

Building Construction in Bush Fire Prone Areas

Bushfire Hazard Assessment Report

REF No. 17.11.431

Address Lot 147 DP 224239
26 Bungoona Avenue
Elanora Heights NSW 2101

For C. Hill

The site was inspected on 17th November 2017

Report Preparation

Craig Burley

Grad Dip Design for Bushfire Prone Areas
FPAA Certified BPAD – Level 3 Practitioner



Bushfire Risk Assessment Certificate

As required by legislation under section 79BA of the *Environmental Planning and Assessment Act 1979* No 203

Property Address:	Lot 147 DP 224239 26 Bungoona Avenue Elanora Heights NSW 2101
Description of Proposal	Alterations and additions to an existing Class 1a dwelling
Plan Reference: [Relied upon in report preparation]	This assessment is based on plans prepared by: Mark Hurcum Design Studio Dated: Sept 2017 Issue A
Bushfire Hazard Assessment Report Ref. No.	17.11.431
Report Date:	19.12.2017
BAL Rating:	BAL Flamezone
Does the proposal comply with the requirements of <i>Planning for Bush Fire Protection 2006</i> ?	NO
Does the proposal require referral to the NSW Rural Fire Service?	YES
Does the proposal rely on Alternate Solutions?	YES

I Craig Burley of Control Line Consulting have carried out a bushfire risk assessment on the above mentioned proposal and property.

A detailed Bushfire Hazard Assessment Report has been prepared in accordance to the submission requirements as set out in *Appendix 4 of Planning for Bush Fire Protection 2006* together with recommendations as to how the relevant specifications and requirements are to be achieved.

I hereby certify, in accordance with *79BA of the Environmental Planning and Assessment Act 1979* No 203:

1. That I am a person recognised by the *NSW Rural Fire Service* as a qualified consultant in bushfire risk assessment; and
2. That subject development as contained in the attached Bushfire Hazard Assessment Report **does not conform** to the relevant specifications and requirements due to the potential exposure of the dwelling to Bushfire Attack Level (BAL) Flamezone.

I am aware that the Bushfire Hazard Assessment Report, prepared for the above mentioned site is to be submitted in support of a development application for this site and will be relied upon by Northern Beaches Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with *Planning for Bushfire Protection 2006*.

Yours faithfully



Craig Burley
Grad Dip Design in Bushfire Prone Areas
FPA Australia BPAD – Level 3 Certified Practitioner



Executive Summary

We have been engaged by C. Hill, the owner of the subject land to prepare a bush fire hazard assessment report to be a supplement for inclusion in a development application to Northern Beaches Council, for the proposed construction of alterations and additions to an existing Class 1a dwelling upon their land.

The site has been identified as being bushfire prone land and therefore the legislative requirements for the proposed development are applicable.

The proposed development is an infill development as defined within *Planning for Bush Fire Protection* 2006 and this report has been prepared in accordance with the requirements of *Section 79BA of the Environmental Planning and Assessment Act 1979*.

Bushfire Attack Summary

Lot 147 DP 224239

26 Bungoona Avenue Elanora Heights NSW 2101

	North	South
Vegetation Formation	Forest	Forest
Vegetation Slope	Downslope > 0 to 5 degrees	Downslope > 20 degrees
Building Separation Distance metres	18	87
Separation Slope	Downslope >0 to 5 degrees	Downslope >15 to 20 degrees
Fire Danger Index	100	100
Category of Bushfire Attack	Extreme	Moderate
AS 3959 Construction Standard	BAL Flamezone	BAL 19

The proposal contained within this report cannot provide for conformity to *Planning for Bush Fire Protection* 2006 and therefore includes an ***alternate solution*** which will assist in providing a reasonable level of bushfire protection and improve but not guarantee the chances of building survival, or provision for the occupants with a safe refuge during the passage of a bushfire front and or the provision of a defensible space for fire fighters.

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Appendix 1 – Proposed dwelling alteration and addition plans ex Mark Hurcum Design Studio

1.0 Introduction

We have been engaged by C. Hill, the owner of the subject land to prepare a bush fire hazard assessment report to be a supplement for inclusion in a development application to Northern Beaches Council for the proposed construction of alterations and additions to an existing Class 1a dwelling upon the subject land.

The site has been identified as being bushfire prone land and therefore the legislative requirements for the proposed development are applicable.

The proposed development is an infill development as defined within *Planning for Bush Fire Protection* 2006 and this report has been prepared in accordance with the requirements of *Section 79BA of the Environmental Planning and Assessment Act 1979*.

1.1 Purpose of Report

- To determine the vegetation type, the expected fire behaviour and the threat to the proposal; and
- To assess the proposal with reference to *Planning for Bush Fire Protection* 2006; and
- To assess the proposed construction with reference to the Building Code of Australia Volume 2; and
- To determine the level of construction with reference to AS 3959-2009 *Construction of buildings in bushfire prone areas*; and
- To identify any other such measures as to improve the chances of building survival during a bushfire event; and
- To assist the consent authority Northern Beaches Council in the determination of the development application subject to this proposal.

1.2 Scope of Report

The scope of this report is limited to the Bushfire Hazard Assessment for the proposed development and only contains recommendations for the subject property. Where reference is made to adjacent or adjoining lands, this report does not purport to assess those lands; rather it may discuss bushfire progression on and through those lands with the possible bushfire impact to the subject property and the proposed development.

1.3 Regulatory Controls

The preparation of this report has given consideration to the various legislative and regulatory requirements including the *Environmental Planning and Assessment Act 1979*, the Building Code of Australia, *Planning for Bush Fire Protection* 2006 and AS 3959-2009 *Construction of buildings in bushfire prone areas*.

1.4 Methodology

A site inspection for the purpose of assessing bushfire related matters affecting this site was conducted on the 17th November 2017 and a review of the proposed construction plans as supplied by the owner and prepared by Mark Hurcum Design Studio has taken place.

An assessment of slope was conducted out to a distance of 100 metres and assessment of vegetation to a distance of 140 metres from the proposed development.

The findings were related and assessed with reference to *Planning for Bush Fire Protection* 2006 Addendum to Appendix 3 and section 2 of AS 3959-2009 *Construction of buildings in bushfire prone areas* for the formulation of the Bushfire Hazard Assessment.

1.5 The Proposal

The proposal as indicated by consultation with the proponents and perusal of plans supplied, shows for the construction of alterations and additions to an existing Class 1a dwelling.

In broad terms the scope of works is for the construction of the following;

- A new lift to the entrance area on the southern elevation of the dwelling;
- New decking area to entrance; and
- Modification to the roofing and section above entrance deck.

Further details of construction are shown upon plans included within appendix 1 of this report.

However it must be noted that the plans supplied may not fully satisfy the recommendations included within this report and subject to actual consent conditions issued by the consent authority some modifications or changes may need to occur to achieve the required compliance.

In particular (but not limited to) the plans supplied specify timber components which are not satisfactory or compliant within a BAL Flamezone exposure.

2.0 Site and Adjacent Developments

The following seeks to describe the site, the adjoining lands and land uses effective upon the development proposal.

