



CONTEXT PLANNING AREA STRATEGY

Precinct 3

Lendlease	RPS
KN Group	Natura
Design Flow	MWH
Cardno	

Date: 17 June 2016

COMPLIANCE ENDORSEMENT
with PDA APPROVAL

26 JUL 2016

MEDQ

AMENDED IN RED

25 JUL 2016

By: OWEN HASLAM (name)
MEDQ

Document Information

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Contact: Emma Moller (RPS)

Version History

Version	Date	Purpose	Author	Reviewer	Approval Date
Final Draft	3 May 2016	Preliminary Review by EDQ	Various	EM	3 May 2016
Final	10 June 2016	Final	EM	PF	16 June 2016

PRECINCT OVERVIEW

Precinct 3 is the third Precinct at Yarrabilba under the Land Agreement. It comprises a total area of 254ha and is located directly east of Precinct 2 currently under development.

A large component of the Precinct is greenspace, with 157ha or just over 60% of the Precinct having environmental and conservation values that will be protected. The eastern boundary of the Precinct adjoins the Plunkett Conservation Reserve and the hills rising up to the reserve will be protected and a network of trails developed through this to connect Yarrabilba with the national park. The neighbourhood recreation park in Village 3b is located on a natural high point adjoining the conservation reserve and will act as a connection point between the reserve and the residential community.

A significant fauna corridor also passes through the Precinct east-west that will also be protected. Buffers to this feature and other defined greenspace corridors along waterways within the Precinct have also been allocated.

A major sports park, one of two planned within the project, will be completed in Precinct 3, Village 3a (with the southern component being provided in Precinct 2). This park will provide major organised sporting facilities for the Precinct and will be embellished in accordance with the PDA Parks Guideline.

Also within Village 3a is an area planned for a small scale neighbourhood centre, community facilities and possible medium density residential development. This design has been planned to allow for the creation of a community hub, surrounded by the private and state high schools and the major sports park. A minimum of 6500m² will be dedicated in this area for community facilities, however subject to discussions with Logan City Council, a larger area may be provided.

It is expected 950 residential lots will be developed providing homes for approximately 2565 new residents.

Village 3a contains the community hub mentioned above, along with the state high school and the northern part of the major sports park. A neighbourhood recreation park is also planned where there is existing protected vegetation and a significant natural rock feature that will provide a significant recreation park for residents. Density in this village will be higher than 3b and 3c given its superior location close to facilities and services.

Villages 3b and 3c are planned for residential development where the natural topography will provide excellent opportunities to capture views and be embraced by nature.

Village 3d is land planned for infrastructure purposes, with potential requirements for an electrical sub-station and other utility purposes. The actual allocation of this land will not be able to be determined until such time as the long term servicing for Yarrabilba is agreed, and current discussions with Powerlink and Energex conclude with respect to sub-station requirements. Given at least some of this land is likely to be required for infrastructure purposes; it is unlikely that residential development could occur in this location. As such, any surplus land will be used for employment generating uses.

Active and public transport networks will be continued throughout the Precinct. New arterial roads including the extension of Yarrabilba Drive and provision of a connection to the future SIC are also proposed. A second external intersection, on Waterford-Tamborine Road near Dollarbird Drive, will also be required during the Precinct development period, when trigger traffic volumes are reached. This is nominally when 2,300 dwellings have been constructed and occupied. Employment and community development strategies will continue to be implemented as the Precinct develops to ensure the availability of these to future residents.

Purpose

This context planning area strategy has been prepared in accordance with Condition 7 of the whole of site MCU (DEV2011/187). This strategy requires compliance assessment against condition 11 of the approval.

Supporting Plans

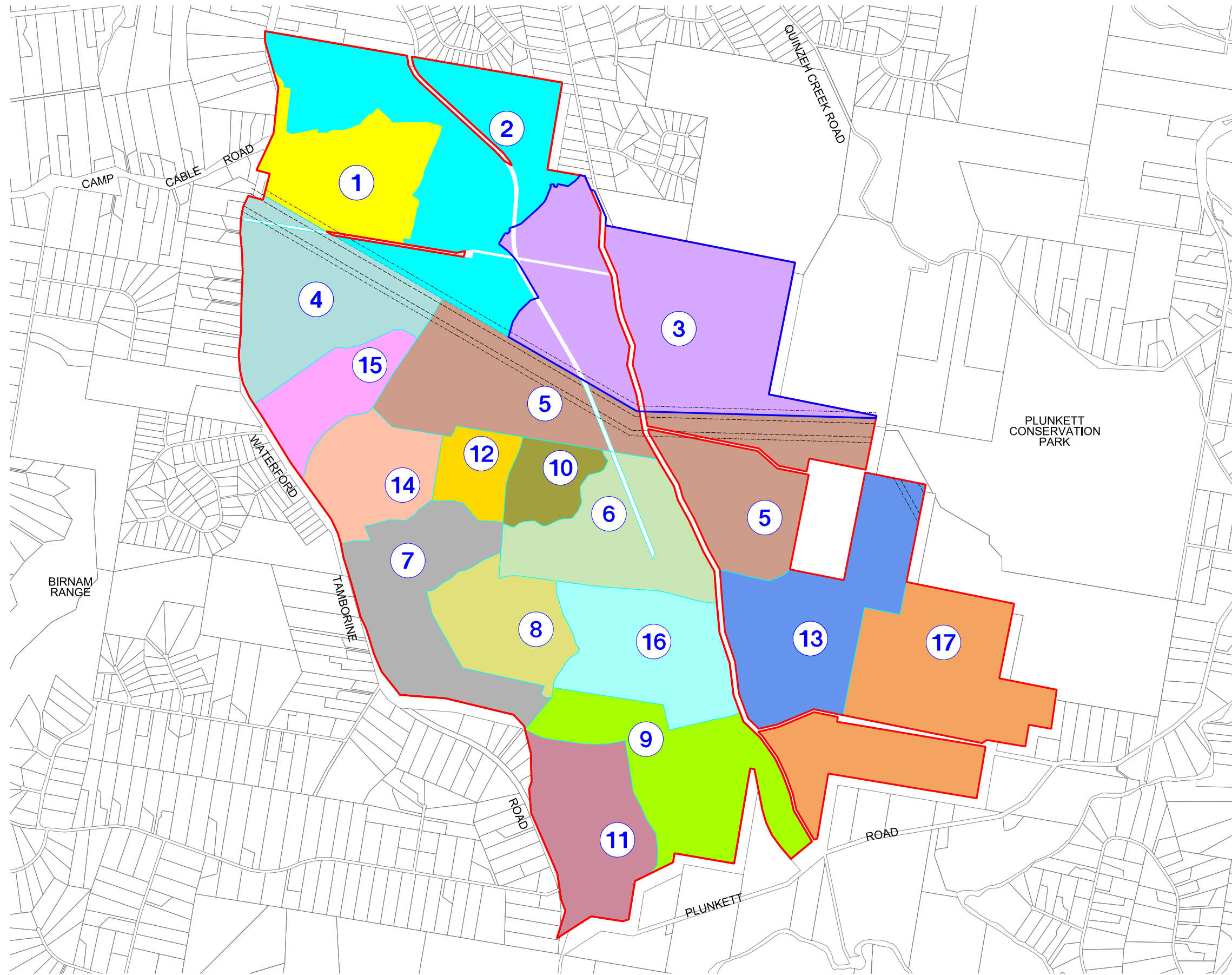
A series of plans have been developed as follows:

1. Aerial Photo
2. Yarrabilba Precinct Plan
3. Sub-Precinct Plans
4. Location Plan
5. Precinct 3 Context Plan
6. Open Space and Linkages Plan
7. Constraints Plan
8. Plan to illustrate the small part of Precinct 2, now included in Precinct 3



LEGEND

- YARRABILBA SITE BOUNDARY
- PRECINCT THREE



SOURCE: YARRABILBA URBAN DEVELOPMENT AREA DEVELOPMENT SCHEME - MAP 2 - VISION

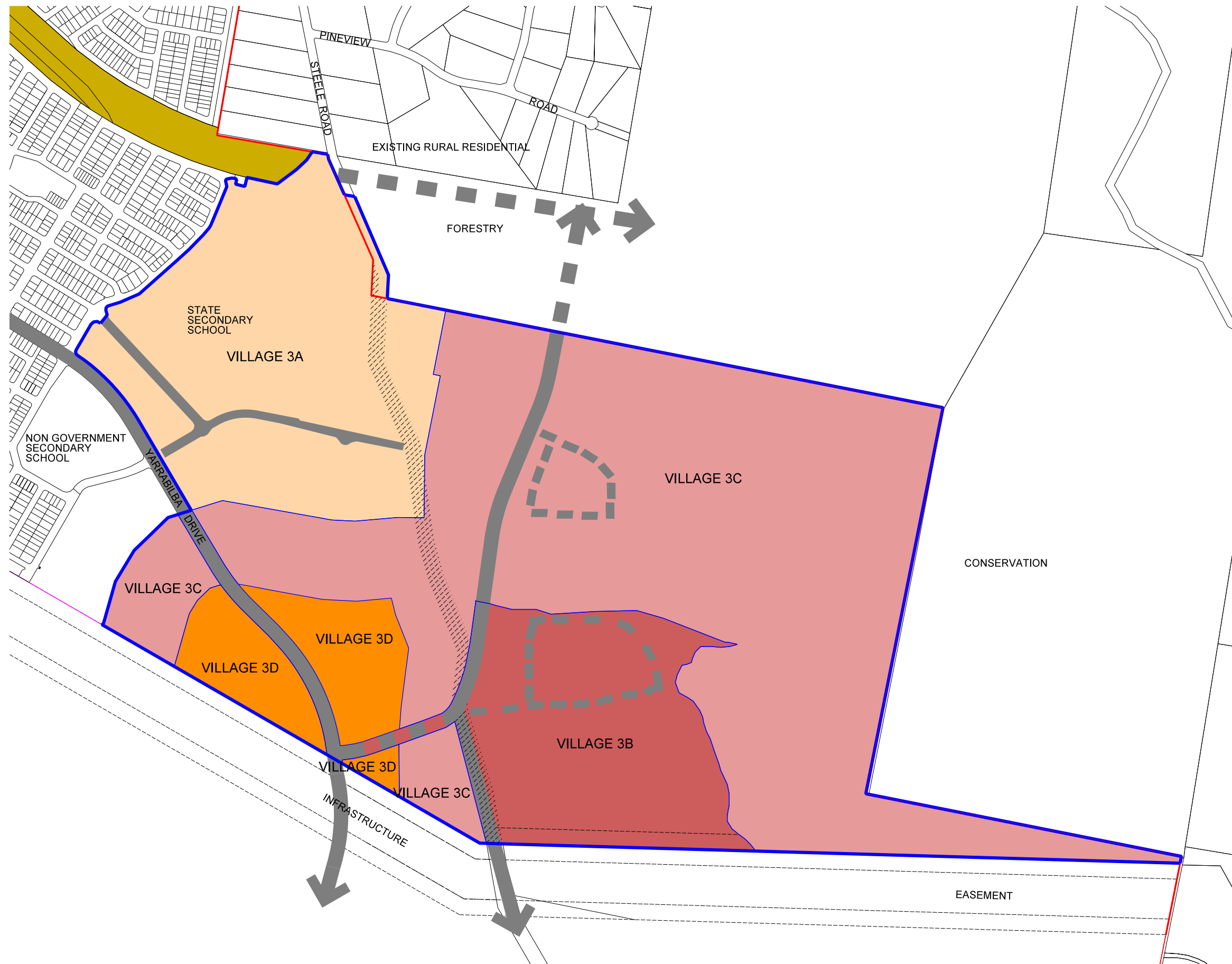
YARRABILBA PRECINCT THREE PRECINCT PLAN

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0 300 600 900 1200 1500m
Scale 1:300000 at A3



- LEGEND
- YARRABILBA SITE BOUNDARY
 - PRECINCT THREE VILLAGE BOUNDARIES



DISCLAIMER
The context plan is intended to guide development within the Yarrabilba Precinct Three area and show the preferred land use designations and structural elements. The context plan does not prescribe these designations and structural elements with complete accuracy and the final location will be determined through further detailed design and development applications.

