

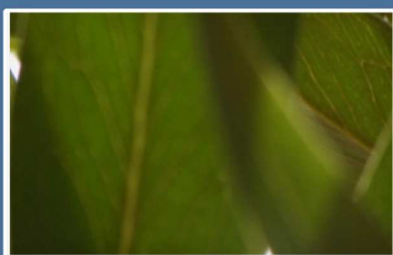
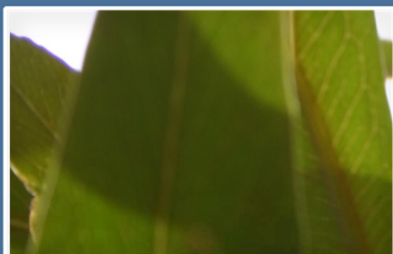
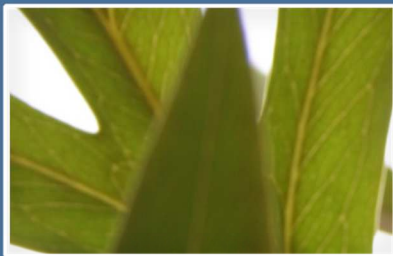
PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2017/887

Date: 4 May 2018



landscape architecture



Mountain Ridge Road,
South Maclean
Greater Flagstone Priority
Development Area

Greenspace Infrastructure
Master Plan

Mountain Ridge Pty Ltd
12 April 2018
7344



Document Control

Title	Greenspace Infrastructure Master Plan
Job Number	7344
Client	Mountain Ridge Pty Ltd

Document Issue

Issue	Date	Prepared By	Checked By
Draft	14.09.2017	Robert McIlroy	Murray Saunders
Client Draft	29.09.2017	Robert McIlroy	Murray Saunders
Final	10.10.2017	Robert McIlroy	Nick Christofis
Further Issues Response	16.03.2018	Robert McIlroy	Nick Christofis
Further Issues Response	12.04.2018	Robert McIlroy	Nick Christofis

Disclaimer

This report has been prepared for **Mountain Ridge Pty Ltd. Saunders Havill Group** cannot accept responsibility for any use of or reliance upon the contents of this report by any third party.

Reports and/or Plans by Others

Reports and/or plans by others may be included within this Greenspace Infrastructure Master Plan to support the document.



Table of Contents

1. Introduction	4
2. Definitions	6
3. Background	7
4. Community Greenspace Network	8
5. Design and Embellishment Standards	15
6. Innovation	17
7. Dedication Parameters for Open Space	19
8. IMP Compliance	20
9. Monitoring, Reporting and Amendment of IMP	23

Appendices

Appendix 1

Preliminary Overall Greenspace Network Plan

Appendix 2

Preliminary Recreation Greenspace Plan

Appendix 3

Preliminary Linear Greenspace Plan



I. Introduction

This report has been prepared to support the development of a master planned residential community at South Maclean by Mountain Ridge Pty Ltd. The sites subject to this application Lot 6 on RP193185 and Lot 9 on SP203507 (subject site).

No high level approval has previously granted for the subject site. Whilst this application is not reliant upon existing approvals, for the purpose of this Greenspace Infrastructure master plan (IMP) the standard EDQ conditioning of Infrastructure Master Plans has been used as a terms of reference for preparing this report.

Infrastructure master plans (standard EDQ Condition extract):

- a) Each infrastructure master plan must:
 - i. be for the whole of the site
 - ii. demonstrate innovation by providing opportunities to incorporate changes in technology anticipated to occur during the long term development of the site
 - iii. detail applicable infrastructure networks both within and external to the site and identify where works are required to connect existing or future networks on the site into existing or future sub-regional networks
 - iv. respond to the requirements and standards outlined in the:
 - a. development scheme in force at the date of this Approval
 - b. applicable ULDA guideline(s) in effect at the date of this Approval
 - c. address any non-compliance with the applicable guideline (s)
 - d. if no standards are outlined, articulate the standards to be applied
 - v. articulate the overall planning and delivery principles for the infrastructure works, required to support the ultimate development of the site
 - vi. identify the internal and external infrastructure required for the ultimate development of the site
 - vii. indicate how and when that component of infrastructure will be provided (including the dedication or transfer), or if not known, how and when provision of that infrastructure is to be determined and
- b) A number of infrastructure master plans may be combined into one infrastructure master plan.
- c) Each Infrastructure master plan will be assessed against:
 - i. the provisions of the development scheme in force at the date of this Approval
 - ii. the applicable ULDA guideline(s) in effect at the date of this Approval and
 - iii. any further requirements set out in a condition of this Approval.
- d) An endorsed infrastructure master plan may be replaced by submitting for compliance assessment a new infrastructure master plan for endorsement.
- e) Where a context plan area strategy is inconsistent with an endorsed infrastructure master plan the amendment to the infrastructure master plan may be limited to address the inconsistency.