2.1 Site Description

The site is identified as Lot 147 DP 224239
 26 Bungoona Avenue
 Elanora Heights NSW 2101
 LGA Northern Beaches Council

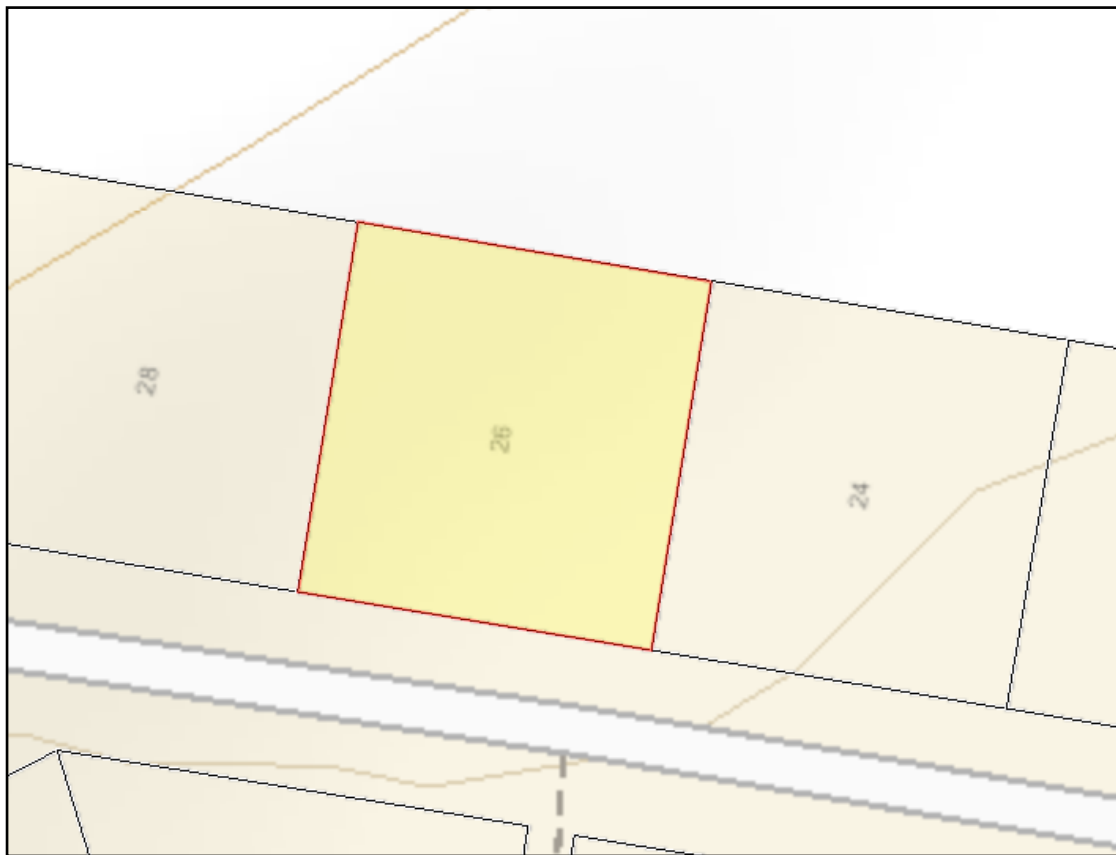


Figure 1: Address validation ex Six Maps

The subject allotment was created prior to the current subdivisional requirements contained within *Planning for Bush Fire Protection* 2006.

The site is a residential allotment of approximately 826m² located on the northern side of Bungoona Avenue. The area in which the proposal is located is generally urban residential development that has been established for many years.

The subject allotment is located within an area that should be considered as having a direct interface to bushfire hazardous vegetation.

The subject allotment is positioned upon the southerly aspect slopes of an east to west ridgeline. The allotment is to the north of a naturally occurring topographical drainage feature identified as Deep Creek.

The parcel of land is a square in shape and the southern boundary forms the road frontage for the subject site.

At present the site has structural improvements limited to being a timber clad residential dwelling and an inground swimming pool.

In terms of vegetation the subject allotment is in a reasonably well maintained condition that does not contain significant sections of bushfire hazardous vegetation.

The site is shown upon the Northern Beaches Bushfire Prone Land Map (Figure 2) to be wholly within category 1 vegetation buffer zone (shown yellow). The site inspection and interpretation of aerial photography for the site confirms that the subject allotment is reasonably depicted upon this image.

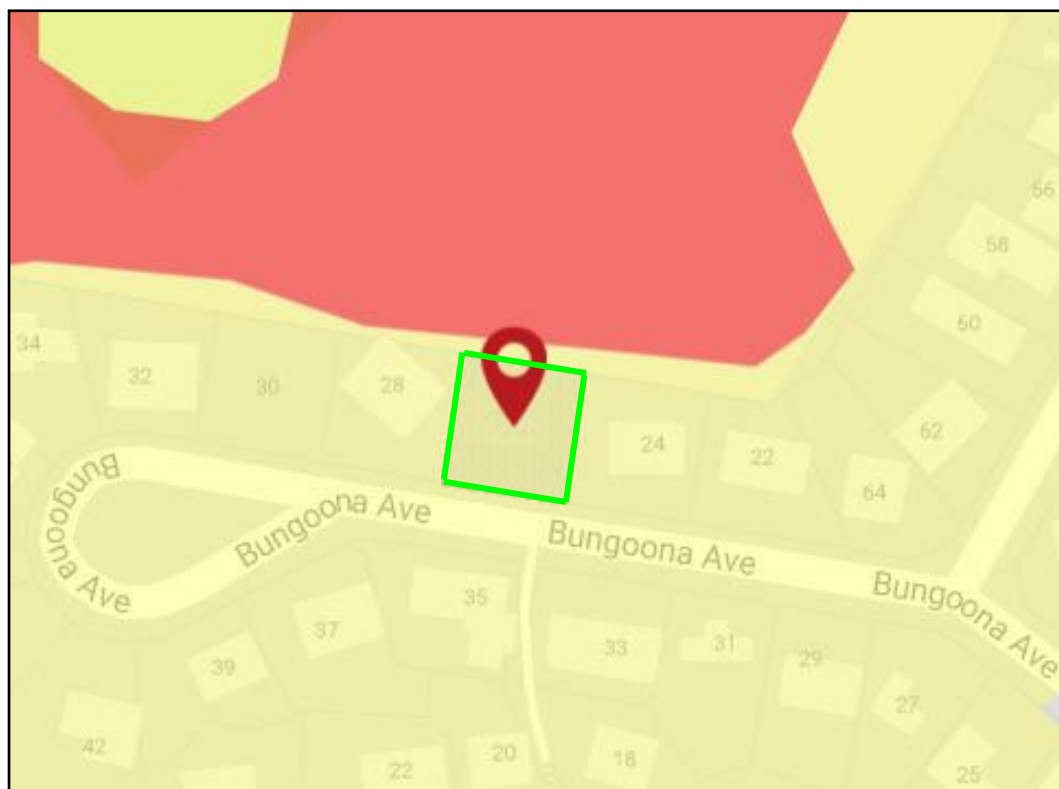


Figure 2; Section Northern Beaches LGA Bushfire Prone Land Map

Provision of mains reticulated water supply, electricity and phone is available to the proposal by existing infrastructure.

2.2 Description of Adjoining Lands

To the north of the subject allotment is the Elanora Country Golf Course. Within the area of the course directly adjacent to the subject allotment is a combination of managed fairways and areas of naturally occurring forest vegetation.

