PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2025/1625/1

Date: 8 December 2025

Queensland Government

LEC
Land and environment consultants

Bushfire management plan

Proposed development | Everleigh Land Lease Community |Ginger Lane| Everleigh | Queensland
Prepared for Serenitas Management Pty Ltd | 16 May 2025

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Bushfire management plan

Final

Report 25004 | Serenitas Management Pty Ltd | 16 May 2025

Approved by	Robert Janssen
Position	Managing principal
Signature	
Date	16 May 2025

Document control

Version	Date	Prepared by	Reviewed by
Draft	15 May 2025	R. Janssen	LEC
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Disclaimer

Notwithstanding the precautions adopted in this report, it should always be remembered that bushfires burn under a range of conditions. An element of risk, no matter how small always remains, and although AS 3959-2018 is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any building will withstand bushfire attack on every occasion.

It should be noted that upon lodgement of a development proposal, State Government, council and/or the fire service may recommend additional construction requirements.

Although every care has been taken in the preparation of this report, Land and Environment Consultants Pty Ltd accept no responsibility resulting from the use of the information in this report.

1 Introduction

Land and Environment Consultants Pty Ltd (**LEC**) was engaged to prepare a bushfire management plan (**BMP**) for the priority development area (**PDA**) development permit application (material change of use – land lease community) (**proposed development**) at Ginger Lane, Everleigh, properly described lot 9005/SP348213 and lot 9003/SP348245 (**the site**).

The proposed development is within the Everleigh master planned community which was approved by Economic Development Queensland - application reference DEV2016/768 (**approved Everleigh masterplan**).

The PDA development permit application for the proposed development will be made under the *Greater Flagstone Urban Development Area – Development Scheme.*

The site is identified as a bushfire hazard area by the *Bushfire prone area map* (**Bushfire prone area map)** in the State Planning Policy interactive mapping system (**SPP IMS**). Therefore, the development permit application for the proposed development is subject to compliance with the bushfire hazard outcomes of the *Greater Flagstone Priority Development Area – Development Scheme* which calls up the superseded *State Planning Policy 1/03 Guideline – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* (DLGP, DES 2003) (**SPP 1/03 guideline**) for information and assessment criteria for bushfire.

The SPP 1/03 guideline was repealed in 2013 and the current SPP 2017 is now in effect. Therefore, it is considered relevant that this BMP considers outcomes sought by the current SPP 2017 by way of compliance with the example bushfire overlay code (**Bushfire overlay code**) in the *Natural Hazards, Risk and Resilience – Bushfire, State Planning Policy State Interest guidance material* (DSDMIP 2019) (**SPP guidance material – bushfire**) which reflects the current assessment benchmarks for development within a bushfire prone area.

This BMP has been prepared in general accordance with *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire* (QFES 2019a) (**BRC guide**) which was prepared by the former Queensland Fire and Emergency Services, now Queensland Fire Department, to provide technical guidance for the implementation of the SPP guidance material – bushfire. It documents the bushfire hazard assessment and demonstrates how the proposed development will comply with the Bushfire overlay code. It includes:

- an introduction (this section) and description of methods and information resources used for the preparation of this BMP;
- description of the site and proposed development;
- bushfire hazard assessment;
- identification of bushfire hazards associated with the site and proposed development;
- a plan for mitigating bushfire hazards; and
- assessment of the proposed development against the Bushfire overlay code.

1.1 Method

To meet requirements of the BRC guide, the following tasks were undertaken:

- review of the Bushfire prone area map in the SPP IMS, fire history data in Queensland Globe (DR 2025) and the Queensland regional ecosystem (**RE**) data, vegetation hazard class (**VHC**) data and severe fire weather data referenced in the *Bushfire Resilient Communities Mapviewer user guide* (QFD 2025) (**BRC MV guide**);

- inspection of land adjacent to the proposed development for vegetation characteristics, current land management practices, slope and evidence of previous fires;
- bushfire hazard assessment in general accordance with the method in the BRC guide;
- radiant heat exposure assessment using the Fire Protection Association of Australia *BAL calculator V4.9* (**BAL calculator**) which models the 'method 2' bushfire attack level (**BAL**) assessment procedure in the *Australian Standard* (**AS 3959-2018**) *Construction of buildings in bushfire prone areas*; and
- assessment of the proposed development against the Bushfire overlay code.

Aerial imagery of the site and measuring tools were accessed online from Google Earth and Queensland Globe to assist with validating observations and measurements made during the site inspection.

1.2 Suitably qualified person

This BMP was prepared by Robert Janssen who is a suitably qualified and experienced bushfire management consultant.

Robert is the managing principal at LEC and has over 25 years of experience in bushfire planning and operations. He has prepared bushfire management plans for residential, commercial and industrial property developments, utilities, government facilities and conservation estates.

Robert's formal qualifications as an environmental scientist and consulting experience are coupled with 10 years of experience as a nationally accredited fire-fighter with the national parks and wildlife service in New South Wales and Queensland.

2 Description of the site and proposed development

This chapter provides a description of the site and proposed development.

2.1 Site description

The location of the site is shown in Figure 3.1 and is within the north western corner of the approved Everleigh masterplan which is provided in Appendix 1. It shows the proposed layout of roads, land uses and open space.

Of relevance to this BMP, the approved Everleigh masterplan identifies open space corridors where bushland vegetation will be retained, rehabilitated or re-introduced. These areas include linear parks adjacent to the northern boundary of the site.

Land to the south, east and west of the site is either developed or under development in accordance with the approved Everleigh masterplan. Bushland vegetation has been cleared from these areas.

Land to the north of the site consists of a powerline easement which has been mostly cleared of bushland vegetation and now consists of a grassland. Notwithstanding, bushland vegetation occurs in the corridor between the powerline easement and the site and to the north of the powerline easement.

The proposed development area will have access to a mains water supply.

2.2 Proposed development

The proposed development involves a land lease community which is described as a vulnerable use in the SPP guidance material – bushfire.

The concept master plan for the proposed development is provided in Appendix 2 and shows the proposed layout of private roads, home sites, communal open space, caravan parking, open space and sewer pump station.

The proposed open space along the northern boundary of the site will include a stormwater management area and private linear park.

Most of the proposed stormwater management area will be landscaped with a combination of trees, shrubs and groundcover species from the local pre-clear RE mapping. The exception is a corridor adjoining the proposed caravan parking area and home sites, which will be landscaped with turf, pathways and low form groundcover plantings. Landscaping within the proposed private linear park will be consistent with the public park located adjacent to the eastern boundary of the site, ie it will be a maintained landscape consisting of lawn and formal gardens and tree plantings.

Access and egress for the proposed development will be via new road connections to Ginger Lane and Guroman Drive.

The proposed development will be connected to mains water and will have a hydrant system installed in the private road reserves.

2.3 Bushfire prone area map

The Bushfire prone area map for the site is provided in Appendix 3. Verification of the bushfire hazard areas shown in the Bushfire prone area map is provided via the bushfire hazard assessment in Chapter 3.

Please note, in this BMP, the terms ‘bushfire prone area’ and ‘bushfire hazard area’ have the same meaning. Both terms mean an area of vegetation that is determined to have a potential bushfire intensity > 4,000 kilowatts/metre (**kW/m**) and the land within 100 m of this vegetation.

3 Bushfire hazard assessment

This chapter provides details about the desktop review, site inspection and bushfire hazard assessment.

3.1 Severe fire weather

The severe fire weather data referenced in the BRC MV guide indicates the 5 % annual exceedance probability forest fire danger index (**FFDI**) for the site is 55. This FFDI value has been used for the potential bushfire intensity calculations in Section 3.4 and the radiant heat exposure assessment in Section 5.6.

3.2 Fire history

Fire history data indicates no fires have occurred within 1 kilometre (**km**) of the site during the past 10 years. Nonetheless, Mirvac Queensland Pty Ltd provided advice that one fire occurred in the eastern part of the approved Everleigh masterplan and that it was associated with a prescribed burn.

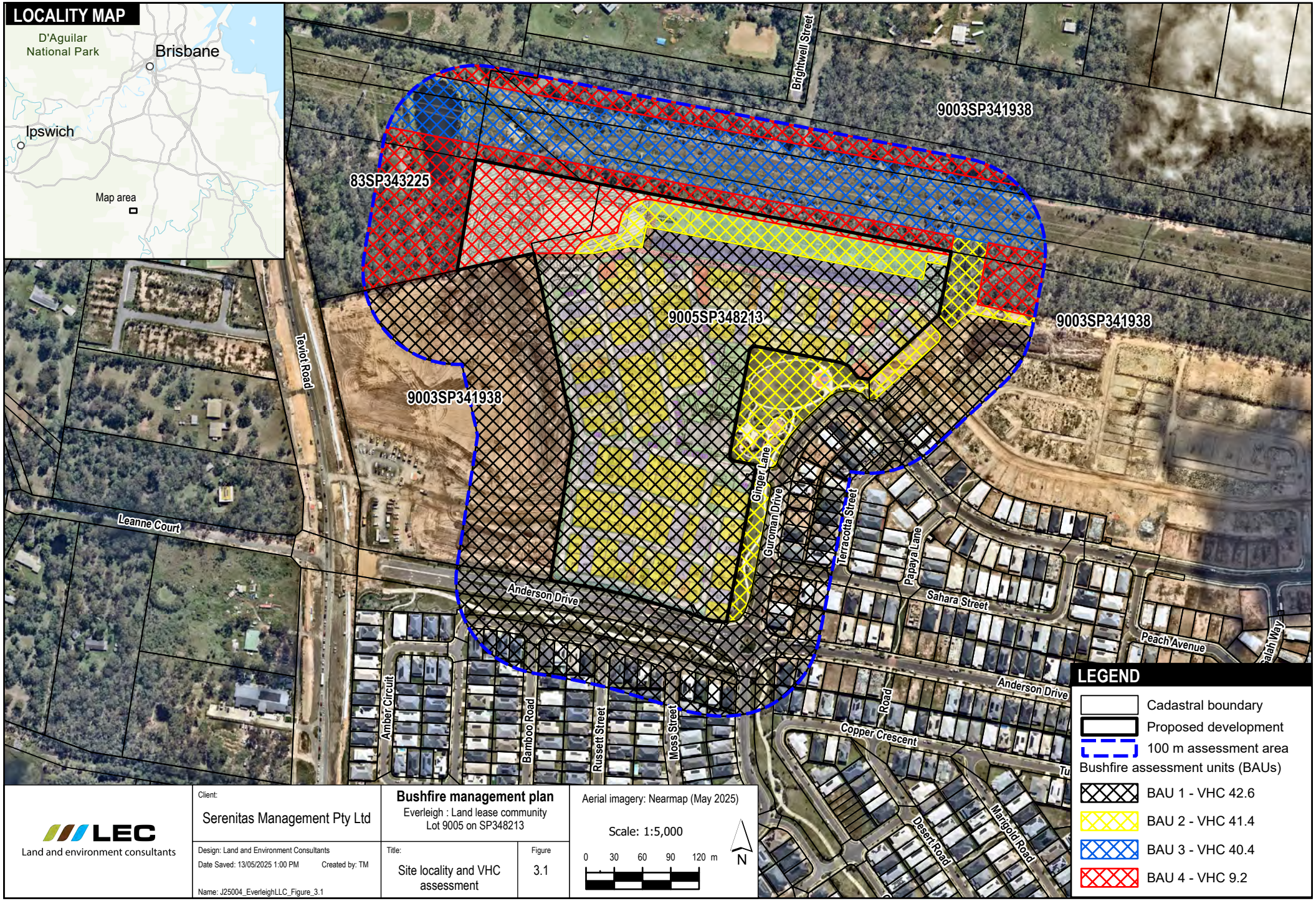
3.3 Site inspection

LEC inspected the site on the 3 April 2025. Observations were recorded about current land use and management, vegetation characteristics, the slope of land and evidence of previous fires.

