the most established residential estates across the Precincts, with development occurring over the last two decades to 2016. In 2011, it recorded an estimated resident population of 3,010 residents, growing at an average annual rate of 31% to reach 11,640 residents in 2016. In 2021, The Ponds population reached 16,300 residents.

The growth of each precinct is aligned to aligned with their various stages of residential development. The Riverstone resident population is similarly expected to accelerate following the more recent rezoning of Stage 1 and 2 in 2016.

Population growth in The Ponds was most notable immediately following its land release in 2016, with growth slowing over the period to 2021 upon build-out.

Previous place of Residence

55% residents (~30,900) were already living in the Blacktown LGA in 2016. This implies that 45% of the Precinct population in 2021 were residing elsewhere in 2016.

A large proportion of existing Precinct residents lived in surrounding LGAs in 2016 - of which, 9% relocated from Parramatta LGA. The Precinct also attracted residents from other areas adjacent to the Blacktown LGA, namely the Hills Shire and Cumberland LGAs. Combined, residents relocating from the Hills Shire LGA, Cumberland LGA and Parramatta LGA accounted for 23% of Precinct residents in 2021.

2% of Precinct residents lived in the Penrith LGA in 2016, situated immediately west of the Blacktown LGA. New developments within the Precincts attracted almost 40% of residents from areas outside the Blacktown LGA over the 2016-2021 period.

Age

In 2021, most Precinct residents were aged 25-49 years, typically reflective of the young workforce and parents/ homebuilder age cohorts.

The younger age cohorts consisted of babies (0-4 years) and primary schoolers (5-11 years). This proportion was highest in Marsden Park, where some 4,200 babies and primary schoolers were recorded in 2021, accounting for 26% of the population collectively.

Whilst dependent children were also in the The Ponds population, they were generally older. In 2021, approximately 2,570 primary schoolers were recorded in the Ponds (16%) followed by 1,700 secondary schoolers (10%). 8% of the population was aged 4 years and under (1,260 residents).

The analysis by Atlas Urban Economics indicate that most residents are young and middle-aged, many of whom have dependent children.

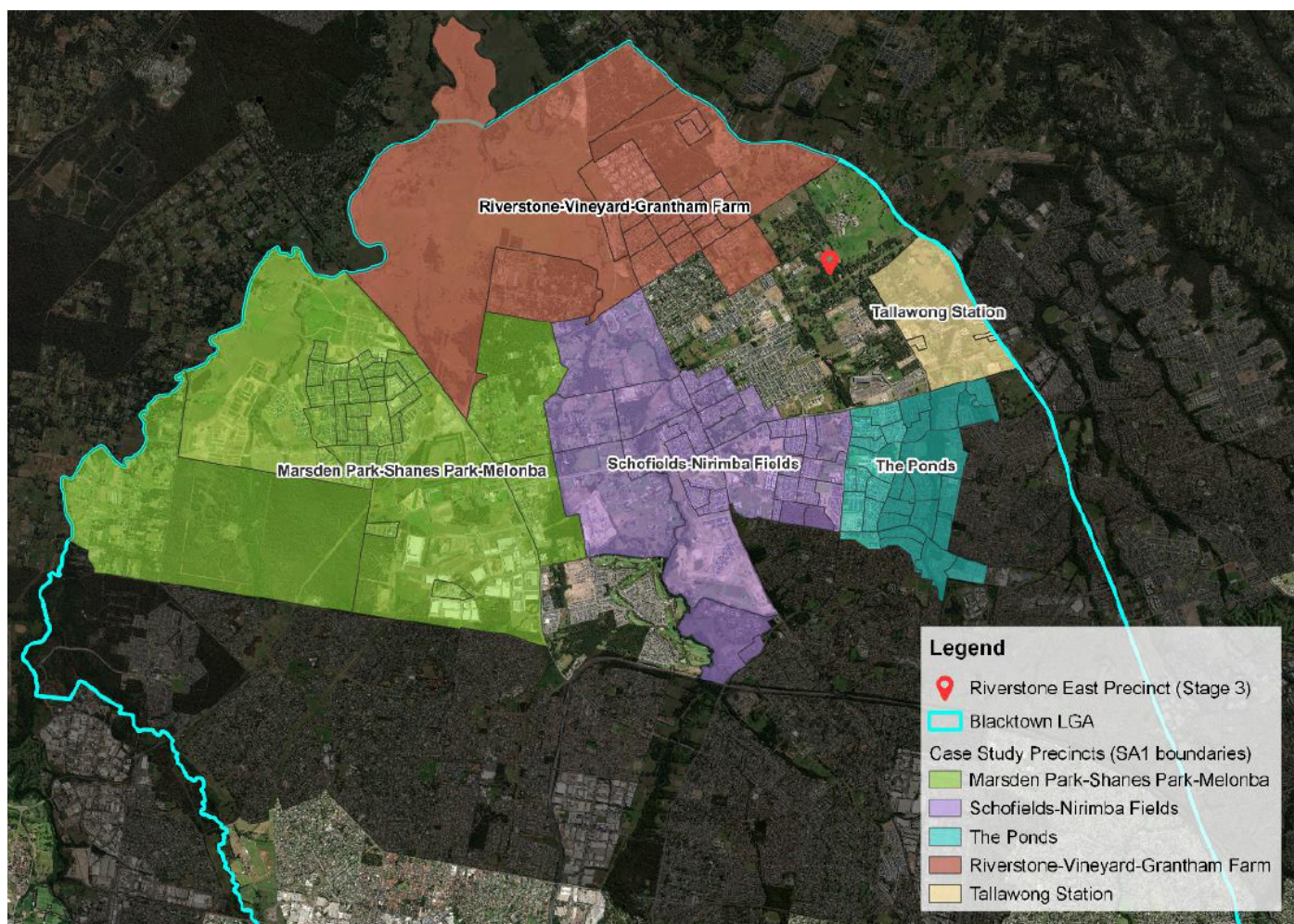


Figure 8: Atlas Economics analysis catchments (source: Atlas Economics)

Average Household Size

In 2021, the majority of households (30%) within the Precincts comprised of four persons, reflecting the average household size. Riverstone households were generally smaller, with a dominant 28% comprising two persons followed by 25% in Tallawong.

70% of households (approx. 12,600 households) across the Precincts were larger sized with three or more persons. The Ponds accommodated the largest households, with 77% (approx. 3,500 households) comprising at least three persons.

In 2011, the average household size within the Precincts was two persons per household, accounting for 30% of households.

Household Types

In 2021, households within the Precincts were mostly couples with children. The Ponds recorded the highest number of 3,200 couples with children households, which accounted for 68% of its resident population.

Over the 2011-2021 period, Marsden Park and Schofields had more couples with children households.

Riverstone has experienced significant growth of couples with children households. In 2011, some 800 couples with children households were recorded, representing 36% of Riverstone households. By 2021, this rose to some 1,880 households, accounting for 44% of Riverstone households.

The analysis by Atlas reveal the attractiveness of the Precinct to families, with couples with children representing the dominant household type in 2021. This is aligned with the increasing household sizes observed in the last decade.

Resident Occupation Profile

In 2011, white-collar occupations (i.e., managers, professionals, community/ personal service workers and clerical/ administrative workers) accounted for less than 50% of resident workers in Riverstone, Marsden Park and Schofields each. Over the 2011-2021 period, an increasing number of white-collar workers (and fewer blue-collar workers 'technicians, machinery operators and drivers, labourers') were recorded across the Precincts.

By 2021, an overwhelming majority of residents within the Precincts had white-collar jobs. The change in occupation profile was most significant in Marsden Park, which recorded 22% more professionals (from 8% of jobs in 2011 to 30% in 2021) and 9% fewer technicians and trades workers (18% of jobs in 2011 to 9% in 2021) in the last decade.

The change in occupation profile indicates new residents within the Precincts are increasingly professionals and managers.

Household Income

Household income quartiles are provided by the ABS as a measure to analyse the changing income profile of households within a geographical region over time. Under this methodology, households are ranked from the lowest incomes to the highest incomes and then divided into four equal groups - Highest, Medium highest, Medium Lowest and Lowest.

The income quartile metric provides a more robust analysis of changing household income over time, as opposed to actual household income categories (\$) which does not account for influences of economic change such as inflation.

Over the 2011-2021 period, it is evident that households across the Precincts have become increasingly affluent, with many new households within the highest and medium highest income quartiles. This is especially significant in The Ponds, where 53% more households were within the highest income quartile over the 2011-2021 period.

Place of Birth

In 2021, most residents were born overseas, >50% in Marsden Park, Schofields and The Ponds. Whilst Australian-born residents represented the majority of Riverstone population in 2021 at 63%, this was lower than the 81% recorded in 2011.

The Precincts recorded significant growth in the number and proportion of overseas-born residents, with the most common resident countries of birth recorded across Precincts included India, Philippines, Sri Lanka and Pakistan.

Ancestry

In 2021, the ancestries of residents within the Precincts were notably diverse, with the largest ancestries of:

- 16,000 Indian residents (18%).
- 12,200 Australian Residents (14%)
- 10,700 English residents (12%).
- 5,400 Filipino residents (6%).
- 3,800 Chinese residents (4%).

The ancestry profile of the Precincts has been transitioning over the last decade.

Family Composition and Dwelling Occupation by Residents' Country of Birth

The ABS provides data on the family composition of residents and dwelling occupation by country of birth at a LGA level. Atlas Economics undertook an analysis of the family composition and household size for Blacktown LGA residents.

Based on the 2021 household compositions and dwelling occupation, the following observations can be made:

- Some 179,000 Blacktown LGA residents were Australian-born, accounting for 53% of the population. Conversely, 47% of residents (~159,000) were born overseas, many of whom with origins from India (13%), Philippines (7%), New Zealand (2%) and Fiji (2%).
- Most Blacktown LGA residents were part of one family households (~309,000 residents), accounting for 91% of the population. These households predominantly comprised of four residents per dwelling (33%).
- This was followed by the 8% of Blacktown LGA residents within two family households. Expectedly, these were larger households, with some 23,600 residents in dwellings occupied by five or more persons (88%).
- A small proportion of residents were three family households, accounting for 1% of the population. These were the ~2,600 residents in dwellings occupied by five or more persons.

- Residents born in Australia, India and New Zealand generally occupied dwellings comprised of larger families (families with four or more residents/ dwelling).

The analysis identified that households within Blacktown LGA are relatively large, with at least four occupants per dwelling across family household types. Given that residents within the LGA and the Precincts share similar cultural profiles, this enables insight into the nature of family household sizes and dwelling occupation within the Precincts.

Future Population

Atlas Urban Economics prepared a Demographic and Housing Analysis Paper to inform the future planning of Riverstone East Stage 3. This included a review of several case study precincts in the North Western Growth Area (NGWA) to inform a demographic profile of the future population once Riverstone East Stage 3 is developed.

The case studies included Schofields, Marsden Park, Riverstone and Riverstone East. Key findings from the analysis of comparable precincts are:

- Characterised by middle-aged residents, with over 50% aged between 25 and 49 years old.
- Family households, with couple families with children accounting for up to 70% of households in some precincts.
- Ethnically diverse with over 50% residents born overseas, notably from India, the Philippines and Sri Lanka.
- 'Western Sydney' locals, with most new residents previously living elsewhere in Western Sydney.
- Increasingly educated and affluent, with education and household income levels higher than Blacktown LGA average.
- Larger households, with average household sizes range from 3.2 persons to 3.5 persons per household. Majority of housing stock being delivered consists of detached houses;

Importantly, the Study identifies that new residential areas proximate the Study Area will have notably different characteristics as compared with the Blacktown LGA. It is likely that future residents of Riverstone Stage 3 will be educated, affluent family households with children. Over time, as the Riverstone East Stage 3 area matures, residential profiles often become more diverse and comparable to other established suburbs.

This is a natural evolution, as younger residents relocate out of the area to access employment, education and housing opportunities elsewhere.

Key demographics considerations for the planning of open space + social infrastructure in Riverstone East Stage 3:

The Precincts recorded larger population growth following their respective rezonings. Marsden Park and Schofields recorded an additional 17,900 and 11,600 residents over 2016-2021.

A majority 63% of new Precinct residents were already living within the Blacktown LGA

Most residents are young, with the dominant age cohort being 35-49 years (>20%). Younger, dependent residents (5-11 years) are also well-represented, accounting for over 10% of residents.

Couples with children households accounted for the largest proportion of households across Precincts (>44%).

Household sizes in the Precincts have increased in the last decade, from the average size of 2 persons/ household in 2011 to 4 persons/ household in 2021.

The occupation profile of Precinct residents has shifted in the last decade, with more white-collar workers (i.e. professionals and managers) and fewer blue-collar workers (i.e., technicians and trades workers).

As new residents across Precincts occupy white collar professions, households are also increasingly affluent.

Precinct residents have also become more culturally diverse, with a significant proportion of overseas-born residents in 2021.

Strategic Context | Place

North Western Growth Area

Riverstone Stage 3 sits within the North Western Growth Area (NWGA) and is one of the last areas within the NWGA to be rezoned. The North West Growth Area.

The NWGA includes approximately 10,000 hectares of land and includes Blacktown, Hawkesbury and The Hills. The NWGA includes 16 Precincts that have been gradually released for urban development over time. Blacktown Council continues the largest proportion of the NWGA, with approximately 7,700 hectares across 12 Precincts.

The NWGA was first identified in 2005, with the NSW Government has approving precinct plans for released precincts, which include forecast dwelling and population projections based on development achieving minimum residential densities.

Blacktown City Council has been monitoring residential development activity in the rezoned Blacktown Precincts in the NWGA to compare the actual delivered densities against the minimum densities that have been relied upon in forecasts and infrastructure planning.

Through extensive research and analysis, Blacktown Council has identified that residential development is occurring at a greater density that originally expected in the NSW Government's precinct plans. Council has identified that this has significant implications for the required infrastructure that is needed to service the future population.

Council's forecasting has identified that the NWGA precincts in Blacktown have the potential to provide for 84,648 dwellings and 256,100 people should current development trends continue. This means that the NWGA Blacktown Precincts will potentially accommodate 102,585 more people than originally planned for by the NSW Government when the Precincts were planned and rezoned.

