APPENDIX M BUSHFIRE MANAGEMENT PLAN

Land and environment consultants

Bushfire management plan

Proposed development | Everleigh ROL 13 - Precincts 5, 6 and 7 | Teviot Road | Greenbank | Queensland

Prepared for Mirvac Queensland Pty Ltd | 24 May 2024

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Bushfire management plan

Final

Report 22072 | Mirvac Queensland Pty Ltd | 24 May 2024

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Position	Managing principal
Signature	
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Table of contents

Contents

Figures

Tables

Photographs

Appendix

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 reconfiguration of lots (**ROL**) - Everleigh ROL 13 (**proposed development**) within precincts 5, 6 and 7, at Teviot Road, Greenbank (**the site**), properly described as part of lots 9003/SP344891, 9002 and 9004/SP334753.

A development application will be made for the proposed development under the *Greater Flagstone Urban Development Area - Development Scheme.* Economic Development Queensland will be the assessment authority.

The site is identified as a bushfire hazard area by the Queensland State Planning Policy *Bushfire prone area map* (**Bushfire prone area map**). Therefore, the development application for the proposed development will be subject to compliance with the bushfire hazard outcomes of the *Greater Flagstone Priority Development Area – Development Scheme* which calls upon the superseded *State Planning Policy 1/03 Guideline - Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* (DLGP, DES 2003) (**SPP 1/03 guideline**) for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 came into effect. Therefore, it is considered relevant that this BMP considers outcomes sought by the current SPP 2017 by way of 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**).

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) (**Bushfire resilient communities**), which was prepared by the Queensland Fire and Emergency Services (**QFES**) to provide technical guidance for the implementation of the SPP guidance material – bushfire.

This BMP 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;
- radiant heat exposure assessment;
- 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 SPP guidance material – bushfire and Bushfire resilient communities, the following tasks were undertaken:

- review of the Bushfire prone area map in the State Planning Policy interactive mapping system (DSDILGP 2023) and the Queensland regional ecosystem (**RE**) map, vegetation hazard class (**VHC**) map, severe fire weather map and fire history map in the QFES online mapping system (QFES 2023) (**Catalyst**);
- inspection of land within 100 metres (**m**) of 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 Bushfire resilient communities;
- 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 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 was accessed online from Google Earth to assist in validating observations and measurements made during the site assessment.

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 site is located within the Everleigh master planned community (**Everleigh**) at Teviot Road, Greenbank which was previously described as lot 9/S312355 and lots 205 and 434/RP845844. The approximate location of the site within Everleigh is identified in the approved overall master plan provided in Appendix 1.

Land adjacent to the site's northern and western boundaries has been cleared of bushland vegetation for existing development, approved development and proposed development which is in accordance with the approved overall master plan.

At this stage of Everleigh's development, there is an opportunity to minimise the potential bushfire hazard of landscaped areas within the regional sport and recreation park, wetland and stormwater management areas adjoining the site's western boundary.

Land adjacent to the site's southern and eastern boundaries is identified in the approved overall master plan as conservation area and will remain a large continuous area of bushland vegetation.

2.2 Proposed development

The ROL plan for the proposed development is provided in Appendix 2 and shows the proposed layout of roads, residential lots, parks and additional verge for bushfire buffer.

Future development within the proposed high school lot and super lot will be subject to separate development applications. It is not included in this BMP.

Major linear park lots will be landscaped with a combination of groundcover, shrub and tree species from the local REs and will have continuous bushfire fuel.

Local parks, pedestrian links and neighbourhood parks will be embellished with pathways and park furniture, mostly landscaped with turf and will not have continuous bushfire fuel.

Maintenance access to the stormwater management areas within proposed park lot 842 will be located along the rear boundaries of proposed lots 5349, 5350, 5351 and 5352. It will consist of a vehicle track with turf verges and will not have continuous bushfire fuel. A concept drawing of the maintenance access is provided in Appendix 3.

The additional verge for bushfire buffer, which adjoins the perimeter road in precinct 7, will be landscaped with low form groundcover species and maintained to provide a low bushfire fuel hazard area.

A perimeter road and neighbourhood park are used to separate bushland vegetation within the conservation area from most of the residential lots.

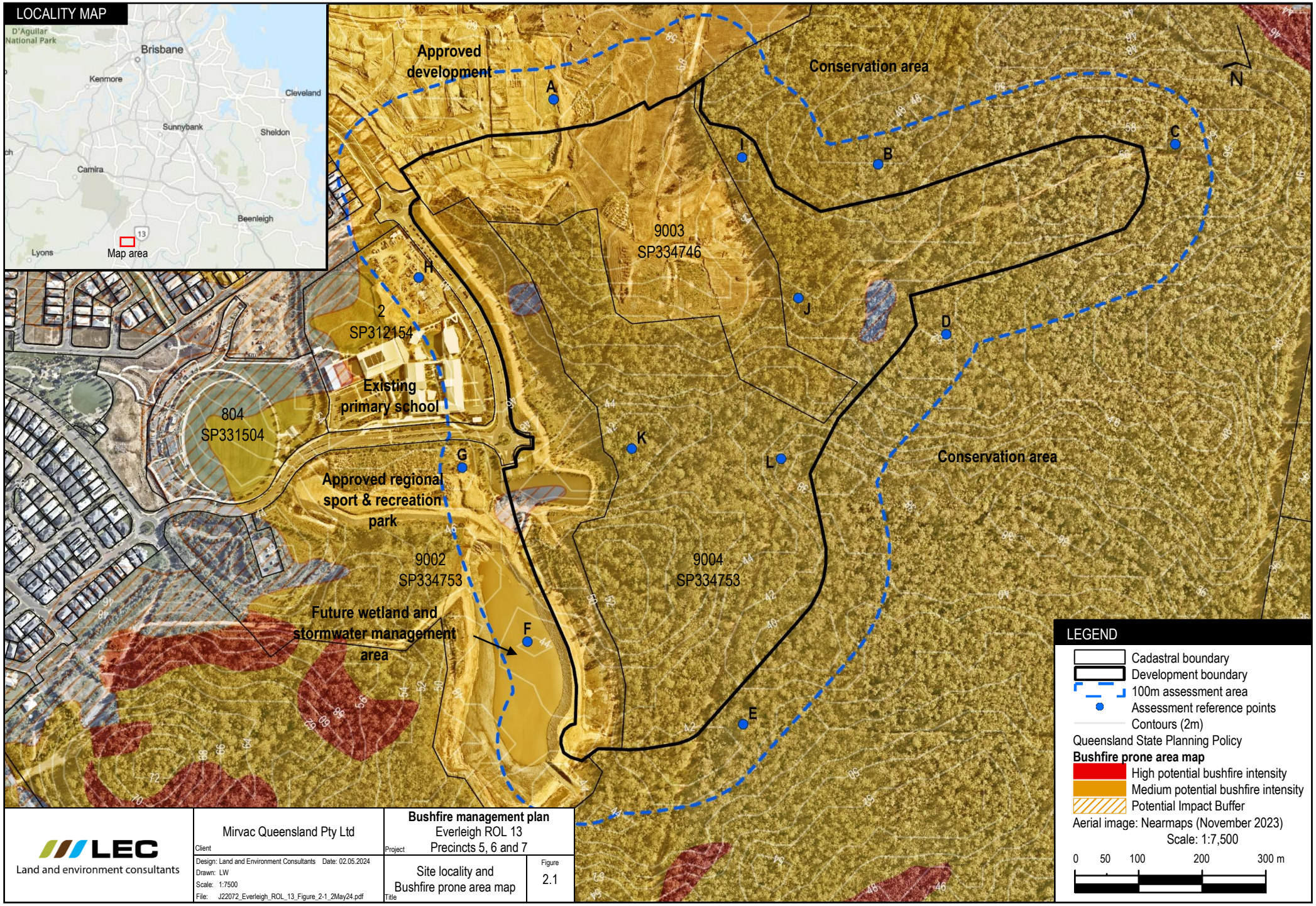
Access and egress for the proposed development will be provided via a network of neighbourhood connector roads which are shown in the approved overall master plan provided in Appendix 1.

The proposed development will be connected to mains water and will include an appropriately designed hydrant system.

