

12 December 2014

General Manager
Pittwater Council
PO Box 882
Mona Vale NSW 1660

Dear Sir/Madam,

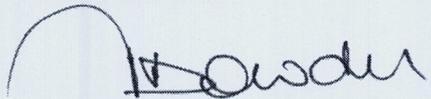
**Development Application No. N0220/14
24 Ruskin Rowe, Avalon Beach**

For Council's information, please find enclosed Construction Certificate No. 2014/5397 issued for alterations and additions to the dwelling (installation of new windows, doors & skylights) at the above address, accompanied by:

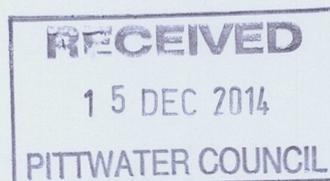
- Copy of Construction Certificate application form
- Notice of Commencement of Work and Appointment of Principal Certifying Authority
- Home Warranty Insurance Certificate
- Cheque for \$36.00 being the prescribed fee to receive the above certificate.

NB: Please forward receipt for the above fee to **Insight Building Certifiers Pty Ltd, PO Box 326, Mona Vale 1660.**

Yours Faithfully,



Tom Bowden
Insight Building Certifiers Pty Ltd



\$36 REC: 372278 15/12/14.

Construction Certificate Determination

issued under the Environmental
Planning and Assessment Act 1979
Section 109C (1) (b), 81A (2) and 81A (4)

Certificate No. 2014/5397

Council	Pittwater
Determination Date of issue	12 December 2014
Subject land Address Lot No, DP No.	24 Ruskin Rowe, Avalon Beach Lot 1 DP 575884
Applicant Name Address Contact No.	Mr James & Mrs Fiona Pullen 24 Ruskin Rowe, Avalon Beach NSW 2107 0401 622 321
Owner Name Address Contact No.	Mr James & Mrs Fiona Pullen 24 Ruskin Rowe, Avalon Beach NSW 2107 0401 622 321
Description of Development Type of Work	Alterations & Additions to the Dwelling (Installation of New Windows, Doors & Skylights)
Builder or Owner/Builder Name Contractor Licence No/Permit	Blue Pacific Constructions Pty Ltd 128426C
Value of Work Building	\$25,000.00

Attachments

- Copy of completed Construction Certificate Application Form
- Pittwater Council receipt no. 371691 for payment for Long Service Levy



Plans & Specifications certified

The development is to be carried out in compliance with the following plans and documentation listed below and endorsed with *Insight Building Certifiers* stamp.

- Architectural Plans & Construction Specification, including Bushfire Specification, reference no. A-970, sheet no. 1 (amendment CC), prepared by AH Design dated 28 November 2014
- Sydney Water approval dated 2 December 2014

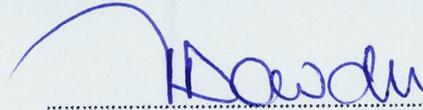
Certificate

I hereby certify that the above Plans, documents or Certificates, satisfy:

- The relevant provisions of the Building Code of Australia
- The relevant conditions of this Development Consent

and that work completed in accordance with the documentation accompanying the application for this Certificate (and any modifications as verified by me and shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation referred to in Section 81A(5) of the Environmental Planning & Assessment Act, 1979.

Signed



12 DEC 2014

Date of endorsement
Certificate No.

2014/5397

Certifying Authority

Name of Accredited Certifier
Accreditation No.
Accreditation Authority
Contact No.
Address

Tom Bowden
BPB0042
Building Professionals Board
(02) 9999 0003
13/90 Mona Vale Road, Mona Vale NSW 2103

Development Consent

Development Application No.
Date of Determination

N0220/14
21 August 2014

BCA Classification

1a

EX. RIDGE R.L. 40.40
 F.C.L.
 EX. RIDGE 37.00
 F.F.L. R.L. 36.104
 F.C.L. R.L. 35.94
 F.F.L. R.L. 32.90
 F.C.L. R.L. 32.60
 F.F.L. R.L. 30.20



