

Mr & Mrs G & D Sexton
4 Notting Lane
Cottage Point NSW 2084



Our Reference CR – 103 – 4
Your Reference DA / 2013 / 0677

26 October 2015

Dear Sir / Madam,

Subject: Bushfire Safety Provisions
Sexton Residence
Lot 1 DP 586163
4 Notting Lane
Cottage Point NSW 2084

Background

This report considers the construction of a 'Fence' structure, detached from the main residence, and located along the northern side boundary of 4 Notting Lane Cottage Point NSW 2084. It is also based on the information that the subject allotment is located within 'Bushfire Prone Land' (s146 EP&A Act 1979).

The certifying authority has noted that the said 'fence' has been constructed partially using timber elements (which are not classified as 'non combustible'). As such the certifying authority has found that the construction of the 'fence' structure has not satisfied the requirements of the DA Conditions of Consent for the subject development site (DA 2013/0677 dated 12/9/2013). The Consent (and associated Bushfire Assessment by Bushfire Planning Services Dated 7/12/2012) assessed the subject residence and associated infrastructure as being exposed to a BAL 29 rating, requiring compliance with Section 7 of AS3959-2009 and the NSW RFS Fast Fact 2/06 Dividing Fences.

It is agreed that the 'fence', in its current form, would not be able to fully comply with the requirements of the bushfire planning provisions stated above.

Therefore it is the intention of this report to determine if the 'Fence' structure could be modified or treated in such a way, where as it could alternately comply with the general 'bushfire specific planning legislation' related to development on 'bushfire prone land' (i.e. compliance under s79BA of the EP&A Act 1979 i.e. AS3959-2009 & RFS Fast Fact 2/06).

Legislation & Planning Policy

Section 79BA of the Environmental Planning and Assessment Act 1979

Planning for Bushfire Protection 2006

AS3959-2009 Construction of Buildings in bushfire prone areas

Addendum – Appendix 3 of Planning for Bushfire Protection 2010

NSW RFS Fast Fact 2/06 Dividing Fences

Assessment of Compliance Issues

The boundary fence is of mixed construction. It is generally constructed from steel posts set into a masonry base retaining wall. It then has a pine structure and is clad with 'Merbau'.

The masonry base and steel posts can currently fully comply with all bushfire planning provisions.

It is now proposed to treat all of the pine structural/framing elements in a way that will see them comply. Depending on the exposure levels / location of these elements they will be treated utilizing two different methods.

It is proposed to clad the reverse side of the fence structure, within 20m of the fire source, with a metal sheet product (e.g. colorbond). This will protect/shield the existing pine structural/framing/cladding elements. As this steel sheeting would be considered as 'noncombustible', all structural/framing elements, within 20m of the fire source, would then be able to fully comply with all bushfire planning provisions.

This leaves only the hardwood (merbau) cladding as the only non-compliant element. This section cannot fully comply with the standard or the RFS Fast Fact 2/06 in its current or proposed form. However, as a considered opinion, and based on the specific advice that the new fence replaced an existing treated pine fence in a similar location, it can achieve compliance with the 'Specific Objectives' for infill development (PBP 2006 Section 4.3.2) specifically as follows:

'Provide better bushfire protection, on a redevelopment site, than the existing situation. This should not result in new works being exposed to greater risk than an existing building.'

It is then proposed to treat the remaining structural elements of the fence, >20m from the fire source, with a fully compliant and suitably tested fire resistant paint product (as per AS3959-2009 Appendix F Section F1 c) 'the application of fire retardant coatings or substrates') e.g. Fireshell F1E by Exfire. All structural/framing elements, located >20m from the fire source, would then be able to fully comply with all bushfire planning provisions.