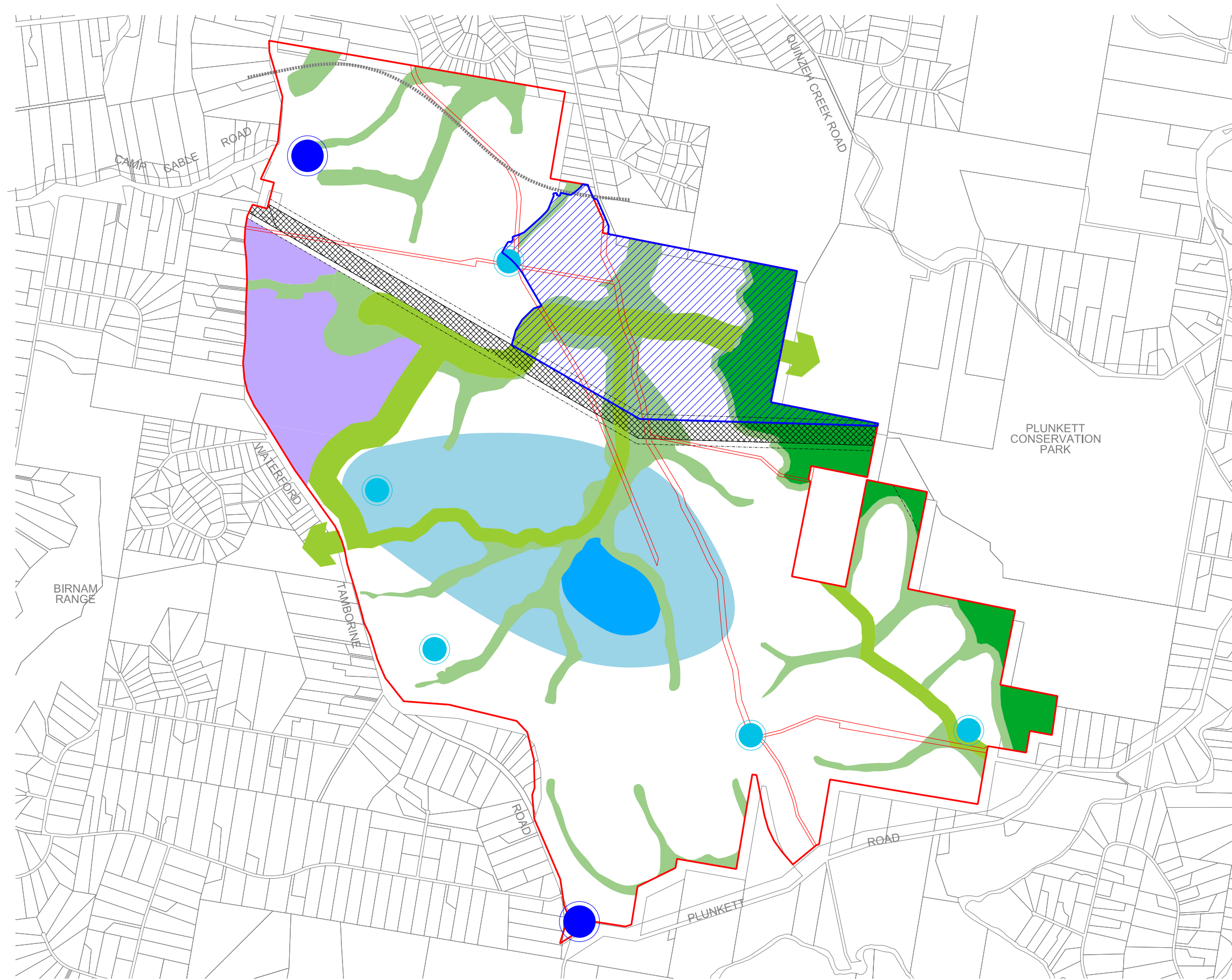
NOTES
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YARRABILBA - PRECINCT THREE - SUB STAGING INDICATIVE VILLAGE STAGING

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0 100 200 300 400 500m
Scale 1:10000 at A3





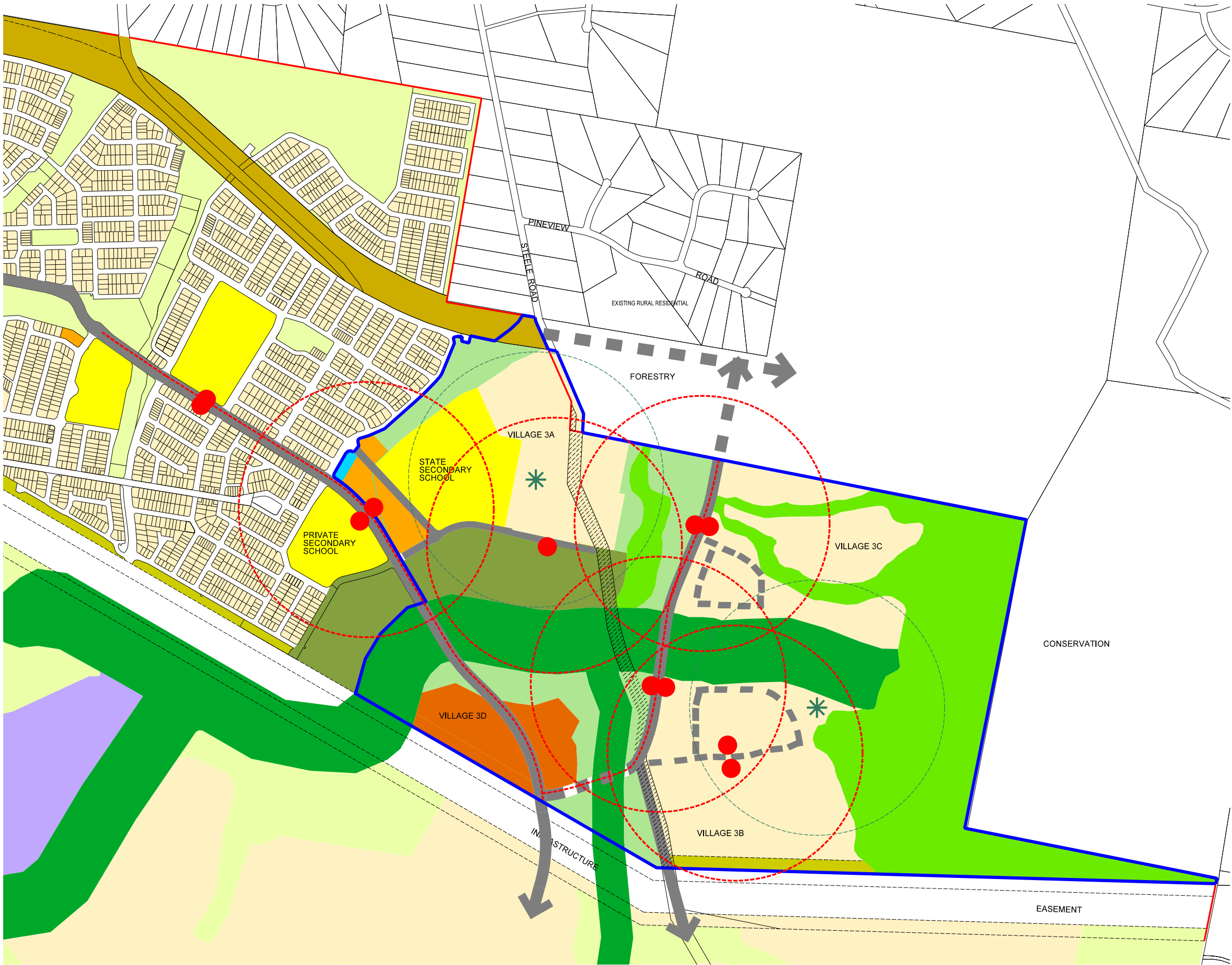
- LEGEND**
- YARRABILBA SITE BOUNDARY
 - PRECINCT THREE
- LAND USE**
- URBAN LIVING ZONE
 - MAJOR CENTRE ZONE (CORE)
 - MAJOR CENTRE ZONE (FRAME)
 - INDUSTRY AND BUSINESS ZONE
 - ENVIRONMENTAL PROTECTION ZONE
- ELEMENTS**
- POTENTIAL GREEN SPACE
 - FAUNA CORRIDOR
 - TRANSMISSION EASEMENT
 - DISTRICT CENTRE
 - NEIGHBOURHOOD CENTRE
- TRANSPORT NETWORK**
- INDICATIVE MAJOR TRANSPORT CORRIDOR

SOURCE: YARRABILBA URBAN DEVELOPMENT AREA DEVELOPMENT SCHEME - MAP 2 - VISION

YARRABILBA PRECINCT THREE CONTEXT PLAN LOCATION

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- LEGEND
- YARRABILBA SITE BOUNDARY
 - PRECINCT THREE BOUNDARY
 - NEIGHBOURHOOD CENTRE
 - RESIDENTIAL
 - URBAN RESIDENTIAL
 - EDUCATIONAL ESTABLISHMENT
 - RETAIL/COMMUNITY/COMMERCIAL, MIXED USE & MULTI RESIDENTIAL
 - INFRASTRUCTURE & EMPLOYMENT
 - FAUNA CORRIDOR (ENVIRONMENTAL PROTECTION)
 - ENVIRONMENTAL PROTECTION
 - PARK
 - MAJOR SPORTS PARK
 - OPEN SPACE EXTERNAL TO pRECINCT 3
 - NEIGHBOURHOOD RECREATION PARK & 400m RADIUS LOOP
 - DISTRICT RECREATION PARK & 400m RADIUS LOOP
 - ELECTRICITY EASEMENT
 - LANDSCAPE BUFFER
 - SOUTHERN INFRASTRUCTURE CORRIDOR
 - PRIMARY MOVEMENT NETWORK
 - SECONDARY MOVEMENT NETWORK
 - BUS ROUTE
 - BUS STOP/PROPOSED BUS STOP & 400M RADIUS LOOP
 - EXISTING TRAILS
 - ROAD TO BE CLOSED

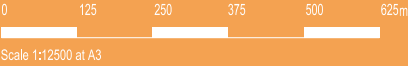
TOTAL PRECINCT AREA	254 ha
GROSS RESIDENTIAL AREA	67ha
Approx 950 lots at an average density of 15dw/ha	
COMMUNITY FACILITIES	2.55ha
STATE SECONDARY SCHOOL	12.0ha
OPEN SPACE	157.0ha
ROAD	7.0ha

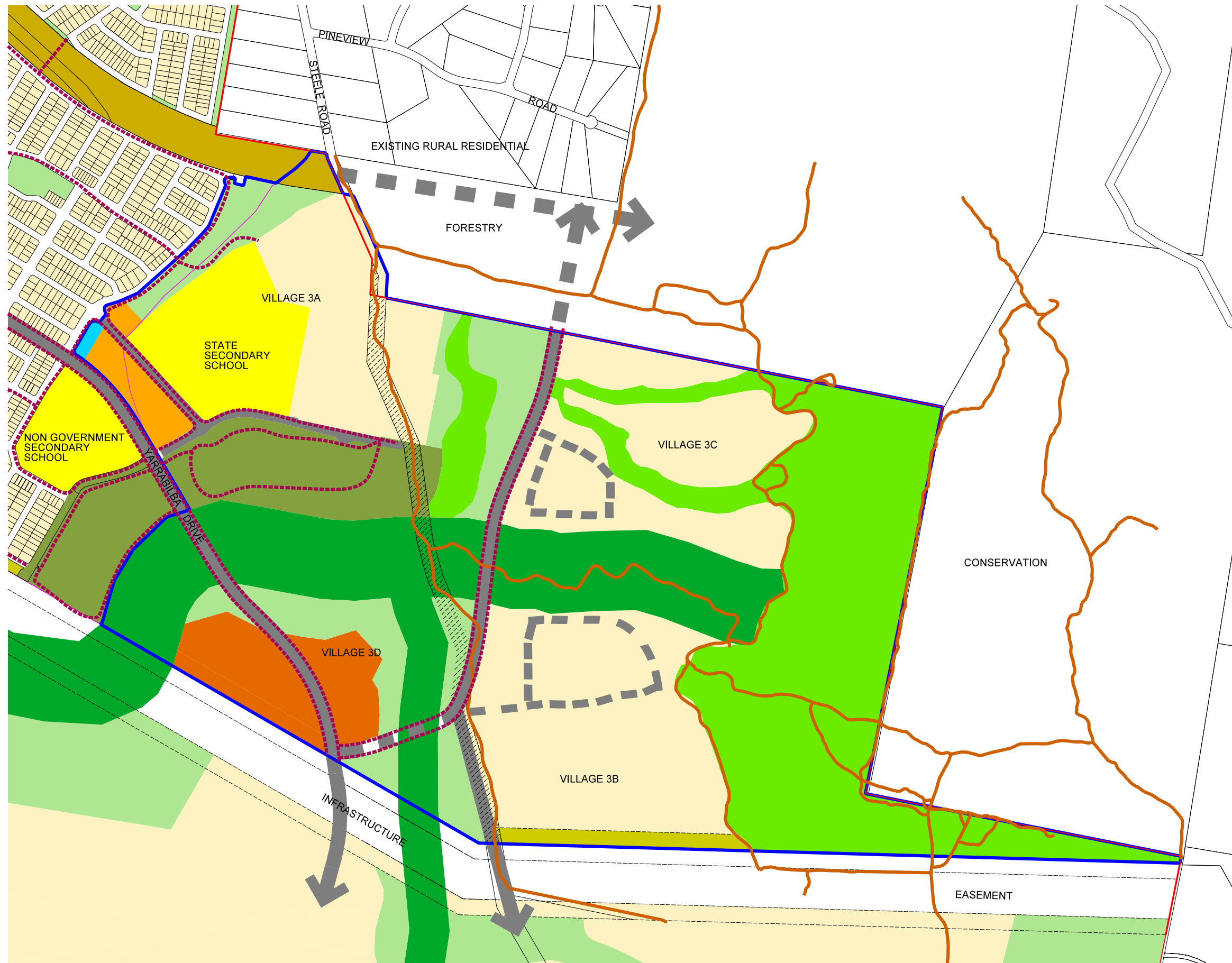
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YARRABILBA - PRECINCT THREE
CONTEXT PLAN

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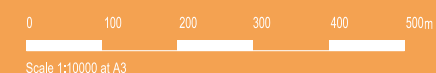
- LEGEND**
- YARRABILBA SITE BOUNDARY
 - PRECINCT THREE BOUNDARY
 - RESIDENTIAL
 - NEIGHBOURHOOD CENTRE
 - RETAIL/COMMUNITY/COMMERCIAL, MIXED USE & MULTI RESIDENTIAL
 - INFRASTRUCTURE & EMPLOYMENT
 - EDUCATIONAL ESTABLISHMENT
 - FAUNA CORRIDOR (ENVIRONMENTAL PROTECTION)
 - ENVIRONMENTAL PROTECTION
 - PARK
 - MAJOR SPORTS PARK
 - NEIGHBOURHOOD RECREATION PARK & 400m RADIUS LOOP
 - ELECTRICITY EASEMENT
 - LANDSCAPE BUFFER
 - SOUTHERN INFRASTRUCTURE CORRIDOR
 - PRIMARY MOVEMENT NETWORK
 - SECONDARY MOVEMENT NETWORK
 - EXISTING TRAILS
 - OFF ROAD SHARED PATHS (NOT INCLUDING 1.5m FOOTPATHS)
 - ROAD TO BE CLOSED