2.3 Bushfire prone area map

The Bushfire prone area map for the site is shown in Figure 2.1. 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/m (**kW/m**) and the land within 100 m of this vegetation.



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Client: Mirvac Queensland Pty Ltd	Project: **Bushfire management plan** Everleigh ROL 13 Precincts 5, 6 and 7	
Design: Land and Environment Consultants Date: 02.05.2024 Drawn: LW Scale: 1:7500 File: J22072_Everleigh_ROL_13_Figure_2-1_2May24.pdf	Title: Site locality and Bushfire prone area map	Figure 2.1

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 map in Catalyst 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 3.5 and the radiant heat exposure assessment in Section 5.10.

3.2 Fire history

Fire history data in Catalyst indicates no fires have occurred within 1 kilometre (**km**) of the site during the past 10 years. Nonetheless, planned burn documentation provided by Mirvac Queensland Pty Ltd indicates one planned burn has been conducted in a small part of the conservation area which adjoins the southern and eastern boundaries of the site.

3.3 Site inspection

LEC inspected land within 100 m of the site on 20 September 2022, 24 April 2023 and 12 May 2023. Observations were recorded about current land use and management, vegetation characteristics, the slope of land and evidence of previous fires.

The locations of assessment reference points used for the bushfire hazard assessment are shown in Figure 2.1. Table 3.1 provides a summary of observations from the site inspection and notes about the bushfire hazard assessment of assessment reference points. Features of assessment reference points are shown in Photograph 3.1-Photograph 3.8.

Table 3.1 Site observations

Assessment reference point	Catalyst VHC	Ground truthed VHC	Notes
A	VHC 10.1 *Spotted gum dominated open forest* (**VHC 10.1**)	-	Assessment reference point A is aligned with an approved residential subdivision which is under construction. Therefore, it is assessed as VHC 42.6 *Nil to very low vegetation cover* (**VHC 42.6**) in this BMP.
B	VHC 9.2 *Moist to dry eucalypt woodland on coastal lowlands and ranges* (**VHC 9.2**)	VHC 9.2	Bushland vegetation within the conservation area.
C	VHC 9.2	VHC 9.2	Bushland vegetation within the conservation area.
D	VHC 9.2	VHC 9.2	Bushland vegetation within the conservation area.
E	VHC 9.2	VHC 9.2	Bushland vegetation within the conservation area.
F	VHC 10.1	-	Assessment reference point F is identified in the approved overall master plan provided in Appendix 1 as a wetland and stormwater management area. It is assumed landscaping in this area will be designed to result in discontinuous vegetation cover which correlates with

Table 3.1 Site observations

Assessment reference point	Catalyst VHC	Ground truthed VHC	Notes
			VHC 39.2 *Low to moderate tree cover in built up areas* (**VHC 39.2**).
G	VHC 10.1	-	Assessment reference point G is aligned with the approved regional sport and recreation park which is under construction. Therefore, it is assessed as VHC 41.4 *Discontinuous low grass or tree cover* (**VHC 41.4**) in this BMP.
H	VHC 10.1	VHC 41.4	Existing primary school.
I	VHC 9.2	-	Assessment reference point I is aligned with the neighbourhood park in proposed park lot 840 . It will be mostly landscaped with turf, maintained and will have discontinuous bushfire fuels. Therefore, it is assessed as VHC 41.4.
J	VHC 9.2	-	Assessment reference point J is aligned with a 15 m wide major linear park in proposed park lot 841. It will be landscaped with a combination of groundcover, shrub and tree species from the local REs and will correlate with VHC 9.2 as the landscaping matures.
K	VHC 10.1	-	Assessment reference point K is aligned with a 15 m wide major linear park in proposed park lot 845. It will be landscaped with a combination of groundcover, shrub and tree species from the local REs and will correlate with VHC 10.1 as the landscaping matures.
L	VHC 9.2	-	Assessment reference point L is aligned with a major linear park, ie proposed park lots 842 and 843. It will be landscaped with a combination of groundcover, shrub and tree species from the local REs and will correlate with VHC 9.2 as the landscaping matures.

Photograph 3.1 Approved residential subdivision at A

Photograph 3.2 VHC 9.2 at B

Photograph 3.3 VHC 9.2 at C

Photograph 3.4 VHC 9.2 at D

Photograph 3.5 VHC 9.2 at E

Photograph 3.6 Future wetland and stormwater management structures at F

Photograph 3.7 Approved regional sport and recreation park at G

Photograph 3.8 VHC 41.4 at H

3.4 Small patch and narrow corridor mapping rules

The major linear parks identified as assessment reference points J and K in Figure 2.1, were assessed against the small patch and narrow corridor mapping rules in Section 4.2.6 of Bushfire resilient communities which 'reflect the likelihood of lower fireline intensities in smaller vegetation patches and narrow vegetation corridors'.

Landscaping within the major linear parks identified as assessment reference points J and K will be 15 m wide and will adjoin roads, residential lots and the future development within the super lot. The

VHCs associated with the roads, residential lots and the future development within the super lot, ie VHC 41.4 and VHC 42.6, are defined in Bushfire resilient communities as having discontinuous bushfire fuels and as being a low hazard, ie they will not carry a bushfire. Therefore, the major linear parks at assessment reference points J and K are assessed as meeting the criteria for the narrow corridors filter in Bushfire resilient communities.

Bushfire resilient communities recognises that narrow corridors of vegetation which meet the criteria for the narrow corridors filter are less likely to ignite due to their disconnection with large bushland areas that can carry a full intensity running fire front. Therefore, if a narrow corridor of vegetation is ignited it will likely be from a point ignition which requires both distance and area to develop into a running fire front of considerable hazard. On this basis, if a fire front did emerge from the major linear parks identified as assessment reference points J and K, it would be narrow in width and significantly less in intensity than a fire front which has had sufficient time and area to develop. As a result, Bushfire resilient communities assigns narrow corridors of vegetation which meet the narrow corridors filter a potential bushfire intensity of < 4,000 kW/m and deems them to be a non-bushfire hazard class for the purpose of land use planning and development assessment.

3.5 Potential bushfire intensity calculations

The potential bushfire intensity of assessment reference points 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 Bushfire resilient communities.

Bushfire resilient communities define 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 assessment reference points shown in Figure 2.1 are presented in Table 3.2.

Table 3.2 Potential bushfire intensity

Assessment reference point	VHC	Potential fuel load (tonnes/ha)[1]	Slope (°)[2]	Potential bushfire intensity (kW/m)	Bushfire hazard class
A	VHC 42.6	2	0	136	Non – bushfire hazard class
B	VHC 9.2	17.2	3	12,408	Medium
C	VHC 9.2	17.2	3	12,408	Medium
D	VHC 9.2	17.2	3	12,408	Medium
E	VHC 9.2	17.2	3	12,408	Medium
F	VHC 39.2	8	0	2,182	Non – bushfire hazard class
G	VHC 41.4	3	0	307	Non – bushfire hazard class
H	VHC 41.4	3	0	307	Non – bushfire hazard class
I	VHC 41.4	3	0	307	Non – bushfire hazard class
J	VHC 9.2	-	-	< 4,000[3]	Non – bushfire hazard class
K	VHC 10.1	-	-	< 4,000[3]	Non – bushfire hazard class

Table 3.2 Potential bushfire intensity

Assessment reference point	VHC	Potential fuel load (tonnes/ha)[1]	Slope (°)[2]	Potential bushfire intensity (kW/m)	Bushfire hazard class
L	VHC 9.2	17.2	3	12,408	Medium

Notes 1 Potential fuel load taken from Bushfire resilient communities.
2 Slope defaults to 0° for VHC 39.2, VHC 41.4 and VHC 42.6 which have discontinuous bushfire fuels.
3 Assessment reference point was assessed in Section 3.4 as meeting the narrow corridor filter in Bushfire resilient communities.

3.6 Bushfire hazard areas

Results of the potential bushfire intensity calculations in Table 3.2 confirm the site is within a bushfire hazard area. Therefore, the development application for the proposed development 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 begins to fall in November, but will remain elevated until 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 bushland vegetation.

