



**BUSHFIRE MANAGEMENT REPORT  
FM 3630  
for  
CUSACK LANE DEVELOPMENT JOINT VENTURE  
at  
348-474 CUSACK LANE  
JIMBOOMBA**

**PREPARED BY  
ELDON BOTTCHER ARCHITECT PTY LTD  
145 VARSITY PARADE  
VARSITY LAKES  
PH 07 55920082  
EMAIL [bushfires@eb-a.com.au](mailto:bushfires@eb-a.com.au)**

**16/05/2018**



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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.**

**Very Important Note;**

*The Australian Standard for Construction in Bush Fire Prone Areas has been reviewed and the new version, AS 3959-2009 came into force in Queensland on 1<sup>st</sup> October 2009, and there have been a number of subsequent amendments.*

*State Planning Policy SPP 01/03 has now lapsed and has been replaced by State Planning Policy 2016.*

*References made to these documents and measures required for compliance with these documents are correct to the best understanding of the author at the time of preparation of this report.*

*Delays in implementation of the works, which are the subject of this report, may mean that the revised Standard and Policy are in force and that the measures recommended in this report may no longer be current.*

*In that event, this report may have to be reprepared to maintain currency.*

**THE COPYRIGHT ACT AND MORAL RIGHTS ACT PROTECT THIS REPORT.**

**IRRESPECTIVE OF THIS REPORT APPEARING ON A COUNCIL PD OR OTHER ONLINE SITE, THERE IS NO PERMISSION IMPLIED OR GIVEN TO ANY PARTY TO DOWN LOAD OR TO USE 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 3959-2009 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.**

## 1 REPORT BRIEF

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 Logan City Council Town Plan,
- SPP 2016.
- Queensland Planning Act 2016
- The National Construction Code and
- Australian Standard AS3959,
- International Fire Safety Engineering Guidelines

- 1.1. Address:**  
348-474 Cusack Lane Jimboomba
- 1.2. Local Authority**  
Logan City Council
- 1.3. R.P.D.**  
Lot 6 on RP 55733  
and  
Lot 1 on RP 151380
- 1.4. Site area**  
126.908 ha
- 1.5. Responsible Fire Authority**  
Rural Fire Service Queensland via the rural fire brigade for rural fires and QFES for Structural fires.
- 1.6. Potential Bushfire Hazard Rating.**  
The hazard rating maps prepared for the Council show the ratings on this property ranging from Low to High and being partly 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 High and being partly in a bushfire Hazard Buffer Area.
- 1.7. Land tenure**  
Freehold
- 1.8. Adjoining owners are:**  
Freehold
- 1.9. Current Land Use:**  
Vacant
- 1.10. Fire danger Index**  
FDI 40 (nominated by AS 3959-2009)
- 1.11. Topography**  
Plain
- 1.12. 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
- 1.13. Slope**  
1<sup>0</sup>
- 1.14. Aspect**  
Plain

**1.15. Fuel Type**

REGIONAL ECOSYSTEM	VHC	VHC DESCRIPTION	POTENTIAL FUEL LOAD STATE-WIDE BUSHFIRE PRONE AREA MAPPING
12.3.3	16.2	Eucalyptus dominated woodland on drainage lines and alluvial plains	11.5
12.9-10.11	21.1	Melaleuca dry open forest on sand plains or depositional plains	14.9
12.3.7	16.2	Eucalyptus dominated woodland on drainage lines and alluvial plains	11.5
12.9-10.3	13.1	Dry to Moist eucalypt open forests on undulating metamorphics and granite	21.7

**1.16. Fire History**

There is no evidence of a recent fire event

**1.17. Location of Access Tracks**

The site is served by an unsealed access track from a sealed road system

**1.18. Location of Fire Breaks**

There are no formal firebreaks. Adjoining areas of Low Threat vegetation form effective fire breaks.

**1.19. Location of existing fire fighting Infrastructure**

The site will be served by reticulated water

**1.20. Historical and Cultural Sites**

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

## 2. SITE AND HAZARD ASSESSMENT

### 2.1. Discussion with Responsible Fire Authority

The fire management report has not been discussed with the First Officer of the Rural Fire Brigade.

### 2.2. Vegetation Types

The vegetation type predominate to this site is as scheduled below. Note that under SPP 2016, differing vegetation types are used. This report does not refer to these but does take into account draft mapping prepared under different methodology and published by the State Government.

VEGETATION TYPE	COMMENTS
Paperbark heath and swamps, eucalypt forest with dry shrub ladder fuels	
Grassy Eucalypt and acacia forest, exotic pine plantations, Cyprus pine forests, wallum heath	For the purposes of construction level assessment under AS 3959-2009, woodland is the appropriate vegetation type to use due to fuel load.
Native Grasslands (ungrazed), open woodlands, canefields	Note that where canopy cover is less than 30% AS 3959 uses the surface fuel load. State variation (Qld) to Section 3.7.4.0 of Volume 2 Building Code of Australia states that <i>"The requirements of (a) do not apply when the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300mm high."</i> This is interpreted as stating that where these communities exist within a Designated Bushfire Prone Area construction in accordance with AS 3959 is not required in relation to this vegetation.
Orchards, farmlands, kikuyu pastures	Note that where grassland is maintained below 100m it is regarded as Low Threat by AS 3959.
Grazed grasslands, slashed grass	Note that where grassland is maintained below 100mm it is regarded as Low Threat by AS 3959. State variation (Qld) to Section 3.7.4.0 of Volume 2 Building Code of Australia states that <i>"The requirements of (a) do not apply when the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300mm high."</i> This is interpreted as stating that where these communities exist within a Designated Bushfire Prone Area construction in accordance with AS 3959 is not required in relation to this vegetation.
Desert lands (sparse fuels) Mowed grasslands	Note that where grassland is maintained below 100m it is regarded as Low Threat by AS 3959 State variation (Qld) to Section 3.7.4.0 of Volume 2 Building Code of Australia states that <i>"The requirements of (a) do not apply when the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300mm high."</i> This is interpreted as stating that where these communities exist within a Designated Bushfire Prone Area construction in accordance with AS 3959 is not required in relation to this vegetation.

VEGETATION TYPE	COMMENTS
Intact Rainforest, mangrove, intact riverine rainforest	State variation (Qld) to Section 3.7.4.0 of Volume 2 Building Code of Australia states that <i>“The requirements of (a) do not apply when the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300mm high.”</i> This is interpreted as stating that where these communities exist within a Designated Bushfire Prone Area construction in accordance with AS 3959 is not required in relation to this vegetation.

**2.3. Potential Bushfire Hazard Rating.**

Site inspection and assessment against the State Planning Policy supports the mapping prepared by State Government. Fire Line assessments of relevant Regional Ecosystems are attached as “Supporting Information.”

**2.4. Building Construction**

All buildings situated within the areas shaded on the plan accompanying this report are in a Designated Risk Area. There is a requirement that certain Buildings within this area be constructed in accordance with the Australian Standard for Construction in Bushfire Prone Areas. The levels determined effect the types and usage of materials in relation to the type of Bushfire Attack, which may occur as assessed under the Standard. The Level of Bushfire Attack is assessed taking the vegetation types, slope, and distance from vegetation into account. The most common elements affected are Windows and flyscreening, with some restrictions on cladding and timber types. A comprehensive breakdown is available in either the National Construction Code or the Australian Standard for Construction in Bushfire Prone Areas. Extracts of these documents are not provided due to copyright reasons. Full details can be obtained from your building designer or certifier.