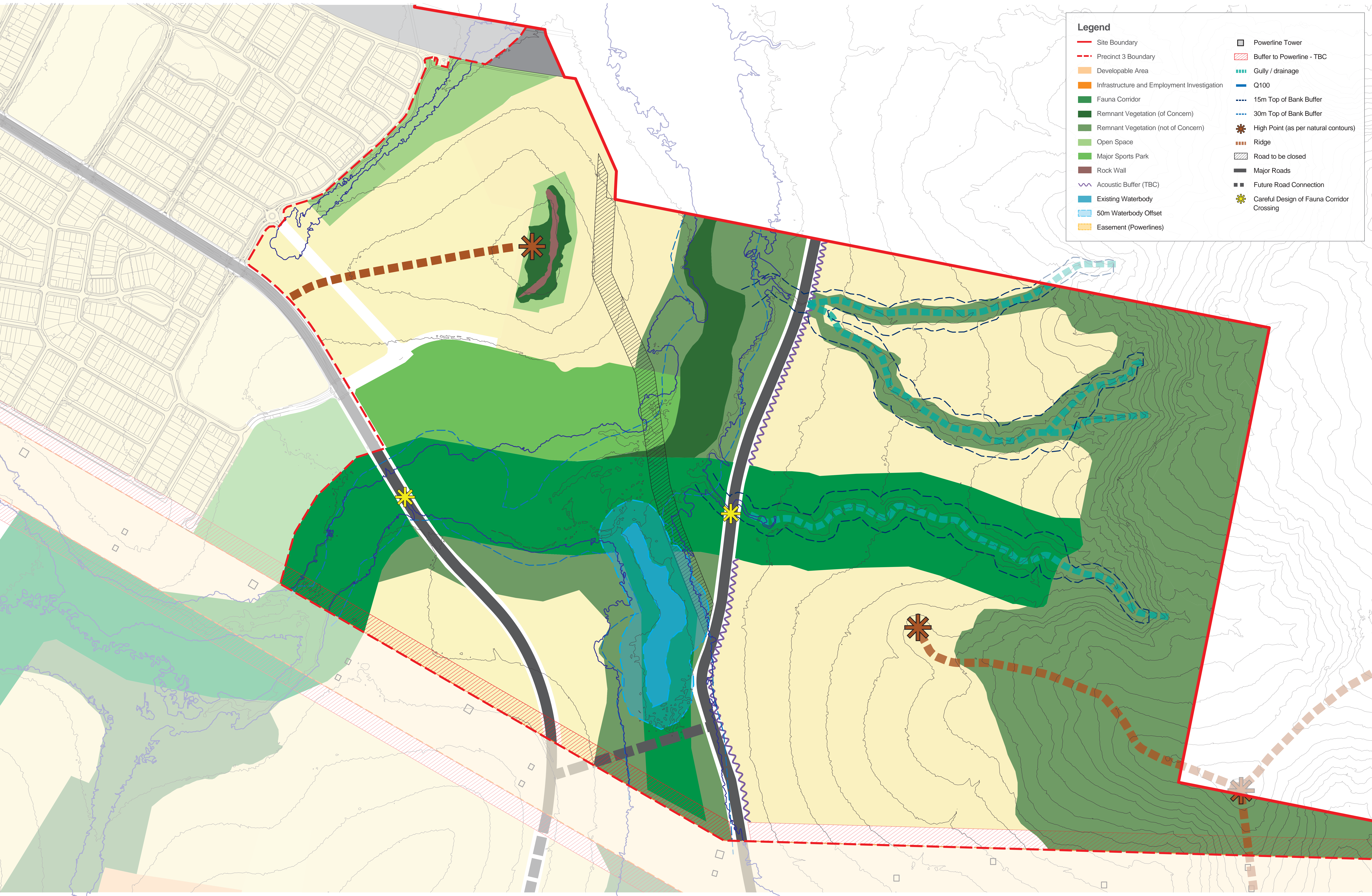
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YARRABILBA - PRECINCT THREE CONTEXT PLAN - OPEN SPACE AND LINKAGES

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Legend

— Site Boundary

- - - Precinct 3 Boundary

Developable Area

Infrastructure and Employment Investigation

Fauna Corridor

Remnant Vegetation (of Concern)

Remnant Vegetation (not of Concern)

Open Space

Major Sports Park

Rock Wall

Acoustic Buffer (TBC)

Existing Waterbody

50m Waterbody Offset

Easement (Powerlines)

Powerline Tower

Buffer to Powerline - TBC

Gully / drainage

Q100

15m Top of Bank Buffer

30m Top of Bank Buffer

High Point (as per natural contours)

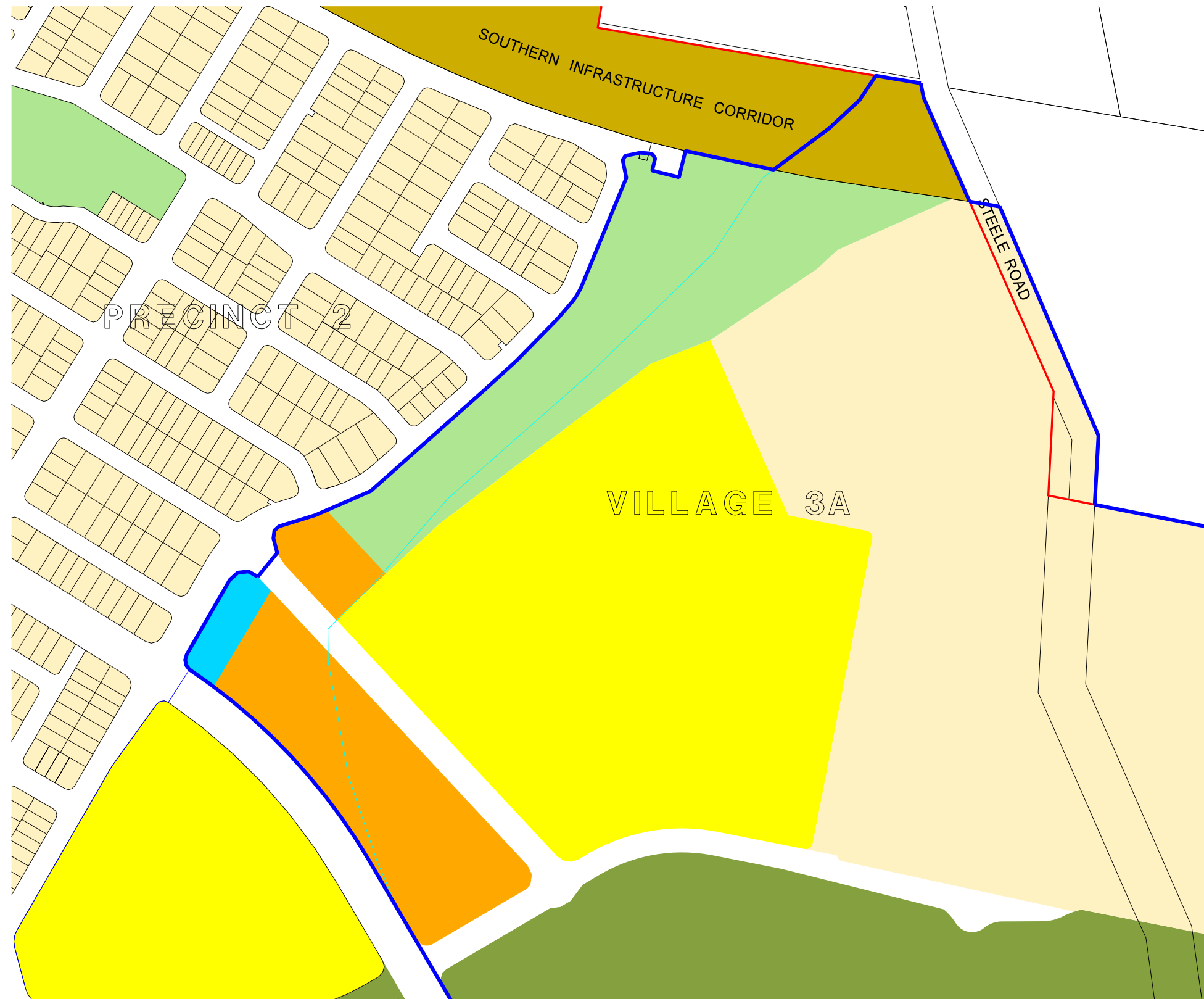
Ridge

Road to be closed





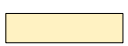





Major Roads

Future Road Connection

Careful Design of Fauna Corridor Crossing



LEGEND

-  YARRABILBA SITE BOUNDARY
-  EXISTING P2/P3 ROL BOUNDARY
-  PROPOSED P3 BOUNDARY
-  NEIGHBOURHOOD CENTRE
-  RESIDENTIAL
-  EDUCATIONAL ESTABLISHMENT
-  RETAIL/COMMUNITY/COMMERCIAL, MIXED USE & MULTI RESIDENTIAL
-  PARK
-  MAJOR SPORTS PARK
-  SOUTHERN INFRASTRUCTURE CORRIDOR

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YARRABILBA - PRECINCT THREE PROPOSED PRECINCT 2 PRECINCT 3 BOUNDARY VARIATION

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0 40 80 120 160 200m
Scale 1:4000 at A3



CPAS FOR IMP AND OSS AREAS

Strategies:

The following strategies are proposed for Precinct 3:

Strategy 1: Accessible Housing & Social Housing
Overarching Site

Strategy 2: Community Development Plan

Strategy 3: Community Facilities Infrastructure Master Plan

Strategy 4: Community Greenspace Infrastructure Master Plan

Strategy 5: Earthworks Infrastructure Master
Plan

Strategy 6: Employment and Economic
Overarching Site Strategy

Strategy 7: Energy Services Infrastructure
Master Plan

Strategy 8: Housing Affordability Infrastructure
Master Plan

Strategy 9: ICT Strategy & Master Plan

Strategy 10: Overarching Site Resource Strategy

Strategy 11: Water & Wastewater Infrastructure Master Plan

Strategy 12: Total Water Cycle Management Infrastructure Master Plan

Strategy 13: Movement Network Infrastructure
Master Plan

Strategy 14: Fauna Corridor Infrastructure Master
Plan & Natural Environment
Overarching Site Strategy

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.

The successful establishment of community and social housing relies on tenants' easy access to community services, employment and other goods and services. As such, the establishment of these forms of residential housing are best focused in closer proximity to the future town centre or at least once the full ranges of services are available in the District Centre. Early engagement with the Department of Social Housing and Public Works has also indicated that due to an undersupply of 1 and 2 bedroom stock, securing housing of a medium density is a priority. This density is also best delivered in proximity to the town centre.

Within the time horizon for Precinct 3, between 2017 and 2019, the key focus areas to advance the OSS within Yarrabilba will include:

- **Community & Social Housing**
- **Accessible Housing**



COMMUNITY & SOCIAL HOUSING

- **Identification** of potential Community Housing and Social Housing partners – This work has already been initiated, with the Department of Social Housing and Public Works providing high level feedback on the current shortage of 1 and 2 bedroom stock. DHPW also directed Lendlease to engage with Logan City Community Housing (LCCH) as the provider for social housing within the Logan LGA. Further to this, Social Traders, a business that works with social enterprises, has identified Brisbane Housing Company and Horizon Housing as possible partners.
- **Engagement** with potential Community and Social Housing partners (potentially through a workshop) to determine the community's needs and to understand the business needs of our partners and identification of any early requirements that may be incorporated in subsequent MCU/ROL applications in Precinct 3 if there is any specific requirements.
- **Develop** a first right of refusal strategy for Community and Social Housing partners.
- **Report** to EDQ with the last application in Precinct 3 outcomes of engagement during the precinct 3 horizon.

ACCESSIBLE HOUSING

- **Engagement** with specialist accessible housing providers/developers to investigate the delivery of accessible housing.
- **Engagement** with our existing builders to **encourage** accessible housing product to be included in their portfolios, and that this housing complies with the accessible housing components of the *Livable Housing Design Guidelines*, including whether there is an opportunity for an accessible house within a future display village.
Communicate accessible housing options at Yarrabilba through including details of/ links to accessible housing options on the Lendlease Yarrabilba website by end of 2016.
- **Identification** of lots 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. (ie. a plan indicating flat and sloping lots).
- **Preparation** of a guide detailing accessible housing product options available through Lendlease's partner builders. The guide is to be prepared and available through the sales and information centre within 12 months of the first ROL approval being issued for Precinct 3.
- **Report** to EDQ with the last application in Precinct 3 outcomes of engagement during the precinct 3 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 3, between 2017 and 2019, the key focus areas to advance the OSS and community development within Yarrabilba will include:

- Supporting **community connections** through:
 - Providing support to the Yarrabilba Community Association, currently being formalised by residents
 - Ongoing communication with the community in relation to services, events and facilities in Yarrabilba (including the ongoing provision of Lendlease organised and funded activities)
 - Working with DET and government to ensure delivery of the state primary school
 - Delivery of the permanent community facilities in partnership with Logan City Council within the Shaw Street ovals
 - Collaboration with Council to ensure activation of new community facilities land to be delivered in Precinct 3
 - Program to connect community to new assets
- Supporting the development of new **sporting and recreational facilities** through:
 - Working with Council and sporting clubs to provide clubhouses and ancillary facilities and establish organised sporting activities within the major sports parks being delivered in P2/ P3
 - Working with Qld Parks & Wildlife Service(QPWS) and the community to connect development with 16km trail network within the Plunkett Conservation Reserve adjoining P3
 - Working with Council on the facilities to be provided in the major sporting facility site in P3
- Supporting the development of new **educational and community services** through:
 - Working with DET on integrated hub concept for state secondary school site in Precinct 3
 - Working to find a suitable entity to purchase and develop the private secondary school site

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, and to work with infrastructure providers to ensure that the facilities provided are fit for purpose and delivered within an appropriate timeframe.

