Your Ref: 3406/2025/PDA

31 October 2025

Attn: Chief Executive Officer

C/- MEDQ Delegate

Development Planning Branch

Ipswich City Council

PO Box 191

IPSWICH QLD 4305

RE: MEDQ Delegate Information Request Response – 3406/2025/PDA

817-843 Ripley Road, SOUTH RIPLEY QLD 4306

Dear Chief Executive Officer,

Therefor Group provide the following response to council's Information Request for application 3406/2025/PDA dated 3 July 2025 to address items under the titles:

- 4 – Proposed Layout,
- 6 – Open Space,
- 16 – Conservation Interface, and
- 17 – Bushfire.

Summary of Matters Discussed

This response is limited to bushfire-related items identified in Council's Information Request dated 3 July 2025. Specifically, it addresses:

- Incorporation and clarification of the Low Fuel Zone (LFZ) within the Conservation Land Parcel (IR Item 4b);
- Definition and management intent of the LFZ and its relationship to the adjoining conservation area (IR Item 4c(iii));
- Bushfire planning and management requirements within the District Recreation Park, including asset setbacks, park planting, and interface management (IR Items 6c(ix)–(xi)); and
- Conservation interface and open space management outcomes, ensuring consistent planting typologies and low-maintenance, low-hazard landscapes (IR Items 16(a) and 17(a–b)).

These responses confirm that the revised design provides long-term bushfire resilience, protects adjoining residential areas, and integrates bushfire management with the project's ecological, landscape and open space objectives. Given the cross over between items associated with Therefor Gorup's response to Ecological items raised by council it is recommended that this correspondence is considered in conjunction with the Ecological response provided in the broader response package.

Please see our detailed responses to each item below.

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Response to Information Request

Bushfire Items

Council Item 4b – Bushfire Offset Area

(i) The proposed bushfire offset area as identified on the submitted Open Space Plan is not accurately reflected within the proposed subdivision drawings, which is shown in a similar manner to the road reserve. Accordingly, the applicant is requested to amend the plans to accurately reflect the intended use of this area.

(ii) The applicant is requested to amend the plans to address the interface concerns raised under Item 5(f) – Plan of Development and Item 16 – Conservation Interface below.

Our Response

Future open space areas that have nominated as Low Fuel Zones have been nominated within plans associated with the overall urban design response in particular Plan 23-0571SP Reconfiguration of A Lot – Overall (dated 30.102025) in order to align with the requirements of the BHAMP (Rev 2.0) and to ensure consistency across the response package.

Tree retention within the Low Fuel Zone (LFZ) and broader interface is consistent with the outcomes detailed in the ecological IR response prepared by Therefor Group under the Vegetation Retention and Conservation Interface items. Please refer to Therefor Group's Response items:

- Vegetation Retention
- Waterways
- Conservation Interface

The updated Bushfire Management Plan (Rev 2.0) and accompanying plans (Attachment A) provide detailed specification for integration of the LFZ's

Council Item 4c (iii) – Conservation / Environmental Protection Zone

(iii) The applicant is requested to clarify why the Bushfire offset area is not included in the conservation lot.

Our Response

The area located between the designated conservation lot and the northern edge of the proposed development footprint (i.e. land above the BAL-29 contour and below the mapped conservation vegetation) has now been incorporated within the conservation lot and designated as an LFZ (as opposed to Bushfire Offset Area to clearly delineate its purpose).

The LFZ forms part of the overall conservation lot but will be identified as a distinct management area to differentiate its function from the adjoining conservation vegetation. The LFZ provides a fuel-reduced buffer between the development and the conservation area to limit potential bushfire impacts on nearby residential lots.

Within the LFZ, only low-hazard canopy trees (smooth or ironbark species) will be retained. Shrubs, mid-storey vegetation, and ground cover will be provided in accordance with specified criteria to maintain a low-fuel condition (<8 t/ha) whilst minimizing the ongoing management burden to the maximal extent practicable. This allows the zone to remain open and defensible while still supporting native canopy species consistent with the broader conservation values.

The figure below shows the LFZ extents and their relationship to the conservation area and adjoining development.



Council Item 6c (ix)-(xi) – District Recreation Park (DCOP POS006)

The applicant is requested to address the following with regards to the proposed District Recreation Park:

(ix) Park embellishments to be outside the BAL 19 setback to ensure long term safety of assets.

(x) The applicant is requested to clarify how the BAL setback is calculated through the proposed district park and confirm it does not include riparian creek area that is required to be revegetated. Once confirmed, the applicant is requested to clarify what bushfire management requirements are required long term in the District Park area.

(xi) Confirm if the area to the north is required to be buffer from EPBC area of adjoining lot, noting items raised under Item 16 – Conservation Interface.

Our Response

(ix)

The radiant heat outcomes for the site remain consistent with the original Bushfire Hazard Assessment and Management Plan (BHAMP), and the BAL-19 contour has not changed in extent. The configuration of the rehabilitated waterway corridor and adjoining District Recreation Park may vary slightly due to ecological planting design; however, this does not alter the bushfire exposure outcomes that informed the BAL modelling.

While low hazard definitions of AS 3959:2018 and Bushfire Resilient Communities (BRC, 2019) remain silent in regard to recreation areas within a BAL-19 contour, the placement of built park infrastructure has been carefully considered. All structures and embellishments within the District Recreation Park, including playground equipment, picnic shelters, barbecues, amenities, and similar built assets, will be located outside the BAL-19 zone or, if required, can be constructed of such a nature to resist the estimated radiant heat exposure.

Certain low-risk park elements, such as walking tracks, open turf, revegetation, and landscape treatments, will occur within the BAL-19 area (refer to the figure below). These components are non-flammable or of low combustibility and therefore do not increase bushfire hazard or exposure risk. Refer image included below for visual demonstration of the above.



(x)

The BAL setback within the District Recreation Park has been calculated with reference to the rehabilitated waterway corridor located to the east **outside of the district park**. This waterway corridor will be revegetated to restore riparian function and connectivity. As such, once rehabilitated, it will be classified as hazardous vegetation for bushfire assessment purposes. The BAL setback mapping has therefore been measured from the outer edge of this revegetated corridor, in accordance with Method 1 of *AS3959:2018*.

To clarify, the riparian creek corridor does not form part of the District Recreation Park. The District Park itself is situated between the waterway corridor and the development footprint, acting as a managed buffer that separates the rehabilitated riparian vegetation (hazardous) from the adjoining residential allotments.

The amended BHAMP (Rev 2.0) provides a detailed set of planting and management specification for the park area in order to maintain low hazard outcomes. A collaborative approach between bushfire and landscape project consultants has ensured the specifications are reasonable and achievable in the context of park/open space delivery. As outlined in Section 7.8 of the revised BHAMP (ROL2, Rev 2.0), provided as Attachment A to this letter, the park will be managed to ensure:

- Only moderate-hazard canopy trees (smooth or ironbark species) are established;
- Shrub and mid-storey vegetation cover is maintained below 20% to prevent fuel continuity;
- Fine near-surface fuels (dead foliage, twigs, and other debris) are routinely removed;
- Surface litter is managed to <60% cover with a thin, discontinuous litter bed (<10 mm depth).

These measures will enable the District Park to continue functioning as a fuel-reduced buffer in perpetuity, even with the addition of new themed planting areas. Long-term bushfire management requirements will therefore be met through the low-hazard park vegetation framework described in the BMP.

Please refer attached BHAMP (Rev 2.0) for specific detail regarding the above.

(xi)

The northeast corner of the District Recreation Park adjoins the proposed rehabilitated waterway corridor and conservation interface to what council has referred to as EPBC area. The waterway corridor has been assumed as being in its mature, climax state and modelled for radiant heat outcomes. As such, a requirement for defendable separation between the proposed residential land parcels and the corridor has been identified to ensure future, adjacent dwellings remain below the BAL-29 threshold. This required separation has been provided in the format of a low fuel parkland area, which also serves a recreational function and contributes to the minimum local park area required by council

Likewise, the conservation area has been modelled and the potential radiant heat outcomes detailed within the BHAMP. The LFZ integrated into the development outcome is **outside** of the retained vegetation associated with EPBC approval, and as such no additional impact to the retained conservation area is required to implement the outcomes of the BHAMP.

The management requirements for this interface are consistent with the low-hazard vegetation framework described in Section 7.8 of the BHAMP (Rev 2.0, Attachment A) and further, reflect the information provided under several of the items responded to within this correspondence.

Given the deliberate design intent and collaborative design process undertaken to achieve a low hazard park outcome whilst maintain the objectives of the BHAMP it is considered that Item 6c has been adequately addressed by the proposed development outcome.

Council Item 16a

Conservation Interface

The submitted material identifies extensive earthworks, impacts to vegetation and an Asset Protection area that will be a future management burden to the MEDQ delegate into perpetuity. The applicant is requested to address the following:

(a) *Amend concept earthworks to minimise tree removal within the interface in accordance with Item 14 – Vegetation Retention and demonstrate that the proposed batters will be a low-maintenance vegetated outcome. It is recognised that this is noted as a bushfire separation area; however, given the roads and shared path required by Item 4 – Proposed Layout, it should seek to retain canopy trees and allow for a revegetation ground layer to facilitate a low-maintenance asset rather than a future council asset burden.*

Our Response

The interface area between the development and the adjoining conservation lot will be managed as an LFZ to provide both bushfire protection and an ecologically compatible outcome. Tree retention within the LFZ has been coordinated with the outcomes presented in the ecological IR response under the Vegetation Retention and Conservation Interface components and as such the reader is directed to Therefor Groups response to ecological matters including in the broader IR response package for specific detail regarding tree retention within the conservation area interface.

Notwithstanding, A Bushfire Tree Retention Plan (Attachment B), has been prepared in support of the Bushfire Management Plan and is provided herein separately for convenience. The plan identifies low hazard trees to be retained within the northern LFZ and illustrates canopy separation distances to ensure that retained trees do not form overlapping or continuous canopies (with respect to smaller "clumps" of retained trees), maintaining the area as a low-hazard vegetation zone consistent with the definitions of AS3959:2018 and guidance in Bushfire Resilient Communities (QFES, 2019) and the updated Bushfire Management Plan (Rev 2.0).

Section 7.8 of the Bushfire Hazard Assessment and Management Plan (Rev 2.0) includes specification for tree retention and planting outcomes within the LFZ interface zone specifically deigned to achieve:

a) A low hazard outcome providing suitable low fuel outcomes to achieve the required setbacks to future residential land parcels; and
b) A low maintenance outcome (post establishment) to reduce council's maintenance burden post hand over of the broader conservation land parcel.

The framework for future management intent of both the conservation area and the LFZ can be formalised via the preparation and approval of an Open Space Management Plan prior to handover of the conservation land parcel to council.

Given the careful and deliberate design intent process undertaken to achieve an acceptable outcome between conservation, bushfire protection and management burden reduction, it is considered that Item 16a has been adequately addressed by the proposed development outcome.

Council Item 17a - Bushfire

The Bushfire Hazard Assessment and Management Plan prepared by Therefor group dated May2025 is acknowledged. The report identifies ongoing vegetation management for bushfire purposes on land to be dedicated to the MEDQ Delegate. The applicant is requested to address the following items;

(a) *The plans and reporting submitted identifies complete clearing of land adjoining the Conservation Zone. Where roads have also been provided that demonstrate appropriate setback, the applicant is requested to review the clearing of vegetation as per Item 16 – Conservation Interface and assess the impacts. It is recognised this is noted as bushfire separation area however given the roads and shared path required by Item 4 – Proposed Layout, it should seek to retain canopy trees and allow for a revegetation ground layer to facilitate a low maintenance asset rather than a future council asset burden.*

Our Response

The proposed vegetation management approach adjoining the Conservation Zone has been updated to align with the LFZ strategy discussed in Items 4c(iii), 6c(xi) and 16(a). We note specifically that due to topographic constraints and the desired reduction in earthworks extent to prevent further Ecological impacts rads and paths have been extracted from the conservation area interface. The LFZ provides a fuel-reduced buffer between the development and conservation areas, allowing for the retention of low-hazard canopy trees and provides specification (Section 7.8 BHAMP) for provision of a low-maintenance / low fuel outcome supporting the BHAMP objectives.

This approach avoids full clearing, reduces long-term maintenance requirements, and ensures the interface area remains consistent with bushfire mitigation and ecological objectives.

These outcomes are reflected in the updated BHAMP (Rev 2.0) and supporting Bushfire Tree Retention Plan. We note that they are consistent with the Vegetation Retention and Conservation Interface outcomes presented in Therfor Group's IR response addressing Ecological matters and items.

Given the careful and deliberate design intent process undertaken to achieve an acceptable outcome between conservation, bushfire protection and management burden reduction, it is considered that Item 17a has been adequately addressed by the proposed development outcome.

Council Item 17b - Bushfire

(b) Clearly define areas where future open space dedicated to the MEDQ delegate is required to achieve a particular planting typology. Noting that this should not result in a higher maintenance burden or effect on the vegetated outcomes for the riparian corridor, conservation or WSUD assets.

Our Response

Future open space areas that have nominated as Low Fuel Zones have been nominated within plans associated with the overall urban design response in particular Plan 23-0571SP Reconfiguration of A Lot – Overall (dated 30.102025) in order to align with the requirements of the BHAMP (Rev 2.0) and to ensure consistency across the response package.

The bushfire-related open space areas, including the LFZs and parkland buffers, have been designed with clear and consistent planting typologies that maintain low-fuel conditions (< 8 t/ha) while supporting ecological and WSUD objectives. Please refer previous responses for Items 4c(iii), 6c(xi) and 16(a), herein for further detail. The proposed approach provides a clear spatial definition of bushfire management areas without imposing additional long-term maintenance responsibilities on the MEDQ delegate.

The updated BHAMP (Rev 2.0) has been amended to reflects these planting typologies and provides specification for each area proposed.

Given the above it is considered that Item 17b has been adequately addressed by the proposed development outcome.

Closure

We trust the information provided within this response meets your immediate requirements. If you have any questions or require additional further information, please do not hesitate to contact us.

Yours sincerely,



Stephen Hayes

BSc(Env) Hons GradCertBfireProt ESA MEIANZ

Director of Environment / Principle Bushfire Analyst

Attachment A – Bushfire Management Plan – ROL2 (Revision 2 dated October 2025)

OCTOBER 2025

Bushfire Hazard Assessment & Management Plan

ROL 2 PROVIDENCE WEST, 817-843 RIPLEY RD,
SOUTH RIPLEY QLD 4306
FOR STOCKLAND DEVELOPMENT PTY LTD



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Version Control

Revision	Author	Reviewed / Updated	Signed Off	Date of Issue
1.0	E. Travis	Issued to client.	S. Hayes	15/05/2025
2.0	E. Travis	Amended for IR.	S. Hayes	31/10/2025

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1. Introduction

1.1 Background

Therefor Group Pty Ltd has been engaged by Stockland Development Pty Ltd (hereafter referred to as 'the client') to prepare a Bushfire Management Plan (BMP) for a developmental subdivision located at 817-843 Ripley Road, South Ripley QLD 4306, formally described as Lot 196 on SP157517 (hereafter referred to as the 'subject site'). The subject site encompasses approximately 48.53 hectares (485,300 m^2) and is within the Ipswich City Council (ICC) local government area.

1.2 Purpose of the Report

This Bushfire Hazard Assessment and Management Plan (BMP) has been formulated to identify the potential bushfire risk to the proposed development and provide associated recommendations to mitigate the adverse effects of the risks identified.

Additionally, this report has given consideration to the previous approval which conditioned the requirement of a bushfire hazard assessment and has considered the previous assessment undertaken by Cardno:

- Provide compliance endorsement against Condition 16a(ii) of development approval 9820/2019/MAPDA/A.
- Assist in demonstrating the requirements of Condition 6 of development approval 9820/2019/MAPDA/A.
- To demonstrate material compliance with the 2013 Cardno Bushfire Hazard Assessment Report (2 July 2013 Ref: 7901-47) approved under PDA approval 9820/2019/MAPDA/A dated 9 July 2021.

1.3 Objectives of the Assessment

The objectives of this report are:

- To identify bushfire hazard constraints associated with the proposed development.
- To quantify the bushfire hazard potential of vegetation associated with the site and its surrounds.
- To identify and quantify potential site use exposure and risk.
- To provide mitigation options to reduce the identified bushfire threat.
- To demonstrate compliance with the relevant regulatory framework.
- To inform potential site end-users of the threat and management strategies to reduce the bushfire threat.

1.4 Key Definitions

The subject site is defined as Lot 196 on SP157517.

The development footprint is the identified area intended to support the proposed subdivision.

The study area is land located within approximately 150m of the footprint.

The locality is land within an approximate 2km radius of the subject site.

1.5 Outline of the Assessment

This BMP has been structured to provide information consistent with the requirements of the methodologies detailed in Leonard *et al. (2014), AS3959:2018 (Standards Australia 2018)*, *Ipswich City Planning Scheme, Natural Hazards, Risks and Resilience – State Planning Policy State Interest guidance material* (DSDMIP 2019) and *Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire'* (QFD 2019).

The BMP is structured as follows:



2. Site Analysis

2.1 Site Location and Characteristics

The subject site is located at 817-843 Ripley Road, South Ripley QLD 4306, comprising an approximate total area of 48.53 hectares. The site is situated in the Ipswich City Council (ICC) local government area within the Ripley Valley Priority Development Area (RVPDA) and is approximately 12km south-east of the Ipswich Central Business District. The site contains a balance of non-regulated woodland to the north and west and slashed paddocks to the south and east of the subject site. Waterways traverse the southern extent of the subject site and move northward into the woodland area. The Centenary Highway is located north of the subject site, with other surrounding land uses, including rural residential and emerging communities to the east and rural woodland to the south and west.

Figure 1 provides an aerial image of the subject site in the context of the surrounding land uses and physical features.

2.2 Site Topography

The subject site's topography is broadly described as 'moderately inclined' to the north and' very gently inclined' to the south (Speight 2009). The northern extent of the land parcel exhibits a slope gradient of 6.7° from 92m ASL at the north to 53m ASL at the south, which falls within the 'low' category, with local elevation changes of approximately 39m. The south slope's gradient is 1.2º from 59m ASL at the south to 45m at the east. This relief class is considered 'very low', with local elevation changes of approximately 14m. The dominant landform pattern is 'rolling low hills' to the north and 'gently undulating rises' to the south. The development footprint is anticipated to be modified to achieve a slope gradient of less than 1° to support lot development.

Figure 2 displays the site's topography, as demonstrated by LiDAR-sourced topographic contours at 1m intervals and slope categorisation.

2.3 Current Land Uses

The subject site is located within the Ipswich City Council LGA. Notable features in the surrounding area include recent subdivisions being developed to the north as a stage within this development.

Of particular relevance to the application, the site is located within the Ripley Valley Priority Development Area (PDA), declared under the Economic Development Act 2012. The Ripley Valley PDA was established to support and coordinate the delivery of urban development in the western growth corridor. Development within the PDA is regulated by the Ripley Valley Urban Development Area Development Scheme, which remains applicable despite the transition from UDAs to PDAs. The scheme provides planning and assessment criteria that take precedence over other planning instruments to the extent of any inconsistency. As such, the site's inclusion within the PDA informs the planning framework that applies to the proposed development, particularly in relation to hazard management, environmental values, and infrastructure delivery.

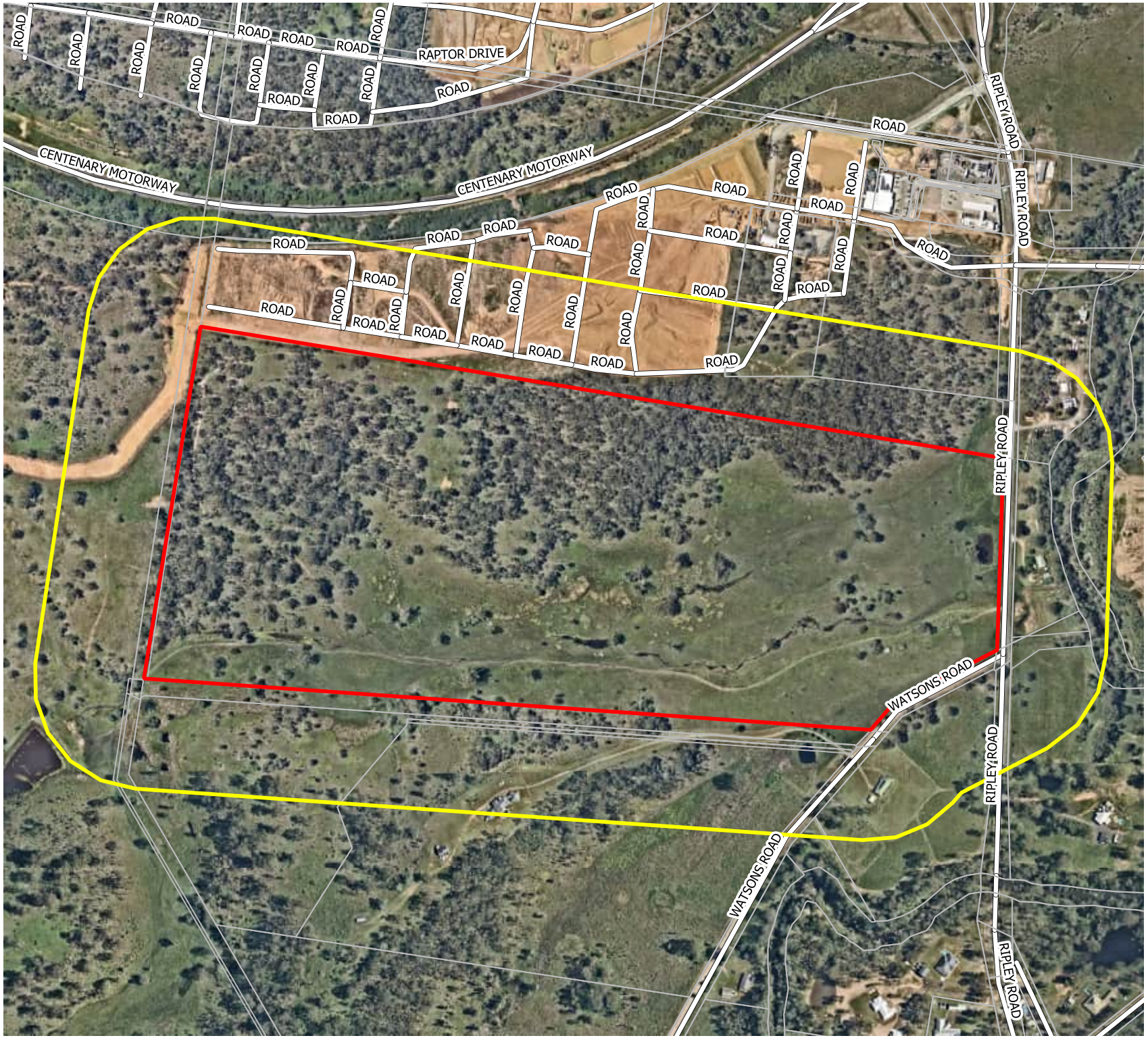


FIGURE 1
AERIAL IMAGE OF STUDY AREA

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

- Subject Site
- Study Area
- Cadastral
- Roads and Tracks

CLIENT
Stockland Development Pty Ltd

DRAWING NO.	CRS PROJECTION
23-0573E/BF	MGA2020
DATE DRAWN	**UTM ZONE**
08-05-2025	Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

