

## Building Construction in Bush Fire Prone Areas

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### Bushfire Hazard Assessment Report

REF No. 18.05.152

Address Lot 59 DP 983814  
42-48 St Marys Road  
Berkshire Park NSW 2765

For Urban City Consulting for S & B Ward

The site was inspected on 21st May 2018

#### 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 59 DP 983814 42-48 St Marys Road Berkshire Park NSW 2765
Description of Proposal	New Class 1a dwelling and retrospective Class 1a secondary dwelling
Plan Reference: [Relied upon in report preparation]	This assessment is based on plans prepared by: Coral Homes Dated: 21.06.2018 Ref No: J25635
Bushfire Hazard Assessment Report Ref. No.	18.05.152
Report Date:	17.07.2018
BAL Rating:	BAL 19 and BAL 12.5
Does the proposal comply with the requirements of <i>Planning for Bush Fire Protection 2006</i> ?	YES with incorporation of the recommendations included contained in the attached Bushfire Hazard Assessment Report
Does the proposal require referral to the NSW Rural Fire Service?	Yes
Does the proposal rely on Alternate Solutions?	Yes – Remnant forest assumed to be Rainforest

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 to the recommendations contained in the attached Bushfire Hazard Assessment Report the proposed development conforms to the relevant specifications and requirements.

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 Penrith City 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 Urban City Consulting for S & B Ward the owners of the subject land to prepare a bush fire hazard assessment report to be a supplement for inclusion in a development application to Penrith City Council, for the proposed construction of a new Class 1a dwelling and retrospective Class 1a secondary 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*.

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* will be achieved by the incorporation of the recommendations contained within this report.

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### Bushfire Attack Summary

**Lot 59 DP 983814**

**42-48 St Marys Road Berkshire Park NSW 2765**

<b>Primary Dwelling (New)</b>	<b>West</b>	<b>Southwest</b>
Vegetation Formation	Forest (rainforest default)	Forest (rainforest default)
Vegetation Slope	Downslope >0 to 5 degrees	Downslope >0 to 5 degrees
Building Separation Distance metres	20	77
Separation Slope	Level	Downslope >0 to 5 degrees
Fire Danger Index	100	100
Category of Bushfire Attack	Moderate	Low
AS 3959 Construction Standard	BAL 19	BAL 12.5

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<b>Secondary Dwelling (Retrospective) West</b>	<b>Southwest</b>
Vegetation Formation	Forest (rainforest default)
Vegetation Slope	Downslope >0 to 5 degrees
Building Separation Distance metres	53
Separation Slope	Downslope >0 to 5 degrees
Fire Danger Index	100
Category of Bushfire Attack	Low
AS 3959 Construction Standard	BAL 12.5

The proposal and the recommendations contained within this report can provide for conformity to *Planning for Bush Fire Protection 2006* and therefore 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 development plans ex Coral Homes

## 1.0 Introduction

We have been engaged by Urban City Consulting for S & B Ward the owners of the subject land to prepare a bush fire hazard assessment report to be a supplement for inclusion in a development application to Penrith City Council, for the proposed construction of a new Class 1a dwelling and retrospective Class 1a secondary 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*.

### 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 Penrith City 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 21st May 2018 and a review of the proposed construction plans as prepared by Coral Homes 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 a new single storey Class 1a dwelling and retrospective application for an existing building to be used as secondary dwelling on the subject allotment.

The building footprint for the new dwelling has been positioned upon the plans supplied and detail on such plans shows the new dwelling shall be located approximately 18.0 metres from the north western (road frontage) boundary and 20.0 metres from the south western boundary.

The following is a summary of the construction details as shown for the proposal upon the plans supplied and as prepared by Coral Homes.

Roof	Colorbond sheets
Flooring System	On ground concrete slab
Supporting columns, posts, etc	Brick
External wall cladding	Brick
External doors	Hinged main entry door & sectional o/head garage door to northwest elevation, PA entry door to southwest elevation and aluminium framed stacker door to northeast elevation
Windows	Aluminium framed
Screens	Not specified
Vents and weep holes	Not specified
Roof mounted evaporative cooler or skylights, etc	Solar HWS to roof
Fascia	Colorbond
Gutters	Colorbond
Verandas and decks	Entry porch to northwest elevation and alfresco to northeast corner



The building proposed to be used as a secondary dwelling is located approximately 82.7 metres from the north western boundary and 50.8 metres from the south western boundary.

This buildings external finishes are;

- Roof – Colorbond sheets
- Aluminium framed windows and sliding doors
- Rendered board external wall cladding
- Set on a combination of framed floor system and a concrete floor

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

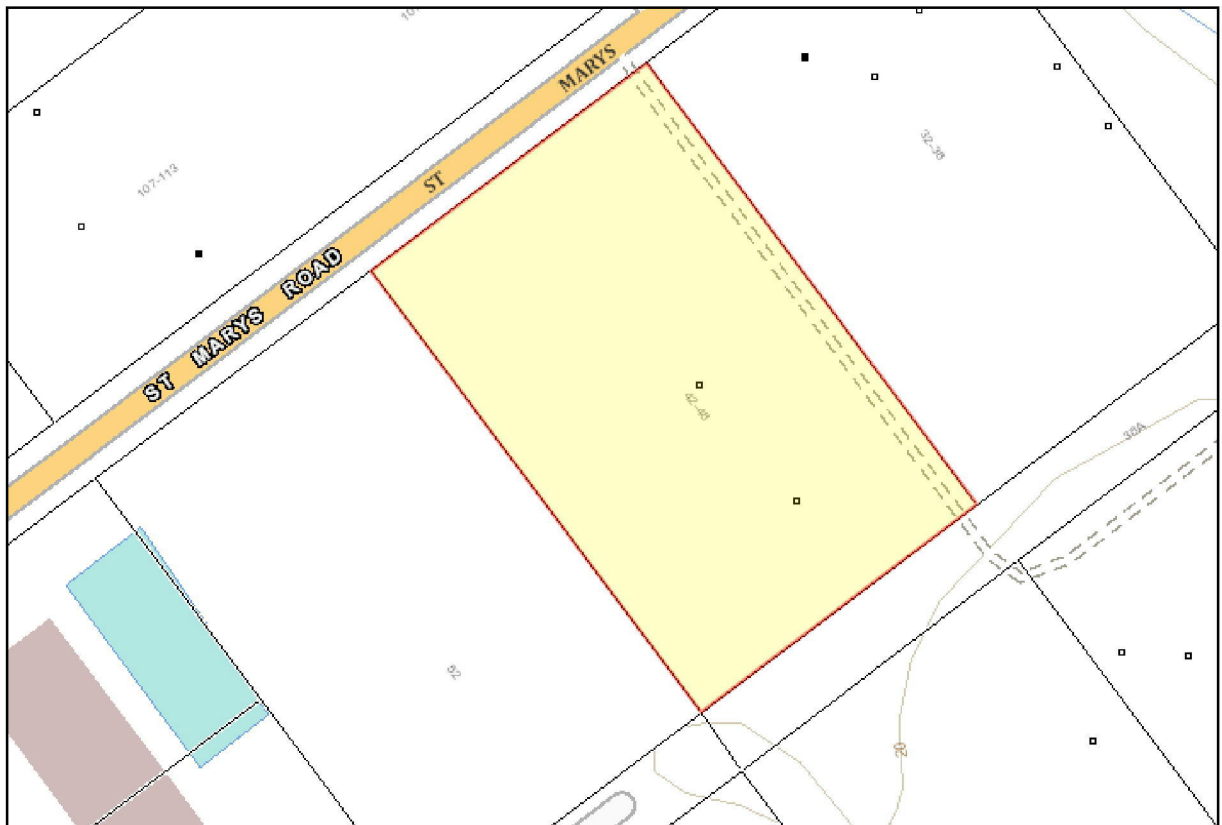
However it must be noted that the plans supplied may not fully satisfy the recommendations included within this report and subject to actual consent conditions issued by the consent authority some modifications or changes may need to occur to achieve the required compliance.

## 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 59 DP 983814  
                                      42-48 St Marys Road  
                                      Berkshire Park NSW 2765  
                                      LGA Hawkesbury City Council



**Figure 1: Address validation ex Dept of Lands**

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

The site is a rural/residential allotment of approximately 16.2 hectares located on the south eastern side of St Marys Road. The area in which the proposal is located is generally similar 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 a very limited section of bushfire hazardous vegetation.

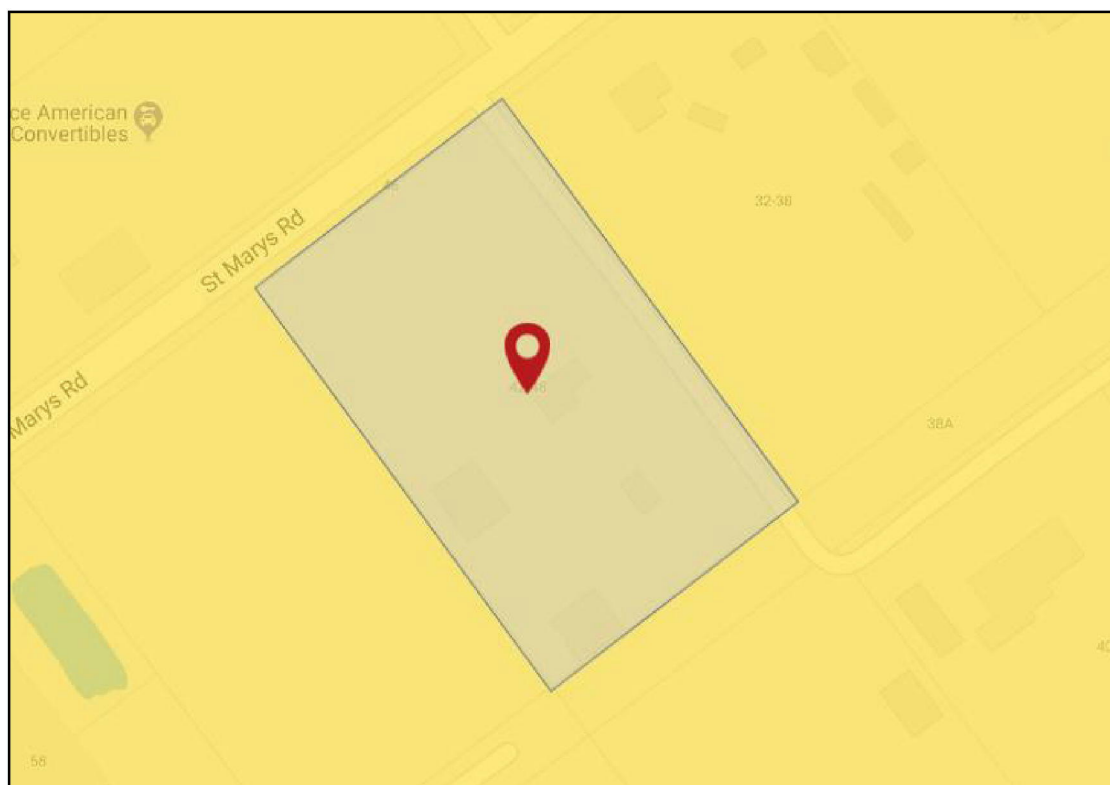
The subject allotment is positioned upon the essentially level terrain that is typical for this section Berkshire Park. The subject allotment is located to the north of South Creek.