Council has identified that a key concern for the future planning for open space and community facilities is that the amount of infrastructure required to support such a population will not be provided. This has the potential to result in inadequate living environment and social disharmony.

Blacktown City

Blacktown City is 35 kilometres from the Sydney CBD, occupying 247 square kilometres on the Cumberland Plain.

Before European settlement, the Aboriginal people from the Darug tribe of the Western Cumberland Plain lived on the land now known as Blacktown. European settlement and land grants date back to 1791. During post-war years, Blacktown underwent significant change with land release along rail lines.

In recent years, Blacktown has undergone significant change, growing from 232,000 people in 1996 to close to 400,000 in 2020. The broader LGA captures a diverse range of land uses including residential, retail, commercial and industrial land uses. The majority of the residential land uses are low density suburbs with a growing number of medium and high density dwellings. These are primarily located in greenfield areas and Urban Renewal Precincts.

The NSW Government forecasts that Blacktown City's population will exceed 600,000 people by 2041. Highlighting the extent of growth expected to occur within the LGA. It is recognised that Blacktown is no longer considered on the fringe of Sydney. It is a critical contributor to Western Sydney's economy and housing market.

Council's LSPS identifies 4 Precincts for future growth that are bounded by natural creek systems, parklands or transport corridors. The precincts are serviced by strategic centres, each with their own economic, social and environmental characteristics that will influence how it grows and develops. These four precincts are:

- Blacktown
- Mount Druitt
- Riverstone
- Marsden Park.

Council's vision for these precincts is for people to be able to access their nearest strategic centre on high-frequency public transport. Figure 9 provides the Structure plan for the future of Blacktown LGA.

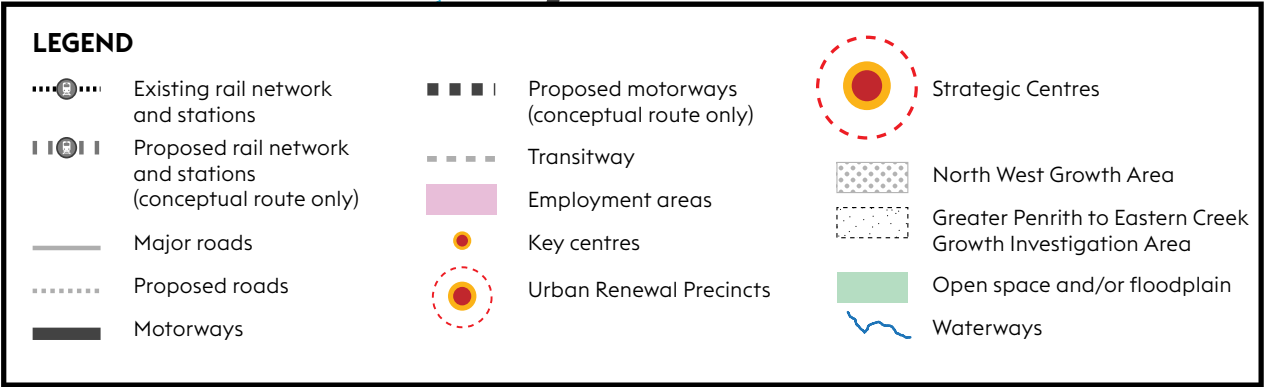
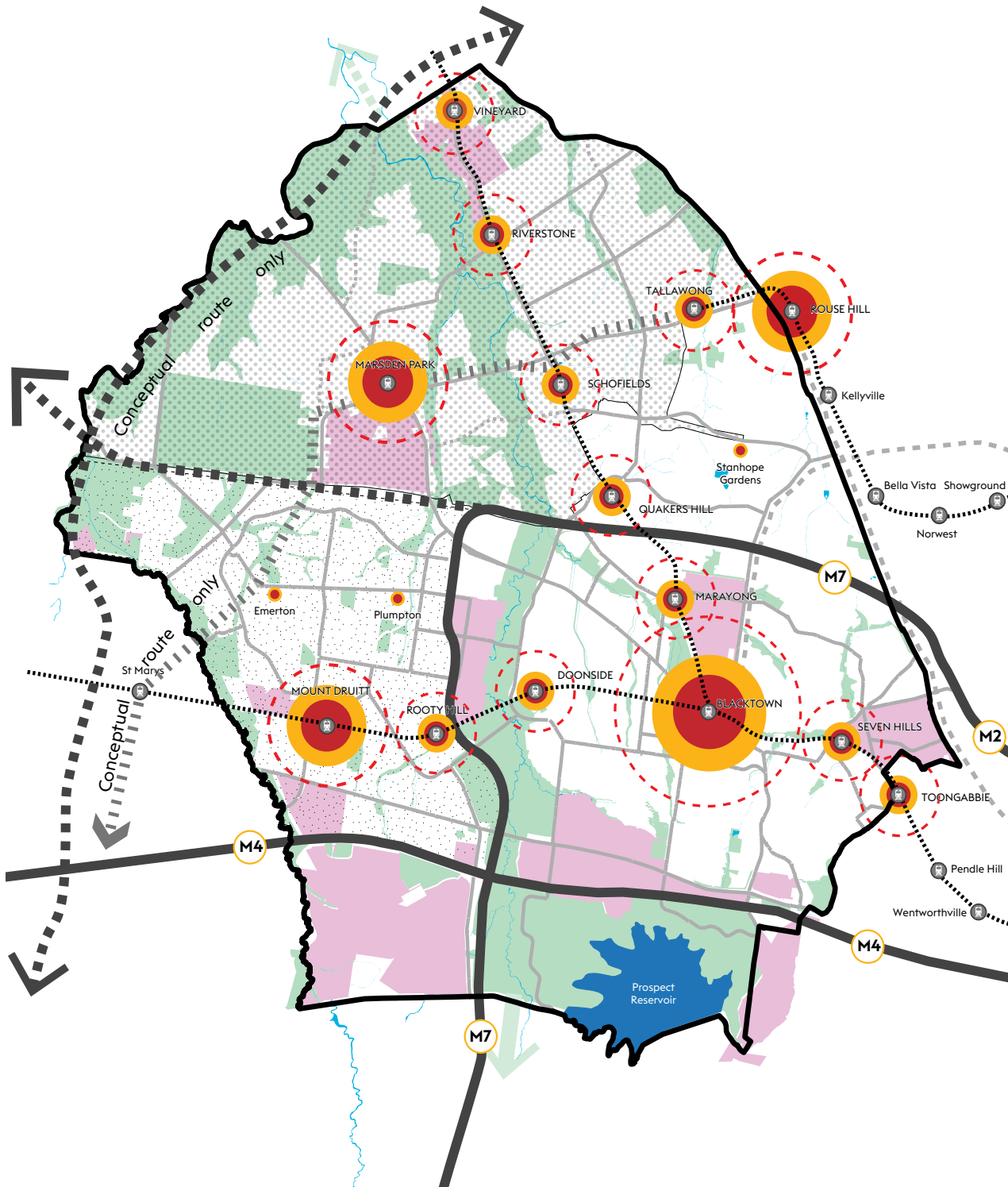


Figure 9: Blacktown LGA Structure Plan (source: Blacktown City Council)

Rouse Hill

Rouse Hill is identified as a strategic centre for the Hills Shire Council and is expected to grow and expand over time. The Hills Shire Council’s vision for Rouse Hill as identified in their LSPS is for Rouse Hill to serve the rapidly growing north west with a mix of shopping, dining, recreation and community services.

It is expected that the retail offer and new commercial capacity within walking distance of Rouse Hill station will increase its vibrancy. The importance and growth of Rouse Hill has been bolstered by the recent announcement of a new regional hospital at Rouse Hill. Figure 10 provides the future structure plan of the centre.

In mid 2023, the Hills Shire Council exhibited a draft Precinct Plan for Rouse Hill. This draft plan identified that by By 2041, Rouse Hill Strategic Centre will be a prime destination for knowledge intensive businesses focused on health, education, science, technology, finance and advanced manufacturing.

The future growth of the precinct is expected to be led by market driven planning proposals, however the future vision identified at Figure 11, anticipates significant growth in the precinct. This is likely to place greater importance on provision of high quality open spaces and ensuring strong connectivity to the future expanded Rouse Hill Regional Park.

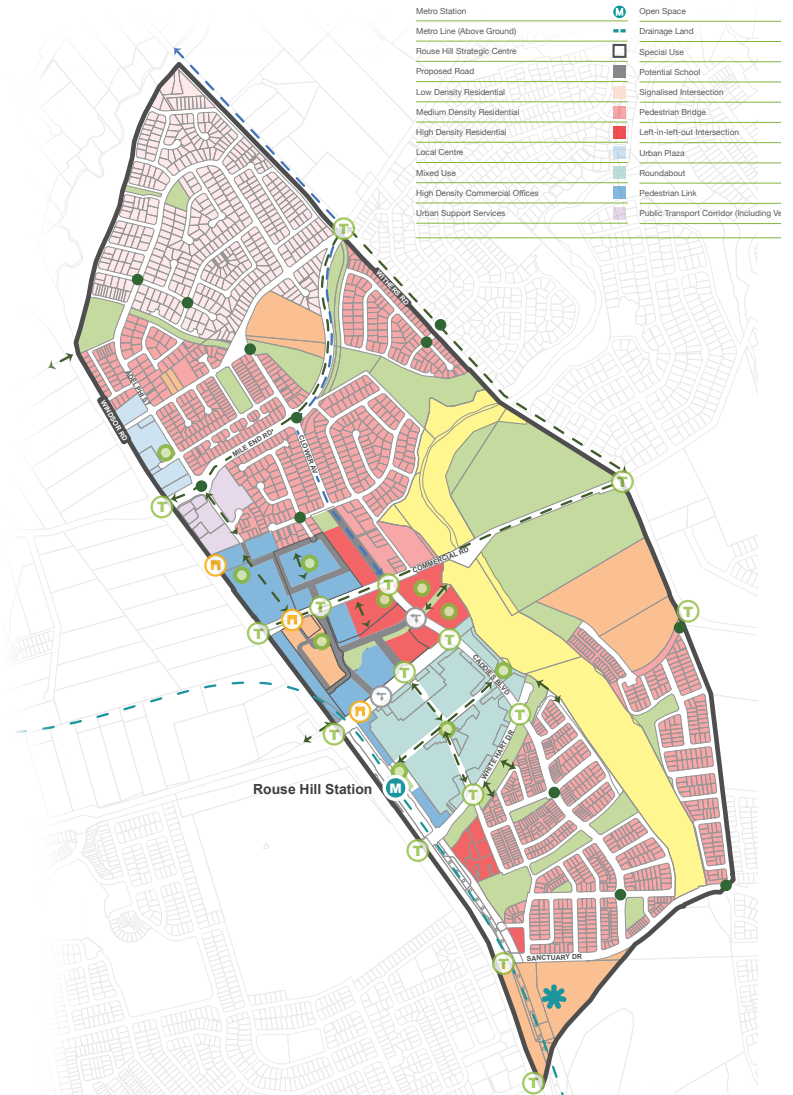


Figure 10: Rouse Hill Centre Structure Plan (source: The Hills Shire Council)

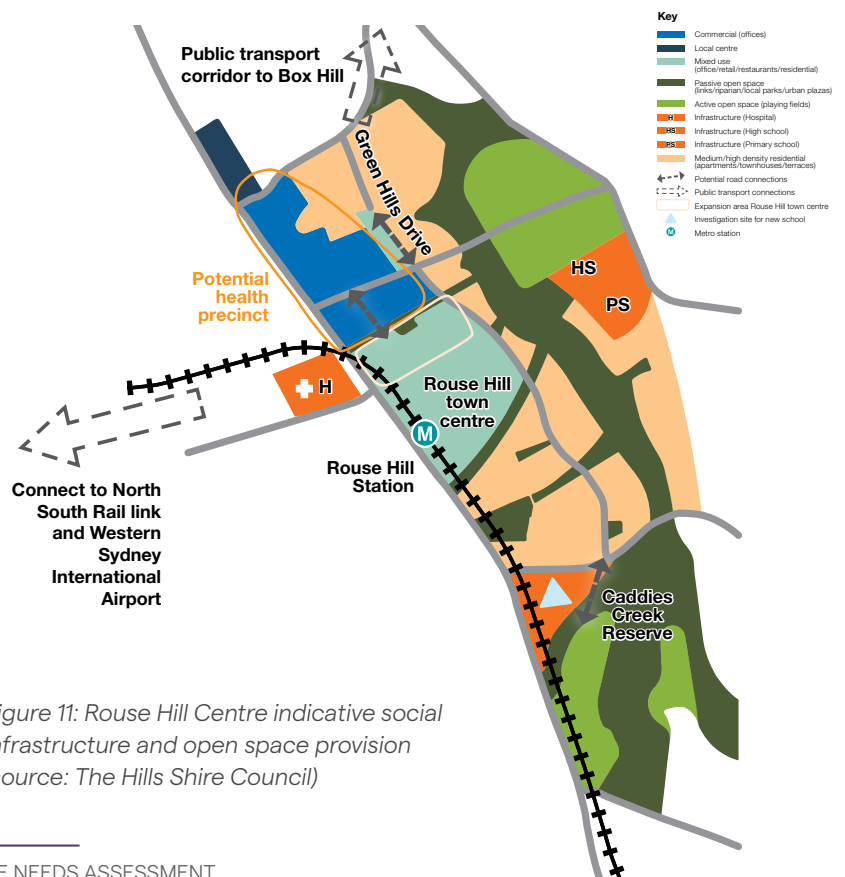


Figure 11: Rouse Hill Centre indicative social infrastructure and open space provision (source: The Hills Shire Council)

Rouse Hill Regional Park

Rouse Hill Regional Park is approximately 43ha (with future expansion up to 96ha) and is located on Worcester Road, Rouse Hill – 40km north-west of Sydney. The park lies within the Sydney Basin Bioregion and is situated on the northernmost edge of the Cumberland Plain.

