



**BUSHFIRE MITIGATION REPORT
FM 6789-4
for
NORFOLK ESTATES PTY LTD
at
31-53 COURTNEY DRIVE,
176 BAILEYS MOUNTAIN ROAD,
288 RESERVE ROAD
UPPER COOMERA**

**PREPARED BY
ELDON BOTTCHE ARCHITECT PTY LTD
145 VARSITY PARADE
VARSITY LAKES
PH 07 55920082
EMAIL bushfires@eb-a.com.au
11/11/2025**

PLANS AND DOCUMENTS referred to in the
DEVELOPMENT APPROVAL

Application No: ROL/2024/116

Dated: 9 December 2025

Development shall comply with the
conditions of approval as detailed in the
Decision Notice and Council's Planning
Scheme, Local Laws and Planning Policies

Amended in red:

3m wide maintenance track within proposed
conservation reserve adjoining the following
property boundaries

- Current lot 1SP205578
- Proposed Lot 701
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DISCLAIMER

Experienced fire fighters with extensive knowledge of building have prepared this Report. Their practical knowledge of fire fighting has been backed up by academic study.

However, fire is an element of nature. Small natural occurrences can disastrously affect the outcome of the best planning. Human actions similarly can have disastrous results.

Whilst every care has been taken in the formulation of this management report, there can be no guarantee that even the strictest adherence to its recommendations can guarantee safety of life and property.

The authors of this report accept no responsibility for any damage to life or property caused by fire or any other cause to persons using land or structures, which could in any way be construed to be the subject of this report.

The report has been commissioned as the land falls within an area deemed a fire risk by the local authority.

As such, it must be recognized that structures upon this land and those using the structures could be deemed at risk.

Logo by LogoInstant

Very Important Note:

This report is valid for the following periods;

- a) A maximum time of 5 years from date of preparation.
- b) The currency of the legislation referred to in Section 1 Report Brief
- c) Changes to any legislation generally that may impact on the report outcomes.
- d) Changes to vegetation, both on and off site, which may impact on the results of this report.
- e) Any other changes that may impact on the report in any manner.

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IRRESPECTIVE OF THIS REPORT APPEARING ON A COUNCIL PD OR OTHER ONLINE SITE, THERE IS NO PERMISSION IMPLIED OR GIVEN TO ANY PARTY TO DOWNLOAD OR TO USE OR COPY THIS REPORT IN WHOLE OR IN PART IN ANY MANNER OTHER THAN THAT FOR WHICH IT WAS ORIGINALLY PREPARED.
ANY SUCH USE WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.

THIS REPORT RELIES ON THE AS 3959 FOR THE CALCULATION OF CONSTRUCTION LEVELS.
ANY POSSIBLE ERRORS IN THE STANDARD ARE NOT THE RESPONSIBILITY OF THE AUTHOR.

THIS REPORT IS ONLY TO BE USED AND DISTRIBUTED AS A COMPLETE REPORT CONTAINING AS A MINIMUM SECTIONS 1,2,3,4 AND 5 (SECTIONS 5.1 & 5.2)

THIS REPORT IS NOT TO BE AMENDED IN ANY WAY BY ANY PERSONS OTHER THAN THE ORIGINAL AUTHOR.

THIS REPORT IS ONLY TO BE USED FOR PROJECTS IDENTIFIED IN THE REPORT AND REPRESENTED ON THE SITE PLAN ACCOMPANYING THE REPORT.

INTRODUCTION

This Fire Management Report has been written for the benefit of future occupants of this proposed site and developed in accordance with the requirements of;

- The Gold Coast City Council Town Plan,
- SPP 07/2017.
- Queensland Planning Act 2016
- “Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest” Natural Hazards, Risk and Resilience-Bushfire” published by QFES and Queensland Government.
- Natural hazards, risk and resilience-Bushfire State Planning Policy-state interest guidance material published by Queensland Government
- Bushfire Resilient Building Guidance for Queensland Homes published by CSIRO and Queensland Government
- The National Construction Code
- Queensland Bushfire Plan published by Queensland Government prepared by QFES.
- Australian Standard AS3959,
- International Fire Safety Engineering Guidelines
- Australian Fire Engineering Guidelines

The report has been prepared as supporting documentation for a Material Change of Use (Building) /Reconfiguration of Lot Application, and has been amended from the original by the inclusion of an amended site plan. Clarification of the rehabilitation Regional Ecosystem upon which the findings of his report is based.

- 1.1. **Address:**
31-53 Courtney Drive,
176 Baileys Mountain Road,
288 Reserve Road Upper Coomera.
- 1.2. **Local Authority**
Gold Coast City Council
- 1.3. **R.P.D.**
Lot 183 on RP156422,
Lot 57 on SP214370,
Lot 56 on RP205578,
Lot 186 on RP173728 and
Lots 184 & 185 on RP173727
- 1.4. **Responsible Fire Authority**
QFD for all fires.
- 1.5. **Potential Bushfire Hazard Rating.**
The hazard rating maps prepared for the Council show the ratings on this property ranging from Low to Medium and being in a Bushfire Hazard Buffer Area.
The draft risk rating maps prepared for the State Government show the ratings on this property ranging from Low to Medium and being in a Bushfire Hazard Buffer Area.

It must be noted that State Government is currently revising the mapping and there may be changes to mapped areas.
- 1.6. **Land tenure.**
Freehold
- 1.7. **Adjoining owners are:**
Freehold
- 1.8. **Current Land Use:**
Rural residential
- 1.9. **Fire danger Index.**
FDI 40 (nominated by AS 3959 as advised by Queensland Government Dept. of Housing and Public Works)
- 1.10. **Topography**
Rolling Hills

1.11. Predominant Wind Direction

The predominate wind direction is from the South East. In times of severe fire weather, the wind direction will be from the North West. The Topography will create microclimates, which will cause swirling, which will modify the apparent wind direction according to primary direction and velocity.

1.12. Slope

g⁰

1.13. Aspect

East

1.14. Fuel Type and location

LOT	REGIONAL ECOSYSTEM	VHC	VHC DESCRIPTION	COMMENTS
182 RP156422	12.11.24 (12.11.5a)	9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	Vegetation mass does not constitute a threat due to general site management and Low vegetation mass. EBA did the BFM for the subdivision on this site
590 SP219180	12.11.24 (12.11.5a)	9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	Vegetation is self-rehabilitating to a Riverine Rainforest status and does not constitute a threat due to this. EBA did the BFM for the subdivision on this site which is currently under construction
58 SP191940	12.11.24 (12.11.5a)	9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	Vegetation mass is not adequate to constitute a threat. EBA did the BFM for the proposed development on this site
57 SP214370	12.3.11	8.2	Wet eucalypt tall woodland	Vegetation mass is not adequate to constitute a threat
56 RP162858	No mapped Regional Ecosystem			Mapped threat vegetation no longer exists
187 RP173728	No mapped Regional Ecosystem			Vegetation mass is not adequate to constitute a threat
201 RP173727	12.11.24 (12.11.5a)	9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	Threat vegetation is more than 100m from the subject site
202 RP173727	12.11.24 (12.11.5a)	9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	Threat vegetation is more than 100m from the subject site
203 RP173727	12.11.24 (12.11.5a)	9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	Threat vegetation is more than 100m from the subject site

1.15. Fire History

There is no evidence of a recent fire event.

1.16. Location of Access Tracks

The site is served by a sealed road system.

1.17. Location of Fire Breaks

There are no formal firebreaks. Managed and Low threat vegetation combined with a sealed road system forms effective fire breaks more than 100m wide in all directions.

1.18. Location of existing firefighting Infrastructure

There is no formal firefighting infrastructure to the Courtney Drive sites, whilst the sites fronting Baileys Mountain Road and Reserve Road are Vegetation mass is not adequate to constitute a threat served by a reticulated water supply.

1.19. Historical and Cultural Sites

There is no evidence of Historical and Cultural sites on the property.

1.20. Koala Habitat

The site is in a Koala Habitat area and there are specific requirements in relation to bushfire management.

2. SITE AND HAZARD ASSESSMENT

2.1. Discussion with Responsible Fire Authority

The fires management report has not been discussed with the Fire Brigade.

2.2. Vegetation Types

The vegetation type predominate to this site are as scheduled in section 1.14.

2.3. Potential Bushfire Hazard Rating.

Site inspection and assessment against the State Planning Policy indicates a rating of LOW across the whole of the undeveloped site- see Section 1.14.

2.4. Building Construction

All proposed building envelopes are not in a Designated Risk Area when calculated in accordance with the SPP.

Construction is not required to be in accordance with Australian Standard AS 3959 2018 Construction of Buildings in Bush Fire-Prone Areas as the site is not in a Designated Bushfire Prone Area .

Building Class requirements AS 3959

2.4.1.	FDI	40
2.4.2.	Vegetation Classification	B
2.4.3.	Land slope	Downslope >5 to 10 degrees

Distance of building from Predominate vegetation class (m) (Vegetation Management Zone)	Primary Bushfire Attack Level
100-	BAL-LOW

Note:

The levels shown above are based on Method 1 of the AS 3959.

Construction Levels are shown as part of a comprehensive Bushfire Management Plan.