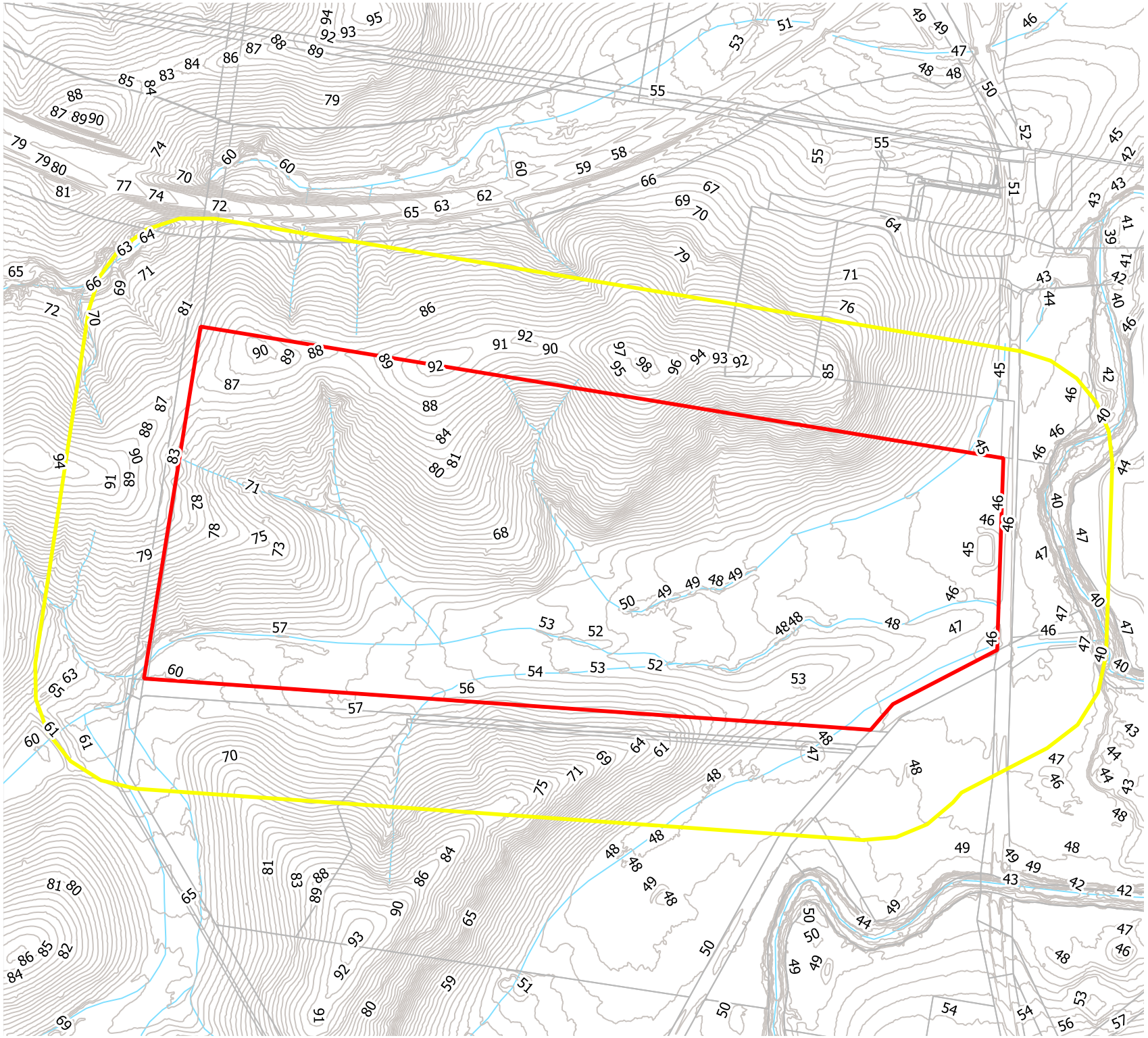


FIGURE 2
TOPOGRAPHY OF STUDY AREA

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

- Subject Site
- Study Area
- Cadastral
- Contours (1 metre)
- Watercourse Lines

CLIENT
Stockland Development Pty Ltd

DRAWING NO.
23-0573E/BF

CRS PROJECTION
MGA2020

DATE DRAWN
08-05-2025

UTM ZONE
Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

3. Development Proposal

The current application seeks approval for the reconfiguration of a Lot. It includes a development layout that is broadly consistent with the current approval over the site, as per the original PDA approval 9820/2019/MAPDA/A dated 9 July 2021.

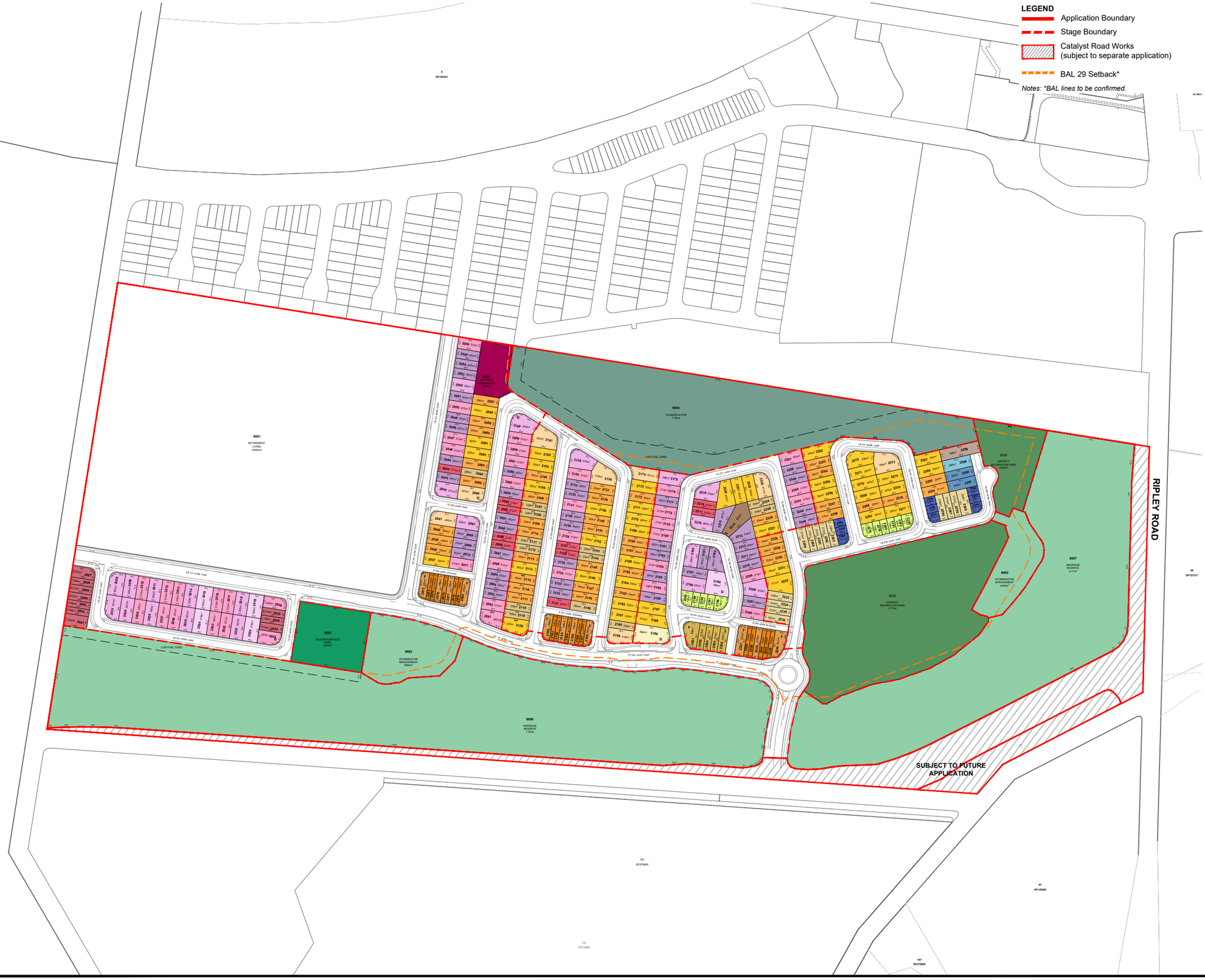
The application involves a residential subdivision forming part of a larger staged development by Stockland Development Pty Ltd. This BMP applies to South Village (ROL 2), which comprises 576 new residential dwellings of various compositions. The development will be serviced by a proposed main road to the south, connecting to Ripley Road and future development to the west. Additional internal roads will provide connectivity, including two main roads running south through the subdivision to link with future development to the west and a central road connecting to a planned development to the north (Ref: 16140/2021/PDA). More minor roads will provide access throughout the subdivision, complemented by pedestrian pathways, recreational parks, and designated rehabilitation areas to the north, east, and south. The development will also include off-road two-way cycle paths along the southern main road, shared pedestrian paths, proposed public and school transport bus stops, and planned bus routes to enhance connectivity.

The development will occur over eight stages. Stage 1 (sub-stages A–D) is located in the western area of the site and will include the construction of the main access road, which enters from the south. This road will also provide access to Stages 2, 3 and 4. Stage 2 will include a secondary road connection to the adjoining development north of the site. Stages 5-8 represent the conservation, open space, stormwater, and low-fuel zone areas for this application.

The South West Trunk Road forms part of the major regional road network identified under the EDQ Development Charges and Offset Plan (DCOP) to service the Ripley PDA. Construction of this trunk road, including upgrades to Ripley Road and key intersections, is expected to commence following formal approval of the functional designs in late 2025.

The original PDA approval was supported by a Bushfire Hazard Assessment Report prepared by Cardno (dated 2 July 2013, Ref: 7901-47). The endorsed report was prepared under the now-rescinded State Planning Policy 1/03: Mitigating the Adverse Impacts of Flood, Bushfire, and Landslide and included several recommendations supporting the PDA approval. This report examines these recommendations to ensure that the current minor change application provides an equivalent or better risk profile, in line with current SPP requirements and best practice bushfire analysis methodology.

Refer to Figure 3 to view the Development Proposal.



LOT YIELD

Residential Saleable Area (Standard Lots)

ALLOTMENT TYPE		TYPICAL LOT FRONTAGE	TYPICAL AREA	YIELD	%
Urban Lotts					
	Urban Lott	9.2m-12m	90-96m²	9	1.6%
	Garden Homes	8.0m-10.8m	128-184m²	11	1.9%
SUB-TOTAL				20	3.5%
25m deep products					
	Rear Loaded Terraces	4.6m	115m²	0	0.0%
		6.6m	165m²	0	0.0%
	Front Loaded Terraces	7.5m	188m²	19	3.3%
	Urban House	8.5m	213m²	19	3.3%
	Villa	10.5m	263m²	43	14.2%
	Premium Villa	12.5m	313m²	40	13.2%
	Courtyard	14.0m	350m²	21	7.5%
	Traditional Allotment	16.0m	452m²	5	1.7%
SUB-TOTAL				129	22.4%
20m deep products					
	Rear Loaded Terraces	4.6m	129m²	15	2.5%
		6.6m	185m²	11	1.9%
		7.5m	210m²	5	0.9%
	Front Loaded Terraces	7.5m	210m²	13	2.3%
	Urban House	8.5m	238m²	13	2.3%
	Villa	10.5m	294m²	38	6.6%
	Premium Villa	12.5m	350m²	42	7.4%
	Courtyard	14.0m	392m²	8	1.4%
	Traditional Allotment	16.0m	448m²	1	0.2%
SUB-TOTAL				147	25.5%
30m deep products					
	Villa	10.5m	323m²	2	0.4%
	Premium Villa	12.5m	375m²	1	0.2%
	Courtyard	14.0m	480m²	0	0.0%
	Traditional Allotment	16.0m	480m²	0	0.0%
SUB-TOTAL				3	0.5%
32m deep products					
	Villa	10.5m	336m²	1	0.2%
	Premium Villa	12.5m	400m²	1	0.2%
	Courtyard	14.0m	448m²	0	0.0%
	Traditional Allotment	16.0m	512m²	0	0.0%
SUB-TOTAL				2	0.3%
TOTAL STANDARD LOTS				301 lots	52.2%

Additional Dwellings			Indicative Yield	
F	Fonzies	varies	8	1.4%
D	Duplex lots	varies	5	0.9%
SUB-TOTAL			13 dw	2.3%

Other	Indicative Density	Indicative Yield	
Balance Lot (lot 8001)	25dw/ha	250	43.8%
Multiple Residential (lot 8002)	66dw/ha	12	2.1%
SUB-TOTAL		262 dw	45.5%
TOTAL DWELLINGS		576 dw	100.0%

LAND USE BUDGET (ROL 2)			
		Area	%
Area of Application		**45.72 ha**	**100%**
Saleable Area			
Residential Lots (including Duplexes & Fonzies)		8.67 ha	19.0%
	Multi-Residential Site (lot 8002)	0.19 ha	0.4%
Total Saleable Area		**8.86 ha**	**19.4%**
Other			
Balance Lot		10.00 ha	21.9%
Total		**10.00 ha**	**21.9%**
Roads			
Local Roads		3.87 ha	8.5%
Collector, Arterial & Sub-Arterial Roads		2.58 ha	5.6%
Total Roads		**6.45 ha**	**14.1%**
Open Space / Conservation			
	Conservation (including low fuel zone)	3.52 ha	7.7%
	District Rectreation Park	3.26 ha	7.1%
	Neighbourhood Recreation Park	0.50 ha	1.1%
	Stormwater / Detention (including low fuel zone)	13.04ha	28.5%
Total Area of Open Space		**20.32 ha**	**44.4%**
Overall		**45.72 ha**	**100.0%**

therefor GROUP

PROJECT
PROVIDENCE WEST - ROL 2

DRAWING TITLE
RECONFIGURING OF A LOT - OVERALL

20 0 40 80 120 Meters
1:2000 @ A1 - 1:4000@ A3

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PROJECT NO.
23-0573SP

DATE
30.10.2025

DRAWING NO.
ROL-00

NORTH

REV
E

4. Bushfire Regulatory Framework

4.1 State Planning Policy

In QLD, bushfire legislation and all other development-related regulations are regulated under the *Planning Act 2016* (PA), which represents the principal planning instrument governing all planning matters state-wide (DILGP 2017).

Under the PA's framework, development regulation is driven by the QLD State Planning Policy (SPP), which identifies matters of state interest (State of Queensland 2017). According to the PA's requirements, all local government entities must incorporate matters of state interest within local government planning instruments.

A proposed development within a designated bushfire-prone area is identified within the SPP as a matter of state interest (included under the title of *Natural Hazards, Risk and Resilience*). As such, the SPP represents the primary planning instrument (subordinate to the PA) related to bushfire hazard management in QLD. The current SPP identifies a bushfire hazard area as (State of Queensland, 2017):

- An area identified by a local government in its planning scheme as a bushfire hazard area based on a fit-for-purpose bushfire study; or
- An area shown on the SPP Interactive Mapping System as a bushfire hazard area.

Given the above definition, both the State and Local Government have the ability under the SPP to identify and map bushfire hazard areas as a development constraint (Leonard et al. 2009).

In addition to the material provided in the SPP, the policy is supported by the *State Planning Policy Interest Guidance Material* (DSDMIP 2019), which includes the State's example bushfire-prone areas code. Where a local government planning instrument has not been prepared under the SPP or the local planning scheme is irrelevant to the application, the 'example' code takes precedence to ensure the State interest is addressed appropriately. Both the SPP and the SPP guidance material are supported by the QFD document *Bushfire Resilient Communities Technical Reference Guide* for the State Planning Policy State Interest '*Natural Hazards, Risk and Resilience – Bushfire*' (QFD 2019) that provides the best practice methods under which to undertake a bushfire hazard assessment in line with the SPP outcomes.

Section 5.1 below discusses the State Government's assessment of bushfire hazard for the subject site.

SPP Vulnerable Use Classifications

The SPP state interest guidance material for bushfire hazards seeks to avoid the location of new, or expansion of existing, vulnerable uses and community infrastructure for essential services within bushfire hazard areas.

Pursuant to the SPP, a Vulnerable Use is defined as:

Certain types of uses and occupants are more vulnerable to the effects of bushfire attack due to factors including This vulnerability can be due to factors including social circumstances, communication difficulties, greater potential for health impacts (particularly impacts from smoke), reduced and dependent mobility, or the need for high levels of care. These vulnerable uses are often more difficult to evacuate, and occupants may not be able to support themselves or assist in property protection during a bushfire event.

The state interest guidance material for bushfire hazards further defines a vulnerable use as the following:

- Childcare centre
- Detention facility
- Hospital
- Relocatable home park
- Residential care facility
- Retirement facility
- Community care centre
- Educational establishment
- Nature-based tourism
- Rooming accommodation
- Resort complex
- Tourist Park

Given the above it can be confirmed that no definable vulnerable uses are associated with the proposed development.

4.2 Ripley Valley Urban Development Area Development Scheme

The Ripley Valley Urban Development Area (UDA) Development Scheme (the Scheme) applies to all development on land within the boundaries of the UDA. Currently, all areas declared as UDA have transitioned to Priority Development Areas (PDA)under Chapter 6 of the Economic Development Act 2012 (ED Act). Notwithstanding, the development scheme remains applicable. Further, the scheme may apply provisions of a planning instrument, plan, policy or code made under another Act however the scheme prevails to the extent of any inconsistency with those instruments.

- The scheme provides criteria that apply to all development across the PDA area. The following statements apply to the potential risk of bushfire: Section 3.3.9 Community safety and development constraints. Development ensures that people and property are safe from potential hazards, including landslips, bushfires, flooding, dispersive soils, predicted effects of climate change, mining subsidence, and unexploded ordinance.
- Section 3.3.9 Community safety and development constraints. To ensure protection from bushfire hazard, development is designed to mitigate bushfire risk. In Transitional Bushfire Areas the risk may diminish as development occurs.
- Section 3.3.9 Community safety and development constraints. Development is sited, designed and constructed to avoid, minimise or withstand the incidence of a development constraint.

Map 3a of the scheme identifies development constraints in relation to bushfire hazard with both Bushfire Risk Areas and Transitional Bushfire Risk areas identified within the subject site.

The relevant sections of Part 11 - Overlays, Division 4 - Development Constraints Overlays of the Ipswich Planning Scheme are recommended to provide guidance on how to achieve the above criteria.

In addition to the particulars of the Scheme, EDQ provide for general PDA Guidelines that hold uniform strategies to be adopted across all PDA including PDA Guideline no. 14 (Environmental Values and sustainable resource use). The section of the guideline titled Ecological processes and natural systems includes value 4 Bushfire Risk Management and suggests the following strategies are adopted:

- Ensure significant biodiversity values are protected from exempt clearing by ensuring new built infrastructure is adequately set back from identified biodiversity areas.
- Where a firebreak is required to protect new infrastructure ensure clearing associated with the firebreak is located external to significant biodiversity areas.

4.3 Ipswich Planning Scheme

Notwithstanding the above, at a functional level, Local Government planning schemes provide the actual development constraints and opportunities within their development codes and zoning considerations. Each LGA has its own interpretation of the SPP guidelines, but all are designed to represent the state interest (where up to date) in this and all state interest matters. This site is subject to the provisions of the Ipswich City Planning Scheme, particularly Section 11 of the Bushfire Risk Areas Overlay Code, whose primary purpose is to appropriately manage the potential bushfire risk associated with assessable development.

Pursuant to the Ipswich City Planning Scheme, the land parcel is zoned as Future Urban, Conservation, and Recreation. The Future Urban zoning is designated for integrated urban development on large and strategically located parcels of land. The surrounding lots are also predominately within the Future Urban zone and are broadly characterised by subdivided communities and agricultural activities.

Section 5.1 below discusses the Local Government's assessment of bushfire hazard for the subject site.

4.4 National Construction Code

The *National Construction Code 2022* (NCC) establishes primary technical and construction provisions for new buildings within Australia. The code defines performance-based standards to achieve minimum levels of safety, health, amenity, accessibility and sustainability of building classifications, following the purpose for which the structure is designed or adapted to be used.

Residential components of the proposal

Part H7 of the NCC defines ancillary provisions and additional construction requirements that operate alongside other parts of the NCC relevant to construction in bushfire-prone areas. The functional statement H7F4 describes that A Class 1 building or a Class 10a building or deck associated with a Class 1 building constructed in a designated bushfire-prone area is to provide resistance to bushfires to reduce the danger to life and reduce the risk of the loss of the building. Performance requirement H7P5 states that a Class 1 building or a Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire-prone area must be designed and constructed to:

- reduce the risk of ignition from a design bushfire with an annual exceedance probability of no more than 1:50 years;
- take account of the assessed duration and intensity of the fire actions of the design bushfire;
- be designed to prevent internal ignition of the building and its contents; and
- maintain the structural integrity of the building for the duration of the design bushfire.

The proposed development outcome would include structures that constitute the following building classes under the NCC:

- Class 1a – a single dwelling being a detached house, or one of a group of attached dwellings being a townhouse, row house or the like.

As such, any Class1a buildings constructed due to the proposed development will require conformance with Part H7 of the NCC.

The associated deemed to satisfy provision H7D4 to satisfy the NCC states that performance requirement H7P5 is satisfied when a Class 1 building, or a Class 10a building or deck associated with a Class 1 building if it is constructed under:

- AS 3959; or
- NASH Standard – Steel Framed Construction in Bushfire Areas.

These requirements are relevant to detailed design and would be subject to building certification processes pursuant the *Building Act 1975* and/or further development consent outside the scope of this assessment, however the relevance within the development application context must be considered in order to provide an NCC compliant development outcome,

4.5 Australian Standard 3959:2018

*Australian Standard (*AS) *3959:2018* (Construction of buildings in bushfire-prone areas) requires all new habitable structures built in a bushfire-prone area to undertake a Bushfire Attack Level (BAL) assessment to nominate appropriate BAL construction levels. It is to be noted that detailed construction methods and materials are beyond the scope of this report as this detail is typically addressed as a component of detailed building design certified under private building certification per the National Construction Code. However, the methods and standards in *AS3959:2018* enable a best practice method of adequately addressing bushfire risk mitigation during the development approval stage and additionally, represent a deemed to comply solution for Class 1a, 2 and 3 structures under the NCC2022

4.6 2013 CARDNO Bushfire Hazard Assessment

Whilst undertaken under the methodologies provided within the now rescinded SPP1/03 assessment framework, the endorsed Bushfire Hazard Assessment Report prepared by Cardno (2 July 2013 Ref: 7901-47) forming part of the previous approval provided a number of recommendations to adequately reduce the risk of the proposed development to tolerable levels. Given the preliminary approval the outcomes of this assessment are considered as minimum performance outcomes for the current proposal and as such have been interrogated within this assessment.

5. Bushfire Hazard Assessment

5.1 Desktop Assessment

SPP Bushfire Hazard Areas

The QLD SPP recognises the study area as containing one (1) contiguous area of Medium and High Potential Bushfire Intensity vegetation, encompassing the vegetation situated to the north and west. The associated Potential Impact Buffer (100m) includes a large portion of the subject site and broader study area.

Refer to Figure 4 for an extract of the SPP Bushfire Hazard mapping for the subject site and surrounding area.