The park is administered by Blacktown City Council, Greater Sydney Local Land Services and Deerubbin Local Aboriginal Land Council.

In 1989 the Sydney Regional Environmental Plan No. 19 Rouse Hill Development Area identified a site of approximately 115 hectares for a regional park that would ensure the rural setting of the State Heritage-listed Rouse Hill Estate was retained, and also provide recreational space for the new development area.

Rouse Hill Regional Park is dominated by land cleared of its natural vegetation. The cleared land offers a large open space for visitor enjoyment. Also present is remnant native vegetation including endangered ecological communities. Native vegetation within the park is mostly associated with Second Ponds Creek in the east, which is part of an important local vegetation corridor connecting Rouse Hill Regional Park through to more extensive habitat corridors along Caddies and Cattai creeks.

The park contributes to an important local corridor of vegetated riparian land along Second Ponds Creek and Caddies Creek. The park also connects with open space networks through the Blacktown City Council area (along Second Ponds Creek and Killarney Chain of Ponds) and the Hills Shire Council area (The Greenway linking Rouse Hill House to Bella Vista Homestead).

Park Facilities + Spaces

Rouse Hill Regional Park provides a large open space for recreational activities within a developing urban centre.

The park offers a number of amenities including two pavilions which are available for hire (Fibrosa and Crebra), children's play spaces, picnic and barbecue facilities, toilets, shelters and a network of trails suitable for cycling, horse riding and dog walking.

The adventure playground was refurbished in 2022 and features: musical play, climbing frames with softfall, animal sculptures, an accessible flying fox, shaded play spaces, slides, swings, maze, and structures that allow imaginative and adventure play. There's also a nod to the heritage of the area by incorporating features of both Indigenous and Settler culture

A large section of the park surrounds the historic Rouse Hill House and Farm, established in 1813 and one of the oldest continually occupied homes in Australia. Three items of potential heritage significance have been identified within the park: Rouse Hill House curtilage, the timber dam on Second Ponds Creek, and windmill ruins.

A number of Aboriginal sites have also been recorded within Rouse Hill Regional Park, providing evidence of past land use by Aboriginal people

This regional park is a critical asset for the North West Growth Area and in particular the Riverstone East Precinct.



Part 4: Social Planning Principles

A strong, clear strategic framework will help to guide the planning, design, delivery and management of social infrastructure and open space assets within Rivestone East Stage 3. Aligned to the Blacktown community vision and principles that aims to achieve great places,.

Aligned to the Blacktown community’s vision and to achieve a future place that is liveable and meets the needs of the future Riverstone East community, a series of social planning principles have been developed.

These principles have been informed by the background research, state and local policy directions and discussions with Council and other stakeholders, in particular at the Riverstone East EbD workshop. The Riverstone East Stage 3 social planning principles build on the Hatch RobertsDay Seven Essential Elements of Great Places, which are the foundation of the structure plan. and its place-based design approach.

These principles not only inform the development of the structure plan, but are also a means by which the design concepts have been tested and refined. Part 6 ‘Testing the Concept’ has primarily uses these principles as a tool for analysis.

Seven Elements of Great Places

Hatch RobertsDay have created The Seven Essential Elements of Great Places; Equity, Identity, Greenery, Urbanity, Mobility, Wellness and Resilience.

As the team has worked through the scenario development and ILP finalisation, we can measure decisions against these seven themes, allowing an understanding of a projects strengths and to identify where there is a need for improvement. This can also provide a transparent methodology for community, stakeholder and Aboriginal engagement if required.

RIVERSTONE EAST STAGE 3 WILL ...

EQUITY:	provide appropriate and affordable housing, housing diversity, facilities and services which are safe, inclusive and can be enjoyed by all. Creating inviting areas to support an engaged diverse community that is connected physically and socially throughout the entire Riverstone East Precinct, Rouse Hill and Tallawong Station Precinct
IDENTITY:	shape a place that the community will feel proud to belong to, connecting to country and celebrating the North-West’s unique character and diversity, the Darug peoples’ values and non indigenous assets of this site.
GREENERY	contribute to, and correct, aspirations for a high tree canopy cover, leverage the existing Blue Green Grid; connecting the community physically and psychologically to Country and nature.
URBANITY	will deliver public benefit in parallel with development outcomes, shaping vibrant and liveable neighbourhoods with flexibility to adapt over time. It will become a precinct that supports the activity of a growing population and helps to form a new and dynamic local character.
MOBILITY	be a connected place, giving priority to pedestrian and active movement with a high level of accessibility, connecting the community to destinations throughout the precinct, Metro, local public transport and open space.
WELLNESS	be a healthy place to live, with diversity of spaces for people to gather and foster social connectedness and places to recreate and exercise, improving daily life through physical and mental health benefits.
RESILIENCE	contribute to environmental and economic resilience through sustainable design creating a place that responds to a changing climate, and keeps residents cool.

Riverstone East Stage 3 Social Infrastructure + Open Space Planning Principles



Design high quality, accessible and functional green spaces and community facilities that enhance the community's experience and sense of belonging.



Co-locate social infrastructure + open space provide for the exchange of ideas, creativity, sharing and connection.



Build flexible, multipurpose spaces that support a variety of activities - so there is something for everyone - and be adaptable to change and face challenges together.



Create an integrated network of open spaces and infrastructure across the precinct and with the wider NWGA, connecting major activity nodes via safe and accessible walking and cycling paths.



Invite exploration and expression of identity, creativity and culture through the design and types of social infrastructure and open spaces to foster understanding and are welcoming to all.



Acknowledge the generations of custodianship and care for Country of the Dharug people and encourage community to learn and connect with Country.



Contribute to increased health and wellbeing outcomes by providing a diversity of open spaces for various activities, including for sport and recreation that encourage physical activity as well as places to reflect and connect with nature.



Adopt a performance-based approach and invite innovation to more effectively plan, design and deliver social infrastructure and open spaces, with a focus on the quality and meeting community needs



Implement sustainable financial + governance approaches that support good decision making and provide long term benefits for Council + local communities, including opportunities for revenue generation and self-funding.

Part 5: Future Demand + Needs Analysis

The following section provide an analysis of the of existing and future district and local social infrastructure and open space requirements for the Riverstone East Stage 3 Precinct.

For each social infrastructure and open space type, considerations and opportunities have been identified which provide directions for future provision. The infrastructure types assessed include:

1. **Community infrastructure**
2. **Cultural + Creative Spaces**
3. **Education + Spaces for Young People**
4. **Sport and recreation infrastructure**
5. **Open space, Parks + Playgrounds**

Directions have been informed by the assessment of existing provision, challenges and opportunities, identified through the strategic policy review and background research, desktop audit of existing infrastructure and provision trends and best practise design and delivery approaches.

These all contribute to the recommendations that have been incorporated into the Draft Integrated Land Use Plan (Draft ILP) to achieve the stated social infrastructure and open space planning principles and provision infrastructure to service the future population of Riverstone East Stage 3.

Approach to social infrastructure planning

Blacktown Council has adopted a community hub model for the provision of its local community facilities. The community hub model was identified in 2009 and creates a multi-purpose facility combining otherwise stand-alone facilities, including neighbourhood/community centres, child care centres, youth centres and libraries. They will provide a focus for local communities to come together for social, lifelong learning and human services activities and services.

A community hub has a larger building form than existing neighbourhood/community centres. The increased critical mass (size) achieves efficiencies and economies in the land size required for acquisition by combining the provision of services identified through the NWGA benchmark standard.

Community hubs provide a scale of facility that acts as a focal point for the delivery of community services, increasing the size and scope of what single centres can deliver to the community. This model has the capacity to deliver children and family services, youth and indoor recreation, and arts & cultural facilities.

Council's siting preference for community hubs include:

- Location in an activation centre
- Accessible by public transport
- Does not abut or impact on residential neighbours
- Occupies an iconic space that contributes to civic identity
- Co-located with other community uses to form part of a multi-purpose destination.

Guiding principles include: total asset management and not for loss operations; environmental sustainability; multi-purpose/flexibility; service delivery hubs/co-location; accessibility/activity generators; CPTED; iconic; and public art

Benchmarking assessment.

The benchmarking assessment for each facility type is based on the population projections and the approved population-based benchmarks (provided pg. 11-12).

Benchmarking is a tool that can be useful in assessing the quantity of social infrastructure and open space required by a population. While benchmarking provides a good starting point, it should not be solely relied upon in determining needs and requirements and the exact quantity of facilities or spaces required.

Benchmarking does not take into account the quality, suitability and distribution of infrastructure and open space, or the individual needs of a community. Benchmarking should be viewed as one input in determining needs and developing recommendations for social infrastructure and open space.



Community Infrastructure

Multipurpose Community Centres + Hub

Existing Provision

- There are limited community hubs and facilities provided within close proximity to Riverstone East, and none within the precinct boundaries.
- The North West Community Services Centre (previously known as Riverstone Neighbourhood Centre and Community Aid Service) is located near Riverstone Station.
- There are also several halls and community centres within the broader catchment including Schofields Community Centre, Rouse Hill Community Centre, The Lake Neighbourhood Centre, Riverstone Senior Citizen Centre, The Ponds Community Hub, and the Beaumont Hills Community Centre
- These centres are of varying age and scale, with the newer centres The Ponds Community Hub and The Lake Neighbourhood Centre being the most recent facilities, of a higher standard.
- **A 0.6ha community facility is to be provided in Stage 2 of Riverstone East.**

Considerations + Opportunities

- A new Community Hub within the precinct, is identified and supported by Council's LSPS.
- A larger district hub, supported by smaller local community hub should be provided, within Riverstone East, Stage 3.
- The Stage 3 community hubs should aim to compliment the local community identified in Riverstone East Stage 2 (0.6ha) and the broader NWGA in terms of the amenities and activities catered for. such as being a facility for young people
- The community hubs should be co-located with other uses, such as, open space, and schools.
- Council could face challenges with funding the construction of new multipurpose community centres, as well as maintaining and upgrading existing centres.
- Rooms and spaces within centres should be flexible and adaptable to enable different uses.
- Opportunities to celebrate and support the increasing cultural diversity through food by incorporating commercial kitchens that connect communities as well as provide economic benefits for small and start up business.



Population-based Benchmark

Local:	1 per 6,000
District:	1 per 20,000 - 50,000
Regional:	1 per 50,000+
Minimum Floorspace: 800-1000m²	

Source:
Blacktown City Council

Assessed Future Demand for Riverstone East Stage 3:

Up to **2** local community hubs

Riverstone East Precinct (stages 1-3) population benchmarked future demand:

Up to 1 District scale community hub and
Up to 2 Local scale community hubs

Libraries

Existing Provision

- There are three libraries located in proximity to the study area. Within the Blacktown LGA are the Riverstone Library & Digital Hub and the Dennis Johnson Library, which is co-located with the co-located within the Blacktown Leisure Centre. At Rouse Hill, within The Hills Shire LGA, there is the Vinegar Hill Memorial Library and Community Centre.
- Riverstone Library & Digital Hub, is located within 5km from the Riverstone East Stage 3 Precinct and provides a range of services including computer, internet and WiFi services, printing, photocopying and scanning facilities, and provides an after-hours return chute
- Blacktown Council also provides a Mobile Library that visits a range of locations. It provides a range of services including browse, borrow and return items, collect reserved items, join the library, and access resources from across the library service.

Considerations + Opportunities

- Given the proximity of Riverstone Library & Digital Hub, it is proposed that the minimum library floorspace is provided within one of the proposed community hub and Council undertaken a more detailed investigation of the existing Riverstone Library and Digital Hub to assess the options to expand and upgrade, if necessary to cater for the additional growth within the wider Riverstone East Precinct.
- A district library caters to populations in several suburbs or a precinct. While typically smaller in scale, it include similar inclusions and offerings to central libraries that cater for a much larger catchment.
- In addition to the collection space, libraries should include spaces for events and exhibitions, meeting and training rooms, reading spaces, study spaces, children's areas, youth spaces, public computers.
- The library floorspace should be centrally located and co-located with other facilities, such as the school to increase utilisation. Ideally a district scale Library will be located within a town centre, in close proximity to public transport to ensure activation and highest use.
- Unstructured spaces that facilitate meeting and gathering should also be incorporated. This can include foyers and lounge areas.
- Typically, libraries can also include a Council customer service and information function.



Population-based Benchmark

Branch: 1 per 20,000

District: 1 per 40,000

Minimum Floorspace: Determined by People Places Population Based Calculator, State Library of NSW (2022)

Assessed Future Demand for Riverstone East Stage 3:

Up to **0.55** local branch

Approximately **729m²** floorspace

Riverstone East Precinct (stages 1-3) population benchmarked future demand:

Up to 1 district scale Library

Approximately 2000m² floorspace



Cultural + Creative Facilities

Cultural + Creative Spaces

Existing Provision

- There are very limited cultural spaces located within the LGA and within proximity of the precinct. The primary Cultural and Arts facility within the LGA is the Leo Kelly Blacktown Arts Centre.
- The Leo Kelly Blacktown Arts Centre supports artistic innovation and offers a range of experiences through an award-winning curated program of exhibitions, performances, workshops, residencies and events. The Leo Kelly Blacktown Arts Centre is located near Blacktown Station.



Considerations + Opportunities

- The modest demand for cultural facilities generated by Riverstone East does not warrant the delivery of a large scale facility within the precinct. However, these spaces could be combined with other community spaces within the Precinct.
- Opportunities for one of the smaller community centres/hubs to have a creative focus to include maker spaces and wet areas as well as artist studios and learning spaces. This could also provide some revenue opportunities for Council.
- Creative spaces are best located within, or co-located with, multipurpose community centres or arts and cultural centres.
- Spaces should be designed to be flexible and adaptable to cater to different art and creative uses and user groups. They should include specialist infrastructure and resources that maximise its functionality.
- Some spaces may also include specific equipment such as music recording studios, artists in resident programs, digital art creation spaces, maker spaces.
- Opportunities to celebrate and support the increasing cultural diversity of the Riverstone East Precincts and across the Blacktown LGA. Opportunities for spaces to incorporate design and artistic features that tell the multiple and diverse stories of the local community.