They are provided for the end user of the land and its eventual occupants.

THEY ARE NOT PROVIDED FOR ASSESSMENT BY THE LOCAL AUTHORITY, IN ACCORDANCE WITH THE PLANNING ACT 2016, THE STATE PLANNING POLICY, AND THE BUILDING ACT 1975.

The Planning Act 2016 Section 8 What are Planning Instruments (5) and (6) state;

- (5) A local planning instrument must not include provisions about building work, to the extent the building work is regulated under the building assessment provisions, unless permitted under the Building Act.
- (6) To the extent a local planning instrument does not comply with subsection (5), the local planning instrument has no effect.

The Building Act 1975, Section 31 states;

“(4) A local law, local planning instrument or local government resolution must not include provisions about building work, to the extent the building work is regulated under a code under subsection (3).

(5) To the extent a local law, local planning instrument or local government resolution does not comply with subsection (4), the local law; local planning instrument or local government resolution is of no effect.

(6) Subsections (3) to (5) are subject to sections 32 and 33.”

2.5. Ecological Requirements

The site is in a Koala Habitat Area and there is specific restriction in relation to vegetation management.

Note;

The Category of Bushfire Attack referred to in the Australian Standard is different to the Hazard/Risk area referred to above.

Extensive modification of the existing vegetation types including that on adjoining sites could result in a change of Category of Bushfire Attack and therefore variation in the Level of construction required.

It is the responsibility of the owner of each individual site to ensure that plantings after their occupation of the site do not reduce the safety of their buildings in a manner, which could require a higher level of Construction than that originally utilised.

3. RISK MANAGEMENT PLAN

3.1. Agencies / Persons Responsible

The responsible Fire Authority is the Queensland Fire Department being responsible for all Fires. It is the responsibility of the Developers and Owners of the properties to ensure that the relevant measures required by this Management Report are in place prior to inspection by the Council and the Building Certifier and to ensure that those measures are in place prior to the occupation of any buildings, which are the subject of this report. It is the responsibility of Council and Building Certifiers to ensure that relevant measures within their responsibility are in place prior to the issuance of any certification.

3.2. Bushfire Safety Objective

The objective of this report is to minimise potential risk to life and property by protecting the buildings from the effects of bushfire.

3.3. Aims

The aims to achieve this objective are to mitigate the effect of the bushfire attack mechanisms of: -

- 3.3.1. Radiant Heat
- 3.3.2. Direct Flame Contact
- 3.3.3. Wind
- 3.3.4. Ember Attack
- 3.3.5. Smoke

3.4. Functional Requirements

The functional requirements to achieve this objective are: -

- 3.4.1. The provision of safe conditions for fire fighters
- 3.4.2. The provision of safe conditions for residents
- 3.4.3. Ensure adequate and safe access to and from the property.
- 3.4.4. Ensure adequate and safe water supply to the property and the establishment of firefighting water reserves.
- 3.4.5. Provide a system of fire breaks and trails to protect the building component.
- 3.4.6. Remove vegetation that is considered dangerous and a hazard in Fire Conditions
- 3.4.7. To ascertain the required standard of construction of the buildings in accordance with the requirements of the National Construction Code and the Australian Standard for Construction in Bushfire Prone Areas or the provision of a satisfactory alternative solution
- 3.4.8. Facilitate the return to "normalcy "

3.5. Proposed Fire Fighting Infrastructure

- 3.5.1. The proposed buildings are to be served by a reliable reticulated water supply. This is to always have sufficient flow and pressure characteristics for fire-fighting purposes with a minimum pressure of 200kpa and a minimum flow rate of 10l per second in accordance with "Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots" published by QFES and Qld Government.

3.6. Street Numbering

Numbering is to be installed in accordance with the current Street Numbering System at time of completion of building.

3.7. Less Flammable Landscaping

Any new landscaping within the Development area is to be Less Flammable, in accordance with the list enclosed as an Appendix at the rear of this Report, rainforest species, or cultivated gardens, and comply with the requirements of "Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest" Natural Hazards , Risk and Resilience-Bushfire" published by QFES and Queensland Government, and "Natural hazards, risk and resilience-Bushfire-Assessment Benchmark 5" which cite a maximum Fuel Load of 8t/ha for revegetation or rehabilitation within bushfire prone areas.

"Bushfire Resilient Building Guidance for Queensland Homes" published by Qld State Government provides a schedule of species in Appendix E.

<https://www.gra.qld.gov.au/bushfireguideline>

REHABILITATION IS TO BE 90% RE 12.3.1 & 10% RE 12.3.11 TO ENSURE THAT THERE ARE NO ADVERSE IMPACTS ON ADJOINING ESTABLISHED DEVELOPMENT BASED ON THE EXISTING LOW HAZARD STATUS OF THIS SITE.

REGIONAL ECOSYSTEM	VHC	VHC DESCRIPTION	SURFACE FUEL LOAD	TOTAL FUEL LOAD	% COVER	EFFECTIVE SURFACE FUEL LOAD	EFFECTIVE FUEL LOAD
12.3.1	4.1	Notophyll and notophyll palm or vine forest	4.5	4.5	90	5.05	5.05
12.3.11	16.1	Eucalyptus dominated forest on drainage lines and alluvial plains	10	16	10	1	1.6
TOTAL FUEL LOAD						6.05	6.65

RE 12.3.11 is to be planted in narrow paths to facilitate Koala movement whilst preventing domination of RE 12.3.1.

Note that proposed Lots 645 & 646 will not require specific bushfire mitigation requirements providing the above planting pallet is adhered to including on the Council Reserve to the North West.

3.8. Insurance

Failure to comply with this management report may have a detrimental effect upon the Insurance of the subject Buildings.

3.9. Emergency Response Procedures

In the event of Fire Emergency, assistance is to be obtained by dialling 000.

- 3.9.1. The owner should read thoroughly the brochures contained and those recommended at the rear of this report. They contain valuable information that could assist in the saving of lives and property in a fire event!

3.9.2.

3.10. Community Awareness Strategies

- 3.10.1. Each subsequent owner is to be provided with a copy of this Fire Management report with an alert placed on either Title or Council Rate searches that the Report is in existence and is to be made available to ensuing owners.

3.11. Administering Staff

It is the responsibility of the developers and owners to ensure compliance with this Report and the Town Plan, and to ensure that each of the new owners is provided with a copy of this report.

It is the responsibility of the Council and the Building Certifier to ensure that the relevant measures required by this management report are in place prior to the final completion stage inspection of any buildings on any sites which are the subject of this report as noted in Clause 3.1 of this report.

It is the responsibility of the ensuing owners of the properties to maintain the properties in the conditions outlined in this report.

4. FIRE MANAGEMENT ACTION SUMMARY AND SCHEDULE

DEVELOPMENT REQUIREMENTS	BUILDING REQUIREMENTS	MAINTENANCE
	Buildings not required to comply with the National Construction Code/Building Code of Australia.	Rehabilitation and revegetation as required in Section 3.7. Building materials are to be maintained in "as new "condition to preserve the integrity of the relevant materials.

5. APPENDICES

- 5.1. Form 15
- 5.2. Site Plans
- 5.3. Supporting Information:

Note. These items below are referenced for information purposes only and are not to be construed as being part of the management report.

This information is generic and not provided for approval purposes.

It is only provided for end user knowledge and only included within the report hardcopy.

- 5.3.1. Planning Regulation Fact Sheet December 2019
- 5.3.2. Prepare. Act. Survive
- 5.3.3. Rural property Fire Management Guide 2010
- 5.3.4. Notes for Landholders
- 5.3.5. Bushfire Action Guide
- 5.3.6. Bushfire Safety in Urban Fringe Areas
- 5.3.7. Water + Power -Vital for Fire fighting
- 5.3.8. Less Flammable Vegetation
- 5.3.9. Fire Retardant Native Plants
- 5.3.10. Tree selection for Fire-Prone Areas
- 5.3.11. Bushfire Resilient Building Guidance for Queensland Homes Appendix E
- 5.3.12. First Draft (specifying timber in bush fire zones)
- 5.3.13. External water spray system
- 5.3.14. Fire Retardant Coating Solutions
- 5.3.15. Archicentre Bushfire Design Guide
- 5.3.16. Section 3.8 Sign Types - Fire Trail Signage of the GCCC Natural Areas Management Unit Signage Guidelines
(Page 16)
- 5.3.17. Trail Number and Key Point signage
- 5.3.18. Bushfire Hydrant detail
- 5.3.19. Tank detail
- 5.3.20. Recycled Water for Firefighting
- 5.3.21. Sample Easement Document
- 5.3.22. Bushfire Windows and Shutters
- 5.3.23. A guide to retrofit your home for better protection from a bushfire.
- 5.3.24. FireFly BAL-FZ System
- 5.3.25. Bushfire Planning and Design Certification Scheme Update
- 5.3.26. Eaves Water System
- 5.3.27. Aussi Ember Guard
- 5.3.28. The Australian "False Alarm: the great rainforest fire that wasn't".
- 5.3.29. Hijacking Australian 2019 Bushfire Tragedies to Fearmonger Climate Change
- 5.3.30. Bushfires have been in Australia for over 60 million years.