Local Bushfire Risk Area Overlay

The Ipswich City Council (ICC) Planning Scheme Bushfire Risk Areas Overlay identifies the study area as entirely within the 'Transitional Bushfire Risk Area'. The surrounding lots to the north and west are also mapped as 'Transitional Bushfire Risk Areas', whereas the south and east are not mapped within any bushfire risk area.

The ICC mapping distinguishes between 'Bushfire Risk Areas' (which have identified potential bushfire risks) and 'Transitional Bushfire Risk Areas' (where risk is expected to diminish over time). Following ICC's framework, development within the Transitional Bushfire Risk Area is assessed against the Bushfire Risk Area provisions unless the following conditions are met:

- Most of the vegetation is cleared through reconfiguration and operational works.
- The development is contiguous with existing urban areas.
- A minimum 15-metre-wide cleared area between the property boundary and bushfire risk areas is maintained.

The Bushfire Risk Areas Overlay mapping for the subject site aligns with the existing vegetation extent and land use characteristics at the time of mapping. However, given the Transitional Bushfire Risk designation, site-specific conditions and planned development will influence the ongoing risk.

Refer to Figure 5 for an extract of the ICC Bushfire Risk Areas Overlay mapping for the subject site and surrounding area.

CARDNO 2013 Bushfire Hazard Assessment Recommendations

The previously endorsed Bushfire Hazard Assessment Report (Cardno, 2013) provided several recommendations to adequately mitigate the risk of the proposed development to tolerable levels. These are summarised as:

- In respect to Medium bushfire hazard areas, make appropriate provision for risk mitigation through:
    i. Allotment design and siting of buildings.
    ii. Include firebreaks that provide adequate setbacks between structures and hazardous vegetation and adequate access for firefighting / other emergency vehicles.
    iii. Provide adequate road access for fire-fighting, other emergency vehicles, and safe evacuation.
    iv. Provide an adequate and accessible water supply for fire-fighting purposes
- Dwellings on lots located within the 50m safety buffer to all medium bushfire hazard areas satisfy the requirements of AS3959:2018,
- Consideration is given to the establishment of serviceable fire trails where a formed roadway is not to be constructed between residential lots and areas of hazardous vegetation.
- Covenants, or appropriate alternative mechanisms, will be required to ensure that:
    i. Lots partially located within 50m of the identified medium bushfire hazard areas satisfy the requirements of AS3959:2009
    ii. No dwellings or combustible structures are established within the defined Building Exclusion Zones on individual lots.
    iii. Vegetation within the defined Building Exclusion Zones on individual lots is appropriately managed.
    iv. Where a designated fire trail is not provided on adjoining land, a 6m wide access easement in favour of the Qld Fire Department is established through the defined Building Exclusion Zone.

Vegetation Community Assessment and Fuel Loads

The Department of Resources (DoR) Regional Ecosystem mapping database was interrogated to determine vegetation communities that could contribute to the bushfire hazard. The Regional Ecosystem mapping indicates that the vegetation on site is mapped as non-remnant. A small patch of vegetation west and south are classified as RE12.9-10.2/12.9-10.7/12.9-10.16 regrowth and RE12.3.3 regrowth vegetation. Based on the pre-clear regional ecosystem mapping, the vegetation within the northern and southern portions of the site was considered RE12.9-10.2/12.9-10.7/12.9-10.16, and the vegetation running through the centre and east of the site was considered RE12.3.3. The regional ecosystem descriptions within the study area are as follows:

- RE12.9-10.2 – *Corymbia citriodora* subsp. *variegata* +/- *Eucalyptus crebra* open forest on sedimentary rocks
- RE12.9-10.7 – *Eucalyptus crebra* +/- *E. tereticornis*, *Corymbia tessellaris*, *Angophora* spp. and *E. melanophloia* woodland on sedimentary rocks
- RE12.9-10.16 – Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments
- RE12.3.3 - *Eucalyptus tereticornis* woodland on Quaternary alluvium

Refer to Figure 6 for a spatial representation of the regional ecosystem and pre-clear regional ecosystem designations surrounding the subject site.

A review of the Queensland Fire Department (QFD) Vegetation Hazard Class (VHC) Fuel Load table (July 2019) provides an accepted conversion of RE descriptions to appropriate Vegetation Hazard Class descriptions. It provides the 80th percentile potential fuel load (PFL) categories for the relevant vegetation community, as replicated in the table below (refer to Table A).

Where a continuous fire run exceeds 150m, an additional 10t/ha should be added to the understory fuel load (UFL) to account for potential canopy fuels in a bushfire scenario within the hazard area. The total PFL used to calculate potential fire intensity uses the total UFL which only includes canopy fuels when a continuous fire run exceeds 150m.

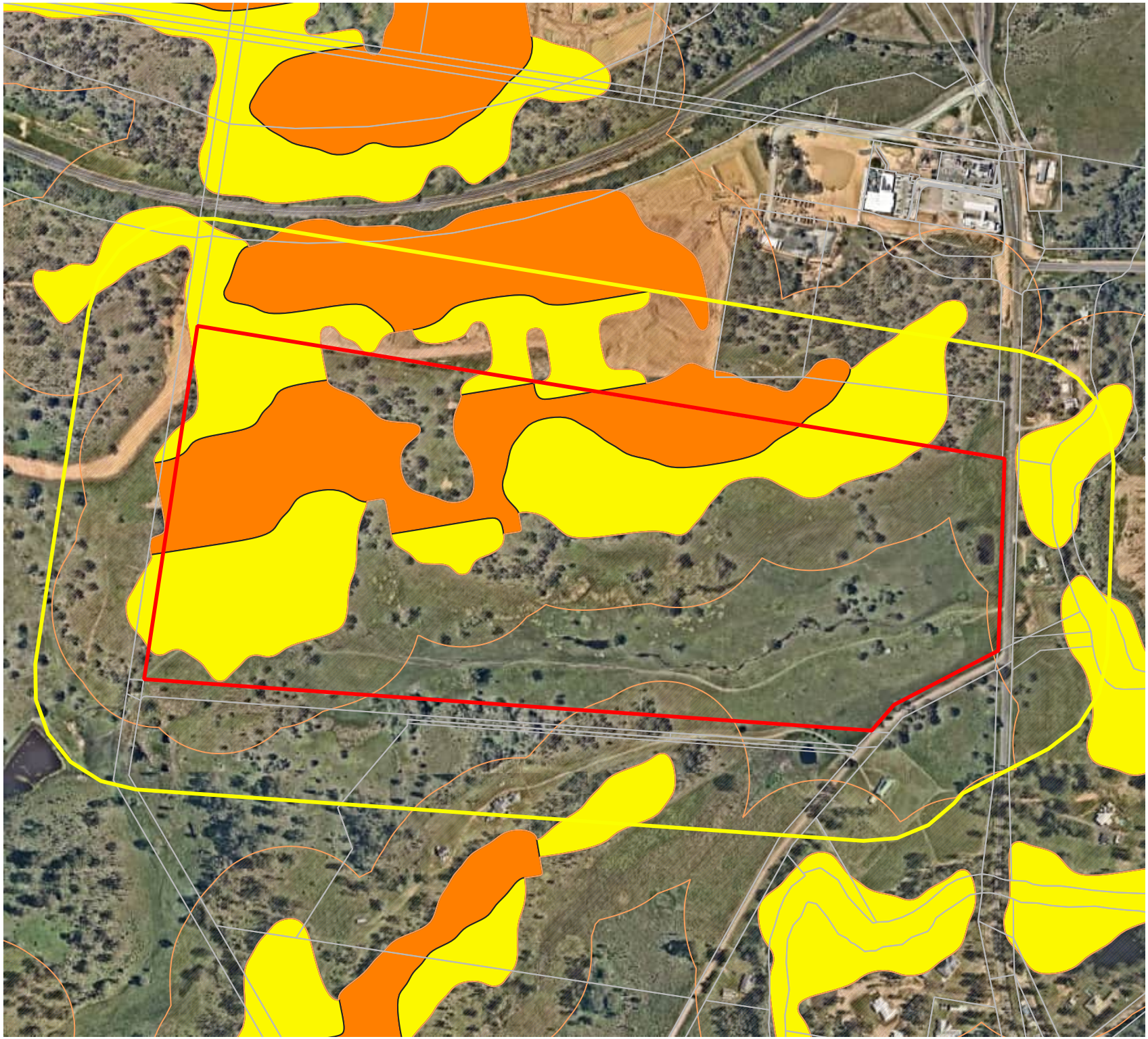


FIGURE 4

SPP BUSHFIRE HAZARD AREA MAPPING

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

- Subject Site
- Study Area
- Site Locality
- Cadastral

Bushfire Prone Areas

- Medium Potential Bushfire Intensity
- High Potential Bushfire Intensity
- Potential Impact Buffer

CLIENT

Stockland Development Pty Ltd

DRAWING NO.	CRS PROJECTION
23-0573E/BF	MGA2020
DATE DRAWN	**UTM ZONE**
06-03-2025	Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

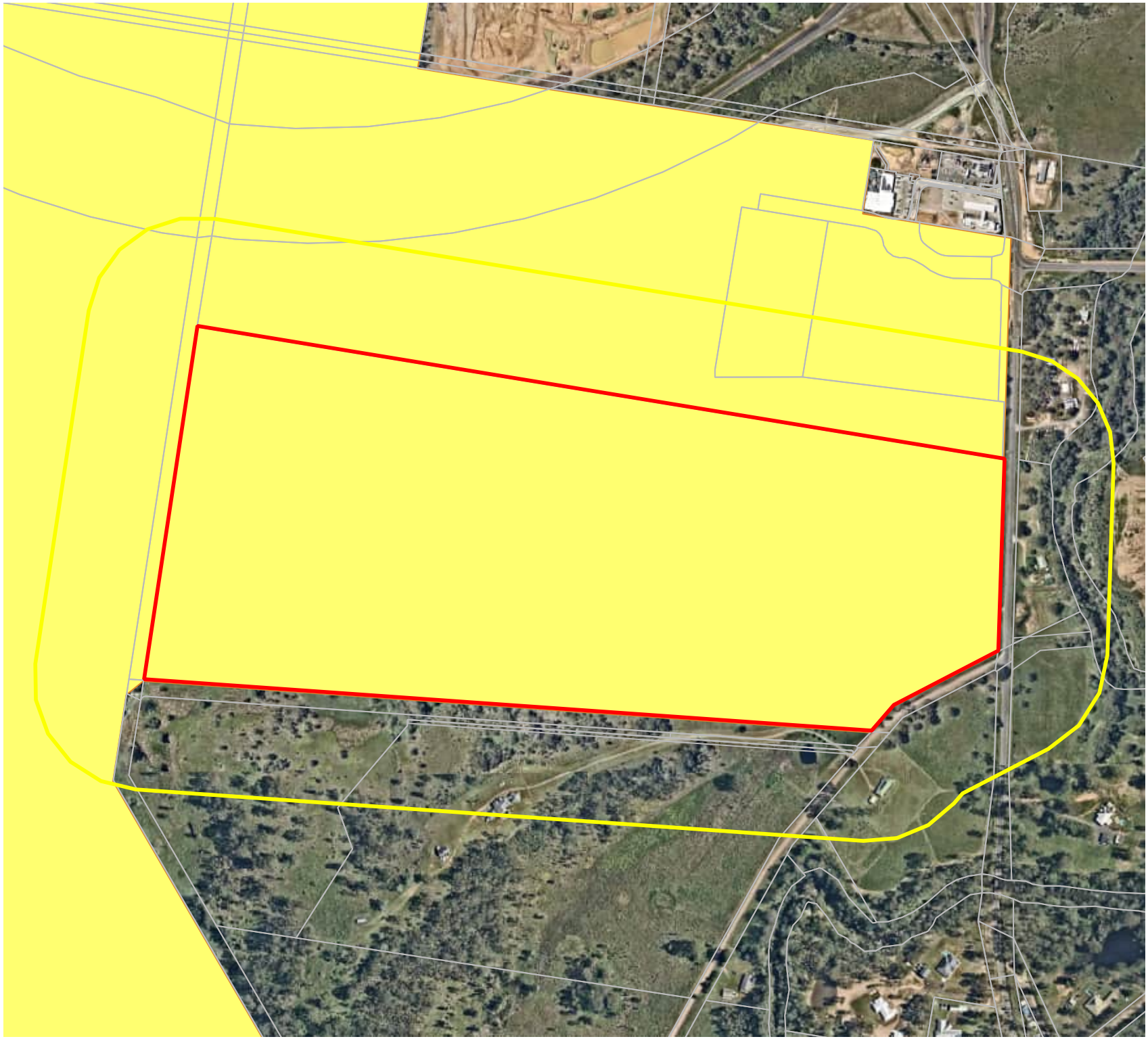


FIGURE 5
LOCAL BUSHFIRE OVERLAY MAPPING

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

Subject Site
Study Area
Site Locality
Cadastral

Bushfire Risk Area

Transitional Bushfire Risk Area

CLIENT

Stockland Development Pty Ltd

DRAWING NO.

23-0573E/BF

CRS PROJECTION

MGA2020

DATE DRAWN

06-03-2025

UTM ZONE

Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

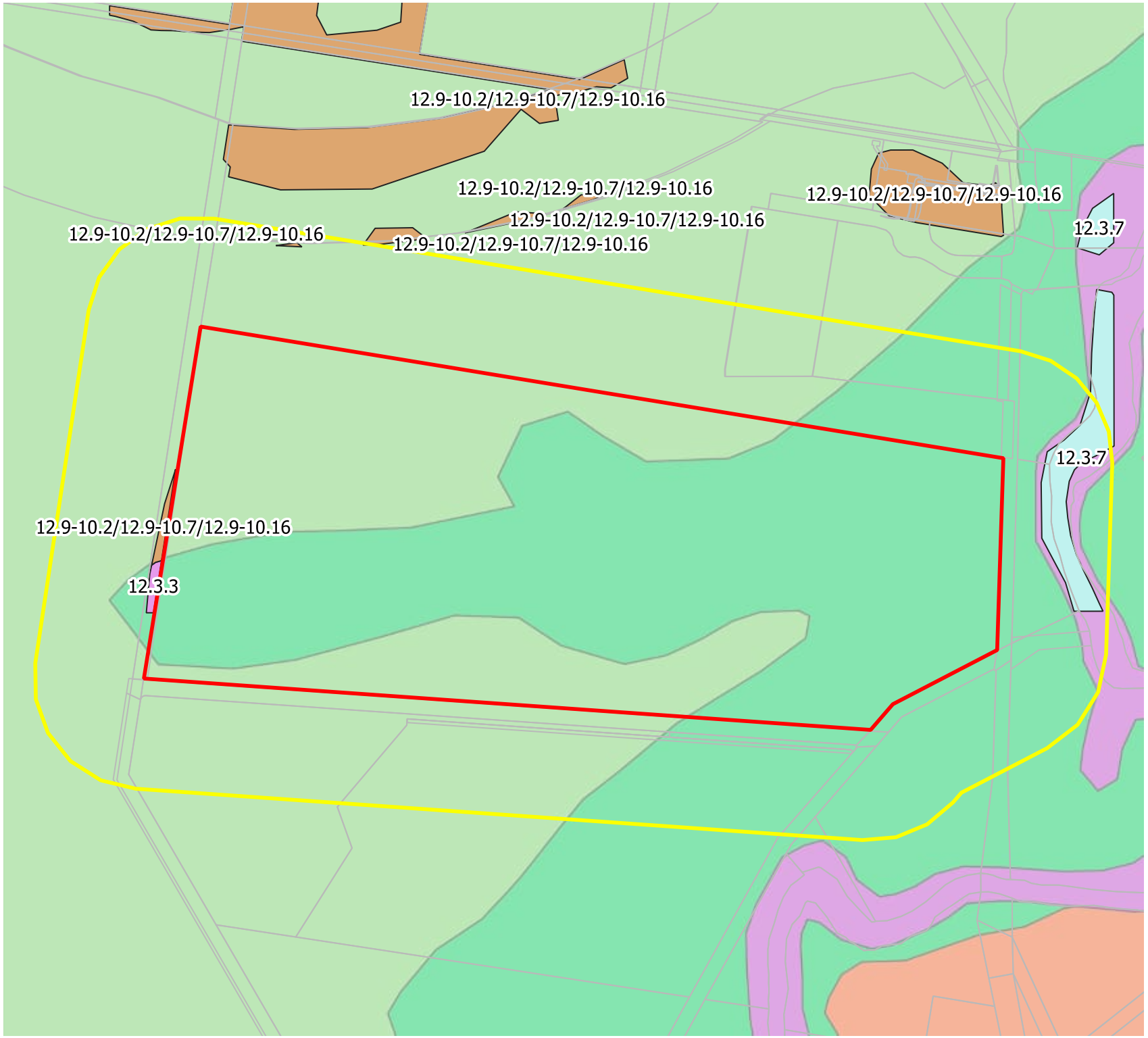


FIGURE 6

REGIONAL ECOSYSTEMS OF STUDY AREA

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

- Subject Site
- Study Area
- Cadastral

Regional Ecosystems

- High-value Regrowth (Endangered)
- High-value Regrowth (Least Concern)
- High-value Regrowth (Of Concern)

Pre-Clear Regional Ecosystems

- 12.3.3
- 12.3.7
- 12.9-10.2/12.9-10.7/12.9-10.16
- 12.9-10.7

CLIENT

Stockland Development Pty Ltd

DRAWING NO.

23-0573E/BF

CRS PROJECTION

MGA2020

DATE DRAWN

08-05-2025

UTM ZONE

Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

Table A - QFD PFL according to the converted VHC

RE Code	VHC Code	VHC Description	Potential Fuel Loads (t/ha)					
			S	NS	E	B	Total*	+Canopy**
12.9-10.2	10.1	Spotted gum dominated open forests	16.30	3.00	1.50	0.00	20.80	30.80
12.9-10.7	13.2	Dry to moist eucalypt woodlands on undulating metamorphics and granite	9.40	3.40	0.60	1.00	14.40	24.40
12.9-10.16	5.1	Notophyll to microphyll vine forests	3.90	0.00	0.00	0.00	3.90	13.90
12.3.3	16.2	Eucalyptus-dominated woodland on drainage lines and alluvial plains	7.50	3.60	0.50	0.00	11.60	21.60

Where S = Surface, NS = Near Surface, E = Elevated, B = Bark

*Total potential fuel load represents understory loads only

**Total potential fuel load, including canopy fuels, used where a continuous fire run exceeds 150m

Slope Assessment

Analysis of 1m contours obtained for the study area indicates that hazardous vegetation areas identified to the north, south, and east are located *Upslope* from the proposed development. In contrast, hazardous vegetation located in the southwest is considered *Downslope* from the proposed development.

Topography beneath the northern hazardous vegetation (i.e. effective slope) exhibits an average grade of 5° to 20° within the subject site. Hazardous vegetation to the south and east of the subject site has a grade of 0° to 5°. The proposed development footprint is anticipated to be levelled to facilitate lot development; as such, a site slope of 1.00° is nominated.

Refer to Figure 7 for a representation of slope categorisation within the study area.

Fire Weather Severity

Following *AS3959-2009 S.2.2.2 Table 2.0*, Queensland's Regional Fire Danger Index is nominated as FDI 40. However, a review of relevant data developed by the Queensland Fire Department (QFD) in conjunction with CSIRO suggests that a regional-specific FFDI value of 60 is appropriate for the site. This value anticipates future climate trends to 2050 and a 5% annual exceedance probability (AEP). As such, using FFDI 60 is considered a conservative approach to this assessment.

5.2 Reliability Assessment

TF's bushfire specialists undertook a desktop review of the available resources to ensure the reliability of the vegetation and subsequent hazard mapping classification. The following sections detail the outcomes of this assessment.

Hazard Area Assessment

All vegetation within the subject site and study area was assessed to identify potential fire hazards to the proposed development. As a result, two (2) potential hazard areas with distinct spatial, fuel, and topographical characteristics were determined. Table B below summarises these hazard areas.

All other areas within the study area have been assessed as 'low threat' pursuant to the exclusions stipulated in *Section 2.2.3.2* of *AS 3959-2018* and have consequently been excluded from the assessment.

As demonstrated in Figure 8, vegetation hazard mapping indicates that areas within the study area meet the following exclusionary criteria:

- Vegetation of any type more than 150 m from the site;
- Areas of vegetation less than 1 ha in area, not within 100 m of classified vegetation;
- Strips of vegetation less than 50 m in width, not within 20 m of classified vegetation;
- Permanently non-vegetated areas (i.e. waterways, exposed beaches, roads, footpaths, buildings), and
- Vegetation regarded as a low threat due to factors such as flammability, moisture content or fuel load (i.e. managed grassland, mangroves and other saline wetlands, maintained lawns/gardens, agricultural cropping, maintained public reserves/parklands and windbreaks).