It is noted that discussions with Logan City Council are currently occurring as to whether any early provision of community facilities is beneficial in the Precinct. At a minimum the required infrastructure will be provided.

Table 1: Community Facilities: Key Infrastructure

Community Infrastructure	Required in Precinct 3	Planned ahead of schedule in Precinct 3*	Already provided in Precincts 1 and 2
Neighbourhood Meeting Room (0.075ha)	2 sites (trigger 3000 and 3520 residential lots)	N/A	2 sites (co-located) in Shaw St Oval
Local Community Centre/ Hub (0.5ha)	1 site (trigger 3000 residential lot)	N/A	N/A
District Community Centre (1ha)	N/A	1 site proposed to provide early provision (trigger 6000 residential lots)	N/A
Major Civic Centre/Hub (1.5ha)	N/A	N/A	N/A
Major Sporting Facility (1.8ha or 2 x 0.9ha)	N/A	1 x 0.9ha (trigger both sites provided by 9000 residential lots)	N/A
State Primary School (7ha)	N/A	N/A	Site 1 provided in Precinct 2
State Secondary School (12ha)	N/A	1 site proposed to provide early provision (trigger 7000 residential lots)	N/A
Ambulance (0.5ha)	N/A	N/A	N/A
Fire and Rescue (0.6ha)	N/A	N/A	N/A
District Police (0.6ha)	N/A	N/A	N/A
Community Health Centre Hub (3.2ha)	N/A	N/A	N/A

It is noted that a subdivision application with associated plan of development for the block containing the community facilities will be lodged after the Village 3a ROL application (once discussions with Logan City Council have concluded).

Infrastructure shall be delivered in accordance with:

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

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.



Darlington Parklands

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

The Major Sports Park located across the P2/ P3 boundary will provide a major regional destination for organised sporting activities. During the development of Precinct 3 it will be important to work with Council and sporting clubs to provide clubhouses and ancillary facilities and establish organised sporting activities in a timely manner within the major sports parks being delivered in P2/ P3.

Precinct 3 includes environmental values protected under the EPBC Act referral approval that should be protected within open space provided on the site.

There are environmental protection areas in Precinct 3 that will need to be retained and protected. These areas are intended to be transferred to QPWS to become part of the Plunkett Conservation Reserve. Continued engagement with QPWS should occur to ensure that the network of trails being established within the Plunkett Conservation Reserve integrate with the adjoining open space network and are accessible to the Yarrabilba community.

Key Infrastructure to be provided:

Infrastructure to be provided in Precinct 3 is detailed below based on the categories of park required in the IMP.

Table 2: Community Greenspace: Key Infrastructure

Park type	Precinct 3 requirements (232 ha - assuming 950 lots, and 2565 persons)			Park provision from Precincts 1 and 2
Local Recreation Park	Required	0.1ha/ 1000 person (min park size 500m ²)	0.2565ha*	1708m ² above minimum provision
Neighbourhood Recreation Park	Required	0.5ha/ 1000 persons (min park size 5,000m ²)	1.28ha*	517m ² below minimum provision
Local and Major linear	Required to coincide with waterways and fauna corridors	Local 0.7ha/1000 persons Major 0.5ha/1000 persons	Local – 1.8ha* Major – 1.28ha*	15.9ha above minimum provision 16.6ha above minimum provision
District Recreation Park	Not required			Minimum 7.5ha creditable area to be provided – final figure subject to flood level in park
Major Recreation Park	Not required			n/a
District Sports Park	Not required			Exact amount provided
Major Sports Park	Required	15ha (minimum to be provided)	8ha (7.05ha provided in Precinct 2)	Part provided in P2
Overall Recreation Park requirements	Required	2.8ha/ 1000 persons	7.18ha	17.7ha above minimum provision
Overall Sporting Park requirements	Required	1.8ha/1000 persons	4.62ha	3.6ha below minimum provision (noted that this is quickly resolved by the provision of the balance of the major sports park in P3 that will put this back in surplus as more than 8ha is provided in the first stage of Precinct 3)

*Required amounts do not take into account surplus parkland provided in Precincts 1 and 2. The overall amount of park in P3 can be reduced by these surplus amounts provided relevant standards are met.

STRATEGY 5:

EARTHWORKS INFRASTRUCTURE MASTERPLAN

Strategy

Precinct 3 shall comply with the requirements of the Earthworks Infrastructure Master Plan.

Key actions relevant for Precinct 3 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 3 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



Earthworks in Precinct 2

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 3, between 2017 and 2019, the high priority areas to advance the employment and economic development within Yarrabilba will include:

- **Attracting investment and employment by:**

- Early studies and planning for the MIBA and major centre to:
 - Understand market opportunities
 - Identify anchor tenants and key business signatures
 - Identify target businesses and mix of uses
 - Early planning and design

- **Enabling infrastructure:**

- Promotion of 'The Workshop' – a construction industry training, skills and employment facility to be initially located at the Shaw Street oval land.
- Delivery of the permanent community facilities in partnership with Logan City Council within the Shaw Street ovals land.
- Collaboration with Council to ensure activation of new community facilities land to be delivered in Precinct 3 and inclusion of business incubation activities within these facilities

- **Growing local business:**

- Focus on gaining full commitment and development within District Centre 1
- Working to find commitments for convenience centre in P3, child care in P3 and private high school in P2

- **Business connectedness:**

- Continue to facilitate the Yarrabilba Economic Development Committee
- Share local business opportunities and initiatives with surrounding industry associations such as the Logan Country Chamber of Commerce
- Engage with the local business community through facilitated events

- **Place creation and amenity:**

- Continued creation of new residential development and ensuring a variety of housing types to support non-residential uses.
- Providing POD provisions for non-residential uses to promote high quality design outcomes.

- **Economic flexibility:**

- Providing flexibility in the range of uses on non-residential land in P3 for sporting, community uses and retail uses to ensure these meet the current and likely future market requirements and provide for growth.

- **Governance, monitoring and resourcing:**

- Continuing to provide resources to implement and monitor the objectives of the Economic and Employment Strategy

STRATEGY 7:

ENERGY SERVICES INFRASTRUCTURE MASTERPLAN

Strategy

To develop Precinct 3 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 3, between 2017 and 2019, the key actions are to:

- Work with Energex and Powerlink to confirm any land requirements for sub-stations prior to any ROL application in Precinct 3d being lodged;
- Continue implementation of reticulated electricity and natural gas throughout Precinct 3.
- Work with CSIRO to implement the Virtual Power Station 2 trial at Yarrabilba including demonstration equipment and information at the Precinct 2 Sales Office facility; and
- Continue to investigate and promote opportunities to increase the community's access to innovative energy solutions such as renewable energy sources and small scale storage.



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

	<i>Band 1 lower</i>	<i>Band 1 Upper</i>	<i>Band 2 lower</i>	<i>Band 2 Upper</i>	<i>Band 3 lower</i>	<i>Band 3 Upper</i>
Annual Income (2011) - from IMP	\$46,000	\$60,000	\$65,000	\$80,000	\$85,000	\$108,000
Average Household Income p.a. (2016)	\$50,278	\$65,580	\$71,045	\$87,440	\$92,905	\$118,043
Mortgage Repayments - % of income	35%	35%	35%	35%	35%	35%
Deposit/Equity %	5%	5%	5%	5%	5%	5%
Buying Capacity	\$264,462	\$342,820	\$370,805	\$454,760	\$482,745	\$611,476
IMP Requirement for % of total homes	5%		10%		10%	

Examples of different housing product (current as of March 2016) which meet the relevant bands are shown in Table 2 below, alongside the minimum requirement of product to be provided in Precinct 3.

Table 2: Typical Housing Product and minimum % makeup for homes in Precinct 3

<i>Band</i>	<i>Typical Housing Product</i>	<i>Cost (House and Land)*</i>	<i>Minimum requirement for total homes to be provided in Precinct 3 based on predicted yield of 950 lots</i>
Band 1 (\$264,462 - \$342,820)	Villa, Town Cottage, Town Villa, Terrace, MFF, MFS, Smart Lots	\$290,990 - \$340,500	5% (48 homes)
Band 2 (\$370,805 - \$454,760)	Premium Villa, Courtyard (14m)	\$394,200 - \$449,800	10% (95 homes)
Band 3 (\$482,745 - \$611,476)	Land – 400- 448m ² Traditional, Courtyard (15m wide) Land – 480m ² +	\$469,950 +	10% (95 homes)

**Note: these costs are indicative only, current as of March 2016, and subject to fluctuation.*

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 Precinct 3, 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 progressing development of the Yarrabilba development from an Communication Technology perspective at a regional level. The strategy focusses on technology cycles and the use of ICT services, systems and functions across the development.

To ensure the development is meeting community and regional expectations, as well as keeping up with changing technology and market-changing projects, the document has been established using the below core attributes:

- Focussing 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.

Based on the above attributes and principles intermediate and future tasks have been identified to ensure that Yarrabilba is a complete and connected community by 2019. For P3 the below tasks are applicable:

- Intermediate tasks
 - Continuation of FTTP network rollout;

- Facilitate improvements to mobile phone coverage to meet community growth;
- WI-FI deployment process;
- Partnership and stakeholder relationships;
- Data hub business case

- Future tasks
 - Data hub – delivery and investment model
 - Increase carriage services to Yarrabilba.
- 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 3 to ensure that the project achieves planned sustainable development outcomes.

Within the time horizon for Precinct 3, between 2017 and 2019, the high priority areas to advance sustainable development outcomes within Yarrabilba will be:

- Achieve accreditation of the project as a minimum 6 Star Greenstar community status under the Green Building Council Australia rating system;
- Maintain, and expand where practical, the adopted strategies for use and re-use of site materials to minimise the importation of externally sourced construction materials;
- Working with builder partners to improve the sustainability performance of new dwelling construction; and
- Implement outcomes of travel demand survey to identify opportunities for sustainable transport and integration within P3 layout promoting active and public transport options.

STRATEGY 11:

WATER & WASTEWATER

SEWER (WASTEWATER)

Strategy

Servicing the proposed Precinct 3 development will be initially based on the internal layout outlined in the “Yarrabilba – Infrastructure Master Plan”. Sewage from the development will be collected at the existing pumping station PS2 and an interim pumping station located next to the site of future regional pumping station P3. These pumping stations will transfer flows to pumping station PS1 and then to Loganholme WWTP via the Logan Village pumping station before 2021. Recently EDQ, in conjunction with LCC and developer stakeholders, has developed a revised sewerage strategy for the Yarrabilba and Park Ridge areas. Based on the strategy outlined in the report “Logan South Wastewater Servicing Strategy” dated 27 May 2016, the provision of a wet weather storage facility located at pumping station PS1 will ensure the existing LCC sewerage network is capable to transfer or contain the sewage from the Yarrabilba Precincts 1 and 2 and initial stages of Precinct 3 development before 2021. A new regional sewage treatment plant located to the west of Logan Village will be constructed and operate in 2021 and ultimately all the Yarrabilba sewage will be transferred through the existing pumping station PS1 and future regional pumping station PS3 to the new regional sewage treatment plant. A change to the IMP will be required once the external sewerage strategies is finalised and adopted by LCC.

Key Issue

Provision of sewerage services to Precinct 3 will require the confirmation and finalisation of the interim and long term revised regional sewerage strategies. By providing the PS1 wet weather storage facility entire Precinct 3 can be served by the existing LCC network until new regional sewage treatment plant operates in 2021. When the timing for the

construction of regional sewage treatment plant is delayed in future, expanding the wet weather storages at PS1 and potentially PS3 sites is a feasible interim solution. Implementation of the revised regional strategy is required within the next year, to provide sufficient lead time to efficiently deliver a new WWTP and to provide certainty to the development.

Approach to Services for Precinct 3

One Precinct Network Plans (PNP) will be required for Precinct 3. The PNP will include both interim and ultimate solutions in accordance with the revised regional strategy agreed by both EDQ and LCC. The PNP's are the detailed planning documents that identify all trunk infrastructure to service the proposed Precinct internal and external to the site. The PNP shall include plans of all the infrastructure required, including layout, pipe sizes, conceptual design of the new pump station, vertical alignment of controlling sewer, and conceptual design of interim servicing infrastructure required to address development staging and odour/corrosion control. The PNP shall be 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 02-2002 Sewerage Code of Australia (Second Edition, 2002)
- WSA 04-2005 Sewerage Pump Station Code of Australia (Second Edition, Version 2.1, 2005)

Timing

The PMP is required to be provided prior to the approval of the first ROL application in Precinct 3.

The updated IMP is required to be endorsed prior to the sealing application for the first lot in Precinct 3.

WATER SUPPLY

Strategy

Servicing the proposed Precinct 3 development will be essentially based on extending the system developed to service Precincts 1 and 2 and outlined in the “Yarrabilba Precincts 1 and 2 Water Supply and Sewerage Networks Planning Report (Revision)” dated June 2015. The area will be served from the Travers Road service reservoirs.

There is however unresolved issues relating to the external water supply system upstream Travis road reservoirs. A new connection from the Southern Region Water Pipeline (SRWP) to the Travis Road reservoirs then further connecting to the Beaudesert Water Supply is being investigated by Seqwater to determine a best for region supply approach for Yarrabilba and LCC. Without this bulk water connection to SRWP, LCC has proposed the construction of a new 13 ML reservoir and 1.8 km 600 mm diameter Camp Cable Road trunk main (between Travis Road reservoir and Yarrabilba development) as an interim solution for entire Precinct 3 development until the SRWP connection is delivered in 2021 (subject to be confirm by Seqwater). A change to the IMP will be required once the interim and ultimate solutions are agreed with external stakeholders, including Seqwater and LCC.

Key Issue

Limited capacity exists to provide water supply services to Precinct 3 without the implementation of interim or ultimate solutions. The delivery of interim solution by LCC is necessary next year (to be confirmed by LCC) when Seqwater confirms the SRWP connection to the Travis Road will not be constructed before 2021.