Population-based Benchmark

Local: 20sqm | 1000 people
District: 1 per 50,000
Regional: 1 per 50,000+

*Source:
 Blacktown City Council + Guidelines for
 Community Infrastructure, Parks and Leisure
 Western Australia (2020)*

Assessed Future Demand for Riverstone East Stage 3:

Up to **220m²** local cultural floorspace

**Riverstone East Precinct (stages 1-3)
 population benchmarked future demand:
 Approx. 854m² local cultural floorspace**

Performing Arts | Cultural Facility

Existing Provision

- There are very limited Performing Arts / Cultural Centres located within the LGA and within proximity of the precinct.
- There are several dance schools located within the LGA but these are privately operated. These include the Step Up Performing Arts in Rouse Hill, Hype-O Performing Arts Academy in Riverstone and Natasha's Art Theatre also located in Riverstone.

Considerations + Opportunities

- Performing Arts / Cultural Centres should be provided in main centres / combined with other facilities. Given the limited demand from Riverstone East, it is not proposed to provide one within the precinct.
- The two community facilities proposed could be utilised to address this need. Given the size of the lots, future buildings could be of a scale and size to support a broad range of uses.
- Performance spaces can also be accommodated in schools and multipurpose community hubs to meet the need of populations for community-based performances and events.
- While performance and exhibition space is more readily available across Sydney, there is a need for smaller, affordable rehearsal space to support smaller community theatre, music and other performance groups.
- These types of social infrastructure can play an important role in attracting visitors and creating a sense of place and identity.
- Access to spaces for performance and presentation could also be made available through a shared use agreement with the local schools.
- Blacktown City Council is working with community organisations to investigate the opportunity for a First Nations Cultural Centre at Mount Druitt, which would service a large, potentially LGA wider catchment and include dedicated spaces to deliver cultural programs and promote connectedness, wellbeing and support economic self-determination.



Population-based Benchmark

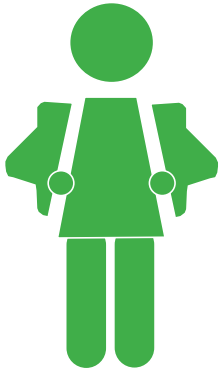
Local:	1 per 30,000
District:	1 per 150,000
Regional:	1 per 250,000+

Source:
Blacktown City Council

Assessed Future Demand for Riverstone East Stage 3:

Up to **0.4** local facility

**Riverstone East Precinct (stages 1-3)
population benchmarked future demand:**
Up to 1 local scale facility



Education + Spaces for Young People

Schools

Existing Provision

- Whilst there are several primary and secondary schools within the broader catchment, advice from Schools Infrastructure NSW (SINSW) is that the existing schools are at capacity and that future redevelopment will require additional schools.

Considerations + Opportunities

- School investigation areas will need to be identified, with site areas approx. 2ha of developable unencumbered land for a primary school and 6ha of developable land for a k-12. Any selected sites must be a minimum of 90m wide.
- School location will need to be co-located with open space and other community facilities.
- School should also be located near any future commercial / retail spaces to ensure ongoing activation and function.
- Joint and shared community and school use arrangements of facilities and open space create efficiencies and support the provision, management and maintenance of high quality facilities.
- Include safe walking and cycling infrastructure, as well as open space connections to schools
- Constrained sites can potentially incorporate vertical campuses and innovative open space configurations, including roof top recreation spaces.
- Sites identified within Stage 3 will be subject to further assessment by SINSW.



Population-based Benchmark

Secondary: up to 2000 student
site area: 2.5-4ha

Primary: up to 1000 student
site area: 1.5-2ha

Source:
School Site Selection and Development Guidelines (2020)

Assessed Future Demand for Riverstone East Stage 3:

School Infrastructure NSW (SINSW) uses a staged hierarchy of interventions to accommodate population growth and increasing demand for school places.

SINSW have identified the need for **2 school site (total 6.14ha)** within the Stage 3 precinct.

Youth Space | Centre

Existing Provision

- There are limited youth facilities in close proximity to the Precinct.
- Emerton Youth Recreation Centre is a community facility designed for indoor recreation activities. The Centre features a large indoor fully marked court available for Badminton, Basketball, Futsal, Netball and Volleyball. The Centre has a capacity between 151-250 people and is open in the afternoon to evening between Tuesday - Saturday.
- Blacktown Youth Services Association is a not for profit community organisation that provides recreational and educational programs for young people aged 12-24 in the Blacktown LGA. The centre provides activities and creative workshops. The centre is located at 15 First Ave, Blacktown.

Considerations + Opportunities

- There is a shortage of youth facilities across the broader LGA, with limited facilities available. Critical for these facilities will be ongoing funding and engagement with the community.
- Given the increase of households with children in the area, providing facilities and spaces that cater for infants through to young adults to play, learn, make friends and socialise will be crucial to the livability and experience of this place for children and young people.
- Any youth facilities should be co-located with other community facilities and open space areas. The youth centres should also be co-located with recreational facilities likely to experience high use, allowing for ongoing passive surveillance and activation.
- Rooms and spaces within centres should be flexible and adaptable to enable different uses, which could be combined with the cultural/creative spaces and multipurpose community hubs.



Population-based Benchmark

District: 1 per 20,000

Source:
Blacktown City Council

Assessed Future Demand for Riverstone East Stage 3:

Up to **0.55** district scale facility

Riverstone East Precinct (stages 1-3) population benchmarked future demand:

Up to 0.4 district scale space

Up to 2 local scale spaces

Adventure Recreation | Outdoor Youth Plaza

Existing Provision

- Adventure recreation and youth plazas include skate parks, skating elements, BMX pump tracks, parkour and gathering spaces specifically catering to young people (under 25 years)
- There is very limited availability of adventure recreation in the broader area. There is an existing skate park at Riverstone Park, on the western side of the train line.



Considerations + Opportunities

- There is a demand for Adventure Recreation within the broader Riverstone East Precinct, especially given the scarcity of these facilities across the broader region. This facility should be designed to be multipurpose and to also provide outdoor youth plazas.
- This should be combined with other youth related facilities such as Outdoor Youth Plazas and Youth Centres.
- These facilities should be co-located with other active uses and be designed and located so as to ensure passive surveillance is achieved.
- This plazas can also include facilities such as pedal parks and areas where children can safely learn to ride their bike, scooter, skateboard or anything on two wheels.
- Incorporating design elements such as low concrete walls provide seating and skateable elements.
- These spaces should provide areas that separately smaller children and those less experienced from older, more experienced young people.
- The skate park in Tamworth, for example as included a social enterprise cafe within a re-used shipping container, which also has a viewing area on top.
- These facilities will need adequate shade, shelter and drinking water to manage the impacts of urban heat island effect.

Population-based Benchmark

Adventure Recreation Space

- Local:** 1 per 5,000
- District:** 1 per 25,000
- Regional:** 1 per 150,000

Outdoor Youth Plaza

- Regional:** 1 per 150,000

Minimum space 0.5ha

Source:

Parks and Leisure Australia, Guidelines for Community Infrastructure 2012

Assessed Future Demand for Riverstone East Stage 3:

Up to **0.7** local adventure recreation space

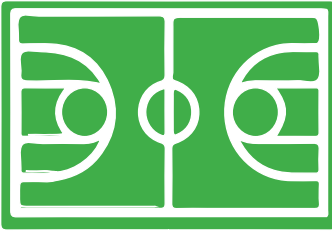
Up to **0.4** district adventure recreation space

Riverstone East Precinct (stages 1-3) population benchmarked future demand:

Up to 1 district scale space
1-2 local scale spaces



See relevant case studies examples in Appendix 1



Recreation Facilities

Aquatic Facilities

Existing Provision

- Riverstone Swimming Centre is located on Market Street in Riverstone towards the Riverstone Station.
- There a range of swimming pools provided at the centre, including an outdoor 50m pool, an outdoor leisure pool, and a toddlers pool. The centre is open during summer months only, with facilities primarily outdoor.
- There are three other swimming centres within the Blacktown LGA including Blacktown Aquatic Centre, Blacktown Leisure Centre Stanhope and Charlie Lowles Leisure Centre Emerton.

Considerations + Opportunities

- Aquatic facilities are an important community meeting places. The importance and prominence of these facilities will continue to increase, particularly as temperatures rise and the community seek cool places to gather in summer months.
- There is a recognised shortfall of aquatic facilities in the broader LGA, and in the Hills Shire LGA.
- The future Riverstone East Stage 3 population alone only generates modest demand for aquatic facilities, which could be met by existing facilities. However, the combined forecast population for the whole of the Riverstone East Precinct (Stage 1-3) does generate demand for at least 1 district scale aquatic centre.
- The Blacktown Open Space and Recreation Strategy has identified an action to investigate works required at Riverstone Swimming Centre to meet the demand for a district level facility with a mix of recreation opportunities. [Action 10.1].
- This assessment confirms this action, and recommends that this action to upgrade and expand the existing Riverstone Swimming Centre in a district level facility be progressed to accommodate the predicted future demand.
- Blacktown City Council is also planning a new aquatic and leisure facility in Marsden Park.
- Learn to swim programs are a key offering, providing a community service as well as an opportunity to generate income to contribute to the high operational costs of these facilities.



Population-based Benchmark

District: 1 per 20,000-50,000

Source:
Blacktown City Council

Assessed Future Demand for Riverstone East Stage 3:

Up to **0.55** facility

**Riverstone East Precinct (stages 1-3)
population benchmarked future demand:**
Up to 1 district scale facility



**See relevant case studies
examples in Appendix 1**

Indoor Recreation Facility

Existing Provision

- Riverstone Sports Centre is a smaller facility that includes facilities for indoor soccer (futsal) and badminton.
- There are limited other facilities within close proximity to the precinct.

Considerations + Opportunities

- Noting that there is an existing Indoor Recreation Facility near the precinct, only 1 additional facility is required. This facility should be of larger size and should be ideally co-located with other community uses.
- NSW Office of Sport indicate there is an existing shortage in the number of indoor courts in the Blacktown LGAs
- Minimum space to accommodate indoor sports courts or other built facilities is 3000 m²
- Should be multipurpose, multi sport facilities catering to a range of indoor sports and fitness activities and programs. Used for training, competition and casual recreational use.
- Facilities usually include ancillary uses such as gyms and fitness centres, training rooms and other flexible spaces for community activities and programs, as well as supporting amenities (toilets, change rooms and showers) and food outlets.
- The importance of these facilities will continue to increase, particularly as temperatures rise and the community seek cool places to participate in recreation activities summer months.
- Facilities should cater to the needs of people of all abilities, cultural groups and genders.



Population-based Benchmark

District: 1 per 20,000

Regional: 1 per 50,000

Minimum: 4 multipurpose courts

**Site Area: 1.5ha (Local)
2.4ha (Regional)**

*Source:
Blacktown City Council + NSW Office of Sport*

Assessed Future Demand for Riverstone East Stage 3:

Up to **0.55** indoor recreation or
minimum **2** indoor courts

**Riverstone East Precinct (stages 1-3)
population benchmarked future demand:**
Up to 8 courts or 2 district scale facilities or
Up to 0.8 regional scale facility

Outdoor Courts

Existing Provision

- There is generally limited outdoor courts within the precinct. There are no courts identified in the Stage 1 and 2 Indicative Layout Plan.
- Riverstone is proposed to have a 12.5ha park which will include hard courts, amenities, carpark and a playground.
- Outdoor Courts within proximity of the centre are located at Riverstone Park, Kellyville Netball Courts, Jonas Bradley Oval, and The Ponds Tennis Courts

Considerations + Opportunities

- Consideration should be given to multi-use courts to provide for a variety of sports such as basketball, netball and tennis
- To be distributed among precinct and some well located local spaces. Some local spaces may be half court facilities for informal local games.
- Given the shortfall of courts within the precinct, courts must be provided within the precinct.
- These should be located in proximity to other open space uses, and to avoid unnecessary duplication of amenity buildings and car parking.
- Consideration should also be given to potential joint use arrangements with schools.
- Given the urban heat impacts within areas of Western Sydney, consideration should be given for provision of shade and shelters for players to rest and recover. Consideration should also be given for the courts to be located under a large shade structure that enables greater use in all weather conditions.
- These facilities will need adequate shade, shelter and drinking water to manage the impacts of urban heat island effect.



Population-based Benchmark

Multipurpose: 1 court per 4,000

Basketball: 1 per 3,500

Netball 1 per 3,500

Tennis 1 per 4,000

Source:

Blacktown City Council + NSW Office of Sport

Assessed Future Demand for Riverstone East Stage 3:

2-3 Multipurpose courts

Riverstone East Precinct (stages 1-3) population benchmarked future demand:
Up to 10 local multipurpose courts

Sports Fields | Grounds

Existing Provision

- The approved Riverstone Indicative Layout Plan finalised in 2010 identified a total of 8 playing fields to be delivered as part of the Riverstone redevelopment. These playing fields are to be delivered on the eastern edge of the Riverstone precinct, adjacent to the Riverstone East Precinct.
- The approved ILP for Stages 1 and 2 of Riverstone East also identifies 4 fields, 2 within each Stage.
- Basil Andrews Park in Riverstone also provides playing fields.
- Outside Riverstone East and Riverstone, Peel Reserve in the The Ponds and Russell Reserve and Centenary Playing Fields in Rouse Hill also contain playing fields.

Considerations + Opportunities

- Blacktown City Council Open Space and Recreation Strategy indicates a preference for fields are to be provided in a minimum double playing field configuration with enough space for car parking, amenities, light spill and supporting facilities such as practice facilities.
- Destination sporting fields and picnic spaces service multiple neighbourhoods and may be of varying sizes. Should support a range of structured and unstructured recreation and sporting activities.
- Draft Greener Places Design Guide (2020) considers that a minimum recommended format for any field sport site is 4 ha which allows for a multi-field unit (2 x rectangular fields with an oval overlaid) or fields and outdoor courts plus ancillary space.
- Generally should be located on flat land with main use area at no greater than 1:100 slope
- A district sporting facility should provide formal, developed playing areas for field and court sports and built sporting facilities as well as open space areas for unstructured recreation and play.
- Ideally a district sporting facility would be a minimum 10+ ha site with multiple fields and courts and built facilities supporting formal use such as clubhouses, change and amenities buildings, on-site parking, access networks, and buffer spaces to adjacent uses.
- These facilities will need adequate shade, shelter and drinking water to manage the impacts of urban heat island effect. Amenities such as toilets and change rooms will also need to be provided.