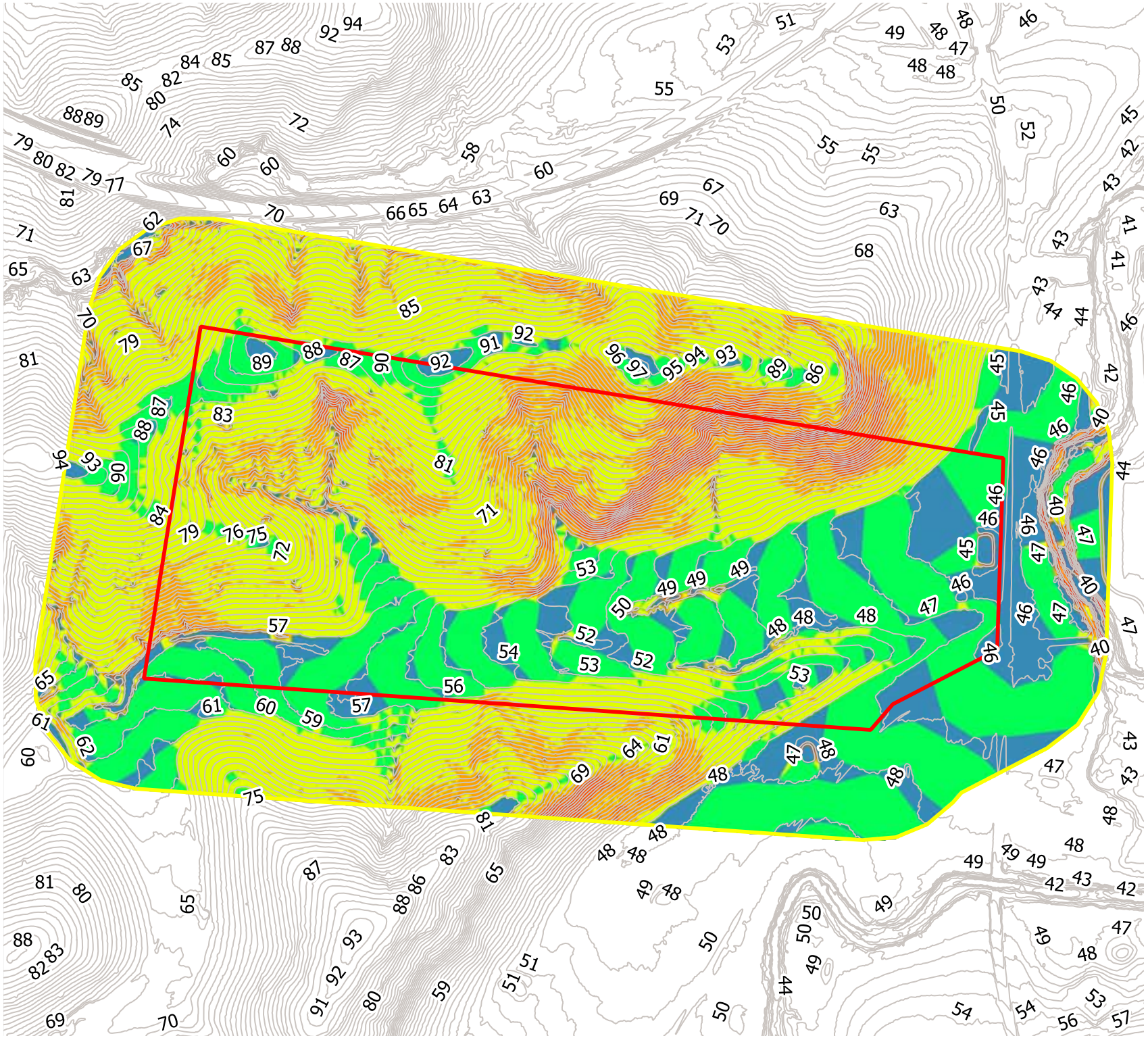


FIGURE 7

SLOPE CATEGORISATION OF STUDY AREA

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

- Subject Site
- Study Area
- Site Locality
- Contours (1 metre)

Slope

- <= 0.0
- 0.0 - 4.9
- 4.9 - 9.9
- 9.9 - 14.9
- 14.9 - 19.9
- 19.9 - 50.0

CLIENT

Stockland Development Pty Ltd

DRAWING NO.	CRS PROJECTION
23-0573E/BF	MGA2020
DATE DRAWN	**UTM ZONE**
08-05-2025	Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

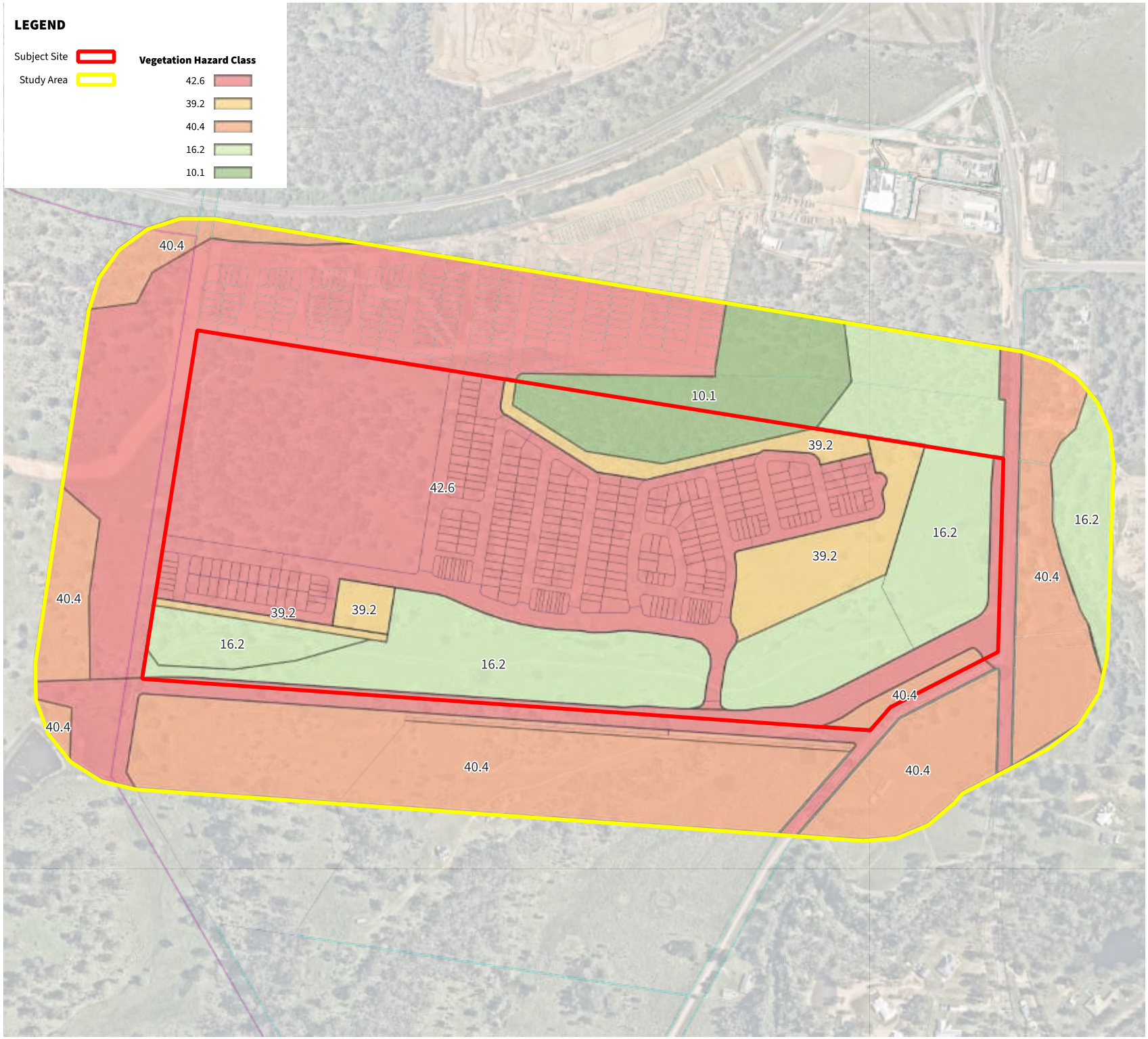


FIGURE 8
VEGETATION HAZARD CLASS OF STUDY AREA

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

CONFIRMED HAZARD AREAS

10.2 - RE equivalent 12.9-10.2
16.2 - RE equivalent 12.3.3

EXEMPTION CODE DESCRIPTION

39.2 - Low to moderate tree cover in built-up areas
- Areas subject to regular maintenance
- Low threat vegetation

42.6 - Nil to very low vegetation cover
- Buildings, structures and residential landscaping
- Areas of cleared vegetation
- Roads and easements

40.4 - Continuous low grass or tree cover
- Minimal tree cover
- Paddocks maintained by landowners

Pursuant to AS3959:2018 Section 2.2.3.2 and/or Bushfire Resilient Communities Technical Reference Guide for the SPP.

DRAWING NO.
23-0573E/BF

CRS PROJECTION
MGA2020

DATE DRAWN
13-10-2025

UTM ZONE
Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

Table B - Identified Hazard Areas

Fuel Area	Description	Location
HA1	Area of existing vegetation to be retained within the conservation area associated with RE 12.9-10.2	Upslope from the development footprint to the north and south.
HA2	Area of waterway rehabilitation representing future hazard associated with RE 12.3.3	Upslope from the development footprint to the east.

Hazard Area Descriptions

The following section details the individual hazard area. It provides an assessment/verification of the potential bushfire hazard classification based on a qualitative assessment of fuel characteristics and/or potential fire-line intensity (kW/m).

Fireline intensity measures the rate that a fire would consume fuel energy per unit time per unit length of fire front and is based upon the following equation (following the *DILGP 2016* 'Fit for Purpose" approach):

$$PFI = 0.62\ PFL^2 \times FFDI\ exp\ (0.069\ Slope) \qquad \text{(Equation 1[1])}$$

The resultant fire-line intensity values are then compared with the *DILGP 2016 Potential Bushfire Hazard Classes* (Table C below) to transparently assess the potential hazards of the identified areas in the proposed development.

Table C - Potential Bushfire Hazard Classes (adopted from *DILGP 2016*)

Hazard Class	Potential Fireline Intensity
1. Very High	40,000+ kW/m
2. High	20,000 – 40,000kW/m
3. Medium	4,000 – 20,000kW/m
4. Low	0 – 4,000kW/m

Unless otherwise detailed, Table D provides the references adopted for this assessment.

Table D - Data Sources for PFI Assessment

Variable	Reference
Vegetation Hazard Class (VHC)	(QFD 2018)
Potential Fuel Load (PFL)	(QFD 2018)
Slope (°)	(QLD Spatial Data (1m contours))
Fire Weather Intensity (FFDI)	(QFD 2013; Leonard *et al* 2014)

[1] Where PFI = Potential Fire Line Intensity (kW/m), PFL = Potential Fuel Load (tonnes/ha), FFDI = Fire Weather Severity and Slope = Maximum Slope (°)

Hazard Area 1 (HA1)

Hazard Area One (HA1) comprises extant areas of vegetation to be retained within environmental protection areas. Mature state vegetation fuel loads have been adopted for this retained vegetation. The pre-clear RE mapping describes the area as RE12.9-10.2/12.9-10.7/12.9-10.16. However, the dominant vegetation community is likely to influence wildfire characteristics more consistently than patches reduced in extent and influence, as such fuel loads for RE12.9-10.2, described as *Corymbia citriodora* subsp. *variegata* +/- *Eucalyptus crebra* open forest on sedimentary rocks has been adopted. HA1 consists of a single patch north of the subject site and covers an area of approximately 5.6ha. It is located upslope of the proposed development and, as such, can be considered as flat land (pursuant to AS3959:2018).

The canopy stratum for RE12.9-10.2 is dominantly composed of *Corymbia citriodora* subsp. *variegata* (Spotted Gum), *Eucalyptus crebra* (Narrow-leaved Red Ironbark), *E. tereticornis* (QLD Blue Gum), *C. intermedia* (Pink Bloodwood) and *E. moluccana* (Gum-topped Box). The vegetation is classified as a "transitional bushfire risk area" under the ICC Planning Scheme Bushfire Risk Areas Overlay and "high potential bushfire intensity" under the SPP Bushfire Hazard Mapping.

Based on floral and structural characteristics of the RE, this assessment has adopted the corresponding fuel loads associated with Vegetation Hazard Class 10.1, described as spotted gum-dominated open forests.

A Low Fuel Zone (LFZ) has been incorporated within HA1, located 16.1m inward from the hazard edge nearest the development. This zone will be established using low-flammability species and will function as a fuel-reduced area to mitigate radiant heat exposure to the development. The LFZ has been discussed further in Section 7.7 of this report. Table E below provides an assessment of the potential fireline intensity of HA1 following Equation 1.

Table E - HA1 Bushfire Intensity Assessment

Fuel Area	VHC	PFL (t/ha)	Slope (°)	FFDI	PFI (kW/m)	Hazard Class
HA1	10.1	20.80	1.00	60	17,245	MEDIUM

As shown in the table above, HA1 is considered a '*Medium*' hazard area and, as such, partially conforms to the intensity classification detailed in the state hazard mapping, albeit in a different spatial configuration.

Hazard Area 2 (HA2)

Hazard Area Two (HA2) is designated for the rehabilitation of the pre-cleared regional ecosystem in areas subject to major earthworks incursion. With reference to areas to be rehabilitated, the bushfire hazard level has been assessed based on the anticipated future fuel load, assuming full canopy cover upon maturation. Mature state vegetation fuel loads have been adopted as RE12.3.3 on pre-clear regional ecosystem mapping. HA2 consists of two patches to be rehabilitated, divided by a proposed road, and one area to the northeast, which includes some retained vegetation. It is situated within the eastern/southern area of the subject site and study area. It covers an area of approximately 14.8ha, 9.4ha within the eastern patch and 5.4ha within the southern patch. HA2 is located upslope from the subject site and is classified as rolling hills.

The canopy layer for RE12.3.3 is dominantly composed of *E. tereticornis, Angophora subvelutina* (Broad-leaved Apple), *Lophostemon suaveolens* (Swamp Box), and *Allocasuarina torulosa* (Forest Oak). The vegetation is classified as a "transitional bushfire risk area" under the ICC Planning Scheme Bushfire Risk Area Overlay and "medium potential bushfire intensity" under the SPP Bushfire Hazard Mapping. Based on the RE's floral and structural characteristics, this assessment adopted the corresponding fuel loads associated with Vegetation Hazard Class 16.2, which is described as Eucalyptus-dominated woodland on drainage lines and alluvial plains. This is an appropriate designation, with the proposed rehabilitation areas corresponding to the reconstructed waterway areas associated with the proposal.

A LFZ has been incorporated within HA2, located 10.4m inward from the hazard edge nearest Stage 1. This zone will be established using low-flammability species and will function as a fuel-reduced area to mitigate radiant heat exposure to Stage 1. Table F below provides an assessment of the potential fireline intensity of HA2 following Equation 1.

Table F - HA2 Bushfire Intensity Assessment

Fuel Area	VHC	PFL (t/ha)	Slope (°)	FFDI	PFI (kW/m)	Hazard Class
HA2	16.2	11.60	1.00	60	5,364	MEDIUM

As shown in the table above, HA2 is considered a '*Medium*' hazard area. It conforms with the classification detailed in the state hazard mapping, albeit in a different spatial configuration. Refer to Figure 9 for a representation of the hazard areas identified.

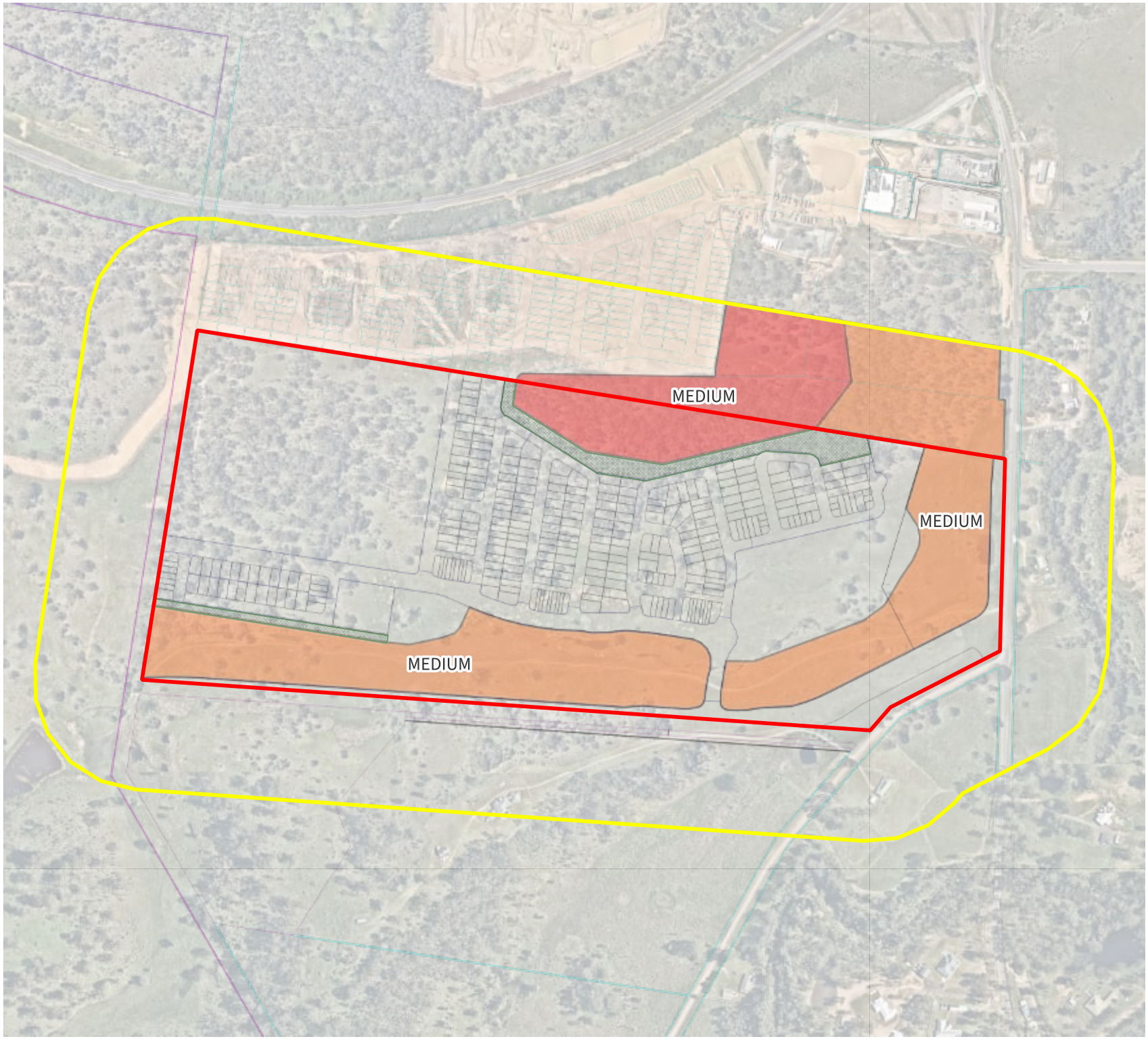


FIGURE 9
POTENTIAL HAZARD AREAS

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

Subject Site
Study Area
Low Fuel Zone

Hazard Areas

HA1
HA2

CLIENT
Stockland Development Pty Ltd

DRAWING NO.
23-0573E/BF

CRS PROJECTION
MGA2020

DATE DRAWN
31-10-2025

UTM ZONE
Zone 56

1:7000

0 100 200 300 400 m

therefor GROUP

6. Risk Assessment

This risk assessment has been undertaken as a qualitative assessment of the potential risks posed by an anticipated bushfire hazard following the assessment in Section 5. Specific risks are a function of the overall expected likelihood, vulnerability, and consequence levels.

6.1 Nature of Site Activities

The application seeks approval to reconfigure a lot to facilitate a residential subdivision community, and as such, activities likely to result are anticipated to be typical for housing purposes. No specific activities are likely to be undertaken that would represent a particular increased hazard to bushfire occurrence; however, it is accepted that fire incidents can be proportionate to the population of any given area. Given this, the proposed development may result in:

- Accidental ignition of fire within the adjoining bushland as a result of general use of the development (e.g. cigarette disposal).
- Uncontrolled construction activities resulting in accidental bushland ignition; and
- Potential arson-related activities outside the site, not associated with the development, that result in bushland ignition.

Given the rapid rate of urban development in the locality of the subject site, the risk profile associated with urban development is not localised to the proposed development. Still, it extends to the entire PDA area. This has a two-fold effect on a risk profile assessment: the likelihood of a wildfire increases proportionately with population growth, but there is also a substantial decrease in risk due to the overall reduction in hazard in the region resulting from vegetation removal for urban development. Given the nature of development in the PDA area, risk tolerance factors must also be considered and balanced with the factors discussed above. Given this, the nature of the development presents a tolerable risk in the context of an urban development outcome, with residual risk further mitigated through the adoption of appropriate, site-specific management strategies.

6.2 Fire History

To assess past bushfire activity in the locality, aerial imagery and historical records of fire scars from 1930 to 2024 have been reviewed.

A bushfire event was recorded in the year 2000, approximately 1km southwest of the subject site. Limited information is available regarding the fire's cause, extent, or conditions. Given that 25 years have passed since the recorded event with no further documented occurrences in the locality, this suggests a low fire recurrence interval.

The recurrence of fire at this frequency can be interpreted using the QERMF, which provides a method for interpolating fire frequency into a likelihood rating for wildfire occurrence. The following table is replicated from the QERMF handbook.

Table G – Event Likelihood Definitions (QFES 2018)

Historical Likelihood	Likelihood Level	Definition
Has occurred 3 or more times in the last year or at least each year over the last 5 years.	Almost Certain	Almost certain to occur in most cases.
Has occurred twice in the last 5 years.	Likely	Likely chance of occurring in most cases.
Has occurred twice in the last 10 years.	Possible	Might occur in most cases.
May occur, and has occurred once in the past 20 years.	Unlikely	Not expected to occur in most cases.
May only occur in exceptional circumstances or has occurred only once in the last 50 years or more.	Rare	Will only occur in exceptional circumstances and has not occurred in most cases.

As can be inferred from Table G above, the recurrence interval of wildfires (based on available data) suggests a 'rare' likelihood of wildfire outbreak that will only occur in exceptional circumstances.

The following factors indicate that the risk remains *tolerable*:

- The absence of recorded bushfire activity in the past 25 years suggests that fire occurrence in the locality is rare.

- The presence of existing development, civil infrastructure, and managed landscapes within the surrounding area reduces available fuel and potential fire spread.
- The site benefits from surrounding road networks and cleared areas, which can act as natural firebreaks and facilitate emergency response.
- Proposed bushfire mitigation measures within Section 7 will ensure that bushfire risk is managed to an acceptable level by meeting the adequate construction standards and setbacks outlined in *AS3959-2018.*

Based on the available data and risk assessment, the likelihood of future bushfire occurrence remains low, and the overall bushfire risk to the proposed development is considered *tolerable*.

6.3 Potential Population Increase

The proposed development involves a residential community, which is expected to result in a change in population within the subject site. The development will provide approximately 26ha of residential area, accommodating a potential yield of roughly 576 dwellings. Based on reasonable occupancy assumptions that each single-family dwelling will support 2-4 residents, the anticipated population increase on the site is estimated at 1,100-2,300 additional residents.

- The development will integrate a new internal road network to accommodate the projected population increase and facilitate efficient emergency access and evacuation if required. Ripley Road, the primary access route, is a major arterial road (to be upgraded to support the proposal) with sufficient width and capacity to support increased traffic flow during an emergency. Additionally, surrounding residential communities to the north have already necessitated suitable road infrastructure, ensuring the area is serviced for emergency response.
- An estimated 250 lots in Stages 1-4 are in the potential impact buffer (100m from the hazard areas). The end land use within Stage 1A is yet to be determined. However, only approximately 1ha of the 10ha area within Stage 1A is within the potential impact area. The development layout will incorporate defendable space, setbacks, and bushfire-resilient design principles that minimise potential fire impacts on residents. These measures, detailed in Section 7, will contribute to maintaining a community resilient to the identified risks.
- Of the 576 land parcels, 59 (excluding Stage 5) are outside the potential impact buffer. Future residents on these 59 land parcels would not be expected to evacuate in the event of a bushfire, reducing overall evacuation demand and pressure on road networks. This further supports the assessment that the increase in population does not pose an unacceptable risk.
- The site is not isolated but situated within a growing residential centre with existing emergency response capacity, including nearby firefighting resources and accessible evacuation routes. Other developed communities and associated reduced fuel loads in the vicinity reduce overall fire risk.

Given these factors, the bushfire risk associated with the anticipated population increase is considered *tolerable.*

6.4 Bushfire Weather & Anticipated Direction of Attack

Observed wind patterns within the subject locality indicate that light easterly winds are the prevailing winds, with recorded speeds ranging from 1.1-12.6km/h based on data from the nearest weather station (Amberley Weather Station, approximately 9km from the subject site).

