



CONTEXT PLAN AREA STRATEGY

Precinct 6



Document Information

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Contact: Lyndelle Seymour (RPS)

Version History

Version	Date	Purpose	Author	Reviewer	Approval Date
1	04.11.2022	P6 CPAS for Lodgement	LS	GE	4 November 2022
2	09.03.2023	P6 CPAS Further Issues Response	LS	GE	9 March 2023
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4	11.07.2023	P6 CPAS Further Issues Response 3	LS	GE	11 July 2023

Prepared in partnership with:

Lendlease	RPS
KN Group	Natura
Design Flow	Stantec
SLR	

PRECINCT 6 OVERVIEW

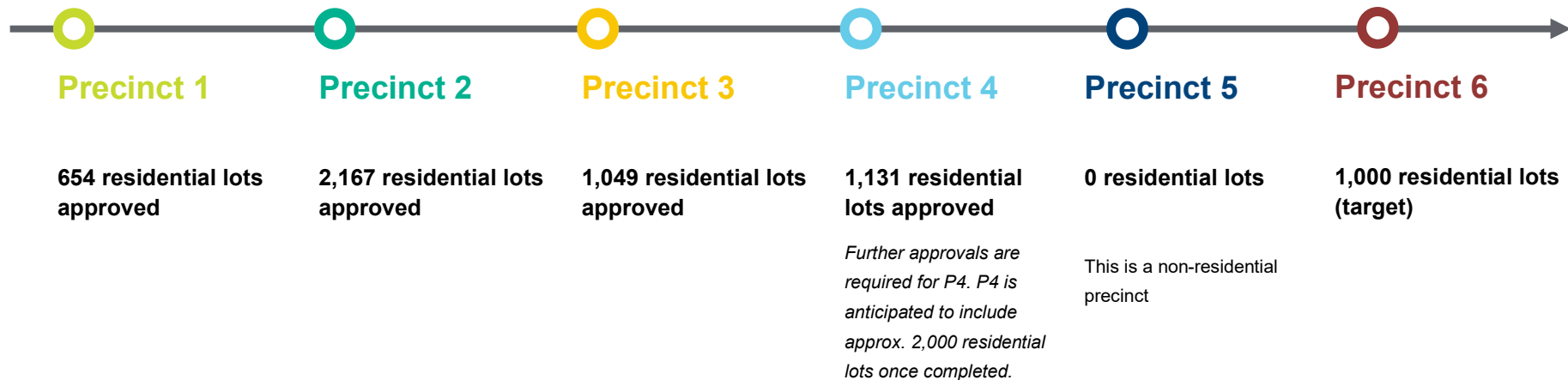
Precinct 6 (P6) represents the second residential precinct south of the powerline easement in the master planned community of Yarrabilba. The Yarrabilba community is positioned between Brisbane's CBD and the Gold Coast and surrounded by Plunkett Conservation Park and is on the doorstep of Mt Tamborine.

P6 follows Precinct 4 (residential) and part of Precinct 5 (non-residential, mixed industry and business).

P6 has an area of approximately 100ha that will provide land supply for Yarrabilba for approximately two to three years based on current sales rates.

At the time of the 2021 ABS Census, Yarrabilba had a population in the order of approximately 10,240 people¹. The May 2022 population count is currently estimated 11,324 people. The census data does not account for the future populations of approved Precincts 3 and Precinct 4 currently under construction.

P6 will comprise approximately 1,000 residential lots, representing a population of approximately 2,800 equivalent persons. The minimum residential density target for Precinct 6 is between 14 to 15 dwellings per hectare, subject to site constraints.



**Approved residential lot counts are approximate and subject to change over time.*

A locality plan is included at Figure 1. The Key Elements of Precinct 6 include:

- Greenspace corridor surrounding the precinct, with approximately 12.3ha within the precinct boundary.
- Hike and bike path for connectivity
- Two neighbourhood recreation parks and a district sports park
- Neighbours the future town centre to the north-west
- Integrates with existing and future precincts

¹Source: Australian Bureau of Statistics (2021) 'People and Population', 2021 Yarrabilba, Census Community Profiles, accessed 2 September 2022

Purpose

This Context Plan Area Strategy (CPAS) has been prepared in accordance with Condition 7 of the whole of site MCU (DEV2011/187) approval.

This strategy requires compliance assessment against Condition 11 of the whole of site approval.

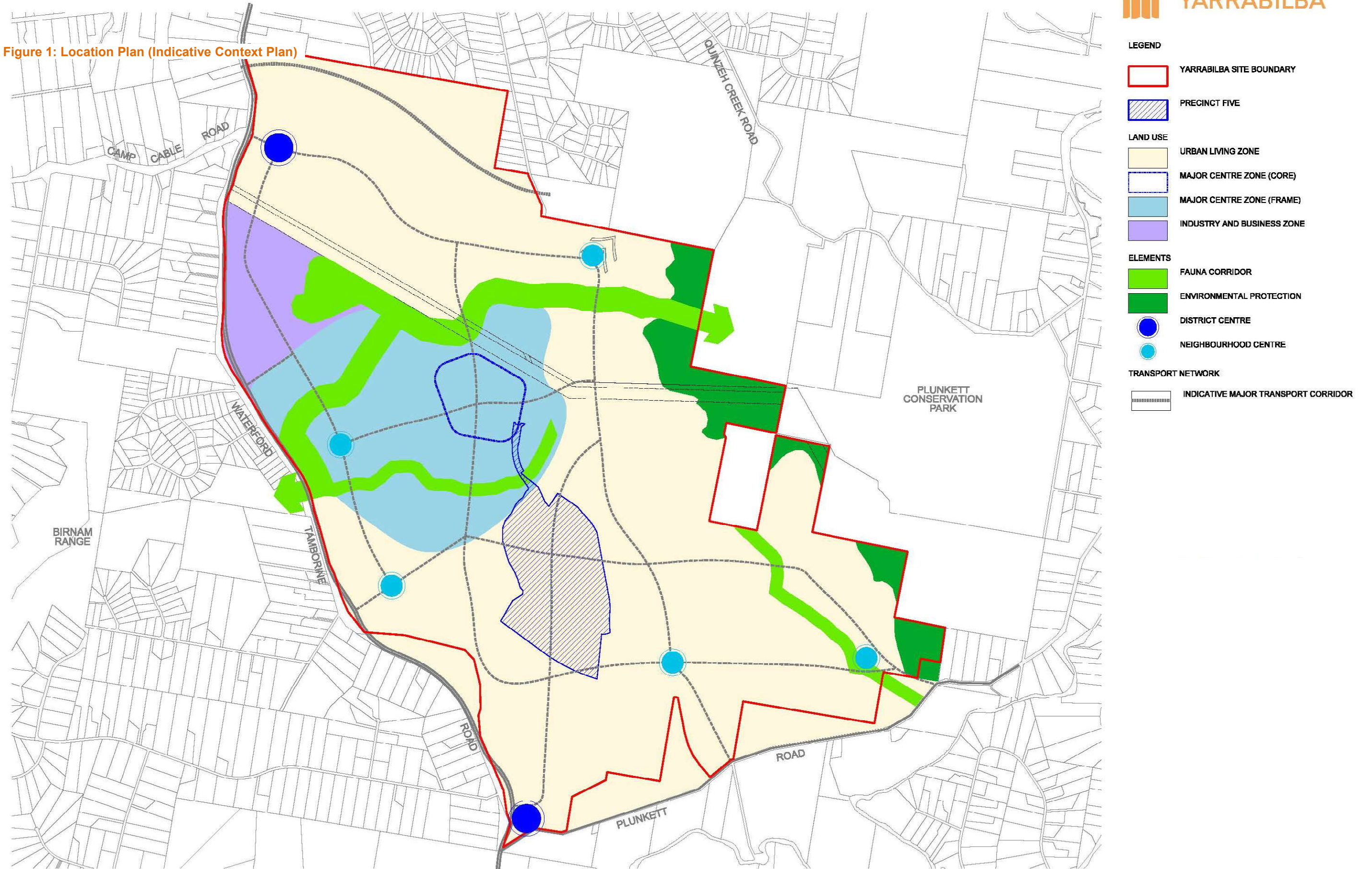
Context Plans

A series of plans have been developed as follows:

1. Location Plan
2. Indicative Context Plan
3. Yarrabilba Precinct Plan
4. Aerial Photo
5. Constraints Plan
6. Open Space and Linkages Plan

The Precinct 6 Context Plan is included as an indicative plan with this CPAS. A Context Plan will be submitted as part of the first permissible development in Precinct 6 area and will go through a separate advertising and endorsement process.

Figure 1: Location Plan (Indicative Context Plan)



SOURCE: ZONING MAP WITH TOWN CENTRE CORE RELOCATION AS AGREED WITH EDQ

YARRABILBA PRECINCT SIX CONTEXT PLAN LOCATION

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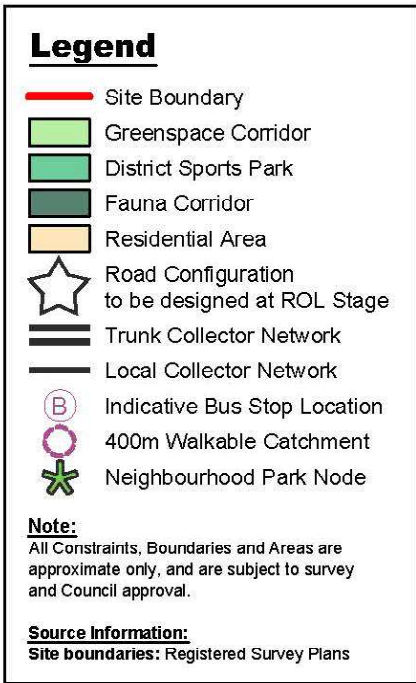
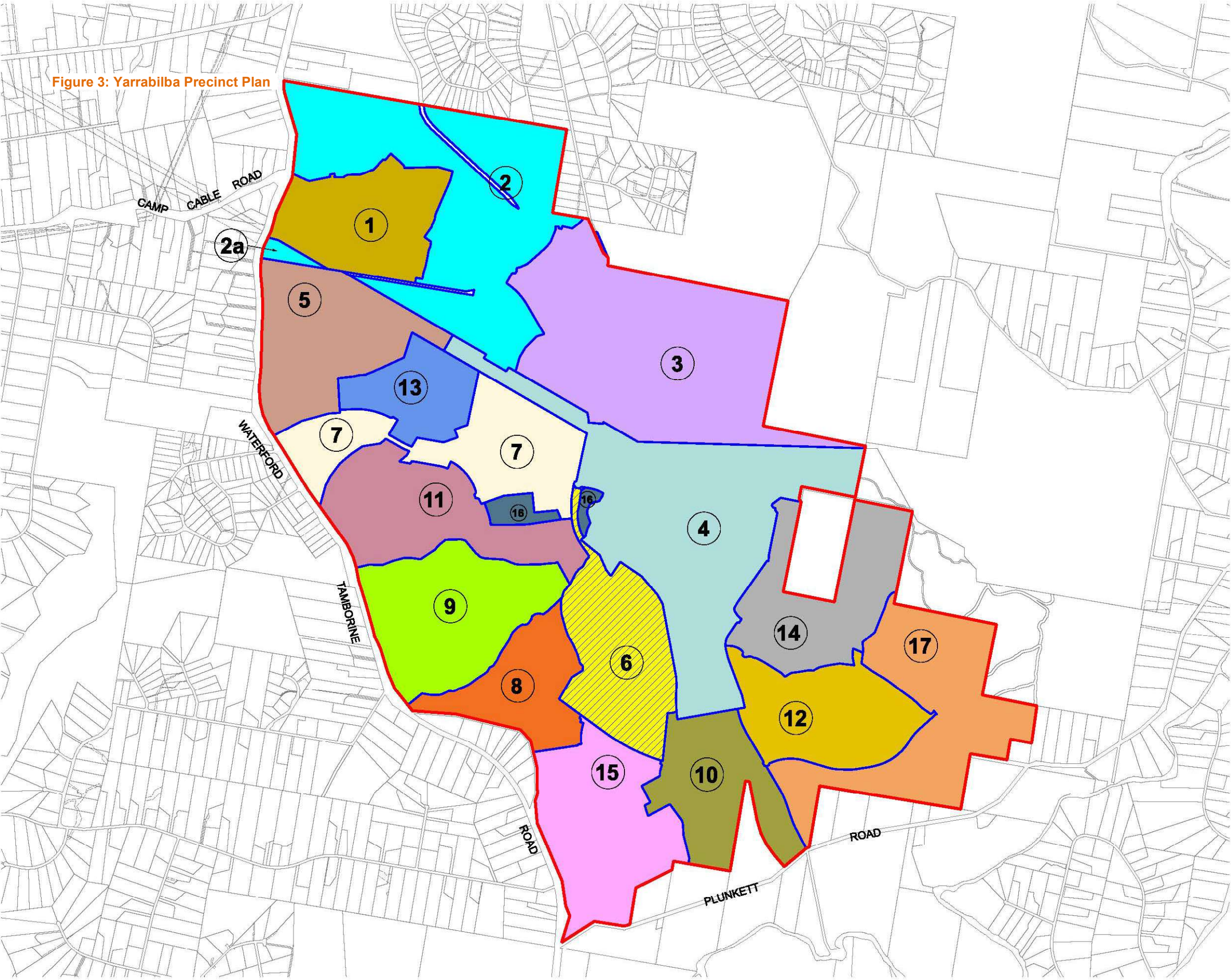




Figure 3: Yarrabilba Precinct Plan



-  YARRABILBA SITE BOUNDARY
-  PROPOSED PRECINCT SIX

NOTE:
The boundaries and areas of Precincts 7-17 shown hereon are conceptual only and subject to detailed design and approval of subsequent development applications by the relevant authorities.