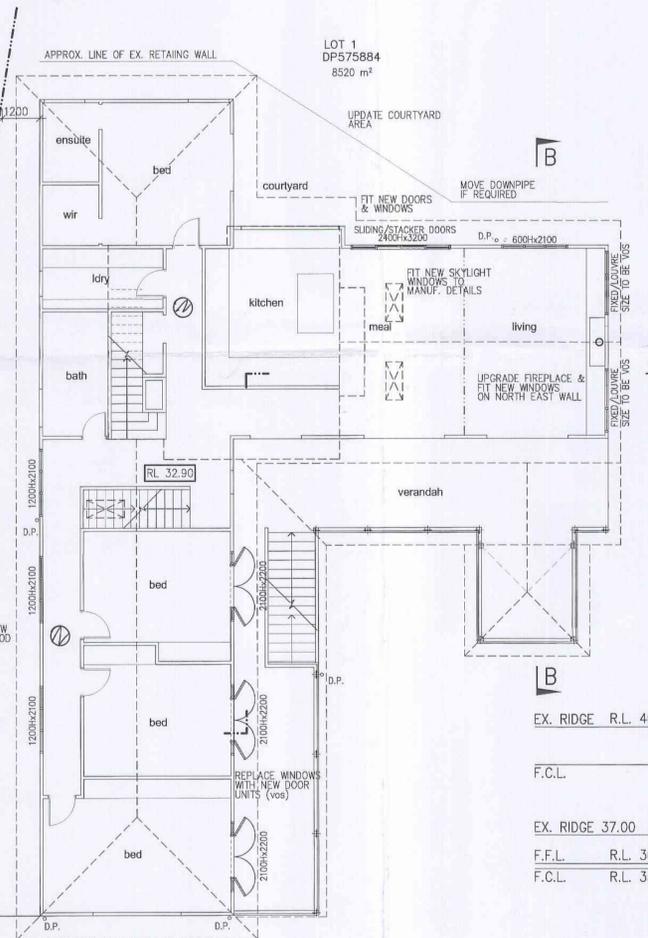
south east elevation
1:100



north east elevation
1:100

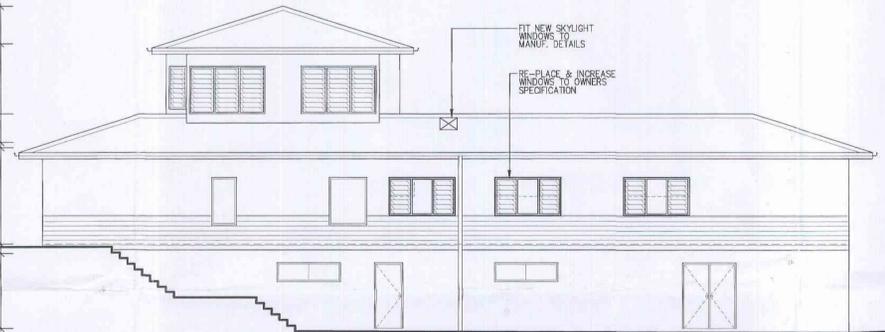


north west elevation
1:100



ground floor plan
1:100

EX. RIDGE R.L. 40.40
 F.C.L.
 EX. RIDGE 37.00
 F.F.L. R.L. 36.104
 F.C.L. R.L. 35.94
 F.F.L. R.L. 32.90
 F.C.L. R.L. 32.60
 F.F.L. R.L. 30.20



south west elevation
1:100

NOTES:

- BAL 19**
- *ALL NEW WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH AS3959 CONSTRUCTION OF BUILDINGS IN BUSH FIRE PRONE AREAS.
- *THE PROPERTY SHALL BE MANAGED IN ACCORDANCE WITH REQUIREMENTS OF THE BUSHFIRE ASSESSMENT REPORT, PREPARED BY CONTROL LINE CONSULTING (CRAIG BURLEY), DATED 23 JUNE 2014.
- *KEEP GROUND CLEAR AROUND HOUSE & CUT LOWER BRANCHES OF TREES TO MAINTAIN A FUEL REDUCED AREA FOR AN INNER PROTECTION AREA. FOR MORE DETAILS, SEE SEP. REPORT.

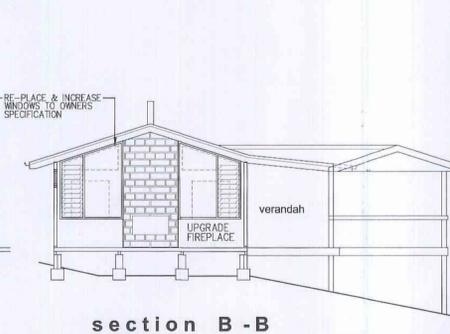
NOTES:

- *RE-PLACE INTERNAL WINDOW-& DOOR TRIMS, PAINT WHITE
- *RE-PLACE EXTERNAL FIBRO SHEET WITH NEW TIMBER CLADDING TO MATCH EXISTING.
- *RE-LINE ALL EAVES WITH V-JOINED F.C SHEETING, PAINT & MAKE GOOD
- *INTRODUCE SANDSTONE & RE-CYLED TIMBER

EX. RIDGE R.L. 40.40
 F.C.L.
 EX. RIDGE 37.00
 F.F.L. R.L. 36.104
 F.C.L. R.L. 35.94
 F.F.L. R.L. 32.90
 F.C.L. R.L. 32.60
 F.F.L. R.L. 30.20



section A-A
1:100



section B-B
1:100

AVALON BEACH LOCALITY
 ALLOWABLE SITE COVERAGE 40%
 SITE CALCULATIONS
 SITE AREA 8520 SQ. M
 TOTAL PROPOSED NEW
 BUILT UPON AREA 0 SQ. M

NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES U.N.O. AND SHOULD BE VERIFIED ON SITE BY THE BUILDER WHO WILL BE RESPONSIBLE FOR THE ACCURATE SETTING OUT OF THE JOB. ANY DISCREPANCIES MUST BE RESOLVED PRIOR TO COMMENCEMENT OF WORK.
- ALL CONSTRUCTION IS TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA (BCA) AND TO THE LOCAL COUNCIL REQUIREMENTS AND OTHER AUTHORITIES CONCERNED.
- ALL DIMENSIONS THAT RELATE TO SITE BOUNDARIES AND EASEMENTS ARE SUBJECT TO VERIFICATION BY A SITE SURVEY.
- IT IS THE OWNERS RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY SEWER MAINS OR EASEMENTS OR ANY OTHER CONDITIONS WHICH WILL AFFECT THE BUILDING DESIGN.
- FOURED DIMENSIONS TAKE PRECEDENCE OVER SCALED READINGS.
- ALL TIMBER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE NATIONAL TIMBER FRAMING CODE AS1684.
- ROOF WATER AND SUB SOIL DRAINAGE TO BE DISPOSED OF IN THE APPROVED MANNER OR AS DIRECTED BY LOCAL INSPECTORS.
- FINAL POSITION OF ALL DOWNPIPES TO BE DECIDED BY ROOF PLUMBER.
- ANY STRUCTURAL DETAILS OR DESIGN IS TO BE SUPPLIED BY A STRUCTURAL ENGINEER.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM.
- ALL ELECTRICAL, POWER & LIGHT OUTLETS AS DETERMINED BY OWNER.
- MAKE GOOD & REPAIR ALL EXISTING FINISHES AFFECTED BY NEW WORK. RE-USE EXISTING MATERIALS WHERE POSSIBLE.
- ANY DETAILING IN ADDITION TO WHAT IS SUPPLIED ON THIS DRAWING SHALL BE RESOLVED BETWEEN THE OWNER & THE BUILDER.

mark	date	issue to client for council approval	amendments.
CC	28/11/14	issue to client for CC	
	19/05/14	issue to client for council approval	

project.