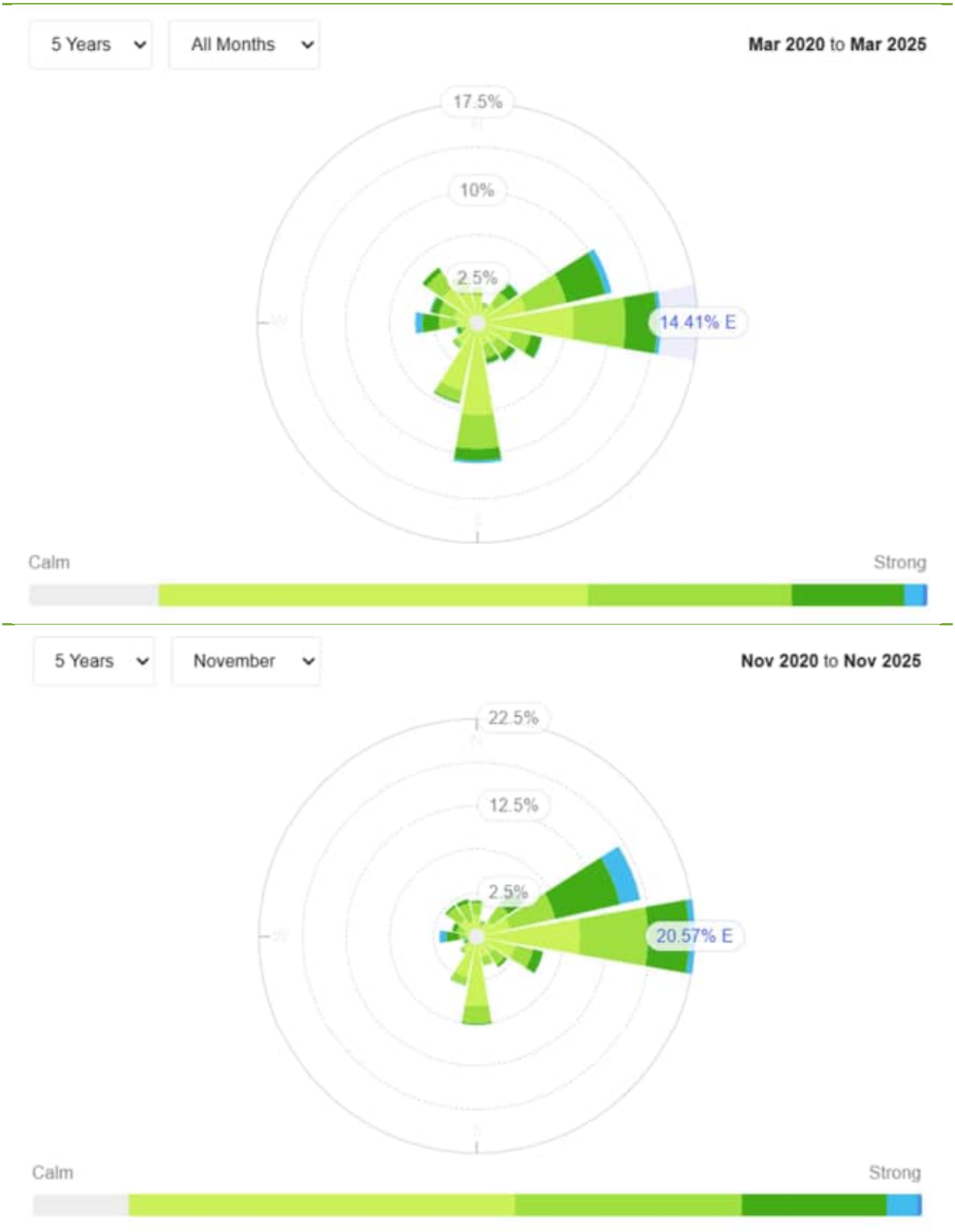
Historical data over five years indicates that light easterly and southerly winds are observed most frequently (14.41% and 11.04%) within the locality. During bushfire season (November average), typical wind speed and direction are observed as light eastern to southeasterly winds (20.57% and 15.81%). Figure 10 displays the five-year average wind speed and direction observed at the Amberley Weather Station annually and during peak fire season.

During peak bushfire season, predominant easterly wind patterns are expected to drive a potential firefront within hazardous vegetation in a westerly direction. As such, smoke and ember attacks would likely be directed toward the lots closest to HA2. However, a maintained, non-hazardous parkland located east of the development will serve as a buffer between HA2 and the nearest residents, with only about 20 lots situated within 100m of HA2.

The lack of predominant westerly winds in the region during the summer months is expected to reduce the potential for increased temperatures and decreasing humidity, thereby limiting substantial alterations in FFDI and reducing potential ‘out-of-ordinary’ fire weather conditions. This assessment has adopted an FFDI of 60, which is appropriate and conservative.

Given this analysis, the hazard areas relative to the proposed residential lots would be considered a *tolerable* risk if the development maintains an adequate setback from hazardous vegetation and the construction of dwellings adequately considers the threat of smoke and ember attacks.

Figure 10 - Predominant Wind Direction (Bureau of Meteorology 2025)



6.5 Emergency Response

The nearest fire station is the Ripley Valley Rural Fire Brigade, located at 776 Ripley Rd, South Ripley, approximately 550m, via the fastest route from the subject site. Travel time from the station in general traffic conditions is estimated at one (1) minute. In this period, the modelled fire characteristics (refer to Table H below) suggest that a full-force fire front in HA1 would progress at approximately 27m per minute and HA2 at 16m per minute. With the estimated fire response time of 1 minute, the greatest potential for the front to advance is 27m before emergency services arrive, assuming resource availability. With the nearest fire station so close to the development, this is optimal for supporting extended first attack suppression. Additionally, the configuration of the hazardous vegetation unit would not support a fully engaged fire immediately, so the predicted rate of spread is considered conservative. The actual rate of spread would be initially reduced, providing the first response with a greater opportunity for first-attack suppression. Additionally, low-hazard communities acting as a buffer to the proposed structure would slow the rate of fire spread and dampen radiant heat from an advancing fire front, providing additional time for the first response.

As such, it would be considered an *acceptable* risk concerning the proximity of emergency services.

6.6 Hazardous Chemicals and Materials

The proposed development does not include potential land uses that would likely involve storing, using, or handling dangerous goods in quantities exceeding the threshold specified in Table 15.1 of Schedule 15 of the *Work Health and Safety Regulation*.

6.7 Mobility & Ingress/Egress Capacity

The proposed development will provide an internal road network equivalent to 7.85 hectares of Local and Collector Roads, and 2.03 hectares of Arterial and Sub-Arterial roads, to be constructed to facilitate internal movement patterns.

Access to the development will be facilitated as follows:

- From the north access will be facilitated via the approved northern development (Lacebark) and the intersection of Providence Parade and Ripley Road. It is anticipated this connection will be established before commencement of the development subject to this application.
- From the south via a new intersection of the development onto the proposed South East Section of the "Catalyst" Arterial Road (west of Watsons Road). Delivery of this section of the "Catalyst" Arterial Road is anticipated to be completed by 2029. The balance of the Catalyst Road (i.e. to the West) is expected to be constructed circa 2036.
- From the west suitable connection is provided to the adjoining land parcel that will be subject to future development as a neighbourhood centre (currently known as ROL 3). Delivery timing is currently unknown.

The northern connector road will provide the initial access, linking the site to existing development to the north, expected to be completed prior to the construction of the proposed development. Southern connection will be established internally as part of Stage 1a, and with the south eastern Catalyst connection anticipated in 2029, is likely to be completed before the construction of the balance of Stage 1, which provides a secondary access to the broader development prior to the construction of dwellings associated with Stage 2. Additionally, the pedestrian path running east-west within Stages 6 and 7, extending from the cul-de-sac head of Road 11 to Ripley Road, will act as an emergency access route, providing an additional access point for emergency service vehicles only.

The development is expected to provide approximately 1-2 vehicles per lot (570-1140 additional vehicles) using the existing and proposed road network and site access. Within the context of the proposed residential lots and the surrounding low-hazard residential areas with sparse vegetation, the proposed road layout is considered to present a *tolerable* risk for user ingress and egress and for emergency services.

Staged Access Considerations

The development will be delivered in multiple stages, with road infrastructure progressively established. Early stages will have limited access points, which will be expanded progressively to maintain compliance with Cova's (2005) minimum road access thresholds for evacuation safety. Due to the evolving delivery order of stages, the development may not proceed sequentially.

Table I – Proposed minimum exit roads (Cova 2005)

Number of Households	Minimum Number of Exit Roads	Max Households per Exit
1–50	1	50
51–300	2	150

301–600	3	200
601+	4	-

Stage 1A will provide two formal access points via the northern connector road and the Catalyst Arterial Road. Both are expected to be operational by 2029. This two-road configuration will provide sufficient ingress and egress capacity for the early stages of development. As additional dwellings are constructed beyond approximately 300 dwellings, a third ingress/egress connection will be required to maintain compliance with evacuation safety criteria.

In the final development layout, four access points will be available:

- The northern connector road linking to the adjacent development;
- The Catalyst Arterial Road to the south;
- The emergency-only access route via open space to Ripley Road; and
- The western connector road to future development.

This configuration will provide compliant and reliable access for the full development yield (up to 576 dwellings) and ensure safe ingress and egress under both routine and emergency conditions.

Future Road Connection Plans

While initially providing sole access for Stage 1 dwellings, the proposed Catalyst Road is planned to connect with future development to the west. Once this western connection is established, it will serve as an additional exit route for the development. This will enhance overall ingress and egress capacity, improve redundancy, and meet the minimum exit road requirements for later stages of the development. In conjunction with the Catalyst Road and the northern access road to be delivered in Stage 1A, the western connection will complete the three required exit points, resulting in a total of 576 dwellings.

Emergency Vehicle Access

The proposed internal network is considered to achieve an acceptable outcome for emergency vehicle access, as it will meet minimum width requirements and include adequate turning areas. The access routes have also been designed to accommodate council waste management vehicles, similar in size and dimensions to QFES emergency vehicles, ensuring adequate access and manoeuvrability.

6.8 Bushfire Severity Modelling

To anticipate and assess the potential severity of a bushfire attack from hazardous vegetation, the predetermined variables for vegetation characteristics, slope values, and relative fuel loads have been used to model key fire parameters, which are detailed in Table H below. It is noted that only confirmed hazard areas have been included within fire severity modelling.

Table H - Predictive Fire Severity Modelling Results

Hazard Area 1 Fire Scenario FFDI – 60; PFL/UFL – 20.80/20.80 t/ha; Slope – 1.00º; Veg – Open Forest		
Parameter	Results	Reference
Fire Intensity	17,245 kW/m	(Byram 1959)
Rate of Spread	1.60 km/h	(Macarthur 1973; Noble *et al.* 1980)
Flame Length	12.92 m	(Noble *et al.* 1980)
Flame Width	100 m	(AS3959:2018)
Hazard Area 2 Fire Scenario FFDI – 60; PFL/UFL – 11.60/11.60 t/ha; Slope – 1.00º; Veg – Woodland		
Parameter	Results	Reference
Fire Intensity	5,364 kW/m	(Byram 1959)
Rate of Spread	0.89 km/h	(Macarthur 1973; Noble *et al.* 1980)
Flame Length	7.20 m	(Noble *et al.* 1980)
Flame Width	100 m	(AS3959:2018)

6.9 Radiant Heat Exposure

Radiant heat flux measures the heat energy emitted from a fire front. It influences the potential for structures to ignite and determines appropriate setbacks from hazardous vegetation. Site-specific fire modelling, conducted in accordance with Method 1 of AS3959:2018, has been undertaken to predict the radiant heat flux from identified hazardous vegetation areas.

The results of this modelling inform the required separation distances between the development and the bushfire hazard to mitigate exposure to radiant heat. These distances guide the placement of Asset Protection Zones (APZ) and assist in defining appropriate Building Location Envelopes (BLE) where necessary. Radiant heat flux is also used to determine Bushfire Attack Levels (BAL), which specify construction requirements under *AS3959:2018*.

The following table (refer to Table I below) provides the results of radiant heat flux modelling and associated minimum setback distances from HA1 and HA2. These results are represented spatially in Figure 11.

Table I - Radiant Heat Flux Modelling (Method 1 - AS3959:2018)

Radiant Heat	Distance from Hazardous Vegetation	
	HA1	HA2
Flame Zone	0m - <12m	0m - <7.7m
40 kW/m^2	12m - <16.1m	7.7m - <10.4m
29 kW/m^2	16.1m - <23.5m	10.4m - <15.5m
19 kW/m^2	23.5m - <33.1m	15.5m - <22.6m
12.5 kW/m^2	33.1m - <39.2m	22.6m - <27.3m
10 kW/m^2	39.2m - 100m	27.3m - 100m

Based on the proposed setbacks from hazardous vegetation units and the results of Method 1 radiant heat flux modelling, all proposed lots are located outside the radiant heat levels of 29 kW/m^2 or greater.

Given the estimated heat exposure for the lots within 100m of the hazard areas, the potential risk to life and property can be managed through appropriate mitigation strategies to achieve a *tolerable* risk outcome. The proposal demonstrates that bushfire hazards can be mitigated to acceptable levels. Appropriate treatments to further reduce the risk associated with the hazard are discussed in Section 7 below.

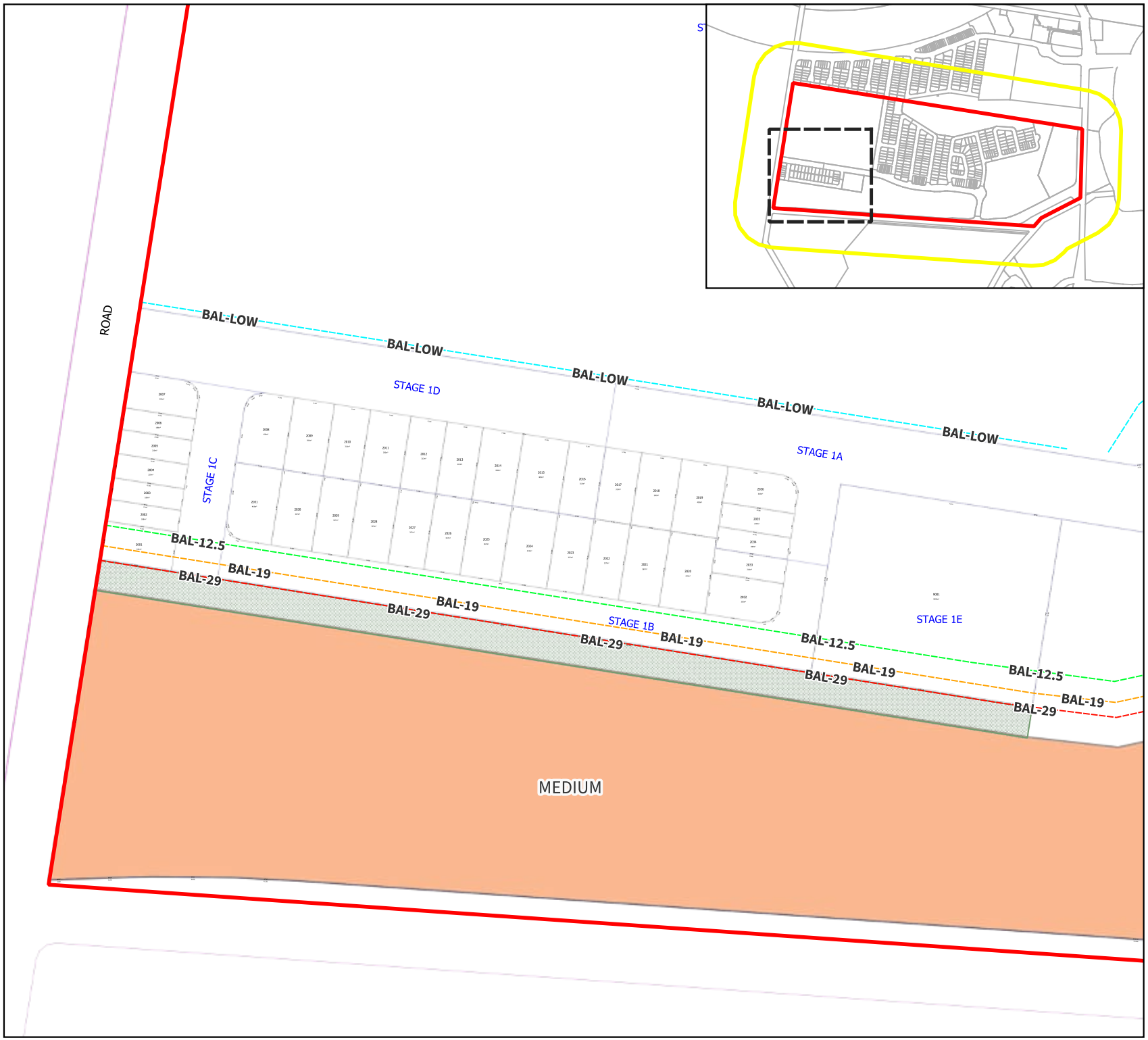


FIGURE 10
BAL ASSESSMENT

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

Subject Site
Study Area
Low Fuel Zone

Hazard Areas
HA2

BAL Contours
BAL-LOW
BAL-12.5
BAL-19
BAL-29

CLIENT
Stockland Development Pty Ltd

DRAWING NO.
23-0573E/BF

CRS PROJECTION
MGA2020

DATE DRAWN
31-10-2025

UTM ZONE
Zone 56

1:1750

0 20 40 60 80 m

SHEET NO.
1 of 3

therefor GROUP

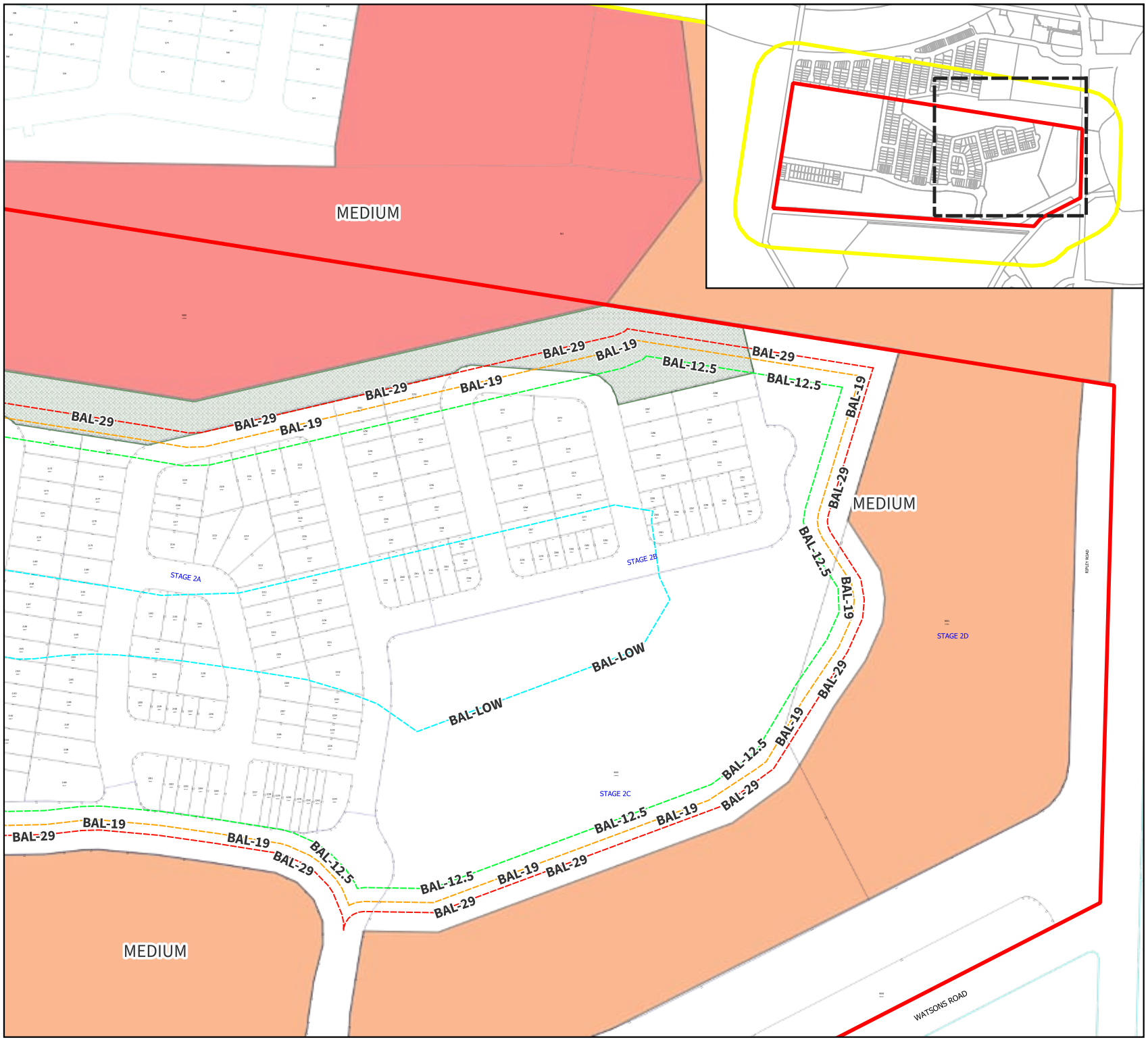


FIGURE 10
BAL ASSESSMENT

Providence West
817-843 Ripley Road
South Ripley QLD 4306

Ipswich City Council

LEGEND

Subject Site
Study Area
Low Fuel Zone

Hazard Areas
HA1
HA2

BAL Contours
BAL-LOW
BAL-12.5
BAL-19
BAL-29

CLIENT
Stockland Development Pty Ltd

DRAWING NO.
23-0573E/BF

CRS PROJECTION
MGA2020

DATE DRAWN
31-10-2025

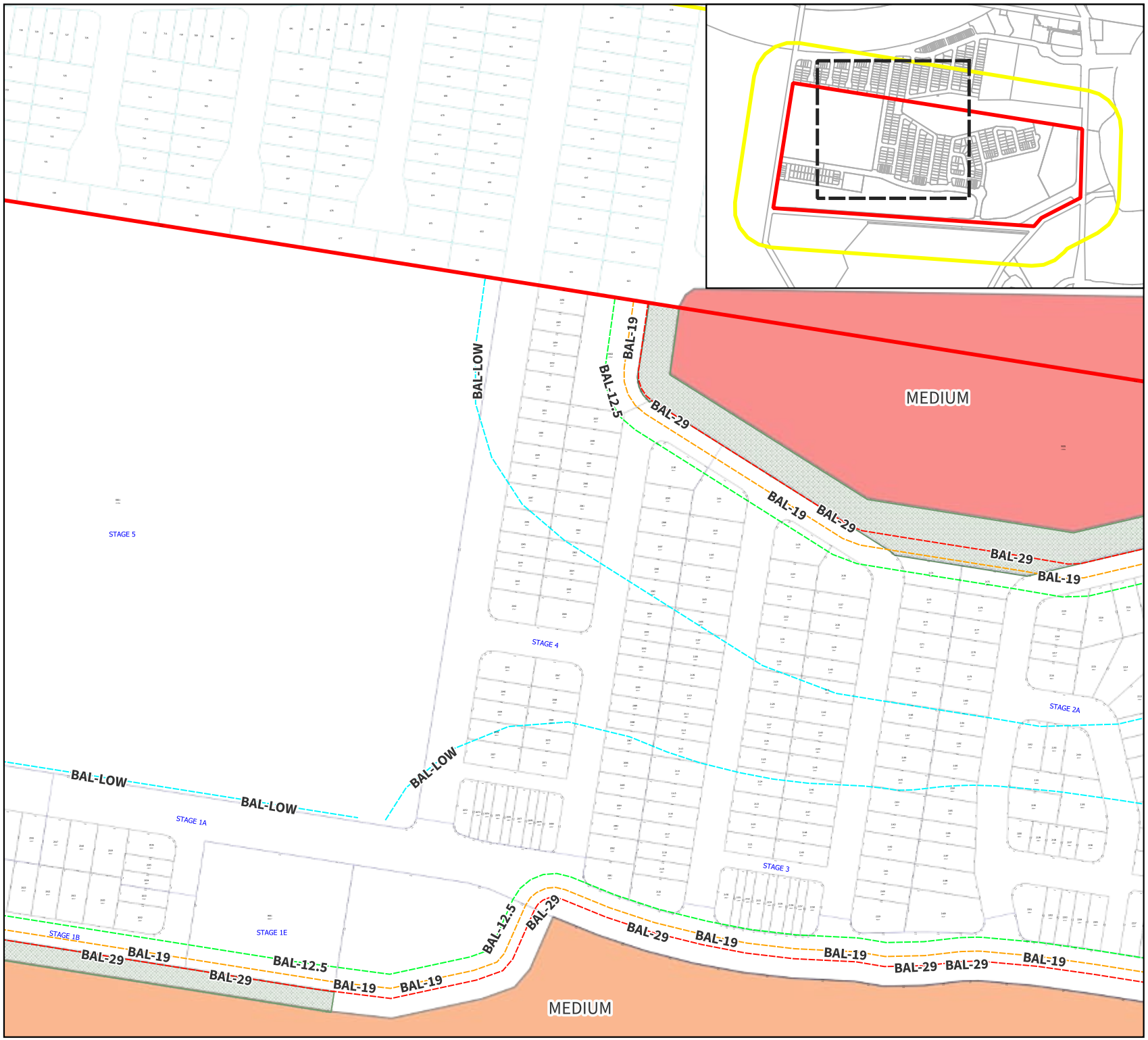
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Zone 56