2. Definitions

In this IMP:

Developer	means the owner and developer of a parcel of land within the subject site at the relevant time
Guideline No. 12	means PDA Guideline no. 12 for park planning and design (May 2015)
Guideline No. 14	means PDA Guideline no. 14 for environmental values and sustainable resource use (May 2015)
IMP	means this Infrastructure Master Plan
IFF	means the EDQ Infrastructure Funding Framework (July 2016)
IFFCOA	means the EDQ Infrastructure Funding Framework, Crediting and Offset Arrangements (July 2013)
ICOP	means the Infrastructure Charging Offset Plan Greater Flagstone Urban Development Area (July 2013).
EDQ	means the Minister for Economic Development Queensland established under the Economic Development Act 2012, which supersedes the Urban Land Development Authority and repeals the Urban Land Development Authority Act 2007 (Qld)
LCC	means Logan City Council.
PDA Development Scheme	means the Greater Flagstone Urban Development Area Development Scheme (October 2011)
PDA Guidelines	means the current applicable EDQ guidelines in effect at the time of application
Subject Site	means the land subject to this application being Lot 6 on RP193185 and Lot 9 on SP203507
ROL	means reconfiguring on a lot
WSUD	means water sensitive urban design



3. Background

This report has been prepared to support the development of a master planned residential community at South Maclean by Mountain Ridge Pty Ltd. The sites subject to this application Lot 6 on RP193185 and Lot 9 on SP203507 (subject site).

The subject site has a total area of 53.914 hectares. This land area has an optimum approximate yield of 650 dwellings utilizing an average gross density at 12.3 dwellings per hectare. The estimated dwelling figure totals an approximate maximum population of 1,885 at ultimate development.

The Greater Flagstone Priority Development Area (PDA) Development Scheme Land Use Plan denotes the overarching requirements for the Greenspace Network. The current proposal reflects:

- Greenspace network and components provided on site generally reflecting requirements provided within EDQ Figure 12 Parks and Open Space Map in the ICOP (Locations have been adjusted following a site specific review).
- Greenspace network is distributed and designed to reflect requirements as set out in EDQ Guidelines 12 and 14.

The community greenspace network will be typically aligned with the requirements set out in both this IMP and EDQ Guideline 12.

The community greenspace network will be delivered across the subject site through further detailed design and communication between all relevant parties, including but not limited to; State Government, Local Government, client representatives, community groups and contractors.



4. Community Green Space Network

The subject site has multiple layers of green space opportunities and requirements. In order to simplify and obtain quantifiable measures, two green space typologies have been derived, reflecting the objectives of the PDA Development Scheme.

- **Recreational**
- **Linear**

The proposed greenspace provides an abundance of open space across the subject site. In accordance with the ICOP, the following park provisions have been provided:

- District Recreation Park – One (1) no.

In addition to the ICOP, the following park provisions have been provided:

- Linear Recreation Park – One (1) no.

Standard EDQ requirements denote the figure of 4.6 ha/ 1,000 population as per the below table:

Column 1 Park types	Column 2 Rates of space (ha/1,000 pop)
Recreation parks	2.8
Sports parks	1.8
Total parks	4.6

To help compile baseline data, current optimum development site figures will be utilized to derive applicable quantities.

- 650 lots x 2.7 (people per dwelling)
- Estimated optimum population – 1,755 therefore;
- 1.755 x 4.6ha = **8.073 ha** total parkland required.



Breakdown of proposed greenspace as follows:

Greenspace / Park Type	Total Quantity	Approximate Total Area (hectares)
Recreation Parks		
District Recreation Park	1	9.403 ha
Linear Parks	1	0.226 ha
Recreation Park Sub-Total		9.629 ha
EDQ Recreation Park Requirement Total		8.073 ha
Deficit/ Surplus		+ 1.556 ha
Biodiversity Corridor/ Riparian Zone (Environmental)		7.400ha

The total greenspace parkland contribution exceeds EDQ general parkland totals as set out in the above calculations. Some of the reasons for excess greenspace provisions include:

- Preservation and conservation within the subject site;
- Protection of site waterways and creek lines within subject site;
- Provision of 100 metre buffer to the Flagstone Creek;

We note a portion of the District Recreation Park contains embellishments and land area associated for Sports activities (courts, sporting ovals, exercise equipment). Given the oversupply of Recreation Park, a balance of these areas will serve as having sports value, however not specifically isolated in the open space calculations in this IMP.