Alteration - new windows
 for
Mr. J. Pullen
 24 Ruskin Rowe
 Avalon Beach NSW 2107

drawing file.

WORKING DRAWINGS-
Floor plan and elevations

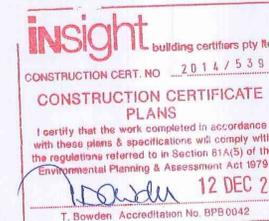
scale. date.
 1:100 MAY 2014

Draftperson.

ANNA HENRY
AH DESIGN
 22 WANDEEN ROAD, CLAREVILLE NSW 2107
 T. 02 9918 5790
 E. ahdesign@email.com

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 or part without written permission infringes copyright.

project no. sheet no. of
A-970 1 1
 amendments. **CC**



Pittwater Council

Tax Invoice Official Receipt

2/12/2014
ABN: 61340837871
Receipt No: 371691

TO: BLUE PACIFIC CONSTRUCTIONS
13/51 OLD BARRENJOEY RD
AVALON
NSW 2107

LEVY PAYMENT

FORM NO.

OFFICE USE ONLY

AMMUNITION LIABLE TO PAY LEVY

PLEASE PRINT ALL DETAILS USING CAPITAL LETTERS

PACIFIC CONSTRUCTION
OLD BARRENJOEY RD

code 2107 Bus. hours phone 041059480

NON WORK

IN ROWE
ON-

code 2107
15 Estimated finish date D 30 M 3 Y 1

by consenting/certifying authority with whom plans lodged for approval

water
0/14
25,000

Levy payable \$ 87.50

1 If you have provided a CC above, please provide DA number here

Name of Officer/Private Certifier Insight

Business hours phone

PART D - DETAILS - to be completed by Dept/Authority where work is done - see reverse

Department/Authority

Contract/DA No (circle which) Contract amount \$

Levy payable \$

Contact person (Print)

Contact person (Signature) Phone number

Date D M Y

Any false or misleading information provided on this form may result in prosecution under Section 58A. I hereby declare that the information provided on this form is true and correct to the best of my knowledge

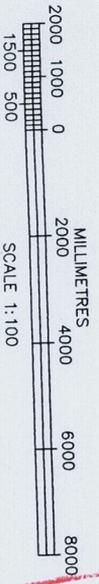
Name Peter Heber Signature

Date D 03 M 12 Y 2014

Exemption Approval Certificate No.