The site inspection confirmed the land to the south, east and west of the site is either developed or under development in accordance with the approved Everleigh masterplan. No large or continuous areas of bushland vegetation have been retained or restored within these development areas.

Bushfire assessment units (**BAUs**) have been used to describe the characteristics of vegetation within 100 m of the site and are shown in Figure 3.1. They consider the post development landform of the approved Everleigh masterplan and the proposed development as indicated by the plans in Appendix 1 and 2.

Table 3.1 provides a summary of the desktop review, observations from the site inspection and notes about the bushfire hazard assessment of BAUs. Features of BAUs are shown in Photograph 3.1-3.4.



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Client: Serenitas Management Pty Ltd

Design: Land and Environment Consultants
Date Saved: 13/05/2025 1:00 PM Created by: TM
Name: J25004_EverleighLLC_Figure_3.1

Bushfire management plan
Everleigh : Land lease community
Lot 9005 on SP348213

Title: Site locality and VHC assessment

Figure: 3.1

Aerial imagery: Nearmap (May 2025)

Scale: 1:5,000

0 30 60 90 120 m

N

Table 3.1 Site observations

BAU	State mapped VHC	VHC	Notes
BAU 1	VHC 9.2 *Moist to dry eucalypt woodland on coastal lowlands and ranges* (**VHC 9.2**), VHC 10.1 *Spotted gum dominated open forests* (**VHC 10.1**), VHC 40.4 *Continuous low grass or tree cover* (**VHC 40.4**) and VHC 41.4 *Discontinuous low grass or tree cover* (**VHC 41.4**)	VHC 42.6 *Nil to very low vegetation cover* (**VHC 42.6**)	BAU 1 is aligned with built-up areas associated with the proposed development and the approved Everleigh masterplan adjoining the south, east and west boundaries of the site. In the post development landform, BAU 1 will have nil to very low vegetation cover and discontinuous bushfire fuel.
BAU 2	VHC 9.2 and VHC 40.4	VHC 41.4	BAU 2 is aligned with parklands in built-up areas. Specifically, the existing public park adjoining the eastern boundary of the site and the proposed private linear park which is aligned with the northern boundary of the site. Landscaping associated with these areas will be maintained and provide a low level of vegetation and discontinuous bushfire fuel.
BAU 3	VHC 9.2, VHC 40.4 and VHC 41.4	VHC 40.4	BAU 3 is aligned with the grassland in the high voltage overhead transmission line easement. It has a low level of continuous grassfire fuel.
BAU 4	VHC 9.2, VHC 10.1, VHC 40.4 and VHC 41.4	VHC 9.2	BAU 4 is aligned with part of the proposed stormwater management area where landscaping will seek to restore the species and structure of the pre-clear RE. It also includes the bushland vegetation adjoining the northern boundary of the site and powerline easement. The pre-clear RE mapping indicates these areas of landscaping/bushland vegetation best correlate with VHC 9.2.

Photograph 3.1 VHC 42.6 within BAU 1

Photograph 3.2 Example of VHC 41.4 within BAU 2

Photograph 3.3 VHC 40.4 within BAU 3

Photograph 3.4 VHC 9.2 within BAU 4

3.4 Potential bushfire intensity calculations

The potential bushfire intensity of BAUs was determined using the Queensland Public Safety Business Agency *Potential Bushfire Intensity Calculator* (version November 2014) which is an Excel spreadsheet calculator that models the bushfire hazard assessment method in Section 4.2.4 of the BRC guide.

Section 3.1 of the BRC guide defines bushfire hazard classes as follows:

- very high – potential bushfire intensity > 40,000 kW/m;
- high – potential bushfire intensity 20,000-40,000 kW/m;
- medium – potential bushfire intensity 4,000-20,000 kW/m; and
- non-bushfire hazard – potential bushfire intensity < 4,000 kW/m.

Results of the potential bushfire intensity calculations which determine the bushfire hazard class of BAUs shown in Figure 3.1 are presented in Table 3.2.

Table 3.2 Potential bushfire intensity

BAU	VHC	Potential fuel load tonnes/ha[1]	Slope (°)[2]	Potential bushfire intensity (kW/m)	Bushfire hazard class
BAU 1	VHC 42.6	2	0	136	Non-bushfire hazard
BAU 2	VHC 41.4	3	0	307	Non-bushfire hazard
BAU 3	VHC 40.4	6	3	1,049	Non-bushfire hazard class
BAU 4	VHC 9.2	17.2	3	12,408	Medium

Notes 1 Potential fuel load taken from the BRC guide.
2 Slope defaults to 0° for VHC 41.4 and VHC 42.6 which are defined in the BRC guide as a low hazard class with discontinuous bushfire fuel.

3.5 Bushfire hazard areas

Results of the potential bushfire intensity calculations in Table 3.2 confirm the proposed development is affected by a medium potential bushfire intensity area and the 100 m potential impact buffer which is applied to this area. Therefore, the proposed development is within a bushfire hazard area and the PDA development permit application is subject to compliance with the Bushfire overlay code.

4 Bushfire hazards associated with the site

This chapter identifies bushfire hazards associated with the site.

4.1 Fire danger season

The fire danger season at the site starts in August, peaks in September and will begin to fall when consistent summer rainfall occurs. Typically, the worst fire weather conditions will be experienced during the fire danger season when the wind direction is from the north or west.

An FFDI of 55 will be associated with hot, dry and windy conditions. If a bushfire starts and takes hold under these conditions, it will be difficult to control and fast moving in large areas of unmanaged vegetation.

4.2 Fire history

As discussed in Section 3.2, fire history data indicates there have been no unplanned fires within 1 km of the site during the past 10 years.

Notwithstanding, the northern boundary of the site adjoins a large continuous area of bushland vegetation which has potential to carry a bushfire. In addition, the bushfire management plan (LEC 2023) for the Everleigh conservation area recommends planned burns for bushfire fuel hazard reduction and conservation of ecological values. Therefore, it is considered possible the proposed development could be exposed to bushfire attack, planned or otherwise, in the future.

4.3 Bushfire attack scenarios

The proposed development could be exposed to bushfire attack from BAU 4 shown in Figure 3.1 where a medium potential bushfire intensity area occurs. This bushfire attack scenario is further analysed in Section 5.6.

4.4 Potential bushfire hazard from adjacent land use

Based on the fire history data discussed in Section 4.2, the existing residential land use adjacent to the site is not a bushfire hazard to the proposed development.

The bushland vegetation that will be established within the proposed stormwater management area and the bushland vegetation retained in the landscape adjoining the northern boundary of the site is a potential bushfire hazard to the proposed development. This is confirmed by the potential bushfire intensity calculations in Section 3.4, which determined BAU 4 is a medium potential bushfire intensity area.

4.5 Water and access for emergency services

The proposed development has access to a mains water connection and a public road network which will provide access and egress for emergency services and future occupants.

5 Bushfire hazards associated with the proposed development

This chapter identifies potential bushfire hazards associated with the proposed development.

5.1 Siting and design

The proposed development will be designed to mitigate the risk of bushfire hazard determined by the bushfire hazard assessment in this BMP.

The layout of the proposed development considers the post development topography of the site and mitigates the risk of bushfire hazard associated with the bushland vegetation that will be established within the proposed stormwater management area and the bushland vegetation retained in the landscape adjoining the northern boundary.

5.2 Land use

The proposed development involves a land lease community which is described as a vulnerable use in the SPP guidance material – bushfire.

The proposed development does not involve community infrastructure for essential services or the storage or manufacture of hazardous materials in the context of bushfire hazard as defined in the SPP guidance material – bushfire.

5.3 Private linear park

The proposed private linear park will be established as an interface between the proposed home sites and bushland vegetation that will be established within the proposed stormwater management area and bushland vegetation retained in the landscape adjoining the northern boundary.

The proposed private linear park will be privately maintained and will have landscaping which is designed to provide a low level of discontinuous bushfire fuel. It is within BAU 2 shown in Figure 3.1, and was assessed as a non-bushfire hazard class in Section 3.4.

5.4 Fire-fighter water supply

The proposed development will be connected to mains water and a hydrant system will be installed in the proposed private road reserves.

5.5 Access and egress

Access and egress for the proposed development will be via new road connections to Ginger Lane and Guroman Drive.

The proposed private roads will be designed and constructed to provide efficient access and egress for an urban fire truck.

5.6 Radiant heat exposure

Where development involves a vulnerable use, the Bushfire overlay code seeks for development to not be located within 100 m of a bushfire hazard area. The exception is where there is no suitable alternative location, there is an overwhelming community need and site planning can separate the development footprint of the vulnerable use from hazardous vegetation by a distance which achieves a radiant heat flux level ≤ 10 kW/m^2 at the development footprint of buildings and structures.

As discussed in Section 4.3, the proposed development could be exposed to bushfire attack from BAU 4 shown in Figure 3.1. The radiant heat profile of this bushfire attack scenario was analysed with the BAL calculator. Inputs used in the BAL calculator and results are provided in Appendix 4.

Results of the radiant heat exposure assessment have been used to design the asset protection zone (**APZ**) specified in Section 6.1.

Results of the radiant heat exposure assessment have also been used to confirm the development footprint of above ground infrastructure at the sewer pump station is setback from hazardous vegetation by a distance which achieves a radiant heat flux level ≤ 29 kW/m^2, which is an acceptable outcome for the development footprint of other uses under the Bushfire overlay code.