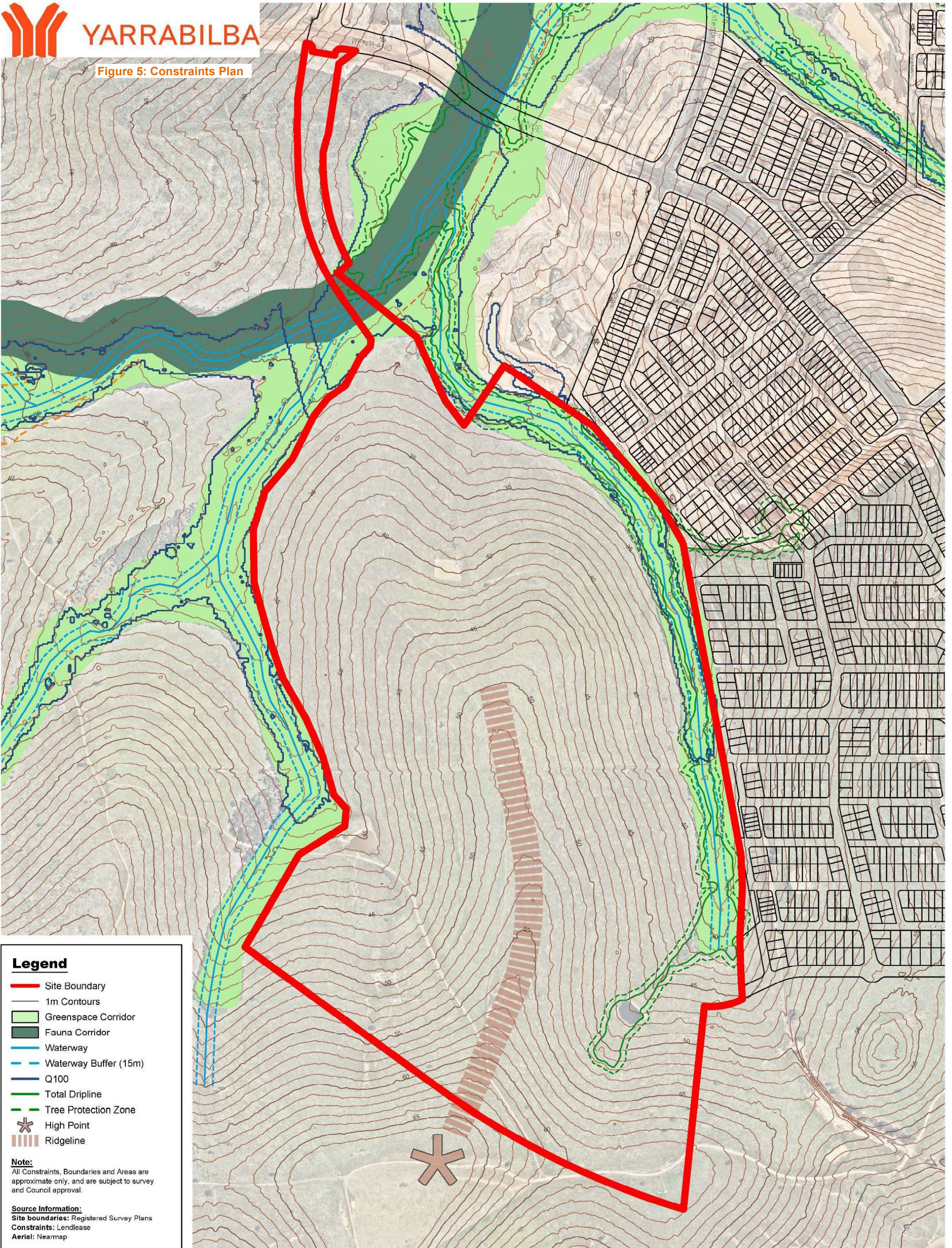
YARRABILBA - PRECINCT SIX PRECINCT PLAN CONTEXT

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Figure 5: Constraints Plan



Legend

- Site Boundary
- 1m Contours
- Greenspace Corridor
- Fauna Corridor
- Waterway
- Waterway Buffer (15m)
- Q100
- Total Dripline
- Tree Protection Zone
- High Point
- Ridgeline

Note:
All Constraints, Boundaries and Areas are approximate only, and are subject to survey and Council approval.

Source Information:
Site boundaries: Registered Survey Plans
Constraints: Lendlease
Aerial: Nearmap

PLAN REF: **150827 – 09**

Rev No: **A**
DATE: 20 October 2022
CLIENT: Lendlease
DRAWN BY: BM
CHECKED BY: PHE



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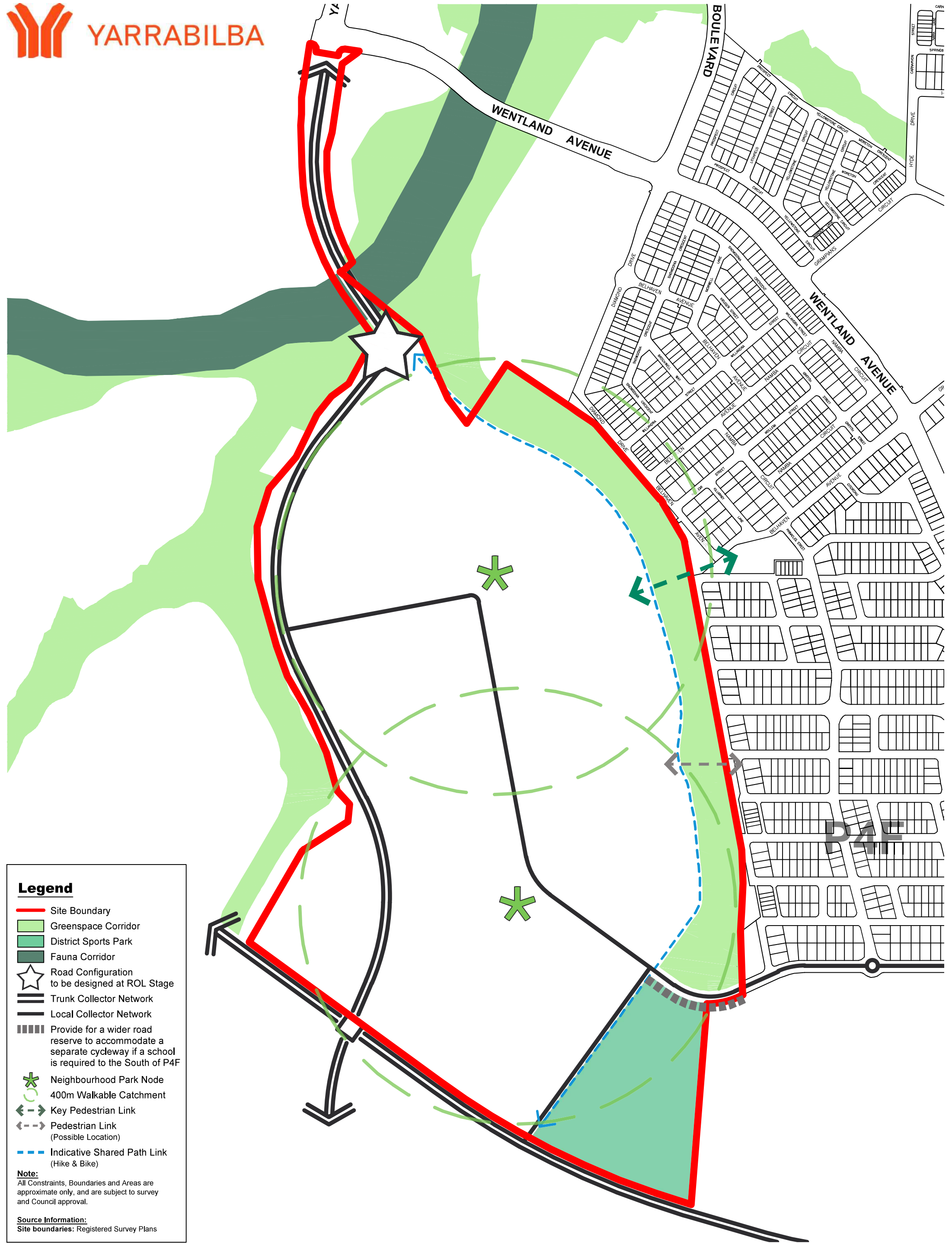
**YARRABILBA
PRECINCT 6
CONSTRAINTS PLAN**



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- Legend**
- Site Boundary
 - Greenspace Corridor
 - District Sports Park
 - Fauna Corridor
 - Road Configuration to be designed at ROL Stage
 - Trunk Collector Network
 - Local Collector Network
 - Provide for a wider road reserve to accommodate a separate cycleway if a school is required to the South of P4F
 - Neighbourhood Park Node
 - 400m Walkable Catchment
 - Key Pedestrian Link
 - Pedestrian Link (Possible Location)
 - Indicative Shared Path Link (Hike & Bike)

Note:
All Constraints, Boundaries and Areas are approximate only, and are subject to survey and Council approval.

Source Information:
Site boundaries: Registered Survey Plans

PLAN REF: **150827 – 15**
Rev No: **D**
DATE: 12 July 2023
CLIENT: Lendlease
DRAWN BY: BM
CHECKED BY: PHE



**YARRABILBA
PRECINCT 6**
OPEN SPACE AND LINKAGES PLAN



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STRATEGY 1:

ACCESSIBLE HOUSING & SOCIAL HOUSING OVERARCHING SITE STRATEGY

Strategy

The *Accessible Housing and Social Housing OSS* for Yarrabilba involves ongoing actions for the project that will continue to be met. It is the intention to deliver a range of housing options at Yarrabilba, including accessible housing and social housing options that will allow for a diversity of residents and community members. The successful establishment of community housing relies on tenants' easy access to community services, employment and other goods and services.

The *Accessible Housing and Social Housing OSS* for Yarrabilba outlines that social housing in Logan is owned and/or managed by the Department of Housing and Public Works (DHPW). In late 2016 it was announced by the DHPW that the Logan City Renewal Initiative would no longer be supported. As such, Lendlease's early engagement with Logan City Community Housing is no longer relevant.

In December 2016, DHPW announced an alternative initiative Better Neighbourhoods Logan. This program is understood to be a partnership between DHPW and Economic Development Queensland (EDQ). The initiative is intended to deliver over 3,000 new social and affordable homes by 2036 in Logan.