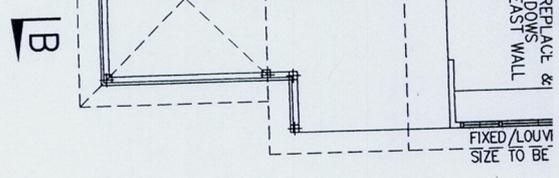
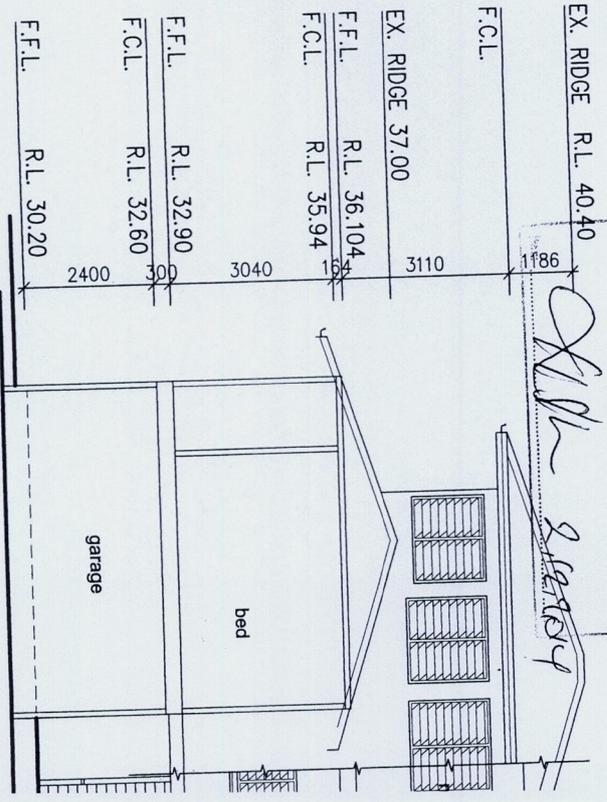
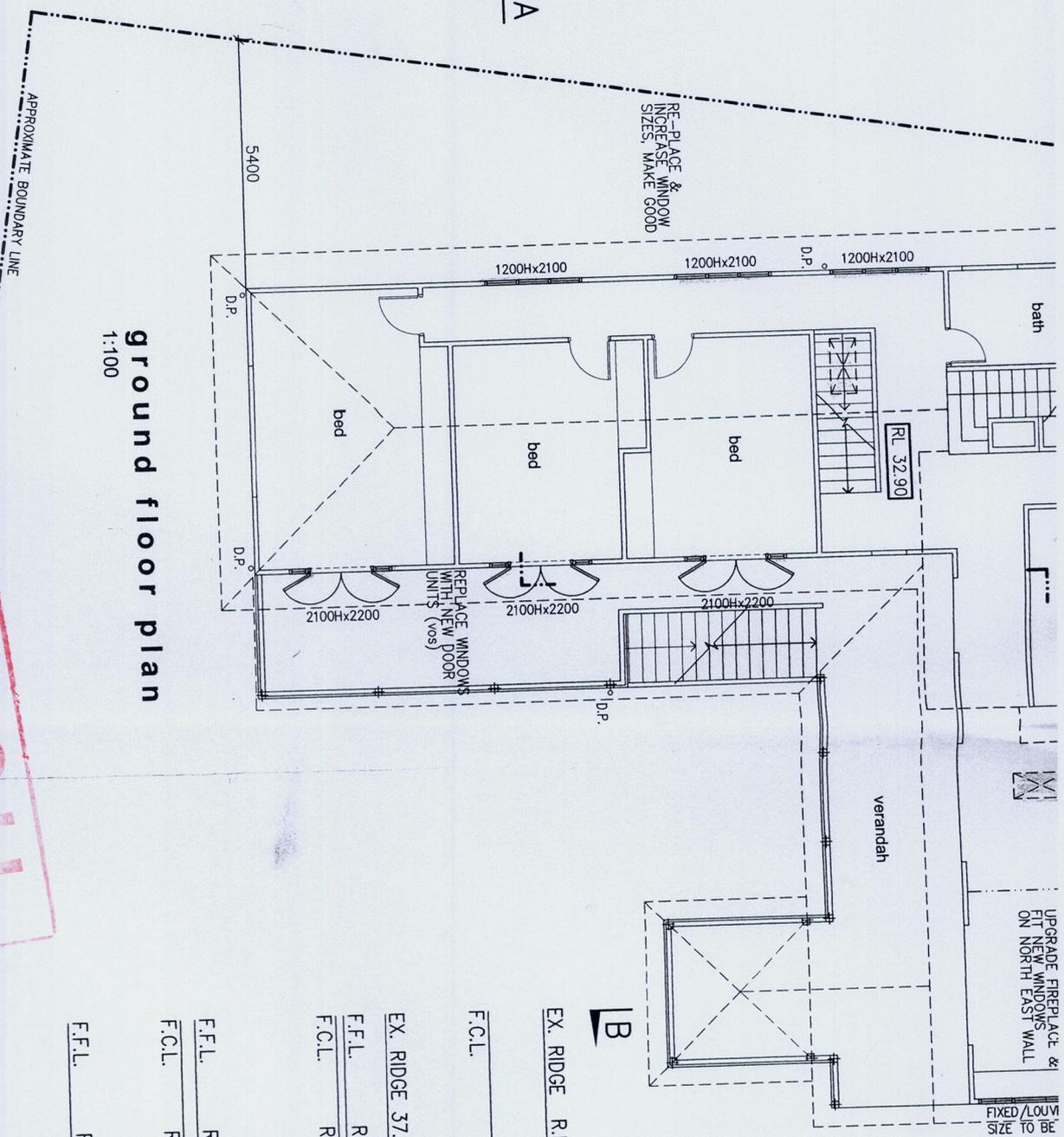
* PAID 2.12.2014 R/371691

This plan / document forms part of Construction Certificate no. 2014/5397



COUNCIL COPY

ground floor plan
1:100



SYDNEY WATER APPROVED

Position of structure in relation to Sydney Water's assets is satisfactory.

- Connections to Sydney Water sewer/water services may only be made following the issue of a permit to a licensed plumber/drainier.
- It is the owner's responsibility to ensure that all proposed fittings will drain to Sydney Water's sewer.
- Any Plumbing and/or Drainage Work to be carried out in accordance with the Sydney Water Act 1994, AS 3608 and the NSW Code of Practice.
- Gullies, Inspection Shafts and Secondary Traps shall not be placed under any Roof, Balcony, Verandah, Floor or other cover unless otherwise approved by Sydney Water.
- Property No. 32/31457

Reece Mena Vale
Quick Check Agent on behalf of
SYDNEY WATER

This plan / document forms part of Construction Certificate no. 2014 / 5397

section A -
1:100

RECEIVED
08 DEC 2014

Construction Certificate
Modified Construction Certificate

APPLICATION FOR A CONSTRUCTION CERTIFICATE

Environmental Planning and Assessment Act 1979 & Environmental Planning and Assessment Regulation 2000

Description of Building Work

Alterations to an existing dwelling (installation of new windows, doors and skylight)

Estimated cost of work

\$25,000.00

BCA Classification(s)

1a

Development Consent Reference no.

N0220/14

Date of Issue

21-8-14

Modified Consent Reference no. (If applicable)

Date of Issue (If applicable)

Property Address

Unit/Street no.

24

Street name

Ruskin Rowe

Suburb

Avalon Beach

Post code

2107

Lot no.

1

DP no.

575884

Accompanying Documents

- i. Appropriate Architectural Plans and Specifications
- ii. All information required by Part 3 of Schedule 1 Forms of the Regulation (see over)

I/We, the owner/s of the abovementioned property, hereby make application to Tom Bowden/Heath McNab of Insight Building Certifiers Pty Ltd ('Insight') for a Construction Certificate for the building work described above and, in doing so, I/we also declare that the documents provided and asserted by me as a copy of a development consent and incorporated plans are a true copy of same as issued by the relevant consent authority or the Land and Environment Court.