Approach to Services for Precinct 3

One Precinct Network Plans (PNP) will be required for Precinct 3. The PNP will include both interim and ultimate solutions in accordance with the agreed regional service strategy between Seqwater, LCC and EDQ. The PNP is the detailed planning documents that identify all trunk

infrastructure to service the proposed Precinct internal and external to the site. The PNP shall include plans of all of the infrastructure required, including layout, pipe sizes, layout of district metering areas and conceptual design of any temporary servicing infrastructure required to address development staging and water quality. The PNP shall be supported by an “all-pipe” network analysis that 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 Standards of Service - Water
- WSA 03-2002 Water Supply Code of Australia (Second Edition, 2002)

Timing

The PMP is required to be provided prior to the approval of the first ROL application in Precinct 3.

The updated IMP is required to be endorsed prior to the sealing application for the first lot in Precinct 3.

STRATEGY 12:

TOTAL WATER CYCLE MANAGEMENT

Strategy

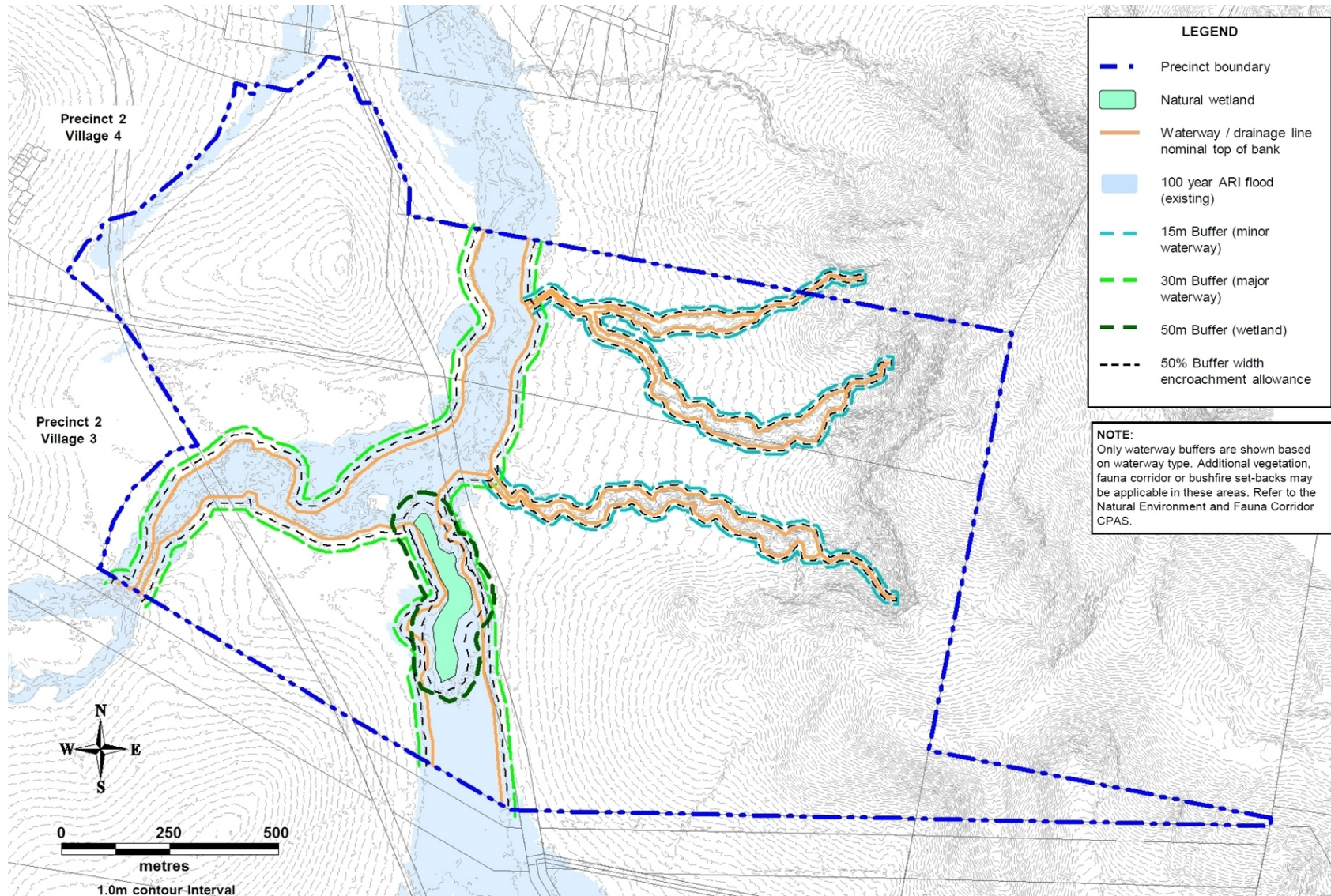
The *Total Water Cycle Management Strategy* (TWCMS)(DesignFlow, 2012) provides an overarching strategy that combines the individual Infrastructure Master Plans (IMP) and site assessments covering stormwater, flooding, waterways, groundwater and water supply/wastewater.

While separated for the purpose of strategy discussion below, the management of and infrastructure for these water cycle elements can be integrated to achieve a range of beneficial outcomes. 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.

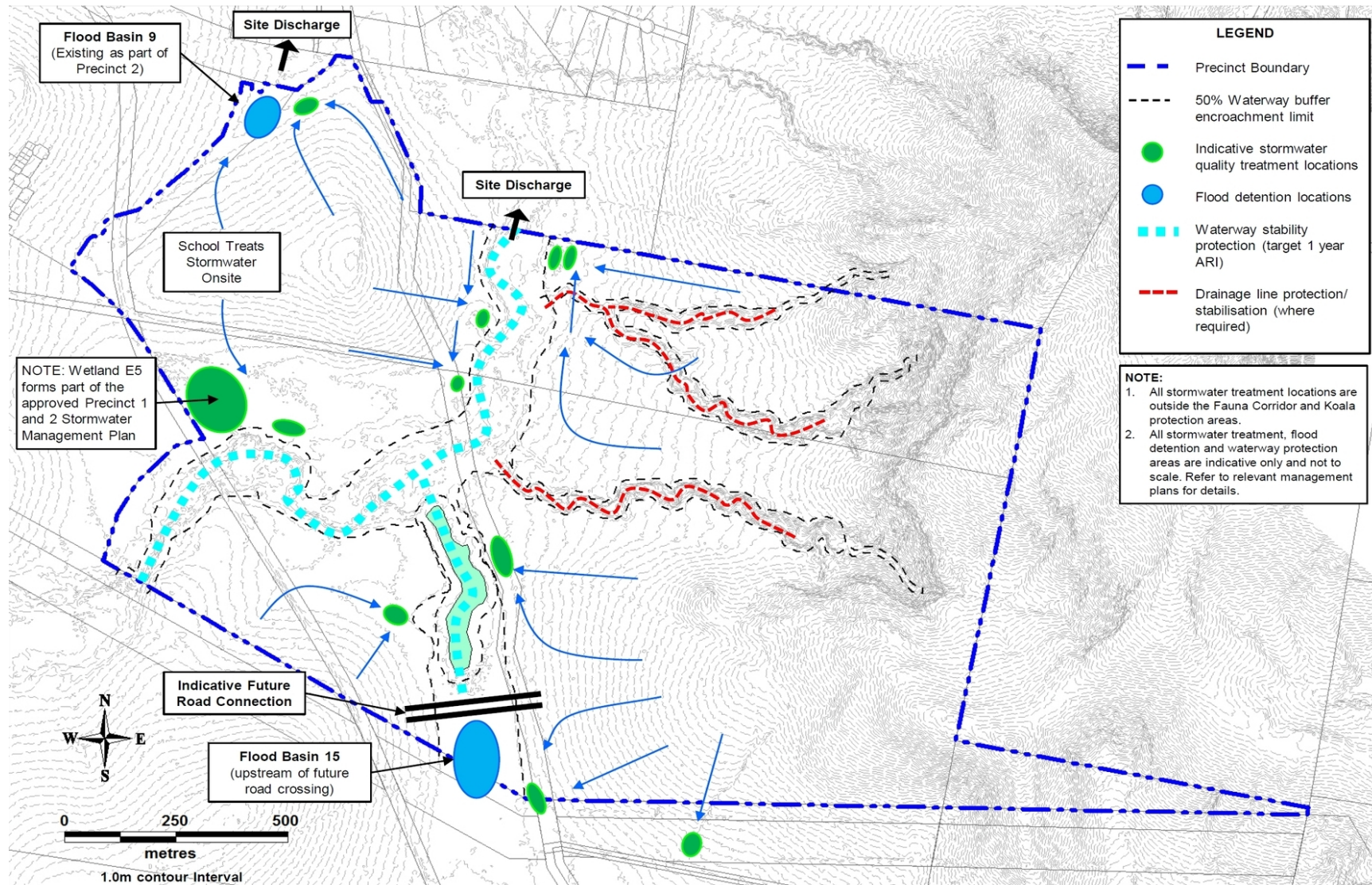
The Precinct 3 strategy details relating to each of the intermittent water cycle elements (stormwater, flooding, waterways and groundwater) are provided below with site constraints presented in **Figure 1** and indicative infrastructure locations and management zones identified in **Figure 2**. The constant urban water cycle elements of water supply and wastewater are discussed briefly for completeness within the TWCM strategy. Reference should be made to the 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.



DesignFlow Figure 1: Precinct 3 flooding, stormwater and waterway constraints plan



DesignFlow Figure 2: Precinct 3 flooding, stormwater and waterway stability management strategies



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, 2012) and summarised below:

- Achieve best practice pollutant load reductions for key stormwater pollutants
- Minimise impacts on waterway stability by controlling 1 year ARI (63% AEP) discharge at key locations

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.

Key Infrastructure

Stormwater management infrastructure (and strategies) associated with Precinct 3 are shown in **Figure 2** and include:

- Bioretention basins (generally end of pipe) or constructed wetlands/ephemeral wetlands for water quality and minor flow attenuation
- Flood Basins 9 and 15 (See flooding section) for minor flow 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 infrastructure 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 CPAS 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-developed hydrological conditions.

Supply of harvested stormwater from Precinct 1 and 2 is currently under detailed investigation and design, with the treatment wetland and holding pond already constructed as part of the Precinct 1 and 2 stormwater management strategy. The stormwater harvesting and reuse strategy aims to supply the Precinct 2 and 3 sports fields with up to 22 NL of water per year for irrigation.

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 quality management plan is required as part of the first development application to demonstrate that stormwater quality and minor flows can be managed onsite to achieve the pollutant load reduction and flow management objectives. This management plan will link with the flooding (stormwater quantity) and waterway stability management plans.

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, 2012) 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 pre-development 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 3 is shown in **Figure 2** previously and includes:

- Existing Flood Basin 9 (implemented as part of Precinct 2)
- Proposed Flood Basin 15

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) or dedicated bunds 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.

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

A stormwater quantity management plan (flood study) is required as part of the first development application to demonstrate that flooding can be managed onsite to achieve the “no worsening” criteria at the site boundary and downstream in Quinzeh Creek and to define flood levels within Precinct 3.



WATERWAYS

Strategy

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 attenuation 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 4.4 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2012) as shown in Figure 1. 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 the *Natural Environment Overarching Site Strategy and Fauna Corridor Master Plan CPAS* identifies greater setback requirements for vegetation fauna corridors or bushfire, these will override the minimum riparian buffer widths stated above. Conversely, where riparian buffer allowances are not constrained by other setbacks and are degraded, it may be practical to co-locate low impact uses such as vegetated stormwater treatment infrastructure or passive recreational infrastructure partly within the buffer in conjunction with rehabilitation. **Figure 3** outlines the permissible uses within the defined waterway and wetland buffer widths.

For waterways or drainage lines that are degraded, rehabilitation through stabilisation works and/or revegetation to suit post development hydrology and use (e.g. flood detention or treatment) is proposed. The *Yarrabilba General Waterway Condition Assessment* (DesignFlow, 2013) provides broad assessment of the Precinct 3 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:

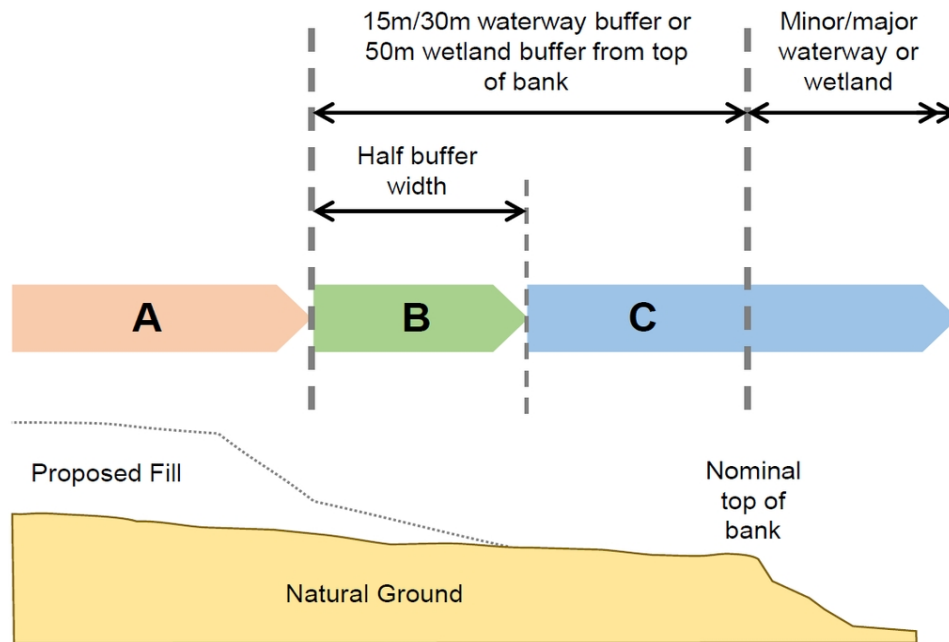
- Environmental Values and Sustainable Resource Use – EDQ Guideline No. 14
- Park Planning and Design – EDQ PDA Guideline No. 12
- Development Interfaces – EDQ PDA Guideline No. 18

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 and 2 experiences, 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, 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 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).