6 Bushfire mitigation plan

This chapter identifies mitigation measures that must be implemented as part of the proposed development to comply with the Bushfire overlay code.

It is the total of the mitigation measures in this chapter that will reduce the risk of bushfire hazard to a tolerable level. Failure to implement all actions in their entirety could result in an increased level of exposure to bushfire hazards.

6.1 Asset protection zone

The private linear park must be established and maintained as an APZ as shown in Figure 6.1.

Buildings and structures, other than a pathway, fence or retaining wall, must not be located within the APZ. If pathways, fencing or retaining walls are located within the APZ, they must be constructed with fire resisting materials.

Landscaping within the APZ must be in accordance with the following guidelines:

- 70 % of the APZ must consist of low threat vegetation, ie turf;
- groundcover species which grow to a height ≤ 300 millimetres (**mm**) can be planted on slopes which are not suitable for turf;
- canopy trees can be planted into the turf at ≥ 20 m spacings;
- canopy tree plantings must not overhang the boundary of homesites when they reach maturity;
- inclusion of a paved pathway;
- groundcovers, shrubs and sub-canopy trees can be planted into formal gardens which are in small patches ≤ 5 m^2 or narrow corridors ≤ 2 m wide; and
- formal gardens must be separated from the adjoining open space corridor (stormwater management area) by ≥ 5 m.

Landscaping within the APZ must be maintained at regular time intervals during the calendar year. Turf must be maintained as lawn at a nominal height ≤ 100 mm and weeds and vegetation debris must be removed from garden beds.

6.2 Landscaping

Landscaping within the balance of the site must be designed and maintained in accordance with Part 5 of *Bushfire Resilient Building Guidance for Queensland Homes* (QRA 2020) (**Bushfire resilient building**) which is publicly available online. Plant selection must favour the list of plant species in Appendix E of Bushfire resilient building.

Landscaped areas must be maintained at regular time intervals during calendar year. Weeds and vegetation debris must be removed from garden beds and turf must be maintained as lawn at a nominal height ≤ 100 mm.

6.3 Fire-fighting water supply

The proposed development must be connected to mains water and a hydrant system must be installed in the proposed private road reserves.

The mains water connection must be in accordance with the local water retailer's specifications for supply and pressure.

The hydrant system must be designed and constructed in accordance with *Fire hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial lots* (QFES 2019b) (**Fire hydrant and vehicle access guidelines**) which defers to the local water retailer's specifications and the *Australian Standard* (**AS 2419.1-2021**) *Fire hydrant installations, system design, installation and commissioning.*

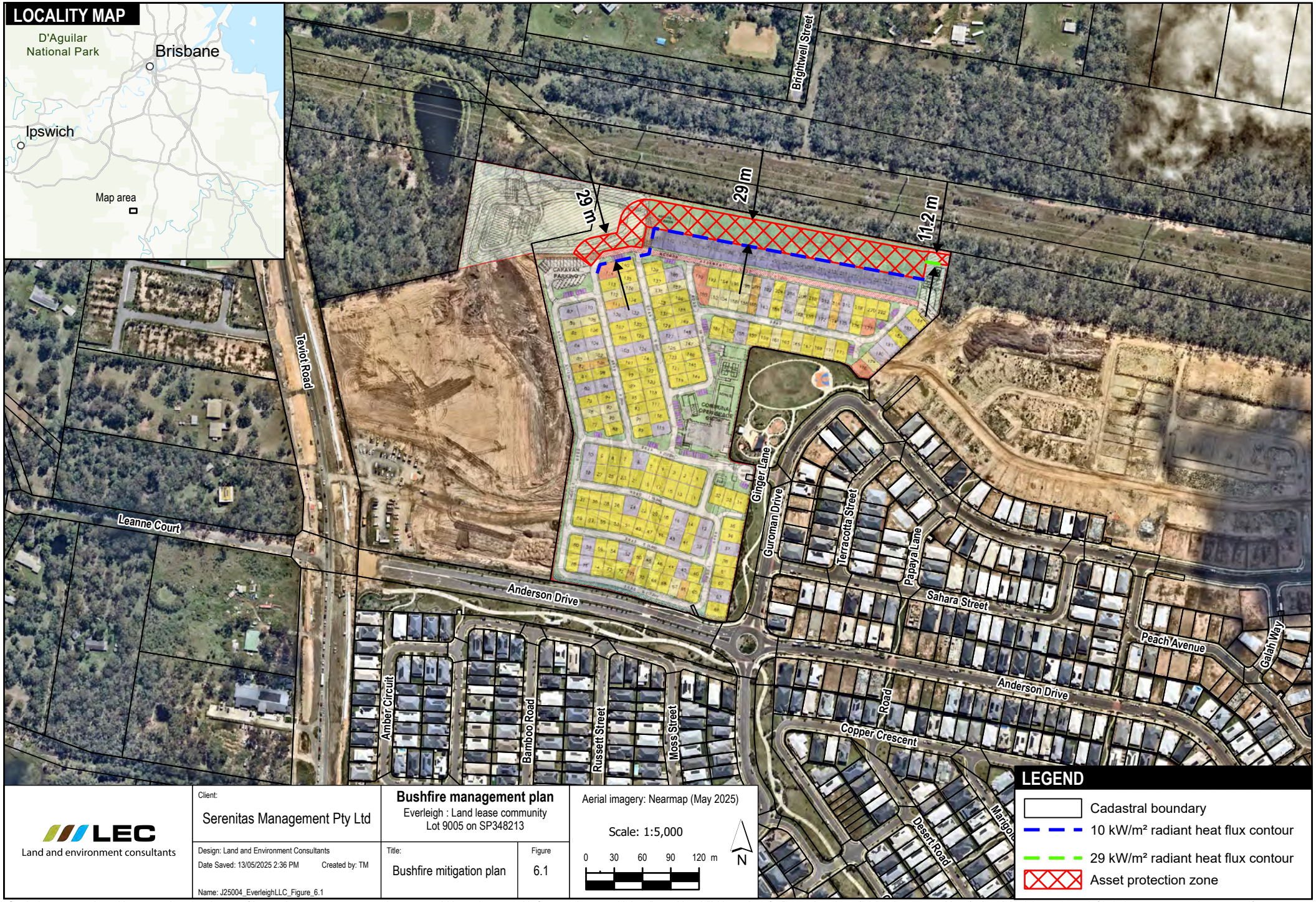
Where there are differences between the local water retailer's specifications and AS 2419.1-2021, the higher-level standard should prevail.

6.4 Access and egress

The proposed private roads must be designed and constructed to provide efficient access and egress for an urban fire truck in accordance with Fire hydrant and vehicle access guidelines which defers to the *Road Planning and Design Manual – 2nd Edition* (DTMR 2013) for load bearing capacity, geometry and turning radii.

6.5 Service installation

Reticulated services, ie water, electricity, gas and communications, must be installed underground.



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Client:
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Design: Land and Environment Consultants
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Name: J25004_EverleighLLC_Figure_6.1

Bushfire management plan
Everleigh : Land lease community
Lot 9005 on SP348213

Title: Bushfire mitigation plan
Figure: 6.1

7 Conclusion

This BMP was prepared by a suitably qualified person and in general accordance with the BRC guide.

A bushfire hazard assessment determined the proposed development area is within a bushfire hazard area and the proposed development is subject to compliance with the Bushfire overlay code.

Mitigation measures that must be implemented as part of the proposed development are specified in Chapter 6. With the implementation of these mitigation measures the proposed development complies with the Bushfire overlay code as demonstrated in Appendix 5.

References

Land and Environment Consultants (LEC) 2023, *Bushfire management plan – Conservation parkland – Everleigh*, prepared for Mirvac Queensland Pty Ltd, 14 September 2023

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Queensland Fire and Emergency Service (QFES) 2019a, *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire'*, October 2019

Queensland Fire and Emergency Service (QFES) 2019b *Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots*, March 2019

Queensland Reconstruction Authority (QRA) 2020, *Bushfire Resilient Building Guidance for Queensland Homes*, July 2020

Standards Australia Limited (Standards Australia) 2021, *Australian Standard 2419.1-2021 – Fire hydrant installation, system design, installation and commissioning*, Sixth edition, September 2021

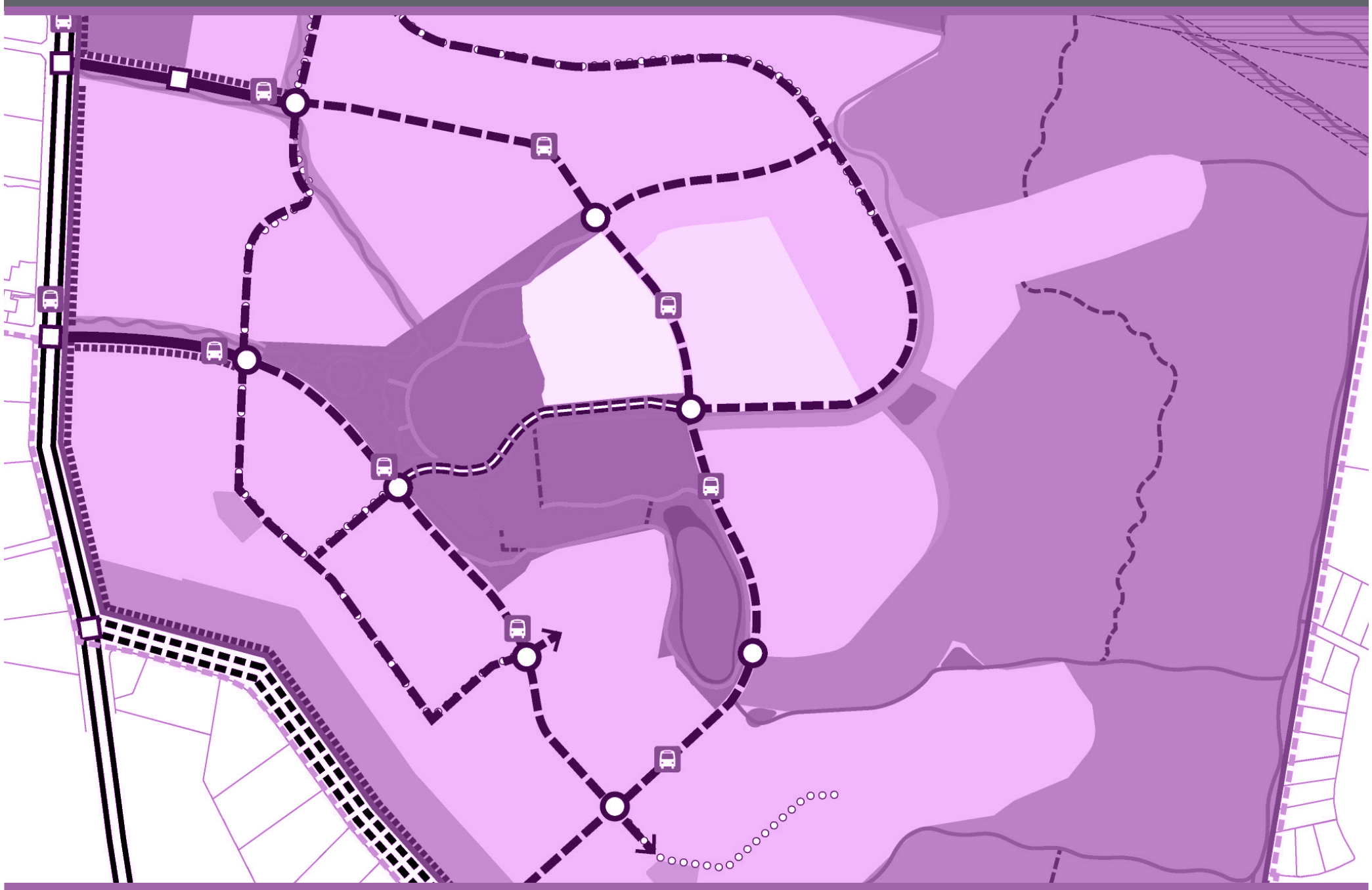
Standards Australia Limited (Standards Australia) 2018, *Australian Standard 3959-2018 Construction of buildings in bushfire prone areas*, Fourth edition, November 2018