**Note that the Building Code of Australia only requires Classes 1,2 and 3 buildings and Class 10a building associated with those buildings to comply with the requirements of AS 3959-2009.**

**Construction Level Table**

Building Class requirements AS 3959-2009

2.4.1.	FDI	40
	<b><u>Transect 1</u></b>	
	Vegetation Classification	VHC 21.1.
	Land slope	Downslope -1degree

Distance of site from Predominate vegetation class (Vegetation Management Zone)	Bushfire Attack Level
0-<4.1	BAL -FZ
4.1-<5.5	BAL-40
5.5-<8.3	BAL-29
8.3-<12.3	BAL-19
12.3-<100	BAL-12.5
100-	BAL-LOW

**Transect 2**

Vegetation Classification	VHC 21.1.
Land slope	Downslope 1degree

Distance of site from Predominate vegetation class (Vegetation Management Zone)	Bushfire Attack Level
0-<4.4	BAL -FZ
4.4-<6	BAL-40
6-<8.9	BAL-29
8.9-<13.2	BAL-19
13.2-<100	BAL-12.5
100-	BAL-LOW



**Transect 3**

Vegetation Classification VHC 13.1  
 Land slope Downslope  
 1degree

Distance of site from Predominate vegetation class (Vegetation Management Zone)	Bushfire Attack Level
0-<6.6	BAL -FZ
6.6-<8.9	BAL-40
8.9-<13.3	BAL-29
13.3-<19.4	BAL-19
19.4-<100	BAL-12.5
100-	BAL-LOW

Transect 4

Vegetation Classification VHC 16.2.  
 Land slope Downslope  
 1degree

Distance of site from Predominate vegetation class (Vegetation Management Zone)	Bushfire Attack Level
0-<3.5	BAL -FZ
3.5-<4.8	BAL-40
4.8-<7.2	BAL-29
7.2-<10.8	BAL-19
10.8-<100	BAL-12.5
100-	BAL-LOW

Note:

The levels shown above have been produced using Method 2 as outlined in the AS 3959-2009. Printouts of these calculations are included as Appendix 5.3.1.

Construction levels for elevations of a building that are subject to shielding from the fire sources can be reduced in accordance with 3.5 of AS 3959-2009 by one level but not below BAL-12.5 All fire sources on adjoining sites and across roads must be considered when utilising this reduction.

**2.5. Ecological Requirements**

There are no specific ecological requirements in relation to bushfire 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 subsequent to 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 Rural Fire Service Queensland through the Rural Fire Brigade being responsible for Bush Fires and the Queensland Fire and Emergency Service being responsible for Structural 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 fire fighting 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.

#### 3.6. Circulation Road Layout

The site is situated in a Medium PBHR. The circulation road layout between the threat vegetation and building areas provides the necessary access to function as Fire Trails.

#### 3.7. Vegetation Management

- 3.7.1. All grass and existing mid storey vegetation within the Vegetation Management Zone (see construction level table in Section 2.4) and Managed Low Threat Vegetation Zone (see FM-04) shall be kept to a maximum of 100mm at all times or be of less flammable or rain forest species.
- 3.7.2. The width of the vegetation management zones noted above can be used to calculate the required BAL.
- 3.7.3. Requirements noted above may be subject to State and Local Authority approval. Those approvals must be obtained prior to implementation of any of these measures.
- 3.7.4. Refer to Sections 7 and 8 of the Planning Act 2016 in relation to Local Authority Approval.
- 3.7.5. The management referred to above is regarded as "Essential Management" (necessary to remove or reduce the imminent risk that the vegetation poses of serious personal injury or damage to infrastructure" under the Planning Regulation Schedule 24. It is recommended that the owner register any clearing work with [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au), "Vegetation management notification form for self assessable codes".

**The management is a component of the Construction Level. Therefore, the Building Certifier must ensure that the management has occurred in accordance with this report before issuing final certification**

**The management also forms part of the Alternative Solution to the management of buffer areas as set out in the State Planning Policy SPP01/03, and the Planning Act 2016.**

**Recent research (Project Vesta) indicates that tree canopy without mid storey and surface fuels forms an important filter for control of ember attack, which is responsible for in excess of 90% all bushfire related house fires.**

**3.8. Fencing**

Fencing between houses should be of materials matching the requirements for external walls for the relevant level of construction of the subject house where within 6m of the house.

**3.9. Building Construction**

All construction is to be in accordance with Australian Standard AS 3959 2009 Construction of Buildings in Bush Fire-Prone Areas and the Level of construction assessed under " Site and Hazard Assessment.

**The plans lodged for Building Certification are to be assessed on this basis by the Building Certifier.**

**A final stage completion certificate (Form 21) issued by the Building Certifier is to be received prior to occupation of the building.**

**Buildings are not to be occupied until certification is received**

**Buildings are to be maintained in a manner that protects the integrity of the construction and building elements as outlined in this report**

**3.10. Street Numbering**

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

**3.11. Less Flammable Landscaping**

Any landscaping within the vegetation management zones 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.

**3.12. Insurance**

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

**3.13. Emergency Response Procedures**

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

3.13.2. 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!

**3.14. Community Awareness Strategies**

3.14.1. 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.

3.14.2. The hazard ratings are to be placed on Council Plans and Rate notices.

**3.15. 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
	<p>Buildings to comply with the Australian Standard for Construction with in Bush Fire Prone Areas.</p> <p>No occupation until compliance with Standard and Management Report</p>	<p>Regular mowing and maintenance of the vegetation management zone as set out in this report.</p> <p>Drive access to be kept clear and accessible to satisfaction of the Fire Brigade.</p> <p>Building materials are to be maintained in "as new " condition to preserve the integrity of the relevant materials.</p>

**5. APPENDICES**

- 5.1. Form 15
- 5.2. Site Plans
- 5.3. Supporting Information:
  - 5.3.1. Fire Line Hazard assessments
  - 5.3.2. Method 2 Calculation printouts
  - 5.3.3. Fuel Load Calculation

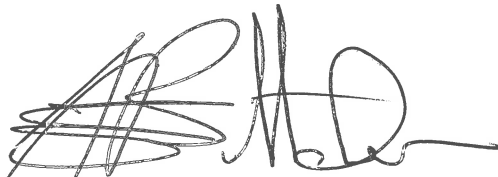
**Note. These items below are referenced for information purposes only and are not to be construed as being part of the management report**  
**This information is generic and not provided or included within the documentation for Council approval purposes.**  
**It is only provided for end user knowledge**

- 5.3.4. Prepare.Act.Survive
- 5.3.5. Rural property Fire Management Guide 2010
- 5.3.6. Notes for Landholders
- 5.3.7. Bushfire Action Guide
- 5.3.8. Bushfire Safety in Urban Fringe Areas
- 5.3.9. Water + Power -Vital for Fire fighting
- 5.3.10. Less Flammable Vegetation
- 5.3.11. Tree selection for Fire-Prone Areas
- 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. Extracts from Planning Act 2016 relating to clearing.
- 5.3.26. Bushfire Planning and Design Certification Scheme Update
- 5.3.27. SAC Notification Form

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

- 5.3.28. Bushfire Hazard Planning in Queensland
- 5.3.29. Protecting your home against Bushfire  
Both available from the Dept. of Local Government and Planning, and
- 5.3.30. Building in Bushfire Prone Areas  
Available from Standards Australia
- 5.3.31. Fire in Bushland Conservation  
Available from the National Heritage Trust

Signed



.....  
 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**

Version 4 – July 2017

**NOTE: This is to be used for the purposes of section 10 of the *Building Act 1975* and/or section 46 of the *Building Regulation 2006*.**

**RESTRICTION: A building certifier (class B) can only give a compliance certificate about whether building work complies with the BCA or a provision of the Queensland Development Code (QDC). A building certifier (Class B) can not give a certificate regarding QDC boundary clearance and site cover provisions.**

**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 a rates notice.  
 If the plan is not registered by title, provide previous lot and plan details.

**Street address** (include no., street, suburb/locality and postcode)

348-474 Cusack Lane Jimboomba
Postcode

**Lot and plan details** (attach list if necessary)

Lot 6 on RP 55733 and Lot 1 on RP 151380
--

In which local government area is the land situated?

Logan City Council
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**2. Description of component/s certified**

Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.

Work as required for bushfire mitigation purposes as set out in the Bushfire Management Report prepared by Eldon Bottcher Architect Pty Ltd including assessment of Construction Levels assessed under AS 3959.
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**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 prepared by Eldon Bottcher Architect Pty Ltd
<b>No certification of components covered by The Building Act 1975, The building Code of Australia or AS 3959.</b>
Logan City Council Town Plan Bushfire Management Constraint code.