It is noted that any section of the fence located >35m from the bushfire source would actually be exposed to only a BAL 19 rating (based on an AS3959-2009 Section 2 Assessment - Forest Vegetation located Upslope from the development) As such the hardwood cladding on the fence, within 20m from the Eastern boundary, can also fully comply with the RFS Fast Fact 2/06, without any further rectification works (apart from those noted above for framing elements)

It is also noted, based on the same assessment, that sections of the fence located >25m to <35m from the bushfire source will be exposed to a BAL 29 rating As such the section of hardwood cladding on the fence, located >25m to <35m from the bushfire source on the Eastern boundary, can generally comply with the bushfire planning provisions of AS3959-2009 Section 7 BAL 29 (i.e. external wall requirements only), without any further rectification works (apart from those noted above for framing elements) This differs slightly from the RFS Fast Fact 2/06 requirements, but shows that the said fence has been constructed to withstand the expected maximum bushfire exposure levels (i.e. BAL 29)

Determination

Based on a comparative assessment of the 'bushfire planning provisions' (i.e. AS3959-2009 and Planning for Bushfire Protection 2006, RFS Fast Fact 2/06 and associated advices) it is a considered opinion that the said 'fence' structure, reasonably and suitably, could comply (once the modifications above are suitably actioned) with the specific bushfire construction requirements as utilised in the NSW planning approval processes.

Note, this document has been issued by a person who is recognised by the NSW Rural Fire Service as a 'suitably qualified consultant' in bush fire risk assessment (pursuant to NSW Rural Fire Service requirements - Fast Fact 5/10 Version 3 Dated 7 March 2011 & Development Control Practice Note 1/10 Version 2 Dated 4 February 2011)

Sincerely,



Scott Jarvis

Graduate Diploma Design for Bushfire Prone Areas
Diploma of Building Surveying
Diploma of Public Safety (Fire Fighting Management) (Dip PSFM)
Cert IV Residential Building Studies
BPAD-Level 3 Certified Practitioner BPD-PA-18593

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Background

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The certifying authority has noted that the said 'fence' has been constructed partially using timber elements (which are not classified as 'non combustible'). As such the certifying authority has found that the construction of the 'fence' structure has not satisfied the requirements of the DA Conditions of Consent for the subject development site (DA 2013/0677 dated 12/9/2013). The Consent (and associated Bushfire Assessment by Bushfire Planning Services Dated 7/12/2012) assessed the subject residence and associated infrastructure as being exposed to a BAL 29 rating, requiring compliance with Section 7 of AS3959-2009 and the NSW RFS Fast Fact 2/06 Dividing Fences.

It is agreed that the 'fence', in its current form, would not be able to fully comply with the requirements of the bushfire planning provisions stated above.

Therefore it is the intention of this report to determine if the 'Fence' structure could be modified or treated in such a way, where as it could alternately comply with the general 'bushfire specific planning legislation' related to development on 'bushfire prone land' (i.e. compliance under s79BA of the EP&A Act 1979 i.e. AS3959-2009 & RFS Fast Fact 2/06).

Legislation & Planning Policy

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NSW RFS Fast Fact 2/06 Dividing Fences

Assessment of Compliance Issues

The boundary fence is of mixed construction. It is generally constructed from steel posts set into a masonry base retaining wall. It then has a pine structure and is clad with 'Merbau'.

The masonry base and steel posts can currently fully comply with all bushfire planning provisions.

It is now proposed to clad all pine structural/framing elements with an FC based sheeting product. As this FC sheeting element is also 'noncombustible', all structural/framing elements would then be able to fully comply with all bushfire planning provisions.

This leaves only the hardwood (merbau) cladding as the only non-compliant element.

It is noted that any section of the fence located >35m from the bushfire source would actually be exposed to only a BAL 19 rating (based on an AS3959-2009 Section 2 Assessment - Forest Vegetation located Upslope from the development). As such the hardwood cladding on the fence, within 20m from the Eastern boundary, can also fully comply with the RFS Fast Fact 2/06, without any further rectification works (apart from those noted above for framing elements).

It is also noted, based on the same assessment, that sections of the fence located >25m to <35m from the bushfire source will be exposed to a BAL 29 rating. As such the section of hardwood cladding on the fence, located >25m to <35m from the bushfire source on the Eastern boundary, can generally comply with the bushfire planning provisions of AS3959-2009 Section 7 BAL 29 (i.e. external wall requirements only), without any further rectification works (apart from those noted above for framing elements). This differs slightly from the RFS Fast Fact 2/06 requirements, but shows that the said fence has been constructed to withstand the expected maximum bushfire exposure levels (i.e. BAL 29).