We also recommend that the landholder obtains and reads the following;

- 5.3.31. Bushfire Hazard Planning in Queensland
- 5.3.32. Protecting your home against Bushfire
Both available from the Dept. of Local Government and Planning, and
- 5.3.33. Fire in Bushland Conservation
Available from Queensland Heritage Trust.
- 5.3.34. Bushfire Resilient Building Guidance for Queensland Homes
<https://www.qra.qld.gov.au/bushfireguideline>

Signed

E J Bottcher

.....
Eldon Bottcher
Grad. Dip. DBPA (UWS) Dip. Arch. (QIT), Cert. R.F.M. (USQ), F.R.A.I.A., M.A.I.E.S. AIFireE
Architect
BPAD-L3 Practitioner



APPENDIX 5.1
FORM 15

Form 15**Compliance certificate for
building design or specification**

This form is to be used by an appointed competent person for the purposes of section 10 of the *Building Act 1975* and sections 73 and 77 of the Building Regulation 2021 (Design-specification certificate) stating that an aspect of building work or specification will, if installed or carried out as stated in this form, comply with the building assessment provisions.

Additional explanatory information is included in the Appendix at the end of this form.

1. Property description This section need only be completed if details of street address and property description are applicable. E.g., in the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable. The description must identify all land the subject of the application. The lot and plan details (e.g., SP/RP) are shown on title documents or rates notice. If the plan is not registered by title, provide previous lot and plan details.	Street address <i>(include no., street, suburb/locality, and postcode)</i> 31-53 Courtney Drive, 176 Baileys Mountain Road, 288 Reserve Road Upper State QLD Postcode Lot and plan details <i>(attach list if necessary)</i> Lot 183 on RP156422, Lot 57 on SP214370, Lot 56 on RP205578, Lot 186 on RP173728 and Lots 184 & 185 on RP173727 Local government area the land is situated in. Gold Coast City Council
2. Description of aspect/s certified Clearly describe the extent of work covered by this certificate, e.g., all structural aspects of the steel roof beam.	Work as required for bushfire mitigation purposes as set out in the Bushfire Management Report FM 6789-4 prepared by Eldon Bottcher Architect Pty Ltd including assessment of Construction Levels assessed under AS 3959 and nominated in Section 2.4 of the report as BAL Low.
3. Basis of certification Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications were relied upon.	Compliance with the Bushfire Management Report FM 6789-4 prepared by Eldon Bottcher Architect Pty Ltd No certification of components covered by The Building Act 1975, The building Code of Australia or AS 3959. Gold Coast City Council Town Plan Bushfire Management Constraint code.
4. Reference documentation Clearly identify any relevant documentation, e.g., numbered structural engineering plans.	Bushfire Mitigation Report FM 6789-4

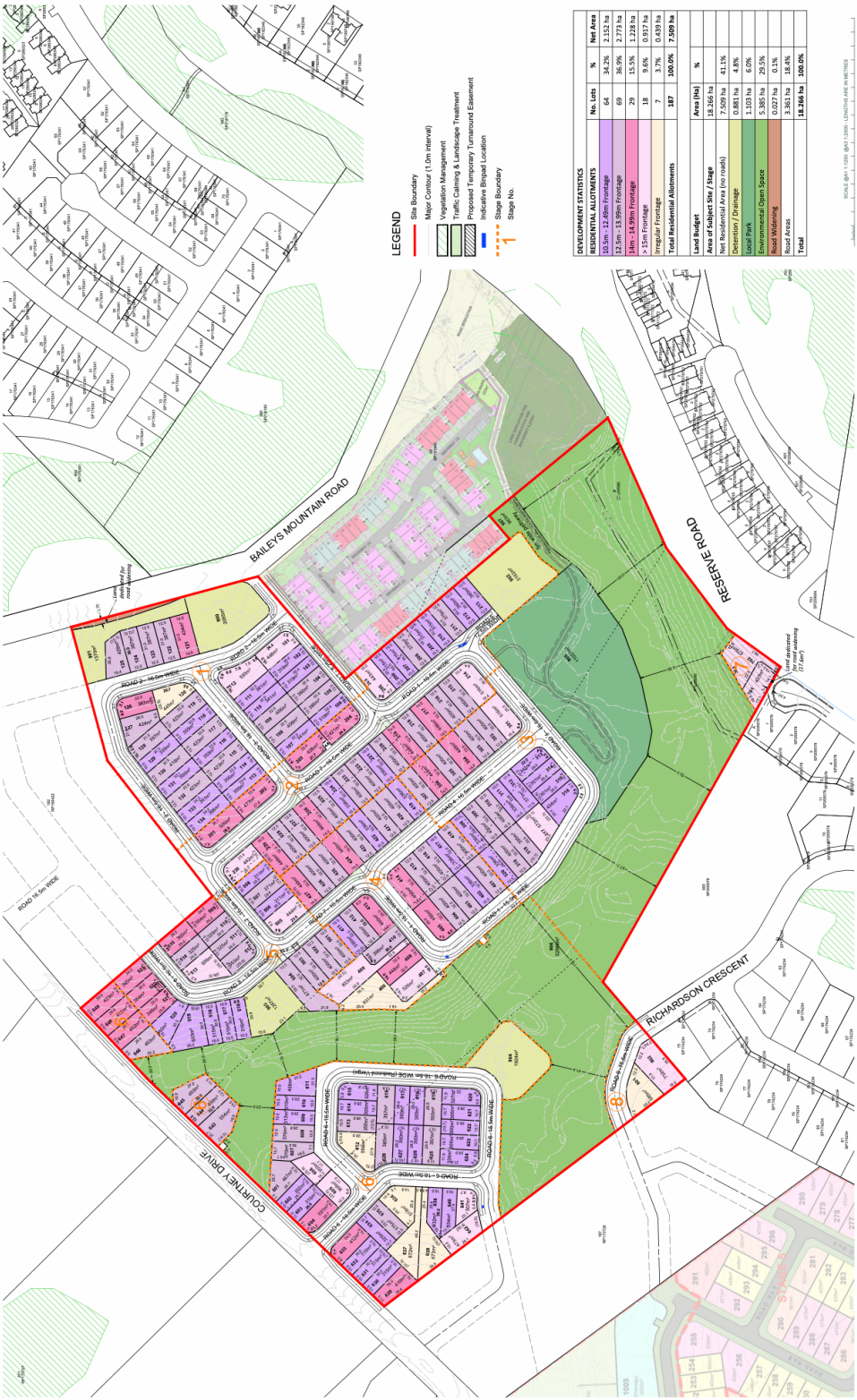
5. Building certifier reference number and building development application number	Building certifier reference number Building development application number <i>(if available)</i> Not Available																	
6. Appointed Competent person details. Under Part 6 of the Building Regulation a person must be assessed as a competent for the type of work (design - specification) by the relevant building certifier.	<table border="0"> <tr> <td colspan="2">Name <i>(in full)</i> Eldon John Bottcher</td> </tr> <tr> <td>Company name <i>(if applicable)</i> Eldon Bottcher Architect Pty Ltd</td> <td>Contact person Eldon Bottcher</td> </tr> <tr> <td>Business phone number 07 55920082</td> <td>Mobile number 0412434134</td> </tr> <tr> <td colspan="2">Email address. bushfires@eb-a.com.au</td> </tr> <tr> <td colspan="2">Postal address P.O. Box 3606 Robina Town Centre</td> </tr> <tr> <td></td> <td>Postcode 4230</td> </tr> <tr> <td colspan="2">Licence Class or registration type <i>(if applicable)</i> </td> </tr> <tr> <td colspan="2">Licence or registration number <i>(if applicable)</i> Reg Architect Qld 1325 FPA Australia BPAD Level 3 practitioner 16935</td> </tr> </table>		Name <i>(in full)</i> Eldon John Bottcher		Company name <i>(if applicable)</i> Eldon Bottcher Architect Pty Ltd	Contact person Eldon Bottcher	Business phone number 07 55920082	Mobile number 0412434134	Email address. bushfires@eb-a.com.au		Postal address P.O. Box 3606 Robina Town Centre			Postcode 4230	Licence Class or registration type <i>(if applicable)</i> 		Licence or registration number <i>(if applicable)</i> Reg Architect Qld 1325 FPA Australia BPAD Level 3 practitioner 16935	
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Email address. bushfires@eb-a.com.au																		
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	Postcode 4230																	
Licence Class or registration type <i>(if applicable)</i> 																		
Licence or registration number <i>(if applicable)</i> Reg Architect Qld 1325 FPA Australia BPAD Level 3 practitioner 16935																		
7. Signature of appointed competent person This certificate must be signed by the individual assessed and appointed by the building certifier as competent to give design-specification help.	<table border="0"> <tr> <td>Signature</td> <td>Date</td> </tr> <tr> <td><i>E J Bottcher</i></td> <td>11 November 25</td> </tr> <tr> <td colspan="2">.....</td> </tr> </table>		Signature	Date	<i>E J Bottcher</i>	11 November 25												
Signature	Date																	
<i>E J Bottcher</i>	11 November 25																	
.....																		