Appendix 1 Approved Everleigh masterplan

MASTER
PLAN

TEVIOT ROAD, GREENBANK

MAY 2025



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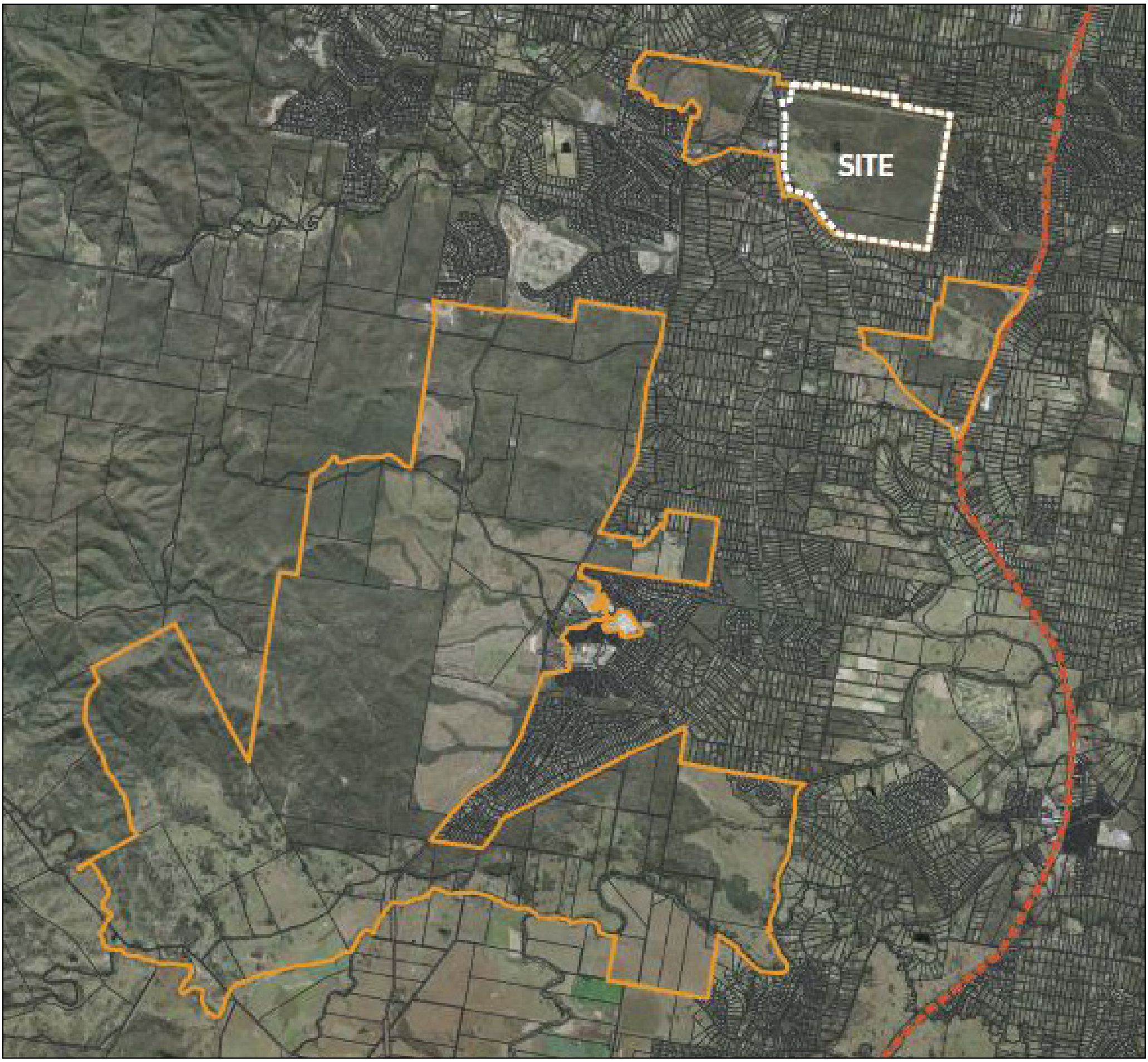
CONTENTS

1.0 INTRODUCTION

This Whole of Site Master Plan has been prepared to guide the development of land over the Greenbank land holding identified by Figure 1 (formerly described as Lot 9 on S312355, Lot 205 on RP845844, and Lot 434 on RP845844).

FIGURE 1 – SITE & CONTEXT



LEGEND

- Greater Flagstone PDA Boundary
- Mt Lindesay Highway
- Greenbank Site Boundary

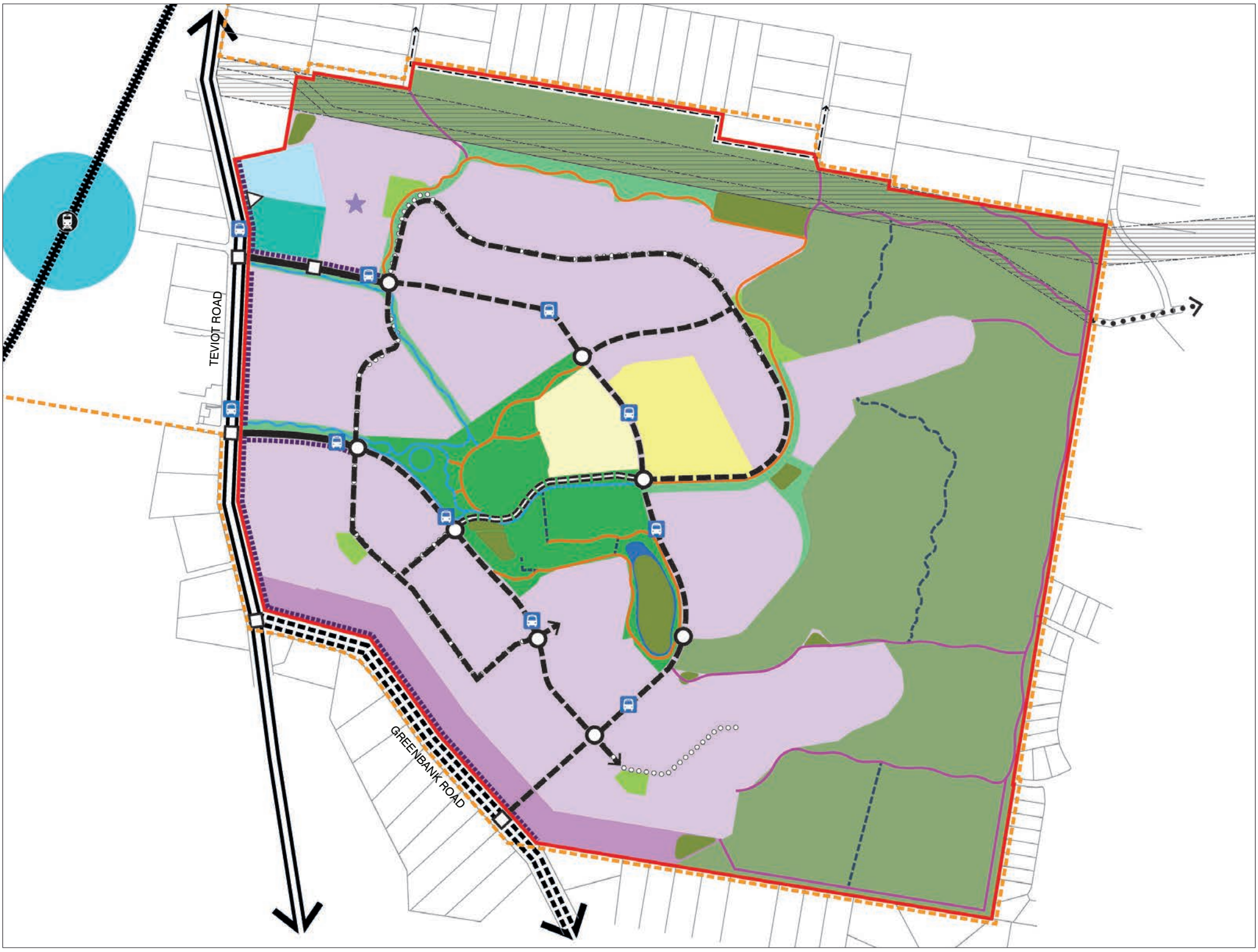
2.0 OVERALL MASTER PLAN

The Whole of Site Master Plan (Figure 2) illustrates how development will result in logical and integrated land use and infrastructure outcomes that are consistent with the Greater Flagstone Development Scheme October 2011 (Development Scheme).

This Master Plan refines outcomes for the site as shown in the Development Scheme, to provide site specific Master Plan Strategies. The culmination of these strategies achieves the Vision and Principles outlined by the Development Scheme.

Any component of this Master Plan may be varied by a future application.