4.2 Fire history

As discussed in Section 3.2, fire history data indicates no fires have occurred within 1 km of the site during the past 10 years. Notwithstanding, a bushfire management plan (LEC 2023) has been prepared for the conservation area which recommends planned burns for the reduction of bushfire fuel hazard and conservation of ecological values. Therefore, it is considered likely the proposed development will be exposed to the effects of bushfire, planned or otherwise, in the future.

4.3 Potential directions of bushfire attack

The proposed development could be exposed to bushfire attack from assessment reference points B, C, D, E, and L, shown in Figure 2.1, where hazardous vegetation occurs. These bushfire attack scenarios are further analysed in Section 5.10.

4.4 Potential bushfire hazards from adjacent land use

Existing, approved and future development adjoining the northern and western boundaries of the site are not a potential bushfire hazard to the proposed development given these areas have been cleared of bushland vegetation. Notwithstanding, this BMP assumes landscaping within the regional sport and recreation park and wetland and stormwater management areas adjoining the western boundary of the site will be designed to result in discontinuous vegetation cover and a low level of bushfire fuel.

Bushland vegetation in the conservation area and landscaping within the major linear park in proposed park lots 842 and 843, ie assessment reference points B, C, D, E, and L, shown in Figure 2.1, is hazardous vegetation and a bushfire hazard to the proposed development.

4.5 Water and access for emergency services

The site has access to mains water 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 hazards determined by the bushfire hazard assessment in this BMP and will achieve the following outcomes:

- layout will minimise the exposure and vulnerability of people and property to bushfires;
- contribute to effective and efficient emergency response and recovery capabilities; and
- rehabilitation, revegetation and landscaping does not increase the risk to people and property to bushfires.

5.2 Vulnerable use

The proposed development is for a residential subdivision and does not involve the vulnerable uses as defined in Table 7 of the SPP guidance material – bushfire.

As mentioned in Section 2.2, future development within the proposed high school lot will be subject to a separate development application and is not assessed in this BMP.

5.3 Community infrastructure for essential services

The proposed development is for a residential subdivision and does not involve community infrastructure for essential services as defined in Table 7 of the SPP guidance material – bushfire.

5.4 Hazardous chemicals

The proposed development is for a residential subdivision and does not involve the storage of hazardous material in the context of bushfire hazard as defined in Table 7 of the SPP guidance material – bushfire.

5.5 Major linear parks

Major linear park lots will be landscaped with a combination of groundcover, shrub and tree species from the local REs and will have continuous bushfire fuel.

The landscaping within proposed park lots 841 and 845, ie assessment reference points J and K shown in Figure 2.1, will be 15 m wide and will not result in a bushfire hazard area. However, the landscaping within proposed park lots 842 and 843, ie assessment reference point L, will be connected to bushland vegetation in the conservation area and will result in hazardous vegetation. The exception is the maintenance access to the stormwater management areas within proposed park lot 842 which will be located along the rear boundaries of proposed lots 5349, 5350, 5351 and 5352. It will consist of a vehicle track with turf verges and will not have continuous bushfire fuel.

5.6 Local parks, pedestrian links and neighbourhood parks

The landscaping within local parks, pedestrian links and neighbourhood parks will consist of turf, pathways, park furniture and facilities, shade trees and formal gardens and will have discontinuous bushfire fuels. They will be regularly maintained and will not result in a bushfire hazard area.

5.7 Additional verge for bushfire buffer

The landscaping within the additional verge for bushfire buffer will consist of low form groundcover species and will result in a low level of continuous bushfire fuel. Maintenance will ensure the low level of bushfire fuel does not increase over time.

5.8 Fire-fighter water supply

The proposed development will be connected to mains water and a reticulated hydrant system will be installed within in the new road and public driveway reserves.

5.9 Access and egress

A perimeter road is used to separate residential lots from hazardous vegetation in the conservation area. The perimeter road provides access for fire-fighters and vehicles between residential lots and hazardous vegetation and allows for vegetation management and wildfire response.

Access and egress for the proposed development will be provided via a network of neighbourhood connector roads which are shown in the approved overall master plan provided in Appendix 1.

Access and egress routes to the west of the site are away from rather than towards or through bushfire hazard areas.

New roads and public driveways will be designed and constructed to accommodate urban fire trucks.

5.10 Radiant heat exposure

Acceptable outcome AO3.1 of the Bushfire overlay code provides guidance about radiant heat exposure for a reconfiguration of lot development application. It states:

> 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:
>
> 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.

As discussed in Section 4.3, the proposed development could be exposed to bushfire attack from assessment reference points B, C, D, E, and L, shown in Figure 2.1, where hazardous vegetation occurs. The radiant heat profile of these bushfire attack scenarios was analysed using the BAL calculator. Inputs used in the BAL calculator and results are provided in Appendix 4.

Results of the radiant heat exposure assessment determined that most of the residential lot boundaries achieve a radiant heat flux level ≤ 29 kW/m^2. The exceptions are proposed lots 5352, 5353 and 5354 which will adjoin landscaping associated with an embankment and stormwater management areas within proposed park lot 842.

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

Most of the residential lot boundaries achieve a radiant heat flux level ≤ 29 kW/m^2 as shown in Figure 6.1. The exceptions are proposed lots 5352, 5353 and 5354 which will adjoin landscaping associated with an embankment and stormwater management areas within proposed park lot 842.

An asset protection zone (**APZ**) must be established within proposed lots 5352, 5353 and 5354 as shown in Figure 6.1. The APZ must be surveyed and pegged and shown in survey plans and disclosure plans.

Buildings and structures, other than a driveway, swimming pool, lawn locker style garden sheds, water tank, fencing and retaining walls, must not be located within the APZ. If these structures are located within the APZ, they must be constructed with fire-resisting materials.

Prospective purchasers of proposed lots 5352, 5353 and 5354 must be notified about the effects of the APZ on these allotments at the point of sale.

6.2 Residential lots and road reserves

Landscaping within the residential lots and road and private driveway reserves must be designed and maintained to ensure that it provides a low fuel hazard area which prevents an isolated fire from developing to a size that could threaten buildings and escape routes.

Landscaping must be designed in accordance with Part 5 of *Bushfire Resilient Building Guidance for Queensland Homes* (QRA 2020) (**Bushfire resilient building**). Plant species used in landscaping must favour the list of species in Appendix E of Bushfire resilient building.

Landscaped areas must be maintained at regular time intervals during the calendar year by removing vegetation debris, weeds and rubbish from gardens and mowing turf at a nominal height of 10 centimetres (**cm**).

6.3 Local parks, pedestrian links and neighbourhood park

The local parks, pedestrian links and neighbourhood park are identified as landscape management areas in Figure 6.1. The landscaping in these areas must be designed to provide a low level of discontinuous bushfire fuel.

Canopy trees must be located in turfed areas and not form connected canopies or overhang residential lot boundaries as they reach maturity.

Planting beds used to screen residential lot boundaries must be narrow in width, ie 1-2 m wide, and comply with guidelines for planting beds in Part 5 and Appendix E of Bushfire resilient buildings.

Planting beds within the neighbourhood park must occur in patches separated by turf and be limited to < 30 % of the neighbourhood park area. They can be planted with a combination of groundcover and shrub species from the local RE.

The majority of the neighbourhood park must be landscaped with turf, ie > 70 % of the area. Concrete pathways and playground infrastructure can be included in this area calculation.

The landscape management areas must be maintained at regular time intervals during the calendar year. Vegetation debris, weeds and rubbish must be removed from planting beds and turf must be maintained as lawn at a nominal height of 10 cm.

6.4 Additional verge for bushfire buffer

The additional verge for bushfire buffer, which is shown in Figure 6.1, must be landscaped with low form groundcover species and maintained at regular time intervals during the calendar year. The groundcover species must have a mature height of ≤ 30 cm and maintenance must include the removal of vegetation debris, weeds, native woody regrowth and rubbish.

6.5 Maintenance access within proposed park lot 842

The maintenance access to the stormwater management areas within proposed park lot 842 is relied upon for a bushfire setback to the rear boundaries of proposed lots 5349, 5350 and 5351.

Landscaping associated with the maintenance access must be designed and maintained in general accordance with Section 6.3.