DesignFlow Figure 3: Waterway buffer restricted use allowances



Where a more conservative setback to earthworks or infrastructure is required for vegetation, fauna corridor or bushfire buffers, these will override the minimum buffers identified here for waterway riparian corridors. Refer to Strategy 14 for details.

Note: Buffers and permissible uses apply to land disturbing activities. Design must therefore allow for constructability to ensure encroachment/ disturbance beyond allowable zones does not occur during construction.

Permissible Uses within Waterway or Wetland Buffers:

Zone A

No restrictions to development or infrastructure from waterway/ wetland riparian buffers

Zone B

Permitted:

- Vegetated stormwater treatment systems with batters 1:4 max.
- Development batters 1:10 max. (vegetated)
- Pathways
- Zone C allowances (see below)

Not Permitted:

- Building allotments
- Road reserve (other than for waterway crossings)
- Retaining walls
- Scheduled maintenance areas of stormwater treatment systems (e.g. forebays)

Zone C

Permitted :

- Stormwater outlets/headwalls
- Waterway stabilisation works
- Riparian rehabilitation planting
- Road/water/sewer/flood bund/pathway crossings of waterway

Not Permitted:

- All other general development earthworks and infrastructure

GROUNDWATER

Strategy

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

Groundwater quality protection relies primarily on the stormwater management infrastructure to achieve the desired outcomes and reference can be made to the Stormwater section discussed previously.

As Precinct 3 is located at the bottom of the broader site catchment, there will be greater emphasis on groundwater management in future Precincts further up the catchment which feed the lower waterways and wetlands. However, key infrastructure within Precinct 3 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. The engineering design will also consider the structural impacts of seasonally wet sub-surface foundations.

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

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 MASTER PLAN

Previous Work/Reporting

Cardno has been working with Lendlease for close to five years assisting with the development of the appropriate traffic and transport plans for the Yarrabilba development. The latter has been reported in the following documents:

- Yarrabilba Masterplan – Micro-Simulation Modelling – Transport Assessment Report (Cardno, August 2012)
- Yarrabilba Precinct 2 – Integrated Transport Assessment Report (Cardno, November 2013)
- Yarrabilba Masterplan – Micro-simulation Modelling – Revised Land Use and Road Network (Cardno, 4 November 2013)
- Yarrabilba Amended Movement Infrastructure Master Plan (Cardno, February 2014)
- Yarrabilba Precinct 2 – Yarrabilba Drive Intersection Configurations (Cardno, 11 March 2014)
- Yarrabilba Movement Infrastructure Master Plan (Cardno, 20 May 2015)
- Yarrabilba Movement Infrastructure Master Plan (Cardno, 8 October 2015) – amended and endorsed by Economic Development Queensland (EDQ) on 11 November 2015.
- The movement Infrastructure Master Plan includes the Yarrabilba Public Transport Servicing Strategy (MRCagney, 7 August 2012)

Development Yield/Road Network

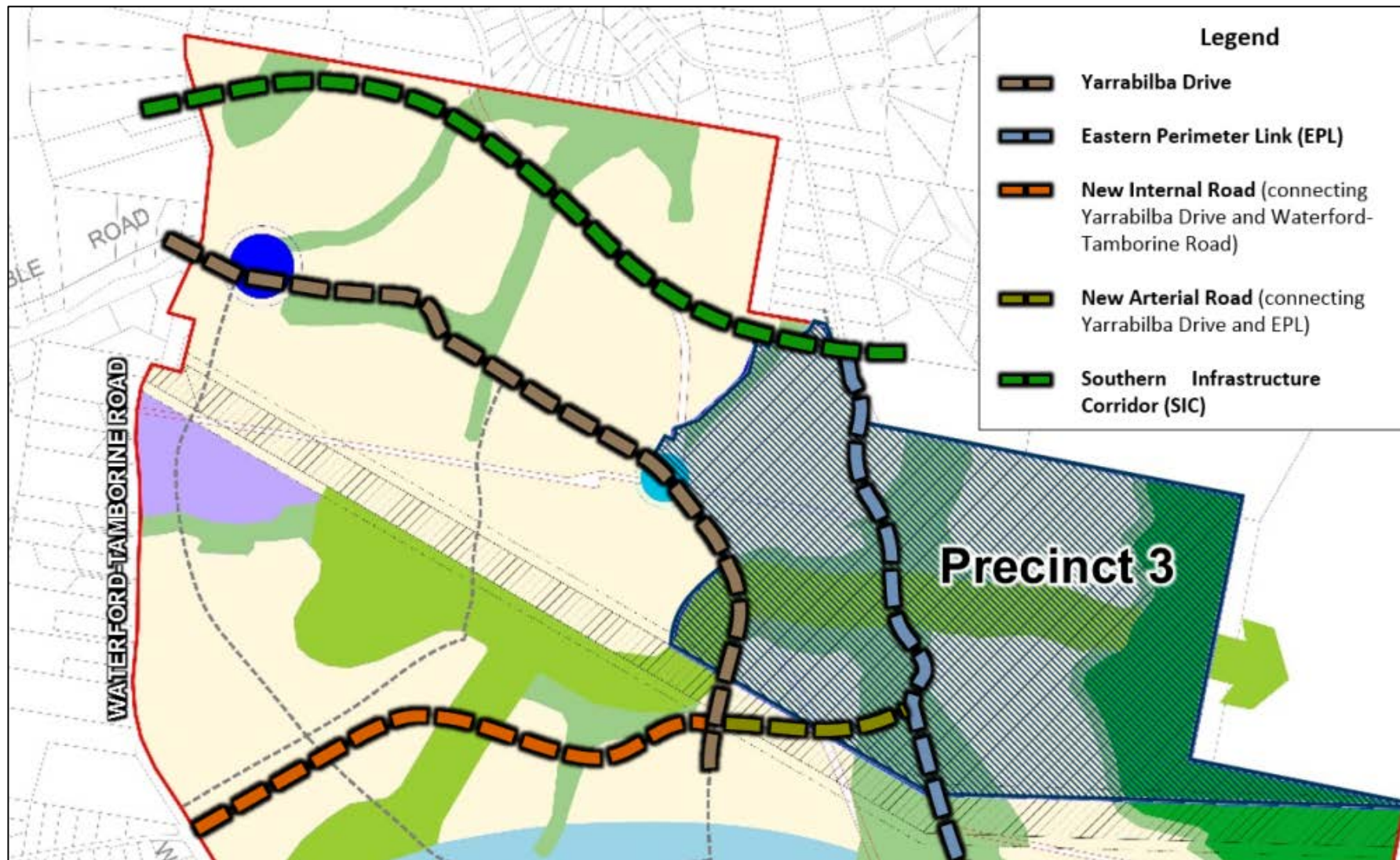
The proposed development yield has not yet been determined but based on planning to date it will represent the following within Precinct 3:

- Approximately 950 dwellings
- A state high school
- A major sports park (eg. touch football fields, rugby fields, AFL fields and/or cricket fields)
- Minor community and retail uses.

The development yield is generally consistent with that which has been included in the traffic modelling undertaken for Yarrabilba. As such, the traffic volumes to be generated by Precinct 3 are expected to be consistent with what has been modelled to date.

The proposed road network (major road network and key collector street connections), as currently proposed, is generally consistent with that identified in the Movement Infrastructure Master Plan (IMP) and included within the traffic model.

Cardno Figure 1: Major Road network



The road network to be delivered as part of Precinct 3 will include the following:

- Land dedication for the Southern Infrastructure Corridor (SIC) in the north west corner Precinct
- Extension of Yarrabilba Drive (arterial road) south-east through Precinct 3 and across the existing power line easement.
- A new arterial road (referred to herein as the Eastern Perimeter Link Road) from Yarrabilba Drive North to provide for a future connection to the SIC
- Internal road connections between Yarrabilba Drive and a second major (signalised) intersection on Waterford-Tamborine Road at Dollarbird Drive (subject to further analysis – see below).

Further traffic analysis needs to be undertaken to confirm the timing and needs for either:

- A second (new) intersection between Waterford-Tamborine Road and Yarrabilba (eg. at Dollarbird Drive / Waterford-Tamborine Road); and/or
- Upgrading of the Yarrabilba Drive/Waterford-Tamborine Road/Camp Cable Road intersection.

This further analysis will need to determine if such works are triggered by Precinct 3 and, if so, at what stage. This analysis will be completed as part of the first development application for Precinct 3, and will also determine any other road upgrades triggered by Precinct 3 traffic.

Road Hierarchy/Cross Sections

The proposed road hierarchy for Precinct 3 is generally consistent with the hierarchy as outlined in the Movement Infrastructure Master Plan (IMP), Figure 5-1. It is noted that particular consideration has been given to the proposed Arterial Road connection between Yarrabilba Drive (Town Centre North South Road) and the Eastern Perimeter Link Road. The purpose and function of the proposed new Arterial Road connection is anticipated to change between the interim and ultimate design years.

The Eastern Perimeter Link Road is planned to ultimately provide a connection to the future Southern Infrastructure Corridor (SIC), although the timeframe for achieving the SIC is unknown. The alignment of the proposed Arterial Road connection, as referenced above, is constrained by the adjacent open space/vegetation corridors. In addition, the alignment is such that it will be impacted by overhead power lines. For these reasons, the form of the Arterial Road connection will be considered throughout further planning for Precinct 3. The subject road connection will be provided, at least in the interim, in order to provide an efficient access route between Precinct 3B / Precinct 3C and Yarrabilba Drive.

The roads are to be designed to generally comply with the cross sections provided in the Movement Infrastructure Master Plan (IMP), Appendix C – Cross Sections.

Public Transport

The bus route planning for Precinct 3 is yet to be undertaken, however preliminary planning indicates that bus routes as identified within the Movement Infrastructure Master Plan (IMP), Figures 5-3 to 5-5 will be appropriate for and consistent with Precinct 3.

Consideration of the bus routes needs to recognise the limitations and timing of connections to/from Steele Road, in order to provide bus connections with the existing Logan Village community.

Additional local bus routes and bus stops will be provided such that 90%

of all dwellings will be within 400 metres of a public transport service as per the Movement Infrastructure Master Plan (IMP), Section 5.2 – Public Transport Strategy. Traffic reports submitted as part of the individual development applications will address this design requirement. The current bus route along Yarrabilba Drive will be extended and connected to the Eastern Perimeter Link Road. Future bus routes will also be provided to connect the northern side of Precinct 3.

The bus network, bus stops and bus services to be identified in Precinct 3 will ensure compliance with the recommended bus service provision strategy as documented in the *Yarrabilba Public Transport Servicing Strategy*.

Active Transport

Detailed planning of the active transport network is yet to be finalised but the proposed network will need to be consistent with the Movement Infrastructure Master Plan (IMP), Figure 5-6.

Principal cycle routes will run alongside the higher order road network, and are to be continued along Yarrabilba Drive as per the Movement Infrastructure Master Plan (IMP), Section 5.3.6.4 – Principal Cycle Routes. These routes will connect Yarrabilba to the Jimboomba, Logan Village and (planned) Flagstone communities.

Local active transport routes are to be provided along the major roads as per the Movement Infrastructure Master Plan (IMP), Section 5.3.6.2 – Local Active Transport Routes. These routes will encourage local trips to be made via walking and cycling, and will be designed for riders including children and less confident cyclists, by using off road shared paths where possible.

STRATEGY 14:

FAUNA CORRIDOR INFRASTRUCTURE MASTER PLAN & NATURAL ENVIRONMENT OVERARCHING SITE STRATEGY

Overview

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 3 strategies pertaining to each of these key components are discussed separately below and constraints are identified in Figure 1. Also detailed below are a number of assessments/reports to be completed for Precinct 3 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 3 CPAS. The setbacks and buffers applicable to the Precinct 3 area are summarised in the following text and presented graphically in the subsequent five figures.