The parcel of land is rectangular in shape and the north western boundary forms the road frontage boundary for the subject site.

At present the site has various structural improvements that includes the existing building that is the retrospective development considered by this report, an existing building to be removed and a tiltup concrete panel shed.

In terms of vegetation the site is entirely managed and does not contain any areas of bushfire or grassfire hazardous vegetation.

The site is shown upon the Penrith Bushfire Prone Land Map (Figure 2) to be wholly within category 2 vegetation although the site inspection and interpretation of aerial photography for the site confirms that the subject allotment would be more accurately described as being within an area of category 1 vegetation buffer zone and there are no areas of hazardous vegetation on the subject allotment.



**Figure 2; Section Penrith 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 northwest of the subject allotment is the carriageway of St Marys Road and beyond this are managed lands on a rural residential allotment. In a north direction there is a very small section of unmanaged vegetation directly to the north on the intersection of St Marys Road and First Road. Although given that the size of this vegetation is less than 1.0 hectare and greater than 100 metres from any other areas of identified hazard the provisions of AS 3959-2009 allows for this section of vegetation to be not considered an area of effective hazard.

To the northeast of the subject allotment are managed lands on another rural residential allotment.

To the southeast of the subject allotment is an area of grassland although given it is located to be greater than 50.0 metres from any area of proposed development this section of vegetation has no influence on the recommendations in this report.

To the west and southwest of the subject allotment are two occluded sections of forest vegetation which form the area of hazards effective upon the proposed development.

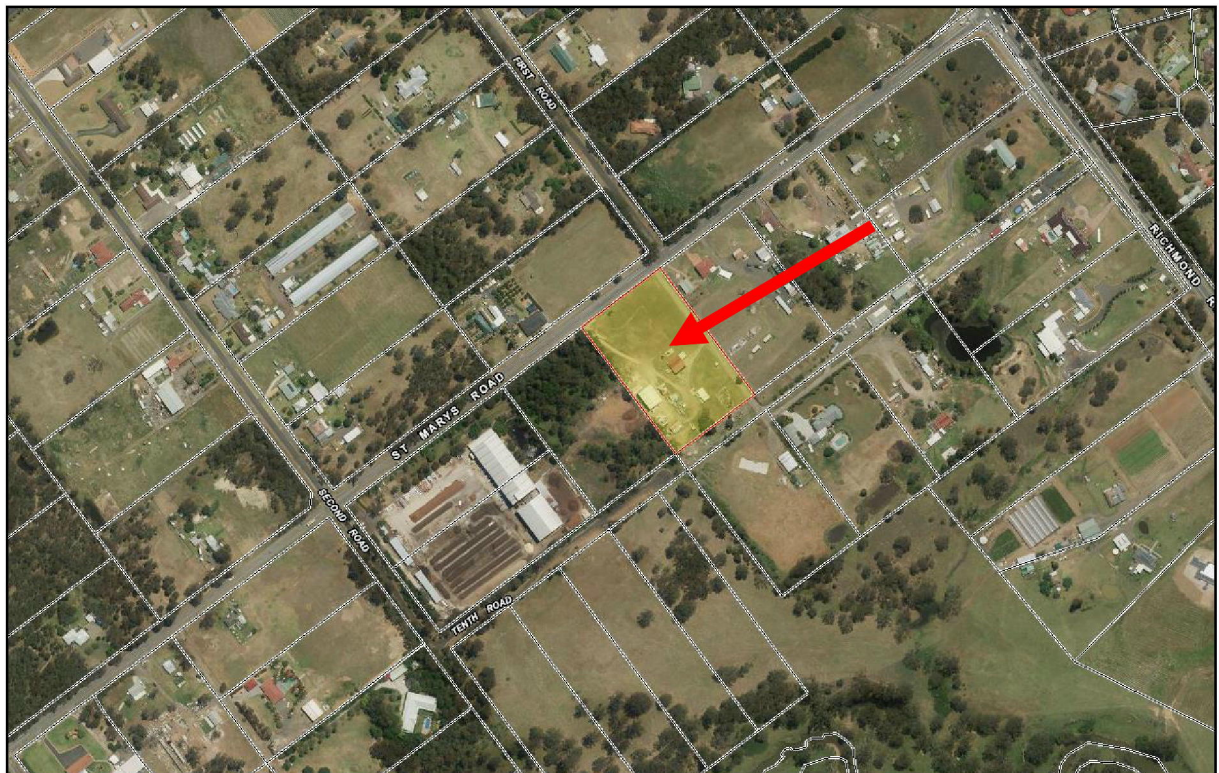


Figure 3: Aerial photo depicting localised terrain and adjoining allotments ex Six Maps

### **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 any 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.

## 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 footprints.

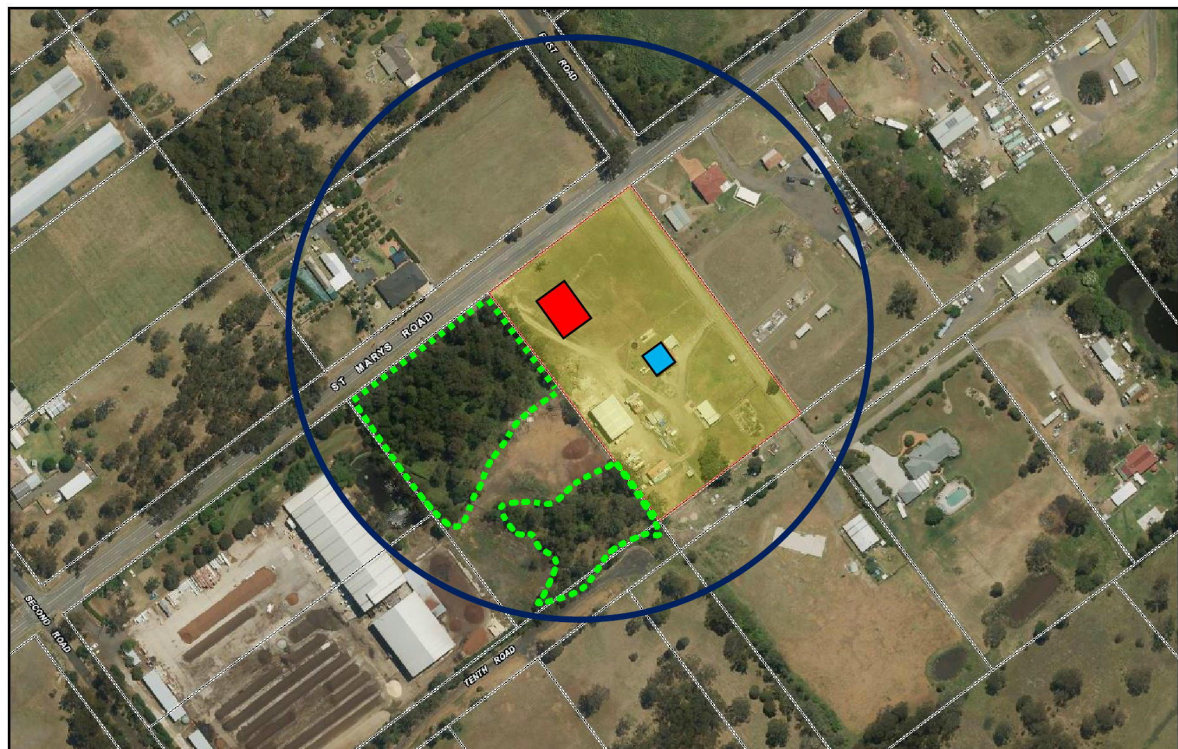


Figure 4: Vegetation study area  140 metre radius approx. Image ex Dept Lands

 Proposed dwelling approx. location  Proposed secondary dwelling location

To the west and south of the subject allotment is the effective bushfire hazardous vegetation and this area should be classified as being a vegetation formation of **Forest** although due to the size of these parcels being less than 1.0 hectare it is considered appropriate to use rainforest default when determining the potential bushfire behavior.

The closest section of forest vegetation (rainforest default) is located approximately 20 metres to the west of the proposed new dwelling construction and then 77 metres to the south for the second section of vegetation.

For the proposed secondary dwelling the vegetation hazard is located approximately 51 metres to the west and 53 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*.