It is recognised that some unofficial management of lands is occurring by private land owners within the area of golf course residential lands interface although in accord with the NSW RFS policy it is problematic to accept this area as an asset protection zone as ongoing maintenance of this area cannot be guaranteed.

To the east and west of the subject allotment existing residential developments with no significant sections of bushfire hazardous vegetation.

To the south of the subject allotment is the carriageway of Bungoona Avenue and beyond this is existing residential development with no significant sections of bushfire hazardous vegetation. However beyond these developments is an area of forest vegetation on the steeply descending slopes above Deep Creek.



Figure 3: Aerial photo depicting localised terrain and adjoining allotments ex Six Maps

3.0 Environmental Considerations

The scope of this report has not been to provide an environmental survey although this report will be a supplement to a Statement of Environmental Effects as part of the development application process.

The proposed scope of works does not necessitate the removal of significant sections of native vegetation to satisfy the recommendations for asset protection zones. It is also our opinion that the bushfire protection measures as recommended within this report will have little or no adverse environmental effects.

The proposal is located on a site that has been developed for many years and this proposal does not change the current land use or increase the level of occupancy.

4.0 Bushfire Hazard Assessment

The bushfire hazard assessment was conducted for the proposed development, using the procedures as outlined in *Planning for Bush Fire Protection* 2006, Addendum to Appendix 3 and section 2 of AS 3959-2009 *Construction of buildings in bushfire prone areas* procedure to determine the bushfire attack level (BAL) likely upon the development.

The assessment was conducted on the assumption of the building footprint being positioned as described in section 1.5 The Proposal of this report and the site plan.

4.1 Classification of Vegetation and Separation Distance from Proposed Development

The vegetation was assessed for a distance of 140 metres from the proposed development building footprint in each of the following directions. To the north, east, south and west being the general direction adjacent and away from the proposed building elevations within such building footprint.

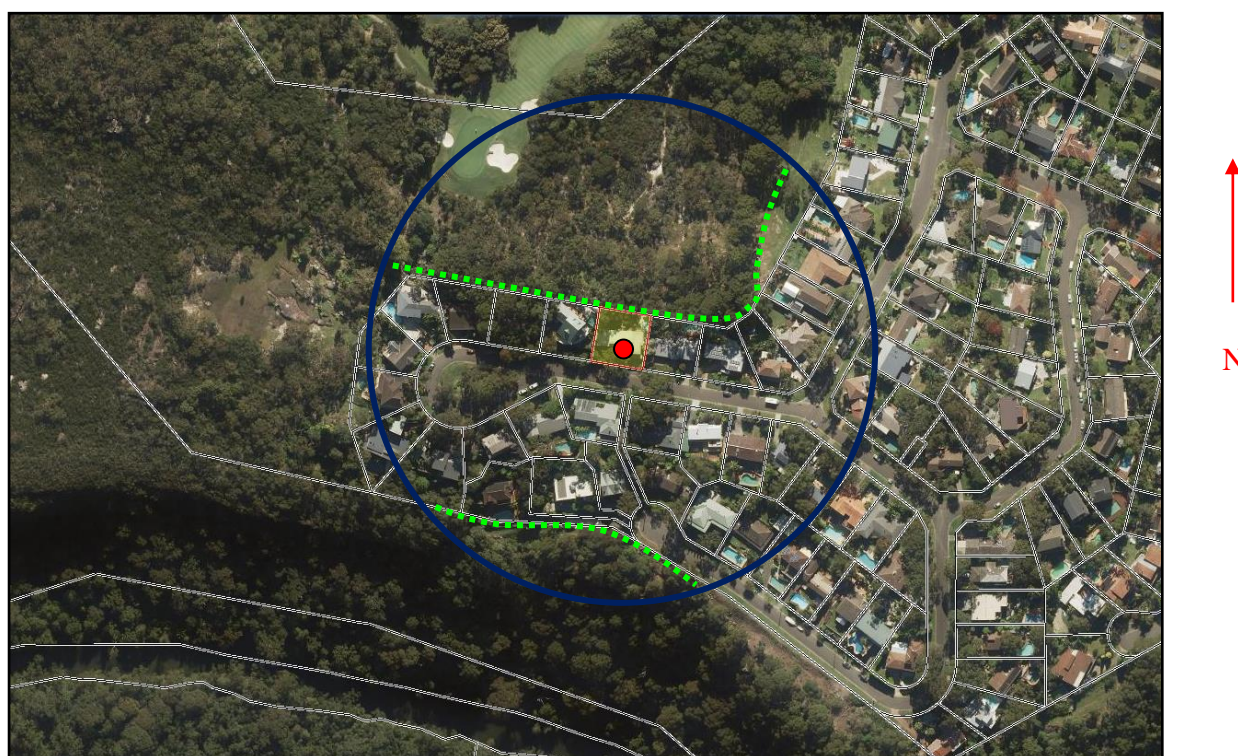


Figure 4: Vegetation study area



140 metre radius approx. Image ex Dept Lands

● Proposed dwelling alteration approx. location Forest

To the north and south of the subject allotment is the effective bushfire hazardous vegetation and these areas should be classified as being vegetation formations of **Forest**. The closest section of consistent forest vegetation is located approximately 18 metres to the north of the proposed construction and 87 metres to the south.

4.2 Slope Assessment

The slope was assessed for a distance of 100 meters within the bushfire hazardous vegetation and reference to slope classifications has been undertaken considering the procedure specified within section 2 of AS 3959-2009 *Construction of buildings in bushfire prone areas*.