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SHEET NO.
2 of 3

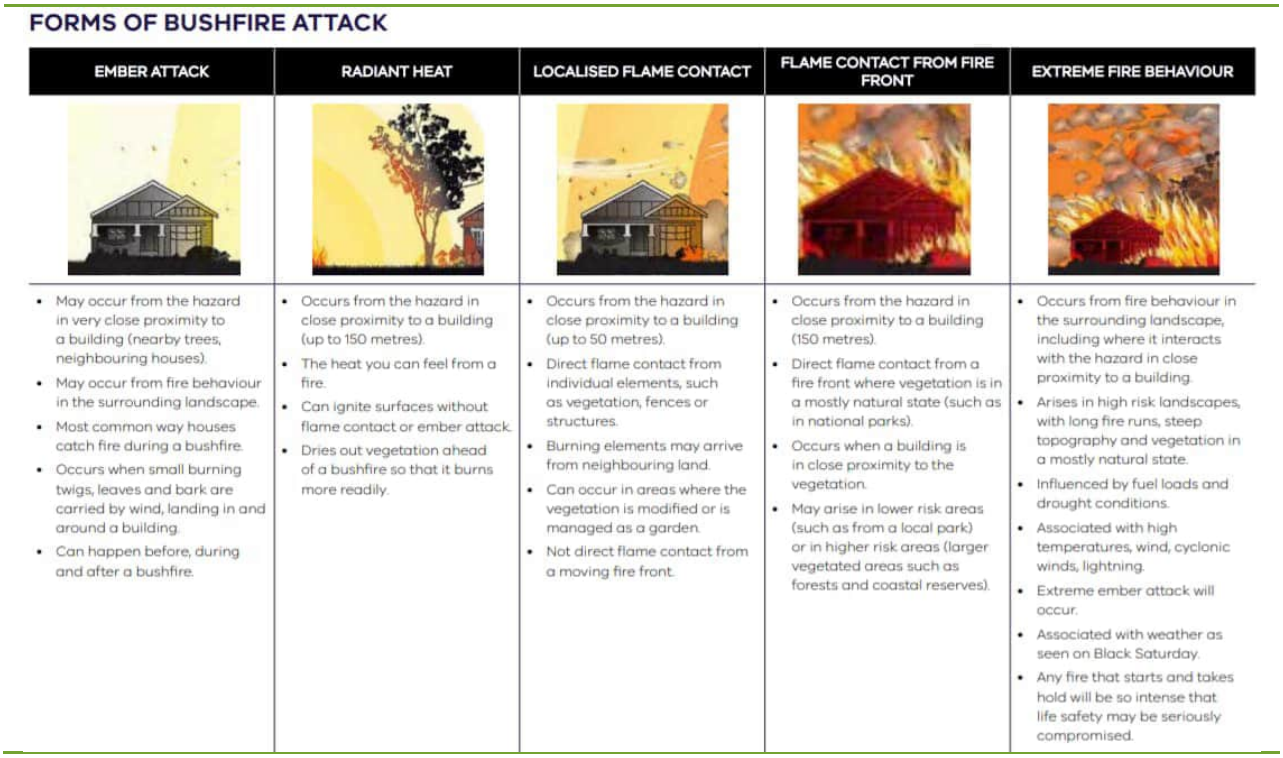
therefor GROUP


BAL-LOW
BAL-12.5
BAL-19
BAL-29
MEDIUM
STAGE 5
STAGE 4
STAGE 2A
STAGE 1A
STAGE 3
STAGE 1B
STAGE 1E
BAL-LOW
BAL-LOW
BAL-LOW
BAL-12.5
BAL-29
BAL-19
BAL-29
BAL-19
BAL-29
BAL-19

7. Hazard Mitigation Measures

Bushfire hazard mitigation requires an integrated approach of various best practices and mutually supportive protective measures to protect against bushfire attacks. The following sections outline an integrated approach for the proposed development to minimise risk to people and property, ensuring that the development is compatible with the level of bushfire hazard present within the study area, in accordance with State and Local policies. Figure 12 below details the various attack mechanisms posed by bushfire hazards.

Figure 12 - Bushfire Attack Mechanisms on Houses (DELWP 2017)



7.1 Structural Setback Requirements

Based on the fire modelling undertaken per Method 1 of AS3959:2018 (as detailed in Section 0), the proposed development achieves adequate separation to ensure no lots exceed a BAL29 rating. This is primarily achieved by siting the proposed land parcels appropriately along the northern transition between development and Conservation Areas, thereby retaining a fire break of suitable width to ensure the 29 kW/m² threshold is not exceeded at the proposed lot boundary. This aligns with the objective provided in the 2013 Cardno Bushfire Hazard Assessment recommendations and original preliminary master plan approval.

Further, transition areas between the residential land parcels along the southern waterway (recognised as a potential future bushfire risk) have been provided with adequate separation (again to achieve a minimum of 29kW/m^2 at the exposed land parcel boundary) via either esplanade road networks and/or the siting of managed parklands that represent a LOW hazard outcome.

Therefore, site-specific Building Location Envelopes (BLE) nomination is not considered required. Adequate mitigation is achievable through on-title requirements for minimum construction standards (Section 7.2) in accordance with the modelled radiant heat exposure levels across the development footprint.

It is noted that some residual risk is retained to all land parcels within 100m of the hazard areas in the form of potential for ember and burning debris attack that represents a source of non-piloted ignition. Subsequently, minimum construction standards to prevent ember-related ignition are recommended in Section 7.2.

7.2 Minimum Construction Standards

Based on the results of radiant heat flux modelling (detailed in Section 0) and the visual representation in Figure 11, the proposed development is subject to varying levels of radiant heat exposure from identified hazard areas.

The minimum construction standards for habitable dwellings are determined in accordance with AS3959:2018 – *Construction of Buildings in Bushfire-Prone Areas*. As Table J outlines, radiant heat levels impact building materials and ignition potential differently. Based on the assessed radiant heat levels, Class 1a, 2 and 3 dwellings and Class 10a attached ancillary structures must meet minimum construction standards dependent on their placement relative to the hazard:

- Structures located between BAL29 and BAL19 must meet BAL29 construction standards.
- Structures located between BAL19 and BAL12.5 must meet BAL19 construction standards.
- Structures located between BAL12.5 and BAL-LOW (100m from the hazard area) must meet BAL12.5 construction standards.

Whilst compliance assessment for the above is beyond the regulatory powers of the Planning Act and local regulatory planning instruments, the 29 kW/m² upper threshold does reflect recommendations within the SPP state interest guidance material and, as such, provides an adequate and supportable mitigation strategy in the development approval context.

Table J - Effects of Radiant Heat Exposure (QFD 2019)

Radiant Heat Flux (kW/m²)	Potential Effects
Greater than 40	▪ Unpiloted ignition of timber walls and fences ▪ Direct flame contact likely ▪ Extreme levels of radiant heat
29-40	▪ Failure to toughened glass ▪ Direct flame contact is possible ▪ Extreme levels of radiant heat ▪ Unpiloted ignition of some timber species after prolonged exposure (e.g. several minutes)
19	▪ Failure to screened float glass
16	▪ Blistering of skin with > 5 seconds exposure
12.5	▪ Failure to plain glass ▪ Piloted ignition of dry timber elements after prolonged exposure (e.g. several minutes)
10	▪ Fabrics inside a building could ignite spontaneously with long exposure ▪ Critical limit for emergency services - firefighters cannot operate ▪ Life threatening with < 1 minute exposure in protective clothing
7	▪ Fatal to an unprotective person after exposure for several minutes
4.7	▪ Firefighter in protective clothing will feel pain (60 seconds exposure)
3	▪ Firefighters can operate for a short period (10 minutes)
2	▪ Pain is felt on bare skin after 1 minute exposure (non-fatal) ▪ Firefighters with protective clothing can withstand this exposure for a few minutes. However, they are likely to experience a rise in core body temperature
1	▪ Maximum for indefinite skin exposure
0.5	▪ Direct sunlight at noon on a bright sunny day

7.3 Residential Landscaping Specifications

Future residential dwellings built within the developed land parcels may be subject to potential flame and/or ember attacks from a worst-case bushfire hazard event in the identified hazard areas. As such, any landscaping components incorporated into areas subject to greater than LOW hazard outcomes are to be appropriately consider outcomes that reduce bushfire risk and maintain the outcomes identified in this assessment. Consideration of the following can assist in achieving this outcome:

- Using plant species known for their low combustibility. Low-combustion potential plant species have a high moisture content, lack volatile oils, and feature large, fleshy leaves and bark types that are closely adhered to the tree.
- Plant species are to be arranged to achieve the minimum connection of branches and leaves in both the horizontal and vertical planes. Additionally, the strategic placement of non-hazardous landscape components (e.g., paths, water features, lawns) between gardens and/or planted vegetation should be prioritised to break up fuel components and reduce the potential rate of fire spread and the consistency of fuel.

- No plant or tree structures are to come into contact with buildings and non-habitable structures.
- No trees are to be allowed to overhang habitable structures.
- Use of non-flammable or low combustibility mulches is preferable, particularly within 3m of structures.
- Any grassed areas will be maintained at a nominal length of no greater than 100mm height during bushfire weather season (September to February).
- Regularly remove fine fuels (e.g., sticks, leaves and other flammable fuels) from maintained areas during fire weather (September to February).

7.4 Ongoing Maintenance

Routine maintenance should be undertaken on an ongoing basis to ensure that the bushfire resilience of future dwellings and the functionality and integrity of mitigation strategies are maintained. Maintenance should include the following minimum actions to reduce potential bushfire risk during fire season:

- Reduce combustible objects outside of the dwelling, such as timber furniture.
- Keep gutters clear of leaf litter.
- Clear dead leaves, bark and other flammable vegetation from property egress routes.
- Clear fallen branches and leaves.

7.5 Services

The proposed development will be connected to a reticulated water supply, and as such, it is considered adequate for fire response purposes. Compliance with the specific requirements of the *QFD Fire Hydrant and Vehicle Access Guidelines* (2015) and *AS 2419.1:2017 Fire Hydrant Installations Part 1: System Design, Installation and Commissioning Appendix B* will be needed to ensure marking of hydrant locations and adequate access is provided. A minimum supply pressure of 10 L/S at 200 kPa will always be required.

Electricity, gas, and water supply to the development are recommended to be subsurface and will be specified during the detailed design phase of the project.

7.6 Access Arrangements

Access to the development will be provided through a network of internal streets and external connections that ensure safe and efficient ingress and egress for residents and emergency services.

In accordance with the staged access strategy outlined in Section 6.7, two primary access points will be operational by 2029, providing compliant ingress and egress capacity for the early stages of development. An emergency-only access route and future connection to the western development will provide the final connectivity for all proposed lots.

All proposed roads will be designed in accordance with the Ipswich City Council Planning Scheme infrastructure standards. Road geometry and dimensions will accommodate the turning movements of refuse and emergency service vehicles, ensuring efficient access under both routine and emergency conditions.

Given these design provisions, the proposed access arrangements are considered appropriate to provide safe vehicular ingress and egress, demonstrating a *tolerable* level of bushfire risk for future residents and emergency personnel.

7.7 Low Fuel Zones

Two Low Fuel Zones (LFZs) are proposed within the development to ensure all habitable structures remain within areas subject to BAL-29 or less, in accordance with modelling undertaken under *AS3959:2018*.

LFZ 1 – Northern Interface (between Conservation Area and Stage 2/3 Development) – An LFZ will be established on the interface of the conservation area, forming a buffer between retained vegetation and the adjoining residential lots. Within this zone, only low-hazard tree species will be retained. Trees to be retained are indicated in Appendix A – Bushfire Tree Retention Plan Rev 1.0. All shrubs, mid-storey vegetation and ground debris will be removed or maintained at very low levels to reduce the risk of ember attack and surface fire spread. The configuration of retained trees must not include overlapping canopies. The outcome will be a structurally open zone that performs as a fuel-reduced buffer while still maintaining canopy cover where appropriate.

The following specifications are to be implemented prior to handover of the conservation area to the local council, with the acknowledgment that a minimal maintenance outcome is desirable after establishment of the low fuel zone.

- Using plant species known for their low combustibility. Low-combustion potential plant species have a high moisture content, lack volatile oils, and feature large, fleshy leaves and bark types that are closely adhered to the tree.
- Final density of trees is to result in a mature outcome that is no greater than one smooth bark or ironbark tree per 100m^2.
- Final density of shrubs is to result in a mature outcome that is no greater than one fire-resistant species per 25m^2.
- Final density of groundcovers is to result in a mature outcome that is 1-4 fire-resistant species per 1m^2.

LFZ 2 – South-west Interface (between HA2 and Stage 1 Development) – A second LFZ will be established in the south-west corner of the development, located between the rehabilitated waterway area (HA2) and the residential lots within Stage 1. This zone will be managed to achieve a low fuel state. No trees will be retained within this LFZ due to earthworks. However, rehabilitation of the zone must meet the following specifications to ensure full loads of less than 8 t/ha.

- Using plant species known for their low combustibility. Low-combustion potential plant species have a high moisture content, lack volatile oils, and feature large, fleshy leaves and bark types that are closely adhered to the tree.
- Final density of trees is to result in a mature outcome that is no greater than one smooth bark or ironbark tree per 100m^2.
- Final density of shrubs is to result in a mature outcome that is no greater than one fire-resistant species per 25m^2.
- Final density of groundcovers is to result in a mature outcome that is 1-4 fire-resistant species per 1m^2.

The LFZ will function as a defendable space by reducing available fuel loads and supporting native vegetation consistent with broader rehabilitation outcomes.

The width of each LFZ reflects the separation distance required to reduce radiant heat exposure to no more than 29 kW/m² at the nearest lot boundary, considering vegetation structure, slope, and assumed fire weather conditions. The minimum width of LFZ 1 is to be 16.1 m, and LFZ 2 will be 10.4 m.

Low fuel zones are indicated on Figure 9.

7.8 Low-hazard Park Vegetation

To ensure the district and neighbourhood recreation parks within the development do not present an elevated bushfire risk, vegetation in these areas will be maintained at a low-hazard condition, defined as a total fuel load of less than 8 tonnes per hectare (t/ha). Specific re-planting zones within the parks, including the buffer planting areas (which provide privacy screening for residents adjoining the neighbourhood park) and the “hidden forest” precinct (featuring small pathways, open lawn areas, and themed garden beds within the district park), require active management to preserve this low-hazard state. Maintaining such conditions provides a critical protective function for adjacent residential allotments.

The fuel hazard assessment recognises four principal strata – bark, elevated, near-surface and surface fuels – each of which must be managed to ensure the parklands retain a discontinuous, low-fuel structure.

- Bark fuels – Bark on tree trunks and branches is a key contributor to ember attack. Only tree species with ironbark or smooth bark characteristics will be planted, as these bark types do not exceed a moderate hazard rating.
- Elevated fuels – Upright plant material, primarily shrubs, must be limited to less than 20% cover. This allows clear visibility and unrestricted pedestrian access in all directions, ensuring the layer remains discontinuous and easily maintainable.
- Near-surface fuels – This layer includes live or dead material in close contact with, but not lying on, the ground. Fine fuels, such as dead foliage and twigs, will be removed regularly to maintain a low hazard rating, with cover equivalent to 0–20%. Near-surface vegetation should be sparse, with fuel patches separated by gaps several times their own size.

- Surface fuels – Leaves, twigs, bark and fine debris lying on the ground comprise the most significant contributor to fuel load. To remain within the low-hazard threshold, surface litter will be managed to ensure less than 60% cover, with a thin litter bed (<10 mm depth) that is discontinuous, interspersed with bare soil, rocks or low-flammability ground covers.

Table K below provides a summary of the target fuel load thresholds to be applied to the four strata within the parks.

Table K - Target Fuel Load Thresholds for Low-hazard Park Vegetation

Fuel	Minimum fuel load (t/ha)	Maximum fuel load (t/ha)	Rating
Bark	1	1	Moderate
Elevated	0	1	Low
Near-surface	1	2	Low
Surface	2	4	Low
Total	4	8	Low

Ongoing monitoring and maintenance of these strata will allow that the landscaped park areas continue to perform as fuel-reduced buffers, consistent with council requirements and best-practice bushfire risk management.

7.9 Resident Actions

It is integral that all development end-users (i.e., residents) be made aware of this plan and implement and comply with the recommended mitigation measures. Additionally, it is recommended that individual landholders potentially affected during a bushfire emergency develop a Bushfire Emergency Evacuation Plan that considers stay-and-defend, stay-and-shelter or evacuation options. Templates for such plans can be found on the Queensland Fire Department website (fire.qld.gov.au).

8. Compliance Assessment

The proposed development is constrained by the *SPP* Bushfire Prone Areas Overlay code and *ICC Planning Scheme* Bushfire Risk Area Overlay code; compliance against the code assessment tables is required.

8.1 Compliance with Ripley Valley Urban Development Area Planning Scheme

Compliance with the Scheme represents the primary development assessment pathway for development in the Ripley Valley PDA. Relevant sections of the scheme have been identified within Section 3.3.9 Community Safety and Development Constraints that are discussed in detail in Table L below.

Table L – Response to Ripley Valley Urban Area Requirements

Ripley Valley Urban Development Area Planning Scheme (relevant sections only)		
Section	Requirements	Comments
3.3.9 Community Safety and Development Constraints	Development ensures that people and property are safe from potential hazards, including landslips, bushfires, flooding, dispersive soils, predicted effects of climate change, mining subsidence and unexploded ordinance.	The proposed development has acknowledged and addressed the potential bushfire hazard via the original preliminary approval, providing a sensitive design outcome informed by a site-specific bushfire hazard assessment and management plan, and within this application, which also provides an updated assessment of the hazard undertaken in accordance with current SPP requirements and guidelines. Appropriate mitigation strategies have been adopted, as detailed within, and are incorporated into the proposed plan of development.
3.3.9 Community Safety and Development Constraints	To ensure protection from bushfire hazard, development is designed to mitigate bushfire risk. In Transitional Bushfire Areas the risk may diminish as development occurs.	This assessment has provided appropriate mitigation to address the current level of risk to achieve a tolerable risk outcome. As suggested in the scheme the assessed risk is likely to reduce in extent as further development occurs in the region and as such is considered as a conservative risk outcome of a tolerable level.
PDA Guideline No 14 Environmental Values and Sustainable Resource Use		
Section	Requirements	Comments

Ecological Processes and Natural Systems Value 4 Bushfire Risk Management	Ensure significant biodiversity values are protected from exempt clearing by ensuring new built infrastructure is adequate setback from identified biodiversity areas.	The proposed plan of development has provided setbacks from the edge of the worst-affected lot boundaries that adjoin areas of conservation significance to achieve a maximum radiant heat exposure of 29kw/m^2 in accordance with SPP recommendations. With respect to allowable exempt clearing scenarios allowable under the Planning Regulation 2017, landholders are only permitted to undertake exempt clearing within the land parcel to which their ownership applies. Given that areas of current and future (i.e. waterway rehabilitation areas) will ultimately be handed to local council for protection in perpetuity, it is reasonable to consider that consequential clearing opportunities (e.g. Essential Management) within conservation areas would not represent the intent of councils' ownership and management of areas of significance. Further, it is anticipated that upon approval, the requirements and obligations of this management plan will be fixed to affected land titles, effectively preventing the suggestion that further vegetation clearing beyond the extent of each individual title would be necessary to protect life and property adequately. As such, there would be no basis for landholders to place onus on the council (i.e, manager of retained conservation areas) to demand activation of clearing rights for essential management or similar. To this end it is considered that exempt clearing rights have been suitably considered with the proposed plan of development and prevented via implementation of the recommendations of this plan.
Ecological Processes and Natural Systems Value 4 Bushfire Risk Management	Where a firebreak is required to protect new infrastructure ensure clearing associated with the firebreak is located externally to significant biodiversity areas.	A firebreak has been provided along the interface between the affected land parcel adjoining the proposed northern conservation area to a distance of 16.1m to achieve adequate setback from the hazardous vegetation area. The edge of this setback has been provided from the boundary of the conservation area thus resulting in no additional clearing requirements beyond that required in the preliminary approval granted over the development footprint. Thus, compliance with the requirement is achieved.

Given the above it is considered that the proposed development has paid due consideration to the scheme and associated guidelines and is considered as compliant with consideration to the potential bushfire risk.

8.2 Conformance with Existing Approval

This report has been prepared with consideration of the existing approval (Development Approval 9820/2019/MAPDA/A), specifically addressing Conditions 6 and 16. The BMP provides a detailed staged bushfire risk assessment in line with Condition 16(a)(ii), and outlines bushfire protection measures that support compliance with the requirements of Condition 6 relating to the environmental covenant. The report confirms that all proposed dwellings are located outside areas exposed to BAL 29 or higher, as determined by staged BAL contour mapping. This ensures appropriate setbacks from the building exclusion zone and proposed rehabilitation vegetation areas. The recommendations outlined in this BMP support the implementation of covenant requirements and the protection of environmental values, demonstrating conformance with the approved bushfire management framework established under the existing preliminary approval.

8.3 Assessment Against SPP State Interest Guidance Material

Compliance with the *SPP* Example Bushfire Overlay code has been assessed against the relevant performance and acceptable outcomes. Whilst the example code is provided as framework to inform local government on how a local planning scheme might achieve compliance with the SPP and as such is not strictly a development assessment benchmark, the code does ensure that the SPP policy positions and assessment benchmarks regarding provision of bushfire resilience into developments are

adequately addressed and as such, demonstrated compliance with the code provides a pathway in demonstrating subsequent conformance to the State Interest. A detailed compliance assessment is provided in Table M, which outlines how the proposed development meets the intent of the *SPP* Bushfire Overlay code and ensures appropriate risk mitigation measures are implemented.