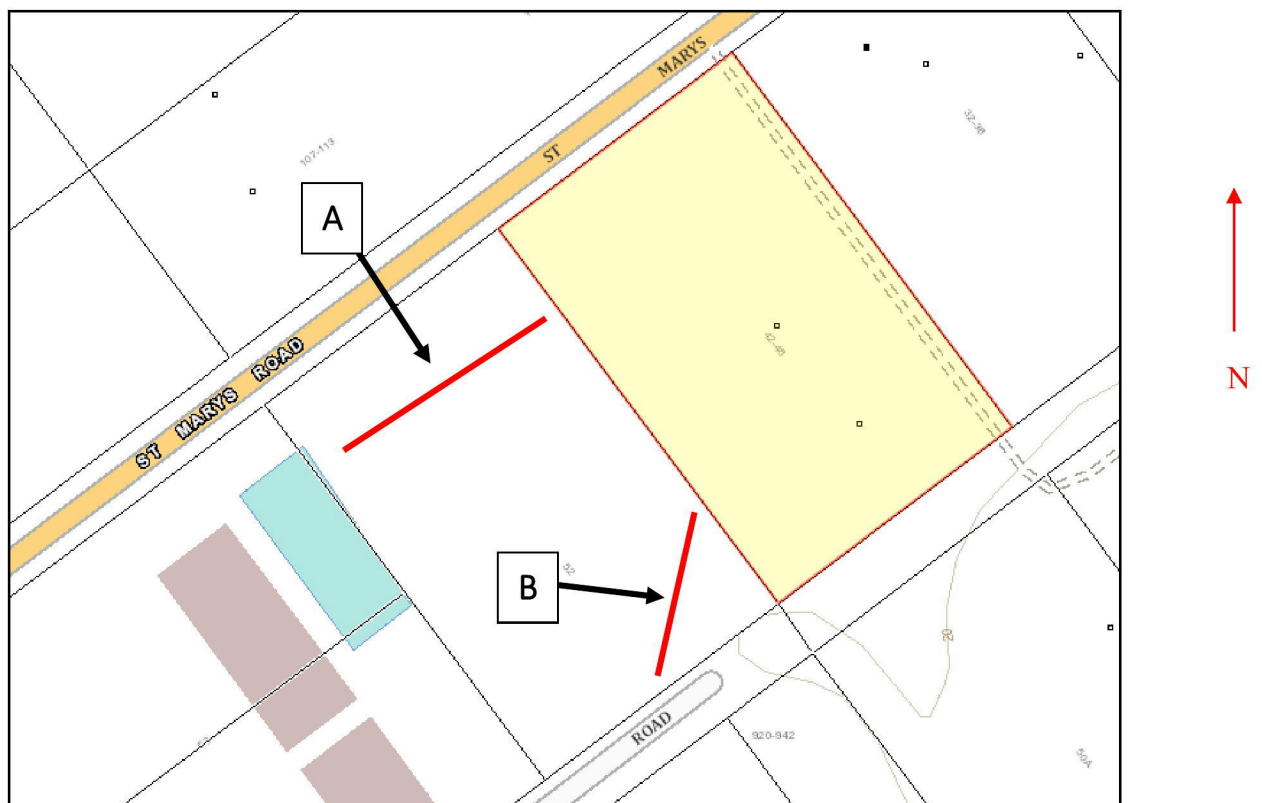


Figure 5; Slope assessment study area Image ex Dept Lands

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 west – A
- Downslope > 0 to 5 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 new dwelling could experience a **Moderate** category of bushfire attack with the proposed secondary dwelling potentially experiencing a **Low** category of attack.

### Bushfire Attack Summary

Primary Dwelling (New)	West	Southwest
Vegetation Formation	Forest (rainforest default)	Forest (rainforest default)
Vegetation Slope	Downslope >0 to 5 degrees	Downslope >0 to 5 degrees
Building Separation Distance metres	20	77
Separation Slope	Level	Downslope >0 to 5 degrees
Fire Danger Index	100	100
Category of Bushfire Attack	Moderate	Low
AS 3959 Construction Standard	BAL 19	BAL 12.5

Secondary Dwelling (Retrospective)	West	Southwest
Vegetation Formation	Forest (rainforest default)	Forest (rainforest default)
Vegetation Slope	Downslope >0 to 5 degrees	Downslope >0 to 5 degrees
Building Separation Distance metres	51	53
Separation Slope	Level	Downslope >0 to 5 degrees
Fire Danger Index	100	100
Category of Bushfire Attack	Low	Low
AS 3959 Construction Standard	BAL 12.5	BAL 12.5



## **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 a new Class 1a dwelling and the retrospective consideration of a secondary Class 1a dwelling will 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 arising from this bushfire hazard assessment report.

### **5.1 Asset Protection Zones**

The provision of asset protection zones for the proposed building footprints can be fully provided for onsite to satisfy the requirements of *Planning for Bush Fire Protection 2006*.

The maintenance of the majority of area upon the subject allotment currently would satisfy the requirements of an inner protection area of an asset protection zone as contained in *Planning for Bush Fire Protection 2006*.

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 dwellings 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*.

Given that the category of bushfire attack that could be anticipated for the proposed new dwelling is Moderate from vegetative fuels to the west, this proposed dwellings roof and eaves section and the north western and south western external elevations 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 6 BAL 19 of such standard apart from as varied to comply with the Addendum to Appendix 3 of *Planning for Bushfire Protection 2006*.

Due to the effects of shielding and with reference to AS 3959-2009 section 3.5 *Reduction in Construction Requirements Due To Shielding*, this report recommends that it is appropriate to construct the north eastern and south eastern external elevations of the proposed new dwelling to satisfy section 3 Construction General and section 5 BAL 12.5 of such standard apart from as varied to comply with the Addendum to Appendix 3 of *Planning for Bushfire Protection 2006*.

Given that the category of bushfire attack that could be anticipated for the proposed secondary dwelling is Low from vegetative fuels to the west and south, this proposed dwelling should therefore be constructed to the requirements of AS 3959-2009 and must be constructed to comply with section 3 Construction General and section 5 BAL 12.5 of such standard apart from as varied to comply with the Addendum to Appendix 3 of *Planning for Bushfire Protection 2006*.

This report does recommend that all guttering and roof valley areas for the new primary dwelling and the secondary dwelling shall be fitted with a material or device that will stop leaves collecting in roof valleys, gutters or down pipes and it shall have a flammability index of not greater than 5 when tested in accordance with AS 1530.2-1993 *Methods for fire tests on building materials, components and structures Part 2: Test for flammability of materials*.

## 5.4 Access / Egress

### 5.4.1 To the Proposed Development

The access to the subject site is from St Marys Road 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.

St Marys Road links to other through roads at each end which would 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 may not be possible to all elevations of the dwelling, although a fire tanker will be able to park in close proximity to the north western building elevation of the new dwelling and the southern elevation of the proposed secondary dwelling upon the new driveway as shown on the site plan and foot access will be available to each of the other building elevations.

To comply with the requirements of *Planning for Bush Fire Protection* 2006 the driveway surface must be an all weather surface capable of carrying a fully laden fire tanker (15 tonnes). The driveway must have trafficable width of not less 4.0 metres and have a minimum of 4.0 metres vertical clearance. The inner radius of any curve must be greater than 6.0 metres.

As a minimum the site must not inhibit the movement of fire fighters on foot and provide for an area of hard surfaced driveway to negotiate the turning around of a bushfire tanker.

This may be achieved by either a turning circle with a minimum radius of 12 metres or a reversing bay. The reversing bay should be at least 6.0 metres wide and 12.0 metres deep with an inner minimum turning radius of 6.0 metres and an outer radius of 12 metres.

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.

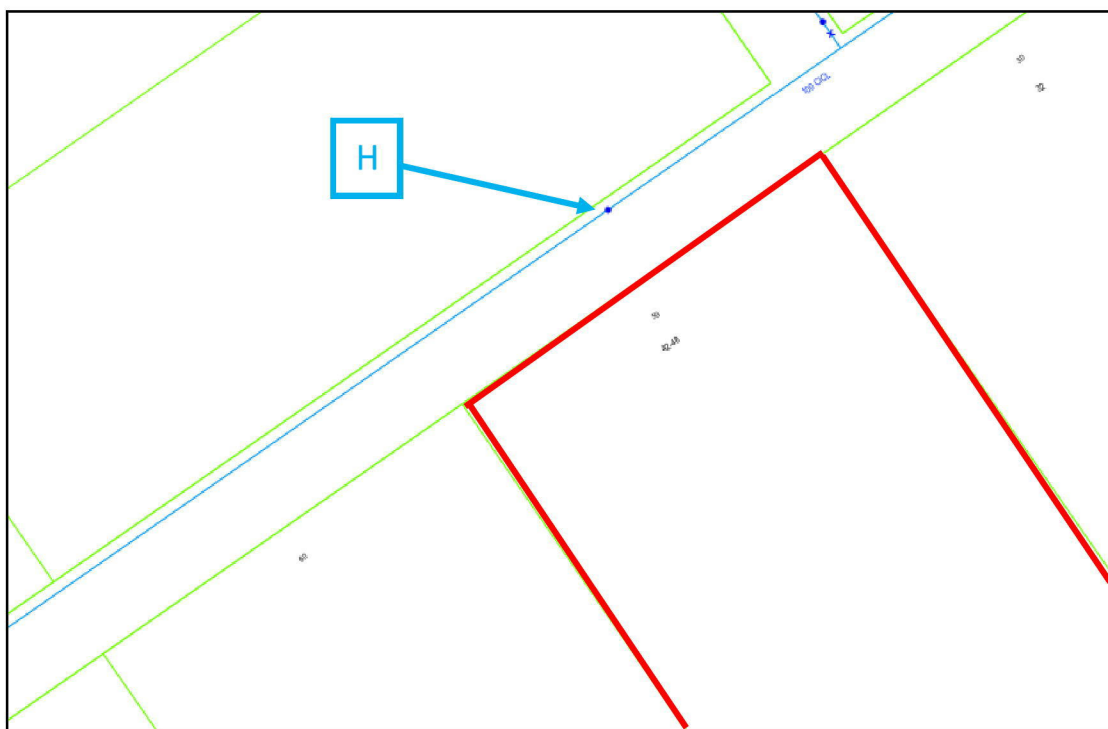
Whilst all fire authorities will endeavour to assist all occupants and protect all buildings during major bushfire events this is not always possible and cannot be guaranteed.

## 5.5 Utility Supplies

### 5.5.1 Water

This section of Berkshire Park 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 18 metres to the northwest from the subject allotment on the road verge area of St Marys Road.

The site inspection confirmed the location of this hydrant.



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

The location of this hydrant and the distance to the furthest point of the secondary dwelling does not satisfy the requirements of *Planning for Bush Fire Protection 2006* and the provisions of *AS 2419.1-2005 Fire hydrant installations*.