Population-based Benchmark

Local: 1 per 1,850 people

District: 1 double playing fields per 10,000 people

Minimum: Double field configuration (district)

Source:
Blacktown City Council

Assessed Future Demand for Riverstone East Stage 3:

Up to **6 single playing fields** or **3 double playing fields**

Riverstone East Precinct (stages 1-3) population benchmarked future demand:

Up to 23 multipurpose single playing fields or 11-12 double playing fields.



Open Space + Parks

Open Space + Parks

The provision of public open space, active recreation areas, green streets, and walking and cycling infrastructure, has repeatedly demonstrated across the world that done well, they will deliver improved health, social cohesion, vibrant local economies, productivity, and environmental benefits.

Existing Provision

- The proposed open space provision in Riverstone East Stage 1 is 22.3ha and for Stage 2 is 11.9ha for a combine total of 34.2ha
- While not included in the open space provision for this assessment, the 95ha Rouse Hill Regional Park provides a significant asset to the future community of Riverstone East Stage 3.

Considerations + Opportunities

- The proposed open space provision for Riverstone East Stage 3 is a total of 63.17ha, providing an additional 32.17ha over the population-based benchmark future demand.
- While the provision of open space for Stage 3 significantly exceeds the population benchmark, the combined open space provision for Stages 1 and 2 results in a shortfall of approximately 55.07ha.
- The additional open space provided in Stage 3 contributes to providing more than half (58%) of the estimated shortfall from stages 1 and 2.
- Table on page 58 provides a detailed breakdown of open space provision within Riverstone East Stage 3 aligned to the open space categories developed for this project and approved by DPE on advice from the GANSW
- Multiple use of open space is strongly supported, particularly where local opportunities can be provided that meet important outcomes such as proximity of access.
- The development cost of public open space should be considered as part of the up-front cost of the infrastructure.
- These facilities will need adequate shade, shelter and drinking water. Amenities such as toilets will be needed in high use areas.



Population-based Benchmark

Population: 2.83ha/1000 people
Ratio: 60% Active | 40% Passive

Source:
Blacktown City Council

Assessed Future Demand for Riverstone East Stage 3*:

Up to **31ha open space**

Active Space: **18.6ha**

Passive Space: **12.4ha**

Riverstone East Precinct (stages 1-3) population benchmarked future demand*:
121ha (Active: 72.6ha + Passive: 48.4ha)

* based on a high growth scenario of 11,000 persons in Stage 3 and 31,715 persons in Stages 1 and 2

Classification	Uses	Gross Area Proposed
<p>Active Open Space</p> <p>Larger flat land areas that allow for a diversity of active sport and recreation uses, both structured and unstructured. Areas for amenities, supporting infrastructure as well as play spaces and general green spaces</p>	<ul style="list-style-type: none"> - Sports grounds + fields - Outdoor courts - play grounds and play spaces - Adventure recreation Youth recreation space - Exercise and fitness spaces - Dog off-leash areas - Shade, shelter, picnic tables, regular places to stop and rest, drinking water, public toilets, bins, wayfinding signage and other amenities. 	15.7ha
<p>Passive Open Space</p> <p>Smaller parks that are primarily for passive activities such as picnic, reading and gathering, rest and respite or connecting with nature. Depending on size, may also provide some small scale active uses such as a children play ground, half court or kick-about space</p>	<ul style="list-style-type: none"> - Linear parks - Exercise and fitness spaces - Dog off-leash areas - Shade, shelter, picnic tables, regular places to stop and rest, drinking water, public toilets, bins, wayfinding signage and other amenities. 	36.51ha
<p>Corridors + Connectors</p> <p>Linear parks and spaces which critical links between green spaces and activity centres, as well as biodiversity corridors. These spaces provide important amenity for the precinct, are places to sit and contemplate, provide safe pathways for cycling and walking and with the location of outdoor fitness equipment can be a health and fitness route as well as a getting people from A to B.</p>	<ul style="list-style-type: none"> - Active transport corridors - Natural bushland areas - Riparian corridors - outer edge of riparian vegetated zones. (assumes 20m along corridor) - Seating, bike repair stations and water bubblers - Outdoor fitness/exercise equipment 	2.3ha
<p>Urban Bushland</p> <p>Natural areas and areas of bushland contribute to the amenity of places, the health and wellbeing of the community, enable strong connections to Country and provide environmental benefits, from supporting ecological communities to reducing urban heat and providing shade.</p>	<ul style="list-style-type: none"> - Endangered Ecological Communities 	8.66ha
TOTAL OPEN SPACE PROPOSED		63.17ha
<p>Green Infrastructure</p> <p>These areas are critical to maintain the natural systems such as stormwater. and primarily provide amenity and other environmental and ecological benefits</p>	<ul style="list-style-type: none"> - Inner riparian vegetated zones - (assumes 20m along corridor) - Flood detention - Stormwater and WSUD infrastructure - Vegetated street verges 	31.54ha
<p>Environmental Conservation</p> <p>Areas including non-certified lands (excluding the proposed playing fields within non-certified land)</p>		8.6
<p>Rouse Hill Regional Park</p> <p>Regional parkland under the management of NPNSW providing a range of active, passive and natural open space opportunities.</p>		96.53ha
ADDITIONAL OPEN SPACE WITHIN STAGE 3 PRECINCT		136.67ha

Play grounds + Play spaces

Existing Provision

- There are some playground spaces located within Riverstone East. Riverstone is proposed to have a 12.5ha District park which will include hard courts, amenities, carpark and a playground.

Considerations + Opportunities

- Draft Greener Places Design Guide identifies suitable areas for playspace include: any park area, foreshores, linear open space of waterway corridors with useable spaces above the top of bank that is a minimum of 20 wide.
- Playgrounds to provide a diverse mix (including older children and children with a disability), of play opportunities within 500m walking distance of all residents
- Strong consideration should be made for the inclusion of a youth recreation space (12-25yrs) to provide a space for teenagers and young adults.
- Play events provided in small spaces that are part of sports parks or multi- user public open space areas
- Consider small play area provided as children's garden or similar. Could also incorporate local Aboriginal stories and experiences for children to learn and connect with Country.
- Splash play and zero-depth water play provides opportunities for cooling in the summer months
- Playspaces should provide natural or built shade should cover at least 70% of the play equipment and nearby seating, including 45% of tree shade.
- In the detailed designs, ensure there is adequate infrastructure for parents and carers, including shade seating close to the main play area and equipment provides for a diverse, stimulating experience, using all the sensors.
- It is strongly recommended that the distribution of the 5 playspaces maximise the walking access of homes and key destinations.
- There is potential to provide for a range of play, including: Nature based play spaces, incorporated within linear parks; play spaces co-located within larger district parks, with outdoor courts or half courts to provide for a range of age groups and preferences.



Population-based Benchmark

Local: 1 per 2,000 people

Neighbourhood:

1 per 500 children aged 0-4yrs

1 per 500 children aged 5-11yrs

Minimum size:

0-4yrs: 50m² | 5-11yrs: 100m²

*Source:
Blacktown City Council*

Assessed Future Demand for Riverstone East Stage 3:

5-6 local playspaces

**Riverstone East Precinct (stages 1-3)
population benchmarked future demand:**

Up to 21 local play spaces delivered as combination of a district playspace and local playspaces

Nature Play at Centennial Park, Randwick
(source: Greater Sydney Parklands)



Part 6: Recommendations and Draft ILP

This section provides a summary of the social infrastructure and open space recommendations for Riverstone East Stage 3 based on the detail assessment of future needs based on Council's high growth scenario of 11,000 people in Stage 3.

This section also provides a review of the Draft ILP in relation to the size, location and accessibility of the indicative social infrastructure and open spaces that have been developed in response to the technical studies, input and planning requirements of Blacktown City Council and advice from DPE and NSW Government Architect.

Riverstone East Stage 3: Social Infrastructure Recommendations Summary

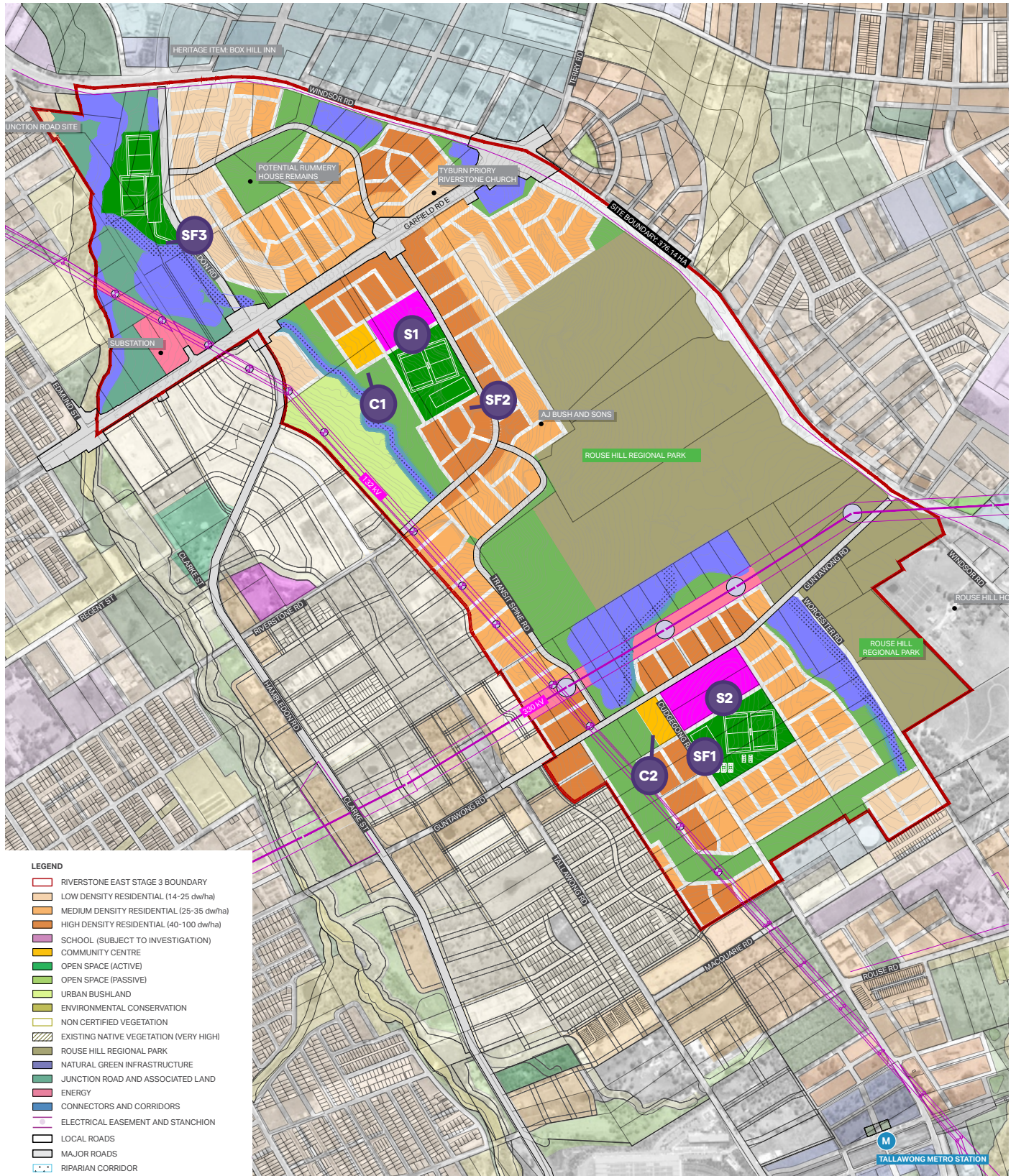
Type	Riverstone East Stage 3 Demand	Riverstone East Total Demand	Considerations and Recommendations
	Based on high growth scenario of 11,000 people.	Based on BCC's high growth scenario of 42,715 people.	
Open Space	31.13ha	121ha Stages 1 + 2: 89.75ha Stage 3: 31.13	<p>The future demand for open space is calculated based on the benchmark of 2.83ha/1000 persons, which is consistent with Blacktown City Council's approach and the that used for the wider Riverstone East Precinct. The provision of open space has also excluded the 96.53ha at Rouse Hill Regional Park, located within the Stage 3 precinct and other areas as discussed and agreed with BCC and DPE project team (see table 6). The Riverstone East Stage 3 open space planned provision illustrated in the draft ILP totals 63.17ha.</p> <p>Blacktown City Council have identified a potential shortfall of open space provision, based on revised growth forecasts for the Riverstone East Precinct (2020 report). Based on Council's high growth scenario for Riverstone East Stages 1 and 2, the potential open space demand is 89.75ha. The planned open space provision for Riverstone East Stages 1 and 2 totals 34.2ha, representing a potential 55.55ha shortfall (if the high growth scenario occurs)</p> <p>The planned provision within Stage 3, not only represents more than double the calculated population benchmark demand for Riverstone East Stage 3, it also provides a significant contribution (36.05ha) to this potential open space provision gap of 55.55ha across the whole of the Riverstone East Precinct.</p> <p>The open space areas identified within the draft ILP have the ability to meet the minimum size requirements in the draft Greener Places Design Guide of .0.5-2ha for local parks and minimum 2ha for district parks. However, when assessed against the Greener Places performance criteria and objectives, the revised location of the northern playing fields presents significant design and delivery challenges. It is recommended that the challenges and constraints of this location be further considered with the finalisation of open space and recreation locations and configurations during subsequent planning and detailed design stages</p>
Play space	Up to 5.5 local play spaces	Up to 21 local play spaces delivered as combination of a district playspace and local playspaces.	<p>The future population of Riverstone Stage 3 alone generates a demand of up to 5 local playspaces. It is recommended that the distribution of these spaces are located within 500m walking distance from all residents to maximise the walking access of homes and key destinations. There is potential to provide for a range of play, including: Nature based play spaces, incorporated within linear parks; play spaces co-located within larger district parks, with outdoor courts or half courts to provide for a range of age groups and preferences.</p>