Within the time horizon for Precinct 6, between 2023-2026 the key focus areas to advance the OSS within Yarrabilba will include:

- Community & Social Housing
- Accessible Housing

COMMUNITY & SOCIAL HOUSING

- **Ongoing identification** of potential Community Housing and Social Housing partners.
- **Engagement** with DHPW and EDQ to discuss the detail of the Better Neighbourhoods Program and any opportunities for them to advance the outcomes sought in the OSS within Precinct 6.
- **With each ROL identify** specific lots for Community and Social Housing that may be subject to a first right of refusal at full market value.
- **Report** to EDQ with subsequent applications, outcomes of engagement and strategy for delivery of community/social housing product during the Precinct 6 horizon.

ACCESSIBLE HOUSING

- **Identification** of lots within Precinct 6 that would be suitable for the construction of accessible homes at the MCU/ROL stage and inclusion of an accessible lot plan with each ROL application (i.e. a plan indicating flat and sloping lots).
- **Engagement** with builders to encourage accessible housing product to be included within their portfolios, and to make customers aware of the benefits of accessible housing over the life of a home.
- **Requirement** of buildings within any display village to either construct display village homes to a 'silver standard' against the Liveable Housing Design Guidelines, or to provide housing of this standard within their portfolios.
- **Preparation** or update of a guide that details accessible housing product options available through Lendlease's partner builders. This guide (or update) is to be available through the sales and information centre within 12 months of the first ROL approval being issued for Precinct 6.
- **Report** to EDQ within the last application in Precinct 6, outcomes of engagement with builders and customers during the Precinct 6 horizon.

STRATEGY 2:

COMMUNITY DEVELOPMENT PLAN

Strategy

The Community Development OSS for Yarrabilba has ongoing actions for the project that will continue to be met. Within the time horizon for Precinct 6, the key focus areas to advance the OSS and community development within Yarrabilba include:



Community Connection Strategies

- Ensuring access to community services as well as the delivery of permanent community facilities, such as 'the Buzz', 'the Exchange', 'Family and Community Place' and 'Shaw St Sport & Community Hub'.
- Continuing to provide support to Yarrabilba Network Groups including Stakeholder Collaborative Network Group, Workforce Development Group, Sport Supporters Group, Logan Rivers Early Years Network Group, and establishment of a new Youth Network Group.
- Continued support of sporting facilities at Shaw St Ovals and McKinnon Sports Park South in partnership with Logan City Council.
- Continue partnerships between State Government, Logan City Council and Brisbane Catholic Education to deliver the Precinct 3 Yarrabilba Community Hub (the Buzz). The Buzz will be a permanent home to 'The Exchange,' offering free services for local job seekers and employers to support Yarrabilba's residents. Construction commenced in 2021 and it is anticipated to open late-2022.
- Continue to support job seekers, training participants, and small and home based businesses via The Exchange with focus on Connecting, Learning, Earning and Innovation.
- Continue to support families via The Family and Community Place which offers a breakfast club, immunization clinic, child health nurse, supported playgroups, First 5 Forever programs, and more.
- Ongoing community communications and Meet Your Neighbour Program incorporating a balance of indoor and outdoor activations in partnership with local community groups and providers.



Education & Community Services

- Yarrabilba State Secondary College was completed in 2019 and opened to Grades 7 – 10 in 2022.
- San Damiano College is a co-educational school which opened in 2021 with three classes of Grade 7 students. The school will grow by one year level each year until the first cohort of Grade 12 graduate in 2026.
- South Rock State Primary School is under construction within Precinct 4, with the first intake of students in 2023.
- A choice of childcare and early learning centres to support families.
- Ongoing discussions for university partnerships are continuing. A potential tertiary education strategy to be developed in parallel with the adjacent town centre strategy.
- The Yarrabilba Community TAFE Learning Centre pilot commences in 2023 with TAFE Qld securing space at The Buzz, and sharing practical learning spaces of Yarrabilba State Secondary College. The Exchange provides access to job-ready professional training and vocational workshops.
- A range of workforce participation strategies, recently focussing on School-Based Traineeships and Apprenticeship opportunities, and other School to Work transition supports.



Sport and Recreation Strategies

- Continuing to work with Council and sporting clubs to provide clubhouses and ancillary facilities as well as establishing organised sporting activities within the P6 District Sports Park, in addition to the sports parks being delivered in Precincts 2, 3 and 4. Logan City Council signed a lease with Yarrabilba Touch for the use of the P2 Ovals in 2021. Precinct 3 ovals have been secured for AFL and cricket. Other sports clubs in Yarrabilba offer Basketball, Netball and Rugby Union. There are also organised park runs that take place on Saturday mornings and various bootcamps.
- The Mingle Markets are held twice a month via seed funding through the Yarrabilba community grants program and are being brought to Yarrabilba by Creative Collective Cultural Community INC, a local not-for-profit organisation.
- Trail head locations have been identified and are being considered to provide access into the Plunkett Conservation Park. Lendlease are continuing to work with Queensland Parks and Wildlife Service (QPWS) to open these facilities to the community as development on the interface progresses.
- Construction of the multi-purpose Yarrabilba Sports and Community Hub located adjacent to Shaw Street Ovals is now complete. The building contains change rooms, toilet facilities, meeting rooms, a canteen, fully equipped commercial kitchen and 100sqm of community space.
- Darlington Parklands, Buxton Park, Sandstone Park, Jinnung Jalli Park and McKinnon Sports Park South are open recreation spaces for residents and visitors to enjoy.
- Establishment of a Sport Supporters Network Group and linkages of Sports Club training and volunteer recruitment with the services of The Exchange.

STRATEGY 3:

COMMUNITY FACILITIES

Strategy

To provide land for community facilities for the Yarrabilba community in accordance with the Yarrabilba Community Facilities Infrastructure Master Plan (IMP), and to work with infrastructure providers to ensure that the facilities provided are fit for purpose and delivered within an appropriate timeframe.

Infrastructure shall be delivered in accordance with:

- Engineering Standards EDQ PDA Guideline No. 13
- Community Facilities EDQ PDA Guideline No. 11

Table 1: Community Facilities: Key Infrastructure

Community Infrastructure	Required in Precinct 6 (assumes 1,000 residential lots to be delivered in P6)	Already provided/approved in Precincts 1, 2, 3 and 4A-4E (approx. 5,001 residential lots approved)
Neighbourhood Meeting Room (0.075ha) (17 sites)	<ul style="list-style-type: none">▪ Required* <p><i>Note, The provision of neighbourhood meeting rooms within Precinct 6 is to be generally in accordance with the Yarrabilba Community Facilities – Potential Neighbourhood Community Meeting Room Locations Plan included in Logan City Council’s letter dated 10 January 2023 (represented as site A).</i></p>	<ul style="list-style-type: none">▪ Sites 1 and 2 (co-located) in Shaw St Oval▪ Site 3 provided in Precinct 3A (The Buzz).

Local Community Centre/ Hub (0.5ha) (5 sites)	<ul style="list-style-type: none"> Site 2 - the trigger for the second local community centre site (6000th residential lots) may be reached in P6* <p><i>Note, the trigger for Site 3 is the 9,000th residential lot, which is not anticipated to be reached during the delivery of P6.</i></p>	<ul style="list-style-type: none"> Site 1 delivered in Precinct 3A
District Community Centre (1ha) (2 sites)	<ul style="list-style-type: none"> Site 1 is being delivered within Precinct 3A.* <p><i>Note, the trigger for Site 2 is the 9,000th residential lot, which is not anticipated to be reached during the delivery of P6.</i></p>	<ul style="list-style-type: none"> Site 1 will be provided in Precinct 3A (The Buzz). <p>Note, the trigger for Site 1 is the 6000th residential lot.</p>
Major Civic Centre/Hub (1.5ha) (1 site)	<ul style="list-style-type: none"> Not required - the trigger of Major Civic Centre / Hub (9,000th residential lot) has not been reached. 	<ul style="list-style-type: none"> Nil
Major Sporting Facility (1.8ha or 2 x 0.9ha) State Primary School (7ha) (5 sites) State Secondary School (12ha) (2 sites) Ambulance (0.5ha) (1 site) Fire and Rescue (0.6ha) (1 site)	<ul style="list-style-type: none"> Not required Not required - Site 3 is triggered prior to the 8,500th lot. Not required - Site 1 is triggered prior to 7,000th lot Not required Not required 	<ul style="list-style-type: none"> A Major Sports Park is being delivered within Precinct 3 and part of Precinct 2. Note, the trigger for the first facility is 9,000th residential lot. Site 1 – provided within Precinct 2 Site 2 – provided within Precinct 4 1 x private primary school is also provided within Precinct 2 Site 1- provided is Precinct 2 1 x private secondary school is also provided in Precinct 1 The Queensland Ambulance Service (QAS) is operating within Village 3D, Precinct 3. Note, the trigger for this facility is the 8,000th residential lot. The Queensland Fire and Emergency Services (QFES) has secured a site in Precinct 1 District Centre, and per QFES's preference. Note, trigger for facility is 8,000th residential lot.

District Police (0.6ha) (1 site)	<ul style="list-style-type: none"> Not required. Allowance for District Police is made for in the MIBA area further south of MIBA North, subject to negotiations regarding Queensland Police Services preferred location. The trigger for the District Police Site is the 8,000th residential lot. 	<ul style="list-style-type: none"> Nil
Community Health Centre Hub (3.2ha) (1 site)	<ul style="list-style-type: none"> Not required, the site is triggered at the 8,000th residential lot. 	<ul style="list-style-type: none"> Not required – however the Yarrabilba Health City is set to open in 2023 and incorporates a variety of specialty units for cardiology, oncology, radiology, a dental surgery and allied health care.

** Discussions are ongoing between Logan City Council, EDQ and Lendlease regarding community infrastructure.*

The co-location of community meeting rooms, centres and hubs is preferred in proximity to other community infrastructure, such as schools, parks, centre activity uses etc. As such, the location of the neighbourhood meeting rooms are suited alongside the proposed Precinct 6 district sports park.

This outcome reflects Logan City Council's (LCC) letter dated 10 January 2023 and the sought locations for this community infrastructure in the context of the broader master planning for Yarrabilba. Should the provision of Community Facilities agreed to by LCC, EDQ and Lendlease vary from the Infrastructure Agreement, in principle support should be obtained from these parties for an Alternative Infrastructure Plan.

STRATEGY 4:

COMMUNITY GREENSPACE

Strategy

To provide land for open space and recreation for the Yarrabilba community in accordance with the Yarrabilba Community Greenspace Infrastructure Master Plan.

To deliver a range of different parks for different purposes, including recreation and sporting activities as well as a network of parks that protect environmental features such as waterways and important existing vegetation that also provide opportunities for the community to access these features.

Infrastructure shall be delivered in accordance with:

- Engineering Standards EDQ PDA Guideline No. 13
- Park Planning and Design EDQ PDA Guideline No. 12

Other considerations:

Precinct 6 will deliver three parks:

- 2 x neighbourhood recreation parks
- 1x district sports park

Precinct 6 also contains environmental corridors. All of the environmental areas will be protected and maintained within local and major linear open space.

Key Infrastructure to be provided:

Infrastructure to be provided in Precinct 6 is detailed below based on the categories of park required in the Yarrabilba Infrastructure Agreement (Municipal). Consideration should also be given to any obligations for the delivery of community greenspace infrastructure under the IMP, EDQ's guidelines and/or Development Scheme, as relevant.