FIGURE 2 – WHOLE OF SITE MASTER PLAN



LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Urban Arterial (Teviot Road)
- Rural Arterial (Greenbank Road)
- Trunk Connector Road Network
- Neighbourhood Connector Road Network
- Neighbourhood Park Connector
- Potential Access Points as Rural Access Street
- Indicative Location of Signalised Intersections
- Indicative Location of Roundabout Intersections
- Potential Left In Left Out
- No Direct Access to Residential Lots
- Indicative Locations of Future Bus Stops
- Primary Shared Path
- Secondary Shared Path
- Secondary Shared Path - Unpaved (Subject to EPBC constraints)
- Potential Shared Path (Pending Further Investigation)
- Indicative External Pedestrian Network
- Indicative Location of Wetland
- Indicative Location of Stormwater Quality/Quantity Basins

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

3.0 MASTER PLAN STRATEGIES

This Whole of Site Master Plan includes the following Master Plan Strategies:

1. Land Use Entitlements
2. Natural Environment
3. Open Space Network
4. Movement Network Plan 1 - Roads
5. Movement Network Plan 2 - Public Transport
6. Movement Network Plan 3 - Active Transport
7. Stormwater Management

Each strategy details the overall land use, network, infrastructure or environmental outcomes envisaged for this site and are illustrated in the following sections of this Master Plan.

Future development applications must be generally consistent with these strategies and the following supporting reports:

- Natural Environment Site Strategy
- Open Space Master Plan
- Movement Network Infrastructure Master Plan
- Stormwater Master Plan

Amendments to this Master Plan or associated strategies and supporting reports may be facilitated through a Section 99 Change to PDA development approval.

Land use entitlements are detailed by Figure 3. Land Use Entitlements for respective land uses are detailed by Table 1.

FIGURE 3 – LAND USE PLAN

LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

TABLE 1 - LAND USE ENTITLEMENTS

ELEMENT	OVERALL OUTCOMES
Residential Elements	
Residential – Standard Lots	A minimum net residential density of 15 dwellings per hectare is achieved (unless it can be demonstrated that this density cannot be achieved due to site constraints). No minimum lot size is applicable.
Residential – Interface Lots	Residential Interface Lots (South) are designed to provide a density transition between adjoining land uses and Residential Standard Lots. No lot is less than 3,000m^2.
Other Land Use Elements	
Neighbourhood Centre	Retail GFA does not exceed 4,000m^2; Commercial GFA does not exceed 1,000m^2; and Community Services GFA does not exceed 1,800m^2; unless the following criteria is met. Note: A development application that seeks to exceed these gross floor areas must be accompanied by an economic impact assessment that demonstrates how the proposed additional area will complement and not compromise the network of centres in Logan City. This analysis must also demonstrate that: a. Transport infrastructure can service the additional gross floor area and not jeopardise the road hierarchy and movement network; and b. The additional gross floor area provides for increased employment opportunities and contributes to self-containment within the PDA.
Community Facilities	Dedication/Transfer of a maximum 3.2 ha (or lesser amount as otherwise agreed with Department of Health) of land suitable for a Community Health Centre prior to the sealing of the 2,500th residential lot in the Master Plan area, or earlier if reasonably requested by Department of Health (in which case the proponent will use its best endeavours to accommodate the request).
Combined Regional Recreation and Regional Sport Park	A minimum of 25.0 ha is provided to achieve an integrated Regional Sport and Recreation Park.
State Primary School	Dedication/Transfer of a maximum 7.0 ha (or lesser amount as otherwise agreed with Department of Education & Training) of land suitable for a State Primary School prior to the sealing of the 560th residential lot in the Master Plan area, or earlier if reasonably requested by Department of Education & Training (in which case the proponent will use its best endeavours to accommodate the request).
State High School	Dedicate / transfer land suitable for a State High School, subject to State Agency acquisition
Neighbourhood Parks	Minimum of 4 x Neighbourhood Parks with a minimum area of 5,000m^2 each are provided.
Conservation Parkland (Corridor Park)	Land is dedicated / transferred for Conservation Parkland (Corridor Park) as generally shown in Figure 3. Activities that may occur within the Conservation Parkland (Corridor Park) include: ▪ Passive recreation (such as walking and bicycle trails); and ▪ Essential infrastructure, where any clearing is consistent with the outcomes required by the approved Natural Environment Site Strategy.
Other Uses	Other than in identified centres, non-residential uses may be approved in the urban living zone where it is demonstrated to the satisfaction of EDQ that: ▪ The proposed use has appropriate vehicular access that will not result in excessive numbers of vehicles passing through residential areas ▪ Cater for the needs of the immediate community and are consistent with or do not compete/undermine the vitality of the centres hierarchy ▪ Noise, dust, emissions will not affect residential or other sensitive uses.

3.1 MASTER PLAN STRATEGY 2 – NATURAL ENVIRONMENT

Natural Environment strategies are detailed by Figure 4.

FIGURE 4 – NATURAL ENVIRONMENT PLAN

LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]

Land Uses

- Conservation Parkland (Corridor Park)
- Watercourse Areas
- Watercourse Buffer Areas

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

3.2 MASTER PLAN STRATEGY 3 – OPEN SPACE NETWORK

Open Space Network strategies are detailed by Figure 5.

FIGURE 5 – OPEN SPACE NETWORK

LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Walkable Catchment for Parks (400m)

Land Uses

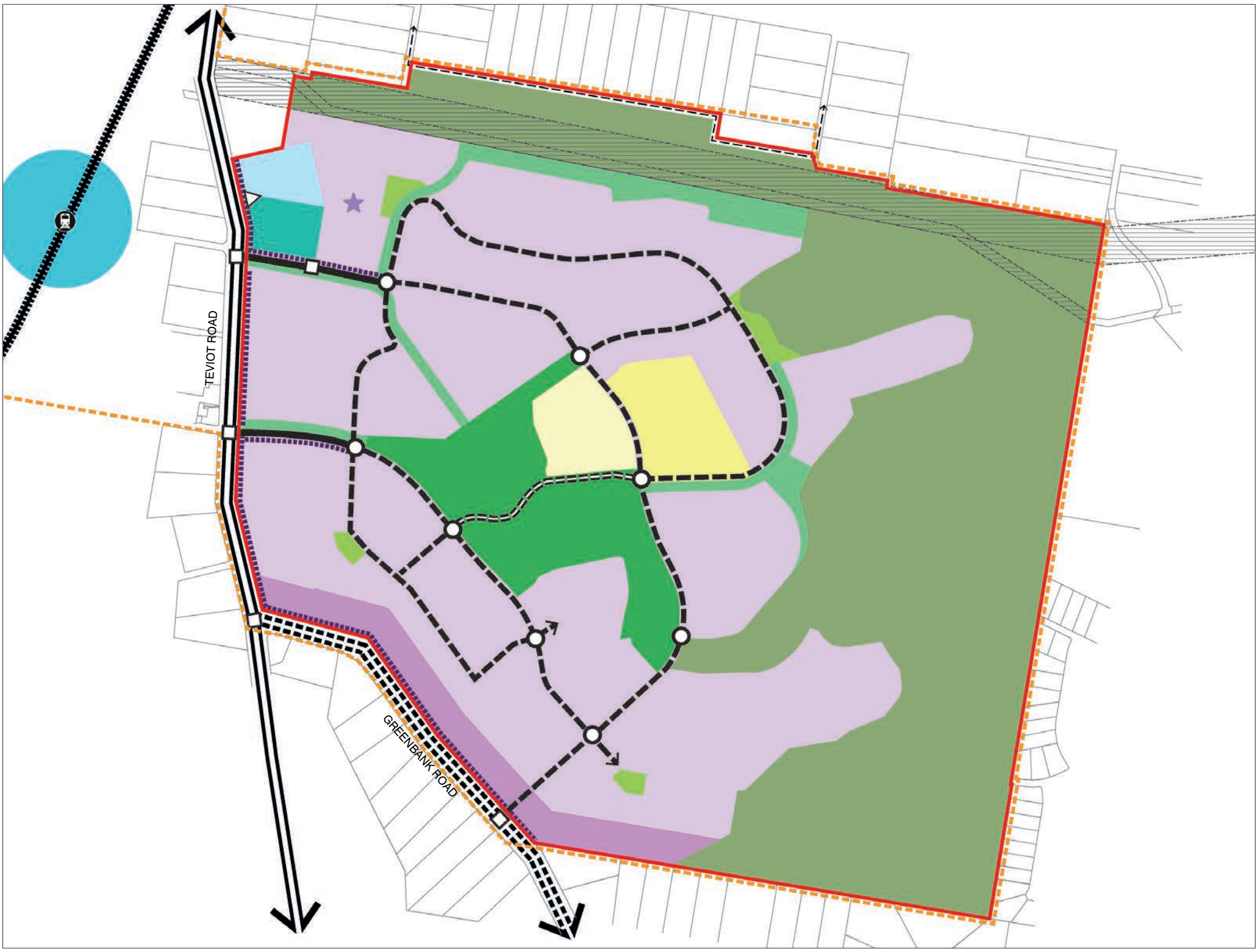
- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

3.3 MASTER PLAN STRATEGY 4 – MOVEMENT NETWORK

Movement strategies are detailed by Figures 6 - 8.

FIGURE 6 – MOVEMENT NETWORK PLAN 1 – ROADS



LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Indicative Location of Signalised Intersections
- Indicative Location of Roundabout Intersections
- Potential Left In Left Out
- No Direct Access to Residential Lots

Road Typologies

- Urban Arterial (Teviot Road)
- Rural Arterial (Greenbank Road)
- Trunk Connector
- Neighbourhood Connector
- Neighbourhood Park Connector

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

Public Transport strategies are detailed by Figure 7.

FIGURE 7 – MOVEMENT NETWORK PLAN 2 – PUBLIC TRANSPORT

LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Bus Compatible Route
- Indicative Internal Bus Stop Pair
- Indicative External Bus Stop Pair
- Indicative Internal School Bus Stop
- Walkable Catchment for Bus Stops (400m)

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

Active Transport strategies are detailed by Figure 8.

FIGURE 8 – MOVEMENT NETWORK PLAN 3 – ACTIVE TRANSPORT

LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Rail Corridor
- Existing Easements
- Potential Train Station [1]
- Indicative Connection Points
- Indicative External Off-Road Recreation Network
- Indicative Pedestrian Links
- Primary Shared Path
- Secondary Shared Path
- Secondary Shared Path - Unpaved (Subject to EPBC constraints)
- Potential Shared Path (Pending Further Investigation)
- Entry Points
- Crossover Connection Points

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

3.4 MASTER PLAN STRATEGY 5 – STORM WATER MANAGEMENT

Stormwater Management strategies are detailed by Figure 9.