8.4 Assessment Against ICC Planning Scheme Bushfire Risk Area Overlay Code

Compliance with the *ICC Planning Scheme* Bushfire Risk Area Overlay code has been assessed against the relevant performance and acceptable outcomes. Table N provides a detailed compliance assessment demonstrating how the proposed development aligns with the code's requirements for effectively managing bushfire risk.

Table M: Compliance assessment against State Planning Policy Example Bushfire Overlay Code

Performance outcomes	Acceptable outcomes	Comments
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 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 QFD 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.	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 in Table 5 at all lot boundaries; or b. a distance that achieves a radiant heat flux level of 29 kW/m2 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 QFD 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).	AO3.1 The subdivision layout ensures that all proposed lots achieve the required separation from the hazard areas identified in Section 5.2. As demonstrated in Section 6.9, the radiant heat flux levels do not exceed 29 kW/m² in any of the proposed lots. Additionally, where existing cleared areas outside the site contribute to the separation distance, their tenure (provided in favour of council or QFD as required) will ensure ongoing maintenance as low-hazard areas.

Performance outcomes	Acceptable outcomes	Comments
	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).	AO3.2 The proposed subdivision does not create lots within bushfire-prone areas featuring ridgelines, saddles, or crests where slopes exceed 15 percent. The subdivision layout has been designed to avoid siting of lots on slopes greater than 15% via earthworks and adequate retention structures to provide level or near-to level building opportunities, with roads and open space strategically positioned to further mitigate bushfire risk.
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.	PO4 The subdivision layout is designed to minimise the perimeter length and reduce the number of lots exposed to hazardous vegetation. The design avoids isolated pockets of vegetation within the development and ensures lots are positioned to reduce overall exposure. The subdivision layout has been assessed against the bushfire hazard risks in Section 6, confirming that the design does not increase bushfire risk without adequate mitigation strategies to provide a tolerable risk profile.
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.	AO5.1 The subdivision layout: a. Avoids bottleneck points and hourglass patterns in the movement network, ensuring efficient evacuation routes. The road design has been reviewed in Section 6.7 and 7.6, confirming that no restricted movement corridors exist. b. Provides a road network with sufficient capacity to accommodate evacuation needs. As outlined in Section 6.7 and 7.6, the road system aligns with bushfire safety principles and ensures accessibility for emergency services.

Performance outcomes	Acceptable outcomes	Comments
	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.	AO5.2 The subdivision layout ensures that evacuation routes: a. Direct occupants away from areas with higher bushfire risk. The road design ensures all egress routes lead away from hazardous vegetation. b. Minimise exposure to bushfire-prone areas. Roads and access points have been strategically placed to reduce travel through bushfire-prone zones.
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.	AO6.1 Not relevant – The development does not require an Asset Protection Zone, as all lots are located outside BAL 29.
	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.	AO6.2 Not relevant – Asset Protection Zones are not required for this development.

Performance outcomes	Acceptable outcomes	Comments
	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.	AO6.3 Not relevant – The subdivision does not include lots requiring an Asset Protection Zone.
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.	AO7 Not relevant – No Asset Protection Zones are required for this development.
PO8 Perimeter roads are accessible for fire-fighting vehicles, to facilitate emergency access and operational space for firefighting, 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	AO8.1 Not relevant – No Asset Protection Zones are required for this development.

Performance outcomes	Acceptable outcomes	Comments
	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).	
	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.	AO8.2 The subdivision contains a reticulated water supply, with roads and fire hydrants designed in accordance with: a. The Fire Hydrant and Vehicle Access Guidelines (QFES, 2015), ensuring compliance with emergency service access standards. b. The Road Planning and Design Manual (TMR, 2013), ensuring road infrastructure supports fire response needs. The placement of road design details are outlined in Section 6 of the BMP.

Table N: Compliance assessment against Assessable Development Benchmarks – ICC Planning Scheme Bushfire Risk Area Overlay Code (Table 11.4.1)

Specific Outcomes	Probable Solutions
Design, Siting and Construction	
1. Uses and works in bushfire risk areas are designed, sited, and constructed to— a. minimise the number of people and properties subject to bushfire risk; ▪ The subdivision layout has been designed to ensure that all lots are located outside BAL 29, significantly reducing bushfire risk. ▪ The development avoids finger-like projections or isolated lots within bushfire-prone areas. ▪ All habitable structures will be sited in the least hazardous areas of the site. b. improve the survivability of buildings and the protection of life during the passage of a firefront; ▪ Buildings will be designed to meet the relevant Bushfire Attack Level (BAL) construction standards as per AS 3959:2018. ▪ The subdivision layout ensures that emergency access and egress are sufficiently connected to the public road network. c. minimise costs and threats to emergency services; and ▪ The subdivision provides clear and unobstructed access for emergency services, avoiding dead-end roads or bottleneck points. ▪ Fire hydrants will be installed in accordance with Fire Hydrant and Vehicle Access Guidelines (QFD 2015) d. facilitate evacuation in the event of a bushfire ▪ The road layout ensures multiple evacuation routes, reducing exposure to hazardous vegetation. ▪ The site is designed to avoid evacuation through high-risk areas.	1. a. Uses and works are sited— i. in existing cleared areas able to accommodate the use within an adequate fire protection buffer as identified in (iii) below; and ▪ The proposed development is located within cleared areas where possible, reducing vegetation clearing and bushfire risk. ▪ The site layout avoids the need for Asset Protection Zones (APZs), as all lots are outside BAL 29. ii. where possible, on land and parts of a site which are least prone to bushfire risk with regard to aspect, slope, elevation and vegetation type— A. away from the tops of ridgelines and other than on a North to West facing slope, with the flatter portion of the lot being used as building sites (refer Figure 11.4.1); and B. on land with a slope gradient less than 15%, and on level ground wherever possible; and ▪ The subdivision avoids ridgelines and steep slopes greater than 15%, the development will be levelled to 1 degree, consistent with bushfire siting principles. iii. with a minimum 20 metre wide area (measured from the horizontal from the building) serving as a fire protection buffer around the building of which at least the first 10 metres from the building is a cleared area (fuel free inner zone), while the outer 10 metres (fuel reduced outer zone) may be planted with fire retardant vegetation species or grassed (refer Figure 11.4.2) [No habitable or storage structures are located in this area.]; and ▪ Not applicable as APZs are not required. iv. to ensure that any outbuilding (such as garages and carports) is built as part of the main building or located at least 5 metres from the main building (refer Figure 11.4.3). ▪ Outbuildings (e.g., garages, carports) will be designed in accordance with best practice bushfire mitigation principles, ensuring compliance with setback and siting requirements.

Specific Outcomes	Probable Solutions
	b. If trees are planted they— i. are of a species that grow to over 2 metres in height to maintain separation between lower canopy and the ground; ii. have vertical and horizontal separation between each plant to ensure the canopy is not continuous; and iii. do not grow closer to the building than a distance equivalent to the tree's expected mature height so that branches do not overhang the eaves of the building (refer Figure 11.4.4). If trees are planted, they will be: ▪ Selected for fire-retardant properties and maintained to prevent canopy continuity. ▪ Spaced appropriately to ensure separation between canopies and the ground. ▪ Planted outside the mature tree height distance from buildings, preventing overhanging branches. c. Buildings— i. have a continuous roof line avoiding roof valleys, multiple hips and a combination of pitched and flat roofs on the same building – as these provide catchment areas for debris (refer Figure 11.4.5); and ii. have low pitched roofs between 12 and 21 degrees to reduce radiation pick up (refer Figure 11.4.6); and iii. are of slab-on-ground construction where this is responsive to the site; or iv. "pole homes" with floors elevated off the ground with all external openings (between the floor and the ground) sealed to prevent the entry of burning debris; and v. minimise large expansive walls as these expose a greater surface area to a bushfire; and vi. are constructed in accordance with the relevant Bushfire provisions of the Standard Building Regulation 1993. Buildings will be designed to: ▪ Avoid complex rooflines that could trap embers, ensuring debris-resistant designs. ▪ Incorporate low-pitched roofs (12–21 degrees) to minimise heat radiation pickup. ▪ Use slab-on-ground construction where feasible to reduce vulnerability to fire. ▪ For elevated homes, ensure sealed external openings to prevent ember entry. ▪ Minimise expansive walls to reduce heat exposure. ▪ Be constructed to meet the bushfire provisions of the Standard Building Regulation 1993 and AS 3959:2018.

Specific Outcomes	Probable Solutions
	d. Masonry, stone, steel, colourbond or wire fencing is used and timber fencing is avoided. ▪ Non-combustible fencing materials will be implemented as part of the development's bushfire resilience measures.
2. Uses and works avoid a high concentration of people living or congregating in a high bushfire risk area. ▪ The proposed development does not include uses where a high concentration of people would be at risk in a bushfire-prone area. ▪ The subdivision layout ensures residential density is appropriately distributed to avoid clustering in areas of higher bushfire risk. ▪ All habitable structures will be located outside BAL 29 and sited in accordance with bushfire risk mitigation strategies.	2. Uses where people are likely to congregate, including an educational establishment, community building, place of worship, hospital, retirement community, caravan park, camping ground, child care centre, correctional centre and tourist facility— a. are not located within a bushfire risk area; or b. where this is not possible, are constructed in accordance with Probable Solution 1, above. ▪ The development does not propose the development of any above listing.
Water Storage and Supply	
3. Uses and works provide sufficient and accessible water storage and supply for firefighting purposes by— a. connection to a reticulated water supply, if available to the site, having sufficient pressure and flow for firefighting purposes; or b. where reticulated water supply is not available to the site, a dam, lake, water tank or swimming pool are provided with sufficient capacity for water pumping in times of bushfire. ▪ The development connects to a reticulated water supply with sufficient pressure and flow for firefighting purposes. ▪ All water sources will be readily accessible to firefighting services to support fire suppression efforts.	3. Where reticulated water supply is not available— a. the site has a minimum water supply of 5000 litres (per dwelling) available for firefighting purposes as either— i. a separate on-site water tank; or ii. a reserve section in the bottom part of the main water supply tank; or iii. a swimming pool installed immediately upon construction of the dwelling; or iv. a dam or lake; and ▪ Not applicable. b. where on-site water supply tanks are provided they are— i. above ground and located adjacent to the building; ii. fitted with a 50mm outlet pipe and a 50mm male camlock coupling (standard rural fire brigade fitting) to allow fire hose connection;

Specific Outcomes	Probable Solutions
	iii. of precast concrete construction and supported by a fireproof structure; and iv. supported by a stand-by diesel or petrol powered pump should electricity be cut off during a bushfire. ▪ Not applicable. 4. Where reticulated water supply is available— a. if reconfiguring a lot, water supply outlet pipes are located— i. within 40 metres of the building envelope on each lot; or ii. where no building envelope is indicated on a lot, within 40 metres of the centre of the lot; or c. if for the erection of a building, the water supply outlet pipe is located within 40 metres of the building ▪ Water supply outlet pipes are located within 40m of dwellings
Vehicular Access and Fire Trails	
4. Fire trails or perimeter roads are provided to mitigate against bushfire risk by— a. separating uses and works from surrounding vegetated areas; and b. being of sufficient width to serve as an effective fire trail which allows continuous access for firefighting vehicles; and c. being in secure tenure and maintained. ▪ The development incorporates perimeter roads to create a buffer between built areas and vegetated land. ▪ Access routes are wide enough to allow continuous movement of firefighting vehicles. ▪ All access roads are secured under appropriate tenure and will be maintained regularly.	5. Uses and works (including where reconfiguring a lot) incorporate— a. a perimeter road— i. located between the boundary of the lot(s) and adjacent vegetated lands; and ii. with a minimum cleared width of 20 metres; and iii. with a constructed road width of 6 metres; and iv. constructed to an all weather standard; or ▪ Perimeter roads will have a minimum cleared width of 20m, 6m road width and all weather construction for year-round access. b. a fire trail— i. having a minimum cleared width of 6 metres; and ii. having a minimum formed width of 4 metres; and

Specific Outcomes	Probable Solutions
5. Residential uses and works (including reconfiguring a lot) are designed to mitigate potential bushfire risk and provide safe sites for dwellings. ▪ The site layout ensures safe locations for dwellings, considering setbacks from vegetation and fire-prone areas.	iii. having a maximum gradient of 15%; and iv. that is constructed and maintained to prevent erosion and provide continuous access for firefighting vehicles; and v. allowing vehicular access at least every 200 metres; and vi. that has vehicular access at each end and links to either existing fire trails or roads, or has a turning circle, or turnaround area at the end of the trail for the turning of firefighting vehicles; or vii. which has passing or turning areas with a maximum gradient of 5% (1 in 20) at intervals of at least every 400 metres; and viii. are situated on public land which may also be used for pedestrian or cycling access; or ix. on private land by way of an access easement granted in favour of the local government and Queensland Fire Services, where the fire trail is unfenced and maintained by the private owner to enable access at all times by firefighting vehicles; or ▪ No fire trails are proposed for this development.
6. Where the use involves reconfiguring a lot and the opening of a new road, the road layout provides vehicular access which is designed to— a. mitigate against bushfire risk by ensuring adequate access for firefighting and other emergency vehicles; and b. allow for evacuation in the event of a bushfire; and c. provide for the safe and effective operation of water supply and equipment for fire fighting vehicles. The road layout is designed to: ▪ Ensure sufficient access for emergency vehicles. ▪ Allow for safe evacuation during a bushfire. ▪ Provide adequate space for firefighting operations near water supply points.	c. a combination of perimeter roads and fire trails as per (a) and (b) above; and ▪ Only perimeter roads will be needed for this development. d. vehicular access points to properties are a minimum of 3 metres in width and 4.5m in height in order to permit ready access by fire and rescue vehicles; and ▪ Vehicular access points are at least 3m wide and 4.5m high to accommodate emergency vehicles. e. access driveways maintain a minimum horizontal clearance of 5m from all powerlines. ▪ Driveways maintain a 5m horizontal clearance from powerlines for safety.
7. The size and shape of residential lots and the design and location of access paths facilitate emergency access to buildings and firefighting infrastructure, and the incorporation of suitable on-site bushfire mitigation measures. ▪ Road and lot design accommodate accessibility for emergency responders.	6. Wherever possible the road layout provides through roads and avoids the use of cul-de-sac and dead end roads (refer Figure 11.4.7). ▪ Road layouts prioritise through roads over cul-de-sacs and dead ends.
8. New residents are informed about the nature of the bushfire hazard and mitigation measures. ▪ The developer will communicate bushfire hazards and responsibilities to new residents.	7. Road gradients are generally no more than 12.5%, or are from 12.5% to not more than 20% over a maximum distance of 50 metres. ▪ Road gradients do not exceed 12.5%, except for short sections (up to 50m) that may reach 20%.

Specific Outcomes	Probable Solutions
	8. The developer provides potential purchasers of lots and the local government with detailed information including— a. the nature of the bushfire hazard present on the lot; b. responsibilities for fire management (including fuel in vegetated areas, maintenance of open areas and buildings, separation of assets); c. measures available for ongoing fire hazard mitigation (including planting of fire resistant species, use of non-flammable fencing and screens, separation of assets from hazards); and d. the intended management of retained internal vegetated strips and public areas. ▪ The developer provides information to purchasers and local government on the bushfire hazard affecting each lot, fire management responsibilities (fuel loads, building maintenance, separation of assets), ongoing mitigation measures (fire-resistant landscaping, non-flammable fencing, asset protection zones) and planned management of internal vegetation and public spaces to reduce fire risk.

9. Summary & Recommendations

All vegetation providing a potential bushfire risk within 150m of the site has been identified, and the proposed development's risk-based factors have been assessed. The dominant bushfire hazards associated with the development are represented by two (2) vegetation areas located north, east and south of the subject site. This assessment calculated the potential fireline intensity for these three hazard areas relative to the development, all rated as 'Medium' bushfire intensity levels.

The proposed development has been assessed against the *State Planning Policy* (SPP) Bushfire Overlay Code and the *Logan City Council (LCC) Planning Scheme* Bushfire Risk Area Overlay Code. In addition, the assessment supports conformance with the *Ripley Valley Urban Development Area (PDA) Planning Scheme* and satisfies the bushfire-related requirements of the existing development approval 9820/2019/MAPDA/A, including Conditions 6 and 16. This Bushfire Management Plan (BMP) provides recommendations to mitigate bushfire risks to within tolerable levels, including:

- Definition of minimum separation distances from hazardous vegetation for the proposed development.
- Establishment of a 10.4m wide Low Fuel Zone (LFZ) within the rehabilitation area of HA2 and a 16.1 m LFZ south of HA1. The LFZ will be rehabilitated with fire-retardant native species, resulting in a low-fuel state, to ensure that all habitable dwellings are not exposed to radiant heat levels exceeding 29 kW/m².
- Minimum construction standards specified under BAL construction standards in *AS3959:2018*, with dwellings within the BAL29 contour are to be constructed to BAL29 construction requirements to reduce ignition risk. Additionally, all structures within BAL-LOW to BAL12.5 should be constructed to BAL12.5 requirements, and structures between BAL19 and BAL12.5 should be built to meet BAL19 requirements.
- Specify landscaping constraints to prevent the unintentional creation of hazardous vegetation conditions, including using low-combustibility plant species and strategic placement to minimise fire spread.
- Compliance with *QFD Fire Hydrant and Vehicle Access Guidelines (2015)* and *AS2419.1:2017 Fire Hydrant Installations* for adequate fire-fighting water supply.
- Provide safe and efficient ingress/egress routes for emergency services and site occupants during a bushfire.

The mitigation measures recommended in this BMP support compliance with the SPP State Interest Guidance Material for Bushfire, the *LCC Planning Scheme* Bushfire Risk Area Overlay Code, and PDA Guideline No. 14. Furthermore, this report supports compliance endorsement under Condition 16(a)(ii) of the PDA approval by providing a detailed staged bushfire risk assessment and outlines appropriate measures to meet the requirements of the environmental covenant under Condition 6.

As such, we recommend that the proposed development be approved for managing the site-specific bushfire hazard, subject to the recommendations contained in this assessment.

Please do not hesitate to contact us should you have any queries regarding the content of this assessment.

Yours sincerely,

Author:



Emily Travis

BSc (Zool) Hons I, BBusMan
Graduate Environmental Consultant
Therefor Group Pty Ltd

Reviewer:



Steve Hayes

BSc(Env) Hons GradCertBfirProt ESA MEIANZ
Senior Bushfire Analyst
Therefor Group Pty Ltd

10. References

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BUSHFIRE MANAGEMENT PLAN

Appendix A

Bushfire Tree Retention Plan – Rev 1.0

Bushfire Tree Retention Plan

Providence West - 817 Ripley Road, SOUTH RIPLEY QLD 4306

PROPERTY DETAILS

Description: Lot 196 on SP157517

LGA: Ipswich City Council/Ripley Valley Priority Development Area

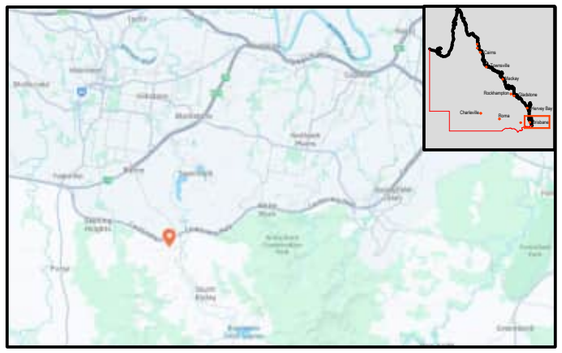
Site Area: 488,025 m^2

DRAWING SCHEDULE

TRRP00 COVER SHEET & DEVELOPMENT LAYOUT
TRRP01 LOCATION-SPECIFIC TRP
TRRP02 TREE CATALOGUE (a)
TRRP03 TREE CATALOGUE (b)

LEGEND

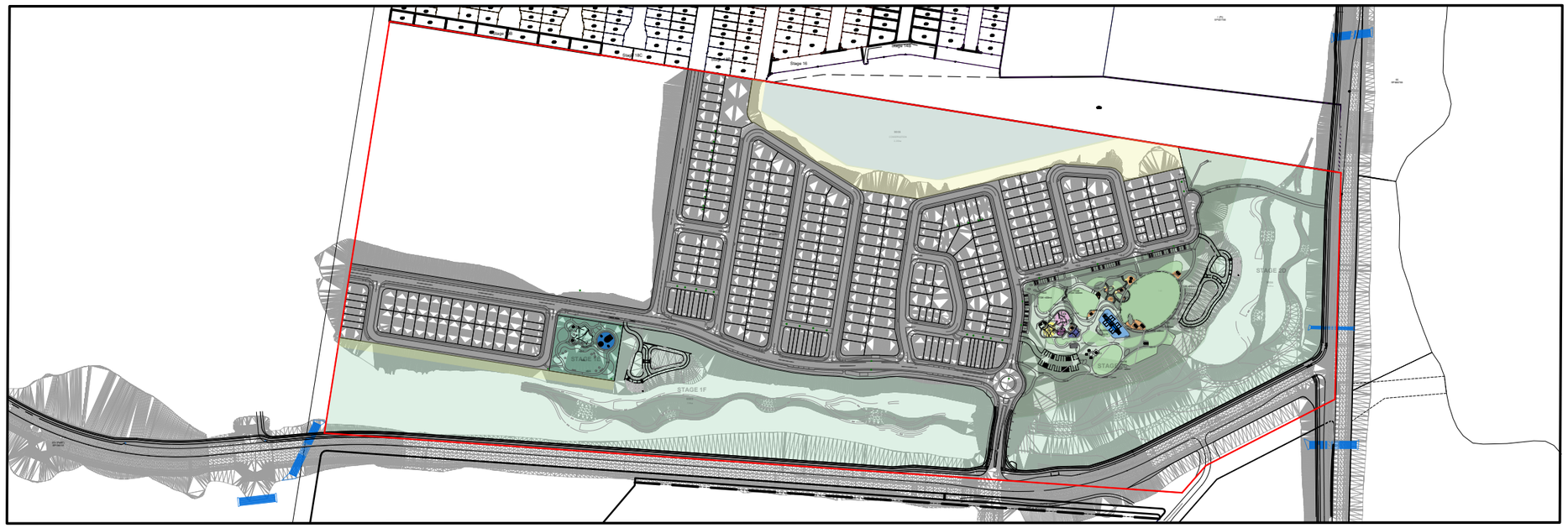
- Site Boundary
- Cadastral
- Development
- Earthworks
- Conservation Area
- District Rec Park
- Neighbourhood Park
- Stormwater Management / Waterway
- Low Fuel Zone



Inset 1: Site Locality (source: Nearmap 2025)



Inset 2: Site Aerial (Source: Nearmap 2025)



Inset 3: Proposed Development

100 0 100 200 300 400
Scale 1:6000 @A3

NOTES:

1. Locations provided via hand held differential GPS with accuracy 0.8-1.5m (environmental condition dependent).
2. Only trees greater than 150mm DSH are indicated.
3. Tree Protection Zones are calculated from the Notional Root Zone in accordance with *AS4970-2025 Protection of Trees on Development Sites.*
4. Encroachment thresholds: minor ≤10%, moderate ≤20%, major >20%.
5. Trees indicated for retention that include moderate encroachment acceptable only with AQF Level 5 Arborist advice; major encroachment subject to detailed assessment by AQF Level 5 Arborist.