Table 2: Community Greenspace: Key Infrastructure

Park Type	Precinct 6 Requirement <i>Assumes conservative total of approx. 2,800 persons³ (Approx. 1,000 residential lots)</i>	Park Provision from Precincts 1, 2, 3 & 4AE* <i>Assumes conservative total of approx. 14,000 persons³ (Approx. 5,000 residential lots)</i>
Local Recreation Park	Required 0.1 ha / 370 residential lots ³ Minimum park size 500m ²	Provided / Approved - 6.20 ha
Neighbourhood Recreation Park	Required 0.5 ha / 370 residential lots ³ 90% of dwellings within 400m of a neighborhood recreation park or other park providing equivalent informal recreation opportunities. Minimum park size 5,000m ²	Provided / Approved – 7.35ha <i>8 x neighborhood recreation parks approved across Precinct 1, 2, 3 & 4A-E</i>
Local and Major Linear	Required Local 0.7 ha / 370 residential lots ³ Major 0.5 ha / 370 residential lots ³ & to coincide with waterways/fauna corridors	Provided / Approved – 59.5 ha
District Recreation Park	Not required <i>DR3 is triggered at the 15,000th residential lot</i>	Provided / Approved: <ul style="list-style-type: none"> DR1 – 11.22 ha DR2 – 5.8 ha
Major Recreation Park	Not required² <i>MR1 is triggered at the 6,000th residential lot</i>	Nil
District Sports Park	Not required^{4 & 5} <i>DS3 is triggered at the 9,000th residential lot under the</i>	Provided / Approved – <ul style="list-style-type: none"> DS1 (Shaw St Oval) – 4.83 ha

	<i>Infrastructure Agreement.</i> <i>Although not triggered, a District Sports Park is well suited to be located within Precinct 6.</i> <i>Minimum park size of 7.5ha</i> <i>90% of dwellings within 4km</i>	<ul style="list-style-type: none"> ▪ <i>DS2 – is planned to be provided in Precinct 4</i>
Major Sports Park	Not required⁵ <i>Note, MS2 triggered 10,000th residential lot</i>	Provided / Approved – <ul style="list-style-type: none"> ▪ MS1 – 15.3 ha

**The 'provided/approved' areas are estimates only subject to variation.*

¹The location of MS2 and proposed DS3 varies from the Community Greenspace Infrastructure Plan and Infrastructure Agreement.

²The 6000th residential lot trigger for the Major Recreation Park (MR1) is likely to be reached through the delivery on Precinct 6 and the remaining villages within Precinct 4 (4f-h). The location for MR1 is better placed within the Major Centre Zone, which aligns with the intentions for this Park shown on the Community Greenspace Infrastructure Plan Maps (Infrastructure Master Plan, Infrastructure Agreement and Development Scheme).

³ based on schedule 2 of the Yarrabilba Infrastructure Agreement (Municipal) that identifies 2.8EP/detached dwelling, rather than 2.7EP/detached dwelling under the IMP/OSS requirements.

The rate of provision under the IA converts closely to the rate of provision under the IMP/OSS. The IA trigger of 370 residential lots equates to 1,036 persons based on 2.8 persons per household under the IA. Similarly, 370 residential lots equates to 1,000 persons based on 2.7 persons per household under the IMP/OSS requirements.

⁴ Should the provision of Open Space agreed to by LCC, EDQ and Lendlease vary from an Infrastructure Agreement, in principle support should be obtained from these parties and an Alternative Infrastructure Plan prepared and agreed to.

⁵While the land for MS2 is required in P6, and DS3 is not required but it is proposed for P6, in principal support for alternative locations has been received from Logan City Council.

Note: An alternative infrastructure plan (AIP) and an amended Community Greenspace Infrastructure Master Plan (IMP) will be required to address changes to the trigger for MR1 and changes to the locations of MS2 and DS3. The requests for the AIP and amended Community Greenspace IMP are to be submitted prior to the sealing of the last stage in the first residential subdivision application for P6.

STRATEGY 5:

EARTHWORKS INFRASTRUCTURE MASTERPLAN

Strategy

Precinct 6 shall comply with the requirements of the Earthworks Infrastructure Master Plan.

Key actions relevant for Precinct 6 include:

- **As part of first application:**
 - Submit Precinct wide erosion and sediment control measures as part of the Stormwater Management Plan
- **Prior to any subdivision applications being lodged:**
 - Commission a geotechnical study for Precinct 6 to be completed prior to the lodgement of the subdivision applications
- **As part of subdivision applications**
 - Submit bulk earthworks plans and management plan
 - Submit soils management strategy
 - Confirm how the earthworks strategy addresses the geotechnical study findings
 - Address IMP code



STRATEGY 6:

EMPLOYMENT & ECONOMIC OVERARCHING SITE STRATEGY

Strategy

The Employment and Economic OSS for Yarrabilba has ongoing actions for the project that will continue to be met. Within the time horizon for Precinct 6, between 2023 and 2026, the high priority areas to advance the employment and economic development within Yarrabilba are identified below. It is noted that the majority of Precinct 6 is a residential area with parks/open space, and a district sports park planned. As such activities during this period will support planning in adjoining precincts. The opportunities for employment and economic development directly in Precinct 6 are in the potential community and sporting facilities and in home businesses.

Attracting investment and employment by:

- Continued planning for upcoming employment areas including the town centre and MIBA and approaches to key catalyst projects and tenants; and
- Continuing to work towards ensuring the ongoing delivery District Centre 1.

Enabling infrastructure:

- The Exchange' has been operating since 2016. It offers a free job-matching service for local job seekers and local employers, as well as enabling training placements and start-up and operational guidance for local small and home-based businesses. This service will transition to the new Buzz at Yarrabilba community hub in late 2022, and continue to deliver these services to the community under a new partnership model.
- Workforce Development Plan – Coordinate workforce development groups and work with organisations in 'The Exchange'
- Working towards a well established Workforce Development Group that is integrated with the strategy of The Exchange, and will continue to develop further initiatives in collaboration with the partners to The Buzz, TAFE Qld, and others.

Growing local business:

- Continued work to find owners and tenants for non-residential land in Precincts 1, 3 and 5
- Incorporation of POD provisions to encourage home based businesses
- Collaboration with developers who can deliver multi-residential housing types (ie. SOHO, WOHO type housing)

Business Connectedness:

- Continue working with key organisations such as the Yarrabilba Economic Development Committee, The Exchange (facilities manager), the new Operator of the Buzz Community hub, and local business representatives to ensure business connections are fostered through local events and mutually agreed initiatives.

Place creation and amenity:

- Continue planning for upcoming employment areas including the town centre and MIBA; and
- Investigate opportunities in housing products in increased density areas close to the town centre frame that will provide opportunities for home businesses to support future activities in the major centre (i.e. SOHO, WOHO type housing).

Economic flexibility:

- Continuing to provide flexibility for a range of non-residential land in P6 for sporting and community uses to meet the current need of the residents and the future growth.

Governance, monitoring and resourcing:

- Reporting on progress of compliance with EEOSS to be provided as part of development applications.

STRATEGY 7:

ENERGY SERVICES INFRASTRUCTURE MASTERPLAN

Strategy

To develop Precinct 6 in accordance with the Energy Services Infrastructure Master Plan.

This will ensure that residents and businesses within Yarrabilba will have access to high quality energy services. Within the time horizon for Precinct 6, between 2023 and 2026, the key actions are:

- There are no land requirements for sub-stations in Precinct 6.
- Continued installation of LED streetlighting and park lighting
- No installation of reticulated natural gas to support electrification and Lendlease's Mission Zero targets.
- Continued implementation of reticulated electricity throughout Precinct 6 to investigate and promote opportunities for innovative energy solutions such as renewable energy sources and small-scale storage.
- A suite of programs focusing on environmental sustainability and energy efficiency are being developed. These include education materials to assist households in understanding how they can save energy including the benefits of improved NatHERS ratings in the build of the home and investigation of opportunities for community batteries.

STRATEGY 8:

HOUSING AFFORDABILITY INFRASTRUCTURE MASTERPLAN

Strategy

The *Housing Affordability Infrastructure Masterplan* for Yarrabilba involves ensuring allocation of housing considers smaller housing product that will remain within affordable rental and purchase ranges for Band 1-3 incomes.

The income ranges for the bands reflect buying capacities as illustrated in Table 1.

Table 1: Buying capacities for different bands within the Housing Affordability Infrastructure Masterplan

	Band 1 lower	Band 1 upper	Band 2 lower	Band 2 upper	Band 3 lower	Band 3 upper
Annual Income (2011)	\$46,000	\$60,000	\$65,000	\$80,000	\$85,000	\$108,000
Average Household Income p.a. (2021)	\$57,324	\$74,771	\$81,002	\$99,695	\$105,925	\$134,588
Mortgage Repayments - % of income	35%	35%	35%	35%	35%	35%
Deposit/Equity %	5%	5%	5%	5%	5%	5%
Buying Capacity	\$327,660	\$427,663	\$463,350	\$570,217	\$607,709	\$769,637
IMP Requirement for % of total homes	5%		10%		10%	

Examples of different product (current as of June 2022) which meet the relevant bands are shown in Table 2, alongside the minimum requirement of product to be provided in Precinct 6.

The following assumptions have been used to determine the buying capacity:

- Interest rate assumed at 5%;
- 5% deposit;
- 30 year term;
- 35% gross income for debt service;
- Incomes reference approved IMP bands at 2011;
- Index rate per ABS stats for WPI for QLD as of June 2022; and
- No first home owners grants.

Table 2: Typical Housing Product and minimum % makeup for homes in Precinct 6

Band*	Typical Housing Product	Cost (House and Land)**	Minimum requirement for total homes to be provided in Precinct 6 based on predicted yield of 1,000 dwellings
Band 1 (\$327,660 - \$427,663)	Villa, Town Cottage, Town Villa, Terrace, MFF, MFS, Smart Lots	\$480,000 - \$540,000	5% (50 homes)
Band 2 (\$463,350 - \$570,217)	Premium Villa, Courtyard (14m)	\$550,000 - \$600,000	10% (100 homes)
Band 3 (\$607,217 - \$769,637)	Land – 400-448m ² Traditional Courtyard (15m wide)	\$600,000 - \$700,000	10% (100 homes)

**These bands are current as of 2021-2022 financial year, and subject to fluctuation.*

***House and land prices are current as of November 2022 and reflect the impacts of Covid, supply chain shortages and labour costs which has caused an unprecedented peak in the market. The house and land costs are subject to fluctuation and are anticipated to adjust as the supply chain shortages and impacts of covid improve.*

It is noted that the PDA Housing Guideline has been updated since the Development Scheme was adopted and the Housing Affordability IMP was endorsed. It is understood that this changes the way in which the bands for affordability are calculated which are aspirational for the Yarrabilba project to achieve.

It is recognised that new housing product would be required to be introduced to achieve housing affordability outcomes particularly for revised Bands 1 and 2. During the period of Precincts 4 and 6, Lendlease are committed to investigating new housing forms that may assist in achieving more opportunities for more affordable housing options at Yarrabilba reflective of the new band intentions.

Lendlease has identified further opportunity for diversity in product as the project matures and development moves closer to the proposed town centre. It is envisaged that this greater diversity in housing product will occur where densities are higher, and accessibility to services and other amenity is higher.

STRATEGY 9:

ICT STRATEGY & MASTERPLAN

Strategy

The ICT IMP is an evolving document that outlines deliverables required to support the progressive delivery of the Yarrabilba development from a Communication Technology perspective at a regional level. The strategy focuses on technology cycles and the use of ICT services, systems and functions across the development.

The core attributes for achieving a successful ICT strategy include:

- Focusing investment on delivery of “enablers”;
- Technology will force change, accepting the fact that the technologies communities will enjoy in 10, 15 and 30 years’ time have not been invented, or even contemplated yet;
- Not over-investing in technology early in the project life;
- Partner where appropriate and do not lock into single vendor, carrier or proprietary technologies;
- Maintaining awareness of the political and industry changes impacting the Australian telecommunications marketplace; and
- A technology “blueprint” strategy document is being developed to address future ICT based opportunities and needs. This is being discussed with Logan City Council and EDQ. As this strategy appears to align well with their broader city wide ICT planning, Council are very interested and willing to be involved.

Key Actions

For Precinct 6, the below tasks are applicable:

- Continuation of FTTP network rollout including suitable provisioning as needed for opportunities under the Yarrabilba technology “blueprint” strategy;
- Continue discussions with providers for further coverage of mobile phone and data services; and
- Extending the availability of public WIFI in selected open space areas and continuing to work towards available WIFI in all public open spaces.

Future Tasks

- Increase carriage services in Yarrabilba; and
- Review the ICT strategy as required

STRATEGY 10:

OVERARCHING SITE RESOURCE STRATEGY

Strategy

Continue to implement requirements of the Overarching Site Resource Strategy within Precinct 6 to ensure that the project achieves planned sustainable development outcomes.