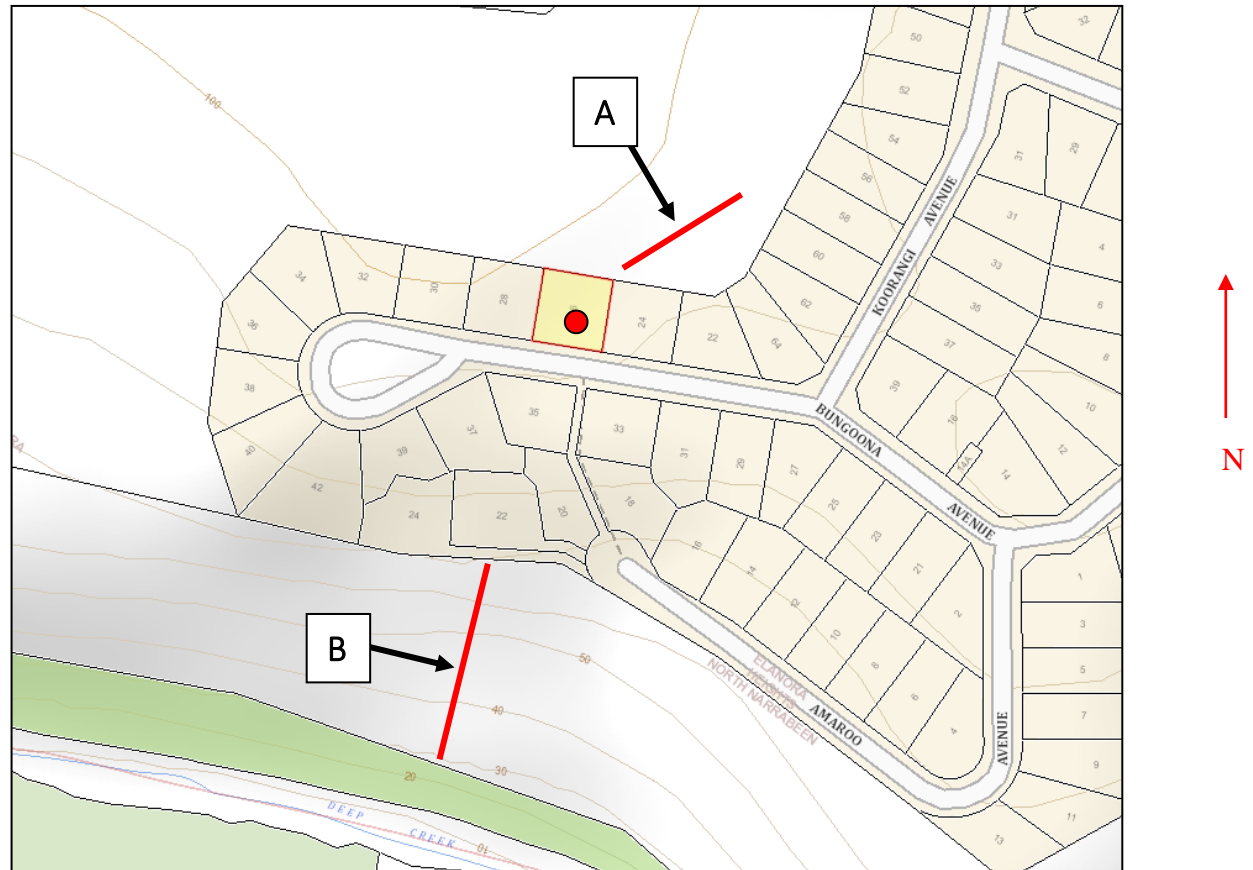


Figure 5; Slope assessment study area Image ex Dept Lands

- Proposed dwelling alteration approx. location

The **effective slope** of the land, out to a distance of 100 metres from the proposed scope of works (that is, the slope of the land most likely to influence bushfire behaviour for the purposes of calculating the Category of Bushfire Attack and Asset Protection Zones, has been assessed (using a clinometer) and desktop analysis as being;

- Downslope > 0 to 5 degrees to the north – A
- Downslope > 20 degrees to the south – B

4.3 Category of Bushfire Attack

The bushfire attack level (BAL) for the proposed development was determined by using the information gathered with respect to the classification of the vegetation, the effective slope and provision of asset protection zones specified in this report with reference given to the Addendum to Appendix 3 of *Planning for Bush Fire Protection* 2006 and the procedures within section 2 of AS 3959-2009 *Construction of buildings in bushfire prone areas*.

It is the determination of the site inspection, the assessment procedure with incorporation of the recommendations in this report that the proposed development could experience an **Extreme** category of bushfire attack. The proposed development is most likely to be subject to the greatest bushfire attack from any area to the **north** from the proposed development location.

Bushfire Attack Summary

	North	South
Vegetation Formation	Forest	Forest
Vegetation Slope	Downslope > 0 to 5 degrees	Downslope > 20 degrees
Building Separation Distance metres	18	87
Separation Slope	Downslope >0 to 5 degrees	Downslope >15 to 20 degrees
Fire Danger Index	100	100
Category of Bushfire Attack	Extreme	Moderate
AS 3959 Construction Standard	BAL Flamezone	BAL 19

5.0 Assessment of the extent to which the development conforms or deviates from Chapter 4 of *Planning for Bush Fire Protection 2006*

The proposed development being the construction of alterations and additions to an existing Class 1a dwelling cannot conform to the requirements of *Planning for Bush Fire Protection 2006* when considered in conjunction of both the proposal supplied for this assessment and the recommendations include **alternate solutions** within this bushfire hazard assessment report.

5.1 Asset Protection Zones

The provision of asset protection zones for the proposed building footprint cannot be fully provided for on site to satisfy the requirements of *Planning for Bush Fire Protection 2006* but is improved by the utilization of the adjoining developments.

The maintenance of the majority of area upon the subject allotment currently would mostly satisfy the requirements of an inner protection area of an asset protection zone as contained in *Planning for Bush Fire Protection 2006* although some fuel reduction and ongoing maintenance needs to occur.

This report will recommend that the entire site where not built upon is maintained to the requirements of an inner protection area of an asset protection zone and managed to these provisions for the lifetime of the development.

The following is a summary of the requirements for an asset protection zone inner protection area as described within the documents *Planning for Bush Fire Protection 2006* and *NSW RFS Standards for Asset Protection Zones*.

Inner Protection Area

An IPA should provide a tree canopy cover of less than 15% and the tree canopy should be located greater than 2.0 metres from any part of the roof line of a dwelling. Garden beds of flammable shrubs should not be located under trees and should be located not closer than 10 metres from an exposed window or door. Trees should have lower limbs removed up to a height of 2.0 metres above the ground.

Ground fuels such as fallen leaves, twigs (less than 6mm in diameter) and branches should be removed on a regular basis, and grass needs to be kept closely mown and where possible green.

The creation and continued maintenance of the full asset protection zone is one of the primary factors in bushfire protection measures for developments in bushfire prone areas.

5.2 Position and Design of Proposed Development

The design and siting of the proposed dwelling alterations and additions must take into consideration the actual bushfire risk and this report contains recommendations to assist in mitigating the mechanisms of bushfire attack.

5.3 Construction Level

The Building Code of Australia contains both the performance requirements and the 'deemed to satisfy' provisions relating to construction of class 1, 2 & 3 buildings that are proposed for *construction in bushfire prone areas*. To satisfy the performance provision P2.3.4 of the Building Code of Australia Vol. 2, a Class1a building that is constructed in a designated bushfire prone area must be designed and constructed to reduce the risk of ignition from a bushfire while the fire front passes.

Australian Standard 3959-2009 *Construction of buildings in bushfire prone areas* is referenced by the BCA as the deemed to satisfy construction standard for residential dwellings in designated bushfire prone areas with the exception that in NSW the requirements shall be varied to comply with the Addendum to Appendix 3 of *Planning for Bushfire Protection* 2006.

However the Flamezone category of bushfire attack in NSW is beyond the scope of the standard and as such the proposed dwelling construction must incorporate by means of alternate solutions such measures to improve the likelihood of building survival and satisfy the performance requirements of the Building Code of Australia.

Given that the category of bushfire attack that could be anticipated for such development is High from vegetative fuels to the east, the proposed alterations and additions to the dwelling should therefore be designed and constructed to the requirements of AS 3959-2009 and must be constructed to comply with section 3 Construction General and section 9 BAL Flamezone of such standard apart from as varied to comply with the Addendum to Appendix 3 of *Planning for Bushfire Protection* 2006.

In regards to the new external lift that is proposed to be constructed directly adjacent to the southern elevation such a structure is not specifically included within AS 3959-2009 *Construction of buildings in bushfire prone areas* although appropriate guidance clearly needs to be given.

This report recommends that the lift and external cladding to the lift structure should be constructed using only non-combustible building elements.

5.4 Access / Egress

5.4.1 To the Proposed Development

The access to the subject site is from Bungoona Ave which is a sealed two lane road in a well maintained condition and under most conditions should provide adequate access and egress for both residents and emergency service vehicles.