Therefore the proposed development must be able to integrate suitable measures that ensure an independent, reliable water supply for use during a bushfire event by the occupants or a firefighting authority tanker, and should have the following key objectives:

- To enable a suitably prepared, able bodied person or persons to undertake first aid fire suppression of small ignitions near or on the external elevations of the building that may occur before and after the passing of a bushfire front.
- To be able to replenish bushfire tankers that may be in attendance during a bushfire event
- To be able to operate independently of the mains power supply so as to be able to fully function if an electrical mains power failure occurred

- To be able to supply an adequate amount of water at the required pressure to firefighting hose or hoses

To satisfy the requirements of *Planning for Bush Fire Protection 2006* it is a recommendation of this report that a reserve Static Water Supply (SWS) of not less than 20,000 litres be permanently maintained on the subject allotment within noncombustible tanks located within the inner protection area of the asset protection zone.

The reserve Static Water Supply (SWS) should be permanently plumbed to a petrol or diesel firefighting water pump of not less than 5 hp. The pump must be shielded from the direct effects of a bushfire event.

The site restrictions may not allow for a bushfire tanker to have direct and clear access to the reserve Static Water Supply (SWS) and as such the proposed development should provide a delivery line of not less than 50mm diameter from the firefighting water pump to an outlet point located within 4.0 metres of the proposed fire tanker turning bay in the new driveway. This outlet point should be fitted with a ball or gate valve and a 65 to 38mm Storz reducer fitting.

The water pump should also be connected to and supply water to kink resistant hose or hoses with a minimum diameter of not less than 19mm and firefighting nozzle capable of reaching all building elevations.

All plumbing and fittings associated with reserve water supply, the first aid fire hoses, the tanker refill outlet point and firefighting pump that is above the ground or below the ground for less than 300mm shall be metal.

The installation and ongoing maintenance of the plumbing and water pump must be undertaken to the manufacturer specifications.

The site shall provide NSW RFS Static Water Supply (SWS) approved signage fitted in the approved locations to enable fire fighters clear indication of the location of the reserve water and the outlet point.

The NSW RFS district office can assist with the procurement of these signs and the guidelines for suitable installation.

### **5.5.2 Electricity**

The methodology for the connection of electricity shall be by overhead wire connection from the mains service supply to a pole that will be located just inside the road frontage boundary and from that point it shall travel underground to the metre box upon the external wall of the new dwelling. This connection should not increase to a large extent the likelihood of bushfire ignition or be the cause of electrical failure to the subject site under most conditions due to the limited overhead distance to be spanned by the wiring.

### **5.5.3 Gas**

At the time of report preparation it was not known if it is proposed to connect gas supply to the subject dwelling. However any future connection to either mains or portable gas supply should be undertaken and maintained to the provisions of AS 1596-2002 *Storage and handling of LP Gas*. All piping associated with the installation must be metal.

### **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 new dwellings roof and eaves section, and the north western and south western elevations shall be constructed to a minimum standard of section 3 Construction General and section 6 BAL 19 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 proposed new dwellings north eastern and south eastern elevations shall be constructed to a minimum standard of section 3 Construction General and section 5 BAL 12.5 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*.
5. That the proposed secondary dwelling shall be constructed to a minimum standard of section 3 Construction General and section 5 BAL 12.5 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*.
6. All guttering and roof valley areas for the new dwelling and secondary dwelling shall be fitted with a material or device that will stop leaves collecting in roof valleys, gutters or down pipes and it shall have a flammability index of not greater than 5 when tested in accordance with AS 1530.2-1993 *Methods for fire tests on building materials, components and structures. Part 2: Test for flammability of materials*.

7. That the driveway shall be constructed to comply with the requirements of *Planning for Bush Fire Protection 2006* which include:
  - a) The surface shall be a material capable of carrying a fully laden fire tanker (15 tonnes) in all weather conditions.
  - b) The width shall be a minimum of not less than 4.0 metres and a vertical clearance of not less than 4.0 metres
  - c) Provide for a loop road around the dwelling or a turning circle of not less than 12.0 metres in outer radius or a reversing bay that is at least 6.0 metres wide and 12.0 metres deep with an inner minimum turning radius of 6.0 metres and an outer radius of 12 metres.
  - d) That the grade shall not exceed 15 degrees if sealed or 10 degrees if unsealed
8. That the secondary dwelling shall maintain a reserve Static Water Supply (SWS) for use during a bushfire event of not less than 20,000 litres stored in a non combustible tank within the area of recommended asset protection zone.
9. The reserve Static Water Supply shall be permanently plumbed to a petrol or diesel fire fighting water pump with a minimum of 5hp. The pump shall be regularly maintained as per the manufacturer specifications. The pump must be located in such a position to be shielded from the direct mechanisms of bushfire attack.
10. That a water delivery line of not less than 50 mm diameter be plumbed from the fire fighting water pump plumbed to the reserve Static Water Supply tank, to an outlet point located within 4.0 metres of the tanker turning area in the new driveway of the subject allotment to enable fire fighting tankers to refill. The outlet of this line shall be fitted with a ball or gate valve and a 65 to 38mm reducer Storz fitting.
11. That the development must provide and have readily available kink resistant hose or hoses with a diameter of not less than 19mm and a fire fighting nozzle, capable of reaching all elevations of the dwelling, and fittings suitable for connection to the fire fighting water pump.
12. That all plumbing associated with the reserve water supply above the ground or for a depth of not less than 300mm below the ground shall be metal.
13. That approved NSW Rural Fire Service; Static Water Supply signage is installed at approved locations for the proposed development.
14. That the supply of electricity and telephone to the dwelling shall be under ground where at all possible.



15. That if the supply of gas to the subject dwelling is undertaken it shall be installed and maintained in accordance with AS 1596-2002 and requirements of relevant authorities.
16. 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* will be achieved by the incorporation of the 16 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 & McAneny 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](http://www.maps.nsw.gov.au)

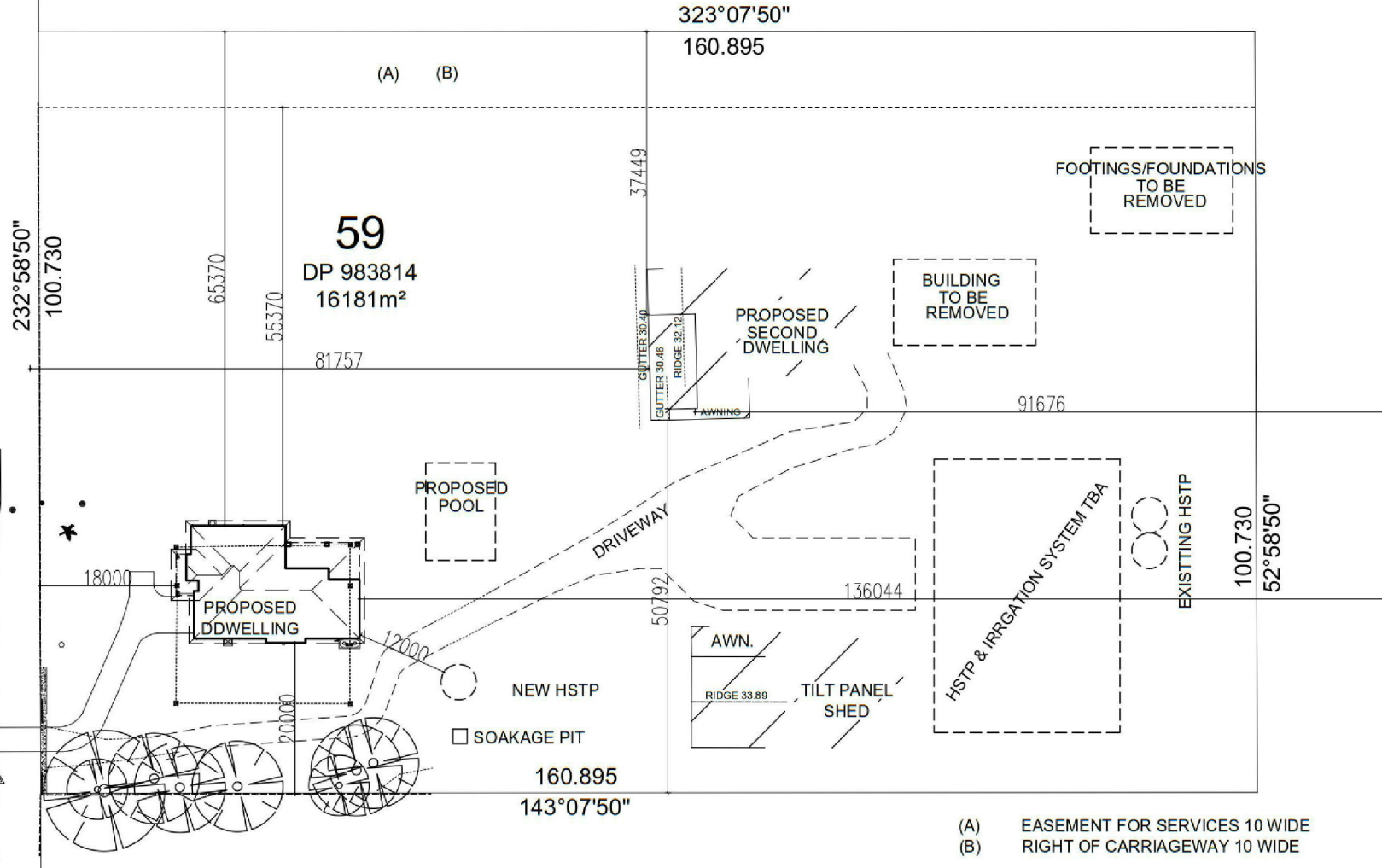
Standards for Asset Protection Zones NSW Rural Fire Service 2005

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

## Appendix 1- Proposed dwelling plans ex Coral Homes

ST MARYS ROAD

**BUSHFIRE ATTACK LEVEL 19**  
PLEASE REFER TO CONTRACT DOCUMENTS FOR FULL DETAILS



BENCHMARK  
NAIL IN BITUMEN  
R.L. = 28.17

(A) EASEMENT FOR SERVICES 10 WIDE  
(B) RIGHT OF CARRIAGEWAY 10 WIDE

**SITE COST OPTION-11.8.16**

**PROPERTY DESCRIPTION**  
LOT 59 ON DP983814  
ST. MARYS ROAD  
SUBURB BERKSHIRE PARK  
LOCAL AUTH. PENRITH  
TBA  
TBA

**AREAS** m<sup>2</sup>  
LAND 16181  
SITE COVERAGE 1.9%

**SITEWORKS**  
CUT: -0.24  
FILL: -0.14  
PAD AHD: 27.80  
SLAB AHD: 28.125  
NOTE: PLATFORM HEIGHT & RETAINING CAN VARY DUE TO SITE CONDITIONS

**LEGEND**  
DENOTES 100mm DIA P.V.C STORM-WATER PIPE  
DENOTES 250 x 250 SURFACE WATER GRATE  
CONNECTED TO SEPARATE STORMWATER PIPE

**CRITICAL PAD LEVEL**  
 NO

NOTE: ALL BUILDING WORKS ARE TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA.

WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE.  
SURVEYOR No. -16351

**NOTES**  
WRITTEN DIMENSIONS WILL TAKE PRECEDENCE OVER SCALE.  
BUILDING DESIGN AND CLASSIFICATION - SEE BRICKING PLAN.  
SETBACK DISTANCES ARE FROM THE OUTSIDE OF THE BRICKWORK.  
ALL LEVELS TO BE CONFIRMED ON SITE BY THE CONTRACTOR.  
CONCRETE SLAB TO COMPLY WITH BEA CLAUSE 3.2.2.1 & THE STRUCTURAL ENGINEERS DETAILS & SPECIFICATIONS.  
ALL BUILDING MATERIALS USED ARE TO BE NEW.

**FINAL SIGNED COPY**  
I/WE ACCEPT THAT THESE PLANS ARE THE FINAL WORKING DRAWINGS THAT SUPERSEDE PRELIM PLANS & I/WE HAVE CHECKED THAT ANY ALTERATIONS OR ADDITIONS ARE SHOWN.  
THESE PLANS ALSO FORM PART OF OUR CONTRACT BETWEEN THE PROPRIETOR & CORAL HOMES.

PROPRIETOR SIGNATURE: \_\_\_\_\_  
BUILDERS SIGNATURE: \_\_\_\_\_  
THESE PLANS REMAIN COPYRIGHT OF THE CORAL HOMES GROUP

**CORAL HOMES**

QBCC 50792/1014053  
OFT 62084C

CLIENTS  
B. & S. WAUD  
LOT 59 ST. MARYS ROAD  
BERKSHIRE PARK NSW

TENDER LETTER  
25-JUNE-2018

CHECKED NSM REFERENCE No. J25635

SCALE: 1:300 DATE: CP2-21.06.18-MGR  
DRAWN: MGR

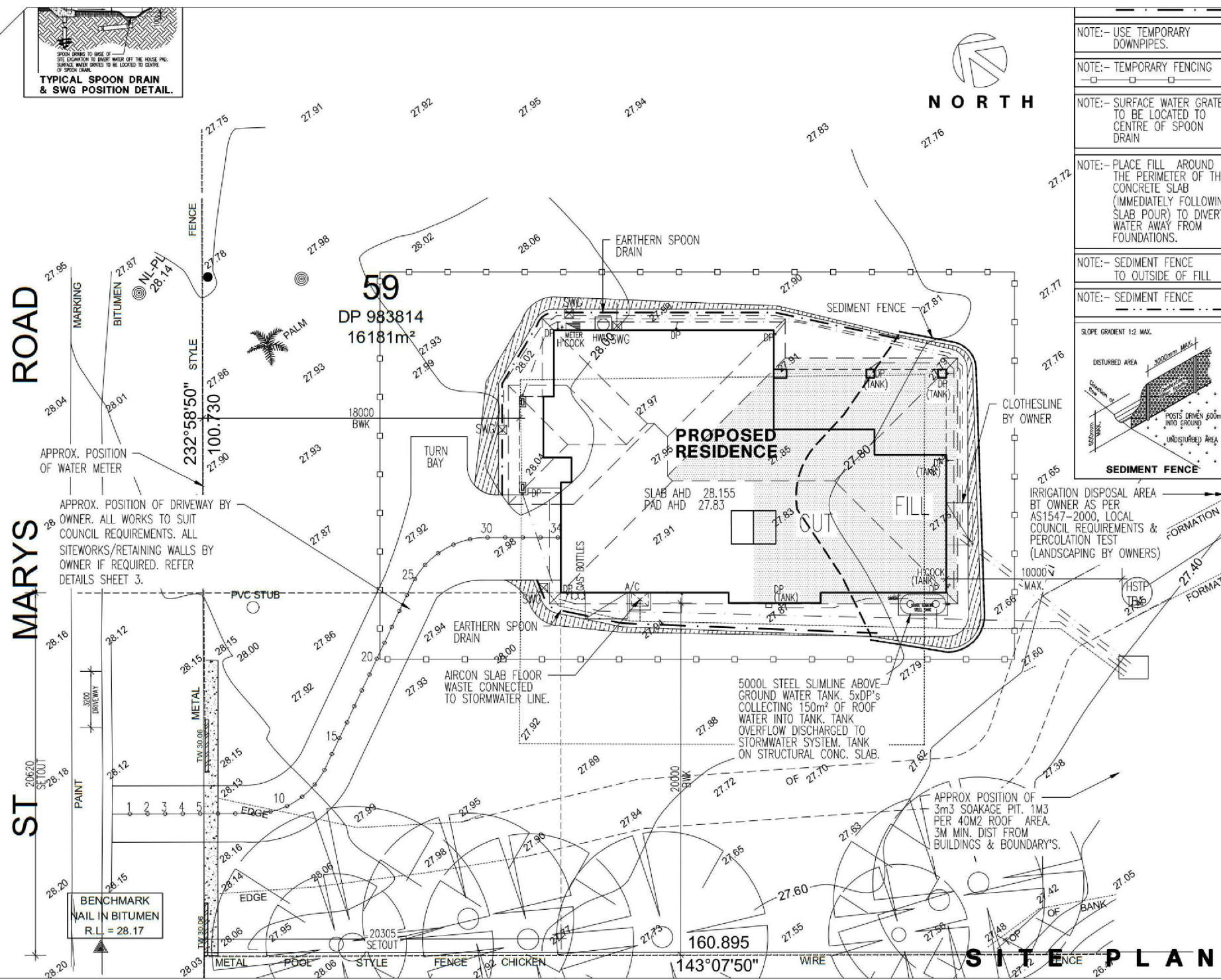
SHEET 1 of 13

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**S I T E P L A N**



ROAD MARYS ST



NOTE:- USE TEMPORARY DOWNPIPES.

NOTE:- TEMPORARY FENCING

NOTE:- SURFACE WATER GRATES TO BE LOCATED TO CENTRE OF SPOON DRAIN

NOTE:- PLACE FILL AROUND THE PERIMETER OF THE CONCRETE SLAB (IMMEDIATELY FOLLOWING SLAB POUR) TO DIVERT WATER AWAY FROM FOUNDATIONS.

NOTE:- SEDIMENT FENCE TO OUTSIDE OF FILL

NOTE:- SEDIMENT FENCE

**SITE COST OPTION:- 21.03.18**

**PROPERTY DESCRIPTION**  
LOT 58 ON DP983814  
ST. MARYS ROAD

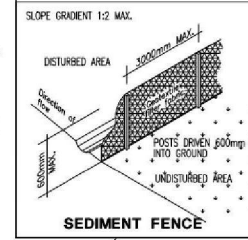
SUBURB BERKSHIRE PARK  
LOCAL AUTH. PENRITH NSW

**AREAS**  
LAND 16181 M<sup>2</sup>  
SITE COVERAGE 1.9%

**SITWORKS**  
CUT:- 0.24  
FILL:- 0.14  
PAD AHD: 27.83  
SLAB AHD: 28.155  
NOTE: PLATFORM HEIGHT & RETAINING CAN VARY DUE TO SITE CONDITIONS

**LEGEND**  
DENOTES 100mm DIA P.V.C STORM-WATER PIPE  
DENOTES 250 x 250 SURFACE WATER GRATE CONNECTED TO SEPARATE STORMWATER PIPE

**CRITICAL PAD LEVEL**  
 NO



NOTE : ALL BUILDING WORKS ARE TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA.

WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE.

SURVEYOR No. :- 16351

**NOTES**  
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ALL LEVELS TO BE CONFIRMED ON SITE BY THE CONTRACTOR.  
CONCRETE SLAB TO COMPLY WITH BCA CLAUSE 3.2.2.1 & THE STRUCTURAL ENGINEER'S DETAILS & SPECIFICATIONS.  
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PROPRIETOR SIGNATURE: [Signature]  
PROPRIETOR SIGNATURE: [Signature]  
BUILDERS SIGNATURE: [Signature]

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**CORAL HOMES**

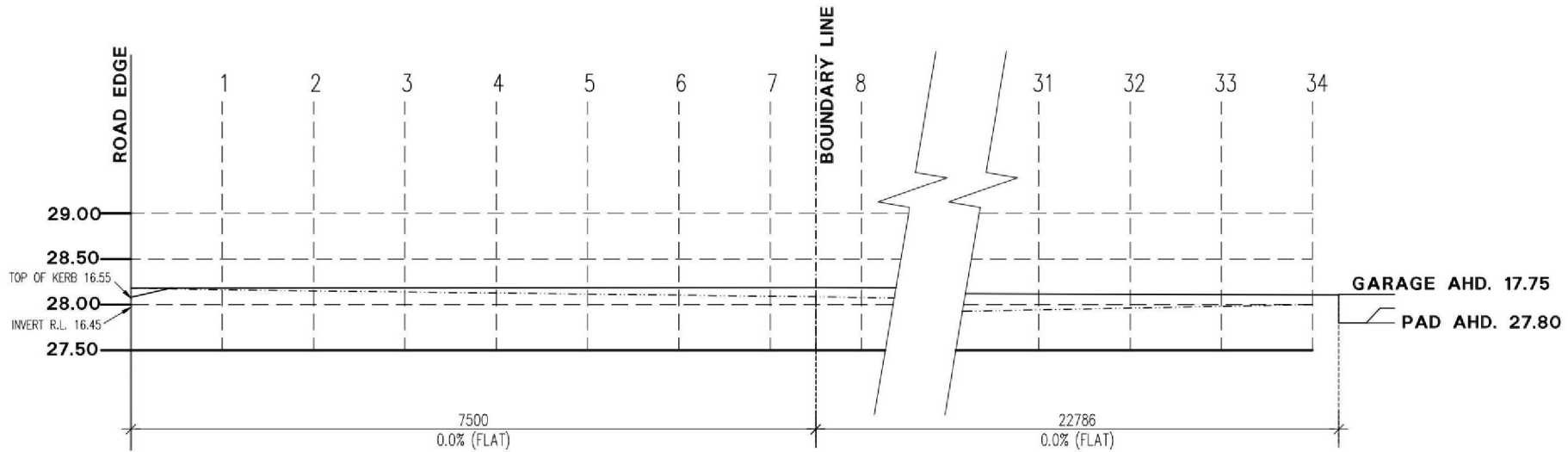
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SHEET	2 OF 13		

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**DRIVEWAY DETAIL - 1:50**

NOTE: THE ABOVE IS SIMPLIFIED TRANSITIONS, THERE IS TO BE A CURVATURE ALLOWANCE AT CHANGE OF GRADE.