Precinct 6 has a time horizon between 2023-2026. During this time the high priority areas to advance sustainable development outcomes within Yarrabilba will be:

- In December 2017, Yarrabilba was officially awarded a 6-star Green Star Community rating by the Green Building Council Australia. This 6-star Green Star rating required regular reporting to the Green Building Council and will be re-applied for prior to its expiry in December 2022.
- A sustainable display home was constructed within the Precinct 2 display village. The home demonstrated an accessible, environmentally friendly home that is affordable to purchase and minimised ongoing water and energy bills. A second sustainable display home is anticipated to be established within the next display village in Precinct 4 and will be investigated for Precinct 6.
- Maintain and expand where practical, the adopted strategies for re-use of site materials to minimise the importation of externally sourced construction materials.
- Investigate the use of recycled materials for construction that is being undertaken by Lendlease. These investigations will include discussions with suppliers on, amongst other things, availability of recycled materials and cost.
- Data provided from Logan Coaches shows that student patronage on the Yarrabilba bus service has continued to steadily increase (latest advice indicated school patronage at 474 students per day in 2018, increased from 344 students per day in 2016). Continued monitoring and identifying further options to promote increased use of sustainable transport (active and public transport options) within Yarrabilba will occur.
- Future residential dwellings with individual garages or carports are to include separate dedicated electrical circuit (conduit and wiring) to enable the installation of Electric Vehicle Supply Equipment (EVSE). Where not used for EVSE, the circuit is to be fitted with a minimum 15amp GPO outlet.

STRATEGY 11:

WATER & WASTEWATER

Strategy

Strategy 11 – Water & Wastewater is broken into the following components

- Sewer (Wastewater)
- Water Supply

Sewer (Wastewater)

Sewering of the proposed Precinct 6 development will be based on the internal collection system layout outlined in the 'Yarrabilba Water Supply and Sewerage – Infrastructure Master Plan 2017', Stantec, August 2017. The long-term approach is to transfer sewage to a new treatment plant near Logan Village as identified by Logan City Council (LCC).

EDQ, in conjunction with LCC and major Logan PDA developer stakeholders, drafted a revised sewerage strategy that includes the Yarrabilba and Park Ridge areas as outlined in 'Logan South Wastewater Servicing Strategy' dated 27 May 2016. As part of the strategy, a regional sewage treatment plant (STP) will be constructed to the west of Logan Village. Based on the report 'Yarrabilba Water & Wastewater Servicing – Status Report' dated June 2019, the first stage of the STP is to be delivered by LCC and commissioned after 2025 (dependent on growth rates) in conjunction with a new rising main from Yarrabilba to the regional STP. Recently LCC also undertook a further assessment applying dynamic wet weather flow containment standards. The assessment outcomes show that the Yarrabilba system capacity is approximately 25,000 EP at Yarrabilba pumping station SPS 084. Based on the observed growth rates of the Yarrabilba development between 2020 to early 2022, the estimated spare capacity will be exhausted around 2030. As growth in the Logan Village/Logan Reserve area needs to be considered, the STP timing of 2025 may still be valid.

Prior to completion of the new regional STP, sewage from the Yarrabilba development is transferred from the pumping station SPS 084 to LCC's Loganholme WWTP via the Logan Village pumping stations and the existing trunk system. Sewage from Precincts 1, 2 and part of 3 is collected by the existing SPS 084 and SPS 087 pumping stations. Sewage from the balance of Precinct 3, Precinct 4, Precinct 5 MIBA North and early stages of the proposed Precinct 6 development can be collected by the existing temporary pumping station SPS 153. This pumping station will transfer the collected flow to pumping station SPS 084. The wet weather storage facility at pumping station SPS 084 (constructed in 2017 as part of the Precinct 3 development) will ensure that the existing network has capacity to transfer or contain flows from Yarrabilba Precincts 1, 2, 3, 4, 5 (MIBA North) and initial stages of Precinct 6 development until the total Yarrabilba

occupied population reaches the revised system capacity of 25,000 EP. It is noted that the capacity of the temporary pumping station SPS 153 will be revised in the near future by LCC based on using actual flow data derived from telemetry data, and the dynamic hydraulic model and LCC's containment standard. The revised temporary pumping station SPS 153 capacity will determine the trigger for the next stage of infrastructure augmentation which will either be the interim pumping station SPS153 upgrades (temporary rising main or pump upgrade) or the ultimate sub-regional works (new regional STP, new pumping station at the SPS 153 site along with new rising main to STP).

The servicing of the early stages of Precinct 6 will be addressed in the Precinct Network Plan (PNP). The IMP will also be updated to include the revised sewerage strategy, based on LCC system capacity assessment.

Key issue

Lendlease will continue to work with EDQ and LCC to confirm the long-term regional sewerage strategy and the timing of construction of the regional STP. The temporary pumping station SPS153, combined with the wet weather storage facility at the Yarrabilba pumping station SPS 084, will serve Precinct 6 until the revised pumping station SPS153 capacity is reached. The strategy and timing of the ultimate regional pumping station at the SPS153 site, and/or the interim works will need to be confirmed in the IMP revision and PNP.

Approach to Services for Precinct 6

A Precinct Network Plan (PNP) for the Precinct 6 development will be submitted and endorsed prior to the granting of the first ROL. The PNP will include both interim and ultimate solutions in accordance with the revised regional strategy agreed by both EDQ and LCC. The PNP is a detailed planning document that identifies all trunk infrastructure to service the proposed Precinct both internal and external to the site. The PNP will include details of all the infrastructure required, including layout plans, pipe sizes, conceptual design of the new pump station, vertical alignment of controlling sewer, and concept level details of interim servicing infrastructure required to address development staging and odour/corrosion control. The PNP will be in alignment with the IMP strategy (to be revised) and supported by an assessment to verify that Desired Standards of Service are met and each lot can be serviced in an efficient way.

Standards to be applied to the provision of wastewater infrastructure are:

- SEQ Water Supply and Sewerage Design and Construction Code;
- Logan Water Desired Standards of Service – Water;
- WSA 02-2014 Sewerage Code of Australia (Second Edition, 2014); and
- WSA 04-2005 Sewerage Pump Station Code of Australia (Second Edition, Version 2.1, 2005).

Timing

The PNP will be submitted and endorsed prior to the granting of the first ROL for Precinct 6. The revision of the IMP will be submitted and endorsed based on the agreed timeframe between EDQ and Lendlease.

Water Supply

Servicing the proposed Precinct 6 development with potable water will be generally in accordance with the strategy outlined in the 'Yarrabilba Water Supply and Sewerage – Infrastructure Master Plan 2017', Stantec, August 2017 (IMP). This IMP is currently being updated to incorporate the outcomes of the 'Yarrabilba Precinct 5 MIBA North - Precinct Network Plan - Water and Wastewater Infrastructure' dated July 2022.

The development will be served from the Travis Road reservoirs, i.e. existing 3 ML and 6 ML reservoirs. Supply to the reservoirs will be provided by a new connection from the Southern Region Water Pipeline (SRWP) at Chambers Flat along with a new 600 mm diameter trunk main, which has been confirmed by Seqwater in the Logan South Local Area Plan (2020). Prior to the new bulk water connection being made available, LCC has constructed a new 6 ML reservoir at Travis Road and will install a 1.8 km of 600 mm diameter trunk main along Camp Cable Road to Yarrabilba Drive. Based on the outcomes of the current operational scenario in LCC's 2022 hydraulic model, the existing bulk supply (without the SRWP connection and Travis Road reservoir outgoing main augmentation) has capacity to supply Precincts 1 to 5 and may be able to serve the early stages of Precinct 6 development at current growth rates.

The internal water supply system for Precinct 6 will require the extension of the 450 mm diameter trunk main from the existing Yarrabilba Drive trunk main to the Precinct 6 development area. There are no constraints in relation to the delivery of this mains extension. A pressure management strategy will be developed for the Precinct 6 development, in conjunction with LCC.

The timing (EP trigger) for delivery of the new SRWP connection and the Camp Cable Road trunk main augmentation will be confirmed as part of the IMP revision and incorporated into the PNP, together with the confirmation of the pressure management strategy.

Key Issue

The ultimate water supply for Precinct 6 will be provided via the existing 9 ML storage reservoirs at Travis Road. A new bulk supply connection from the SRWP around 2023 (delivered by LCC), and a 600 mm diameter main augmentation in Camp Cable Road will be required. Lendlease will continue working with EDQ and LCC to confirm this strategy and the timing of augmentation. A pressure management strategy will also be developed for the Precinct 6 development. Implementation of the planned pressure management strategy for the developed Yarrabilba precincts is to be confirmed prior to the Precinct 6 development.

Approach to Services for Precinct 6

A Precinct Network Plan (PNP) will be required for the Precinct 6 development. The PNP will include both ultimate and interim solutions in accordance with the revised regional strategy agreed by both EDQ and LCC. The PNP is a detailed planning document that identifies all trunk infrastructure to service the proposed Precinct, both internal and external to the site. The PNP shall include details of all the internal infrastructure required to deliver peak demand, fire flow and pressure management (as required), including layout plans, pipe sizes, and details of pressure reduction areas and equipment. The PNP will be in alignment

with the IMP strategy (to be revised) and supported by an assessment to verify that Desired Standards of Service are met and each lot can be serviced in an efficient way.

Standards to be applied to the provision of water supply infrastructure are:

- SEQ Water Supply and Sewerage Design and Construction Code;
- Logan Water Desired Stands of Service – Water; and
- WSA 03-2011 Water Supply Code of Australia (Second Edition, 2011).

Timing

The PNP will be submitted and endorsed prior to the granting of the first ROL. The IMP will be submitted and endorsed based on the agreed timeframe between EDQ and Lendlease.

STRATEGY 12:

TOTAL WATER CYCLE MANAGEMENT

Strategy

The Total Water Cycle Management Strategy (TWCMS) (DesignFlow, 2021) provides an overarching strategy that combines the individual Infrastructure Master Plans (IMP) and site assessments covering stormwater, flooding, waterways, groundwater and water supply/wastewater.

While separated for the purpose of strategy discussion below, the management of land and infrastructure for these water cycle elements can be integrated to achieve a range of beneficial outcomes including ecological waterway protection, multiple use open spaces, improved landscape amenity and reduction in potable water demand. Recognition of the social element of total water cycle management is included to ensure the community both contributes to and benefits from an integrated approach to water management within Yarrabilba.

The Precinct 6 strategy details relating to each of the intermittent water cycle elements (stormwater, flooding, waterways and groundwater) are provided on the following sections. The relatively constant urban water cycle elements (water supply and wastewater) are discussed briefly for completeness within the TWCM strategy. Reference should be made to this separate Water and Sewerage Context Plan Area Strategy (CPAS) for further detail on the relevant strategies and infrastructure requirements of these associated elements of the water cycle.

STORMWATER

Strategy

To protect ecosystem health and stability of receiving waterways or improve the condition of degraded waterways by managing urban stormwater to meet the objectives identified in Table 1 and 2 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2021) and summarised below:

- Achieve best practice pollutant load reductions for key stormwater pollutants
- Limit post development 1 year ARI (63.2% AEP) flows in waterway to pre-development conditions or review the geomorphic conditions under pre- and post-development hydrology to determine potential stability risk

In addition, opportunities for the provision of fit for purpose alternative water supply options such as stormwater harvesting for open space irrigation will be identified and assessed where practical. Stormwater harvesting opportunities for the irrigation of sporting facilities/ovals/fields is to be investigated.

Key Infrastructure

Stormwater management infrastructure (and strategies) associated with Precinct 6 will include:

- Sediment ponds, bioretention basins and/or constructed wetlands for water quality and minor flow attenuation
- Existing Flood Basin 15 (see flooding section) for flood attenuation
- Protection/stabilisation/rehabilitation of waterway corridors (dependent on condition) and integration of vegetated stormwater infrastructure into degraded waterway buffers to enhance habitat value, amenity and contribute to multiple use open spaces.

Stormwater infrastructure aims to integrate closely with the flooding and waterway management strategy to achieve a range of goals while optimising use of space and resources. However, waterway riparian buffers and overriding setback requirements under the Natural Environment Site Strategy and Fauna Corridor strategy must be considered when locating key infrastructure.

Where existing erosion/scour is present, or where localised flows are above pre-development conditions, rehabilitation works (such as rock protection and/or revegetation) will be undertaken to minimise potential of instability and erosion under post-development hydrological conditions.