6.6 Fire-fighter water supply

The proposed development must be connected to mains water in accordance with the local retailer's specifications.

A reticulated hydrant system must be installed within the road and private driveway reserves. It 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* (**2419.1-2021**) *Fire hydrant installation, system design, installation and commissioning*.

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

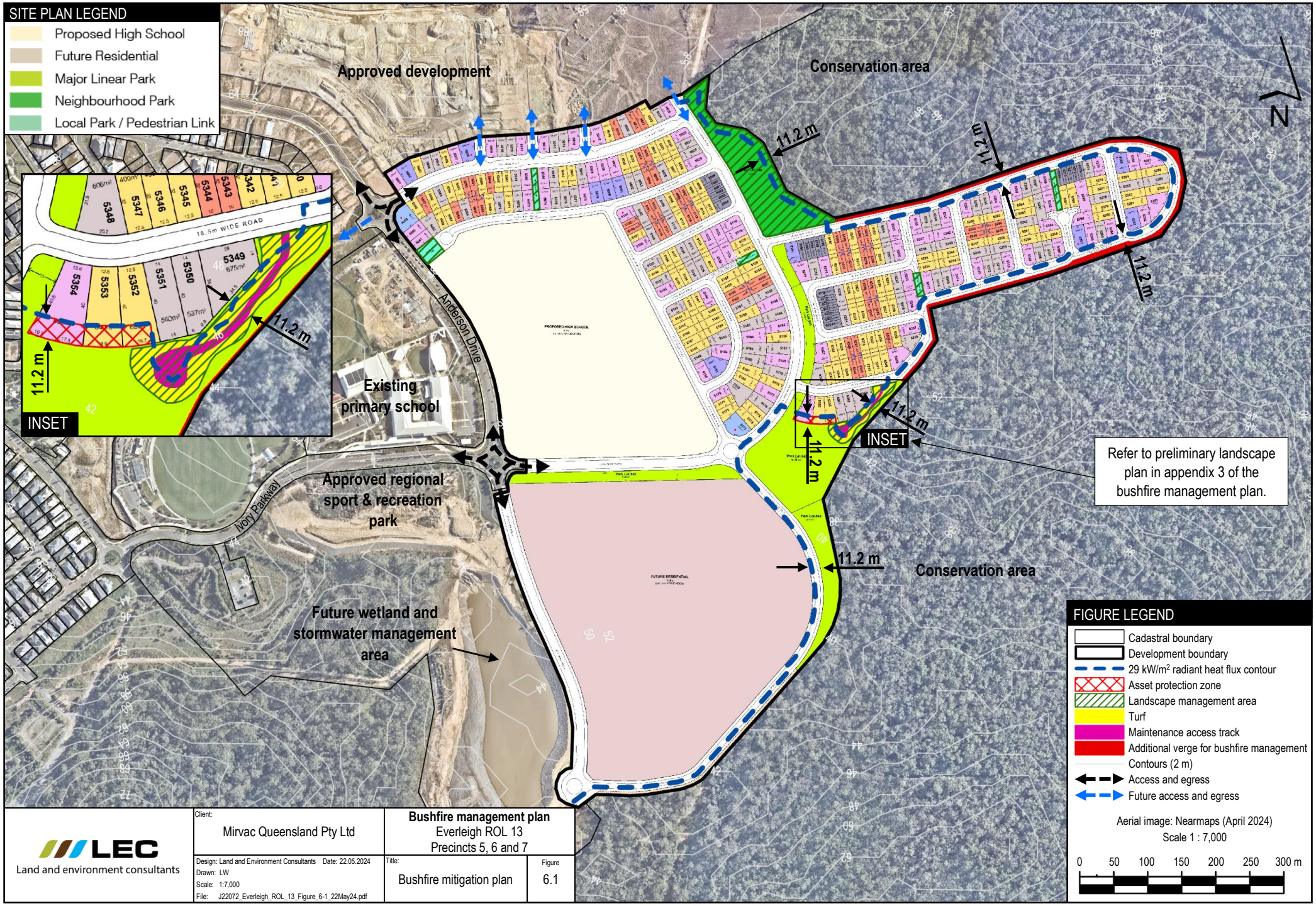
6.7 Access and egress

Roads and public driveways must be designed and constructed to accommodate 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.

Proposed and future site access and egress is shown in Figure 6.1.

6.8 Service installation

Reticulated services must be installed underground.



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Land and environment consultants

Client: Mirvac Queensland Pty Ltd

Bushfire management plan
Everleigh ROL 13
Precincts 5, 6 and 7

Design: Land and Environment Consultants Date: 22.05.2024
Drawn: LW
Scale: 1:7,000
File: J22072_Everleigh_ROL_13_Figure_6-1_22May24.pdf

Title: Bushfire mitigation plan

Figure 6.1

7 Conclusion

This BMP was prepared by a suitably qualified person and is in general accordance with the SPP guidance material – bushfire and Bushfire resilient communities.

A bushfire hazard assessment determined the site 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 will comply with the Bushfire overlay code as demonstrated in Appendix 5.

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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 overall master plan

MASTER
PLAN

TEVIOT ROAD, GREENBANK

25 JUNE 2019

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2016/768
Date: 03 July 2019

Queensland Government

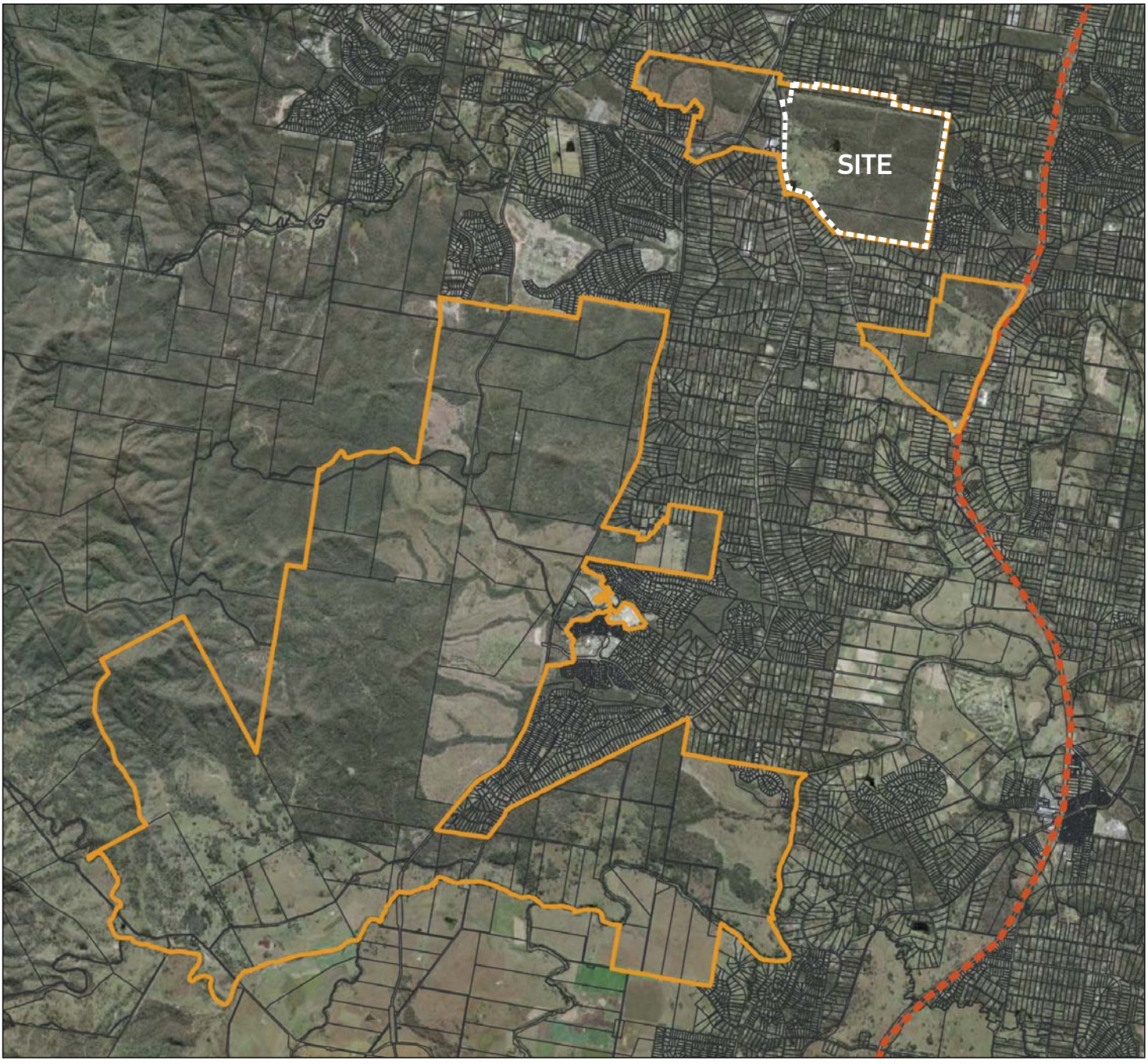
mirvac URBIS

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 and formally 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
- Potential Shared Path (Pending Further Investigation)
- Indicative External Pedestrian Network