LOCAL GOVERNMENT USE ONLY

Date received		Reference Number/s	
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**APPENDIX 5.2
SITE PLANS**

PROPOSAL PLAN





Saunders Hayill
1200 123 744 | saundershayill.com

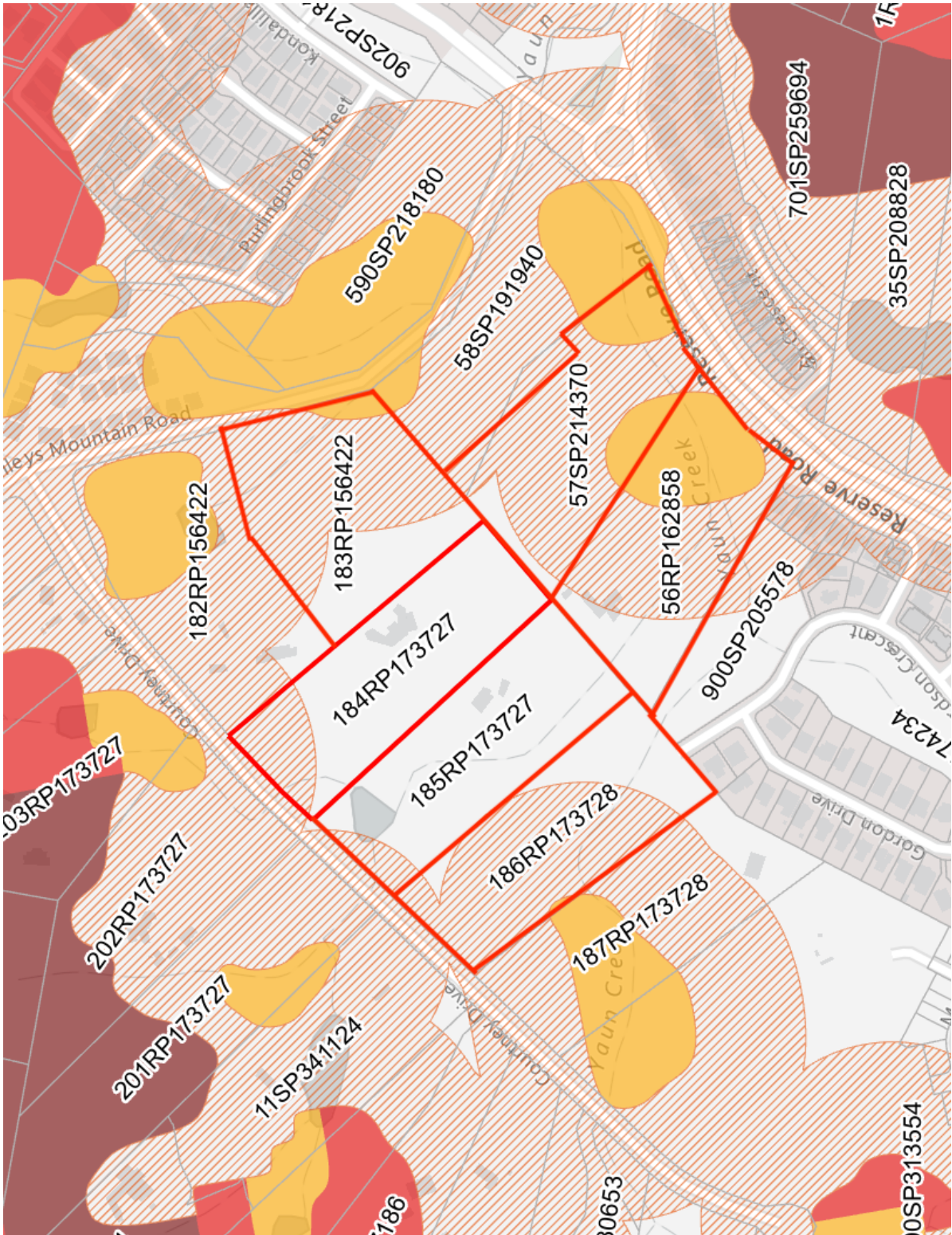
DISCLAIMER
THIS REPORT IS A CONCEPTUAL LAYOUT ONLY. IT IS NOT BEARABLE FOR ANY OTHER PURPOSE. PROPERTY OWNERS, ARCHITECTS, ENGINEERS, AND OTHERS ARE ADVISED THAT THIS REPORT IS FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT constitute a contract. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE.

CLIENT
NORFOLK ESTATES PTY LTD
ATF SOLANDER INVESTMENT UNIT TRUST

SITE ADDRESS
41 - 53 COURTNEY DRIVE,
UPPER COOMERA

DATE
04/11/2025

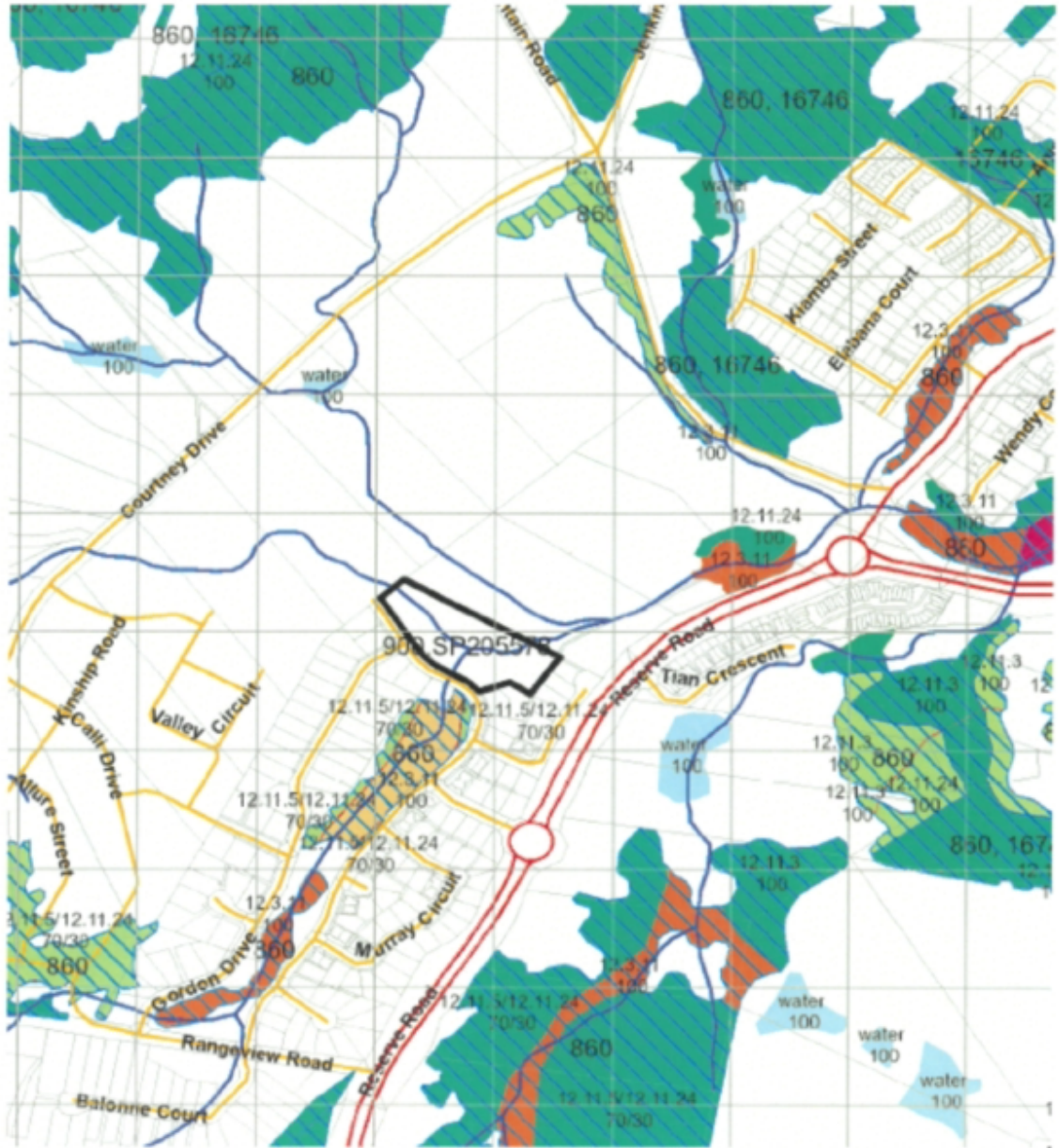
PROJECT NO.
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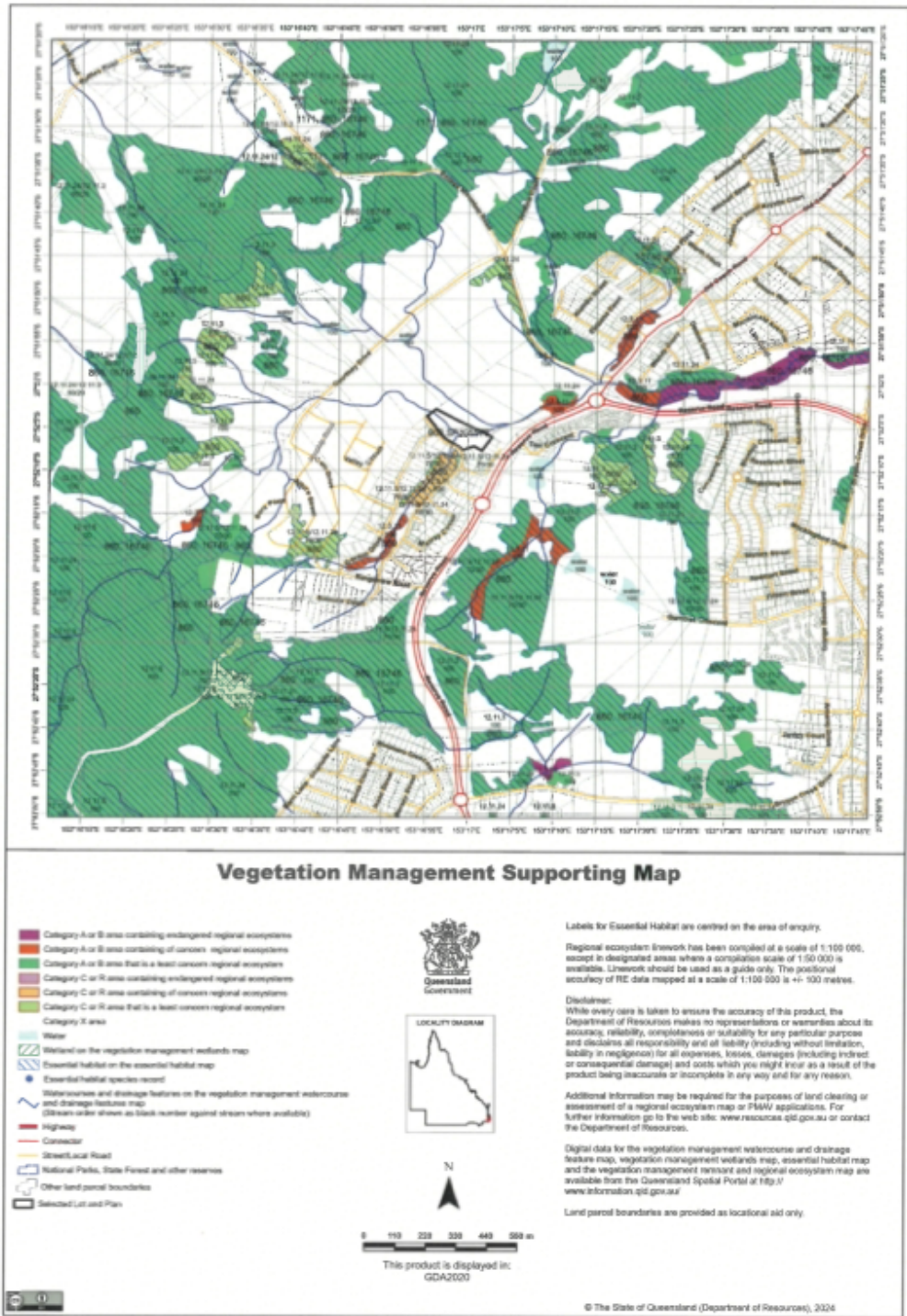
**APPENDIX 5.3
SUPPORTING INFORMATION**