**4. Reference documentation**

Clearly identify any relevant documentation, e.g. numbered structural engineering plans.

Bushfire Management Report FM 3630

**LOCAL GOVERNMENT USE ONLY**

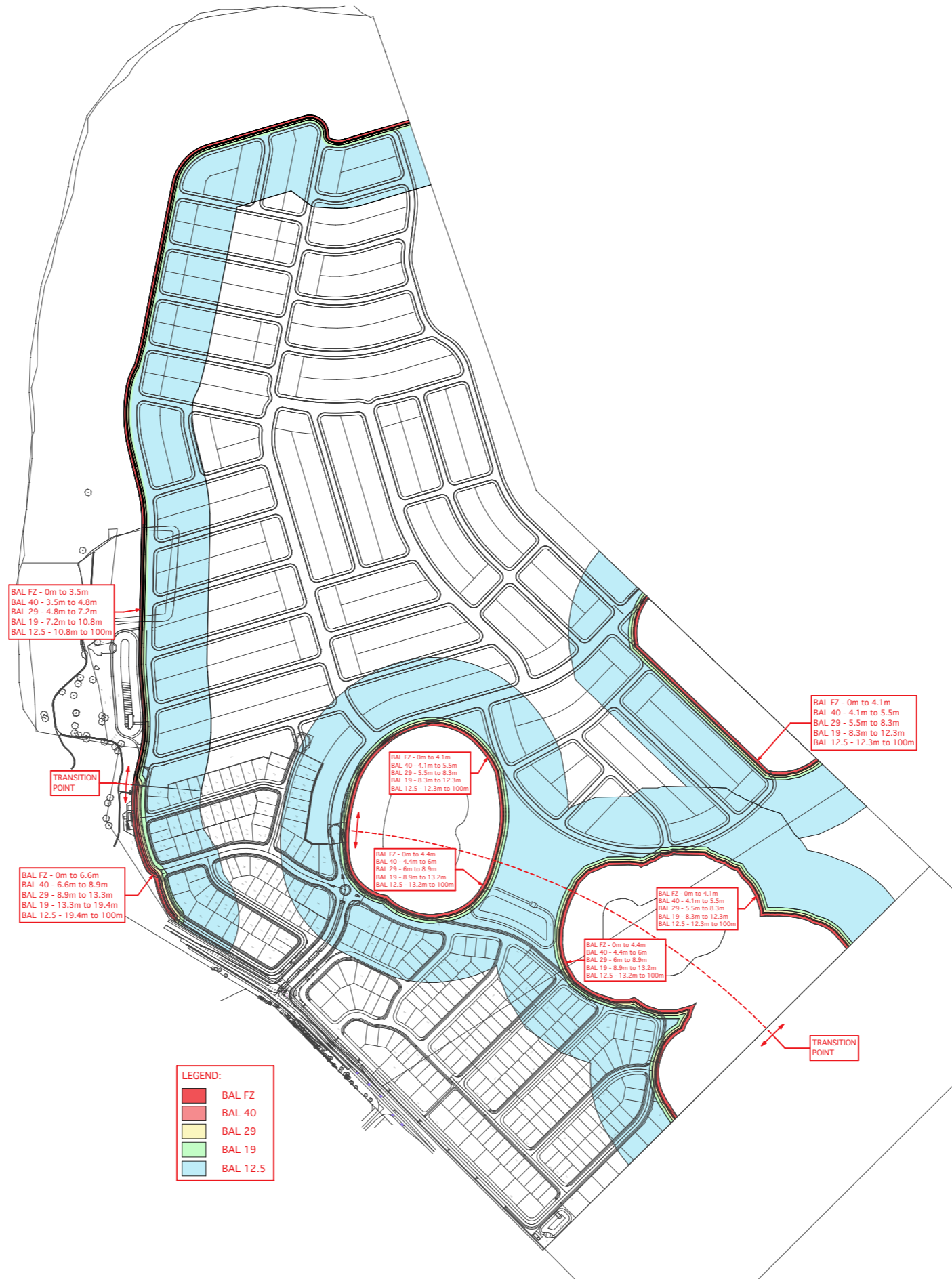
Date received		Reference Number/s	
---------------	--	--------------------	--



<b>5. Building certifier reference number</b>	<b>Building certifier reference number</b> <input type="text"/>
<b>6. Competent person details</b> A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practice in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect.  If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.  If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.	<b>Name (in full)</b> <input type="text" value="Eldon John Bottcher"/> <b>Company name (if applicable)</b> <input type="text" value="Eldon Bottcher Architect Pty Ltd"/> <b>Contact person</b> <input type="text" value="Eldon Bottcher"/> <b>Phone no. (business hours)</b> <input type="text" value="07 55920082"/> <b>Mobile no.</b> <input type="text" value="0412434134"/> <b>Fax no.</b> <input type="text"/> <b>Email address</b> <input type="text" value="bushfires@eb-a.com.au"/> <b>Postal address</b> <input type="text" value="P.O.Box 3606"/> <input type="text" value="Robina Town Centre"/> <b>Postcode</b> <input type="text" value="4230"/> <b>Licence or registration number (if applicable)</b> <input type="text" value="Reg Architect Qld 1325"/> <input type="text" value="FPA Australia BPAD Level 3 practitioner 16935"/>
<b>7. Signature of competent person</b> This certificate must be signed by the individual assessed by the building certifier as competent.	<b>Signature</b> <input type="text" value="Eldon Bottcher"/> <b>Date</b> <input type="text" value="16 May 18"/>

The *Building Act 1975* is administered by the Department of Housing and Public Works

**APPENDIX 5.2  
SITE PLANS**



**LEGEND:**

BAL FZ	BAL FZ
BAL 40	BAL 40
BAL 29	BAL 29
BAL 19	BAL 19
BAL 12.5	BAL 12.5

**NOTES**

- These designs and plans are subject to the Copyright Act of 1968 and the Copyright Amendment (Moral Rights) Bill 1999 and are not to be used or reproduced, wholly or in part without the written consent of the Architect.

The copyright for these drawings & any construction produced from these drawings is vested with Eldon Bottcher. Do not scale from drawings. Verify all dimensions on site. Check any discrepancies with Architect.