Land Uses

- Residential - Standard Lots
- Residential - Interface Lots - North - Subject to Further Investigation
- Residential - Interface Lots - South
- Neighbourhood Centre
- District Centre (external) [1]
- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Indicative Locations of Neighbourhood Parks
- Indicative Locations of Major Linear Park
- Indicative Location of State Primary School
- Community Facility
- Indicative Location of Wetland
- Indicative Location of Stormwater Quality/Quantity Basins

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.

3.1 MASTER PLAN STRATEGY 1 – LAND USE ENTITLEMENTS

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 - North - Subject to Further Investigation
- Residential - Interface Lots - South
- Neighbourhood Centre
- District Centre (external) [1]
- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Indicative Locations of Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Indicative Location of State Primary School
- Community Facility

[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 South	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.
Residential – Interface Lots North	Residential Interface Lots (North) are designed to provide a density transition between adjoining land uses and Residential Standard Lots. No lot is less than 1 hectare. Subject to further investigation.
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).
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.

3.2 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.

3.3 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

- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Indicative Locations of Major Linear Parks
- Indicative Locations of Neighbourhood Parks
- Residential - Standard Lots
- Residential - Interface Lots - North - Subject to Further Investigation
- Residential - Interface Lots - South
- District Centre (external) [1]
- Neighbourhood Centre
- Indicative Location of State Primary School
- Community Facility

[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 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
- Potential Access Points as Rural Access Streets

Land Uses

- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Indicative Locations of Major Linear Parks
- Indicative Locations of Neighbourhood Parks
- Residential - Standard Lots
- Residential - Interface Lots - North - Subject to Further Investigation
- Residential - Interface Lots - South
- District Centre (external) [1]
- Neighbourhood Centre
- Indicative Location of State Primary School
- Community Facility

[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

- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Indicative Locations of Major Linear Parks
- Indicative Locations of Neighbourhood Parks
- Residential - Standard Lots
- Residential - Interface Lots - North - Subject to Further Investigation
- Residential - Interface Lots - South
- District Centre (external) [1]
- Neighbourhood Centre
- Indicative Location of State Primary School
- Community Facility

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
- Potential Shared Path (Pending Further Investigation)

Land Uses

- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Indicative Location of Major Linear Parks
- Indicative Locations of Neighbourhood Parks
- Residential - Standard Lots
- Residential - Interface Lots - North - Subject to Further Investigation
- Residential - Interface Lots - South
- District Centre (external) [1]
- Neighbourhood Centre
- Indicative Location of State Primary School
- Community Facility

[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.

3.5 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

- Combined Regional Recreation and Regional Sports Park
- Conservation Parkland (Corridor Park)
- Major Linear Park
- Indicative Locations of Neighbourhood Parks
- Residential - Standard Lots
- Residential - Interface Lots - North - Subject to Further Investigation
- Residential - Interface Lots - South
- District Centre (external) [1]
- Neighbourhood Centre
- Indicative Location of State Primary School
- Community Facility

[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.

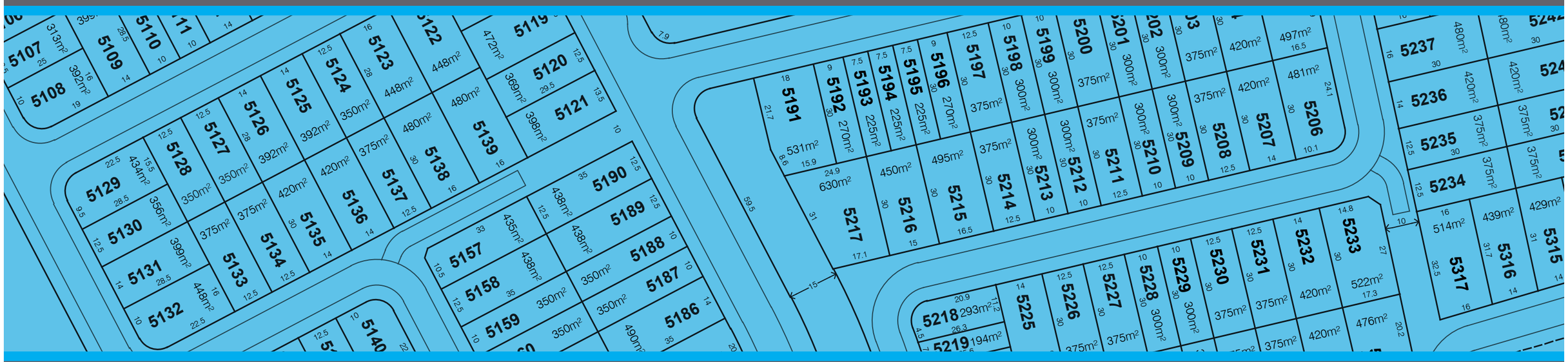
Appendix 2 Reconfiguration of lot plan

Everleigh

ROL 13:
RECONFIGURATION OF A LOT PLANS

TEVIOT ROAD, EVERLEIGH

FEBRUARY 2024



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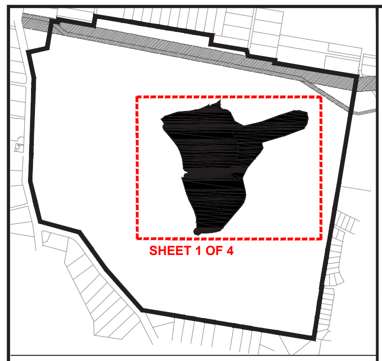


LOCALITY DIAGRAM

LEGEND

GENERAL

- ROL 13 Boundary
- Proposed Lot Boundaries
- Proposed Road Carriageways
- Proposed High School
- Future Residential
- Major Linear Park
- Neighbourhood Park
- Local Park / Pedestrian Link
- Conservation Area
- Additional Verge for Bushfire Buffer

RESIDENTIAL - STANDARD LOTS

HOUSE (ATTACHED)

- Front Loaded Terrace
- Potential Attached Dwelling (refer to House (Attached) Design Criteria which prevails to the extent of any inconsistency with this plan)

HOUSE (DETACHED)

- Villa
- Premium Villa
- Courtyard
- Premium Courtyard
- Traditional
- Premium Traditional

MULTIPLE RESIDENTIAL

- Potential Duplex Dwelling

ROL 13 - YIELD SUMMARY

LOT TYPE		INDICATIVE LOT FRONTAGE	TOTAL	
			LOTS	%
	Front Loaded Terrace	7.5m wide	23 lots	6.5%
	Rear Loaded Terrace	7.5m wide	0 lots	0%
	Villa	10m wide	49 lots	13.8%
	Premium Villa	12.5m wide	115 lots	32.5%
	Courtyard	14m wide	82 lots	23.2%
	Premium Courtyard	16m wide	73 lots	20.6%
	Traditional	18m wide	10 lots	2.8%
	Premium Traditional	20m wide	2 lots	0.6%
TOTAL RESIDENTIAL LOTS			354 lots	100%
DENSITY (NET RESIDENTIAL DENSITY)			17.14 dw/ha	

NOTE:

- Balance lots, while not appearing on ROL 13: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 13: Plan of Development - Design Criteria document.