Figure 2: Wetlands/waterway buffers (section 4.4 of the *Stormwater Infrastructure Master Plan* (DesignFlow, 2012):

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

Figure 3: 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

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

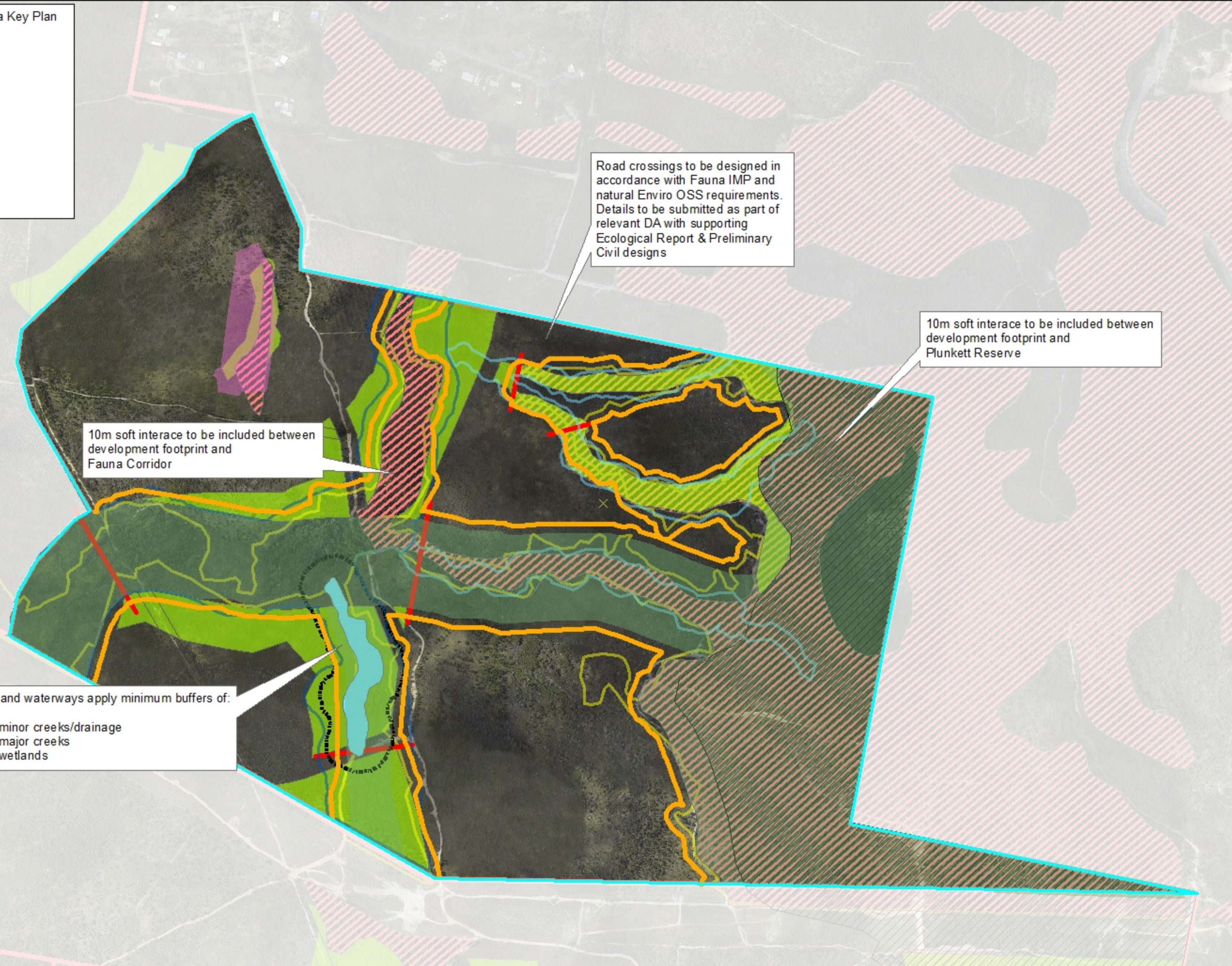
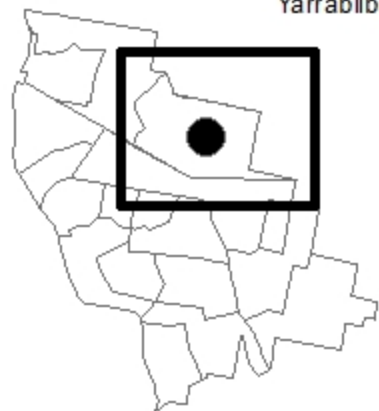
Figure 4: Retained Regional Ecosystem (RE) vegetation and other retained vegetation construction setbacks:

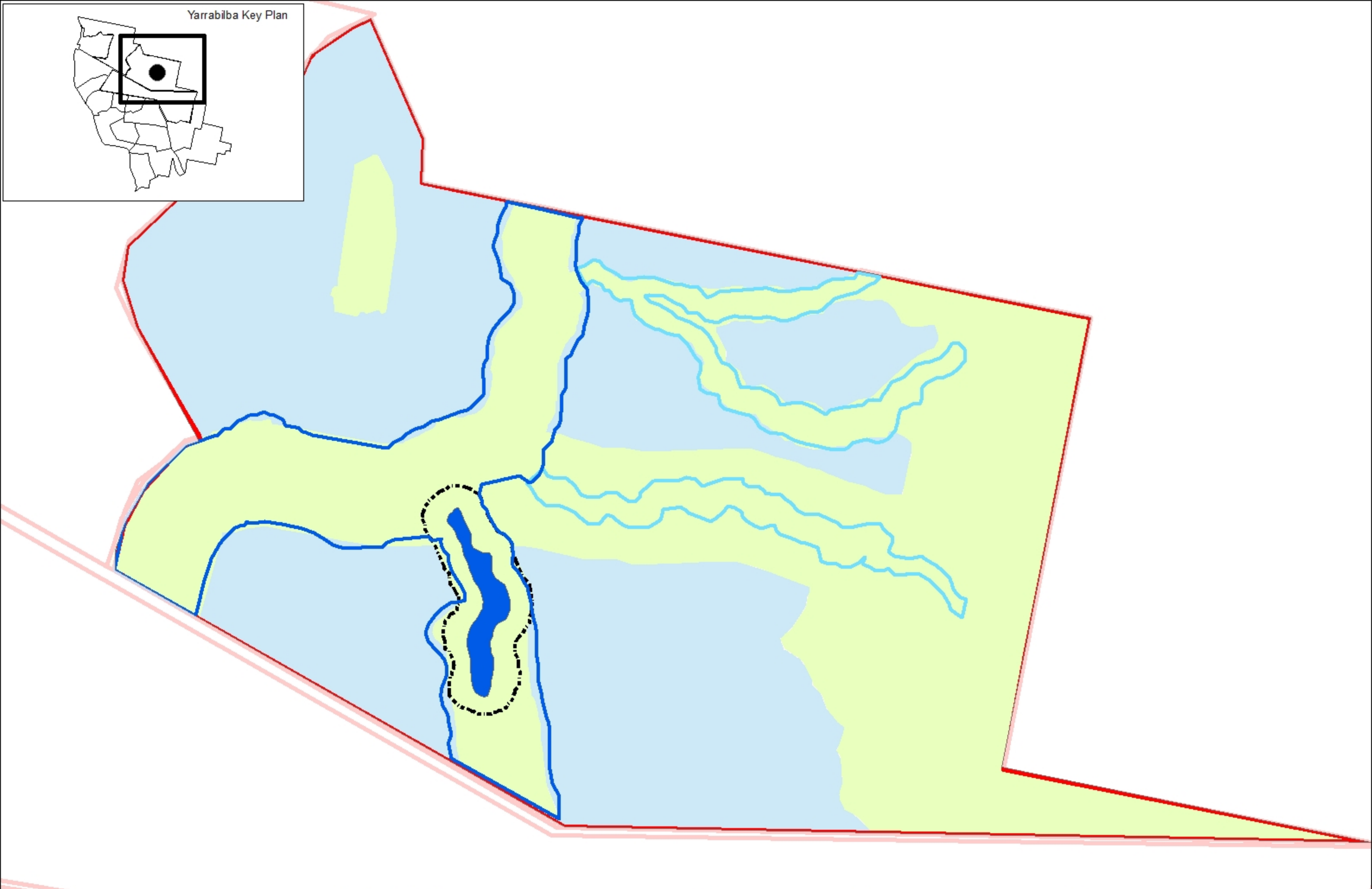
- 10 m construction setback to mitigate damage to retained tree root shields
- Exceptions occur in instances such as parks where retained vegetation is incorporated with recreational areas or where other park infrastructure is approved. In these cases, tree protection zones (TPZs) are calculated for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

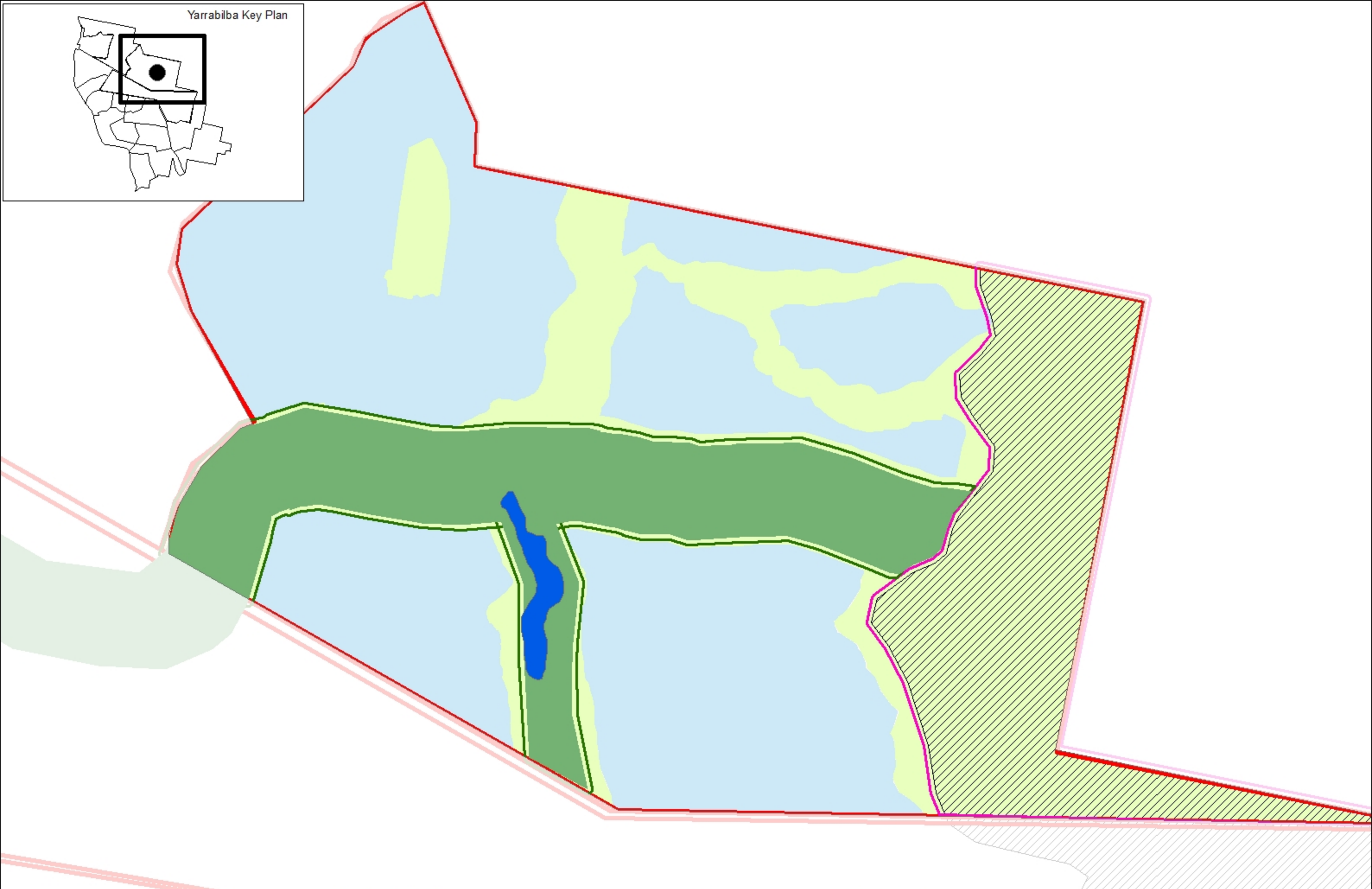
Figure 5: Bushfire setbacks (identified through expert advice from the Bushfire Management Consultant):

- 20 m to areas of bushland wider than 100 m (i.e. Fauna corridors)
- 13 m to greenspace corridors in the north-east of Precinct 3
- 11 m to the corridor separation between Precincts 2 and 3
- 10 m to vegetation retained within park adjacent to the proposed state school site

These setbacks are presented collectively in Figure 1 and have been used to map the extent of developable area (Figure 6).