This only leaves the western most final 20m of fence to consider. This section cannot fully comply with the standard or the RFS Fast Fact 2/06 in its current or proposed form. However, as a considered opinion, and based on the specific advice that the new fence replaced an existing treated pine fence in a similar location, it can achieve compliance with the 'Specific Objectives' for infill development (PBP 2006 Section 4.3.2) specifically as follows:

'Provide better bushfire protection, on a redevelopment site, than the existing situation This should not result in new works being exposed to greater risk than an existing building'

Recommended Modifications

Clad all pine structural/framing elements with an FC based sheeting product As this FC sheeting element must be 'noncombustible'

Determination

Based on a comparative assessment of the 'bushfire planning provisions' (i.e. AS3959-2009 and Planning for Bushfire Protection 2006, RFS Fast Fact 2/06 and associated advices) it is a considered opinion that the said 'fence' structure, reasonably and suitably, could comply (once the modifications above are suitably actioned) with the specific bushfire construction requirements as utilised in the NSW planning approval processes. Where the construction materials cannot fully comply with the deemed to satisfy requirements (i.e. westernmost 20m of merbau timber cladding), the intent of the specific objective, related to a better outcome for infill development can be satisfied.

Note, this document has been issued by a person who is recognised by the NSW Rural Fire Service as a 'suitably qualified consultant' in bush fire risk assessment (pursuant to NSW Rural Fire Service requirements - Fast Fact 5/10 Version 3 Dated 7 March 2011 & Development Control Practice Note 1/10 Version 2 Dated 4 February 2011)

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Certified Business
Bushfire Planning & Design

MODAKBOARD PROFILE

THIS PRODUCT WILL BE USED TO SECURE THE NECESSARY FIRE
RATING FOR THE FENCE

Building for Fire Protection

ModakBoard is perfect for building in all BAL fire zones without the need to double layer the board.

ModakBoard is totally fire resistant. It will not burn in a fire storm. ModakBoard is applicable in BAL 12.5 to 40 and FZ flame zone regulation areas and meets the AS 3959 requirements, when used to protect exposed timber framing eaves joists etc, under AS/ NZ 3837 materials. **ModakBoard can protect your home from bushfire.**

ModakBoard is ideal for residential, commercial and industrial building applications

Why use up to 3 sheets of fire resistant plasterboard when you can use one layer of ModakBoard?

A single sheet of 10mm ModakBoard on a 90mm frame and an R2.5 batt achieves the following FRL ratings from the fire side

Non Load Bearing FRL -/240/240

Load Bearing FRL 90/90/90 (Steel Frame) - Can be increased to 120/120/120 by changing the batt to a 90mm 80kg mineral batt

Load Bearing FRL 60/60/60 (Timber Frame)

This covers all BALs

Bush fire Attack Level (BAL)	Description of predicted bush fire attack and levels of exposure
BAL-LOW	There is insufficient risk to warrant specific construction requirements
BAL-12.5	Ember attack
BAL-19	Increasing levels of ember attack and burning debris ignited by wind borne embers together with increasing heat flux
BAL-29	Increasing levels of ember attack and burning debris ignited by wind borne embers together with increasing heat flux
BAL-40	Increasing levels of ember attack and burning debris ignited by wind borne embers together with increasing heat flux with the increased likelihood of exposure to flames
BAL-FZ	Direct exposure to flames from fire front in addition to heat flux and ember attack

Certified Installation Manual

A manual is available for clear and concise installation information. It is very important that the manual is followed and the correct products are used in order to both ensure your safety and to warranty validity.

[Click here to go to the Fire System Manual](#)

CSIRO Bushfire Bunker Test

In February 2012 at the Fire Test Centre in Mogo NSW, an innovative test bunker was built to see if straw bales, protected by ModakBoard fire proof lining could withstand the onslaught of a sustained bushfire and fire storm.

We were approached by Joost Bakker and asked to supply ModakBoard as a means to protect the straw bale

insulation he had designed for a steel frame house Straw is obviously flammable, but with ModakBoard to cover it and sealed with Tremco TREMstop PU well, see the results for yourself