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CLIENT
Stocklands

PROJECT
Providence West

PROJECT ADDRESS
817 Ripley Rd, South Ripley

CERTIFICATION
I, Stephen Hayes , hereby certify that the information shown on this document is true and correct. All actions are to be carried out in accordance with this plan.
Date: 29/10/2025
Director of Environment - Therefor Group

REVISION TABLE

ISSUE	DESCRIPTION	DRWN	CHKD	DATE
A	ISSUE FOR IR RESPONSE	ET	SH	29.10.25

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DRAWING NAME
Bushfire Tree Retention Plan

SCHEDULE
Cover Sheet & Development Layout

PROJECT NO.
23-0573E/BF-03

DATE
28-10-2025

SHEET NO.
TRP00

NORTH

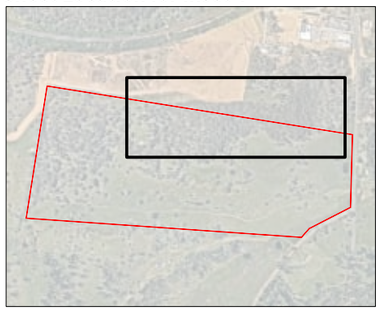
REV
A

LEGEND

- Site Boundary
- Cadastral
- Development
- Earthworks
- Conservation Area
- Low Fuel Zone
- BAL-29
- Tree to be retained with Notional Root Zone



Sheet Location for Inset 4



Inset 4: Tree Retention Plan

10 0 10 20 30 40
Scale 1:1250 @A3

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Providence West

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817 Ripley Rd, South Ripley

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DRAWING NAME
Bushfire Tree Retention Plan

SCHEDULE
Location-Specific TRP

PROJECT NO.
23-0573E/BF-03

DATE
28-10-2025

SHEET NO.
TRP01

NORTH

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Tree Number	Botanical Name	Common Name	DSH (mm) AS4970-2025	Leader DSH (mm)	Height (m)	Canopy Spread	NRZ Radius (m)	Notes	Retain/Remove
340	*Corymbia citriodora subsp. variegata*	Spotted Gum	240	-	8	3	2.88	NSHF, NJKHT	RETAIN
341	*Eucalyptus tereticornis*	Queensland Blue Gum	250	-	8	3	3.00	NSHF, NJKHT	RETAIN
342	*Eucalyptus tereticornis*	Queensland Blue Gum	220	-	7	4	2.64	NSHF, NJKHT	RETAIN
343	*Eucalyptus tereticornis*	Queensland Blue Gum	230	-	6	4	2.76	NSHF, NJKHT	RETAIN
344	*Eucalyptus tereticornis*	Queensland Blue Gum	1100	-	15	10	13.20	NSHF, NJKHT	RETAIN
345	*Eucalyptus tereticornis*	Queensland Blue Gum	220	-	10	2	2.64	NSHF, NJKHT	RETAIN
346	*Corymbia citriodora subsp. variegata*	Spotted Gum	800	-	14	10	9.60	Untaggable, NJKHT	RETAIN
347	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	400	-	12	8	4.80	Untaggable, NJKHT	RETAIN
348	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	10	4	3.00	NSHF, NJKHT	RETAIN
349	*Corymbia citriodora subsp. variegata*	Spotted Gum	480	-	12	5	5.76	NSHF, NJKHT	RETAIN
360	*Eucalyptus tereticornis*	Queensland Blue Gum	170	-	5	3	2.04	NSHF, NJKHT	RETAIN
361	*Corymbia citriodora subsp. variegata*	Spotted Gum	200	-	8	2	2.40	NSHF, NJKHT	RETAIN
362	*Corymbia citriodora subsp. variegata*	Spotted Gum	210	-	8	2	2.52	NSHF, NJKHT	RETAIN
363	*Corymbia citriodora subsp. variegata*	Spotted Gum	170	-	8	1	2.04	NSHF, NJKHT	RETAIN
364	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	320	-	10	3	3.84	NSHF, NJKHT	RETAIN
365	*Corymbia citriodora subsp. variegata*	Spotted Gum	180	-	8	1	2.16	NSHF, NJKHT	RETAIN
366	*Corymbia citriodora subsp. variegata*	Spotted Gum	500	-	12	6	6.00	NSHF, NJKHT	RETAIN
367	*Corymbia citriodora subsp. variegata*	Spotted Gum	450	-	10	4	5.40	NSHF, NJKHT	RETAIN
368	*Corymbia citriodora subsp. variegata*	Spotted Gum	200	-	10	2	2.40	NSHF, NJKHT	RETAIN
369	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	10	3	2.76	NSHF, NJKHT	RETAIN
372	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	10	4	4.08	NSHF, NJKHT	RETAIN
373	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	9	2	2.76	NSHF, NJKHT	RETAIN
374	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	8	1	2.00	NSHF, NJKHT	RETAIN
375	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	150	-	8	1	2.00	NSHF, NJKHT	RETAIN
376	*Corymbia citriodora subsp. variegata*	Spotted Gum	143	130, 60	8	1	2.00	NSHF, NJKHT	RETAIN
377	*Corymbia citriodora subsp. variegata*	Spotted Gum	140	-	7	3	2.00	NSHF, NJKHT	RETAIN
378	*Corymbia citriodora subsp. variegata*	Spotted Gum	240	-	7	4	2.88	Leaning, NJKHT	RETAIN
380	*Corymbia citriodora subsp. variegata*	Spotted Gum	360	-	10	3	4.32	NSHF, NJKHT	RETAIN
381	*Corymbia citriodora subsp. variegata*	Spotted Gum	260	-	7	2	3.12	NSHF, NJKHT	RETAIN
383	*Corymbia citriodora subsp. variegata*	Spotted Gum	450	-	10	4	5.40	NSHF, NJKHT	RETAIN
385	*Corymbia citriodora subsp. variegata*	Spotted Gum	950	-	12	6	11.40	NSHF, NJKHT	RETAIN
388	*Corymbia citriodora subsp. variegata*	Spotted Gum	500	-	13	6	6.00	NSHF, NJKHT	RETAIN
389	*Corymbia citriodora subsp. variegata*	Spotted Gum	500	-	12	5	6.00	NSHF, NJKHT	RETAIN
390	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	8	2	3.00	NSHF, NJKHT	RETAIN
391	*Corymbia intermedia*	Pink Bloodwood	350	-	8	3	4.20	NSHF, NJKHT	RETAIN
392	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	7	2	2.00	NSHF, NJKHT	RETAIN
393	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	9	1	2.00	NSHF, NJKHT	RETAIN
394	*Corymbia citriodora subsp. variegata*	Spotted Gum	125	-	8	2	2.00	NSHF, NJKHT	RETAIN
395	*Corymbia citriodora subsp. variegata*	Spotted Gum	170	-	8	2	2.04	NSHF, NJKHT	RETAIN
396	*Corymbia citriodora subsp. variegata*	Spotted Gum	320	-	9	4	3.84	NSHF, NJKHT	RETAIN
397	*Corymbia citriodora subsp. variegata*	Spotted Gum	330	-	11	5	3.96	NSHF, NJKHT	RETAIN
399	*Corymbia citriodora subsp. variegata*	Spotted Gum	140	-	7	2	2.00	NSHF, NJKHT	RETAIN
401	*Corymbia citriodora subsp. variegata*	Spotted Gum	150	-	8	2	2.00	NSHF, NJKHT	RETAIN
402	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	8	2	2.00	NSHF, NJKHT	RETAIN
404	*Corymbia citriodora subsp. variegata*	Spotted Gum	350	-	12	5	4.20	NSHF, NJKHT	RETAIN
405	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	480	-	12	5	5.76	Partial stag, NJKHT	RETAIN
415	*Eucalyptus tereticornis*	Queensland Blue Gum	650	-	18	8	7.80	Tree tag number: 246, NJKHT	RETAIN
416	*Eucalyptus tereticornis*	Queensland Blue Gum	250	-	12	5	3.00	Tree tag number: 250, NJKHT	RETAIN
417	-	Stag	420	-	14	-	-	Tree tag number: 248	RETAIN
418	*Corymbia citriodora subsp. variegata*	Spotted Gum	150	-	9	2	2.00	NSHF, NJKHT	RETAIN
419	*Corymbia citriodora subsp. variegata*	Spotted Gum	120	-	6	2	2.00	NSHF, NJKHT	RETAIN
420	*Corymbia citriodora subsp. variegata*	Spotted Gum	190	-	9	1	2.28	NSHF, NJKHT	RETAIN
421	*Corymbia citriodora subsp. variegata*	Spotted Gum	150	-	8	2	2.00	NSHF, NJKHT	RETAIN
422	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	10	3	4.08	NSHF, NJKHT	RETAIN
423	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	9	5	2.00	NSHF, NJKHT	RETAIN
424	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	9	3	3.00	NSHF, NJKHT	RETAIN
425	-	Stag	310	-	6	-	-	NSHF	RETAIN
426	*Corymbia citriodora subsp. variegata*	Spotted Gum	170	-	10	2	2.04	NSHF, NJKHT	RETAIN
427	*Corymbia citriodora subsp. variegata*	Spotted Gum	270	-	10	2	3.24	NSHF, NJKHT	RETAIN
428	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	10	5	4.08	NSHF, NJKHT	RETAIN
429	*Corymbia citriodora subsp. variegata*	Spotted Gum	180	-	8	1	2.16	NSHF, NJKHT	RETAIN
430	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	290	-	11	4	3.48	NSHF, NJKHT	RETAIN
431	*Corymbia citriodora subsp. variegata*	Spotted Gum	190	-	9	2	2.28	NSHF, NJKHT	RETAIN
432	*Corymbia citriodora subsp. variegata*	Spotted Gum	210	-	10	3	2.52	NSHF, NJKHT	RETAIN
433	*Corymbia citriodora subsp. variegata*	Spotted Gum	280	-	10	3	3.36	NSHF, NJKHT	RETAIN
434	*Corymbia citriodora subsp. variegata*	Spotted Gum	210	-	10	4	2.52	Leaning, NJKHT	RETAIN
435	*Corymbia citriodora subsp. variegata*	Spotted Gum	200	-	10	4	2.40	Possible koala scratches, NJKHT	RETAIN
436	*Corymbia citriodora subsp. variegata*	Spotted Gum	390	-	10	4	4.68	NSHF, NJKHT	RETAIN
437	*Corymbia citriodora subsp. variegata*	Spotted Gum	260	-	8	3	3.12	NSHF, NJKHT	RETAIN
438	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	10	2	3.00	NSHF, NJKHT	RETAIN
443	*Corymbia citriodora subsp. variegata*	Spotted Gum	200	-	10	1	2.40	NSHF, NJKHT	RETAIN
450	-	Stag	300	-	7	-	-	NSHF	RETAIN
451	*Corymbia citriodora subsp. variegata*	Spotted Gum	210	-	10	4	2.52	NSHF, NJKHT	RETAIN
452a	*Corymbia citriodora subsp. variegata*	Spotted Gum	155	-	8	2	2.00	NSHF, NJKHT	RETAIN
453a	*Corymbia citriodora subsp. variegata*	Spotted Gum	300	-	10	3	3.60	NSHF, NJKHT	RETAIN
453b	*Corymbia citriodora subsp. variegata*	Spotted Gum	280	-	11	5	3.36	NSHF, NJKHT	RETAIN
454	*Corymbia citriodora subsp. variegata*	Spotted Gum	240	-	10	4	2.88	NSHF, NJKHT	RETAIN
455	*Corymbia citriodora subsp. variegata*	Spotted Gum	240	-	8	4	2.88	Leaning, NJKHT	RETAIN

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CLIENT
Stocklands

PROJECT
Providence West

PROJECT ADDRESS
817 Ripley Rd, South Ripley

CERTIFICATION
I, Stephen Hayes , hereby certify that the information shown on this document is true and correct. All actions are to be carried out in accordance with this plan.
Date: 29/10/2025
Director of Environment - Therefor Group

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DRAWING NAME
Bushfire Tree Retention Plan

SCHEDULE
Tree Catalogue (a)

PROJECT NO.
23-0573E/BF-03

DATE
28-10-2025

SHEET NO.
TRP02

NORTH

REV
A

Tree Number	Botanical Name	Common Name	DSH (mm) AS4970-2025	Leader DSH (mm)	Height (m)	Canopy Spread	NRZ Radius (m	Notes	Retain/Remov
459	*Corymbia citriodora subsp. variegata*	Spotted Gum	170	-	8	1	2.04	NSHF, NJKHT	RETAIN
460	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	10	5	4.08	NSHF, NJKHT	RETAIN
462	*Corymbia citriodora subsp. variegata*	Spotted Gum	180	-	8	2	2.16	NSHF, NJKHT	RETAIN
463	*Corymbia citriodora subsp. variegata*	Spotted Gum	190	-	8	1	2.28	NSHF, NJKHT	RETAIN
475	*Corymbia tessellaris*	Moreton Bay Ash	350	-	9	4	4.20	NSHF, NJKHT	RETAIN
476	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	210	-	8	3	2.52	NSHF, NJKHT	RETAIN
477	*Corymbia citriodora subsp. variegata*	Spotted Gum	300	-	9	5	3.60	NSHF, NJKHT	RETAIN
478	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	8	5	4.08	NSHF, NJKHT	RETAIN
479	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	8	2	2.00	NSHF, NJKHT	RETAIN
480	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	10	4	4.08	NSHF, NJKHT	RETAIN
481	*Corymbia citriodora subsp. variegata*	Spotted Gum	280	-	9	5	3.36	NSHF, NJKHT	RETAIN
482	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	10	4	3.00	NSHF, NJKHT	RETAIN
483	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	10	4	4.08	NSHF, NJKHT	RETAIN
484	*Corymbia citriodora subsp. variegata*	Spotted Gum	449	380, 240	10	5	5.39	NSHF, NJKHT	RETAIN
485	*Corymbia citriodora subsp. variegata*	Spotted Gum	190	-	8	3	2.28	NSHF, NJKHT	RETAIN
487	*Corymbia citriodora subsp. variegata*	Spotted Gum	360	-	10	4	4.32	NSHF, NJKHT	RETAIN
488	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	8	5	4.08	NSHF, NJKHT	RETAIN
493	*Corymbia citriodora subsp. variegata*	Spotted Gum	290	-	9	5	3.48	NSHF, NJKHT	RETAIN
497	*Corymbia citriodora subsp. variegata*	Spotted Gum	180	-	8	1	2.16	NSHF, NJKHT	RETAIN
498	*Corymbia citriodora subsp. variegata*	Spotted Gum	240	-	8	2	2.88	NSHF, NJKHT	RETAIN
499	*Corymbia citriodora subsp. variegata*	Spotted Gum	150	-	8	3	2.00	NSHF, NJKHT	RETAIN
500	*Corymbia citriodora subsp. variegata*	Spotted Gum	290	-	12	3	3.48	NSHF, NJKHT	RETAIN
501	*Corymbia citriodora subsp. variegata*	Spotted Gum	280	-	10	2	3.36	NSHF, NJKHT	RETAIN
503	*Corymbia citriodora subsp. variegata*	Spotted Gum	330	-	11	4	3.96	NSHF, NJKHT	RETAIN
505	*Corymbia tessellaris*	Moreton Bay Ash	240	-	8	3	2.88	NSHF, NJKHT	RETAIN
506	*Corymbia citriodora subsp. variegata*	Spotted Gum	150	-	8	1	2.00	NSHF, NJKHT	RETAIN
507	*Corymbia citriodora subsp. variegata*	Spotted Gum	380	-	11	6	4.56	NSHF, NJKHT	RETAIN
508	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	9	3	3.00	NSHF, NJKHT	RETAIN
509	*Corymbia citriodora subsp. variegata*	Spotted Gum	290	-	10	2	3.48	NSHF, NJKHT	RETAIN
510	*Corymbia citriodora subsp. variegata*	Spotted Gum	300	-	10	4	3.60	NSHF, NJKHT	RETAIN
511	*Corymbia citriodora subsp. variegata*	Spotted Gum	270	-	8	5	3.24	NSHF, NJKHT	RETAIN
512	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	7	5	2.76	NSHF, NJKHT	RETAIN
513	*Corymbia citriodora subsp. variegata*	Spotted Gum	250	-	10	4	3.00	NSHF, NJKHT	RETAIN
514	*Eucalyptus tereticornis*	Queensland Blue Gum	210	-	8	2	2.52	NSHF, NJKHT	RETAIN
515	*Corymbia citriodora subsp. variegata*	Spotted Gum	310	-	9	3	3.72	NSHF, NJKHT	RETAIN
516	*Corymbia citriodora subsp. variegata*	Spotted Gum	360	-	10	6	4.32	NSHF, NJKHT	RETAIN
517	*Corymbia citriodora subsp. variegata*	Spotted Gum	320	-	10	3	3.84	NSHF, NJKHT	RETAIN
518	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	8	4	2.76	NSHF, NJKHT	RETAIN
519	*Corymbia citriodora subsp. variegata*	Spotted Gum	200	-	8	2	2.40	NSHF, NJKHT	RETAIN
520	*Corymbia citriodora subsp. variegata*	Spotted Gum	210	-	7	1	2.52	NSHF, NJKHT	RETAIN
530	*Corymbia citriodora subsp. variegata*	Spotted Gum	420	-	10	4	5.04	NSHF, NJKHT	RETAIN
531	*Corymbia citriodora subsp. variegata*	Spotted Gum	540	-	12	4	6.48	NSHF, NJKHT	RETAIN
532	*Corymbia citriodora subsp. variegata*	Spotted Gum	360	-	10	4	4.32	NSHF, NJKHT	RETAIN
533	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	7	3	2.76	Leaning, NJKHT	RETAIN
534	*Corymbia citriodora subsp. variegata*	Spotted Gum	240	-	10	2	2.88	NSHF, NJKHT	RETAIN
535	*Corymbia citriodora subsp. variegata*	Spotted Gum	180	-	8	3	2.16	NSHF, NJKHT	RETAIN
536	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	10	3	2.76	NSHF, NJKHT	RETAIN
537	*Angophora woodsiana*	Smudgee	130	-	8	2	2.00	NSHF, NJKHT	RETAIN
538	*Eucalyptus tereticornis*	Queensland Blue Gum	170	-	8	1	2.04	NSHF, NJKHT	RETAIN
539	*Corymbia intermedia*	Pink Bloodwood	530	-	12	7	6.36	NSHF, NJKHT	RETAIN
540	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	240	-	8	3	2.88	NSHF, NJKHT	RETAIN
541	*Corymbia intermedia*	Pink Bloodwood	280	-	9	4	3.36	NSHF, NJKHT	RETAIN
544	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	210	-	7	1	2.52	NSHF, NJKHT	RETAIN
545	*Eucalyptus tereticornis*	Queensland Blue Gum	170	-	8	3	2.04	NSHF, NJKHT	RETAIN
546	*Corymbia citriodora subsp. variegata*	Spotted Gum	206	200, 50	7	2	2.47	NSHF, NJKHT	RETAIN
549	*Corymbia citriodora subsp. variegata*	Spotted Gum	210	-	8	2	2.52	NSHF, NJKHT	RETAIN
550	*Corymbia citriodora subsp. variegata*	Spotted Gum	270	-	10	3	3.24	NSHF, NJKHT	RETAIN
551	*Corymbia citriodora subsp. variegata*	Spotted Gum	290	-	11	3	3.48	NSHF, NJKHT	RETAIN
552	*Corymbia citriodora subsp. variegata*	Spotted Gum	160	-	9	2	2.00	NSHF, NJKHT	RETAIN
553	*Corymbia citriodora subsp. variegata*	Spotted Gum	208	180, 60, 70, 50	9	2	2.50	NSHF, NJKHT	RETAIN
554	*Corymbia citriodora subsp. variegata*	Spotted Gum	340	-	9	3	4.08	NSHF, NJKHT	RETAIN
557	*Corymbia citriodora subsp. variegata*	Spotted Gum	180	-	7	2	2.16	Leaning, NJKHT	RETAIN
559	*Corymbia citriodora subsp. variegata*	Spotted Gum	430	-	12	5	5.16	NSHF, NJKHT	RETAIN
560	*Eucalyptus crebra*	Narrow-leaved Red Ironbark	230	-	7	2	2.76	NSHF, NJKHT	RETAIN
561	*Corymbia citriodora subsp. variegata*	Spotted Gum	267	260, 60	9	4	3.20	NSHF, NJKHT	RETAIN
563	*Eucalyptus tereticornis*	Queensland Blue Gum	350	-	11	5	4.20	NSHF, NJKHT	RETAIN
564	*Corymbia citriodora subsp. variegata*	Spotted Gum	370	-	10	5	4.44	NSHF, NJKHT	RETAIN
567	*Corymbia citriodora subsp. variegata*	Spotted Gum	230	-	10	2	2.76	NSHF, NJKHT	RETAIN
569	*Corymbia intermedia*	Pink Bloodwood	250	-	9	3	3.00	NSHF, NJKHT	RETAIN
574	*Eucalyptus tereticornis*	Queensland Blue Gum	200	-	6	3	2.40	NSHF, NJKHT	RETAIN
575	*Eucalyptus tereticornis*	Queensland Blue Gum	450	-	12	5	5.40	Untaggable, NJKHT	RETAIN
576	*Eucalyptus tereticornis*	Queensland Blue Gum	310	-	10	4	3.72	NSHF, NJKHT	RETAIN
577	*Eucalyptus tereticornis*	Queensland Blue Gum	1200	-	10	6	14.40	Halfstag, hollows, NJKHT	RETAIN
578	*Eucalyptus tereticornis*	Queensland Blue Gum	200	-	6	2	2.40	NSHF, NJKHT	RETAIN
579	*Eucalyptus tereticornis*	Queensland Blue Gum	2200	-	20	10	15.00	Halfstag, hollows, NJKHT	RETAIN
588	*Lophostemon suaveolens*	Swamp Box	270	-	8	4	3.24	NSHF, NJKHT	RETAIN
590	*Corymbia citriodora subsp. variegata*	Spotted Gum	461	400, 230	16	7	5.54	Tree tag number: 247, NJKHT	RETAIN
591	*Corymbia citriodora subsp. variegata*	Spotted Gum	350	-	10	5	4.20	Koala in tree, NJKHT	RETAIN

therefor GROUP

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Stocklands

PROJECT
Providence West

PROJECT ADDRESS
817 Ripley Rd, South Ripley

CERTIFICATION
I, Stephen Hayes , hereby certify that the information shown on this document is true and correct. All actions are to be carried out in accordance with this plan.

Date: 23/10/2025
Director of Environment – Therefor Group

REVISION TABLE

ISSUE	DESCRIPTION	DRWN	CHKD	DATE
A	ISSUE FOR IR RESPONSE	ET	SH	29.10.25

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DRAWING NAME
Bushfire Tree Retention Plan

SCHEDULE
Tree Catalogue (b)

PROJECT NO.
23-0573E/BF-03

DATE
28-10-2025

SHEET NO.
TRP03

NORTH

REV
A

therefor GROUP

The Change Leaders

Therefor Group is dedicated to enhancing the potential of place by understanding who it's for.

When you need that broader perspective;

When you need more than a bottom line;

When you need a commitment to leading positive change;

We're there.

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