URBIS

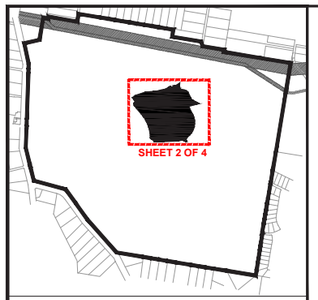
EVERLEIGH

RECONFIGURATION OF A LOT PLAN - ROL 13 - SHEET 1 OF 4

Scale: 1:4,000 @ A3

0 50 100 150 200

PROJECT NO: P0018054
DATE: 23.02.2024
DRAWING NO: ROL13-1
REV: 04



LOCALITY DIAGRAM

LEGEND

GENERAL

- ROL 13 Boundary
- Proposed Lot Boundaries
- Proposed Road Carriageways
- Proposed High School
- Future Residential
- Major Linear Park
- Neighbourhood Park
- Local Park / Pedestrian Link
- Conservation Area
- Additional Verge for Bushfire Buffer

RESIDENTIAL - STANDARD LOTS

HOUSE (ATTACHED)

- Front Loaded Terrace
- Potential Attached Dwelling (refer to House (Attached) Design Criteria which prevails to the extent of any inconsistency with this plan)

HOUSE (DETACHED)

- Villa
- Premium Villa
- Courtyard
- Premium Courtyard
- Traditional
- Premium Traditional

MULTIPLE RESIDENTIAL

- Potential Duplex Dwelling

NOTE:

- Balance lots, while not appearing on ROL 13: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 13: Plan of Development - Design Criteria document.

APPROVED DEVELOPMENT

CONSERVATION AREA

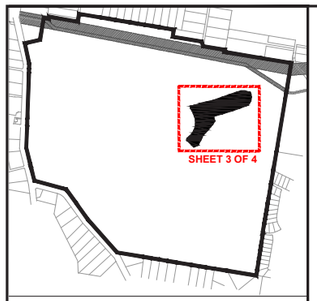
Park Lot 840
1.28ha

PROPOSED HIGH SCHOOL
9.3ha
(FUTURE APPLICATION)

EXISTING PRIMARY SCHOOL

Park Lot 841
3168m²

15.5m WIDE ROAD
21m WIDE ROAD
20m WIDE ROAD
14m WIDE ROAD
10m WIDE DRIVEWAY
PEDESTRIAN LINK



LOCALITY DIAGRAM

LEGEND

GENERAL

- ROL 13 Boundary
- Proposed Lot Boundaries
- Proposed Road Carriageways
- Proposed High School
- Future Residential
- Major Linear Park
- Neighbourhood Park
- Local Park / Pedestrian Link
- Conservation Area
- Additional Verge for Bushfire Buffer

RESIDENTIAL - STANDARD LOTS

HOUSE (ATTACHED)

- Front Loaded Terrace
- Potential Attached Dwelling (refer to House (Attached) Design Criteria which prevails to the extent of any inconsistency with this plan)

HOUSE (DETACHED)

- Villa
- Premium Villa
- Courtyard
- Premium Courtyard
- Traditional
- Premium Traditional

MULTIPLE RESIDENTIAL

- Potential Duplex Dwelling

NOTE:

- Balance lots, while not appearing on ROL 13: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 13: Plan of Development - Design Criteria document.

CONSERVATION AREA

Park Lot 840
1.28ha

Park Lot 841
316m²

Park Lot 842
16,234m²

15.5m WIDE ROAD

20m WIDE ROAD

14m WIDE ROAD

12m WIDE DRIVEWAY

PEDESTRIAN LINK

CONSERVATION AREA

URBIS

EVERLEIGH

RECONFIGURATION OF A LOT PLAN - ROL 13 - SHEET 3 OF 4

Scale: 1:2,500 @ A3

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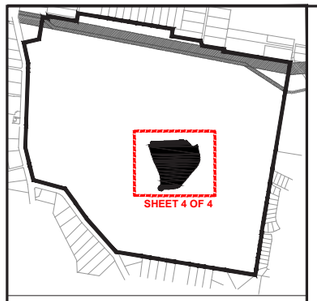
PROJECT NO: P0018054
DATE: 23.02.2024
DRAWING NO: ROL13-3
REV: 04



LOCALITY DIAGRAM

LEGEND

GENERAL

- ROL 13 Boundary
- Proposed Lot Boundaries
- Proposed Road Carriageways
- Proposed High School
- Future Residential
- Major Linear Park
- Neighbourhood Park
- Local Park / Pedestrian Link
- Conservation Area
- Additional Verge for Bushfire Buffer

RESIDENTIAL - STANDARD LOTS

HOUSE (ATTACHED)

- Front Loaded Terrace
- Potential Attached Dwelling (refer to House (Attached) Design Criteria which prevails to the extent of any inconsistency with this plan)

HOUSE (DETACHED)

- Villa
- Premium Villa
- Courtyard
- Premium Courtyard
- Traditional
- Premium Traditional

MULTIPLE RESIDENTIAL

- Potential Duplex Dwelling

NOTE:

- Balance lots, while not appearing on ROL 13: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 13: Plan of Development - Design Criteria document.

20m WIDE ROAD

Park Lot 845
5158m²

225.4

38.3

339.1

Park Lot 842
16,234m²

Park Lot 843
5647m²

21m WIDE ROAD

15.5m WIDE ROAD

FUTURE RESIDENTIAL
13.4ha
(FUTURE APPLICATION)

FUTURE DEVELOPMENT

CONSERVATION AREA

15.5m WIDE ROAD

15.5m WIDE ROAD

URBIS

EVERLEIGH

RECONFIGURATION OF A LOT PLAN - ROL 13 - SHEET 4 OF 4

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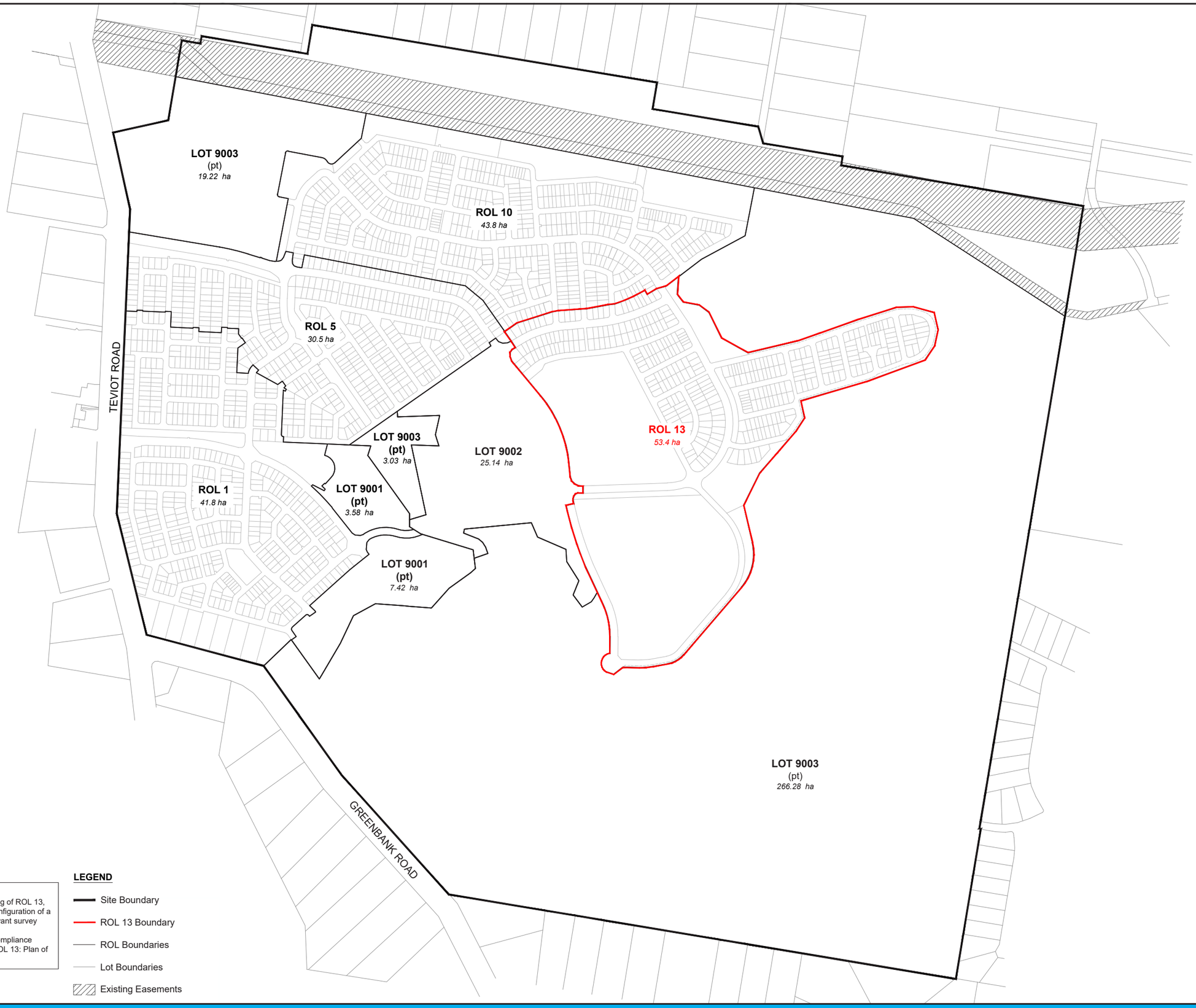
DATE: 23.02.2024
DRAWING NO: ROL13-4
REV: 04