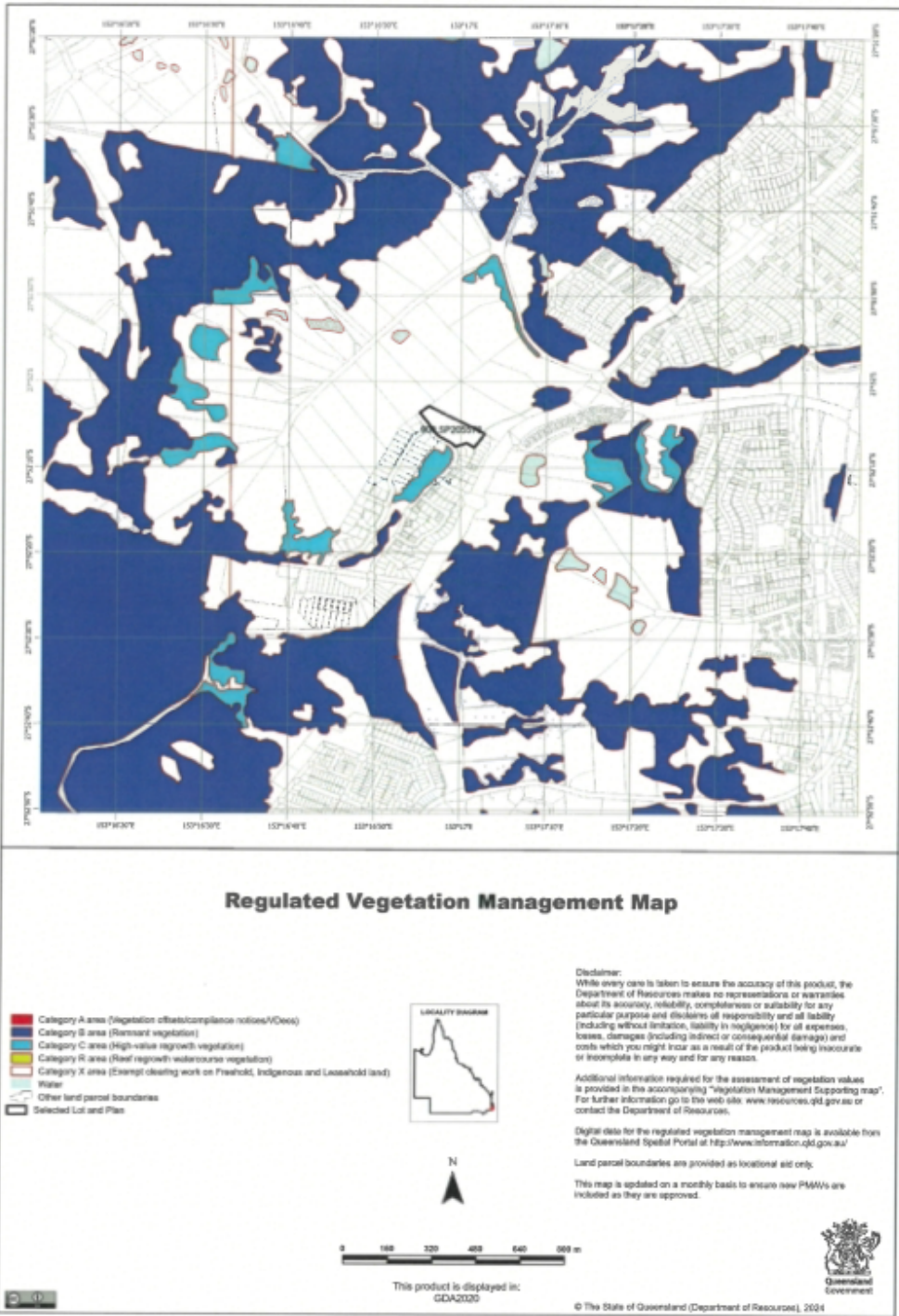
Lot: 900 Plan: SP205578

23/07/2024 18:08:55



Lot: 900 Plan: SP205578

23/07/2024 18:08:55



QFES / PSBA Regional Ecosystem Types to Vegetation Hazard Class Table

30 Sep 2014

REB	REB_Label	VHC	VHC_DESC
12.2.14b	Casuarina equisetifolia subsp. incana woodland to low open forest with mid-dense shrub of Argusia argentea/ Scaevola taccada on exposed frontal areas	28.1	28.1 Open forests in coastal locations with species such as she-oak or swamp box
12.2.14c	Casuarina equisetifolia subsp. incana open forest with Pandanus tectorius subcanopy	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.14d	Sporobolus virginicus closed tussock grassland in exposed frontal areas	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.14e	Spinifex sericeus open hummock grassland on exposed frontal areas	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.14f	*Cakile edentula herbland on exposed frontal areas.	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.14g	Very sparse herbland, mainly sand	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.14h	Shingle shores with sparse vegetation	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.14i	Seashore mixed herbland	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.15	Gahnia sieberiana, Empodisma minus, Gleichenia spp. closed sedgeland in coastal swamps	34.5	34.5 Sedgeland dominated wetlands
12.2.15a	Permanent and semi-permanent window lakes	34.6	34.6 Sparsely vegetated wetlands
12.2.15b	Lepironia articulata closed sedgeland	34.5	34.5 Sedgeland dominated wetlands
12.2.15c	Cladium procerum closed sedgeland	34.5	34.5 Sedgeland dominated wetlands
12.2.15d	Baumea rubiginosa closed sedgeland, with Cyclosorus interruptus and Blechnum indicum	34.5	34.5 Sedgeland dominated wetlands
12.2.15e	Leersia hexandra closed grassland	34.4	34.4 Grass dominated wetlands
12.2.15f	Permanent and semi-permanent perched lakes	34.6	34.6 Sparsely vegetated wetlands
12.2.15g	Swamps dominated by Empodisma minus, Gahnia sieberiana, other sedges and forbs and shrubs such as Leptospermum diversidigei	34.5	34.5 Sedgeland dominated wetlands
12.2.16	Sand blows largely devoid of vegetation	28.6	28.6 Sparsely vegetated areas associated with woodlands in coastal locations.
12.2.17	Mixed closed tussock grassland to closed herbland on coral, shingle and sand cays	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.17a	Mixed tussock grassland to herbland on coral, shingle and sand cays	28.4	28.4 Grassland associated with woodlands in coastal locations
12.2.17b	Sesuvium portulacastrum herbland on coral, shingle and sand cays	34.5	34.5 Sedgeland dominated wetlands
12.2.17c	Ephemeral wetlands of coral, shingle and sand cays	34.5	34.5 Sedgeland dominated wetlands
12.2.18	Abutilon albescens ± Wollastonia biflora low shrubland. Restricted to coral, shingle and sand cays	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.18a	Wollastonia biflora ± Abutilon albescens ± Plumbago zeylanica herbland. Restricted to coral, shingle and sand cays	28.5	28.5 Sedgeland associated with woodlands in coastal locations
12.2.18b	Plumbago zeylanica / Canavalia rosea / Lepturus repens herbland. Restricted to coral, shingle and sand cays	28.5	28.5 Sedgeland associated with woodlands in coastal locations
12.2.18c	Abutilon albescens shrubland. Restricted to coral, shingle and sand cays.	28.5	28.5 Sedgeland associated with woodlands in coastal locations
12.2.19	Argusia argentea low woodland. Restricted to coral, shingle and sand cays	28.2	28.2 Woodlands in coastal locations with species such as she-oak or swamp box
12.2.19a	Argusia argentea, Scaevola taccada open scrub. Restricted to coral, shingle and sand cays	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.19b	Argusia argentea open scrub to closed scrub with Casuarina equisetifolia subsp. incana emergents. Restricted to coral, shingle and sand cays	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.19c	Suriana maritima open to closed scrub. Restricted to coral, shingle and sand cays.	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.19d	Scaevola taccada open to closed scrub. Restricted to coral, shingle and sand cays	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.19e	Suriana maritima open to closed scrub. Restricted to coral, shingle and sand cays	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.1a	Archontophoenix cunninghamiana, Livistona australis, Melicope elleryana closed forest	4.1	4.1 Notophyll and notophyll palm or vine forest
12.2.2	Microphyll/notophyll vine forest on beach ridges	3.1	3.1 Notophyll vine forest
12.2.20	Pandanus tectorius open woodland ± Celtis paniculata and Pisonia grandis. Restricted to established cays	28.2	28.2 Woodlands in coastal locations with species such as she-oak or swamp box
12.2.20a	Pandanus tectorius low open forest to closed forest. Restricted to established cays	28.3	28.3 Shrubland associated with woodlands in coastal location
12.2.20b	Celtis paniculata woodland ± Pisonia grandis ± Pandanus tectorius. Restricted to established cays	28.2	28.2 Woodlands in coastal locations with species such as she-oak or swamp box
12.2.21	Pisonia grandis low closed forest. Restricted to established cays	3.1	3.1 Notophyll vine forest
12.2.21a	Pisonia grandis low open forest to low closed forest, sometimes with Pandanus tectorius and Celtis paniculata. Restricted to established cays	3.1	3.1 Notophyll vine forest
12.2.21b	Pisonia grandis closed forest. Restricted to established cays	3.3	3.3 Notophyll vine thicket
12.2.21c	Ficus spp. open forest. Restricted to established cays	3.1	3.1 Notophyll vine forest
12.2.21d	Ficus spp. shrubland. Restricted to established cays	3.3	3.3 Notophyll vine thicket
12.2.3	Araucarian vine forest on parabolic high dunes	3.1	3.1 Notophyll vine forest
12.2.4	Syncarpia hillii, Lophostemon confertus tall open to closed forest on parabolic high dunes	8.1	8.1 Wet eucalypt tall open forest
12.2.5	Corymbia intermedia ± Lophostemon confertus ± Banksia spp. ± Callitris columellaris open forest on beach ridges usually in southern half of bioregion	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.2.5a	Swales dominated by Melaleuca quinquenervia often Livistona spp.	22.2	22.2 Melaleuca woodlands on seasonally inundated lowland coastal swamps
12.2.6	Eucalyptus racemosa open forest on dunes and sand plains. Usually deeply leached soils	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.2.7	Melaleuca quinquenervia or rarely M. dealbata open forest on sand plains	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.2.7a	Melaleuca quinquenervia low woodland with Gahnia sieberiana ground layer fringing swamps	22.2	22.2 Melaleuca woodlands on seasonally inundated lowland coastal swamps
12.2.7b	Whipstick Melaleuca quinquenervia at the base of frontal dunes	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.2.7c	Melaleuca quinquenervia, Eucalyptus robusta, Melicope elleryana open forest with understorey of Todea barbara along watercourses	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.2.7d	Eucalyptus bancroftii woodland on sand plains	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.2.8	Eucalyptus pilularis open forest on parabolic high dunes	8.1	8.1 Wet eucalypt tall open forest
12.2.9	Banksia aemula low open woodland on dunes and sand plains. Usually deeply leached soils	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.3.1	Gallery rainforest (notophyll vine forest) on alluvial plains	4.1	4.1 Notophyll and notophyll palm or vine forest