Whilst Bungoona Ave terminates a short distance to the west of the subject allotment it does link to other through roads in an easterly which should afford the residents the ability to evacuate the area to a location not being directly implicated by the mechanisms of bushfire attack, although under most bushfire conditions this would generally not be required.

5.4.2 Within the Site

The site plan for the proposal does show that vehicle access is not be possible to all elevations of the dwelling, although a fire tanker will be able to park in close proximity to the southern building elevation upon the Bungoona Ave carriageway and foot access will be available to each of the other building elevations.

In concurrence with the guidance given within *Planning for Bush Fire Protection 2006* no specific vehicle access requirements are recommended by this report.

The proposed development is within an urban area where a distance of not greater than 70 metres of unobstructed path can be demonstrated between the most distant external part of the proposed development and the nearest part of the public access road (where the speed limit is not greater than 70kph) that supports the operational use of emergency fire fighting vehicles (ie a hydrant or water supply).

It should be considered by the residents that during a major bushfire event the following may occur;

- The suppression or defensive operations by fire authorities may not be possible in the general area of the development due to safety considerations for fire fighters; and
- That there may not be adequate fire authority resources to protect this development or others in the general area.

Whilst all fire authorities will endeavour to assist all occupants and protect all buildings during major bushfire events this is not always possible and cannot be guaranteed.

5.5 Utility Supplies

5.5.1 Water

This section of Elanora Heights is serviced by a mains reticulated water system and a search of the mains reticulated water supply layout plans (see figure 6 below) indicates that a hydrant is located approximately 2.0 metres to the south from the subject allotment on the footpath area of Bungoona Ave.



Figure 6: Section Sydney Water Reticulated Mains Water Supply Layout Plans

The site inspection confirmed the location of this hydrant.

The location of this hydrant and the distance to the furthest point of the dwelling satisfies the requirements and the provisions of AS 2419.1-2005 *Fire hydrant installations*.

Additionally, the existing swimming pool could be used as a Static water Supply (SWS) by fire authorities during a bushfire event.

5.5.2 Electricity

The existing dwelling is connected to the mains electricity supply from overhead wiring within the carriageway of Bungoona Avenue. The wiring is also brought to the house by overhead wiring and the proposed scope of works does not alter or modify this connection methodology.

5.5.3 Gas

At the time of report preparation it was not proposed to connect gas supply to the subject works.

5.6 Landscaping

A formal landscaping plan was not supplied for perusal at the time of formulating this report however recommendations are made with respect to the maintenance of the area on the site.

It is highly probable that in the future landscaping and garden establishment may occur on the site. However no future planting of trees or shrubs, or combustible landscaping features should be undertaken or constructed in a manner which creates a path for bushfire progression towards the dwelling or allows for a potential compromise to the integrity of the asset protection zone.

5.7 Emergency Procedures

Preparation of procedures and actions by individuals and occupants of lands within bushfire prone areas has clearly been shown to increase chances of personal safety and building survival should a bushfire event occur.

The NSW Rural Fire Service and the NSW Fire Brigades have formulated a Bush Fire Survival Plan and this is readily available from either the NSW RFS website or the local district office.

This document should be completed by the residents in conjunction with all occupants of the household so as to better prepare all persons for a bushfire event.

After completion it should be regularly reviewed (at least once a year) and stored in a location as to be easily accessible for reference during a bushfire emergency.

6.0 Bushfire Hazard Assessment Recommendations

1. That the entire site where not built upon shall have the vegetation reduced where or if necessary to satisfy the requirements of *Planning for Bush Fire Protection* 2006 and the NSW Rural Fire Service document “Standards for Asset Protection Zones” for an inner protection area of an asset protection zone and this area shall be maintained at this vegetation level for the lifetime of the development.
2. That no future landscaping features, planting of shrubs, trees or other vegetation shall occur in such a manner as to compromise the integrity of the asset protection zone.
3. That the proposed dwellings alterations and additions shall be constructed to a minimum standard of section 3 Construction General and section 9 BAL Flamezone of AS3959-2009 *Construction of buildings in bushfire prone areas* with the exception that the construction requirements shall be varied to comply with the requirements of the NSW Rural Fire Service Addendum to Appendix 3 Table A3.7 of *Planning for Bush Fire Protection* 2006.
4. That the lift and external cladding to the lift structure shall be constructed using only non-combustible building elements.
5. The residents should complete a *Bush Fire Survival Plan* as formulated by the NSW Rural Fire Service and the NSW Fire Brigades.

These recommendations are the opinions of the author of this report and are compiled to assist the consent authority and the NSW Rural Fire Service in the assessment of this proposed development and that the final conditions as imposed by the consent authority must be adhered to at all stages and where required for the lifetime of the development.

7.0 Conclusion

The objectives and performance requirements for the proposed development as required by the Building Code of Australia Volume 2 and the document *Planning for Bush Fire Protection* 2006, whilst not being fully achieved due to the potential Flamezone category of bushfire attack upon sections of the development, will be enhanced by the incorporation of the 5 recommendations contained within this report.

The recommendations contained within this report will assist in providing a reasonable level of bushfire protection and improve but not guarantee the chances of building survival, or provision for the occupants with a safe refuge during the passage of a bushfire front and or the provision of a defensible space for fire fighters.



Craig Burley
Grad.Dip. Building in Bushfire Prone Areas (UWS)
FPA Australia Certified BPAD – Level 3 Practitioner



Caveat

Quote from *Planning for Bush Fire Protection* 2006, '*notwithstanding the precautions adopted, it should always be remembered that bushfire burn under a wide range of conditions and an element of risk, no matter how small always remains.*'

Quote from Standards Australia, '*Although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.*'

References

Planning for Bush Fire Protection 2006 Planning NSW in conjunction with NSW Rural Fire Service

Building Code of Australia Volume 2 2005 Australian Building Codes Board

AS 3959 –2009 Construction of buildings in bushfire prone areas Standards Australia & Australian Building Codes Board

Landscape and building Design for Bushfire Areas Ramsay C. & Rudolph L. CSIRO 2003

Quantifying bushfire penetration into urban areas in Australia Keping Chan & McAneney J. Geophysical Research Letters, Volume 31, L12212, doi:10.1029/2004GL020244, 2004

Bushfires in Australia Luke R.H. & McArthur CSIRO 1978

Performance of Building Elements in Bushfire Prone Areas Poon S.L. & England J.P. Warrington Fire Research Australia