All greenspace will be provided and embellished generally in accordance with EDQ Guideline 12. See Section 5 of this IMP for additional information. Where suitable, alternative solutions may be adopted into parklands supported within Guideline 12- these include utilizing linear parks for site connectivity and combination of park uses such as stormwater and recreation (as supported in EDQ Practice Note 13, Fitzgibbon Chase) and environmental and linear recreational combined uses. Refer Appendix 1 for Greenspace Masterplan. Final embellishment standard and locations subject to detailed design.



Recreational Greenspace Network

The Recreational Greenspaces provided within this IMP reflect requirements set out within the ICOP and requirements under Guideline 12.

As per Appendix 2, Recreational Parks are located:

Internally on the subject site:

- 1 no. District Recreation Park DR1 located along Flagstone Creek interface;

External to Approved Land:

- 1 no. District Recreational Park located west along Flagstone Creek within adjacent land to the east;

Recreational Greenspaces will be provided and delivered as per table below:

Greenspace Type	Approximate Size (hectares)	Location (precinct/ stage)	Supporting Comments/ Information	Delivery Trigger
District Recreation Park 1 (DR1)	9.403 ha	1-7	Complies with EDQ Guideline 12 (including minimum area of 5 ha)	Staging of park in conjunction with the development staging as nominated in ROL application. Final timing to be determined in conjunction with compliance assessment applications.



Linear Greenspace Network

The Linear (Recreational) Greenspaces provided within this IMP reflect requirements set out within EDQ Guideline 12. Although no specific condition for linear greenspace park transfer is contained with PDA Approval, the linear provision is contained within the IFFCOA for 'non – recreational greenspace values used for recreation purposes'. These provisions allow creditable linear greenspace where used in conjunction with recreational activities including but not limited to walking or bicycle pathways and seating areas.

These linear greenspaces serve to provide extensive site and greenspace connectivity on the subject site. It will link urban areas, schools, conservation areas and proposed greenspaces in a coherent and effective manner. It also provides opportunities for integration of open spaces with stormwater management and pedestrian and cycle networks linking abovementioned site uses and other largescale sports and recreational parks. The linear park themselves will also provide active and passive recreational value along their extents.

As per Appendix 3, Linear Parks are located:

Internally on the subject site:

- 1 no. Linear Recreation Park (9.231ha) indicatively located along Flagstone Creek buffer interface;

Linear Greenspaces will be provided and delivered as per table below:

Greenspace Type	Approximate Size (hectares)	Location (precinct/ stage)	Supporting Comments/ Information	Delivery Trigger
Linear (Recreation) Parks	.2260ha	1-7	Complies with EDQ Guideline 12	Staging of park in conjunction with the development staging as nominated in ROL application. Final timing to be determined in conjunction with compliance assessment applications.

The proposed linear (recreational) greenspace network typically complies with PDA Development Scheme Land Use Plan, Approved Land Development Conditions and EDQ Guideline 12 requirements.



5. Design and Embellishment Standards

Within each green space type (as noted within Section 4), differing embellishment requirements have been outlined within EDQ Guideline 12.

Recreational Network:

One (1) District Recreational Park is provided within the subject site. Embellishments to be provided and derived from Guideline 12 include: parking (cars and bicycles), lighting, toilets, paths (pedestrian and cycle), shade structures, table and seating (uncovered and covered), barbecues, play areas, informal active recreational spaces, half court, courts (3), and community events space. We note final embellishment standard and locations subject to detailed design. Refer table below for full breakdown of embellishments.

Embellishment	EDQ Requirement	Subject Site Compliance
District Recreation Park		
Internal Access Road (s) 1	√	√
Parking (cars)	√	√
Parking (bicycles)	√	√
Lighting	√	√
Toilets	√	√
Paths (pedestrian/ cycle)	√	√
Shade structures	√	√
Table and seating - uncovered	√	√
Table and seating - covered	√	√
Barbecues	√	√
Play areas/ facilities	√	√
Informal active recreation spaces	√	√
Half-court, rebound wall or similar	√	√
Sports Fields (3)	X	√ (1 field)
Spectator seating (2)	X	X
Courts (3)	√	√
Community events space	√	√



Linear Network:

Multiple Linear Parks are provided within the subject site. Embellishments to be provided and derived from Guideline 12 includes: paths (pedestrian and cycle) and seating (uncovered). Refer table below for full breakdown of embellishments.