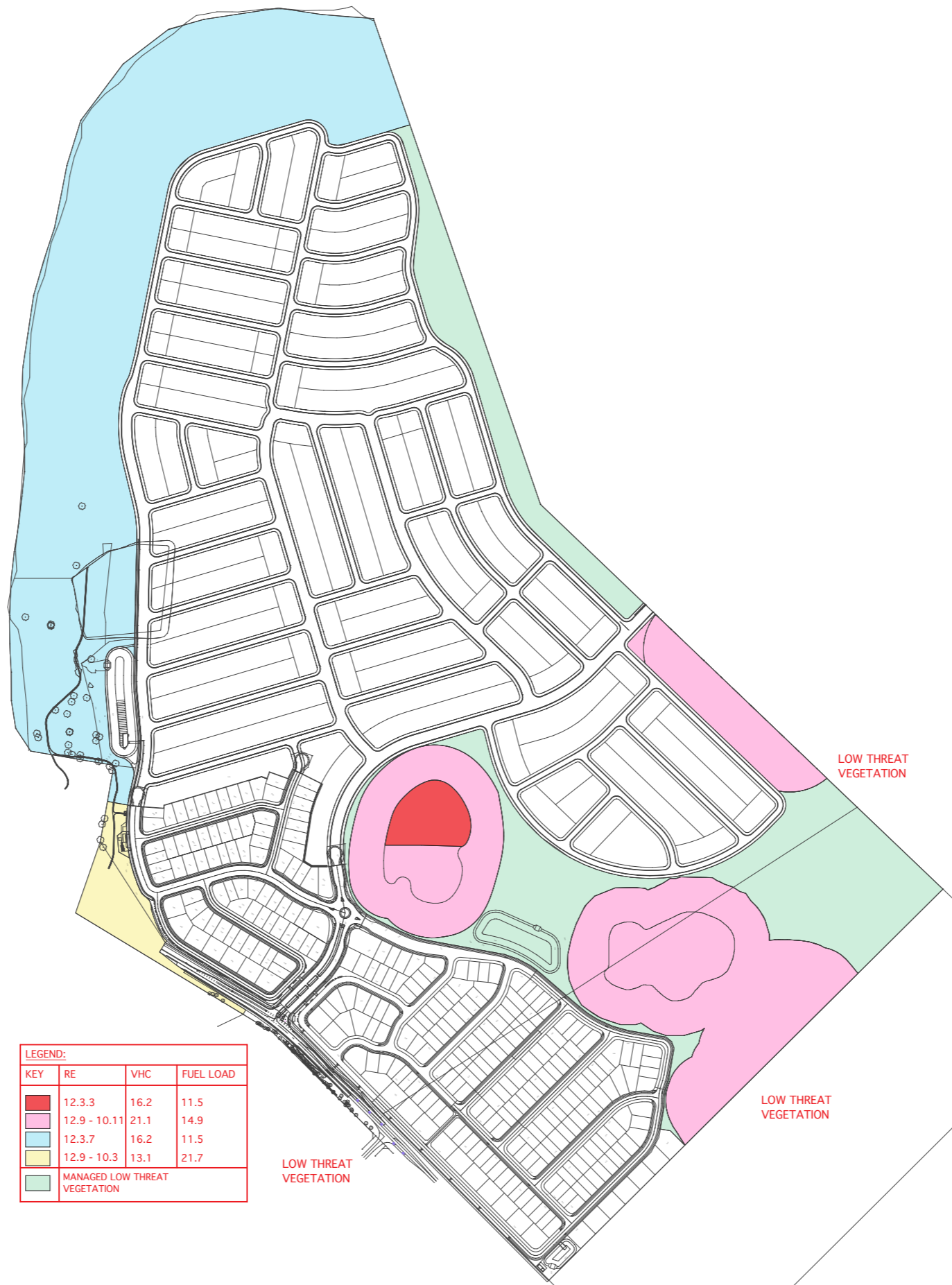
**REVISIONS**

**PROJECT TITLE**  
**CUSACKS LANE,**  
**JIMBOOMBA QLD**

**DRAWING TITLE**  
**CONSTRUCTION LEVELS PLAN**

**Eldon Bottcher Architect Pty. Ltd**  
 Eldon Bottcher Architect Pty. Ltd  
 Postal P.O. Box 3606, Robina Town Centre QLD 4230  
 W: www.eb-a.com.au  
 E: architects@eb-a.com.au  
 Office 145 Varsity Parade, Varsity Lakes QLD 4227  
 ABN 61010354604  
 P: (07) 55 920 082  
 F: (07) 55 380 374

SCALE	DATE
1:7500 @ A3	26.04.18
DRAWN	CHECKED
RK	
PROJECT NUMBER	DRAWING NUMBER
<b>FM-3630</b>	<b>FM-01</b>



LEGEND:			
KEY	RE	VHC	FUEL LOAD
■	12.3.3	16.2	11.5
■	12.9 - 10.11	21.1	14.9
■	12.3.7	16.2	11.5
■	12.9 - 10.3	13.1	21.7
■	MANAGED LOW THREAT VEGETATION		

**NOTES**  
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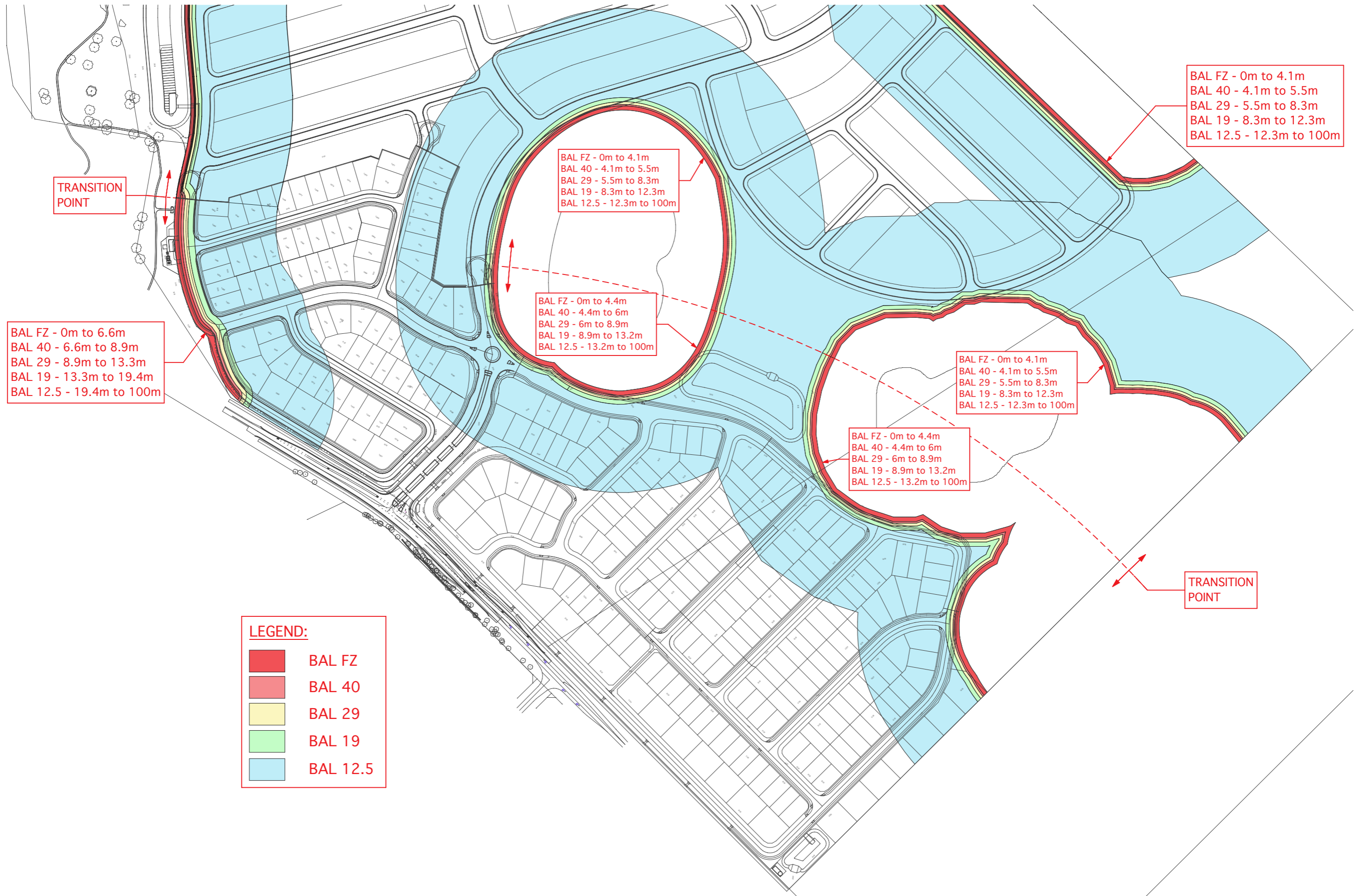
**REVISIONS**

**PROJECT TITLE**  
**CUSACKS LANE,**  
**JIMBOOMBA QLD**

**DRAWING TITLE**  
**VEGETATION PLAN**  
**(ENTIRE DEVELOPMENT)**

**Eldon Bottcher Architect Pty. Ltd**  
 Eldon Bottcher Architect Pty. Ltd  
 Postal P.O. Box 3606 Robina Town Centre QLD 4230 W: www.eb-a.com.au E: architects@eb-a.com.au  
 Office 145 Varsity Parade, Varsity Lakes QLD 4227 ABN 61010354604 P: (07) 55 920 082 F: (07) 55 380 374

SCALE	DATE
1:7500 @ A3	26.04.18
DRAWN	CHECKED
RK	
PROJECT NUMBER	DRAWING NUMBER
<b>FM-3630</b>	<b>FM-02</b>



**LEGEND:**

	BAL FZ
	BAL 40
	BAL 29
	BAL 19
	BAL 12.5

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The copyright for these drawings & any construction produced from these drawings is vested with Eldon Bottcher. 2. Do not scale from drawings 3. Verify all dimensions on site 4. Check any discrepancies with Architect.