NOTE:
- Balance lots for the progressive staging of ROL 13, while not appearing on ROL 13: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 13: Plan of Development - Design Criteria.

LEGEND

- Site Boundary
- ROL 13 Boundary
- ROL Boundaries
- Lot Boundaries
- Existing Easements

URBIS

EVERLEIGH

RECONFIGURATION OF A LOT PLAN - ROL 13 - BALANCE LOTS

Scale: 1:10,000 @ A3

0 | 100 | 200 | 300 | 400 | 500

PROJECT NO: P0018054
DATE: 23.02.2024
DRAWING NO: ROL13-5
REV: 04

APPROVED DEVELOPMENT

CONSERVATION AREA

PRECINCT 6.5

PRECINCT 6.4

PRECINCT 6.4A

PRECINCT 6.2

PRECINCT 6.3

PRECINCT 6.1

PRECINCT 7.2

PRECINCT 7.1

PRECINCT 7.3

PRECINCT 5.1

PRECINCT 5.2

Park Lot 840

Park Lot 842

Park Lot 843

Park Lot 845

PROPOSED HIGH SCHOOL
9.8 ha
(FUTURE APPLICATION)

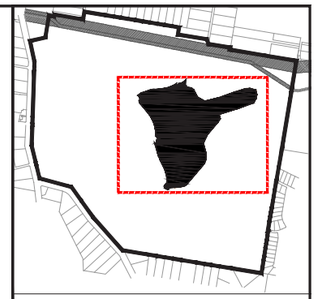
FUTURE RESIDENTIAL
13.4ha
(FUTURE APPLICATION)

EXISTING PRIMARY SCHOOL

APPROVED REGIONAL SPORT & RECREATION PARK

FUTURE DEVELOPMENT

CONSERVATION AREA



LOCALITY DIAGRAM

LEGEND

- Site boundary
- ROL 13 boundary
- Preliminary Stage Boundaries

NOTE:

- Balance lots, while not appearing on ROL 13: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 13: Plan of Development - Design Criteria document.

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RECONFIGURATION OF A LOT PLAN - ROL 13 - PRELIMINARY STAGING PLAN

Scale: 1:4,000 @ A3

0 50 100 150

PROJECT NO: P0018054
DATE: 23.02.2024
DRAWING NO: ROL13-6
REV: 04

Appendix 3 Maintenance access to stormwater management areas within proposed park lot 842

JOINS SHEET 4

JOINS SHEET 6

JOINS SHEET 9

N

ROAD 91

ROAD 88

ROAD 87

ROAD 85

PRECINCT 6.3

PRECINCT 6.2

PRECINCT 6.1

PRECINCT 7.1

PRECINCT 7.3

PRECINCT 5.1

PRECINCT 5.3
FUTURE RESIDENTIAL
(NOT PART OF THIS APPLICATION)

GUROMAN DRIVE

6 5 4 3 2 1

LINEAR PARK LOT.

2.5M WIDE SHARED PATH

SCREEN PLANTING TO RETAINING WALL/ FENCE.

11.2 M OFFSET LINE FROM BOUNDARY OF LOTS.

MAINTENANCE TRACK (3.0M WIDE) + TURN-A-ROUND

SLASHED TURF (MAINTAINED AT MAX 300MM HIGH)

ROL 13 - FIRE RISK.

URBIS MARKUP.

15.4.2024

ED.

NOTES
REFER SKC37 FOR NOTES AND LEGEND

PRELIMINARY - NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
08/03/2024	3	UPDATED LAYOUT AND EARTHWORKS	KK	NS
13/12/2023	2	UPDATED PRECINCT BOUNDARIES AND PRECINCT NUMBERS	KK	NS
25/10/2023	1	PRELIMINARY - NOT FOR CONSTRUCTION	KK	NS

REVISIONS

Premise
BRISBANE OFFICE
LEVEL 11, 300 ADELAIDE STREET
BRISBANE, QLD 4000
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED: KLYNT KWANG
CHECKED: ANDREW LANGDON
PROJECT MANAGER: NICK SOMERVILLE
ENGINEERING CERTIFICATION: PATRICK BRADY RPEQ 7112

SCALE
0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH ROL13 SUBDIVISION DEVELOPMENT
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: PRELIMINARY EARTHWORKS LAYOUT PLAN - SHEET 7

JOB CODE: MIR-1300
SHEET NUMBER: SKC43
REV: 3

Appendix 4 Radiant heat exposure assessment

Bushfire attack through VHC 9.2 at assessment reference points B, C, D, E and L

- Forest fire danger index - 55
- Vegetation - 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° downslope
- Site slope – 0° slope
- Flame width – 100 metres

Note Inputs are in accordance with *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire* (QFES 2019) (**Bushfire resilient communities**).

FPA AUSTRALIA | FLAMESOL

Calculated April 28, 2023, 11:04 am (MDc v.4.9)

J23025

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** Residential allotments are < 2,000 square metres (**m**).
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** Residential allotments are < 2,000 m^2.
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	**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,	**Complies with AO3.1** Most of the residential allotments are separated from hazardous vegetation by a distance which achieves a radiant heat flux level

Performance outcomes	Acceptable outcomes	Compliance assessment
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.	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 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).	≤ 29 kilowatt /m^2 (**kW/m^2**) at the lot boundaries. The exceptions are proposed lots 5352, 5353 and 5354 which will adjoin landscaping associated with an embankment and stormwater management areas within proposed park lot 842. These lots will have an asset protection zone (**APZ**) which ensures the development footprints achieve a radiant heat flux level ≤ 29 kW /m^2.
	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).	**Complies with AO3.2** The development area is gently sloping land.
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	**Complies with PO4** A perimeter road is used to separate most of the residential allotments from the conservation area. The perimeter road provides access for fire-fighters and vehicles between residential lots and hazardous

Performance outcomes	Acceptable outcomes	Compliance assessment
		vegetation and allows for vegetation management and wildfire response.
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 hourglass patterns); and (b) ensures the road network has sufficient capacity for the evacuating population.	**Complies with AO5.2** A perimeter road is used to separate most of the residential allotments from the conservation area. The perimeter road provides access for fire-fighters and vehicles between residential lots and hazardous vegetation and allows for vegetation management and wildfire response. Access and egress for the proposed development will be provided via a network of neighbourhood connector roads which are shown in the approved overall master plan provided in Appendix 1 of the bushfire management plan (**BMP**).
	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.	**Complies with AO5.2** Access and egress routes to the west of the site are away from rather than towards or through bushfire hazard areas.