Type	Riverstone East Stage 3 Demand	Riverstone East Total Demand	Considerations and Recommendations
	Based on high growth scenario of 11,000 people.	Based on BCC's high growth scenario of 42,715 people.	
Aquatic Centre	Up to 0.55 district facility	1 district facility	<p>There is a recognised shortfall of aquatic facilities in the broader Blacktown LGA, and in the Hills Shire LGA. The future Riverstone East Stage 3 population alone only generates modest demand for aquatic facilities, which could be met by existing facilities. However, the combined forecast population for the whole of the Riverstone East Precinct (Stage 1-3) does generate demand for at least 1 district scale aquatic centre.</p> <p>The Blacktown <i>Open Space and Recreation Strategy</i> has identified an action to investigate works required at Riverstone Swimming Centre to meet the demand for a district level facility with a mix of recreation opportunities. [Action 10.1].</p> <p>This assessment confirms this action, and recommends that this action to upgrade and expand the existing Riverstone Swimming Centre in a district level facility be progressed to accommodate the predicted future demand.</p>
Sports Fields	up to 6 local playing fields	Up to 23 local fields	<p>The future population of Riverstone Stage 3 alone generates a demand of up to 6 local playing fields, which have been accommodated within the Stage 3 draft ILP.</p> <p>The southern and central locations are co-located and meet the Greener Places performance criteria and objectives. , However, the revised location of the northern playing fields does not meet the Greener Places performance criteria and objectives. It is recommended that the challenges and constraints of this location be further considered during subsequent planning and detailed design stages, terms of its accessibility and the environmental constraints identified in this location.</p>
Indoor Recreation Facility	Up to 0.22 regional scale facilities	Up to 0.8 regional scale facilities	<p>The future population of Riverstone Stage 3 alone generates a modest demand for indoor recreation facilities which can be accommodated within existing facilities located near the precinct and through shared use agreements with SINSW. However, the combined population (high scenario) of Riverstone East does generate potential demand for at least 1 district level indoor recreation facility, which could be provided at various locations throughout the broader Riverstone East precinct.</p>
	Up to 0.55 local facility or minimum 2 indoor courts	Up to 2 facilities or up to 8 indoor courts.	
Multipurpose Outdoor Courts	2-3 multipurpose courts	up to 10 courts	<p>The Draft ILP has included the provision of 5 full size outdoor multipurpose courts to accommodate netball, basketball, futsal and other recreation activities. Additional courts could be provided within the areas of open space identified across the draft ILP.</p>
	Up to 3 netball courts	Up to 12 netball courts	
	Up to 3.5 basketball courts	Up to 14.5 basketball courts	
	Up to 2.75 tennis courts	Up to 10.7 tennis courts	
Adventure Recreation	Up to 0.4 district scale space	1 district scale space	<p>There is a demand for Adventure Recreation within the broader Riverstone East Precinct, especially given the scarcity of these facilities across the broader region. The draft ILP provides opportunities for such a facility to be designed to be multipurpose and to also provide outdoor youth plazas.</p> <p>These facilities should be co-located with other active uses and be designed and located so as to ensure passive surveillance is achieved</p>
	Up to 0.7 local scale space	1-2 local scale spaces	
Multipurpose Community Hub	Up to 2 local facilities	up to 1 district and 2 local facilities	<p>The draft ILP and existing plans for Riverstone East Stage 1 and 2 provide a range of community facilities including:</p> <ul style="list-style-type: none"> - a 0.6ha community facility in Stage 2; - 2 community facilities, serving both north and south catchments in Stage 3 (total of 6.14ha).
Youth Centre	0.55 district scale facilities	Up to 2 district scale facilities	<p>There is a shortage of youth focused spaces and facilities across the broader LGA. The future demographic profile of Riverstone Stage 3 is predicted to be a significant proportion of couples with children. Therefore it is recommended that the southern community hub location, which is co-located with the school, be designed with a focus on young people with the location of outdoor facilities (ie. skate park/youth recreation space) This location is also relatively close to the central area of Riverstone East Stages 1 and 2.</p>
Schools	Based on SINSW assessment and advice.		<p>Two separate investigation sites for educational facilities have been identified following discussions with SINSW at the Ebd. The location and size of the identified investigation site for educational facilities is subject to further review by SINSW.</p>

Type	Riverstone East Stage 3 Demand	Riverstone East Total Demand	Considerations and Recommendations
	Based on high growth scenario of 11,000 people.	Based on BCC's high growth scenario of 42,715 people.	
Library	Up to 0.33 branch scale library or approx. 759m² total floorspace	Up to 1 district scale library or up to approx. 2000m ² total floorspace	<p>While the demand from Riverstone Stage 3 is modest, the combined demand of the Riverstone East Precinct (high growth scenario) is sufficient to require 1 district scale library. The existing Riverstone Library and Digital Hub is located within 5km of the Riverstone East Stage 3 precinct and is well located in close proximity to the Riverstone Train Station.</p> <p>Therefore, this assessment recommends that the required library floorspace be provided within one of the proposed community hubs and could be delivered as a smaller kiosk style library, that provides space for the return and pick up of library books and materials, reading and meetings spaces. To accommodate demand generated by the development of the Riverstone East Precinct (stage 1-3), investigation into the potential expansion of the existing Riverstone Library, depending on current utilisation and other performance criteria should be undertaken.</p>
Cultural Spaces	approx.220m² local scale space	approx. 854m ² local scale space	<p>The demand for cultural spaces and a stand alone performing arts/cultural centre generated by Riverstone East Stage 3 is modest and even when combined with Stage 1 and 2 does not warrant the delivery of a large scale, stand alone facility within the wider precinct.</p> <p>However, consideration should be given for the incorporation of some creative and/or cultural spaces within the proposed multipurpose community hubs to allow for local access to spaces for making and creative activities (ie. maker spaces), or local cultural performance and presentation (indoor or outdoor performance area with access to appropriate infrastructure)</p> <p>Performance spaces can also be accommodated in schools to meet the need of populations for community-based performances and events.</p>
Performing Arts/Cultural Centre	0.4 local scale facility	1 local scale facility	

Draft ILP Social Infrastructure Review

The figure below is the up to date draft ILP that incorporates the social infrastructure and open space recommendations and subsequent discussions and requirements of Blacktown City Council and DPE project teams. The follow pages provides a review and assessment of the draft ILP against the established principles and best practice social infrastructure and open space planning objectives. The review summary is the conclusions of The Planning Studio's review and will be balanced with the wider precinct and government objectives for the Riverstone East Stage 3 precinct.



Multipurpose Community Hub (Location C1 and C2),

- The Draft ILP identifies two community facilities each located so as to ensure that they serve both the northern and southern catchments.
- Each community facility lot is approximately 1ha in size, allowing for significant flexibility in the use and function of these spaces. Both community spaces should be at minimum 1000m² with the southern location **(C2)** being a larger district scale of up to 2000m²
- The southern community hub is co-located with the school investigation area and the district sports ground creating a central community heart for this new place.
- Both community hub locations are along the linear open spaces which will function as active transport links, providing a direct walking and cycling access.
- The programming, use and function of these facilities would need to be further investigated and tested as the detailed redevelopment of the precinct is progressed and the demographic profile is confirmed.
- The programming and function of both community hubs should also consider the function of the community centre proposed in Stage 2 which is 0.6ha.
- Given the predicted higher proportion of families with children and the area becoming more culturally diverse, suggestions include a youth-focused facility **(Location C2)** with a creative cultural focus for the space in the northern part of the precinct. **(Location C1)**

Library Floorspace (Location C2),

- Riverstone East generates in total sufficient demand for a full branch library, but this use is better suited to the town centre location within stage 1. However, consideration should be given to provide up to 729m² of library floorspace within one of the community hubs. This would be a kiosk style library, that provides some reading spaces and meetings spaces (av. 20m² per meeting space).

Schools (Location S1 and S2),

- The Draft ILP identifies two sites for future investigation as schools (S1 and S2) totalling 6.14ha. These sites have been identified following discussions with SINSw staff during the EbD.
- The sites have a combined site area of 6.14ha, providing significant opportunity for local educational provision as well as additional community facilities and open spaces that under a shared use agreement could provide access for the wider Riverstone East community outside of school hours.
- The location and size of the identified investigation site for educational facilities is subject to further review by SINSW.

Sports Fields | Grounds + Outdoor Courts (Location SF1, SF2 and SF3)

- The proposed ILP allows for a total of 6 playing fields within Stage 3, satisfying demand generated by future development.
- These fields should be multipurpose fields to maximise their utilisation and co-located with outdoor courts and playspaces.
- Due to the topographical, environmental and infrastructure constraints of this precinct, the double playing field configuration has been achieved.
- The location of the playing fields has been discussed and revised throughout the development of the draft ILP. The revised location of the northern playing fields (SF3) is a result of those discussions and advice from Council and DPE.
- The Planning Studio's assessment against the NSW Government's Greener Places performance criteria and objectives has identified significant planning, design and delivery challenges specifically with regards to the revised location, configuration, accessibility and existing environmental constraints, such as the potential land contamination and remediation requirements within the Junction Road area of the precinct
- While the identified flooding impacts may present ongoing and increased maintenance costs for Council, the location of playfields on flood effected land is not uncommon.

- The location is also constrained by the riparian corridor which in combination with the road layout, limits the options for the preferred field configuration and the versatility of these fields.
- The Draft ILP has included the provision of 5 full size outdoor courts. These courts should be multipurpose providing for a variety of different sporting and recreation activities. Additional courts can be provided within the significant amounts of open space identified in the ILP

Open Spaces

The location and types of open spaces recommended in the Draft ILP have been tested against the following Draft Greener Places Design Guide six core criteria:

1. Quantity
2. Distribution
3. Size and shape
4. Accessibility and connectivity
5. Quality
6. Diversity.

Open space quantity has been assessed in the previous section. The following pages assess the proposed open space provision in the Structure Plan against the remaining five criteria.

Accessibility and connectivity

Open space areas have been distributed throughout the Riverstone East Stage 3 Precinct resulting in the majority of residents living within the precinct will be within 400m of local open space.

These spaces are also connected by an extensive and accessible green corridors and connectors. This is a critical active transport and connectivity link to increase accessibility across the precinct and from the wider Riverstone and Riverstone East precincts.

Rouse Hill Regional Park, while not included in the open space demand calculation, is a significant open space and recreation asset for the future residents of Riverstone East Stage 3 and the wider Riverstone East Precinct. Further consideration could be given to the location of the parks and open spaces to leverage this and create greater connections and continuity of the open space network.

The district scale active recreation precinct should be focused on the southern site (SF1) to enable its co located with the community hub and school site maximising accessibility and encourage greater utilisation and along the green corridor throughout the precinct to further enhance accessibility.

Further consideration should be given for the designation of the road separating the southern playing fields and the site identified for potential educational facilities (subject to investigation) a shared space to increase the connectivity, accessibility and safety, especially given that it is likely to be highly used by students and children.

The revised location of the northern playfields presents significant challenges when assessed against the Greener Places performance criteria for accessibility and connectivity. The design guidance states that accessibility is *“more than being within a certain distance of an open space. Barriers such as road corridors, ... drains and waterways can create disadvantaged for some residents.*

Visual access, minimum areas of road frontage and casual surveillance all contribute to perceptions of access and safety” (pg.16)

The location of Hambeldon Road and Garfield Road East and the riparian corridor create a barrier to risks limiting accessibility to the playing fields in this northern area of the precinct. While the playing fields front Hambeldon Road, its location at the edge of the precinct provides for limited visual access and casual surveillance both which help to increase comfort and safety for users.

Size and Shape

The Draft ILP provides a good mix of open space areas across the Precinct totaling 63.17ha. All local open space areas have the ability to meet the minimum size requirements in the draft Greener Places Design Guide of .0.5-2ha for local parks and minimum 2ha for district parks.

While the final locations and configurations of the local parks will be finalised during subsequent planning and detailed design stages, the revised location of the northern playfields presents significant planning, design and delivery challenges to enable a high quality design and recreation outcome for the future residents of Riverstone East Stage 3 as expressed desired by Blacktown City Council.

Active recreation and sport requires specific shapes, dimensions, and boundaries, and suitable topography. The location of sporting fields must allow additional space for run off areas and supporting amenities. The sizes and dimensions will be finalised to the specifications of the particular sports that it catering for. so it is fit for purpose

When assessed against the performance criteria, the size and shape of the of the future northern playfields and associated open space is constrained by the proposed road network and riparian corridor. This also may limit the options for to deliver the preferred field configuration and the versatility of these fields to accommodate activities that may have technical specifications beyond the playing field itself.

Local open spaces should also be of a regular size and shape and a topography of minimal gradients. This will support a mix of structured and unstructured recreation activities such as playspaces, community gardens and parklands.

Diversity

As outlined in the previous section (pg.57) the Draft ILP contains a range of open space areas which are capable of supporting a diversity of structured and unstructured recreation opportunities.

This includes:

- Active open space: both at a district and local scale, capable of supporting outdoor play, large gatherings, and includes the provision of playing fields and outdoor courts, some co located with schools.
- Local parks distributed along the linear corridors, close to residential areas to support play, places of respite and reflection for the community and linear connections.
- Linear parks - 'Corridor and Connectors' - that provide opportunities for networks of trails and small play spaces, as well as opportunities for environmental education and cultural expression through nature walks and sculpture walks.

This open space will also be supplemented by an extensive network of walkways and active trails through bushland areas and riparian, all of which will provide considerable amenity, biodiversity and cooling benefits to the community.

The Riverstone East Stage 3 precinct also has the distinct advantage of Rouse Hill Regional Park at its doorstep. While not included in the open space calculation and future provision, its large regional green spaces, bush trails and variety spaces for active and passive recreation provide a significant backdrop and benefit for the community.