**FINAL SIGNED COPY**

I/WE ACCEPT THAT THESE PLANS ARE THE FINAL WORKING DRAWINGS THAT SUPERSEDE PRELIM. PLANS & I/WE HAVE CHECKED THAT ANY ALTERATIONS OR ADDITIONS ARE SHOWN.

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PROPRIETOR SIGNATURE PROPRIETOR SIGNATURE  
 BUILDERS SIGNATURE THESE PLANS REMAIN COPYRIGHT OF THE CORAL HOMES GROUP

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BERKSHIRE PARK NSW

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DRAWN: MGR

SHEET 3 OF 13

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**DRIVEWAY DETAILS**

N2.

AREA:
CONDITIONED = 204.54 SQM
NON-CONDITIONED = 14.32 SQM

FINAL SIGNED COPY
I/WE ACCEPT THAT THESE PLANS ARE THE FINAL WORKING DRAWINGS THAT SUPERSEDE PRELIM PLANS & I/WE HAVE CHECKED THAT ANY ALTERATIONS OR ADDITIONS ARE SHOWN.

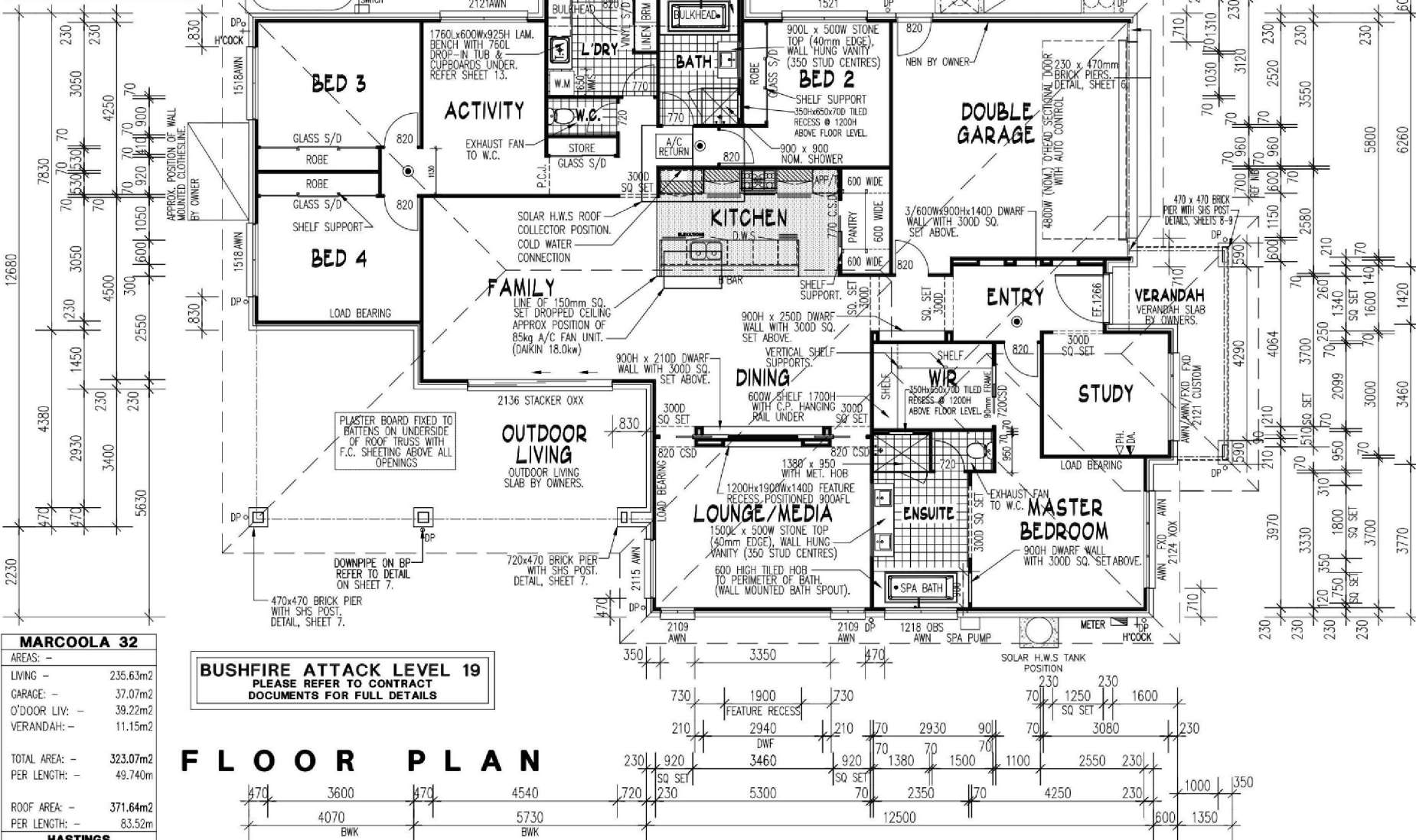
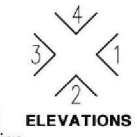
THESE PLANS ALSO FORM PART OF OUR CONTRACT BETWEEN THE PROPRIETOR & CORAL HOMES.

PROPRIETOR SIGNATURE
BUILDERS SIGNATURE

STEEL FRAME AND TRUSSES.

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LEGEND
REF: UBO UNDER BENCH OVEN & COOKTOP
F.S.O. FREE STANDING OVEN & COOKTOP
W.O. WALL OVEN TOWER
M.W. MICROWAVE PROVISION
D.W. DISHWASHER PROVISION
B.BAR BREAKFAST BAR
W.M. WASHING MACHINE PROVISION
D.P. DOWNPIPE
OBS OBSOURE GLASS
AWN AWNING
F FIXED GLASS TO PANEL(S) NOMINATED
D/H DOUBLE HUNG WINDOW
PB SET WINDOW REVEAL (SUITS TILING)
S/D GLASS SLIDING PANEL
S/D GLASS SLIDING DOOR (EXTERNAL)
XO SMOKER GLASS STACKER DOOR (EXTERNAL)
XD SLIDING PANEL / FIXED PANEL
C.S.D. INTERNAL CAVITY SLIDING DOOR
SQ SET 3000 SQUARE SET PBOARD BULKHEAD
820 SIZE OF TIMBER DOOR (WIDTH)
21-18 SIZE OF WINDOW (2100H x 1800W)
P.C.J. PLASTERBOARD CEILING CONTROL JOINT
P.H. PHONE POINT
GAS GAS BAYONET POINT
LOCATION OF SMOKE ALARM (TO COMPLY WITH B.C.A CLASS 1 & 10 PART 3.7-2 & WITH AS 3786.



NOTES
- WRITTEN DIMENSIONS WILL TAKE PRECEDENCE OVER SCALE.
- ALL INTERNAL DIMENSIONS STATED ARE FRAME SIZE.
- ALL WINDOWS TO BE SLIDING U.N.O.
- 470x700mm WIDE PAINTED MELAMINE SHELVES TO MATCH TO ALL EXT. STUD WALLS INC GARAGE.
- GAS PIPWORK & CONNECTION TO COOKTOP - COMPACT FLURO LIGHT OR L.E.D. (LIGHT EMITTING DIODE) LIGHT GLOBS TO A MIN. OF THE ENTIRE HOUSE TO COMPLY WITH 'BASIC'.
- LIFT OFF HINGES TO W.C. DOOR.
- 3 STAR TAPWARE.
- HWS 5 STAR (FOR STORAGE).
- PROMOTE FWD DOWNPIPES TO ENTIRE HOUSE.
- A.S. ARE INDICATION ONLY, PLANS MAY CHANGE AFTER SLAB DESIGN.

TERMITE RESISTANT TIMBER FRAME AND TRUSSES.
PLEASE REFER TO SHEETS 9.10, 11 & 12 FOR WET AREA LAYOUTS.

CORAL HOMES

QBCC 50792/1014053
OFT 62084C

CLIENTS
B. & S. WAUD
LOT 59 ST. MARYS ROAD
BERKSHIRE PARK NSW

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SHEET 4 of 13

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Table with 2 columns: AREA, and values. Includes MARCOOLA 32 and HASTINGS.

BUSHFIRE ATTACK LEVEL 19
PLEASE REFER TO CONTRACT DOCUMENTS FOR FULL DETAILS

FLOOR PLAN



**MATERIALS/ COLOUR PALETTE**  
 EXTERIOR WALLS - MASONRY  
 ROOF - CONCRETE TILE

**BUSHFIRE ATTACK LEVEL 19**  
 PLEASE REFER TO CONTRACT DOCUMENTS FOR FULL DETAILS

42x19 STAINED BATTENS  
 FIXED TO PAINTED F.C SHEETING.  
 DETAIL SHEETS 8-9

COLORBOND SHEET ROOF  
 WITH SARKING

5349 RIDGE HEIGHT  
 2590 NOMINAL FRAME HEIGHT

FLASHING CAPPING  
 FACE BRICKWORK

PAINTED F.C. SHEETING  
 ABOVE GARAGE DOOR

**ELEVATION 1  
 (NORTH/WEST)**

RECESSED F.C. SHEETING  
 ABOVE O'DR LIVING OPENINGS

470x470 BRICK PIER WITH  
 SHS POST. DETAIL SHEET 7

COLORBOND SHEET ROOF  
 WITH SARKING

42x19 STAINED BATTENS  
 FIXED TO PAINTED F.C SHEETING  
 DETAIL SHEETS 8-9

2590 NOMINAL FRAME HEIGHT

FACEBRICK  
 WITH SARKING  
 TO EXTERNAL  
 STUDS

FACEBRICK  
 WITH SARKING  
 TO EXTERNAL  
 STUDS

590x350  
 RENDERED  
 BRICK PIERS  
 WITH SHS  
 POST. DETAILS  
 SHEETS 8-9

N.G.L.