Owner 1 Name:

JAMES ROLLEN

Owner 2 Name:

FIONA ROLLEN

Owner's Signature:

[Signature]

Owner's Signature:

[Signature]

Date:

25/11/14

Date:

25/11/14

Owner's Address:

24 RUSKIN ROWE, AVALON

Daytime Telephone:

0401 622 321

Mobile:

[Office Use Only]: Date received by Accredited Certifier:

COUNCIL COPY

Environmental Planning & Assessment Regulations 2000

Schedule 1 – Part 3(6) – Documents to accompany application for Construction Certificates

- (1) An application for a construction certificate must be accompanied by the following documents:
 - (a) if the development involves building work (including work in relation to a dwelling-house or a building or structure that is ancillary to a dwelling-house):
 - (i) a detailed description of the development, and
 - (ii) appropriate building work plans and specifications,
 - (b) if the development involves building work (other than work in relation to a dwelling-house or a building or structure that is ancillary to a dwelling-house or work that relates only to fire link conversion):
 - (i) a list of any existing fire safety measures provided in relation to the land or any existing building on the land, and
 - (ii) a list of the proposed fire safety measures to be provided in relation to the land and any building on the land as a consequence of the building work,
 - (c) if the development involves subdivision work, appropriate subdivision work plans and specifications,
 - (d) in the case of development to which clause 6A applies, such other documents as any BASIX certificate for the development requires to accompany the application.
 - (2) A detailed description of the development referred to in subclause (1) (a) (i) must indicate the following matters:
 - (a) for each proposed new building:
 - (i) the number of storeys (including underground storeys) in the building,
 - (ii) the gross floor area of the building (in square metres),
 - (iii) the gross site area of the land on which the building is to be erected (in square metres),
 - (b) for each proposed new residential building:
 - (i) the number of existing dwellings on the land on which the new building is to be erected,
 - (ii) the number of those existing dwellings that are to be demolished in connection with the erection of the new building,
 - (iii) the number of dwellings to be included in the new building,
 - (iv) whether the new building is to be attached to any existing building,
 - (v) whether the new building is to be attached to any other new building,
 - (vi) whether the land contains a dual occupancy,
 - (vii) the materials to be used in the construction of the new building (using the abbreviations set out in clause 7 of this Schedule).
 - (3) Appropriate building work plans and specifications referred to in subclause (1) (a) (ii) include the following:
 - (a) detailed plans, drawn to a suitable scale and consisting of a block plan and a general plan, that show:
 - (i) a plan of each floor section, and
 - (ii) a plan of each elevation of the building, and
 - (iii) the levels of the lowest floor and of any yard or unbuilt on area belonging to that floor and the levels of the adjacent ground, and
 - (iv) the height, design, construction and provision for fire safety and fire resistance (if any),
 - (b) Specifications for the development:
 - (i) that describe the construction and materials of which the building is to be built and the method of drainage, sewerage and water supply, and
 - (ii) that state whether the materials to be used are new or second-hand and (in the case of second-hand materials) give particulars of the materials to be used,
 - (c) a statement as to how the performance requirements of the *Building Code of Australia* are to be complied with (if an alternative solution, to meet the performance requirements, is to be used),
 - (d) a description of any accredited building product or system sought to be relied on for the purposes of section 79C (4) of the Act,
 - (e) copies of any compliance certificate to be relied on,
 - (f) if the development involves building work to alter, expand or rebuild an existing building, a scaled plan of the existing building,
 - (g) in the case of development to which clause 6A applies, such other matters as any BASIX certificate for the development requires to be included in the plans and specifications.
 - (3A) An application for a construction certificate that relates only to fire link conversion need only be accompanied by a document that describes the design and construction, and mode of operation, of the new fire alarm communication link.
 - (4) Appropriate subdivision work plans and specifications referred to in subclause (1) (c) include the following:
 - (a) details of the existing and proposed subdivision pattern (including the number of lots and the location of roads),
 - (b) details as to which public authorities have been consulted with as to the provision of utility services to the land concerned,
 - (c) details engineering plans as to the following matters:
 - (i) earthworks,
 - (ii) roadworks,
 - (iii) road pavement,
 - (iv) road furnishings,
 - (v) stormwater drainage,
 - (vi) water supply works,
 - (vii) sewerage works,
 - (viii) landscaping works,
 - (ix) erosion control works,
 - (d) copies of any compliance certificates to be relied on.
- 6A BASIX certificate required for certain development**
- (1) This clause applies to:
 - (a) BASIX affected development, and
 - (b) BASIX optional development in relation to which a person made a development application that has been accompanied by a BASIX certificate or BASIX certificates (despite there being no obligation under clause 2A for it to be so accompanied).
 - (2) In addition to the documents required by clause 6, an application for a construction certificate for any development to which this clause applies must also be accompanied by a BASIX certificate or BASIX certificates for the development, being either the BASIX certificate applicable to the development when the relevant development consent was granted or some other BASIX certificate or BASIX certificates that has or have been issued no earlier than 3 months before the date on which the application is made.
 - (3) If the proposed development involves the alteration, enlargement or extension of a BASIX affected building that contains more than one dwelling, a separate BASIX certificate is required for each dwelling concerned.

Bushfire Construction Specification

BAL 19

(as modified by Planning for Bushfire Protection)

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**COUNCIL
COPY**

This plan / document
forms part of
Construction Certificate
no. 2014 / 5397

SECTION 6 CONSTRUCTION FOR BUSHFIRE
ATTACK LEVEL 19 (BAL—19)

SARKING

Any sarking used for BAL-12.5, BAL-19, BAL-29 or BAL-40 shall be:

- a) Non-combustible; or
- b) Breather-type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 (see AS1530.2) and sarked on the outside of the frame; or
- c) An insulation material conforming to the appropriate Australian Standard for that material.

6.1 GENERAL

A building assessed in Section 2 as being BAL—19 shall comply with Section 3 and Clauses 6.2 to 6.8.

NOTE: There are a number of Standards that specify requirements for construction; however, where this Standard does not provide construction requirements for a particular element, the other Standards apply.