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QFES / PSBA Regional Ecosystem Types to Vegetation Hazard Class Table

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RE8	RE8 Label	VHC	VHC DESC
12.3.10	Eucalyptus populnea woodland on alluvial plains	17.2	17.2 Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains
12.3.10a	Acacia harpophylla open forest to woodland on alluvial plains	25.1	25.1 Brigalow-belah open forests on heavy clay soils
12.3.11	Eucalyptus tereticornis ± Eucalyptus siderophloia, Corymbia intermedia open forest on alluvial plains usually near coast	16.1	16.1 Eucalyptus dominated forest on drainage lines and alluvial plains
12.3.11a	Eucalyptus tereticornis and/or E. siderophloia open forest with vine forest understorey on alluvial plains	16.1	16.1 Eucalyptus dominated forest on drainage lines and alluvial plains
12.3.12	Eucalyptus latissinensis or E. exserta, Melaleuca viridiflora var. viridiflora woodland on alluvial plains	21.2	21.2 Melaleuca dry woodlands on sandplains or depositional plains
12.3.13	Closed heathland on seasonally waterlogged alluvial plains usually near coast	29.3	29.3 Heathlands and associated scrubs and shrublands
12.3.14	Banksia aemula low woodland on alluvial plains usually near coast	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.3.14a	Eucalyptus racemosa woodland on alluvial plains near coast	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.3.15	Corymbia intermedia, Syncarpia glomulifera open forest on granite outwash	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.3.2	Eucalyptus grandis tall open forest on alluvial plains	8.1	8.1 Wet eucalypt tall open forest
12.3.2a	Eucalyptus resinifera and Syncarpia glomulifera open forest with a wet heath understorey on alluvial plains	8.1	8.1 Wet eucalypt tall open forest
12.3.3	Eucalyptus tereticornis woodland on Quaternary alluvium	16.2	16.2 Eucalyptus dominated woodland on drainage lines and alluvial plains
12.3.3a	Eucalyptus crebra, Corymbia tessellaris woodland to open forest usually on high level Quaternary alluvium	18.2	18.2 Dry eucalypt woodlands on sand or depositional plains
12.3.3b	Eucalyptus moluccana open forest to woodland with an understorey of Melaleuca irbyana on alluvial plains	13.1	13.1 Dry to moist eucalypt open forests on undulating metamorphics and granite
12.3.3c	Melaleuca irbyana low open forest on alluvial plains	21.1	21.1 Melaleuca dry open forest on sandplains or depositional plains
12.3.3d	Eucalyptus moluccana woodland on Quaternary alluvium	13.2	13.2 Dry to moist eucalypt woodlands on undulating metamorphics and granite
12.3.4	Melaleuca quinquenervia, Eucalyptus robusta woodland on coastal alluvium	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.4a	Eucalyptus bancroftii open woodland on coastal alluvium	22.2	22.2 Melaleuca woodlands on seasonally inundated lowland coastal swamps
12.3.5	Melaleuca quinquenervia open forest on coastal alluvium	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.5a	Melaleuca quinquenervia, Casuarina glauca ± Eucalyptus tereticornis open forest on lowest river terraces	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.6	Melaleuca quinquenervia ± Eucalyptus tereticornis, Lophostemon suaveolens open forest on coastal alluvial plains	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.7	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana ± Melaleuca spp. fringing woodland	16.2	16.2 Eucalyptus dominated woodland on drainage lines and alluvial plains
12.3.7a	Melaleuca bracteata open forest in drainage depressions	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.7b	Naturally occurring waterholes and lagoons in the beds of river channels	16.6	16.6 Sparsely vegetated areas associated with Eucalyptus woodlands on drainage lines
12.3.7c	Billabongs and ox-bow lakes containing either permanent or periodic water bodies	34.5	34.5 Sedgeland dominated wetlands
12.3.7d	Aquatic vegetation usually fringed with Eucalyptus tereticornis in closed depressions on alluvial plains	34.5	34.5 Sedgeland dominated wetlands
12.3.8	Swamps with Cyperus spp., Schoenoplectus spp. and Eleocharis spp.	34.5	34.5 Sedgeland dominated wetlands
12.3.9	Eucalyptus nobilis open forest on alluvial plains	16.1	16.1 Eucalyptus dominated forest on drainage lines and alluvial plains
12.5.1	Open forest complex with Corymbia citriodora subsp. variegata on subcoastal remnant Tertiary surfaces. Usually deep red soils	10.2	10.2 Spotted gum dominated woodlands
12.5.10	Eucalyptus latissinensis and/or Banksia aemula low open woodland on complex of remnant Tertiary surface and Tertiary sedimentary rocks	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.5.11	Syncarpia glomulifera woodland on complex of remnant Tertiary surface and Tertiary sedimentary rocks	8.2	8.2 Wet eucalypt tall woodland
12.5.12	Eucalyptus racemosa, E. latissinensis ± Corymbia gummifera, C. intermedia, E. bancroftii woodland with healthy understorey on remnant Tertiary surfaces	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.5.13	Microphyll to notophyll vine forest ± Araucaria cunninghamii on remnant Tertiary surfaces	5.1	5.1 Notophyll to microphyll vine forests
12.5.13a	Microphyll to notophyll vine forest ± Araucaria cunninghamii on remnant Tertiary surfaces	5.1	5.1 Notophyll to microphyll vine forests
12.5.13b	Microphyll to notophyll vine forest on coastal remnant Tertiary surfaces	5.1	5.1 Notophyll to microphyll vine forests
12.5.13c	Semi-evergreen vine thicket with Brachychiton rupestris on remnant Tertiary surfaces (land zone 5)	7.1	7.1 Semi-evergreen to deciduous microphyll vine forest
12.5.1a	Eucalyptus decorticans open forest on remnant Tertiary surfaces	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.5.1b	Eucalyptus cloeziana open forest ± E. microcorys and Corymbia intermedia on remnant Tertiary surfaces	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.5.1c	Eucalyptus helidonica open forest on remnant Tertiary surfaces in the Helidon hills region	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.1d	Eucalyptus dura, E. acmenoides and Corymbia intermedia woodland on remnant Tertiary surfaces	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils
12.5.1e	Eucalyptus crebra and Angophora leiocarpa woodland on remnant Tertiary surfaces	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.1f	Eucalyptus sideroxylon, E. melanoleuca and E. moluccana open forest on remnant Tertiary surfaces	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.5.2	Corymbia intermedia, Eucalyptus tereticornis open forest on remnant Tertiary surfaces, usually near coast. Usually deep red soils	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.2a	Corymbia intermedia, Eucalyptus tereticornis woodland on remnant Tertiary surfaces, usually in coastal areas with deep red soils	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.2b	Eucalyptus tereticornis ± Corymbia intermedia open forest on sub-coastal remnant Tertiary surfaces usually with deep red soils	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.2x1	Melaleuca irbyana low open forest on remnant Tertiary surfaces	21.1	21.1 Melaleuca dry open forest on sandplains or depositional plains
12.5.3	Eucalyptus racemosa woodland on remnant Tertiary surfaces	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.3a	Corymbia intermedia, Eucalyptus seaiana ± E. racemosa, Angophora leiocarpa open woodland on remnant Tertiary surfaces occurring mainly to the south of Brisbane	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges

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State-wide Bushfire Prone Area Mapping

Vegetation Hazard Class Descriptions and Fuel Characteristics – Jan 2017

Vegetation Hazard Class		Potential Fuel Load (t/ha)						Prone Type ¹		Fuel Continuity ²	
		Surface	Near Surface	Elevated	Bark	Total (Remnant)	Total (Non-Remnant)	Remnant	Non-Remnant	Remnant	Non-Remnant
1.1	Complex mesophyll to notophyll vine forests	2.6	0.0	0.0	0.0	2.6	12.0	3	1	2	1
2.1	Complex to simple, semi-deciduous mesophyll to notophyll vine forest	3.5	0.0	0.0	0.0	3.5	12.0	3	1	2	1
3.1	Notophyll vine forest	4.5	0.0	0.0	0.0	4.5	12.0	3	1	2	1
3.3	Notophyll vine thicket	4.4	0.0	0.0	0.0	4.4	12.0	3	1	2	1
4.1	Notophyll and notophyll palm or vine forest	4.5	0.0	0.0	0.0	4.5	12.0	3	1	2	1
5.1	Notophyll to microphyll vine forests	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
5.2	Notophyll to microphyll vine forest with sparse overstorey	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
5.5	Sedgeland within Notophyll to microphyll vine forests	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
6.1	Montane Notophyll vine forest and microphyll fern forest	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
6.3	Montane Notophyll vine thicket and microphyll fern thicket	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
7.1	Semi-evergreen to deciduous microphyll vine forest	6.0	0.0	0.0	0.0	6.0	12.0	3	1	2	1
7.2	Sparse semi-evergreen to deciduous microphyll vine forest	6.0	0.0	0.0	0.0	6.0	12.0	3	1	2	1
8.1	Wet eucalypt tall open forest	28.0	3.0	2.0	2.0	35.0	35.0	1	1	1	1
8.2	Wet eucalypt tall woodland	18.0	3.1	1.7	1.0	23.8	23.8	1	1	1	1
9.1	Moist to dry eucalypt open forests on coastal lowlands and ranges	17.5	3.5	2.2	1.0	24.2	24.2	1	1	1	1
9.2	Moist to dry eucalypt woodland on coastal lowlands and ranges	11.4	3.5	1.3	1.0	17.2	17.2	1	1	1	
9.3	Shrubland within moist to dry eucalypt on coastal lowlands and ranges	7.8	3.0	1.9	0.0	12.7	12.7	1	1	1	1
10.1	Spotted gum dominated open forests	16.3	3.0	1.5	0.0	20.8	20.8	1	1	1	1
10.2	Spotted gum dominated woodlands	14.0	3.0	1.0	0.0	18.0	18.0	1	1	1	1
11.2	Moist to dry eucalypt woodlands on basalt areas	7.5	4.0	0.5	1.0	13.0	13.0	1	1	1	1
12.1	Dry eucalypt open forest on sandstone and shallow soils	15.0	3.5	1.5	1.0	21.0	21.0	1	1	1	1

¹ Prone Type: 1 = Bushfire Prone, 2 = Grass Fire Prone, 3 = Low Hazard

² Fuel Continuity: 1 = Continuous, 2 = Discontinuous

Vegetation Hazard Class	Potential Fuel Load (t/ha)						Prone Type ¹		Fuel Continuity ²	
	Surface	Near Surface	Elevated	Bark	Total (Remnant)	Total (Non-Remnant)	Remnant	Non-Remnant	Remnant	Non-Remnant
12.2 Dry eucalypt woodlands on sandstone and shallow soils	12.0	2.6	1.8	1.0	17.4	17.4	1	1	1	1
13.1 Dry to moist eucalypt open forests on undulating metamorphics and granite	15.9	3.5	1.4	1.0	21.8	21.8	1	1	1	1
13.2 Dry to moist eucalypt woodlands on undulating metamorphics and granite	9.4	3.4	0.6	1.0	14.4	14.4	1	1	1	1
13.3 Shrubland associated with dry to moist eucalypt woodlands on undulating terrain	4.3	2.3	0.9	0.0	7.5	7.5	1	1	1	1
14.1 Open forest dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum	22.3	1.4	2.1	2.0	27.8	27.8	1	1	1	1
14.2 Woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum	8.4	2.4	0.8	1.0	12.6	12.6	1	1	1	1
14.3 Shrubland associated with woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum	1.1	3.4	3.3	1.0	8.8	8.8	1	1	1	1
14.6 Sparsely vegetated areas associated with Darwin stringybark, Melville Island bloodwood or scarlet gum	0.0	0.3	1.3	0.0	1.6	1.6	3	3	2	2
15.1 Temperate open eucalypt forests	23.7	0.3	1.8	1.0	26.8	26.8	1	1	1	1
15.2 Temperate eucalypt woodlands	10.2	1.8	1.8	0.0	13.8	13.8	1	1	1	1
16.1 Eucalyptus dominated forest on drainage lines and alluvial plains	10.0	3.8	1.2	1.0	16.0	16.0	1	1	1	1
16.2 Eucalyptus dominated woodland on drainage lines and alluvial plains	7.5	3.6	0.5	0.0	11.6	11.6	1	1	1	1
16.3 Shrubland associated with Eucalyptus woodlands on drainage lines	5.8	2.7	0.1	0.0	8.6	8.6	1	1	1	1
16.4 Grassland associated with Eucalyptus dominated woodlands on drainage lines	0.3	2.1	0.1	0.0	2.5	2.5	2	2	1	1
16.5 Sedgeland associated with Eucalyptus woodlands on drainage lines*	3.9	5.0	3.5	0.0	12.4	12.4	1	1	1	1
16.6 Sparsely vegetated areas associated with Eucalyptus woodlands on drainage lines	1.2	2.0	0.0	0.0	3.2	3.2	3	3	2	2
17.1 Dry open forests dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains	10.6	4.1	0.3	0.0	15.0	15.0	1	1	1	1
17.2 Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains	6.0	3.0	0.6	0.0	9.6	9.6	1	1	1	1
18.1 Dry eucalypt open forests on sand or depositional plains	10.8	3.4	0.6	0.0	14.8	14.8	1	1	1	1
18.2 Dry eucalypt woodlands on sand or depositional plains	7.1	3.3	0.6	0.0	11.0	11.0	1	1	1	1
18.5 Sedgeland associated with dry eucalypt woodlands on sand or depositional plains	3.9	3.4	3.5	0.0	10.8	10.8	1	1	1	1
19.2 Low open eucalyptus woodlands dominated by snappy gum, Cloncurry Box or Normanton box	4.3	3.0	0.8	1.0	9.1	9.1	1	1	1	1