**ELEVATION 2  
 (NORTH/EAST)**

COLORBOND METAL  
 FASCIA/GUTTER SYSTEM

COLORBOND SHEET ROOF  
 WITH SARKING

470x470 BRICK PIER WITH SHS POST.  
 DETAIL SHEET 7  
 RECESSED F.C. SHEETING ABOVE  
 OPENINGS

2590 NOMINAL FRAME HEIGHT

FACEBRICK  
 WITH SARKING  
 TO EXT.  
 STUDS

N.G.L.

**ELEVATION 3  
 (SOUTH/EAST)**

470x470 BRICK PIER WITH SHS POST.  
 DETAIL SHEET 7

COLORBOND SHEET ROOF  
 WITH SARKING

SOLAR H.W.S ROOF  
 COLLECTOR POSITION.

APPROX. POSITION  
 OF VENT FOR ROOF  
 SPACE VENTILATION

2590 NOMINAL FRAME HEIGHT

2 x 590x350 RENDERED  
 BRICKWORK PIERS

FACEBRICK  
 WITH SARKING  
 TO EXTERNAL  
 STUDS

5000L SUMMINE  
 STEEL TANK

**ELEVATION 4  
 (SOUTH/WEST)**

**NOTES**  
 WRITTEN DIMENSIONS TAKE PRECEDENCE  
 OVER SCALE.  
 N.G.L. = NATURAL GROUND  
 A.J. = ARTICULATED JOINT  
 S.S.L. = STRUCTURAL SURFACE LEVEL

**MARCOOLA 32  
 HASTINGS PORTICO**  
 - ROOF PITCHED AT 21° WITH  
 600 WIDE EAVES UNLESS  
 NOTED OTHERWISE.  
 LYSAGHT 115 QUAD SLOTTED  
 GUTTERING TO SUIT 40m2  
 PER DOWNPIPE ROOF AREA

**IMPORTANT NOTICE:**  
 THERE ARE NO ATYPICAL DESIGN  
 FEATURES IN THIS CONSTRUCTION THAT  
 PRESENT UNUSUAL WORKPLACE, HEALTH  
 & SAFETY ISSUES IN THE  
 CONSTRUCTION, MAINTENANCE, USE OR  
 DEMOLITION OF THIS STRUCTURE.

ALL WINDOWS TO FLOOR LEVELS WHICH  
 ARE 2M OR MORE ABOVE THE SURFACE  
 BENEATH MUST HAVE A BARRIER AT A  
 HEIGHT NO LESS THAN 865MM AND THE  
 OPENING PANEL ABOVE BE RESTRICTED  
 TO A MAXIMUM OF 125MM OR HAVE A  
 BARRIER WHICH CAN RESIST A MINIMUM  
 OF 250N OF OUTWARD HORIZONTAL  
 ACTION.

**FINAL SIGNED COPY**  
 I/WE ACCEPT THAT THESE PLANS ARE THE FINAL  
 WORKING DRAWINGS THAT SUPERSEDE PRELIM.  
 PLANS & I/WE HAVE CHECKED THAT ANY ALTER-  
 ATIONS OR ADDITIONS ARE SHOWN.  
 THESE PLANS ALSO FORM PART OF OUR  
 CONTRACT BETWEEN THE PROPRIETOR  
 & CORAL HOMES.

PROPRIETOR SIGNATURE PROPRIETOR SIGNATURE  
 BUILDERS SIGNATURE THESE PLANS REMAIN  
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 HOMES**

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CLIENTS  
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 LOT 59 ST. MARYS ROAD  
 BERKSHIRE PARK NSW

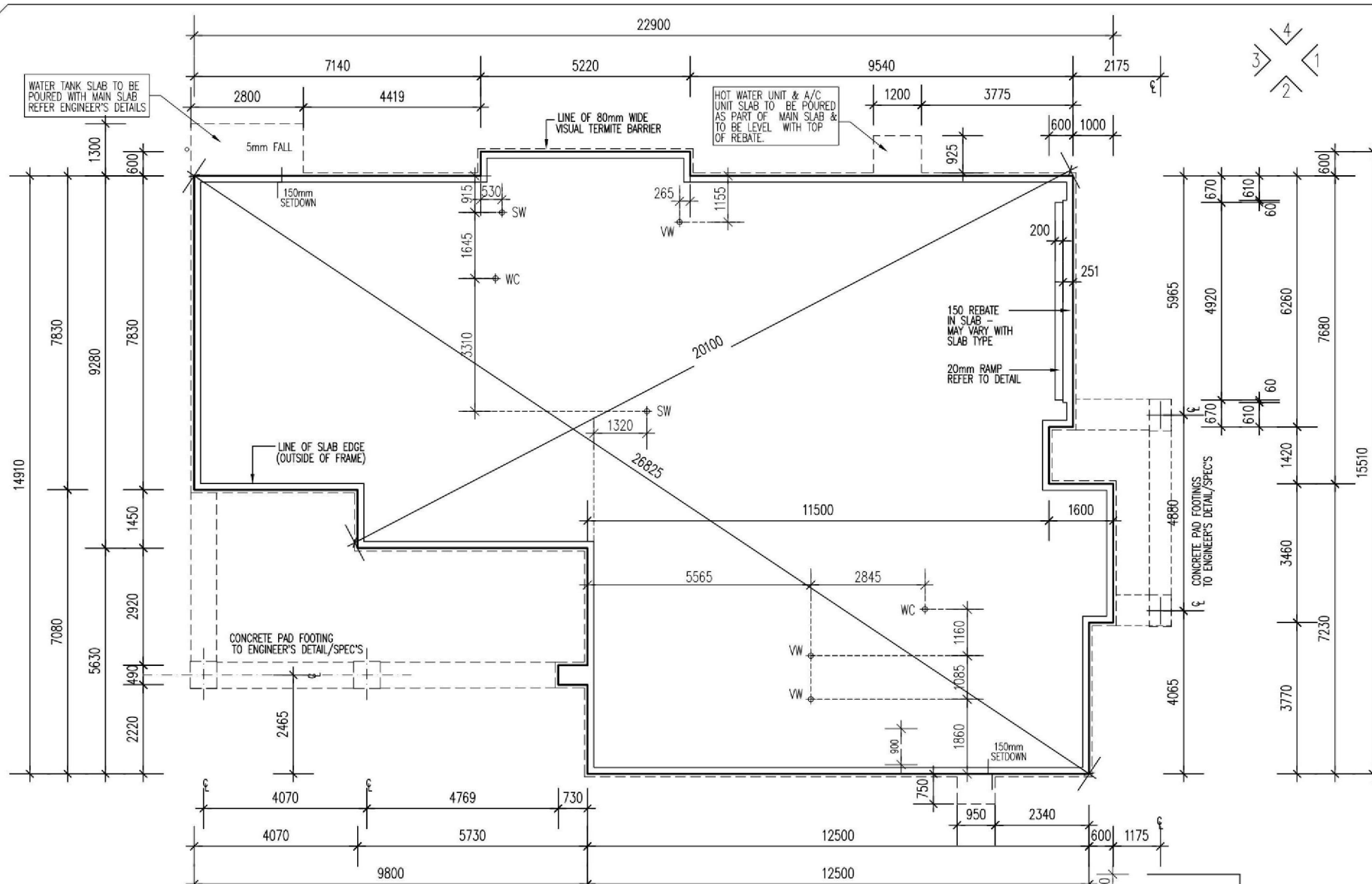
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SHEET 5 OF 13

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**NOTE:**  
 WRITTEN DIMENSIONS WILL TAKE PRECEDENCE OVER SCALE.  
 CONCRETE SLAB TO COMPLY WITH BCA CLAUSE 3.2.3.1 & THE ENGINEER'S DETAILS.  
 ALL FLOOR TRAPS ARE TO BE POSITIONED ACCORDING TO AS3500, KEEPING CLEAR OF ALL STEPS & HOBS

**LEGEND**  
 SW - SINK WASTE DP - DOWNPIPE  
 FT - FLOOR TRAP VW - VANITY WASTE  
 WC - WC PIPE SG - SHOWER GRATE

**NOTES**  
 - ALL DIMENSIONS ARE TO OUTSIDE BRICKWORK.  
 - ALL DIMENSIONS WILL TAKE PRECEDENCE OVER SCALE.  
 - PLUMBING FIXTURE & POST/PIER FOOTING DIMENSIONS ARE TO CENTRE.  
 - ALL FLOOR TRAPS ARE TO BE POSITIONED ACCORDING TO AS3500, KEEPING CLEAR OF ALL STEPS & HOBS

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PROPRIETOR SIGNATURE: \_\_\_\_\_  
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 BUILDERS SIGNATURE: \_\_\_\_\_  
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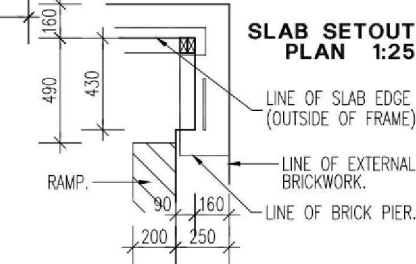
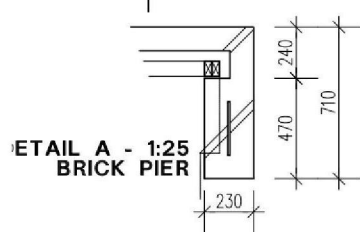
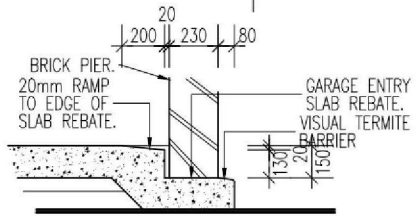
**CORAL HOMES**