FIGURE 9 – STORMWATER MANAGEMENT

LEGEND

- Greater Flagstone UDA Boundary
- Site Boundary
- Cadastre Boundaries
- Existing Easements
- Rail Corridor
- Potential Train Station [1]
- Indicative Location of Wetland
- Indicative Location of Stormwater Quality/Quantity Basins

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots
- Potential Land Lease Community (LLC)
- Neighbourhood Centre
- State Community Health Centre
- District Centre (external) [1]
- Conservation Parkland (Corridor Park)
- Combined Regional Recreation and Regional Sports Park
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Indicative Location of State High School (subject to State agency aquisition)

1 Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.
Note: Locations of Master Plan features are indicative and subject to detailed design.

Appendix 2 Concept masterplan

LEGEND

	Site Area	12.20ha
	Proposed Public Open Space	1.72ha
	Existing Public Open Space	
	Home Sites	5.83ha
	Private Roads	
	Communal Open Space	
	4m Visual and Acoustic Buffer	
	Caravan Parking	18 Bays
	Visitor Parking	74 Bays
	External Boundary Setback	
	Access Easement	

DEVELOPMENT SUMMARY

	Home Type	North	
TYPE 1	12.5 x 20m (Suspended Homes)	23	(10%)
TYPE 2	10.5 x 20m	27	(12%)
TYPE 3	12.5 x 20m	121	(54%)
TYPE 4	14.0 x 20m (RV)	40	(18%)
TYPE 5	9.2 x 20m	9	(4%)
	ODD SITES (12.5m wide with a chamfer)	5	(2%)
	TOTAL	**225**	

CLIENT
Serenitas
Management Pty Ltd

PROJECT NAME
PROJECT ARMSTRONG - EVERLEIGH
DRAWING
CONCEPT MASTER PLAN - OPTION E

PROJECT NO.	DRAWING NO.	SCALE	ISSUE	DATE
557300	SK.01	1: 2000 @ A3	P	07/05/2025

PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

50 Peerless Avenue
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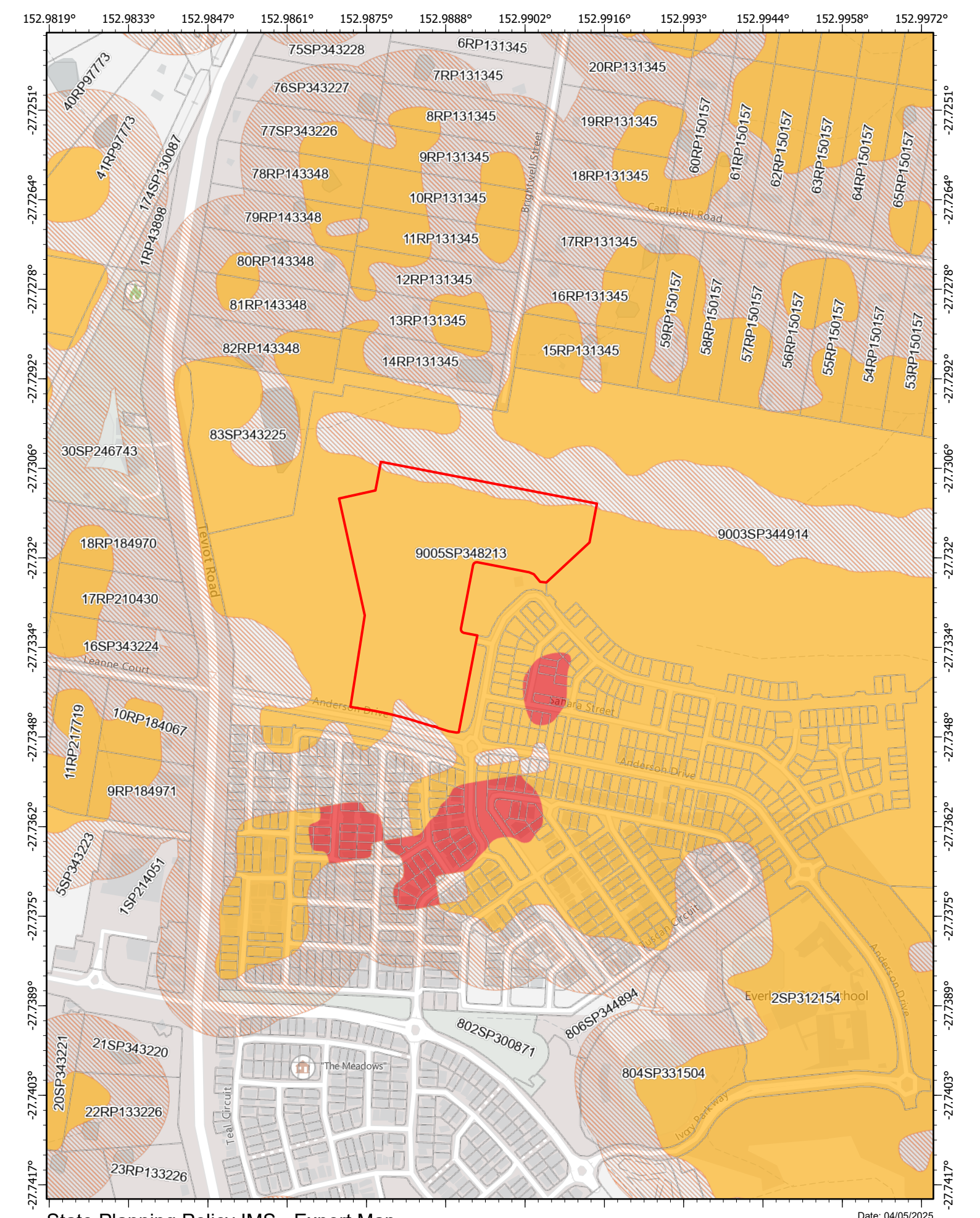
bda architecture

Appendix 3 Bushfire prone area map



State Planning Policy IMS - Export Map

Making or amending a local planning instrument and designing land for local infrastructure

Date: 04/05/2025

Disclaimer This map has been prepared with due care based on the best available information at the time of publication. However, the State of Queensland (acting through the department) makes no representations, either express or implied, that the map is free from errors, inconsistencies or omissions. Reliance on information contained in this map is the sole responsibility of the user. The State disclaims responsibility for any loss, damage or inconvenience caused as a result of reliance on information or data contained in this map.

N

Scale: 1:9,100

0 225

Metres

Queensland Government

Queensland Government


Cadastre (10k)

Bushfire prone area

CLASS


High Potential Bushfire Intensity

Medium Potential Bushfire Intensity


Potential Impact Buffer

State Planning Policy IMS - Export Map

Making or amending a local planning instrument and designing land for local infrastructure

Date: 04/05/2025

Queensland Government

Queensland Government

Appendix 4 Radiant heat exposure assessment

Bushfire attack scenario from BAU 4

- Forest fire danger index – 54
- Vegetation classification – VHC 9.2 *Moist to dry eucalypt woodland on coastal lowlands and ranges*
- Understorey fuel load – 14.9 tonnes/hectare (**t/ha**)
- Total fuel load – 17.2 t/ha
- Effective slope – 3° slope
- Site slope – 0° slope (constructed land form)
- Flame width – 100 metres (**m**)

FLAMESOL
FPA AUSTRALIA

Calculated April 28, 2025, 4:53 pm (MDc v.4.9)

J25004

Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	55	Rate of spread	1.2 km/h
Vegetation Classification	Woodland	Flame length	9.92 m
Understorey fuel load	14.9 t/ha	Flame angle	54 °, 64 °, 72 °, 77 °, 79 ° & 84 °
Total fuel load	17.2 t/ha	Elevation of receiver	4.01 m, 4.46 m, 4.72 m, 4.83 m, 4.87 m & 4.93 m
Vegetation height	n/a	Fire intensity	10,748 kW/m
Effective slope	3 °	Transmissivity	0.881, 0.867, 0.846, 0.822, 0.8090000000000001 & 0.74
Site slope	0 °	Viewfactor	0.5904, 0.438, 0.2938, 0.199, 0.1617 & 0.0443
Flame width	100 m	Minimum distance to < 40 kW/m²	8.300000000000001 m
Windspeed	n/a	Minimum distance to < 29 kW/m²	11.2 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	16.6 m
Flame temperature	1,090 K	Minimum distance to < 12.5 kW/m²	24.1 m
		Minimum distance to < 10 kW/m²	29 m

Rate of Spread - Mcarthur, 1973 & Noble et al., 1980

Flame length - NSW Rural Fire Service, 2001 & Noble et al., 1980

Elevation of receiver - Douglas & Tan, 2005

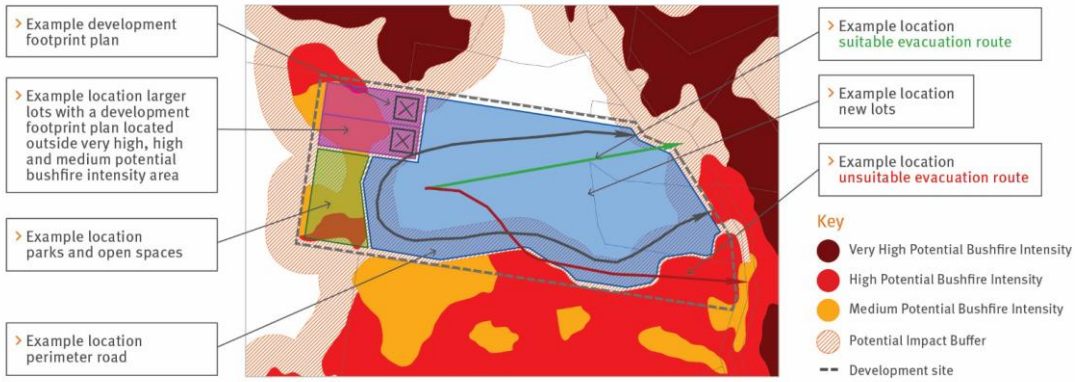
Flame angle - Douglas & Tan, 2005

Radiant heat flux - Drysdale, 1999, Sullivan et al., 2003, Douglas & Tan, 2005

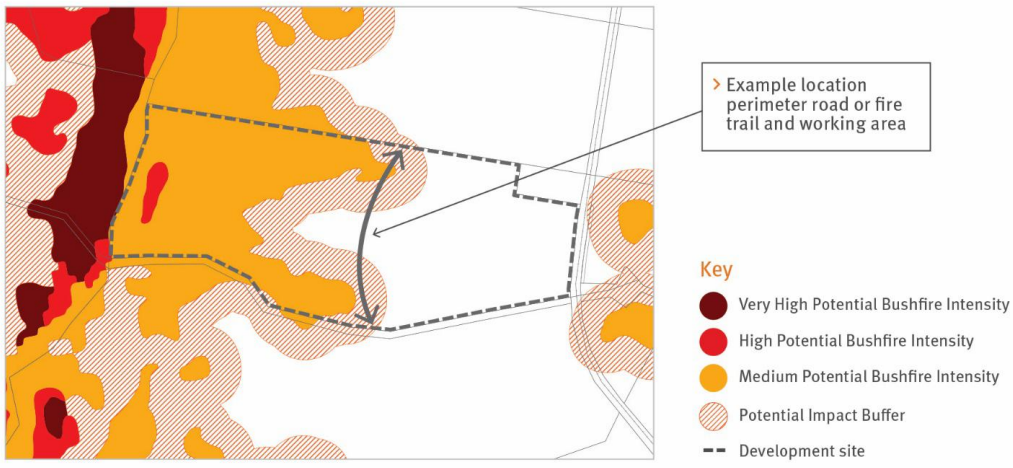
Appendix 5 Bushfire overlay code assessment