Address Validation Search Department of Lands www.maps.nsw.gov.au

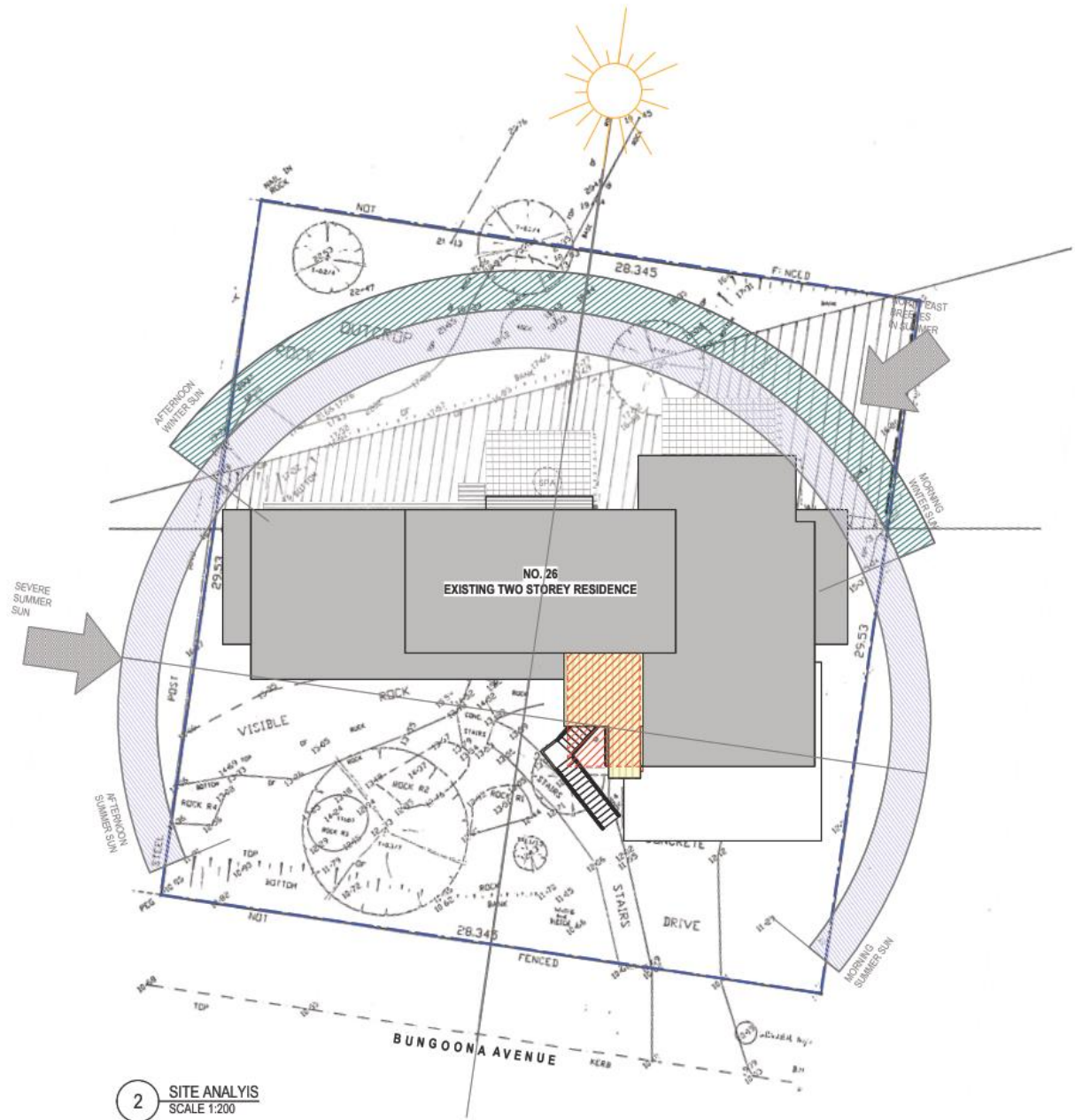
Standards for Asset Protection Zones NSW Rural Fire Service 2005

Ocean Shores to Desert Dunes Keith D. Department of Environment and Conservation Sydney 2004