QBCC 50792/1014053  
 OFT 62084C

CLIENTS  
 B. & S. WAUD  
 LOT 59 ST. MARYS ROAD  
 BERKSHIRE PARK NSW  
 TENDER LETTER 25-JUNE-2018

CHECKED	NSM	REFERENCE No.	J25635
SCALE: 1:100		DATE:	
DRAWN:	MGR	CP2-21.06.18-MGR	
SHEET	6 of 13		

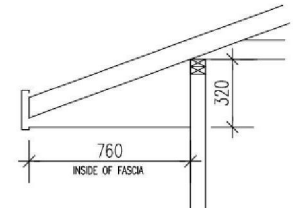
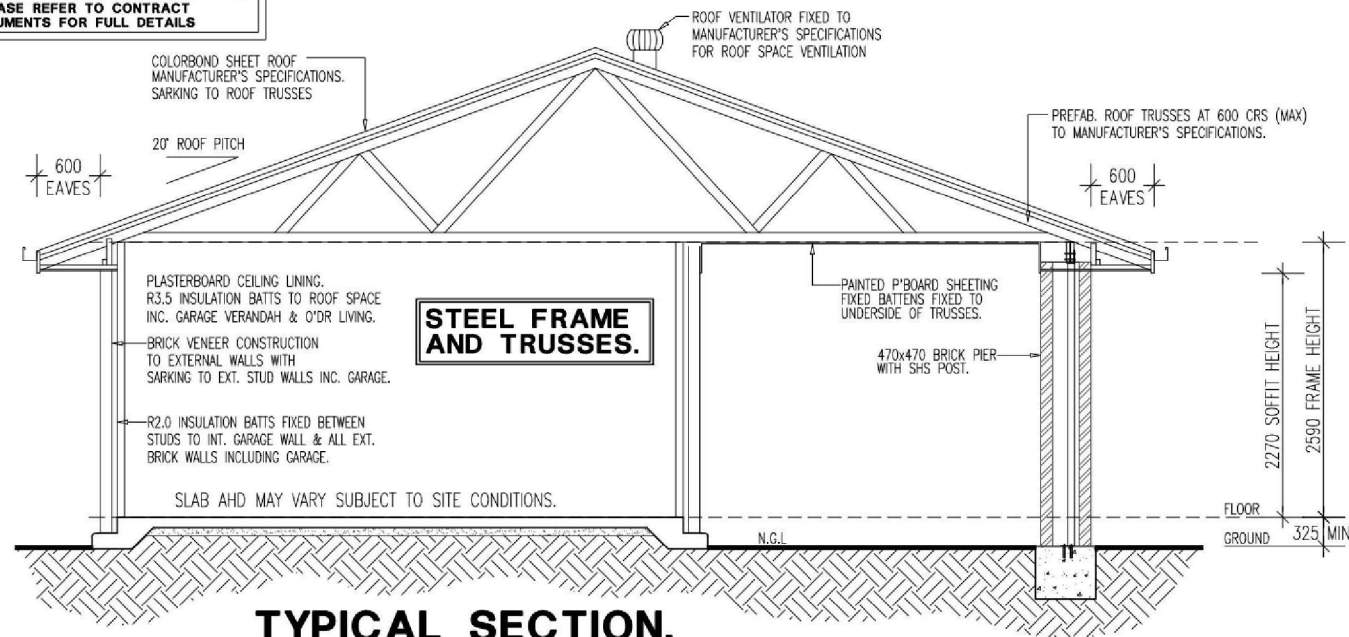
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**RAMP REBATE DETAIL 1:25**  
**RAMP TO GARAGE ENTRANCE**  
 NOTE: FOOTINGS & SLAB TO BE AS PER THE ENGINEERS DESIGN AS INDICATED WITH THE SITE INVESTIGATION

**SLAB PLAN**

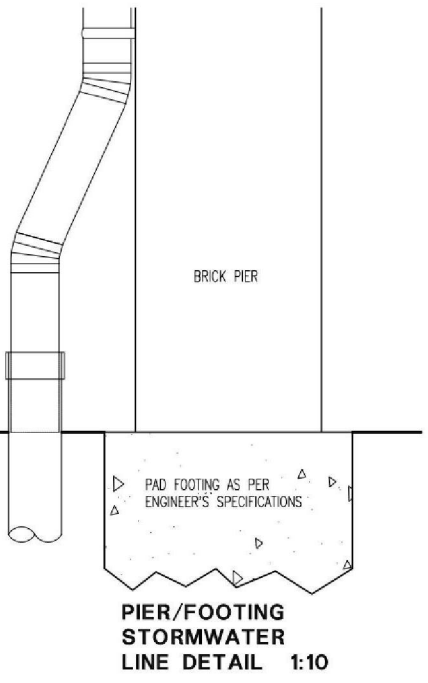
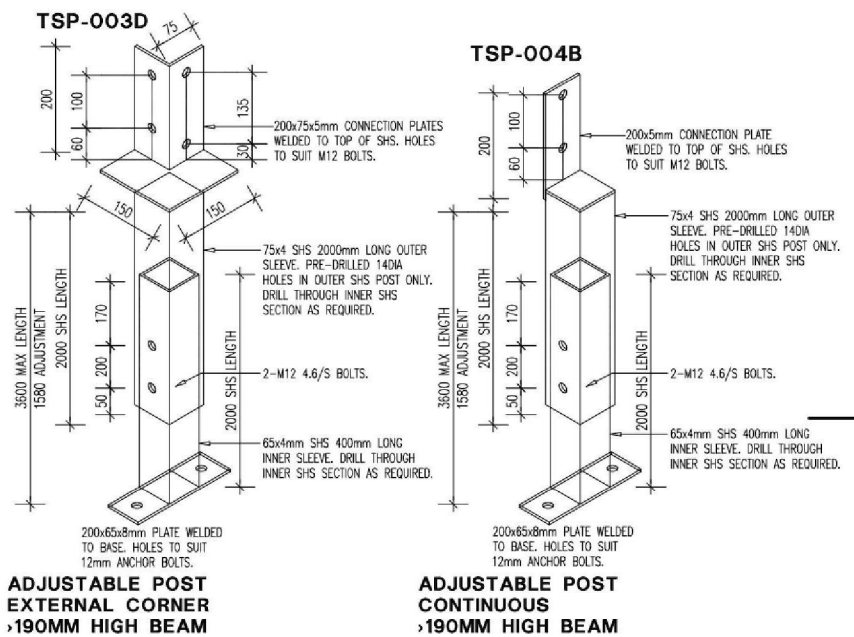
**BUSHFIRE ATTACK LEVEL 19**  
PLEASE REFER TO CONTRACT DOCUMENTS FOR FULL DETAILS



**DETAIL - 1:25**  
**20° PITCH**  
**EAVE SECTION**  
**SHEET ROOF ONLY**

**TYPICAL SECTION.**

REFER TO ENGINEERS REPORT FOR FOOTING & SLAB DETAILS.



**GENERAL NOTES**

- BUILDING DESIGN WIND CLASSIFICATION N2
- LEVELS TO BE VERIFIED ON SITE BY CONTRACTOR
- ALL TIMBER FRAMING TO COMPLY WITH AS 1684.2-2010 (N2/N3/N4 WIND RATING AREAS) & AS 1684.3-2010 (C1/C2 WIND RATING AREAS)
- BUILDING CODE OF AUSTRALIA (BCA) BRACING & TIE-DOWN REQUIREMENTS TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- CONCRETE SLAB TO COMPLY WITH BCA CLAUSE 3.2.3.1
- ALL MATERIALS SHALL BE NEW
- STORMWATER FROM ROOF TO BE DISCHARGED TO STREET KERB OR ONTO OWN PROPERTY WITHOUT NUISANCE TO NEIGHBOURS.
- WHERE DISCHARGE IS TO KERB, APPROVED ADAPTOR TO BE USED.
- TERMITE BARRIER TO SLAB SUBGRADE & PERIMETER INSTALLED IN ACCORDANCE WITH AS 3660.1 OR BCA CLAUSE 3.1.3.3 & THE OWNERS OF PROPERTY SHALL BE NOTIFIED OF THEIR OBLIGATIONS.
- 0.2mm POLY VAPOUR BARRIER ON MIN. 50mm SAND FILL, SLAB MINIMUM 325 ABOVE GROUND LEVEL.
- BRICK VENEER WALLS TO HAVE TIES AT 600x600 CRS & COMPLY WITH AS 3700.
- PLASTERBOARD GENERALLY TO ALL WALLS (10mm) & CEILINGS (10mm UNISPAN) FIXED TO MANUFACTURERS SPECIFICATIONS. FIBRE CEMENT SHEETING TO WET AREAS ONLY.
- WHERE W.C. OR ENSUITE DOORS DO NOT OPEN OUTWARDS THEY SHALL BE PROVIDED WITH LIFT-OFF HINGES.
- BALUSTRADING & HANDRAILS (WHEN APPLICABLE) TO COMPLY WITH BCA CLAUSE 3.9.2.3
- STAIRS (WHEN APPLICABLE) TO COMPLY WITH BCA CLAUSE 3.9.1.3 & 3.9.1.4
- EXHAUST FAN TO W.C. (WHEN APPLICABLE) TO COMPLY WITH AS 1668.2
- SHEET METAL ROOF (WHEN APPLICABLE) TO COMPLY WITH AS 1562.1
- WINDOWS TO COMPLY WITH BCA CLAUSE 3.9.2.5 - PROTECTION OF OPENABLE WINDOWS.

**FINAL SIGNED COPY**

I/WE ACCEPT THAT THESE PLANS ARE THE FINAL WORKING DRAWINGS THAT SUPERSEDE PRELIM. PLANS & I/WE HAVE CHECKED THAT ANY ALTERATIONS OR ADDITIONS ARE SHOWN.

THESE PLANS ALSO FORM PART OF OUR CONTRACT BETWEEN THE PROPRIETOR & CORAL HOMES.

PROPRIETOR SIGNATURE: \_\_\_\_\_  
BUILDERS SIGNATURE: \_\_\_\_\_  
THESE PLANS REMAIN COPYRIGHT OF THE CORAL HOMES GROUP

**CORAL HOMES**

QBCC 50792/1014053  
OFT 62084C

CLIENTS:  
B. & S. WAUD  
LOT 59 ST. MARYS ROAD  
BERKSHIRE PARK NSW

TENDER LETTER: 25-JUNE-2018

CHECKED: NSM  
REFERENCE No. J25635

SCALE: 1:50 & N.T.S.  
DATE: CP2-21.06.18-MGR

DRAWN: MGR

SHEET 7 OF 13  
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