**REVISIONS**  
A GENERAL REVISIONS

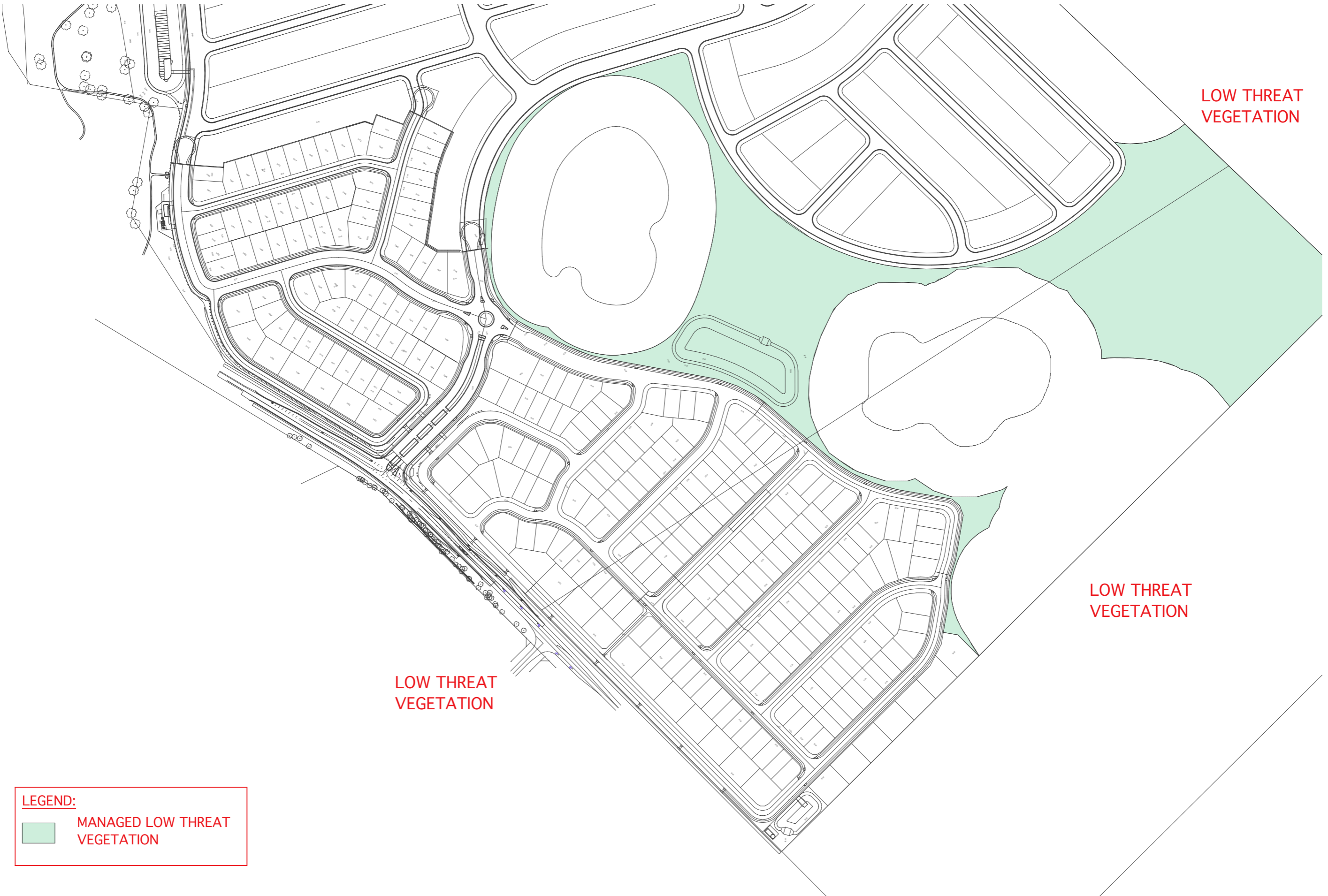
26.04.18

**PROJECT TITLE**  
CUSACKS LANE,  
JIMBOOMBA QLD

**DRAWING TITLE**  
CONSTRUCTION LEVELS PLAN  
(STAGE 1)

**Eldon Bottcher Architect Pty. Ltd**  
Postal P.O. Box 3606 Robina Town Centre QLD 4230 W: www.eb-a.com.au E: architects@eb-a.com.au  
Office 145 Varsity Parade, Varsity Lakes QLD 4227 ABN 61010354604 P: (07) 55 920 082 F: (07) 55 380 374

**SCALE** 1:3500 @ A3  
**DATE** 26.04.18  
**DRAWN** RK  
**CHECKED**  
**PROJECT NUMBER** FM-3630  
**DRAWING NUMBER** FM-03<sup>A</sup>



LOW THREAT  
VEGETATION

LOW THREAT  
VEGETATION

LOW THREAT  
VEGETATION

**LEGEND:**

 **MANAGED LOW THREAT  
VEGETATION**

**NOTES**  
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The copyright for these drawings & any construction produced from these drawings is vested with Eldon Bottcher.  
 2. Do not scale from drawings  
 3. Verify all dimensions on site  
 4. Check any discrepancies with Architect.

**REVISIONS**  
 A GENERAL REVISIONS

26.04.18

**PROJECT TITLE**  
**CUSACKS LANE,  
 JIMBOOMBA QLD**

**DRAWING TITLE**  
**VEGETATION MANAGEMENT PLAN**

**Eldon Bottcher Architect Pty. Ltd**  
**Eldon Bottcher Architect Pty. Ltd**  
**Postal**  
 P.O. Box 3606  
 Robina Town Centre  
 QLD 4230  
 W: www.eb-a.com.au  
 E: architects@eb-a.com.au  
**Office**  
 145 Varsity Parade,  
 Varsity Lakes QLD 4227  
 ABN 61010354604  
 P: (07) 55 920 082  
 F: (07) 55 380 374

**SCALE**  
 1:3500 @ A3  
**DATE**  
 26.04.18  
**DRAWN**  
 RK  
**CHECKED**  
 RK  
**PROJECT NUMBER**  
**FM-3630**  
**DRAWING NUMBER**  
**FM-04<sup>A</sup>**

**APPENDIX 5.3**  
**SUPPORTING INFORMATION**

(NOTE: SOME OF THIS INFORMATION IS GENERIC AND NOT INCLUDED FOR APPROVAL PURPOSES. IT IS ONLY PROVIDED FOR END USER KNOWLEDGE)

**FIRE LINE HAZARD ASSESSMENTS**



# BUSHFIRE HAZARD ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT IS BASED ON "A NEW METHODOLOGY FOR  
STATE WIDE MAPPING OF BUSHFIRE PRONE AREAS IN QUEENSLAND"  
CSIRO  
JANUARY 2014**

## PROJECT

**PROPOSED RESIDENTIAL DEVELOPMENT**

## SITE ADDRESS

**CUSACK LANE  
JIMBOOMBA**

**TRANSECT 1,2**

## INPUTS

FFDI

54

TOTAL FUEL LOAD

14.9 tonnes/ha

SLOPE UNDER VEGETATION

1 degrees

## RESULTS

POTENTIAL FIRE LINE INTENSITY

7963.87 kw/m

HAZARD

MEDIUM

APPROPRIATE MAPPING COLOUR



# BUSHFIRE HAZARD ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT IS BASED ON "A NEW METHODOLOGY FOR  
STATE WIDE MAPPING OF BUSHFIRE PRONE AREAS IN QUEENSLAND"  
CSIRO  
JANUARY 2014**