Embellishment	EDQ Requirement	Subject Site Compliance
Linear Recreation Park		
Internal Access Road (s) 1	X	N/A
Parking (cars)	X	N/A
Parking (bicycles)	X	N/A
Lighting	X	N/A
Toilets	X	N/A
Paths (pedestrian/ cycle)	√	√
Shade structures	X	N/A
Table and seating - uncovered	√	√
Table and seating - covered	X	N/A
Barbecues	X	N/A
Play areas/ facilities	X	N/A
Informal active recreation spaces	X	N/A
Half-court, rebound wall or similar	X	N/A
Sports Fields (3)	X	N/A
Spectator seating (2)	X	N/A
Courts (3)	X	N/A
Community events space	X	N/A



6. Innovation

The landscape vision for Mountain Ridge involved three core innovative principles:

- Activation
- Revitalisation
- Diversity

These principles ensure Mountain Ridge provide high quality outcomes for the development and larger community.

Activation:

- Activation of linear corridors to ensure site and community connectivity both internally and to future external connections.
- Activation of bio-corridors in conjunction with linear parklands in an effective and conscious manner to encourage community engagement with nature.
- Activation of parkland by providing exciting recreational opportunities within the proposed district recreation park.
- Activation of the Mountain Ridge community by ensuring appropriate pedestrian linkages throughout the site.
- Activation of stormwater infrastructure by ensuring co-use for recreational value (kickabouts).

Revitalisation:

- Revitalisation of Flagstone Creek including restoring and enhancing fauna and flora values along the waterway
- Revitalisation of the biodiversity corridor, linear park and district recreation park areas by retaining significant vegetation and undertaking rehabilitation works

Diversity:

- Provide a diversity of recreational opportunities throughout all open spaces to encourage site activation and community engagement
- Provide a diversity of sustainable opportunities including solar, LED lighting, health and wellness components including fields, outdoor gyms, etc.
- Provide a diversity of recreational value to open spaces including natural interaction/ education, sports, fitness, dog parks, and full range of play (toddlers to teenagers).
- Provide a diversity of theming for the estate, including contemporary park embellishments whilst ensuring appropriate consideration for reconnecting to natural areas.

Parkland and greenspace allocation has been provided in this IMP generally in accordance with EDQ approval conditions and guidelines, however further resolution at the detailed design development stage will review and derive final park locations and multi-use open space opportunities.



7. Dedication Parameters for Open Space

Greenspace dedication on the subject site will be undertaken on a staged approach. Final staging and handover to be confirmed in future (ROL) applications and subsequent approval conditions.

Coordination between the developer, EDQ and Logan City Council (LCC) including ongoing development meetings will ensure effective, balanced and fair handovers are achieved in accordance with future staging as highlighted above.

Future development applications to be generally in accordance with the requirements and parameters set out within this Greenspace IMP. Where greenspace timing or dedication is dictated by the provision of lots or staging, applications should provide relevant information including lot calculations or stage numbering to clearly highlight dedication timing. Final dedication timing to be confirmed at future ROL applications.

Appropriate consultants will be appointed to undertake Greenspace design and certification as set out in the EDQ Certification Procedures Manual. This process will involve detailed document approval, overseeing construction and site works and lodgement of relevant EDQ forms including, but not limited to; Submission Forms, Pre and Post Construction Forms and Deed Poll for certifiers.

Greenspaces to be constructed and undergo a 12-month maintenance period. Following completion of the maintenance period, the handover to relevant entity (LCC) is to be completed in accordance with the Certification Procedures Manual.



8. IMP Compliance

This IMP addresses requirements set within the condition of Approval as follows:

Standard EDQ Requirement	Response and Compliance
- Each infrastructure master plan must: i. be for the whole of the site	<i>This IMP is for the whole of site</i>
ii. demonstrate innovation by providing opportunities to incorporate changes in technology anticipated to occur during the long term development of the site	<i>Addressed in IMP. Refer Section 6</i>
iii. detail applicable infrastructure networks both within and external to the site and identify where works are required to connect existing or future networks on the site into existing or future sub-regional networks	<i>Addressed in IMP and Appendices</i>
iv. respond to the requirements and standards outlined in the: a) development scheme in force at the date of this Approval b) applicable ULDA guideline(s) in effect at the date of this Approval c) address any non-compliance with the applicable guideline (s) d) if no standards are outlined, articulate the standards to be applied	<i>a) IMP reflects PDA development scheme b) IMP responds to EDQ Guideline 12 c) Refer Sections 4, 5, 7 d) Not applicable</i>