Any element of construction or system that satisfies the test criteria of AS 1530.8.1 may be used in lieu of the applicable requirements contained in Clauses 6.2 to 6.8 (see Clause 3.8).

NOTE: BAL—19 is primarily concerned with protection from ember attack and radiant heat greater than 12.5 kW/m² up to and including 19 kW/m².

6.2 SUBFLOOR SUPPORTS

This Standard does not provide construction requirements for subfloor supports where the subfloor space is enclosed with—

- a) a wall that complies with Clause 7.4; or
- b) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion resistant steel, bronze or aluminium; or
- c) a combination of Items (a) and (b) above.

d) Where the subfloor space is unenclosed, the support posts, columns, stumps, piers and poles shall be—

- (i) of non-combustible material; or
- (ii) of bushfire-resisting timber (see Appendix F); or
- (iii) a combination of Items (i) and (ii) above.

NOTE: This requirement applies to the principal building only and not to verandas, decks, steps, ramps and landings (see Clause 7.7).

6.3 FLOORS

6.3.1 Concrete slabs on the ground

This Standard does not provide construction requirements for concrete slabs on ground.

6.3.2 Elevated floors

This Standard does not provide construction requirements for elevated floors, including bearers, joists and flooring.

6.4 EXTERNAL WALLS

6.4.1 Walls

That part of an external wall surface that is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the wall (see Figure D3, Appendix D) shall be made from—

- a) non-combustible material; or
- b) fibre-cement external cladding, a minimum of 6 mm in thickness; or
- c) bushfire-resisting timber (see Appendix F); or
- d) a timber species as specified in Paragraph E1, Appendix E; or
- e) a combination of any of Items (a), (b), (c) or (d) above.

This Standard does not provide construction requirements for external wall surfaces 400mm or more from the ground or for external wall surfaces 400 mm or more above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the wall (see

Figure D3, Appendix D).

6.4.2 Joints

All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm. Alternatively, sarking-type material may be applied over the outer face of the frame prior to fixing any external cladding.

6.4.3 Vents and weepholes

Vents and weepholes in external walls shall be screened with mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium, except where they are less than 3 mm (see Clause 3.6), or are located in an external wall of a subfloor space.

6.5 EXTERNAL GLAZED ELEMENTS AND ASSEMBLIES AND EXTERNAL DOORS

6.5.1 Bushfire shutters

Where fitted, bushfire shutters shall comply with Clause 3.7 and be made from—

- a) non-combustible material; or
- b) a timber species as specified in Paragraph E1, Appendix E; or
- c) bushfire-resisting timber (see Appendix F); or
- d) a combination of any of Items (a), (b), or (c) above.

6.5.1A Screens for windows and doors

Where fitted, screens for windows and doors shall have a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

Gaps between the perimeter of the screen assembly and the building element to which it is fitted shall not exceed 3 mm.

The frame supporting the mesh or perforated sheet shall be made from—

- a) metal; or
- b) bushfire-resisting timber (see Appendix F); or
- c) a timber species as specified in Paragraph E2, Appendix E.

6.5.2 Windows

Window assemblies shall comply with one of the following:

- a) They shall be completely protected by a bushfire shutter that complies with Clause 6.5.1. or
- b) They shall be completely protected externally by screens that comply with Clause 6.5.1A. or
- c) They shall comply with the following:
 - (i) For window assemblies less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings, having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the window frame (see Figure D3, Appendix D), window frames and window joinery, shall be made from one of the following:
 - (A) Bushfire-resisting timber (see Appendix F). or
 - (B) A timber species as specified in Paragraph E2, Appendix E. or
 - (C) Metal. or
 - (D) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the frame and the sash shall satisfy the design load, performance and structural strength of the member.
 - (ii) Externally fitted hardware that supports the sash in its functions of opening and closing, shall be metal.
 - (iii) Where glazing is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings, having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the window frame (see Figure D3, Appendix D), the glazing shall be toughened glass minimum 5 mm, or glass blocks with no restriction on glazing methods.
NOTE: Where double-glazed units are used, the above requirements apply to the external face of the window assembly only.
 - (iv) Where glazing is other than that specified in Item (iii) above, annealed glass may be used. Where annealed glass is used, both the fixed and openable portions of windows shall be screened externally with screens that comply with Clause 6.5.1A.

(v) Where toughened glass is used, it shall be toughened glass of minimum 5 mm and the openable portions of windows shall be screened internally or externally with screens that comply with Clause 6.5.1A.

(vi) Glazed elements that are designed to take internal screens shall use toughened glass of minimum 5 mm and the openable portion shall be screened with screens that comply with Clause 6.5.1A.

6.5.3 Doors—Side-hung external doors (including French doors, panel fold and bi-fold doors)

Side-hung external doors, including French doors, panel fold and bi-fold doors, shall comply with one of the following:

- a) They shall be protected by a bushfire shutter that complies with Clause 6.5.1. or
- b) They shall be completely protected externally by screens that comply with Clause 6.5.1A. or
- c) They shall comply with the following:

(i) Doors shall be—

- (A) non-combustible; or
- (B) a solid timber door, having a minimum thickness of 35 mm for the first 400 mm above the threshold; or
- (C) a door, including a hollow core door, with a non-combustible kick-plate on the outside for the first 400 mm above the threshold; or
- (D) a fully framed glazed door, where the framing is made from materials specified for bushfire shutters (see Clause 6.5.1), or from a timber species as specified in Paragraph E2, Appendix E.

(ii) Where doors incorporate glazing, the glazing shall be toughened glass minimum 5 mm.

(iii) Doors shall be tight-fitting to the door frame and to an abutting door, if applicable.