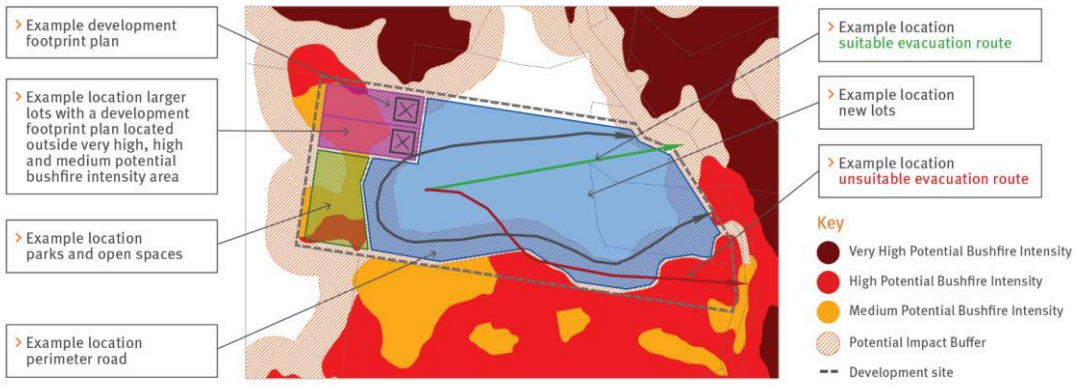


Figure 5 – Subdivision layout and evacuation routes

Performance outcomes	Acceptable outcomes	Compliance assessment
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.	**Complies with A06.1 and AO6.2** A perimeter road and neighbourhood park are used to separate most of the residential allotments from hazardous vegetation in the conservation area. The perimeter road and neighbourhood park will remain a low fuel hazard area in perpetuity and do not need to be formally identified as an APZ in the BMP. The APZs within proposed lots 5352, 5353 and 5354 will be landscaped in accordance with Part 5 of *Bushfire Resilient Building Guidance for Queensland Homes 2020*.
	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.	
	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.	**Not applicable** Residential lots are < 2,000 m^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	**Complies with AO7** The neighbourhood park will be landscaped in accordance with AO7 (a)-(b). Specifications for landscaping within the neighbourhood park are provided in Section 6.3 of the BMP.

Performance outcomes	Acceptable outcomes	Compliance assessment
	bushfire attack, for example short-cropped grass to a nominal height of 10 centimetres.	
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).	**Complies with AO8.1** The perimeter road will be designed and constructed to accommodate an urban fire truck in accordance with *Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots 2019* (**Fire hydrant and vehicle access guidelines**) which defers to *Road Planning and Design Manual – 2nd Edition 2013* for load bearing capacity, geometry and turning radii.
	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 otherwise specified by the relevant water entity; and (b) the *Road Planning and Design Manual 2nd edition*, Department of Transport and Main Roads, 2013.	**Complies with AO8.2** A reticulated hydrant system will be installed within the road and public driveway reserves. The reticulated hydrant system 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 installation, system design, installation and commissioning.* Where there are differences between the local water retailer's specifications and AS 2419.1-2021, the higher level specification should prevail.
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	**Not applicable** The proposed development is serviced by mains water.

Performance outcomes	Acceptable outcomes	Compliance assessment
	bushfire intensity areas; or (b) a perimeter road designed and constructed in accordance with AO8.1. Refer Figure 6.	

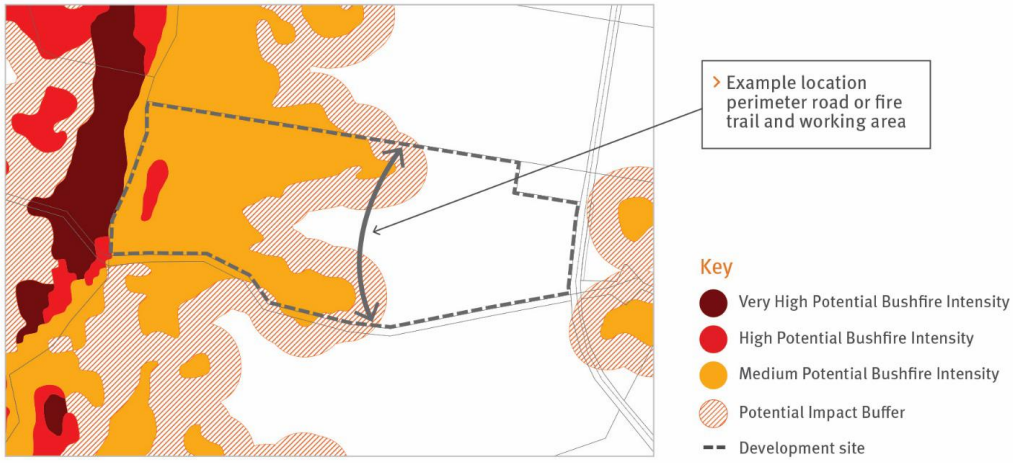
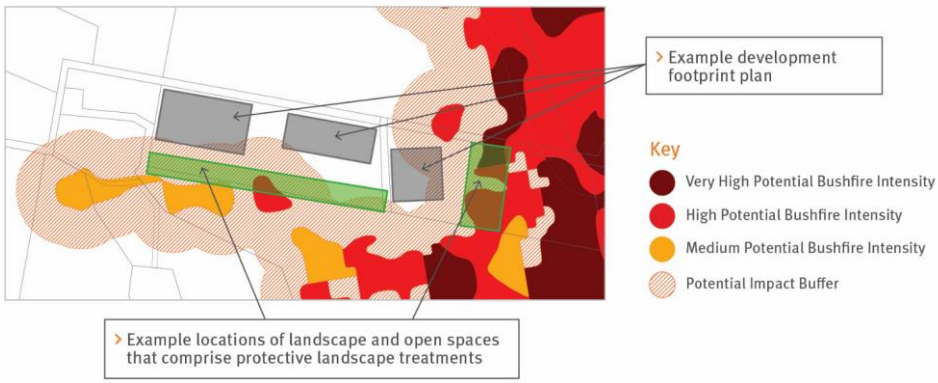


Figure 6 – Siting of fire trail and working area

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 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	**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. Refer Figure 7.	**Not applicable** The proposed development is a reconfiguration of lot.
	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.	**Not applicable** The proposed development is a reconfiguration of lot.

Performance outcomes	Acceptable outcomes	Compliance assessment
outcome can deliver an acceptable or tolerable level of risk.	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.	
 *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.	**Not applicable** The proposed development is a reconfiguration of lot.
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.	**Not applicable** The proposed development is a reconfiguration of lot.
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.	**AO13** No acceptable outcome is prescribed	**Not applicable** The proposed development is a reconfiguration of lot.

Performance outcomes	Acceptable outcomes	Compliance assessment
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.		
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 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	**AO14.1** No acceptable outcome is prescribed.	**Not applicable** The proposed development is a reconfiguration of lot.
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	**AO15** No acceptable outcome is prescribed.	**Not applicable** The proposed development is a reconfiguration of lot.

Performance outcomes	Acceptable outcomes	Compliance assessment
methodology in the QFES *Bushfire resilient communities* document may assist in demonstrating compliance with this performance outcome.		
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-business/protecting-business/risk-management/hazardous-chemicals/storing-transporting.	**AO16** No acceptable outcome is prescribed.	**Not applicable** The proposed development is a reconfiguration of lot.
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 **AO17.2**	**Complies with AO17.1 and AO17.2** A perimeter road and neighbourhood park are used to separate residential lots from hazardous vegetation in the conservation area. The perimeter road and neighbourhood park will remain a low fuel hazard area in perpetuity and do not need to be formally identified as an APZ in the BMP. The APZ within proposed lots 5352, 5353 and 5354 will be landscaped in accordance with Part 5 of *Bushfire Resilient Building Guidance for Queensland Homes 2020*.

Performance outcomes	Acceptable outcomes	Compliance assessment
	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.	
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).	**Complies with AO18.1** Landscaping within proposed park lots 842 and 843 will be connected to bushland vegetation in the conservation area and will result in hazardous vegetation. Nonetheless, this area is appropriately separated from the residential lots by the perimeter road, maintenance access track and APZs (within three of the allotments).
	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.	**Complies with AO18.2** Landscaping within proposed park lots 842 and 843 will be connected to bushland vegetation in the conservation area and will result in hazardous vegetation. Nonetheless, this area is appropriately separated from the residential lots by the perimeter road, maintenance access track and APZs (within three of the allotments).

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