v. articulate the overall planning and delivery principles for the infrastructure works, required to support the ultimate development of the site	<i>IMP reflects delivery requirements.</i> <i>Refer Section 4, 5, 7</i>
vi. identify the internal and external infrastructure required for the ultimate development of the site	<i>N/A- Refer civil documentation</i>
vii. indicate how and when that component of infrastructure will be provided (including the dedication I transfer) , or if not known, how and when provision of that infrastructure is to be determined and	<i>Addressed in IMP. Refer Section 4 & 7.</i>
c - A number of infrastructure master plans may be combined into one infrastructure master plan.	<i>Greenspace IMP may be combined with remaining IMP's to form a single masterplan package</i>
d - Each Infrastructure master plan will be assessed against: i. the provisions of the development scheme in force at the date of this Approval ii. the applicable ULDA guideline(s) in effect at the date of this Approval and iii. any further requirements set out in a condition of this Approval.	<i>Noted</i>
e - An endorsed infrastructure master plan may be replaced by submitting for compliance assessment a new infrastructure master plan for endorsement.	<i>Noted</i>
f - Where a context plan area strategy is inconsistent with an endorsed infrastructure master plan the amendment to the infrastructure master plan may be limited to address the inconsistency.	<i>Noted</i>
In addition to the requirements set out in standard EDQ requirements, this infrastructure master plan must: i. reflect the land transfer rates set out in Table 1 below, unless a relevant infrastructure agreement provides to the contrary (Guideline 12 standard rates of provision).	<i>Addressed in IMP. Refer Section 4.</i>



Column 1 Park types	Column 2 Rates of space (ha/1,000 pop)
Recreation parks	2.8
Sports parks	1.8
Total parks	4.6



9. Monitoring, Reporting and Amendment of IMP

Ongoing monitoring and reporting will be undertaken against the Greenspace IMP. It is expected appropriate reporting will suffice in determining compliance against the IMP. Reporting should be provided to EDQ post compliance assessment of relevant greenspace works and post construction or dedication of relevant greenspace works.

Monitoring of the Greenspace IMP will involve;

- PDA data collation confirming allocation and delivery of both high-level park infrastructure (District Recreational Parks), as well as localized linear parks;
- Analysing data to determine compliance against both site IMPs and ICOP mapping; and
- Compile EDQ Greenspace IMP Monitoring and Analysis Report for coordinating with relevant parties as required
- Monitoring of the Greenspace IMP to occur annually over a calendar year. A monitoring report will be submitted to EDQ within 4 weeks after the end of the relevant monitoring period addressing the achieved of the targets set out in this Infrastructure Master Plan.

Should deviations from IMPs be noted during the monitoring periods, explanatory notes and resolution strategies are to be provided within the EDQ Greenspace IMP Monitoring and Analysis Reports. An amended Greenspace IMP may be required to be re-lodged and approval by EDQ if requested.



Appendix I

Preliminary Overall Greenspace Network Plan





Appendix 2

Preliminary Recreation Greenspace Plan

1. OVAL - football/soccer field
2. OPEN SPACE - play equipment, seating, shelters, and pathway connectivity
3. LEARN TO RIDE TRACK
4. INDICATIVE DOG PARK
5. CONNECTING PATHWAYS
 - Through park/corridors and connecting to other amenities.
 - Bench seating and pathway as per Guideline 12.
 - Pathways through bio-diversity corridor to avoid native vegetation removal.
 - Confirm final path alignment during detailed design and on site as required.
6. EXERCISE GYM NODES THROUGHOUT PARK
7. ASSORTED COURTS
8. HALF COURT
9. AMENITIES BUILDING
10. INDICATIVE CAR PARKING
11. SANDSTONE AMPITHEATRE SEATING
12. BIODIVERSITY CORRIDOR
13. KICKABOUT SPACES
14. CO-LOCATED BASIN KICKABOUT - Subject to detailed design.
15. LINEAR PARK
16. PROPOSED BRIDGE
17. INDICATIVE SEWERAGE PUMP STATION

- Site Boundary
- - - Flagstone Creek Alignment
- Indicative Basin Extents
- 100m Waterway Buffer (Bio-diversity Corridor)
- 50m Waterway Buffer (Riparian Corridor)
- - - Approx High Bank
- - - 50m High Bank Offset
- ARI 5