(iv) Where the door frame is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the

door (see Figure D3, Appendix D), the door frame shall be made from one of the following:

- (A) Bushfire-resisting timber (see Appendix F). or
 - (B) A timber species as specified in Paragraph E2, Appendix E. or
 - (C) Metal. or
 - (D) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the door assembly shall satisfy the design load, performance and structural strength of the member.
- (v) Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

6.5.4 Doors—Sliding doors

Sliding doors shall comply with one of the following:

- a) They shall be completely protected by a bushfire shutter that complies with Clause 6.5.1., or
- b) They shall be completely protected externally by screens that comply with Clause 6.5.1A., or
- c) They shall comply with the following:
 - (i) Any glazing incorporated in sliding doors shall be toughened glass minimum 5 mm.
 - (ii) Both the door frame supporting the sliding door and the framing surrounding any glazing shall be made of one of the following:
 - (A) Bushfire-resisting timber (see Appendix F). or
 - (B) A timber species as specified in Paragraph E2, Appendix E. or
 - (C) Metal. or
 - (D) Metal-reinforced PVC-U. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel and the frame and the sash shall satisfy the design load, performance and structural strength of the member.
 - (iii) There is no requirement to screen the openable part of the sliding door. However, if screened, the screens shall comply with Clause 6.5.1A.

NOTE: The construction of manufactured sliding doors should prevent the entry of embers when the door is closed. There is no requirement to provide screens to the openable part of these doors as it is assumed that a sliding door will be closed if occupants are not present or during a bushfire event. Screens of materials other than those specified may not resist ember attack

(iv) Sliding doors shall be tight-fitting in the frames.

6.5.5 Doors—Vehicle access doors (garage doors)

The following apply to vehicle access doors:

(a) The lower portion of a vehicle access door that is within 400 mm of the ground when the door is closed (see Figure D4, Appendix D) shall be made from—

- (i) non-combustible material; or
- (ii) bushfire-resisting timber (see Appendix F); or
- (iii) fibre-cement sheet, a minimum of 6 mm in thickness; or
- (iv) a timber species as specified in Paragraph E1, Appendix E; or
- (v) a combination of any of Items (i), (ii), (iii) or (iv) above.

(b) Panel lift, tilt doors or side-hung doors shall be fitted with suitable weather strips, draught excluders, draught seals or guide tracks, as appropriate to the door type, with a maximum gap no greater than 3 mm.

(c) Roller doors shall have guide tracks with a maximum gap no greater than 3 mm and shall be fitted with a nylon brush that is in contact with the door (see Figure D4, Appendix D).

(d) Vehicle access doors shall not include ventilation slots.

6.6 ROOFS (INCLUDING VERANDA AND ATTACHED CARPORT ROOFS, PENETRATIONS, EAVES, FASCIAS, GABLES, GUTTERS AND DOWNPIPES)

6.6.1 General

The following apply to all types of roofs and roofing systems:

- a) Roof tiles, roof sheets and roof-covering accessories shall be non-combustible.

- b) The roof/wall junction shall be sealed, to prevent openings greater than 3 mm, either by the use of fascia and eaves linings or by sealing between the top of the wall and the underside of the roof and between the rafters at the line of the wall.
- c) Roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

6.6.2 Tiled roofs

Tiled roofs shall be fully sarked. The sarking shall—

- a) have a flammability index of not more than 5, when tested to AS 1530.2;
- b) be located directly below the roof battens;
- c) cover the entire roof area including the ridge; and
- d) be installed so that there are no gaps that would allow the entry of embers where the sarking meets fascias, gutters, valleys and the like.

6.6.3 Sheet roofs

Sheet roofs shall—

- a) be fully sarked in accordance with Clause 6.6.2, except that foil-backed insulation blankets may be installed over the battens; or
- b) have any gaps greater than 3 mm under corrugations or ribs of sheet roofing and between roof components sealed at the fascia or wall line and at valleys, hips and ridges by—
 - (i) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium; or
 - (ii) mineral wool; or
 - (iii) other non-combustible material; or
 - (iv) a combination of any of Items (i), (ii), or (iii) above.

6.6.4 Veranda, carport and awning roofs

The following apply to veranda, carport and awning roofs:

- a) A veranda, carport or awning roof forming part of the main roof space [see Figure D1(a), Appendix D] shall meet all the requirements for the main roof, as specified in Clauses 6.6.1, 6.6.2, 6.6.3, 6.6.5 and 6.6.6.
- b) A veranda, carport or awning roof separated from the main roof space by an external wall [see Figures D1(b) and D1(c), Appendix D] complying with Clause 6.4 shall have a non-combustible roof covering.

NOTE: There is no requirement to line the underside of a veranda, carport or awning roof that is separated from the main roof space.

6.6.5 Roof penetrations

The following apply to roof penetrations:

- a) Roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors shall be adequately sealed at the roof to prevent gaps greater than 3 mm. The material used to seal the penetration shall be non-combustible.
- b) Openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
- c) All overhead glazing shall be Grade A safety glass complying with AS 1288.
- d) Glazed elements in roof lights and skylights may be of polymer provided a Grade A safety glass diffuser, complying with AS 1288, is installed under the glazing. Where glazing is an insulating glazing unit (IGU), Grade A toughened safety glass of minimum 4 mm shall be used in the outer pane of the IGU.
- e) Flashing elements of tubular skylights may be of a fire-retardant material, provided the roof integrity is maintained by an under-flashing of a material having a flammability index no greater than 5.
- f) Evaporative cooling units shall be fitted with butterfly closers at or near the ceiling level, or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

6.6.6 Eaves linings, fascias and gables

The following apply to eaves linings, fascias and gables:

- a) Gables shall comply with Clause 6.4.
- b) Eaves penetrations shall be protected the same as for roof penetrations, as specified in Clause 6.6.5.
- c) Eaves ventilation openings greater than 3 mm shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

Joints in eaves linings, fascias and gables may be sealed with plastic joining strips or timber storm moulds.