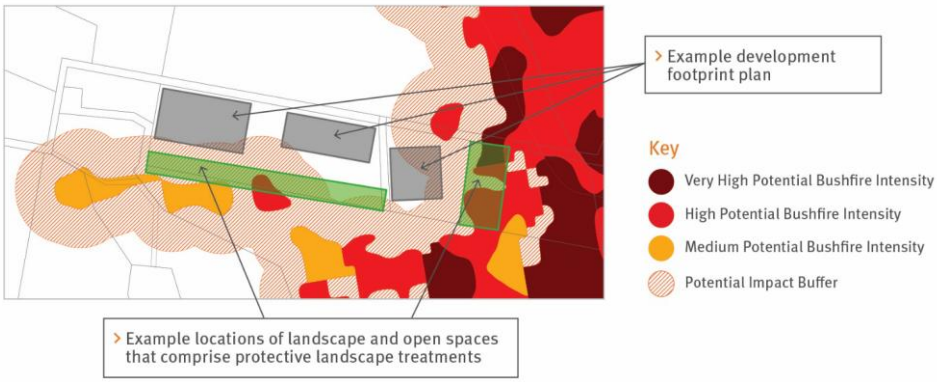
Performance outcomes	Acceptable outcomes	Compliance assessment
Section A **Reconfiguring a lot (RaL) – where creating lots of more than 2,000 square metres**		
PO1 The subdivision layout: (a) enables future buildings to be located away from slopes and land forms that expose people or property to an intolerable risk to life or property; and (b) facilitates emergency access and operational space for firefighters in a reduced fuel area between future buildings and structures and hazardous vegetation, that reduce risk to an acceptable or tolerable level. Note – An applicant may seek to undertake a site-level verification of the location and nature of hazardous vegetation and resulting potential bushfire intensity levels, for example where changes in foliage have occurred (e.g. as a consequence of adjoining permanent urban development) or where an applicant seeks to verify the regional ecosystem map inputs. This verification should form part of a bushfire hazard assessment in accordance with the methodology in the QFES *Bushfire resilient communities* document. The outcomes of this assessment can demonstrate how an alternate solution to the acceptable outcome can deliver an acceptable or tolerable level of risk.	**AO1.1** A development footprint plan is identified for each lot that avoids ridgelines, saddles and crests where slopes exceed 15 per cent. **AO1.2** A development footprint plan is identified for each lot that is separated from the closest edge to the adjacent mapped medium, high or very high potential bushfire intensity area by: (a) a distance that is no closer than the distances specified in Table 5 at all development footprint plan boundaries; or (b) a distance that achieves a radiant heat flux level of 29 kW/m2 or less at all development footprint plan boundaries. Note – This separation area is often termed an asset protection zone. Note – The radiant heat flux levels can be established by undertaking a bushfire hazard assessment in accordance with the methodology in the QFES Bushfire resilient communities document.	**Not applicable**
PO2 The subdivision layout enables: (a) future buildings to be located as close as possible to property entrances to facilitate safe evacuation during a bushfire event; and (b) future site access to be located and designed to allow safe evacuation of the site by occupants and maintain access by emergency services under critical event conditions.	**AO2** A development footprint plan is identified for each lot that: (a) is located within 60 metres of the street frontage; and (b) sited to enable a route between the development footprint plan and the street frontage with a gradient that does not exceed of 12.5 per cent.	**Not applicable**
Section B		
Reconfiguring a lot (RaL) – where creating lots of 2,000 square metres or less		
PO3 The subdivision layout: (a) avoids creating lots on slopes and land forms that expose people or property to an intolerable risk to life or property; and (b) facilitates emergency access and operational space for	**AO3.1** The subdivision layout results in lots that are sited so that they are separated from the closest edge to the adjacent mapped medium, high or very high potential bushfire intensity area by: (a) a distance that is no closer than the distances specified	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance assessment
firefighters in a reduced fuel area between future buildings and structures and hazardous vegetation, that reduce risk to an acceptable or tolerable level. Note – An applicant may seek to undertake a site-level verification of the location and nature of hazardous vegetation and resulting potential bushfire intensity levels, for example where changes in foliage have occurred (e.g. as a consequence of adjoining permanent urban development) or where an applicant seeks to verify the regional ecosystem map inputs. This verification should form part of a bushfire hazard assessment, in accordance with the methodology in the QFES *Bushfire resilient communities* document. The outcomes of this assessment can demonstrate how an alternate solution to the acceptable outcome can deliver an acceptable or tolerable level of risk.	in Table 5 at all lot boundaries; or : (b) a distance that achieves a radiant heat flux level of 29 kW/m^2 or less: (i) at the building envelope, if identified at RaL stage; or (ii) where a building envelope is not identified, at all lot boundaries. Note – This separation area is often termed an asset protection zone. Note – The radiant heat flux levels can be established by undertaking a bushfire hazard assessment in accordance with the methodology in the QFES *Bushfire resilient communities* document. Note – For staged developments, temporary separation areas may be absorbed as part of subsequent stages. Note - Existing cleared areas external to the site may only be used in calculating necessary separation where tenure ensures that the land will remain cleared of hazardous vegetation (for example the land is a road, watercourse or highly managed park in public ownership).	
	AO3.2 The subdivision layout does not create lots that are within bushfire prone areas and on ridgelines, saddles and crests where slopes exceed 15 per cent (roads and parks may be located in these areas).	**Not applicable**
Section C		
Reconfiguring a lot (RaL) – where creating more than 20 lots		
PO4 The subdivision layout is designed to minimise the length of the development perimeter and number of lots exposed to hazardous vegetation. Note – For example, avoid finger-like subdivision patterns or substantive vegetated corridors between lots.	**AO4** No acceptable outcome is prescribed	**Not applicable**
PO5 The subdivision layout provides for adequate access and egress and safe evacuation routes, to achieve an acceptable or tolerable risk to people.	**AO5.1** The subdivision layout: (a) avoids the creation of bottle-neck points in the movement network within the development (for example, avoids	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance assessment
	hourglass patterns); and (b) ensures the road network has sufficient capacity for the evacuating population.	
	AO5.2 The subdivision layout ensures evacuation routes: (a) direct occupants away from rather than towards or through areas with a greater potential bushfire intensity; and (b) minimise the length of route through bushfire prone areas. Refer Figure 5.	
 *Figure 5 – Subdivision layout and evacuation routes*		
PO6 The subdivision layout provides adequate buffers between hazardous vegetation and development. Note – An applicant may seek to undertake a site-level verification of the location and nature of hazardous vegetation and resulting potential bushfire intensity levels, for example where changes in foliage have occurred (e.g. as a consequence of adjoining permanent urban development) or where an applicant seeks to verify the regional ecosystem map inputs. This verification should form part of a bushfire hazard assessment, in accordance with the methodology in the QFES *Bushfire resilient communities* document. The outcomes of this assessment can demonstrate how an alternate solution to the acceptable outcome can deliver an acceptable or tolerable level of risk.	**AO6.1** The subdivision layout results in an asset protection zone being located to create a separation area from adjacent mapped medium, high or very high potential bushfire intensity areas.	**Not applicable**
	AO6.2 The asset protection zone is comprised of: (a) parks and open spaces; and/or (b) lots greater than 2000 square metres; and/or (c) public roads (termed perimeter roads). Note – Parks and open space may be located within the mapped medium, high and very high potential bushfire intensity areas to create a separation between the development and the balance of the bushfire prone area. Note – Portions of lots greater than 2000 square metres may be located within the mapped medium, high and very high potential bushfire intensity areas. Refer Figure 5.	

Performance outcomes	Acceptable outcomes	Compliance assessment
	AO6.3 Where the asset protection zone includes lots greater than 2000 square metres a development footprint plan is identified for each lot that is located in accordance with AO1.2.	
PO7 Parks or open space provided as part of the asset protection zone do not create additional bushfire prone areas. Note –The undertaking of a bushfire hazard assessment, in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this performance outcome.	**AO7** Where the asset protection zone includes parks or open spaces, they: (a) comprise only low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, cultivated gardens and nature strips; or (b) are designed to ensure a potential available fuel load is maintained at less than eight tonnes/hectare in aggregate and with a fuel structure that remains discontinuous. Note – Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack, for example short-cropped grass to a nominal height of 10 centimetres.	**Not applicable**
PO8 Perimeter roads are accessible for fire-fighting vehicles, to facilitate emergency access and operational space for fire- fighting, maintenance works and hazard reduction activities.	**AO8.1** Where the asset protection zone includes a perimeter road it: (a) has a two-lane sealed carriageway clear of hazardous vegetation; and (b) is connected to the wider public road network at both ends and at intervals of no more than 200 metres; and (c) does not include design elements that may impede access for fire-fighting and maintenance for fire- fighting purposes (for example traffic calming involving chicanes).	**Not applicable**
	AO8.2 Where the subdivision contains a reticulated water supply, the road network and fire hydrants are designed and installed in accordance with: (a) *Fire Hydrant and Vehicle Access Guidelines for residential, commercial and industrial lots*, Queensland Fire and Emergency Services, 2015, unless	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance assessment
	otherwise specified by the relevant water entity; and (b) the *Road Planning and Design Manual 2nd edition*, Department of Transport and Main Roads, 2013.	
Section D		
Reconfiguring a lot (RaL) – where creating additional lots for the purpose of residential development and a reticulated water supply is not provided.		
PO9 The subdivision layout provides for perimeter roads or fire trail and working areas that are accessible by the type of fire-fighting vehicles servicing the area, to facilitate emergency access and operational space for fire-fighting, maintenance works and hazard reduction activities.	**AO9.1** The subdivision layout includes: (a) a fire trail and working area designed and constructed in accordance with the design parameters in Table 6 that separates the residential lot or development footprint plan from adjacent mapped medium, high or very high potential bushfire intensity areas; or (b) a perimeter road designed and constructed in accordance with AO8.1. Refer Figure 6.	**Not applicable**
 *Figure 6 – Siting of fire trail and working area*		
Section E		
Material change of use		
PO10 Site layout achieve an acceptable or tolerable risk to people. Landscape or open space provided as part of the development: (a) acts as a buffer between hazardous	**AO10.1** Site layout places the landscape and open spaces within the site between premises and adjacent mapped medium, high or very high potential bushfire intensity areas.	**Complies with AO10.1** The site layout places a private linear park between the medium potential bushfire intensity area and the proposed home sites and sewer pump station.