Distribution

The proposal will provide 63.17ha of open space for recreation in the Riverstone East Stage 3 Precinct (excluding 95ha Rouse Hill Regional Park). This will be distributed within a network of district, local and linear park spaces.

Blacktown City Council stated a strong view that land under the electrical easements should not be used for any open space or recreation purposes. Therefore, where practical, the draft ILP has tried to minimise the encroachment within these areas. Further consultation with Transgrid may identify opportunities for future recreation uses such as dog exercise areas to be located in these spaces.

The finalisation of the planning and design of the open spaces and community facilities should take network approach and consider the provision across all three stages of the Riverstone East Precinct.

While the majority of open space areas are generally equitably distributed, with a good coverage parks and more accessible, local and amenity spaces. The co-location of open spaces with community hubs provides for greater utilisation and opportunities to expand and contract the space needed for different activities and where possible, should be the preferred design and planning outcome.

Appendix 1: **Relevant Case Studies**

CASE STUDY

JULIA RESERVE YOUTH PARK

Location: Oran Park | **Size:** 2ha

Governance: Camden Council

Design: JMD Design (Landscape Design) | Convic (Skate) | Marla Guppy + Graham Chalcraft (Public Art)

Developer: Landcom + Greenfields Development Company

Cost: approx. \$2M (construction value)

Designed by JMD Design, Julia Reserve Youth

Precinct is a key part of the civic precinct is home to the largest skate park in South West Sydney and have become a popular park, for young people to hang out with friends, vlogging and parties.

The 2ha public open space area provides diverse recreational, social and leisure opportunities. Elements include a skate precinct, parkour facilities, ping pong tables, kickabout areas, multi-purpose courts, shelters and seating. The park's position on Julia Creek also required complex stormwater management solutions.

Design Intent

JMD design developed a design language in Julia Reserve Youth Park that responded to the need for a flexible, social, active, and robust space and that includes an area to 'watch and learn'. The park has a scale and intensity that aligns with the increasingly dense urban surroundings.

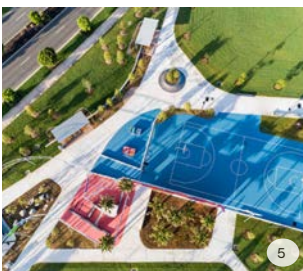
From a large informal lawn at the south western corner, adjacent to Grand Prix Park, activity intensifies as it travels downstream toward the town centre, emphasizing the water axis of Julia Creek as it flows north. The multi-spatial ensemble is stitched together by the highly articulated overhead arbour and framed by significant tree planting and lawns.

The rhythm established by the structures (skate arbour and parkour arbour) create a dynamic relationship unique to the Youth Park. Artwork panels developed by the youth of Oran Park with Marla Guppy & Associates and Graham Chalcraft (Vertebrae) are located within the upper 'banner' area of the structure.

Function and Uses

Adjoining the lawn is a multi-use court with a large wall for ball sports. This wall commences the intertwining progression of elements that winds its way through the play and skate areas towards the Community Centre.

The Park embraces less traditional sport and caters to diverse ages and skill levels, bringing together beginners through to elite level athletes. The skate precinct was designed by Convic with input from students from Oran Park schools and executed by Trinity Skate. The parkour training facility, also designed by Convic is a significant addition to the burgeoning parkour movement within the Sydney region. The adjacent POPP table tennis tables feature artwork by locally based indigenous artist Danielle Mate Sullivan.



Photos: (1) Aerial view; (2) Skate park + elements; (3) Table tennis; (4) Recreation activities + infrastructure and (5) Sport and recreation spaces

(Photographs: Brett Boardman | JMD Design)



open space | recreation spaces | young people public art

CASE STUDY

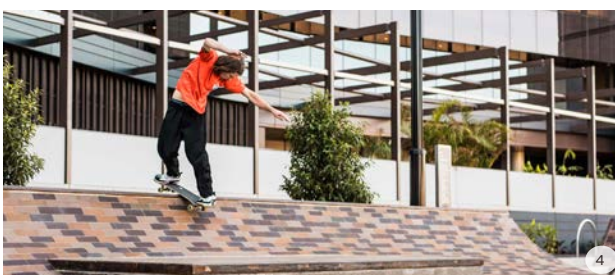
SOUTH EVELEIGH YOUTH SPACE

Location: Redfern | **Size:** approx. 500m²

Governance: Private landowner

Design: Aspect Studios (Precinct Design) | Convic (Skate) | Simon Bogalo (Landscape Architect)

Developer: Mirvac



Designed by Convic, South Eveleigh Youth Space

celebrates younger people using the space for recreation while actively embracing the previous industrial uses associated with the Eveleigh Railway Workshops.

While it is a fairly small area, only around 50 meters long, the design is a well planned out street plaza style park and a space does not fit the typical typology of a skatepark/action sports zone.

The designers have incorporated existing trees into a series of plaza spaces and introduced numerous multi-purpose elements inspired by the railways that are used by passive and active users of the public realm. Lights are turned out at 10 pm ready for the next day..

The space also incorporates a softfall exercise zone, bike racks, seating, lighting and drinking fountains. It uses landscaping rather than fences to delineate the different areas and provide safety for pedestrians passing by.

Design Intent

The historic locomotive workshop and industrial era that drove the original development of the Australian Technology Park have been used to inspire the skate plaza design. It is conceptualised around a central train line and locomotive turntable positioned in the middle of the space reflected as a skateable volcano.

Materials and finishes have been incorporated to accentuate the urban downtown street aesthetic of the design. Materials incorporated into the skate zone directly reflect elements found in the ATP development site including Skateable tree pits; Classic urban square paving layout; rees and large open paved areas and Granite skate obstacles

Photos: (1) Aerial view; (2-4) Various skate elements;
(Photographs: Convic | Cameron Markin)



open space | adventure
recreation | young people

CASE STUDY

MEADOWBANK SKATE PARK

Location: Meadowbank | **Size:** 5ha

Governance: City of Ryde Council

Design: Convic

Developer: City of Ryde

Cost: approx. \$3.2M

Designed by Convic, Meadowbank Skate Park

creates a multi-use skate and family space for all ages as well as being a space to play, teach and learn through active recreation and social inclusion.

Located in Meadowbank Park, this outdoor youth space is a total area of 5000 sqm of which 2500 sqm is dedicated skate area. It is centred around a flowing skate area that includes a competition level kidney bowl, technical mini bowl with unique escalating level changes and a spacious flowing street area that allows users to define different paths through the space. Obstacles include granite ledges, rock jumps and garden gaps.

Enclosing the concrete skate park is an inter connecting beginners play path with informal routes leading to various active and passive recreation pods. Pods include parkour, bouldering, outdoor ping pong, play, and BBQ /picnic areas.

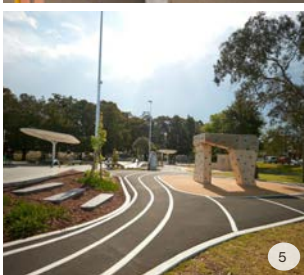
The organic form and natural architecture of the pods within the space take inspiration from the Parramatta River mangrove forest's and the rich diversity of animal and plant species. The rhythm established by the structures (skate arbour and parkour arbour) create a dynamic relationship unique to the Youth Park.

Function and Uses

Key features of the scooter and skate park include:

- Three-metre deep Olympic-standard competition bowl
- Dual spine flow bowl as well as obstacles such as a euro gap, kickers, rails, kerb banks, and a streetscape skate park area
- A surrounding asphalt track for beginners
- Picnic and shelter facilities
- Barbecues
- Climbing wall
- Water refill station
- New landscaping and controlled lighting
- Playground equipment and a climbing net tunnel
- Parkour and bouldering area
- A table-tennis court
- Connecting footpaths
- CCTV cameras.

The Meadowbank Skate Park lights operate from 4.30pm - 7.00pm every day during standard time. During daylight saving time, the Skate Park closes at sunset.



Photos: (1) Aerial view; (2) Skate bowl elements; (3) climbing elements; (4) Street Skate elements (5) Climbing Wall and beginners track.

(Photographs: Convic | City of Ryde)



open space | recreation
spaces | young people |
children | playground

CASE STUDY

ASHFIELD AQUATIC CENTRE

Location: Ashfield | **Size:** 15,000m²

Governance: Inner West Council

Design: Brewster Hjorth Architects | FDC Construction | Georgia Hill (Public Art)

Developer: Inner West Council

Cost: approx. \$35M

Designed by Brewster Hjorth Architects, Ashfield Aquatic Centre was completed in 2020, replacing the old Ashfield Olympic Pool, built in 1962 which was one of the post Olympic games municipal pools built around Australia.

The aquatic centre provides a mix of community leisure pool and elite sports centre and is the third largest in Sydney (based on water area). The facility includes the redesign of the full site as a community recreation centre campus.

The Ashfield Community Aquatic Centre services Sydney's Inner West and it is primary Inner City, International Standard water polo venue, with specialist training facilities. It is also an important Sports Facility and Elite Sports Facility for the Inner City region.

The larger 10 lane 50m pool has been designed with an adjustable split boom to double as a lap pool for training and a very large constant depth, older child's recreation/play pool. The internal program pool doubles as a hydrotherapy treatment pool.

The facility is also home to a new public artwork by internationally renowned artist Georgia Hill. The art, called "Ripple Through" develops her existing art practice into the powder-coated metal louvers.

Function and Uses

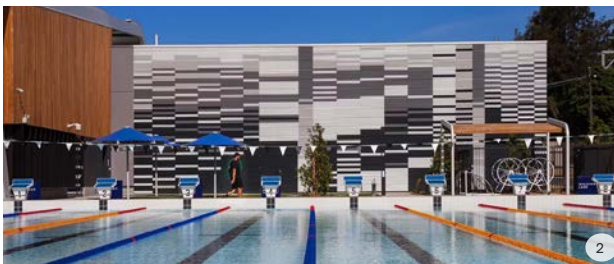
The centre serves a regional community catchment and therefore provides a variety of aquatic facilities arranged to create a safe, easily supervised child – youth recreation centre. Facilities include:

- 50 metre outdoor pool, outdoor leisure pool and additional outdoor program pool with an innovative floating floor
- 25 metre, 4 lane L-shaped indoor pool, utilised year round.
- An Children's leisure pool with splash deck, landscaping and green walls
- A health and fitness centre, sauna, steam room and spa facilities
- Customer service area, change rooms, crèche and a retail space
- Community meeting room facilities
- Community green space, covered seating, landscaped areas and terraces

A key feature of the innovative facility is the moveable floor seen in one of the outdoor pools, which can change its depth up to 2.1 metres. This flexibility allows for a wide range of aquatic programs, including water polo and learn to swim, to take place in the one pool.



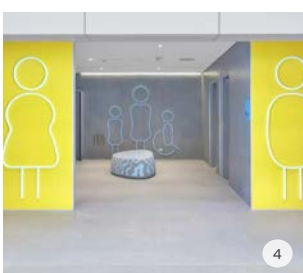
1



2



3



4



5

Photos: (1) Exterior + Outdoor Pool; (2) Ripple Through artwork; (3) Indoor Pool; (4) Change Facilities (5) Entrance

(Photographs: Brewster Hjorth Architects | Inner West Council)



aquatic facilities | recreation
spaces | community facilities

CASE STUDY

GURRI WANYARRA RECREATION CENTRE

Location: Kangaroo Flat | **Size:** 7,950m²

Governance: City of Greater Bendigo, operated by Belgravia Leisure

Design: Peddle Thorp Architects | Jackson Architect | Behmer & Wright (Construction).

Developer: City of Greater Bendigo

Cost: approx. \$31-\$35M

Designed by Peddle Thorp Architects and Jackson Architect, Gurri Wanyarra Wellbeing Centre is an indoor aquatic, leisure and wellness facility opened in 2018 that provides recreation, fitness and relaxation. Gurri Wanyarra means 'kangaroo waterhole' in the language of the Dja Dja Wurrung, Traditional Owners of Greater Bendigo.

The concepts and designs were developed following considerable community consultation as well as a variety of interested groups including aged care, recreation, youth, disability, education and health, to provide relevant advice on behalf of the community.

The project was funded by VIC Government (\$15M), City of Greater Bendigo (\$13.5M), Belgravia Leisure (\$1.5M) and the Kangaroo Flat Community Enterprise, a not-for-profit community company formed by residents of Kangaroo Flat and surrounding areas (\$1M).

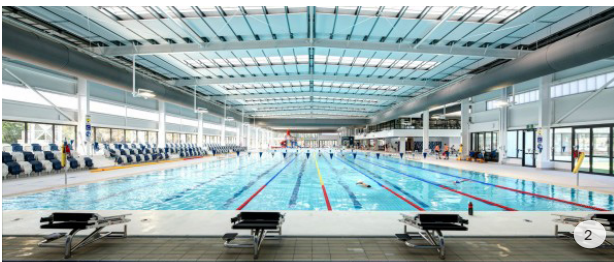
In its first year of operation, the facility attracted 432,000 visits, with 3,000 health and fitness members and 900 learn to swim enrolments.

Function and Uses

The Gurri Wanyarra Wellbeing Centre is accessible year round and provides:

- 51.5m, eight-lane swimming pool
- Beach-entry leisure pool for toddlers, children and family swimming
- Zero depth splash park providing aqua play
- Warm-water program pool and spa pool facilities
- Steam room and sauna, gymnasium and group fitness rooms
- Childcare and multipurpose room
- Allied health and wellness centre
- Café
- Benched seating for up to 500 people
- Change room facilities (including individual and group rooms); accessible facilities, including adult changing tables)
- Reception and administration area

The warm water pool provides 'pool pods' which allows wheelchairs to be placed inside the pod to lower a person safely into the water. The facility also has available manual water wheelchairs and an access ramp into the pool.