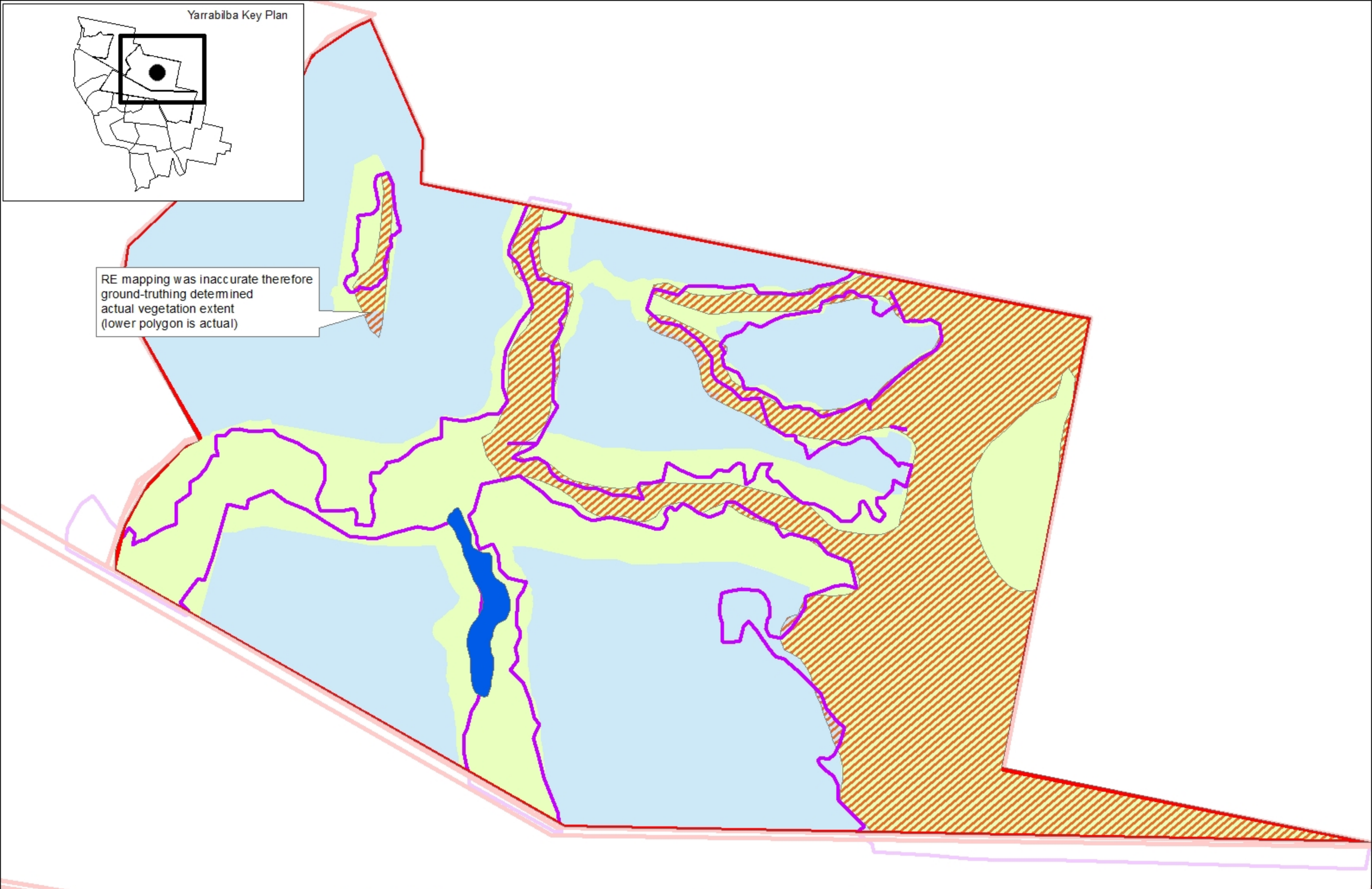


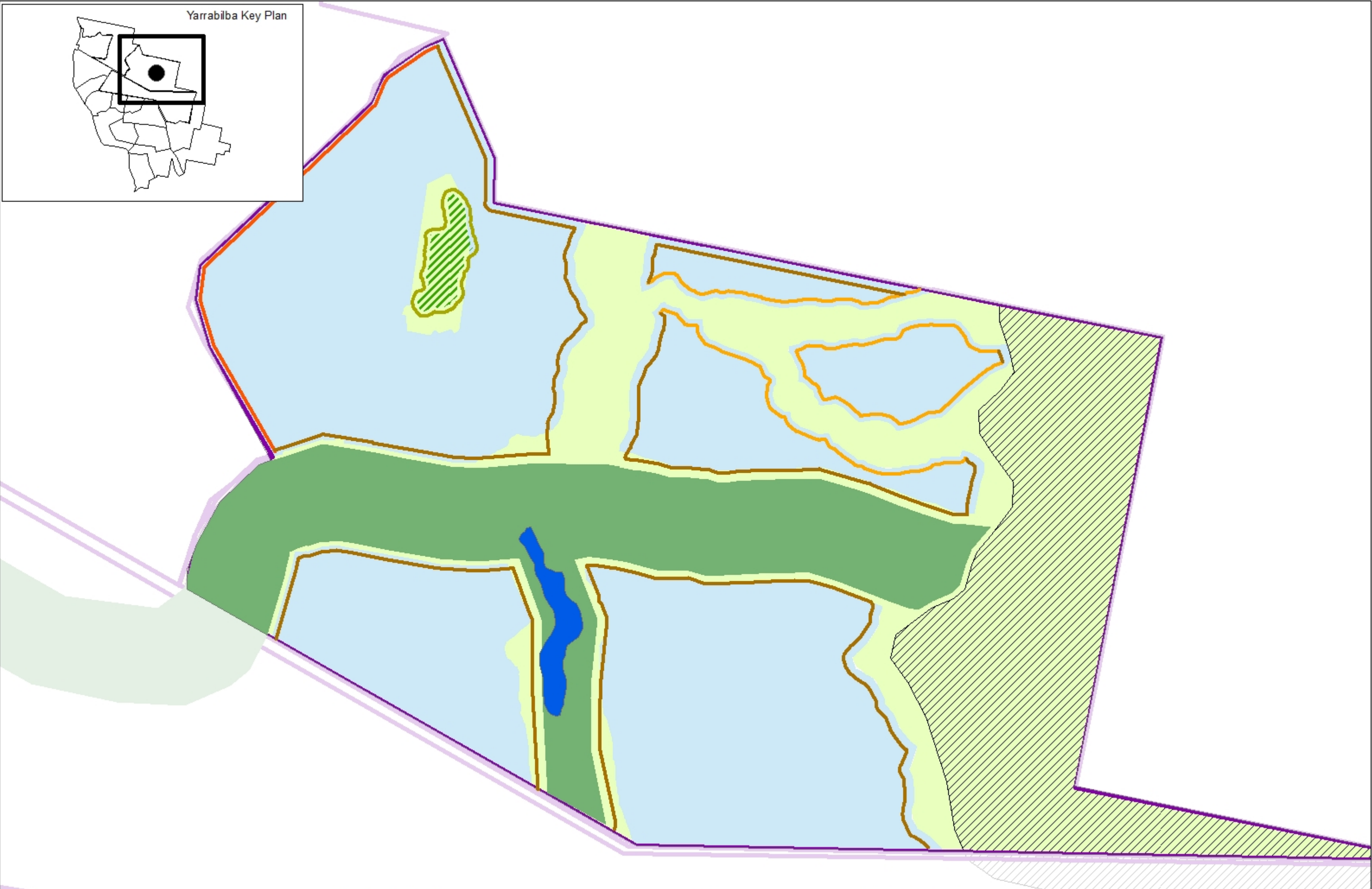
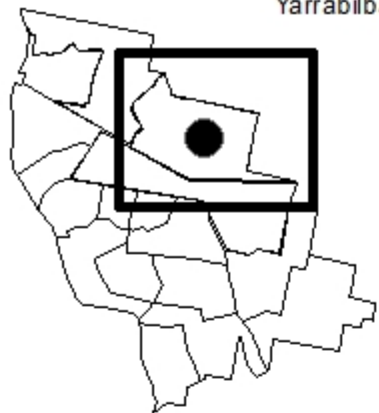


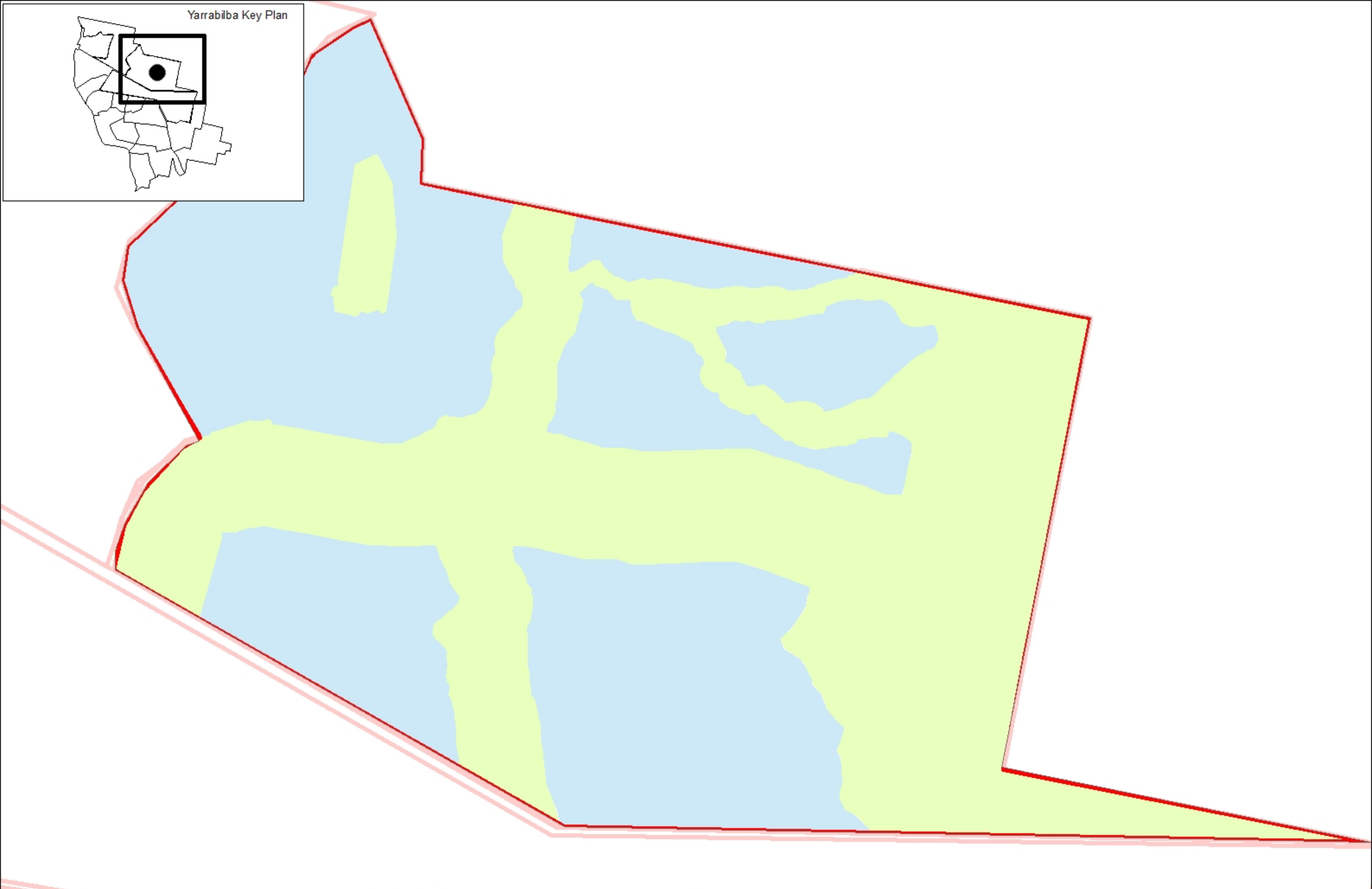




RE mapping was inaccurate therefore ground-truthing determined actual vegetation extent (lower polygon is actual)







VEGETATION

Strategy

Provide vegetation management actions which integrate the protection and enhancement of the floristic values associated with the fauna corridor, parks, waterways, conservation area adjacent to Plunkett Reserve interface 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 3 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.
 - Conservation areas adjacent to Plunkett Reserve, including 10 m soft interface (incorporating a batter, park, verge, walking trails, road etc) or minimum bushfire setback, whichever is greater, incorporating a number of recreational trail networks

- 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.
- Gazetting appropriate ownership and detailing future management of fauna corridor and future conservation areas (conservation area adjacent to Plunkett Reserve) to ensure long term viability of retained vegetation.

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, passive/recreational space and Koala habitat protection measures.

It is also noted that the fauna corridor does not solely function as a requirement under the EDQ PDA but also provides Koala habitat offset under EPBC regulations for the whole site. Additional constraints for this and areas mapped as 'Koala Habitat to be Retained' are highlighted under the EPBC conditions.

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

- Fauna corridor: this area will be dedicated as follows:

- 'Open Space – Conservation' to Logan City Council prior to plan sealing of the last residential stage within Precinct 3 (or as otherwise negotiated with EDQ), with ongoing maintenance permission to comply with the Department of the Environment Environmental Protection and Biodiversity Conservation Act approval conditions, **or**
- Legally secured by obtaining a voluntary declaration from the Queensland Department of Natural Resources and Mines under section 19F of the Vegetation Management Act 1999 (Queensland) that the area is an area of high conservation value. The voluntary declaration will be obtained prior to plan sealing of the last residential stage within Precinct 3 (or as otherwise negotiated with EDQ), with ongoing maintenance permission to comply with the Department of the Environment Environmental Protection and Biodiversity Conservation Act approval conditions, **or**
- Dedicated as 'Regional/Conservational Park or National Park' to the Department of National Parks, Sport and Racing prior to plan sealing of the last residential stage within Precinct 3 (or as otherwise negotiated with EDQ), with ongoing maintenance permission to comply with the Department of the Environment Environmental Protection and Biodiversity Conservation Act approval conditions
- Recreational interface to Plunkett Reserve: should be dedicated as 'Regional/Conservational Park or National Park' to the Department of National Parks, Sport and Racing prior to plan sealing of the last residential stage within Precinct 3 (or as otherwise negotiated with EDQ), with ongoing maintenance permission to comply with the Department of the Environment Environmental Protection and Biodiversity Conservation Act approval conditions
- 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, conservation area adjacent to Plunkett Reserve 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 3 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 and land adjacent to Plunkett Reserve.

The fauna corridor and conservation area to the east of Precinct 3 are 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

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	<p>Flora assessment and management including sections on (where applicable):</p> <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 EVNT species. <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 EVNT species. 	Per context area or per clearing area. Where clearing of native vegetation is required.	Prior to clearing works
Spotter Catcher Report	<ul style="list-style-type: none"> During clearing works, an EPA 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 Nature Conservation Act guidelines Where EVNT species are identified, provide a Flora Management Plan and implement recovery actions, such as a Xanthorrhoea Management Plan Gain permits from Ecoaccess (DERM) 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 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 	Where road or other crossings traverse waterways or Fauna	Conceptual fauna crossing during DA Detailed design and

	<ul style="list-style-type: none"> 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 Baseflow water level assessment of surface and ground water within fauna and waterway corridors 	Corridors	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 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. 	Per context area	At DA Stage and to address the SPP Model 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 	Per context area	Post OPW (timing varies, outlined in approved Koala

	<ul style="list-style-type: none"> Reporting to EDQ and EPBC 		Habitat Rehabilitation Monitoring Plan)
Awareness and education	<p>Community and/or contractor education documentation:</p> <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
Fauna Corridor Ownership	<ul style="list-style-type: none"> With ROL applications that involve dedication of fauna corridor, land in the environmental protection zone or protected vegetation, a clear strategy for the future ownership of these areas shall be provided. This allows for consultation on the ownership up front to avoid any delays with acceptance when handover to the relevant authority is proposed in the future 	Per context area	As part of any ROL
Certification of ecological compliance	<ul style="list-style-type: none"> Provided within individual reports listed within this table or as a separate certification letter 	Per context area or individual design component ie. for the design of fauna passage within road reserve	As part of each Development Application