Appendix 1- Proposed dwelling plans ex Mark Hurcum Design Studio



1 LOCATION IMAGE
NTS



2 SITE ANALYSIS
SCALE 1:200



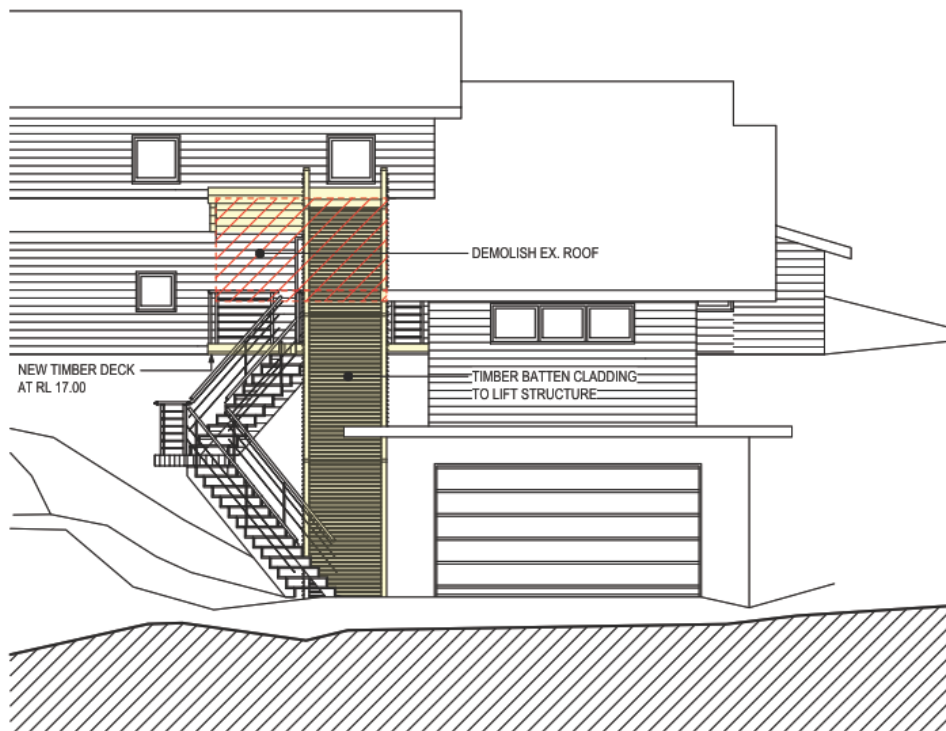
SITE LOCALITY AND SITE ANALYSIS

ALTERATIONS AND ADDITIONS 26 BUNGOONA AVENUE ELANORA HEIGHTS

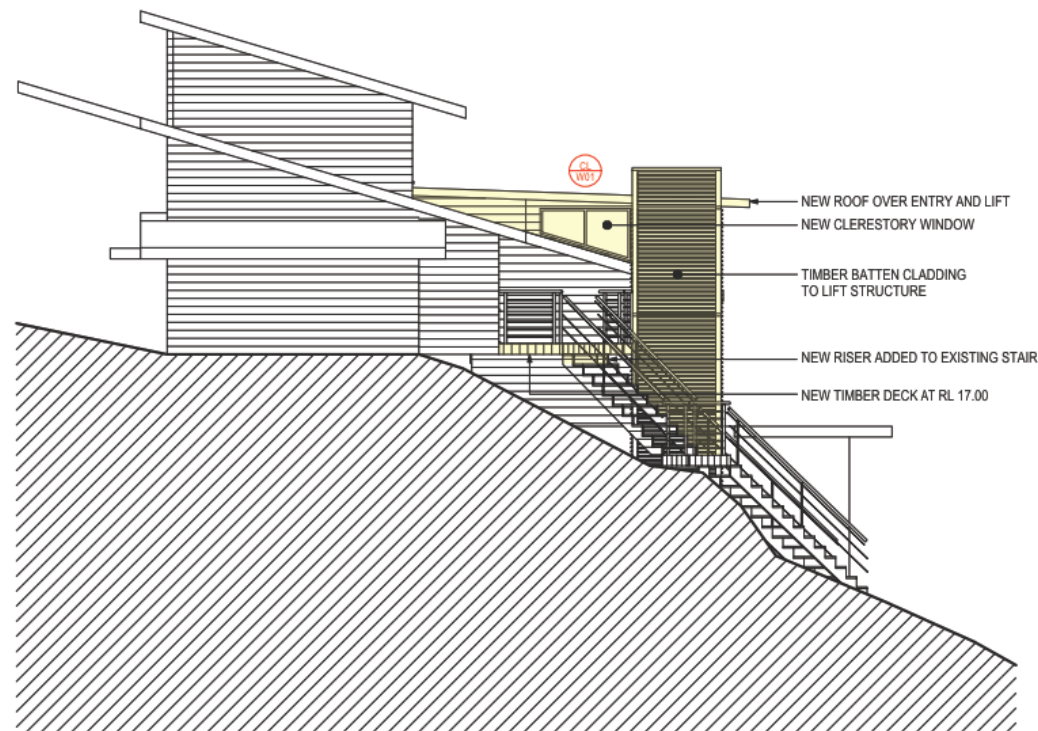
FOR DEVELOPMENT APPLICATION ONLY

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JUNE 2017

ISSUED FOR DEVELOPMENT APPLICATION
AMENDMENT
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ARCHITECTS
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NORTH SYDNEY NSW 1580
FACSIMILE 021 9955 5063
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DESIGN PRACTICE



1 SOUTHERN ELEVATION



2 WESTERN ELEVATION

ELEVATIONS

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MARK HURCUM DESIGN PRACTICE ARCHITECTS			ISSUE
LEVEL 2 271 ALFRED STREET NORTH NORTH SYDNEY NSW 2060 FACSIMILE 02) 9955 5003 TELEPHONE 02) 9955 5408			