This Standard does not provide construction requirements for fascias, bargeboards and eaves linings.

6.6.7 Gutters and downpipes

This Standard does not provide material requirements for—

- a) gutters, with the exception of box gutters; and
- b) downpipes.

If installed, gutter and valley leaf guards shall be non-combustible.

Box gutters shall be non-combustible and flashed at the junction with the roof with noncombustible material.

6.7 VERANDAS, DECKS, STEPS, RAMPS AND LANDINGS

The following specifications have been varied to include the requirements of the NSW RFS variation to the Australian Standard as outlined in the Addendum to Appendix 3 of Planning for Bushfire Protection 2006

6.7.1 General

Decking may be spaced.

There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.

C7.7.1 Spaced decking is nominally spaced at 3 mm (in accordance with standard industry practice); however, due to the nature of timber decking with seasonal changes in moisture content, that spacing may range from 0–5 mm during service. The preferred dimension for gaps is 3 mm (which is in line with other 'permissible gaps') in other parts of this Standard. It should be noted that recent research studies

have shown that gaps at 5 mm spacing afford opportunity for embers to become lodged in between timbers, which may contribute to a fire. Larger gap spacing of 10 mm may preclude this from happening but such a spacing regime may not be practical for a timber deck.

6.7.2 Enclosed subfloor spaces of verandas, decks, steps, ramps and landings

6.7.2.1 Materials to enclose a subfloor space

The subfloor spaces of verandas, decks, steps, ramps and landings are considered to be 'enclosed' when—

a) the material used to enclose the subfloor space complies with Clause 7.4; and all openings greater than 3 mm are screened with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

6.7.2.2 Subfloor supports

This Standard does not provide construction requirements for support posts, columns, stumps, stringers, piers and poles.

6.7.2.3 Framing

This Standard does not provide construction requirements for the framing of verandas, decks, ramps or landings (i.e., bearers and joists).

6.7.2.4 Decking, stair treads and the trafficable surfaces of ramps and landings

Decking, stair treads and the trafficable surfaces of ramps and landings shall be—

- a) of non-combustible material; or
- b) of bushfire-resisting timber (see Appendix F); or
- a combination of Items (a) and (b) above.

6.7.3 Unenclosed subfloor spaces of verandas, decks, steps, ramps and landings

6.7.3.1 Supports

Support posts, columns, stumps, stringers, piers and poles shall be—

- a) of non-combustible material; or
- b) of bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (a) and (b) above.

6.7.3.2 Framing

Framing of verandas, decks, ramps or landings (i.e., bearers and joists) shall be—

- a) of non-combustible material; or

- b) of bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (a) and (b) above.

6.7.3.3 Decking, stair treads and the trafficable surfaces of ramps and landings

Decking, stair treads and the trafficable surfaces of ramps and landings shall be—

- a) of non-combustible material; or
- b) of bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (a) and (b) above.

6.7.4 Balustrades, handrails or other barriers

Those parts of the handrails and balustrades less than 125 mm from any glazing or any combustible wall shall be—

- a) of non-combustible material; or
- b) bushfire-resisting timber (see Appendix F); or
- c) a combination of Items (i) and (ii) above.

Those parts of the handrails and balustrades that are 125 mm or more from the building have no requirements.

6.8 WATER AND GAS SUPPLY PIPES

Above-ground, exposed water and gas supply pipes shall be metal.

Appendix E list of Timbers AS3959, 2009

Standard trade name Botanical name	Corymbia citriodora
Ash, alpine Eucalyptus delegatensis	Gum, sugar Eucalyptus cladocalyx
Ash, Crow's Flindersia australis	Hardwood, Johnstone River Backhousia bancroftii
Ash, mountain Eucalyptus regnans	Ironbark, grey Eucalyptus paniculata
Ash, silvertop Eucalyptus sieberi	Ironbark, red Eucalyptus sideroxylon
Balau (selangan batu) Shorea spp.	Jarrah Eucalyptus marginata
Bangkirai Shorea laevifolia	Kapur Dryobalanops spp.
Beech, myrtle Nothofagus cunninghamii	Karri Eucalyptus diversicolor
Belian Eusideroxylon zwageri	Kempas Koombassia malaccensis
Blackbutt Eucalyptus pilularis	Keruing Dipterocarpus spp.
Blackbutt, New England Eucalyptus andrewsii	Kwila (Merbau) Intsia bijuga
Eucalyptus campanulata	Mahogany, Philippine red, dark Shorea spp.
Blackwood Acacia melanoxylon	Mahogany red Eucalyptus resinifera
Box, brush Lophostemon confertus	Mahogany, southern Eucalyptus botryoides
Box, grey Eucalyptus microcarpa	Mahogany, white Eucalyptus acmenoides
Box, grey, coast Eucalyptus bosistoana	Messmate Eucalyptus obliqua
Box, white-topped Eucalyptus quadrangulata	Messmate, Gympie Eucalyptus cloeziana
Box, yellow Eucalyptus melliodora	Northern Box (Pelawan) Tristaniopsis spp.
Brownbarrel Eucalyptus fastigata	Oak , American Quercus spp.
Candlebark Eucalyptus rubida	Peppermint, narrow-leaved Eucalyptus australiana
Cypress Callitris glaucophylla	Pine, celery-top Phyllocladus asplenifolius
Gum, blue, southern Eucalyptus globulus	Pine, slash Pinus elliottii