Performance outcomes	Acceptable outcomes	Compliance assessment
vegetation and development; and (b) does not create additional bushfire prone areas. Note – An applicant may seek to undertake a site-level verification of the location and nature of hazardous vegetation and resulting potential bushfire intensity levels, for example where changes in foliage have occurred (e.g. as a consequence of adjoining permanent urban development) or where an applicant seeks to verify the regional ecosystem map inputs. This verification should form part of a bushfire hazard assessment in accordance with the methodology in the QFES *Bushfire resilient communities* document. The outcomes of this assessment can demonstrate how an alternate solution to the acceptable outcome can deliver an acceptable or tolerable level of risk.	Refer Figure 7.	As shown in Figure 6.1 of the bushfire management plan (**BMP**), the proposed private linear park is identified as an asset protection zone (**APZ**) and will separate the proposed home sites and sewer pump station from the medium potential bushfire intensity area by a distance which achieves a radiant heat flux level ≤ 10 kilowatt/metre square (**kW/m²**) at the proposed homesites and ≤ 29 kW/m² at the proposed sewer pump station.
	AO10.2 This landscaping and open space comprises protective landscape treatments that: (a) comprise only low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses and cultivated gardens; or (b) are designed to ensure a potential available fuel load is maintained at less than 8 tonnes/hectare in aggregate and that fuel structure remains discontinuous. Note – Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack, for example short-cropped grass to a nominal height of 10 centimetres.	**Complies with AO10.2** Specifications for landscaping and maintenance within the APZ and the balance of the site are provided in Sections 6.1 and 6.2 of the BMP and comply with AO10.2 (a) and (b).
 *Figure 7 – Siting of protective landscape treatments*		
PO11 The development establishes evacuation areas, to achieve an acceptable or tolerable risk to people.	**AO11** If in an isolated location, development establishes direct access to a safe assembly/evacuation area. Note – Guidance on identifying safe evacuation areas is contained in the QFES *Bushfire resilient communities* document.	**Complies with AO11** The proposed development is not in an isolated location and does not require evacuation areas.

Performance outcomes	Acceptable outcomes	Compliance assessment
PO12 If on a lot of over 2,000 m^2, where involving a new premises or an existing premises with an increase in development footprint, development: (a) locates occupied areas as close as possible to property entrances to facilitate safe evacuation during a bushfire event; and (b) ensures vehicular access is located and designed to allow safe evacuation of the site by occupants and maintain access by emergency services under critical event conditions	**AO12** No acceptable outcome is prescribed.	**Complies with PO12** Section 6.4 of the BMP requires the proposed private roads to be designed and constructed to provide efficient access and egress for an urban fire truck in accordance with *Fire hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial lots* (QFES 2019b) (**Fire hydrant and vehicle access guidelines**) which defers to the *Road Planning and Design Manual – 2nd Edition* (DTMR 2013) for load bearing capacity, geometry and turning radii.
PO13 Development is located within a reticulated water supply area or includes a dedicated static water supply that is available solely for fire-fighting purposes and can be accessed by fire-fighting vehicles. Note – Swimming pools, farm ponds and dams are not considered reliable sources of static water supply in Queensland due to regular drought events. Note for Local Government – Information on how to provide an appropriate static water supply, may form a condition of a development approval. For further information on preferred solutions refer to the QFES *Bushfire resilient communities* document.	**AO13** No acceptable outcome is prescribed	**Complies with PO13** The proposed development will be connected to mains water. The mains water connection will be in accordance with the local water retailer's specifications for supply and pressure. A hydrant system will be installed in the private road reserves. It will be designed and constructed in accordance with Fire hydrant and vehicle access guidelines which defers to the local water retailer's specifications and the *Australian Standard* (**AS 2419.1-2021**) *Fire hydrant installations, System design, installation and commissioning.* Where there are differences between the local water retailer's specifications and AS 2419.1-2021, the higher-level standard should prevail.
PO14 Vulnerable uses listed in Table 7 are not established or intensified within a bushfire prone area unless: (a) there is an overriding need in the public interest for the new or expanded service the development provides; and (b) there are no other suitable alternative locations within the required catchment; and (c) site planning can appropriately mitigate the risk (for example, siting ovals for an educational establishment between the hazardous vegetation and	**AO14.1** No acceptable outcome is prescribed.	**Compliance with PO14** The proposed development involves a vulnerable use as defined in Table 7 of *Natural Hazards, Risk and Resilience – Bushfire, State Planning Policy State Interest guidance material 2019* (**SPP guidance material – bushfire**). In accordance with the note to PO14, the BMP defers to advice in *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience - Bushfire' 2019* which identifies that site planning may incorporate a setback from hazardous vegetation as a risk mitigation treatment.

Performance outcomes	Acceptable outcomes	Compliance assessment
structures. Note – The preparation of a bushfire management plan in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this performance outcome		As shown in Figure 6.1 of the BMP, the private linear park is identified as an APZ and will separate the proposed homesites from the medium potential bushfire intensity area by a distance which achieves a radiant heat flux level ≤ 10 kW/m^2 at the proposed homesites.
PO15 Community infrastructure providing essential services listed in Table 7 are not established within a bushfire prone area unless: (a) there is an overriding need in the public interest for the new or expanded service the development provides (for example, there are no other suitable alternative locations that can deliver the required level of service or meet emergency service response times during and immediately after a bushfire event); and (b) the infrastructure can function effectively during and immediately after a bushfire event. Note – The preparation of a bushfire management plan in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this performance outcome.	**AO15** No acceptable outcome is prescribed.	**Complies with PO15** The proposed development does not involve community infrastructure for essential services.
PO16 Development avoids or mitigates the risks to public safety and the environment from the manufacture or storage of materials listed in Table 7 that are hazardous in the context of bushfire to an acceptable or tolerable level. Note – The preparation of a bushfire management plan in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this acceptable outcome. Editor's note – In addition to the requirements of this code the *Work Health and Safety Act 2011* and associated Regulation and Guidelines, the *Environmental Protection Act 1994* and the relevant building assessment provisions under the *Building Act 1975* contain requirements for the manufacture and storage of hazardous substances. Information is provided by Business Queensland on the requirements for storing and transporting hazardous chemicals, available at: www.business.qld.gov.au/running-	**AO16** No acceptable outcome is prescribed.	**Complies with PO16** The proposed development does not involve the storage of hazardous materials in the context of bushfire hazard as defined in Table 7 of the SPP guidance material – bushfire.

Performance outcomes	Acceptable outcomes	Compliance assessment
business/protecting-business/risk-management/hazardous-chemicals/storing-transporting.		
Section F		
Where involving an asset protection zone		
PO17 Asset protection zones are designed and managed to ensure they do not increase the potential for bushfire hazard. Note – The preparation of a landscape management plan undertaken in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this performance outcome.	**AO17.1** Landscaping treatments within any asset protection zone comprise only low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks. Note – Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack, for example short-cropped grass to a nominal height of 10 centimetres. OR	**Complies with AO17.1** Specifications for establishing and maintaining the APZ are provided in Sections 6.1 of the BMP and comply with AO17.1.
	AO17.2 Landscaping management within any asset protection zone maintains a: (a) potential available fuel load which is less than eight tonnes/hectare in aggregate; and (b) fuel structure which is discontinuous. Note – The preparation of a landscape management plan undertaken in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this acceptable outcome.	**Complies with AO17.2** Specifications for establishing and maintaining the APZ are provided in Sections 6.1 of the BMP and comply with AO17.2.
Section G		
Where planning provisions or conditions of approval require revegetation or rehabilitation		
PO18 Revegetation or rehabilitation areas are designed and managed to ensure they do not result in an unacceptable level of risk or an increase in bushfire intensity level. Note – The undertaking of a bushfire hazard assessment in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this performance outcome.	**AO18.1** Required revegetation or rehabilitation: (a) is located outside of any asset protection zone; or (b) maintains a potential available fuel load which is less than eight tonnes/hectare in aggregate and fuel structure which is discontinuous. Note – The preparation of a landscape management plan undertaken in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with acceptable outcome (b).	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance assessment
	AO18.2 Revegetation or rehabilitation of areas located within mapped medium, high or very high potential bushfire intensity areas, revegetate and rehabilitate in a manner that maintains or reduces the existing fuel load. OR Revegetation or rehabilitation of areas located within the mapped potential impact buffer area, revegetate and rehabilitate in a manner that maintains or reduces the existing fuel load. Note – The preparation of a vegetation management plan undertaken in accordance with the methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this acceptable outcome.	**Not applicable**

Table 6 – Fire trail and working area design parameters

Parameter	Provisions
Width	Contains a width of at least 20 metres including: 1. A trafficable area (cleared and formed); a. with a minimum width of 4 metres than can accommodate a rural firefighting vehicle b. with no less than 4.8 metres vertical clearance from canopy vegetation c. with no adjacent inhibiting embankments or retaining walls 2. A working area each side of the trafficable area: a. with a minimum width of 3 metres each side b. cleared of all flammable vegetation greater than 10 centimetres in height 3. The balance (i.e. 10 metre width) managed vegetation area: a. sited to separate the trafficable area from adjacent mapped medium, high or very high potential bushfire intensity areas managed vegetation b. comprising managed vegetation clear of major surface hazards.
Access	Access is granted in favour of the local government and Queensland Fire and Emergency Services Note – this access is commonly granted in the form of a easement that is to be maintained by the grantor.
Egress	Contains trafficable vehicle routes in to low hazard areas, every 200 metres

Table 7 – Vulnerable uses, community infrastructure for essential services and materials that are hazardous in the context of bushfire hazard

Group	Uses
Vulnerable uses	*childcare centre, community care centre, detention facility, educational establishment, hospital, nature-based tourism, relocatable home park, rooming accommodation, residential care facility, resort complex, retirement facility, tourist park*
Community infrastructure for essential services	*educational establishment, emergency services, hospital*
Hazardous materials in the context of bushfire hazard	Hazardous chemicals that are present at the levels or in the quantities that would constitute the use being a hazardous chemical facility Hazardous materials that are present in the quantities in the Work Health and Safety Regulation, schedule 15