Photos: (1) Exterior view; (2) 50m indoor pool; (3) Leisure pool; (4) Pool Pods allowing for accessible entry into the warm water pool

(Photographs: City of Greater Bendigo | Peddle Thorpe Walker)



aquatic facility | recreation spaces | community facilities | accessibility

CASE STUDY

**BATEMANS BAY
REGIONAL ARTS +
AQUATIC CENTRE**

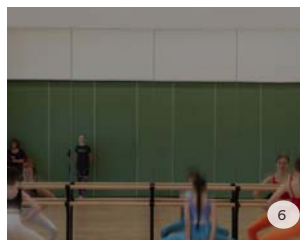
Location: Batemans Bay

Governance: Eurobodalla Shire Council, operated by Aligned Leisure

Design: NBR Architecture + Donovan Payne Architects | Taylor Thomas Whitting | ADCO Constructions | Wilde & Woollard

Developer: Eurobodalla Shire Council

Cost: \$63.5M



Designed by NBR Architecture + Donovan Payne Architects, Bay Pavilion is a regional aquatic, arts and leisure centre for Eurobodalla Shire Council. It is located between the town centre and Mackay Park sports grounds. The project was funded by Federal and NSW Government (\$51M), Eurobodalla Shire Council (\$12.5M).

The design for has been inspired by the natural landscape and features an organic design language that makes extensive use of sustainably sourced timber. The facility comprises two 'Pavilions' – the Arts Pavilion and the Aquatic Pavilion - connected via a shared foyer 'Link'.

The Arts Pavilion includes a theatre, bar, gallery and studios whilst the Aquatic Pavilion includes a 25m lap pool, warm water pool, gym, water slides and splash park. The precinct also has a café space, visitor centre services and a retail store.

The facility had 1000+ visitors on its first day and 100,000+ visitors in its first six months of opening in June 2022.

The Arts Pavillion

The Yuin Theatre is a multipurpose venue that's fully accessible and flexible with stage and seating options. The retractable theatre seating can seat up to 350 people. The Clyde Gallery has gallery and exhibition spaces suitable for both permanent and temporary exhibits. Also provides dressing rooms, green room and storage, gallery exhibition space

The 112m² Dance Studio has a sprung floor, dance barre, long length mirrors and AV equipment to use as a rehearsal, class and performance space. The 40m² arts workshop provides wet and dry areas, and equipment for a variety of creative workshops and classes.

The meeting rooms are versatile spaces that are approximately 40m², and can be combined to create a larger space.

The Aquatic Pavillion

The long spanning hybrid timber bow-string' truss spanning the main pool hall is a defining feature of the building. The indoor aquatic centre includes:

- a 25-metre, eight-lane pool with ramp access,
- 10-metre warm water program pool,
- free form indoor leisure pool that includes learn-to-swim and toddler areas,
- water play splash pads, waterslides,
- Gym, group fitness and wellness areas.

Photos: (1) Aerial (2) Aquatic centre pool; (3) Yuin Theatre (4) Theatre exterior (5) Outdoor waterslides + waterplay; (6) Dance studio space

(Photographs: NBR Architects | Alexander Mayes | Eurobodalla Shire Council)



**aquatic facilities | recreation
spaces | community facilities |
arts + cultural | creative spaces**

Appendix 2:
**Review of Revised growth
forecasts + unplanned
infrastructure needs analysis**

NWGA Blacktown Precincts: revised growth forecasts and analysis of unplanned infrastructure needs [BCC 2020]

The purpose of this report is to compare actual residential development activity against the NSW Government’s forecast supply within each approved precinct plan.

It highlighted that residential development activity is occurring at a far greater density than was originally predicted in the NSW Government’s precinct plans, and that this has significant implications for the required infrastructure that is needed to service the unplanned population.

The report estimates that the recalculated community facility infrastructure demand for Catchment 2, [which includes the Alex Avenue, Area 20, Riverstone, Riverstone East, Riverstone West and Schofields Precincts] is:

	Demand		
	Original (m ²)	Revised Forecast (m ²)	Increase (m ²)
Community Centres	7,040	16,613	+9,573
Aquatic Centres	10,000	20,000	+10,000
Recreation infrastructure	3,999	3,999	0

Social infrastructure demand shows the current additional social infrastructure demand generated by the actual additional residential lots. This is additional to the current planned social infrastructure identified in the Precinct Plan and s7.11 Contributions Plan.

The additional ‘forecast’ social infrastructure is the total demand that is generated over the remaining undeveloped land. It is calculated based on a combination of the actual average residential densities that have occurred to date and, where no actual average density exists, the theoretical maximum density that applies under the Precinct Plan planning controls.

The benchmarks are taken from the Growth Centres Development Code 2006 that is used to guide precinct planning.

Recalculated social infrastructure future demand (Blacktown City Council, March 2020)

Council’s report concluded that the recalculated community facility infrastructure demand for the wider Table 6 and 7 details Council’s assessed demand for Catchment 2, area, based on the actual residential development activity (to 2020) and the assumed development rate on remaining undeveloped land in the catchment (excluding Riverstone West and Riverstone East Stage 3).

It is noted in the report that the review of demand by catchment relies on utilisation of density projections; 2016 QS estimates for revised floorspace indications; 2018 draft Blacktown City Council Community Facilities Review for revised aquatic centre indicators; calculation of increased requirement at precinct level; and consolidated increased precinct level requirement in a limited number of facilities across 2 catchment areas.

Other assumptions used in the analysis of the additional social infrastructure need included:

- Increased population across the NWGA drives aquatic facility provision (i.e. doubling of Riverstone, 34% increase at Marsden Park, with the balance utilised at Blacktown Leisure Centre Stanhope).
- Existing benchmarks for building form, size and cost of community hubs, halls and libraries have been used. The benchmarks base calculations on a predominantly single storey building form.

Recalculated open space future demand

The 2020 analysis found that with the current increased densities that have been delivered across the North West Growth Area to 2018, there was an identified shortfall of 24 ha of open space.

The report makes the assumption that if these increased density trends continued there will be an eventual shortfall of 300 ha of open space (180ha active, and 120ha passive), based on the agreed provision benchmark of 2.83ha/100 persons, based on an assumed population increase of 102,585 people.

In order to better understand the concerns of Council regarding the reported shortfalls of social infrastructure and open space, it was important to undertake a review to inform a more considered approach to the planning of open space and social infrastructure for stage 3 and to enable a contribution to the reduction of the forecast shortfall across the three stages of Riverstone East.

Table 1: Alex Avenue Precinct - growth forecasts and infrastructure demand

(source: Blacktown City Council, 2020 North West Growth Area – Blacktown Precincts revised growth forecasts, Appendix 1B, pg30)



Alex Avenue

Gross area: 420ha (rezoned 2010)
 Area developed: 67% (March 2020)
 Average lot size: 378.03m²

Social Infrastructure type		Open Space	Youth Centre	Community Centre	Library		Community Services		Cultural Facility	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	18,000	50.94ha	0.90	0.30	0.45	0.55	0.90	3	0.60
	Forecast (BCC)	25,325	71.67ha	1.27	0.42	0.63	0.77	1.27	4.22	0.84
	Est provision increase	+7,325	+20.73ha	+0.37	+0.12	+0.18	+0.22	+0.37	+1.22	+0.24

Table 2: Area 20 Precinct - growth forecasts and infrastructure demand

(source: Blacktown City Council, 2020 North West Growth Area – Blacktown Precincts revised growth forecasts, Appendix 1C, pg31)



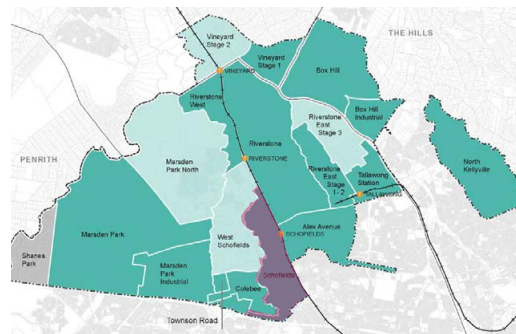
Area 20 [Tallawong station]

Gross area: 245ha (rezoned 2011)
 Area developed: 2% (March 2020)
 Average lot size: 433.21m²

Social Infrastructure type		Open Space	Youth Centre	Community Centre	Library		Community Services		Cultural Facility	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	15,037	42.55ha	0.75	0.25	0.38	0.46	0.75	2.51	0.50
	Forecast (BCC)	44,219	125.14ha	2.21	0.74	1.11	1.34	2.21	7.37	1.47
	Est provision increase	+29,182	+82.58ha	+1.46	+0.49	+0.73	+0.88	+1.46	+4.86	+0.97

Table 3: Schofields Precinct - growth forecasts and infrastructure demand

(source: Blacktown City Council, 2020 North West Growth Area – Blacktown Precincts revised growth forecasts, Appendix 1H, pg36)



Schofields Precinct

Gross area: 465ha (rezoned 2012)
 Area developed: 26% (March 2020)
 Average lot size: 557.05m²

Social Infrastructure type		Open Space	Youth Centre*	Community Centre*	Library*		Community Services*		Cultural Facility*	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	8,000	22.64ha	0.40	0.13	0.20	0.24	0.40	1.33	0.27
	Forecast (BCC)	17,369	49.15ha	0.86	0.29	0.43	0.53	0.86	2.89	0.58
	Est provision increase	+9,369	+26.51ha	+0.46	+0.15	+0.23	+0.29	+0.46	+1.56	+0.31

* Figures for all social infrastructure types except for open space, in the original report, were calculated incorrectly. The figures in the table above have been corrected by The Planning Studio.

Table 4: Riverstone Precinct - growth forecasts and infrastructure demand

(source: Blacktown City Council, 2020 North West Growth Area – Blacktown Precincts revised growth forecasts, Appendix 1F, pg34)



Riverstone Precinct

Gross area: 975ha
 Area developed: 39% (March 2020)
 Average lot size: 491.11m²

Social Infrastructure type		Open Space	Youth Centre	Community Centre	Library		Community Services		Cultural Facility	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	25,800	73.01ha	1.29	0.43	0.65	0.78	1.29	4.30	0.86
	Forecast (BCC)	32,954	93.26ha	1.65	0.55	0.82	1.00	1.65	5.49	1.10
	Est provision increase	+7,154	+20.25ha	+0.36	+0.12	+0.18	+0.22	+0.36	+1.19	+0.24

Table 5: Riverstone East Precinct - growth forecasts and infrastructure demand

(source: Blacktown City Council, 2020 North West Growth Area – Blacktown Precincts revised growth forecasts, Appendix 1G, pg35)



Riverstone East [Stages 1+2]

Gross area: 282ha
 Area developed: 1% (March 2020)
 Average lot size: 484.54m²

Social Infrastructure type		Open Space	Youth Centre	Community Centre	Library		Community Services		Cultural Facility	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	10,850	30.71ha	0.54	0.18	0.27	0.33	0.54	1.81	0.36
	Forecast (BCC)	31,715	89.75ha	1.59	0.53	0.79	0.96	1.59	5.29	1.06
	Est provision increase	+20,865	+59.05ha	+0.35	+0.35	+0.52	+0.63	+1.04	+3.48	+0.70

Tables 6 +7: Growth forecasts and infrastructure demand for all precincts within Catchment 2, excluding Riverstone West

(source: Blacktown City Council, 2020 North West Growth Area)

4,187ha Gross Area all precincts in Catchment 2 (except Riverstone West) 1,441.72ha (35%) Developed Area (as of March 2020)										
Social Infrastructure type		Open Space	Youth Centre*	Community Centre*	Library*		Community Services*		Cultural Facility*	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	107,925	305.42ha	5.4	1.8	2.7	3.27	5.39	17.99	3.6
	Forecast (BCC)	205,327	581.04ha	10.2	3.4	5.13	6.22	10.27	34.22	6.84
	Increase from Precinct Plan	+97,402 (+110%)	+275.62ha	+4.8	+1.6	+2.43	+2.95	+4.88	+16.23	+3.24

The figures in this table are sourced from the '**Summary of revised growth forecasts by Precinct**' table (BCC, 2020, pg.17) and confirmed by the individual precinct assessments in Appendix 1

4,187ha Gross Area all precincts in Catchment 2 (except Riverstone West) 1,441.72ha (35%) Developed Area (as of March 2020)										
Social Infrastructure type		Open Space	Youth Centre*	Community Centre*	Library*		Community Services*		Cultural Facility*	
					District	Branch	District	Local		
Adopted provision rate		2.83ha:1000	1:20,000	1:60,000	1:40,000	1:33,000	1:20,000	1:6,000	1:30,000	
	Precinct Plan	104,113	295ha	5.2	1.7	2.6	3.15	5.2	17.35	3.5
	Revised Pop'n (BCC)	157,582	446ha	7.9	2.62	3.9	4.8	7.9	26.3	5.25
	Increase from Precinct Plan	+49,657 (+46%)	+151ha	+2.7	+0.92	+1.3	+1.65	+2.7	+8.95	+1.75

The Revised Population are sourced from the '**Recalculated community facility infrastructure demand by catchment**' table (BCC, 2020, pg.22) and precinct population figures from '**Summary of revised growth forecasts by Precinct**' table (BCC, 2020, pg.17)

Tables 8: Annual rate of development activity (to 2018) across the NWGA*

(source: Blacktown City Council, 2020 North West Growth Area, pg.16)

Year	Developed Area	Registered residential lots			Population		
	Net ha	Planned	Actual	Difference	Planned	Actual	Difference
2010	0.38	6	8	+2	18	26	+7
2011	0.26	4	4	0	13	13	0
2012	0.70	14	13	-1	45	42	-4
2013	15.43	231	261	+30	740	835	+95
2014	59.09	1,022	1,086	+64	3,271	3,475	+204
2015	83.74	1,345	1,573	+219	4,334	5,034	+700
2016	124.09	2,033	2,460	+427	6,506	7,842	+1,335
2017	123.56	2,011	2,610	+599	6,415	8,304	+1,888
2018	101.04	1,620	2,972	+1,352	5,185	9,510	+4,325
TOTAL	508.30	8,296	10,987	+2,693	26,528	35,081	+8551

* This annual rate excludes Colebee Precinct. The document does not indicate if the above is limited to the NWGA precincts that are within the Blacktown City Council LGA



The Planning
Studio