Regional ecosystem details for 12.3.1

Regional ecosystem	12.3.1
Vegetation Management Act class	Endangered
Wetlands	Riverine
Biodiversity status	Endangered
Subregion	7, 4, 3, 9, (1), (2), (11.14), (11.18)
Estimated extent ¹	Pre-clearing 16000 ha; Remnant 2021 5000 ha
Short description	Gallery rainforest (notophyll vine forest) on alluvial plains
Structure code	Closed Forest
Description	Complex to simple notophyll vine forest. Waterhousea floribunda is predominant fringing stream channels. Other species can include Cryptocarya hypospodia, C. obovata, C. triplinervis, Argyrodendron trifoliolatum, Ficus coronata, F. fraseri, F. macrophylla forma macrophylla, Aphananthe philippinensis, Elaeocarpus grandis, Grevillea robusta, Castanospermum australe and Syzygium francisii. Ficus racemosa and Nauclea orientalis in north of bioregion. Eucalyptus spp. emergents (e.g. E. grandis) and Araucaria cunninghamii; less commonly Agathis robusta may also be present. Occurs on Quaternary alluvial plains and channels. Riverine. (BVG1M: 4b). Vegetation communities in this regional ecosystem include: 12.3.1a: Complex notophyll vine forest. Typical canopy species include Castanospermum australe, Elaeocarpus grandis, Grevillea robusta, Cryptocarya obovata, Beilschmiedia obtusifolia, Dysoxylum mollissimum subsp. molle, Pseudoweinmannia lachnocarpa, Argyrodendron trifoliolatum, Planchonella australis, Ficus watkinsiana, F. macrophylla forma macrophylla, Aphananthe philippinensis, Toona ciliata and Syzygium francisii. Emergent Eucalyptus grandis or Lophostemon confertus may occur. Waterhousea floribunda and Tristaniopsis laurina may occur on banks of stream channels. Typical sub canopy species include Cryptocarya triplinervis, Archontophoenix cunninghamiana, Endiandra pubens, Arytera divaricata, Syzygium moorei and Macadamia spp. Occurs on Quaternary alluvial plains and channels in areas of high rainfall (generally >1300mm). Riverine. (BVG1M: 4b).

Supplementary description Ryan, T.S. (ed.) (2012); Bean et al. (1998), E1, E3-5

Protected areas Tewantin NP, Conondale NP, Great Sandy NP, Lamington NP, Mooloolah River NP, Kondalilla NP, Mapleton NP, Eumundi CP, Dularcha NP, Woondum NP, Ferntree Creek NP, Springbrook NP, Palmview CP, Tuckekoi NP, Mount Cooroy CP, Meridan Plains CP, Woondum CP, Six

Special values 12.3.1: Habitat for threatened plant species including *Xanthostemon oppositifolius*, *Fontainea rostrata*, *Macadamia integrifolia* and *M. ternifolia*. Habitat for threatened fauna species including *Cyclopsitta diophthalma coxeni* and *Ornithoptera richmondia*. Important for fruit-eating birds, many of which migrate seasonally from upland to lowland rainforest. 12.3.1a: Habitat for threatened plant species including *Xanthostemon oppositifolius*, *Fontainea rostrata*, *Macadamia integrifolia* and *M. ternifolia*. Habitat for threatened fauna species including *Cyclopsitta diophthalma coxeni* and *Ornithoptera richmondia*. Important for fruit-eating birds, many of which migrate seasonally from upland to lowland rainforest.

Fire management guidelines INTERVAL: Fire return interval not relevant. INTERVAL_MIN: 100. INTERVAL_MAX: 100. STRATEGY: Do not burn deliberately. Protection relies on broad-scale management of surrounding country. May need active protection from wildfire in extreme conditions or after prolonged drought. Planned burns should not create a running fire into vine forest. Ensuring conditions of good soil moisture and moisture of litter in surrounding communities will limit fire behaviour/intensity. ISSUES: Fire sensitive and not normally flammable. There may be issues with lantana and other weeds from fire and other disturbance. Remnants may be limited by frequent fire at the margins.

Comments 12.3.1: This RE has been split into 12.3.1a, 12.3.16, 12.3.17 and 12.3.21. Often too narrow to be mapped at 1:100 000 scale. The regional ecosystems recognised by Bean et al. (1998) indicate that geographical patterns are evident within the RE. Occurs up to about 100 km inland. Extensively cleared for agriculture. Prone to invasion by weeds such as camphor laurel *Cinnamomum camphora*, broad leaved pepper tree *Schinus terebinthifolius*, cat's claw creeper *Macfadyena unguis-cati* on margins and when disturbed. 12.3.1a: Was previously mapped as 12.3.1. Found in wetter environments than 12.3.16 and 12.3.17. Restricted to the high rainfall catchments of the Gold and Sunshine Coast hinterlands and upper Albert and Mary Rivers. Extensively cleared for agriculture and urban development. Prone to invasion by weeds such as camphor laurel *Cinnamomum camphora*, broad leaved pepper tree *Schinus terebinthifolius*, cat's claw creeper *Dolichandra unguis-cati* on margins and when disturbed.

ELDON BOTTCHE**EDUCATION AND QUALIFICATIONS**

Graduate Diploma in Design in Bushfire Prone Areas

University of Western Sydney

Diploma in Architecture

Queensland Institute of Technology

Certificate of Rural Fire Management

University of Southern Queensland

Registered Architect

Queensland

A+ Architect

Australian Institute of Architects

FPA Australia Certified Practitioner (BPAD-Level 3-16935)

Bushfire Planning and Design (BPAD-LEVEL 3),
Alternate Solutions & DTS

PROFESSIONAL MEMBERSHIPS

Fellow

Australian Institute of Architects

Member

Australian Institute of Emergency Services

Member

Australian Institute of Engineers Society of Fire Safety

Member

Queensland Environmental Law Association.

Member Board of Experts

Bushfire Building Council of Australia

Associate Member

Institution of Fire Engineers

Corporate Member

Fire Protection Association of Australia

PROFESSIONAL EXPERIENCE

Director

Eldon Bottcher Architect Pty Ltd since 1978

Bushfire Assessment and Planning Consultant since 1998 with Involvement in more than 6,000 Bushfire Mitigation Projects ranging from single dwellings to major subdivisions, burn plans and general mitigation advice.

Group Officer

Albert Rural Fire Brigades Group

Queensland Fire and Rescue Service

Group Officer

Gold Coast Rural Fire Brigades Group

Queensland Fire and Rescue Service

Group Officer

South East Regional Support Group

Queensland Fire and Rescue Service

Planning Officer

Gold Coast Rural Fire Brigades Group

Queensland Fire and Rescue Service

Life Member

Guanaba Rural Fire Brigade

Member

Clagiraba Rural Fire Brigade

Member Practice Committee AIA Qld Chapter

AIA delegate to Building Industry and Research Consultation Panel on Bushfire Hazard advising Queensland State Bushfire Committee

BBCA representation to Australian Standards Committee FP20 (AS 3959 & AS 5414)

Research Consultant to Queensland University of Technology Scenic Rim Black Saturday Recovery Project

OTHER BUSHFIRE RELATED COURSES AND TRAINING

I.C.S./AIIIMS (40 hr. course) in Incident Command Systems

Certificate 4 (Workplace Training and Assessment)

RFSQ Level 1

RFSQ Level 2 (Officer)

RFSQ Fire Management 1

RFSQ Crew Leader

Certificate II in Public Safety (Firefighting Operations)

Fire Weather 1

QELA Expert Witness Workshop 2020

BUSHFIRE RELATED AWARDS

National Planning Award

State Planning Award

Planning Institute of Australia

Gold Coast Bushfire Management Strategy

(Co-Initiator and Member of Preparation Committee)

Australian Government

National Medal

Long and Distinguished Service to Fire fighting

Queensland Fire and Rescue Service

Diligent and Ethical Service Medal + Clasp

Service to Fire fighting

Queensland Government

Australia Day Medallion

Services to Rural Fire Fighting

Queensland Government

Year of the Volunteer Medallion

Services to Fire fighting

UDIA

Best Consultancy Team Award in 2007.

SERVICES OFFERED

Bushfire management Reports

Bushfire Safety Engineering

Bushfire Planning and Design

Bushfire Hazard Assessment

Alternative Solutions

Expert Witnessing

(See Planning and Environment Court of Queensland Determination

File No. BD 624 of 2005 sections 28 to 35)

Continuing Professional Development Lectures

Tertiary Education Lectures and Tutorials

Town Planning Bushfire Codes for Local Authorities

Bushfire Burn Planning

General consultancy relating to all aspects of Bushfire