## PROJECT

**PROPOSED RESIDENTIAL DEVELOPMENT**

## SITE ADDRESS

**CUSACK LANE  
JIMBOOMBA**

**TRANSECT 3**

## INPUTS

FFDI	54
TOTAL FUEL LOAD	21.7 tonnes/ha
SLOPE UNDER VEGETATION	1 degrees

## RESULTS

POTENTIAL FIRE LINE INTENSITY	16891.62 kw/m
HAZARD	MEDIUM
APPROPRIATE MAPPING COLOUR	

# BUSHFIRE HAZARD ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT IS BASED ON "A NEW METHODOLOGY FOR  
STATE WIDE MAPPING OF BUSHFIRE PRONE AREAS IN QUEENSLAND"  
CSIRO  
JANUARY 2014**

## PROJECT

**PROPOSED RESIDENTIAL DEVELOPMENT**

## SITE ADDRESS

**CUSACK LANE  
JIMBOOMBA**

**TRANSECT 3**

## INPUTS

FFDI

54

TOTAL FUEL LOAD

21.7 tonnes/ha

SLOPE UNDER VEGETATION

1 degrees

## RESULTS

POTENTIAL FIRE LINE INTENSITY

16891.62 kw/m

HAZARD

MEDIUM

APPROPRIATE MAPPING COLOUR



# BUSHFIRE HAZARD ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT IS BASED ON "A NEW METHODOLOGY FOR  
STATE WIDE MAPPING OF BUSHFIRE PRONE AREAS IN QUEENSLAND"  
CSIRO  
JANUARY 2014**

## PROJECT

**PROPOSED RESIDENTIAL DEVELOPMENT**

## SITE ADDRESS

**CUSACK LANE  
JIMBOOMBA**

**TRANSECT 4**

## INPUTS

FFDI	54
TOTAL FUEL LOAD	11.5 tonnes/ha
SLOPE UNDER VEGETATION	1 degrees

## RESULTS

POTENTIAL FIRE LINE INTENSITY	4744.03 kw/m
HAZARD	MEDIUM
APPROPRIATE MAPPING COLOUR	

**METHOD 2 CALCULATION PRINTOUTS**

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHE ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 1**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="-1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="-1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="4.1"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="39.25"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.70"/> m
RATE OF SPREAD	<input type="text" value="0.45"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2"/> m
FLAME ANGLE	<input type="text" value="54"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-40"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 1**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="-1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="-1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2.2"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="5.5"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="28.97"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.70"/> m
RATE OF SPREAD	<input type="text" value="0.45"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2.2"/> m
FLAME ANGLE	<input type="text" value="64"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-29"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**

145 VARSITY PARADE  
VARSITY LAKES  
QLD. 4327

PH 0755920082  
E architects@eb-a.com.au



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 1**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="-1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="-1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2.4"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="8.3"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="18.87"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.70"/> m
RATE OF SPREAD	<input type="text" value="0.45"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="87%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2.4"/> m
FLAME ANGLE	<input type="text" value="73"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-19"/> BAL



# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 1**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="-1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="-1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2.5"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="12.3"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="12.44"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.70"/> m
RATE OF SPREAD	<input type="text" value="0.45"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="86%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2.5"/> m
FLAME ANGLE	<input type="text" value="78"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL - 12.5"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 2**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="4.4"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="39.24"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="5.13"/> m
RATE OF SPREAD	<input type="text" value="0.51"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2"/> m
FLAME ANGLE	<input type="text" value="55"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-40"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 2**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2.2"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="6"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="28.54"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="5.13"/> m
RATE OF SPREAD	<input type="text" value="0.51"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="88%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2.2"/> m
FLAME ANGLE	<input type="text" value="66"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-29"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHE ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 2**

## INPUTS

FDI	40
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	14.9 tonnes/ha
SLOPE UNDER VEGETATION	1 degrees
SLOPE BETWEEN VEGETATION AND BUILDING	1 degrees
FLAME WIDTH	100 m
ELEVATION OF RECEIVER	2.3 m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<b>8.9 m</b>

## RESULTS

RADIANT HEAT	18.97 kw/m <sup>2</sup>
FLAME LENGTH	5.13 m
RATE OF SPREAD	0.51 km/hr
ATMOSPHERIC TRANSMISSIVITY	87%
PEAK ELEVATION OF RECEIVER	2.3 m
FLAME ANGLE	74 degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<b>BAL-19 BAL</b>

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHE ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 2**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="2.3"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="13.2"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="12.51"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="5.13"/> m
RATE OF SPREAD	<input type="text" value="0.51"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="85%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2.3"/> m
FLAME ANGLE	<input type="text" value="80"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-12.5"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 3**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	<input type="text" value="Site Specific Fuel Loads"/>
TOTAL FUEL LOAD	<input type="text" value="21.7"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="3.1"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="6.6"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="39.41"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="7.79"/> m
RATE OF SPREAD	<input type="text" value="0.80"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="3.1"/> m
FLAME ANGLE	<input type="text" value="55"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-40"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**

145 VARSITY PARADE

PH 0755920082

VARSITY LAKES

E architects@eb-a.com.au

QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT**

**CUSACK LANE**

**JIMBOOMBA**

**TRANSECT 3**

## INPUTS

FDI

40

VEGETATION TYPE

Site Specific Fuel Loads

TOTAL FUEL LOAD

21.7 tonnes/ha

SLOPE UNDER VEGETATION

1 degrees

SLOPE BETWEEN VEGETATION AND BUILDING

1 degrees

FLAME WIDTH

100 m

ELEVATION OF RECEIVER

3.1 m

**DISTANCE BETWEEN VEGETATION AND BUILDING**

8.9 m

## RESULTS

RADIANT HEAT

28.83 kw/m<sup>2</sup>

FLAME LENGTH

7.79 m

RATE OF SPREAD

0.80 km/hr

ATMOSPHERIC TRANSMISSIVITY

88%

PEAK ELEVATION OF RECEIVER

3.1 m

FLAME ANGLE

64 degrees

**CONSTRUCTION LEVEL REQUIRED**

**BAL-29 BAL**

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA  
  
TRANSECT 3

## INPUTS

FDI	40
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	21.7 tonnes/ha
SLOPE UNDER VEGETATION	1 degrees
SLOPE BETWEEN VEGETATION AND BUILDING	1 degrees
FLAME WIDTH	100 m
ELEVATION OF RECEIVER	3.5 m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<b>13.3 m</b>

## RESULTS

RADIANT HEAT	18.86 kw/m <sup>2</sup>
FLAME LENGTH	7.79 m
RATE OF SPREAD	0.80 km/hr
ATMOSPHERIC TRANSMISSIVITY	86%
PEAK ELEVATION OF RECEIVER	3.5 m
FLAME ANGLE	74 degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<b>BAL - 19 BAL</b>



# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 3**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="21.7"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="3.5"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="19.4"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="12.47"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="7.79"/> m
RATE OF SPREAD	<input type="text" value="0.80"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="84"/> %
PEAK ELEVATION OF RECEIVER	<input type="text" value="3.5"/> m
FLAME ANGLE	<input type="text" value="79"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL - 12.5"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
145 VARSITY PARADE PH 0755920082  
VARSITY LAKES E architects@eb-a.com.au  
QLD. 4327



**THIS ASSESSMENT USES AS 3959-2009 METHOD 2**

**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 4**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="11.5"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="1.6"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="3.5"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="39.74"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.12"/> m
RATE OF SPREAD	<input type="text" value="0.42"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="90%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.6"/> m
FLAME ANGLE	<input type="text" value="55"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-40"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



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## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 4**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="11.5"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="1.8"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="4.8"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="28.79"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.12"/> m
RATE OF SPREAD	<input type="text" value="0.42"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89"/> %
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.8"/> m
FLAME ANGLE	<input type="text" value="66"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-29"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



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**PROJECT** RIVERTON  
**SITE ADDRESS** PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA

**TRANSECT 4**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="11.5"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="1.8"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="7.2"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="18.98"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.12"/> m
RATE OF SPREAD	<input type="text" value="0.42"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="88%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.8"/> m
FLAME ANGLE	<input type="text" value="74"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-19"/> BAL