**TOTAL APPROXIMATE
AREA = 9.403ha**



DISTRICT RECREATIONAL PARK

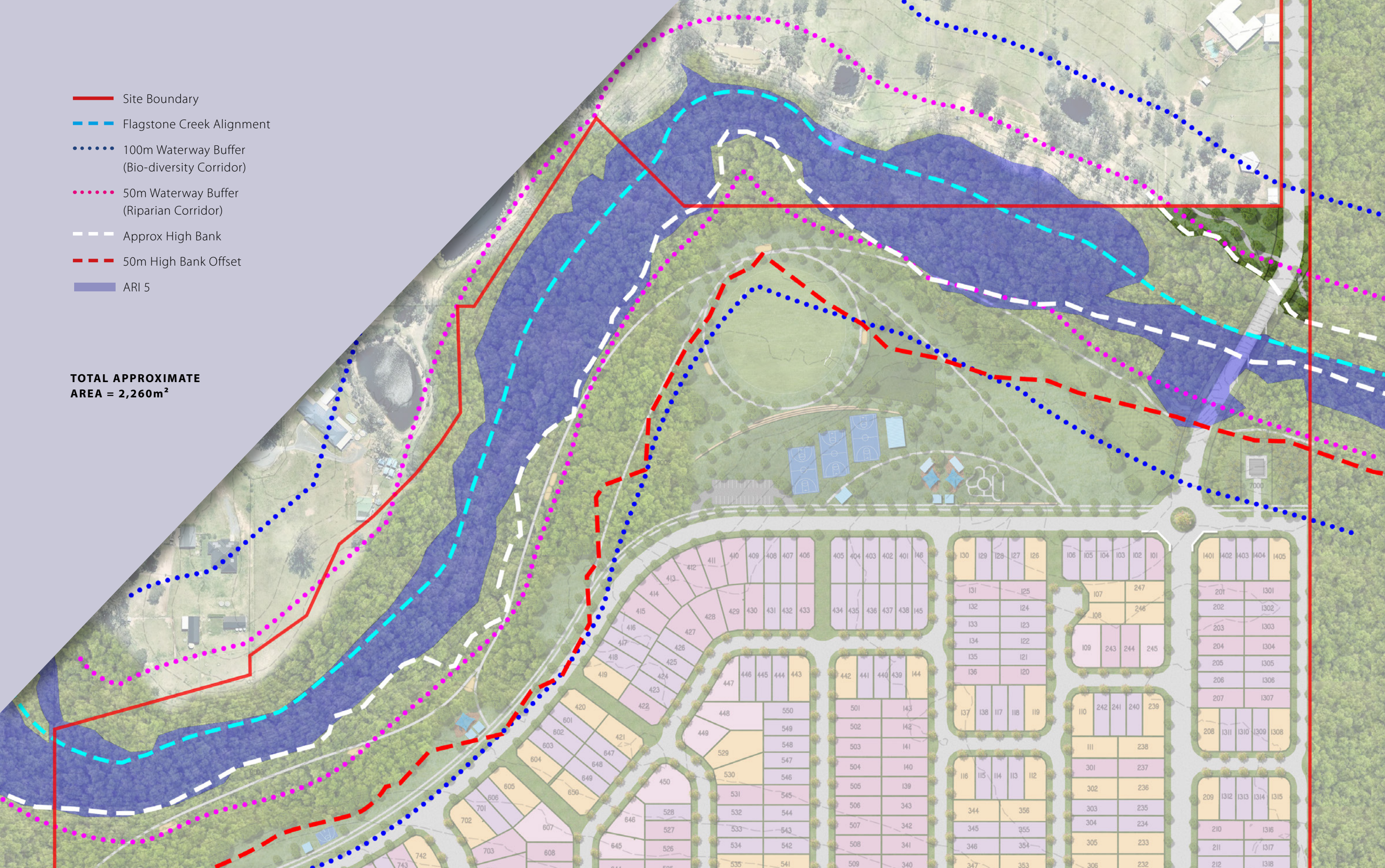


Appendix 3

Preliminary Linear Greenspace Plan

- Site Boundary
- Flagstone Creek Alignment
- 100m Waterway Buffer (Bio-diversity Corridor)
- 50m Waterway Buffer (Riparian Corridor)
- - - - - Approx High Bank
- - - - - 50m High Bank Offset
- ARI 5

**TOTAL APPROXIMATE
AREA = 2,260m²**



LINEAR PARK