Stormwater infrastructure shall be delivered in accordance with:

- Engineering Standards – EDQ PDA Guideline No. 13
- Park Planning and Design – EDQ PDA Guideline No. 12

Reporting

A stormwater management plan is required as part of the first development application to demonstrate that stormwater quality and minor flows can be managed onsite or are within waterway stability thresholds to achieve the pollutant load reduction and flow management objectives. This management plan will link with the existing flooding strategy (Quinzeh Creek) and waterway stability approach adopted for the precinct.

FLOODING

Strategy

To provide flood management infrastructure that integrates with parks and natural open spaces in order to meet the objectives identified in Table 7 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2021) and summarised below:

- Mitigate flood impacts on people, property and infrastructure external to Yarrabilba by preserving peak site discharge and flood levels upstream and downstream of the site to predevelopment conditions for all events from 2 to 100 year ARI (50% to 1% AEP); and
- Maintain flood conveyance through the site while providing 100 year ARI (1% AEP) flood immune development.

Key Infrastructure

Flood management infrastructure to be provided within or associated with Precinct 6 includes:

- Flood Basin 15 (constructed as part of Precinct 3)

Flood management will generally be undertaken in accordance with the *Yarrabilba Development: Flood Risk Management Strategy* (BMTWBM, 2012) which beneficially exploits the use of the natural terrain and constructed road crossings (over drainage features and watercourses) to attenuate increased runoff from development. It should be noted that flood mitigation infrastructure is not constructed solely for a single stage or precinct, but functions as part of a total site flood management strategy that addresses current and future development precinct requirements. A number of these detention zones have been constructed in Precinct 1, 2 and 3 to date in advance of the urban development within the catchment. No flood management infrastructure is required or proposed as part of Precinct 6.

Flood infrastructure shall be delivered in accordance with:

- Engineering Standards - EDQ PDA Guideline No. 13
- Protection from Flood and Storm Tide Inundation – EDQ PDA Guideline No. 15
- Park Planning and Design – EDQ PDA Guideline No. 12

Reporting

The *Yarrabilba-Quinze Creek Flood Study* (DesignFlow, 2017) has been previously prepared across the overall Yarrabilba site portions draining to Quinze Creek. Therefore, a stormwater quantity certification will be required to support development application that confirms all areas of Precinct 6 achieve the required flood immunity and no impacts on the flood conveyance of the main creek result.

WATERWAYS

Strategy

The overarching waterways site strategy aims to protect and enhance waterways and wetlands for ecosystem health and amenity to meet the objectives identified in Table 5 and where relevant, Table 6 of the Stormwater Infrastructure Master Plan (DesignFlow, 2012). Waterway management (from engineering perspective) is inseparable from the strategies outlined in the Natural Environment Site Strategy and Fauna Corridor Master Plan CPAS and must therefore be cognisant of the overlapping constraints and requirements in key areas.

Key Infrastructure

The potential impacts of urban runoff on waterway health and stability are managed via the implementation of water quality and flow management strategies identified as part of the stormwater and flooding components of the CPAS. To further preserve or enhance the ecosystem and character values of waterways and wetlands onsite, riparian buffers have also been adopted in accordance with Section 4.3 of the Stormwater Infrastructure Master Plan (DesignFlow, 2021) as shown in **Figure 5**. Minimum buffers (typically from top of defined bank) are:

- 30m to major creeks
- 15m to minor creeks and drainage lines
- 50m to wetlands of local significance

Where regional ecosystem mapping or detailed vegetation survey identifies a greater riparian corridor, this should be retained in preference to minimum buffers above. Conversely, where buffers contain minimal significant vegetation, it may be practical to include vegetated stormwater treatment infrastructure or recreational infrastructure within the buffer in conjunction with rehabilitation.

For waterways that are degraded but have ecological significance, rehabilitation through stabilisation works and/or revegetation to suit post development hydrology and use is proposed. The Yarrabilba General Waterway Condition Assessment (DesignFlow, 2021) (Appendix C to the Total Water Cycle Management Strategy (DesignFlow, 2021)) provides broad assessment of the Precinct 6 areas for consideration. However, as part of each stage/open space interface design, a detailed review of waterway and riparian condition is proposed to ensure the local issues (including small scale issues such as scour) are addressed through design.

Waterways and waterway buffers shall be delivered in accordance with:

- Environmental Values and Sustainable Resource Use – EDQ Guideline No. 14
- Park Planning and Design – EDQ PDA Guideline No. 12
- Development Interfaces – EDQ PDA Guideline No. 18

An important factor in the implementation of waterway protection or rehabilitation is the comparatively slow timeframes over which protection/improvement can be measured (compared to the rate of development). Based on the Precinct 1, 2 and 3 experiences to date, there is merit in limiting the intervention in degraded/disturbed waterways until development within the catchment has neared completion (unless major issues are evident prior). Allowing natural regeneration and succession of vegetation species within waterways (including weeds initially) has been shown to represent a beneficial and cost effective outcome for particular waterways. However, where overriding requirements for Koala or other fauna/flora management exist or major instability issues present a risk to infrastructure, these must be taken into consideration and adopted where necessary.

Reporting

As waterway management requires strategic input from both engineering and ecological disciplines, the waterway management strategy will be captured across the precinct wide Stormwater Management Plan (for engineering strategies associated with stormwater quality and stability management) and the Vegetation and Rehabilitation Management Plans (for ecological strategies relating to flora/fauna protection and enhancement).

GROUNDWATER

Strategy

The overarching groundwater site strategy aims to protect the ecological health, environmental values and water quality of groundwater and dependent ecosystems while managing the potential impact of groundwater on development and infrastructure.

Key Infrastructure

Key infrastructure within Precinct 6 impacting groundwater will be the major road crossings of waterways (where bridges are not proposed). These will require design to allow shallow groundwater flow through low level culverts or alternative sub-surface engineered drainage system to avoid adverse impacts to existing significant vegetation or aquatic communities in these areas. Potential impacts to (or from) groundwater may occur from cut and fill earthworks and services trenching. Where detailed site or geotechnical investigations identify localised groundwater interception locations, these will be managed as part of infrastructure design, construction management and directed towards local drainage and ultimately the waterway to the south. The stormwater quality strategy described previously protects downstream waterway health while managing minor flows from development. Based on historical observations of drainage lines and waterways in Precinct 1 to 3 before, during and after development, there has been a general increase in wetness (seepage flow) within ephemeral waterways attributed to pine plantation removal, interception of springs by stormwater infrastructure, slow release of water from bioretention basins and anthropogenic sources (e.g. lawn over-irrigation). Adequate supply of water to existing (and introduced) downstream aquatic and groundwater dependent ecosystems is therefore sustained.

Infrastructure shall be delivered in accordance with:

- Engineering Standards - EDQ PDA Guideline No. 13

Reporting

No specific reporting is required for subsequent applications as groundwater factors are addressed through stormwater quality management (see above) and detailed civil engineering design.

COMMUNITY

Strategy

Yarrabilba aims to adopt urban and landscape design that responds to and promotes community awareness of water supply and use, waterway function, local environment and where practical, allows for safe interaction with these natural areas.

Key Opportunities

- Integrate community infrastructure into public open spaces within and surrounding areas designated for stormwater, flooding and waterways strategies discussed previously (multiple use public open spaces) by including pathways adjacent to and through waterway/vegetation corridors for use during low or no rainfall periods.
- Provide educational signage to highlight the environmental/ecological role of waterways and vegetation corridors while protecting public safety through warning/caution signage to reinforce the flood conveyance role of these areas and risk associated.
- Ensure infrastructure design is sensitive to the adjoining natural landscape to promote a blurred interface between urban and natural landscapes.

Reporting

No stand-alone reporting is required for this aspect of the Total Water Cycle Management (TWCM) CPAS as these elements form part of the detailed planning and design of stormwater infrastructure and open space landscapes.

STRATEGY 13:

MOVEMENT NETWORK INFRASTRUCTURE MASTERPLAN

Previous Transport Assessments

Numerous traffic and transport planning, assessments and reports have been undertaken and prepared for the Yarrabilba development, including various iterations of the Movement Infrastructure Master Plan (MIMP). The most relevant versions of the MIMP are as follows:

- *“Yarrabilba Movement Infrastructure Master Plan”* by Cardno dated October 2015. This was endorsed by Economic Development Queensland (EDQ) on 11 Nov 2015.
- *“Yarrabilba Movement Infrastructure Master Plan”* by Cardno dated October 2015. This was endorsed by Economic Development Queensland (EDQ) on 3 July 2019, reflecting the agreed transition of bus services to TransLink by May 2020.
- *“Yarrabilba Master Plan Development - Movement Infrastructure Master Plan”* by SLR Consulting dated April 2017. This has been issued to, but not endorsed by, EDQ. This version reflected a revised major road network, and a manual reassignment of traffic volumes. Note that the revised major road network did not significantly change the road network function from the endorsed MIMP.
- *“Yarrabilba Master Plan Development - Movement Infrastructure Master Plan”* by SLR Consulting, Version 8, issued on 21 October 2022. This version reflects the updated traffic modelling (undertaken in 2018) using the revised major road network and revised development layout. Note, the total development yields remain consistent with the endorsed Movement IMP.
- *“Yarrabilba Master Plan Development – Traffic Model and Intersection Analysis Data Compendium”* by SLR Consulting, dated November 2019 and issued on 21 October 2022. This document is a compilation of the latest Strategic modelling, Mesoscopic modelling and Intersection analysis undertaken for the entire Yarrabilba master plan road network as at the time of writing. It was submitted to EDQ concurrently with the MIMP version 8, as it is intended to complement this document and inform future internal road classifications based on functional requirements.

The following sections provide commentary regarding their corresponding development characteristic and whether they align, or not, with the following:

1. the EDQ-endorsed (3 July 2019) Movement IMP (October 2015) as per the second dot point above;
2. the updated Movement IMP Version 8 (issued on 21 October 2022) as per the fourth dot point above.

The above two Movement IMP documents are most relevant to how the transport network will be developed for Yarrabilba in its entirety, as they encompass:

1. what is currently endorsed by EDQ; and
2. the most recent Yarrabilba master plan.

The broader transport strategies proposed as part of Precinct 6 are reviewed in comparison to these two documents.

Proposed Development

The development yield and layout for Precinct 6 is yet to be finalised, however is anticipated to consist of the following land use elements based on a total site area of 100.1 ha:

- 48.1 ha of residential allotments;
- An area for a local recreation park;
- An area for a neighbourhood recreation park;
- An area for a district sports park;
- An area for a linear park (greenspace corridor)
- An area for stormwater detention.

Regarding the entire Precinct 6 development yield, the previously approved modelling (from EDQ-endorsed Movement IMP) included provisions for approximately 558 low density and 717 high density residential allotments (1,275 dwellings).

The latest development concept (May 2022) consists of 1016 low density and 138 high density residential allotments (1,154 dwellings). It is understood that the change to the development mix within Precinct 6 is not expected to contribute to a larger yield for the overall Yarrabilba master plan, however, as there are more low density lots proposed, this is likely to generate approximately 2% more trips than what was previously modelled in 2018 for Precinct 6.

It is not expected that this change in yield will result in any noticeable change to traffic operations.

Road Network

The road network proposed as part of the Precinct 6 application (major road network and key collector street connections) has been revised since that shown in the EDQ-endorsed Movement IMP. However, the road network remains generally consistent with the intent of the EDQ-endorsed Movement IMP, as well as the Version 8 Movement IMP (issued 21 October 2022).

Road Hierarchy

A Major Collector Street is proposed to run (generally north-south) along the western development boundary for Precinct 6. This is generally consistent with the EDQ-endorsed Movement IMP and the Version 8 Movement IMP (issued 21 October 2022). Along the southern boundary, a Major Collector Street is proposed, also generally aligning with the EDQ-endorsed Movement IMP and the Version 8 Movement IMP (issued 21 October 2022).

Travelling through the precinct from the north-west to the south-east, consisting of a rough zig-zag alignment, is a Local Collector Street. The remaining road network comprises the lower order Local Access Street. These lower order streets, including the Local Collector Street, are not referenced within either version of the Movement IMP (other than to show cross-section details) as this Precinct-level detail is not relevant for Master Plan-level Movement IMP reporting, but rather will be designed as part of future ROL applications.