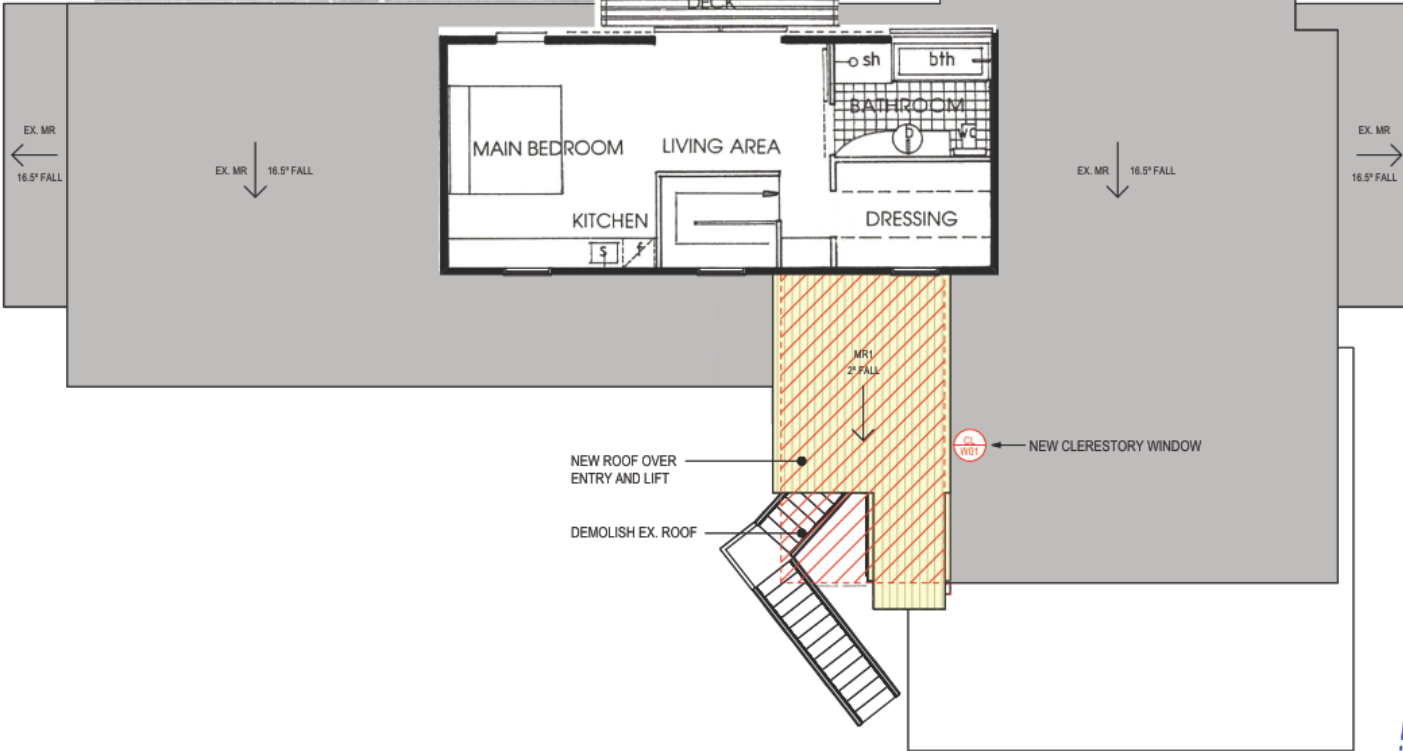




PRIVATE GARDEN

DECK

SPA



EX. MR
16.5° FALL

EX. MR
16.5° FALL

EX. MR
16.5° FALL

EX. MR
16.5° FALL

NEW ROOF OVER
ENTRY AND LIFT

DEMOLISH EX. ROOF

MR1
2° FALL

NEW CLERESTORY WINDOW



FIRST FLOOR PLAN

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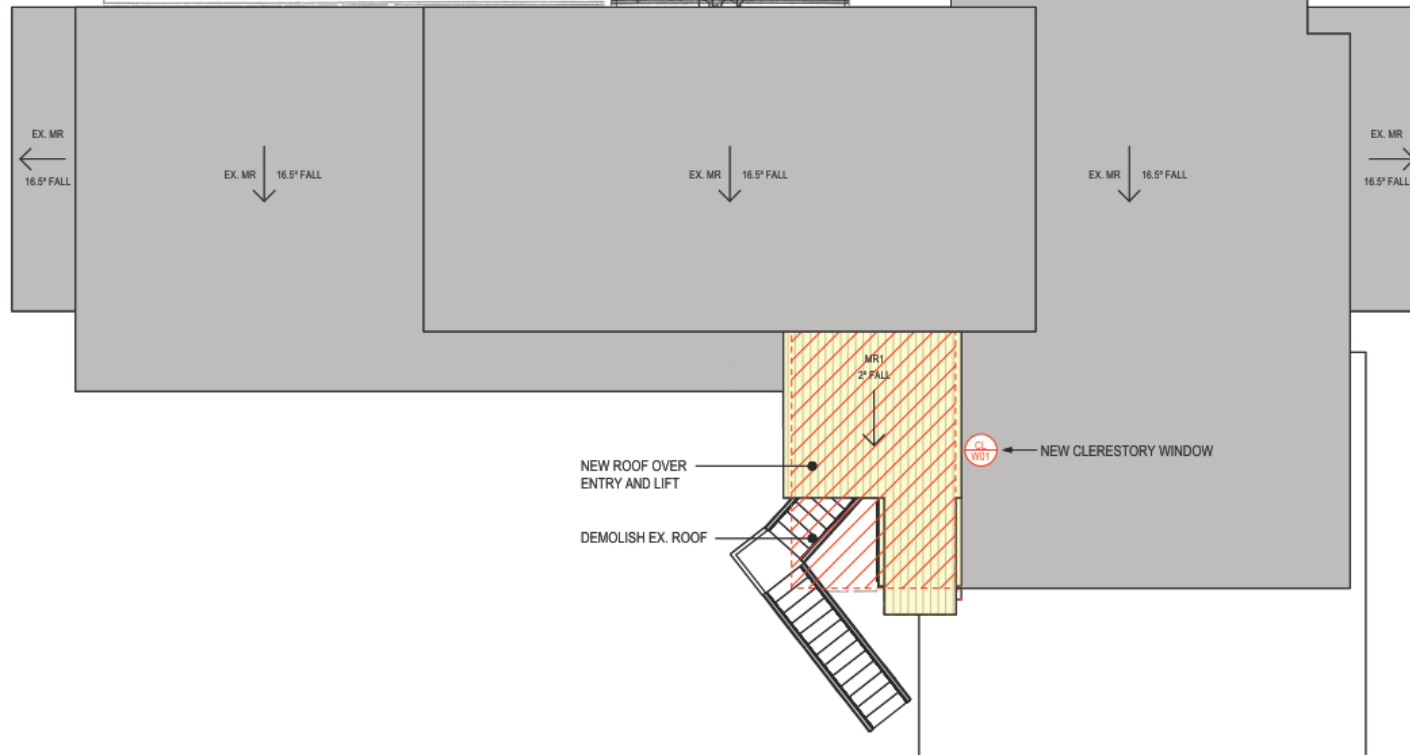
ALTERATIONS AND ADDITIONS
26 BUNGOONA AVENUE ELANORA HEIGHTS

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JUNE 2017

ISSUED FOR DEVELOPMENT APPLICATION		SEPT 2017	A
AMENDMENT		DATE	ISSUE
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DESIGN PRACTICE



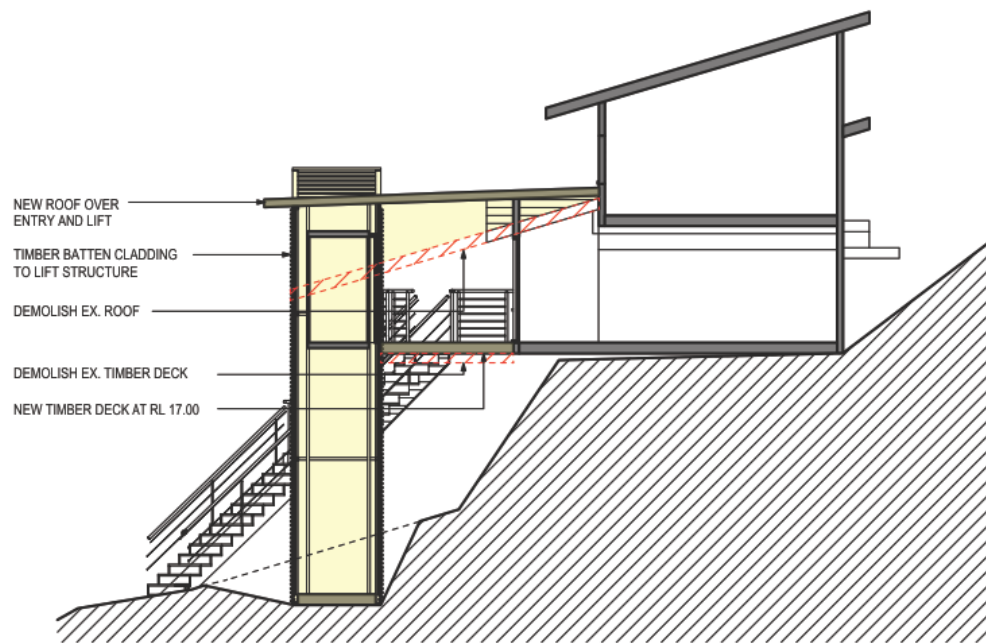
ALTERATIONS AND ADDITIONS

26 BUNGOONA AVENUE ELANORA HEIGHTS

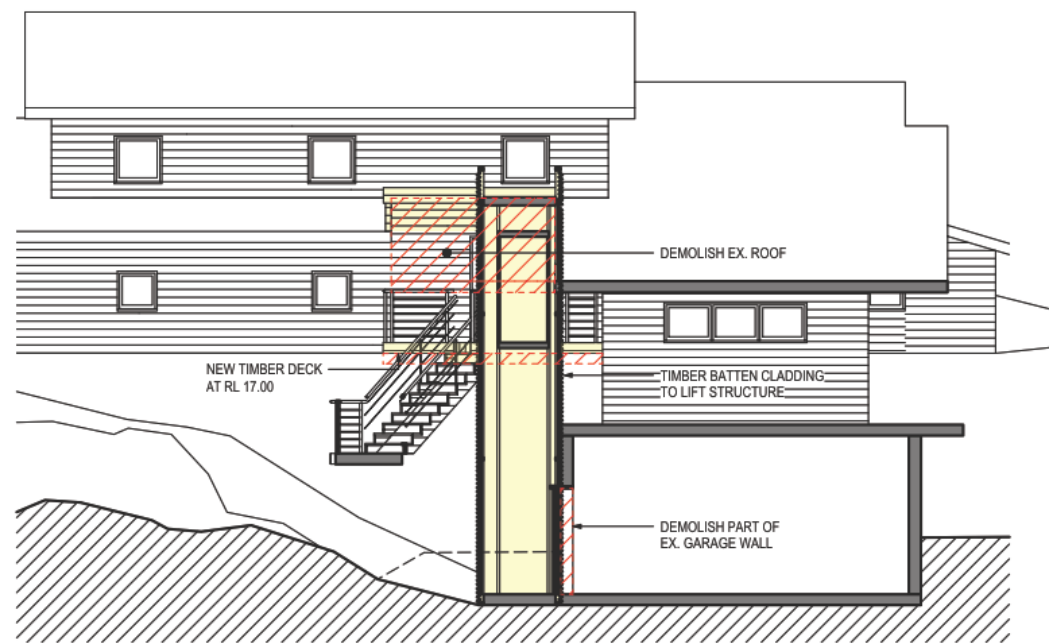
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JUNE 2017

ISSUED FOR DEVELOPMENT APPLICATION	SEPT 2017	A
AMENDMENT	DATE	ISSUE
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		DESIGN PRACTICE



1 SECTION A-A



2 SECTION B-B

SECTION A-A & SECTION B-B

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ALTERATIONS AND ADDITIONS 26 BUNGOONA AVENUE ELANORA HEIGHTS

FOR DEVELOPMENT APPLICATION ONLY

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JUNE 2017

ISSUED FOR DEVELOPMENT APPLICATION AMENDMENT	SEPT 2017 DATE	A ISSUE
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100-001 Plans Complete

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ALTERATIONS AND ADDITIONS 26 BUNGOONA AVENUE ELANORA HEIGHTS

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JUNE 2017

ISSUED FOR DEVELOPMENT APPLICATION
AMENDMENT
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