# BUSHFIRE ATTACK ASSESSMENT



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QLD. 4327



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## PROJECT

**RIVERTON**

## SITE ADDRESS

**PROPOSED RESIDENTIAL DEVELOPMENT  
CUSACK LANE  
JIMBOOMBA**

**TRANSECT 4**

## INPUTS

FDI	<input type="text" value="40"/>
VEGETATION TYPE	Site Specific Fuel Loads
TOTAL FUEL LOAD	<input type="text" value="11.5"/> tonnes/ha
SLOPE UNDER VEGETATION	<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING	<input type="text" value="1"/> degrees
FLAME WIDTH	<input type="text" value="100"/> m
ELEVATION OF RECEIVER	<input type="text" value="1.8"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>	<input type="text" value="10.8"/> m

## RESULTS

RADIANT HEAT	<input type="text" value="12.43"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.12"/> m
RATE OF SPREAD	<input type="text" value="0.42"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="86"/> %
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.8"/> m
FLAME ANGLE	<input type="text" value="80"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-12.5"/> BAL

**FUEL LOAD CALCULATION**

REB	REB_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 latisinensis 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	<b>Eucalyptus tereticornis woodland on Quaternary alluvium</b>	<b>16.2</b>	<b>16.2 Eucalyptus dominated woodland on drainage lines and alluvial plains</b>
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	<b>Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana ± Melaleuca spp. fringing woodland</b>	<b>16.2</b>	<b>16.2 Eucalyptus dominated woodland on drainage lines and alluvial plains</b>
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 latisinensis 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. latisinensis ± Corymbia gummifera, C. intermedia, E. bancroftii woodland with heathy 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 seeana ± 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

REB	REB_Label	VHC	VHC_DESC
12.9-10.11	Melaleuca irbyana low open forest on sedimentary rocks	21.1	21.1 Melaleuca dry open forest on sandplains or depositional plains
12.9-10.11a	Eucalyptus citriodora subsp. variegata and/or E. moluccana, E. tereticornis, E. crebra open forest with Melaleuca irbyana understorey on sedimentary rocks	21.1	21.1 Melaleuca dry open forest on sandplains or depositional plains
12.9-10.12	Eucalyptus seeana, Corymbia intermedia, Angophora leiocarpa woodland on sedimentary rocks	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.12a	Eucalyptus interstans, Angophora leiocarpa ± Corymbia intermedia, E. tereticornis woodland on sedimentary rocks occurring near Esk	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.13	Eucalyptus corynodes woodland on sedimentary rocks	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils
12.9-10.14	Eucalyptus pilularis tall open forest on sedimentary rocks	8.1	8.1 Wet eucalypt tall open forest
12.9-10.14a	Eucalyptus grandis, Lophostemon confertus, E. microcorys, Syncarpia glomulifera ± E. pilularis open forest on sedimentary rocks occurring in moist coastal areas	8.1	8.1 Wet eucalypt tall open forest
12.9-10.14b	Eucalyptus pilularis mixed open forest on sedimentary rocks in dry sub coastal areas	8.1	8.1 Wet eucalypt tall open forest
12.9-10.15	Semi-evergreen vine thicket with Brachychiton rupestris on sedimentary rocks	7.1	7.1 Semi-evergreen to deciduous microphyll vine forest
12.9-10.16	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	5.1	5.1 Notophyll to microphyll vine forests
12.9-10.17	Eucalyptus acmenoides, E. major, E. siderophloia ± Corymbia citriodora subsp. variegata woodland on sedimentary rocks	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.17a	Lophostemon confertus dominated open forest on sedimentary rocks	28.1	28.1 Open forests in coastal locations with species such as she-oak or swamp box
12.9-10.17b	Corymbia citriodora subsp. variegata ± Eucalyptus acmenoides, Angophora leiocarpa, E. siderophloia open forest on Cainozoic and Mesozoic sediments	10.1	10.1 Spotted gum dominated open forests
12.9-10.17c	Eucalyptus carnea and/or Eucalyptus tindaliae open forest on Cainozoic and Mesozoic sediments	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.17d	Open forest generally containing Eucalyptus siderophloia, E. propinqua, Corymbia intermedia on sedimentary rocks	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.17e	Eucalyptus acmenoides, E. propinqua, Corymbia intermedia ± E. microcorys, Lophostemon confertus open forest on sedimentary rocks	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.18	Angophora leiocarpa, Eucalyptus crebra woodland on sedimentary rocks	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.18a	Angophora leiocarpa, Eucalyptus crebra open forest with a sub canopy of Lophostemon suaveolens occurring in gullies on sedimentary rocks	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.18b	Angophora leiocarpa, Eucalyptus exserta and Callitris endlicheri woodland on sedimentary rocks	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.19	Eucalyptus fibrosa subsp. fibrosa woodland on sedimentary rocks	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils
12.9-10.19a	Corymbia henryi ± Eucalyptus fibrosa subsp. fibrosa, Corymbia citriodora subsp. variegata open forest on sedimentary rocks	10.1	10.1 Spotted gum dominated open forests
12.9-10.1x1	Eucalyptus resinifera, E. grandis, Corymbia intermedia tall shrubby open forest often on remnant Tertiary surfaces	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.2	Corymbia citriodora subsp. variegata ± Eucalyptus crebra open forest on sedimentary rocks	10.1	10.1 Spotted gum dominated open forests
12.9-10.20	Eucalyptus montivaga woodland on sedimentary rocks	8.2	8.2 Wet eucalypt tall woodland
12.9-10.21	Eucalyptus acmenoides or E. portuensis woodland usually with Corymbia trachyphloia subsp. trachyphloia on Cainozoic to Proterozoic sediments	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.22	Closed sedge/land/shrubland on sedimentary rocks. Coastal parts	34.5	34.5 Sedge/land dominated wetlands
12.9-10.23	Eucalyptus melanoleuca open forest on sedimentary rocks	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.24	Eucalyptus suffulgens open forest on sedimentary rocks	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.3	Eucalyptus moluccana open forest on sedimentary rocks	13.1	13.1 Dry to moist eucalypt open forests on undulating metamorphics and granite
12.9-10.4	Eucalyptus racemosa subsp. racemosa woodland on sedimentary rocks	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.5	Woodland complex often with Corymbia trachyphloia subsp. trachyphloia, C. citriodora subsp. variegata, Eucalyptus crebra, E. fibrosa subsp. fibrosa on quartzose sandstone	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.5a	Eucalyptus helidonica, Corymbia citriodora subsp. variegata ± C. trachyphloia subsp. trachyphloia, Eucalyptus fibrosa subsp. fibrosa, E. taurina open forest on quartzose sandstone in the Helidon hills region	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.9-10.5b	Eucalyptus decorticans ± Corymbia trachyphloia subsp. trachyphloia woodland on quartzose sandstone	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils
12.9-10.5c	Eucalyptus psammitica and/or E. baileyana woodland often with E. planchoniana, E. tindaliae, E. carnea, E. resinifera and Angophora woodsiana on quartzose sandstone	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils
12.9-10.5d	Eucalyptus eugenioides, E. biturbinata or E. longirostrata, E. crebra, E. tereticornis and Corymbia trachyphloia woodland occurring on sedimentary rocks	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.9-10.6	Acacia harpophylla open forest on sedimentary rocks	25.1	25.1 Brigalow belah open forests on heavy clay soils
12.9-10.7	Eucalyptus crebra ± E. tereticornis, Corymbia tessellaris, Angophora spp., E. melanophloia woodland on sedimentary rocks	13.2	13.2 Dry to moist eucalypt woodlands on undulating metamorphics and granite
12.9-10.7a	Eucalyptus siderophloia, Corymbia intermedia ± E. tereticornis and Lophostemon confertus open forest on sedimentary rocks	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.9-10.8	Eucalyptus melanophloia, E. crebra woodland on sedimentary rocks	17.2	17.2 Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains
12.9-10.9	Shrubland/low woodland on sandstone lithosols	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils



<i>Broad Vegetation Group / Vegetation Hazard Class</i>	<i>Potential Fuel Load</i>
<b>BVG 11. Moist to dry eucalypt open forests to woodlands mainly on basalt areas (land zone 8).</b>	
11.2 Moist to dry eucalypt woodlands on basalt areas	13.0
<b>BVG 12. Dry eucalypt woodlands to open woodlands, mostly on shallow soils in hilly terrain (mainly on sandstone and weathered rocks, land zones 7 and 10).</b>	
12.1 Dry eucalypt open forest on sandstone and shallow soils.	21.0
12.2 Dry eucalypt woodlands on sandstone and shallow soils	17.3
<b>BVG 13. Dry to moist eucalypt woodlands and open forests, mainly on undulating to hilly terrain of mainly metamorphic and acid igneous rocks, land zones 11 and 12).</b>	
13.1 Dry to moist eucalypt open forests on undulating metamorphics and granite	21.7
13.2 Dry to moist eucalypt woodlands on undulating metamorphics and granite	14.4
13.3 Shrubland associated with dry to moist eucalypt woodlands on undulating terrain	7.5
<b>BVG 14. Woodlands and tall woodlands dominated by <i>Eucalyptus tetradonta</i> (Darwin stringybark) (or <i>E. megasepala</i>), and/or <i>Corymbia nesophila</i> (Melville Island bloodwood) and/or <i>E. phoenicea</i> (scarlet gum).</b>	
14.1 Open forest dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum	27.8
14.2 Woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum	12.6
14.3 Shrubland associated with woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum	8.8
14.6 Sparsely vegetated areas associated with Darwin stringybark, Melville Island bloodwood or scarlet gum	1.6
<b>BVG 15. Temperate eucalypt woodlands.</b>	
15.1 Temperate open eucalypt forests	26.7
15.2 Temperate eucalypt woodlands	13.8
<b>BVG 16. <i>Eucalyptus</i> spp. dominated open forest and woodlands drainage lines and alluvial plains.</b>	
16.1 <i>Eucalyptus</i> dominated forest on drainage lines and alluvial plains	15.9
16.2 <i>Eucalyptus</i> dominated woodland on drainage lines and alluvial plains	11.5
16.3 Shrubland associated with <i>Eucalyptus</i> woodlands on drainage lines	8.6
16.4 Grassland associated with <i>Eucalyptus</i> dominated woodlands on drainage lines	2.4
16.5 Sedgeland associated with <i>Eucalyptus</i> woodlands on drainage lines	10.8
16.6 Sparsely vegetated areas associated with <i>Eucalyptus</i> woodlands on drainage lines	3.2
<b>BVG 17. <i>Eucalyptus populnea</i> (poplar box) or or <i>E. melanophloia</i> (silver-leaved ironbark) (or <i>E. whitei</i> (White's ironbark)) dry woodlands to open woodlands on sandplains or depositional plains.</b>	
17.1 Dry open forests dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains	14.9
17.2 Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains	9.6
<b>BVG 18. Dry eucalypt woodlands to open woodlands primarily on sandplains or depositional plains.</b>	
18.1 Dry eucalypt open forests on sand or depositional plains	14.8
18.2 Dry eucalypt woodlands on sand or depositional plains	11.0
18.5 Sedgeland associated with dry eucalypt woodlands on sand or depositional plains	10.8
<b>BVG 19. <i>Eucalyptus</i> spp. (<i>E. leucophloia</i> (snappy gum), <i>E. leucophylla</i> (Cloncurry box), <i>E. persistens</i>, <i>E. normantonensis</i> (Normanton box)) low open woodlands often with <i>Triodia</i> spp. dominated ground layer</b>	
19.2 Low open eucalyptus woodlands dominated by snappy gum, Cloncurry Box or Normanton box	9.1
19.3 Shrubland associated with low open eucalypt woodlands dominated by snappy gum, Cloncurry Box or Normanton box	4.5
19.4 Grassland associated with low open eucalypt woodlands dominated by snappy gum, Cloncurry Box or Normanton box	5.1
<b>BVG 20. Woodlands to open forests dominated by <i>Callitris glaucophylla</i> (white cypress pine) or <i>C. intratropica</i> (coast cypress pine) (land zones 3, 5, 10, 12) (BRB, DEU, EIU, MUL).</b>	

<i>Broad Vegetation Group / Vegetation Hazard Class</i>	<i>Potential Fuel Load</i>
20.1 Open forests dominated by white cypress pine or coast cypress pine	16.4
20.2 Woodlands dominated by white cypress pine or coast cypress pine	9.3
<b>BVG 21. Melaleuca spp. dry woodlands to open woodlands on sandplains or depositional plains.</b>	
21.1 Melaleuca dry open forest on sandplains or depositional plains	14.9
21.2 Melaleuca dry woodlands on sandplains or depositional plains	8.7
21.3 Shrubland associated with Melaleuca dry woodlands on sandplains or depositional plains	7.5
21.6 Sparsely vegetated areas associated with Melaleuca dry woodlands on sandplains or depositional plains	4.5
<b>BVG 22. Melaleuca spp. on seasonally inundated open forests and woodlands of lowland coastal swamps and fringing lines. (palustrine wetlands)</b>	
22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps	28.4
22.2 Melaleuca woodlands on seasonally inundated lowland coastal swamps	19.7
22.3 Shrubland associated with Melaleuca woodlands on seasonally inundated lowland coastal swamps	7.5
22.4 Sedgeland associated with Melaleuca woodlands on seasonally inundated lowland coastal swamps	4.5
<b>BVG 23. Acacia aneura (mulga) dominated associations on red earth plains, sandplains or residuals.</b>	
23.2 Mulga dominated woodlands on red earth plains, sandplains or residuals	5.0
23.3 Shrubland associated with mulga on red earth plains, sandplains or residuals.	4.7
23.4 Grassland associated with mulga on red earth plains, sandplains or residuals	5.1
<b>BVG 24. Acacia spp. on residuals. Species include A. clivicola, A. sibirica, A. shirleyi (lancewood), A. microsperma (bowyakka), A. catenulata (bendee), Acacia rhodoxylon (ringy rosewood).</b>	
24.1 Acacia open forest on residuals	10.1
24.2 Acacia woodlands on residuals	8.1
24.3 Acacia shrublands on residuals.	6.8
24.4 Grassland communities associated with Acacia on residuals.	5.1
24.6 Sparsely vegetated areas associated with Acacia on residuals.	3.9
<b>BVG 25. Acacia harpophylla (brigalow) sometimes with Casuarina cristata (belah) open forests to woodlands on heavy clay soils.</b>	
25.1 Brigalow belah open forests on heavy clay soils	14.9
25.2 Brigalow belah woodlands on heavy clay soils	6.2
25.3 Shrubland communities associated with brigalow belah on heavy clay soils	3.8
<b>BVG 26. Acacia cambagei (gidgee)/A. georginae (Georgina gidgee)/A. argyrodendron (blackwood) dominated associations.</b>	
26.1 Gidgee blackwood dominated open forest	8.4
26.2 Gidgee blackwood woodland	3.8
26.3 Shrubland communities associated with Gidgee blackwood woodland	4.7
<b>BVG 27. Mixed species woodlands - open woodlands (Atalaya hemiglauca (western whitewood), Lysiphillum spp., Acacia tephрина (boree), wooded downs).</b>	
27.1 Mixed species open forests dominated by western whitewood, boree or wooded downs	2.8
27.2 Mixed species woodlands dominated by western whitewood, boree or wooded downs	4.8
27.3 Shrubland communities associated with mixed species woodlands	2.0
27.4 Grassland communities associated with mixed species woodlands	4.1
27.5 Sedgeland communities associated with mixed species woodlands	6.0
<b>BVG 28. Open forests to open woodlands in coastal locations. Dominant species such as Casuarina spp., Corymbia spp., Allocasuarina spp. (she-oak), Acacia spp., Lophostemon suaveolens (swamp box), Asteromyrtus spp., Neofabricia myrtifolia.</b>	

**6.PROFILES****ELDON BOTTCHER****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**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

**Member Practice Committee AIA Qld Chapter****BBCA representation to Australian Standards****Committee FP20 ( AS 3959)****Foundation & Life Member**

Guanaba Rural Fire Brigade

**OTHER BUSHFIRE RELATED COURSES AND TRAINING**I.C.S./AIIMS (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

**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**