Information requirement to be submitted as part of subsequent applications:

- Typical road cross sections proposed as part of the ROL, which are to be generally in accordance with the Movement IMP.

Cross Sections

It is anticipated that road cross sections for Precinct 6 will be generally consistent with the typical sections in the Movement IMP noting that there will be some variations consistent with previous applications/precincts. The road reserve cross sections will not be less than the Movement IMP unless supported by traffic, engineering and/or urban design objectives.

Public Transport

The primary public transport provisions for Precinct 6 are proposed to remain generally consistent with what has been presented within both the EDQ-endorsed Movement IMP and the Version 8 Movement IMP (issued 21 October 2022). That is, a bus route is proposed to travel along the north-south Major Collector Street along the western perimeter of Precinct 6. A bus route will also travel along the Local Collector Street from north-west to south-east and will continue into the neighbouring Precinct 4F (previously Precinct 6A) and finally link up to the Plunkett Road Link Road. Locations for bus stops have not yet been determined for servicing this precinct.

Information requirement to be submitted as part of subsequent applications:

- At the time the context plan is submitted, the potential bus routes will be identified on the context plan; and
- At the time of an ROL application within Precinct 6, the potential bus stops will be identified (when the subdivision phase is occurring).

Active Transport

The EDQ-endorsed Movement IMP provides both a Commuter Cycle Route and a Local Active Transport Route travelling east to west through the central areas of Precinct 6. The Version 8 update (issued on 21 October 2022) to the Movement IMP provides similar active transport routes, with the exception that it only provides for one east to west Commuter Cycle Route which travels along the southern Precinct 6 boundary. Both a Principal and Commuter Cycle Route are intended along the north-south Major Collector Street (along the western Precinct 6 boundary). A Local Active Transport Route is also intended along the eastern precinct boundary. This remains generally consistent with current planning for Precinct 6.

Information requirement to be submitted as part of subsequent applications:

- With the first development application within the precinct a concept plan for the major local active transport routes for Precinct 6 shall be provided; and
- Details of all active transport paths shall be provided with each ROL application outlining the location and width of any proposed pathways, and its purpose for pedestrians, cyclists or shared.

Summary

In summary, it is not likely that the transport network for Precinct 6 will result in any significantly different, nor unacceptable, traffic or transport outcomes from that which has already been identified as part of previous EDQ-endorsed Movement IMP reporting. Similarly, this is consistent with the Version 8 Movement IMP (issued 21 October 2022).

STRATEGY 14:

NATURAL ENVIRONMENT OVERARCHING SITE STRATEGY

Strategy

The *Natural Environment Site Strategy* (NESS) (Natura Consulting, 30 March 2016) provides an overarching plan that pulls together the individual Infrastructure Master Plans (IMP), such as the Fauna Corridor Master Plan (FCMP) (Natura Consulting, 2012), and site assessments addressing vegetation and fauna management. While separated for the purpose of strategy discussion below, the management for these components is typically integrated for construction or post-construction outcomes. The Precinct 6 strategies pertaining to each of these key components are discussed separately below and constraints are identified in Nature Figure 7. Also detailed below are a number of assessments/reports to be completed for Precinct 6 which are to be certified and endorsed with the subsequent applications.

Buffers and Determining the Extent of Works

A number of setbacks to environmental values are identified within the IMP/OSS and planning documents and these are consistent with those being used in the Precinct 6 CPAS. The setbacks and buffers applicable to the Precinct 6 area are summarised in the following text and presented graphically in the subsequent five figures.

Figure 8: Wetlands/waterway buffers (section 4.4 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2012):

- 15 m to minor creeks and drainage lines (including for works protection in neighbouring precincts)

Figure 9: Fauna Corridor construction setbacks (section 4.3.1 of the Fauna Corridor Master Plan)

- 10 m construction setback to mitigate damage to retained tree root shields within the fauna corridor (for works protection only in neighbouring precincts)

A number of additional setbacks/buffers, outside of those identified above are also applied within this CPAS:

Figure 10: Retained Regional Ecosystem (RE) vegetation and other retained vegetation construction setbacks:

- 10 m construction setback to mitigate damage to retained tree root shields
- Exceptions occur in instances such as parks where retained vegetation is incorporated with recreational areas or where other park infrastructure is approved. In these cases, tree protection zones (TPZs) are calculated for individual trees by the project arborist, in accordance with Australian Standard 4970:2009.

Figure 11: Bushfire setbacks (identified through expert advice from the Bushfire Management Consultant):

- 10 m construction setback to mitigate for areas of Low Bushfire Hazard rating (areas of narrow, linear vegetation corridors (averaging 75m wide) with hard interface on both sides and with limited bushfire potential)
- 15 m construction setback to mitigate for areas of Medium Bushfire Hazard rating (areas of broader vegetation whereby surrounding dwellings within 100m will require BAL (Bushfire Attack Level) construction ratings. BAL ratings are expected to achieve a BAL-19 or less.
- These setbacks achieve a tolerable risk level when assessed in accordance with the Bushfire Resilient Communities Technical Reference Guide 10/19.
- The bioretention basin identified in Figure 5 by an asterisk (*) will require:
 - Retention of mature tall canopy trees
 - Selective retention of juvenile tall canopy tree species
 - Removal of limbs less than 2 metres high on trees over 4 metre tall
 - Removal of weed growth
 - Mowing/brush cutting of grass, keeping grass under 300mm high, but allowing for reed/rush type vegetation in the basin to allow for the function of the detention area
 - Minimise mid-storey vegetation (except the juvenile trees in dot point 2) to prevent ladder fuel structure
 - Occasional discontinuous small clumps of evergreen ground covers would be permissible, such as *Lomandra Hystrix*, which should be trimmed back prior to the start of fire season (fire season generally starts in July/August)
 - Removal of fallen timber
 - Restricting leaf litter build-up to 5t/Ha (approx. 10mm deep), allowing for a total of 8t/ha overall fuel load (using hazard reduction burning techniques or manual litter removal)
 - All plantings should be 'fire wise' as outlined in the 'Landscaping for Bushfire' document referred to above
 - Steepness of batter slopes must allow for management (<1:4)
- Note that fire-trails are not required within Precinct 6 due to the presence of sufficient road access, including perimeter roads.

These setbacks are presented collectively in Figure 7 and have been used to map the extent of developable area.

Figure 7: Overall Developable Area

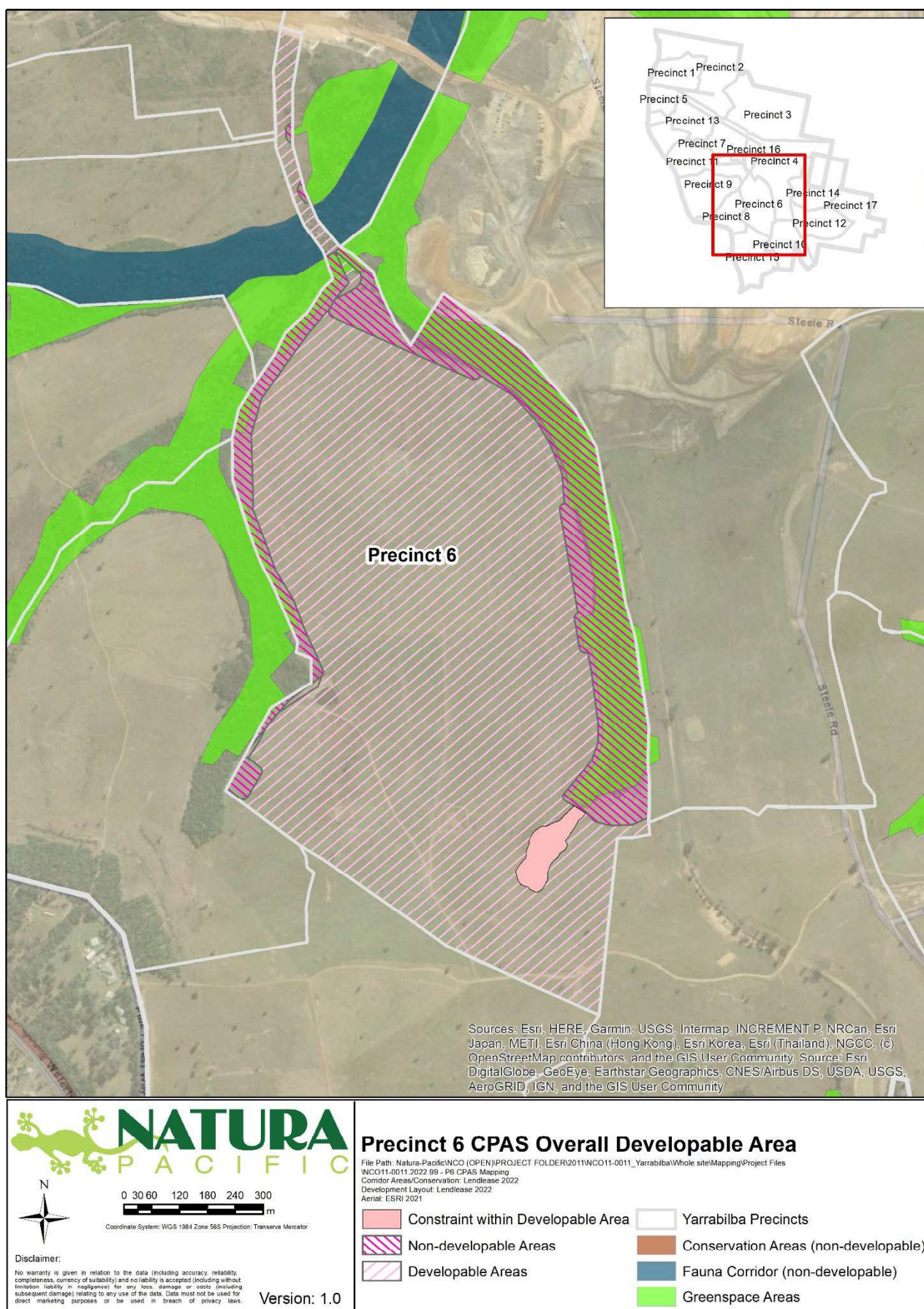


Figure 8: Waterway Setback



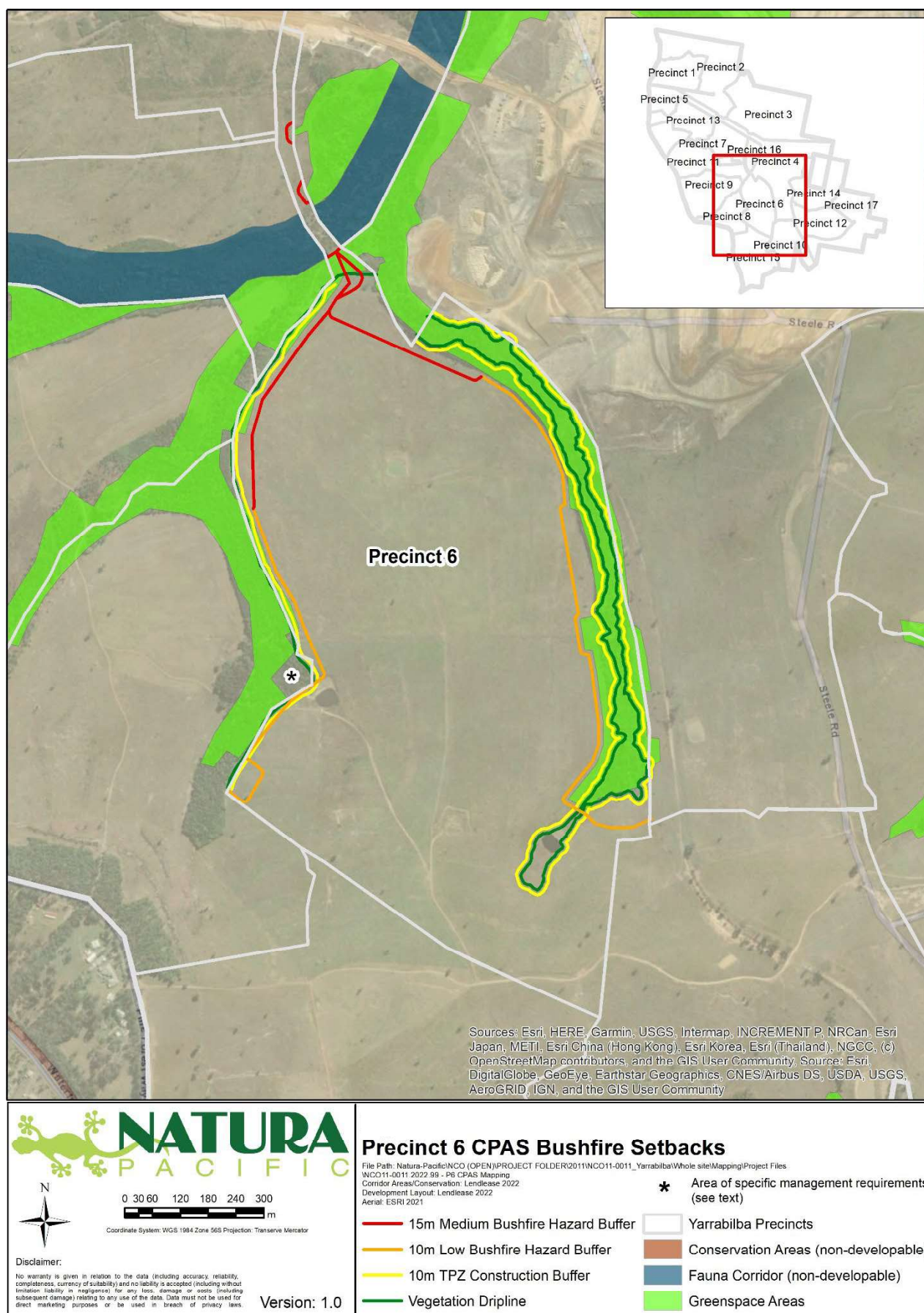
Figure 9: Fauna Corridor Setbacks



Figure 10: Vegetation Construction Setbacks



Figure 11: Bushfire Setbacks



VEGETATION

Strategy

Provide vegetation management actions which integrate the protection and enhancement of the floristic values associated with the fauna corridor, parks, waterways and natural open spaces, in order to meet the objectives identified in Natural Environment Overarching Site Strategy, including:

- Weed control (bio-security) and revegetation
- Protection and retention of significant trees
- Assessment for and management of (where identified on site) significant flora species
- Bushfire management
- Assessment and management of remnant vegetation (Regional Ecosystems)
- Rehabilitation and monitoring/compliance

Key Issues

Vegetation management actions to be provided within or associated with Precinct 6 are highlighted in the following areas:

- Setbacks between development footprint and:
 - Fauna corridor, including 10 m soft interface (incorporating a batter, park, stormwater treatment/flood detention, verge, walking trails, road etc) or minimum bushfire setback, whichever is greater. Note. Precinct 6 does not contain any Fauna corridor, and this provision is purely for guidance of works in relation to neighbouring precincts around the Fauna corridor road crossing in the north
 - Greenspace corridors, including retaining extent of mapped drip line vegetation and waterways setbacks as described in Section 4.4 of the Stormwater Infrastructure Master Plan (DesignFlow, 2012)
 - Road/crossing clearing requirements incorporating retention of or offset provisions for significant sized trees
- Road/crossing design in accordance with IMP/OSS documents, which also allows base/low flow level ground and surface water dispersal affecting vegetation retention or supports rehabilitation of degraded areas with improved vegetation communities. This is also to include supporting ecological assessments/report which addresses specific design requirements and includes preliminary civil designs as part of the Development Application.

Vegetation management will generally be undertaken in accordance with the *Yarrabilba Development: Natural Environment Site Strategy* (Natura Consulting, 30 March 2016) which highlights vegetation management procedures with regards to clearing approvals, revegetation, monitoring/compliance and design requirements. For this precinct, vegetation management is largely connected to, and integrates with, waterway setbacks and passive/recreational space.

Consideration for gazetting future ownership of proposed conservation/recreation land:

- Greenspace corridor/other parks: shall be transferred to Council in fee simple as trustee in accordance with relevant future PDA development approvals.

Vegetation management shall be delivered in accordance with:

- Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs – EDQ PDA Guideline No. 17
- Environmental values and sustainable resource use – EDQ PDA Guideline No. 14
- Development interfaces – EDQ PDA Guideline No. 18
- Tree Retention in Residential Subdivisions - EDQ PDA Practice Note No. 6 (where applicable)

FAUNA

Strategy

Provide design components and/ or management actions which integrate fauna movement and habitat opportunities within the fauna corridor, parks, waterways, and natural open spaces as identified in the Fauna Corridor Master Plan. These include:

- Habitat rehabilitation and monitoring/compliance (for native species but with a focus on Koala)
- Road crossing design to allow fauna movement and fish passage (where applicable)
- Protection and retention of significant or specific habitat trees
- Assessment for and management of all fauna species throughout pre construction and construction periods
- Feral animal monitoring and management

Certification of ecological compliance will be provided as part of each Development Application.

Key Issues

Fauna management actions and strategies associated with Precinct 6 include:

- Development and/or enhancement of Fauna Corridors with functionality and connectivity as key principles
- Fauna friendly design aspects such as using food and shelter trees in parks and street scaping, use of fauna friendly fencing, fauna crossings and fauna/fish passage
- Ensuring bushfire or bushfire management practices do not pose significant risk to fauna or fauna habitat
- Fauna spotter-catching during clearing works
- Rehabilitation/revegetation of fauna corridors/waterways/greenspace corridors and monitoring/compliance

Fauna management will generally be undertaken in accordance with the Yarrabilba Development: Fauna Corridor Master Plan (Natura Consulting, 2012) which highlights fauna management procedures with regards to clearing direction, revegetation, monitoring/compliance, design requirements and education. The Fauna Corridor Master Plan aims to integrate closely with the Natural Environment Site Strategy to achieve a range of goals while optimising use of space and resources available for fauna with vegetation management and stormwater quality/flood mitigation areas. For this precinct, fauna management is largely connected to, and integrates with, retained vegetation areas which incorporate waterway setbacks, passive/recreational space and Koala habitat protection measures such as the fauna corridor.

The fauna corridor and conservation area to the north of Precinct 6 at the road crossing includes areas mapped as 'Koala Habitat to be Retained' and are highlighted under the EPBC conditions as 'offset areas'. Rehabilitation works in these areas are to address both the general fauna habitat requirements highlighted in EDQ plans and Koala habitat requirements identified in the EPBC approval conditions.

Designs of road crossings and services are to be supported by ecological advice (i.e. arborist report, fauna assessment and vegetation management plan) and preliminary civil designs submitted as part of Development Applications. Additionally, waterway/fauna corridor crossing design will incorporate vegetation retention (i.e. its placement will be provided in a location where minimal disturbance is required) and facilitate fauna movement and fish passage.

Fauna management shall be delivered in accordance with:

- Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs – EDQ PDA Guideline No. 17
- Environmental values and sustainable resource use – EDQ PDA Guideline No. 14
- Development interfaces – EDQ PDA Guideline No. 18

Certification of ecological compliance will be provided as part of each Development Application.

Supporting Information

Reporting requirements and timing

Documentation type	Details	Instances when required	Timing of delivery
Vegetation drip-line mapping	<ul style="list-style-type: none"> Ground-truthed vegetation extent mapping to determine setbacks to protect extant vegetation. 	Per context area	Prior to or in conjunction with initial design
Vegetation Management Plan	Flora assessment and management including sections on (where applicable): <ul style="list-style-type: none"> Tree survey of proposed clearing locations Mapping of tree locations Tree protection/retention measures and management of retained trees Tables containing tree data Other flora species management Implementation of recovery actions for any confirmed protected species (pursuant to the <i>Nature Conservation Act 1992</i> (NCA)) 	Per context area or per clearing area. Where clearing of native vegetation is required.	Prior to clearing works

Documentation type	Details	Instances when required	Timing of delivery
	<p>Fauna assessment and management including sections on (where applicable):</p> <ul style="list-style-type: none"> • Koala, kangaroo and other fauna species management • Feral animal management • Fish passage assessment where waterway crossing are required • Implementation of recovery actions for any confirmed protected species and determination of required offsets (e.g. nest-box installation) 		
Spotter Catcher Report	<ul style="list-style-type: none"> • During clearing works, an Department of Environment and Science (DES)-approved spotter catcher is to undertake onsite fauna management actions (i.e. fauna capture and translocation) • Post clearing reporting of results, fauna species translocated and outcomes of fauna management actions. 	Per context area or per clearing area. Where clearing of native vegetation is required.	During and after clearing works
Flora trigger map protected plant survey (as per requirements under the <i>Nature Conservation Act 1992</i>) for Rare, Vulnerable Near Threatened species)	<ul style="list-style-type: none"> • Follow survey and reporting methodology outlined in the NCA Protected Plant Survey guidelines produced by DES • Where protected species (plants) are identified, provide a Flora Management Plan and implement recovery actions • Gain permits from Eco-access (Department of Resources) for clearance of threatened flora (where applicable) and provide necessary offsets 	Per context area or per clearing area. Where clearing of native vegetation is required.	Prior to and during OPW
Waterway and Fauna Corridor crossing/services design	<ul style="list-style-type: none"> • Design road waterway and fauna corridor crossing to allow Koala and other fauna movement • Fish passage assessment and design • Rehabilitation approaches to entry and exit points of underpasses <p>Review potential impact of crossing on extant vegetation long term health:</p> <ul style="list-style-type: none"> • Ground/storm water impact assessment • Base-flow water level assessment of surface and ground water within fauna and waterway corridors 	Where road or other crossings traverse waterways or Fauna Corridors	Conceptual fauna crossing during DA Detailed design and certification during OPW
Bushfire Management Plan	<p>Review potential impact of bushfire with a number of objectives:</p> <ul style="list-style-type: none"> • Protect life and property 	Per context area	At DA Stage and to address the SPP Model Code

Documentation type	Details	Instances when required	Timing of delivery
	<ul style="list-style-type: none"> Minimise bushfire risk within the development footprint and neighbouring properties Reduce unauthorised activities within the site through good management Identify and manage future vegetation areas within the site to improve their ecological diversity and sustainability Reduce the considerable incident of unplanned fire on the site by maintaining reduced fuel loads over future development areas within the site Address model SPP Code. 		
Rehabilitation Management Plan	<p>Fauna corridor, Regional Ecosystem, offset area and 'Koala Habitat to be Retained' rehabilitation:</p> <ul style="list-style-type: none"> Strategic vegetation and habitat restoration methods and outcomes Fencing requirements Weed management Maintenance timing and schedules Rehabilitation monitoring plan 'As constructed' data demonstrating compliance with any offset requirements and certification of completion of works. 	Per context area or sub context area	Broad conceptual mapping during DA Detailed design and certification during OPW
Ecological equivalence assessment	<ul style="list-style-type: none"> Undertaken where offsets are required for clearing 'significant vegetation' or other significant ecological value, which is otherwise unavoidable. 	Per context area	Prior to or in conjunction with OPW
Kangaroo management strategy	<ul style="list-style-type: none"> Mitigation of impacts to kangaroos will be addressed within the construction site Review of security fencing location, access and release points Contractor education 	Per context area	During OPW
Koala habitat and offset area monitoring/ compliance report	<ul style="list-style-type: none"> Long term monitoring of koala habitat and offset areas to ensure benchmarks are being met Certification of results Reporting to Economic Development Queensland (within the Department of State Development, Infrastructure, Local Government and Planning) and the Australian Government Department of Climate Change, Energy, the Environment and Water pursuant to the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 	Per context area	Post OPW (timing varies, outlined in approved Koala Habitat Rehabilitation Monitoring Plan)

Documentation type	Details	Instances when required	Timing of delivery
	(EPBC Act).		
Awareness and education	Community and/or contractor education documentation: <ul style="list-style-type: none"> • Interpretive signage • Responsible pet ownership • Responsible gardening and plant selection • Appropriate and inappropriate activities in and around fauna corridors 	Per context area	Prior to and during OPW
Certification of ecological compliance	Provided within individual reports listed within this table or as a separate certification letter	Per context area or individual design component i.e. for the design of fauna passage within road crossings	As part of each Development Application



Yarrabilba Precinct 6

CONTEXT PLAN AREA STRATEGY