




Reference number 3764

Member of the Fire Protection Association of Australia

Lot 91, DP 28862, 12 Kanimbla Crescent, Bilgola Plateau, NSW 2107.

Thursday, 16 December 2021

Prepared and certified by:	Matthew Willis <i>BPAD – Level 3 Certified Practitioner</i> Certification No: BPD-PA 09337		16/12/2021
Can this proposal comply with AS3959-2018 (inc section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019)?	Yes		
What is the recommended AS 3959-2018 level of compliance?	BAL-12.5		
Is referral to the RFS required?	No		
Can this development comply with the requirements of PBP?	Yes		
Plans by "JJ Drafting" (Appendix 1) dated.	Aug/2021		

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Bushfire Risk Assessment

Thursday, 16 December 2021

Contact

Jitka Jankovec

JJ Drafting

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Dee Why NSW 2099

0414 717 541

Subject Property

Lot 91, DP 28862

12 Kanimbla Crescent

Bilgola Plateau NSW 2107

BUSHFIRE RISK ASSESSMENT CERTIFICATE

THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 4.14 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT.

Property Address	Lot 91, DP 28862, number 12 Kanimbla Crescent Bilgola Plateau
Description of the Proposal	Alterations and additions to an existing dwelling
Plan Reference	Aug/2021
BAL Rating	BAL-12.5
Does the Proposal Rely on Alternate Solutions?	No

I, Matthew Willis of Bushfire Planning Services Pty Ltd have conducted a bushfire risk assessment on the above-mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Planning for Bushfire Protection 2019 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby advise, in accordance with Section 4.14 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 Risk Assessment Report the proposed development conforms to the relevant specifications and requirements*

*The relevant specifications and requirements being specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203.

I am aware that the Bushfire 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 2019.

REPORT REFERENCE	Thursday, 16 December 2021
REPORT DATE	Thursday, 16 December 2021
CERTIFICATION NO/ACCREDITED SCHEME	FPAA BPAD A BPD-PA 09337

Attachments:

- Bushfire Risk Assessment Report
- Recommendations

SIGNATURE: ---  ----- **DATE:** ----- Thursday, 16 December 2021

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1 Executive Summary.

Bushfire Planning Services has been requested by Jitka Jankovec from JJ Drafting to supply a bushfire compliance report on lot 91, DP 28862, 12 Kanimbla Crescent, Bilgola Plateau.

The works proposed for the subject lot are for the alterations and additions to an existing dwelling, see attached plans for details.

The subject lot is on the western side of Kanimbla Crescent and at its closest point to the hazard the proposed new work has a separation distance to the east of approximately 46.4m.

The vegetation that is considered to be the hazard to this proposal is situated on land that slopes down slope away from the property at an angle of approximately 14.90°.

For the purposes of this assessment this vegetation is considered to be Rainforest.

The remaining vegetation within the study area is contained within the boundaries of established allotments and is managed land and of low threat to this proposal.

The calculations and assumptions outlined in this report show that the development will be required to comply with the construction requirements of AS 3959-2018 BAL-12.5 and any additional construction requirements contained within section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.

The following table is a summary of the pertinent findings of this assessment.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land/rainforest	Managed land	Managed land
Slope	N/A	10-15 degrees downslope	N/A	N/A
Setback within lot 91	N/A	6.4m	N/A	N/A
Setback outside lot 91	N/A	40m	N/A	N/A
Total setback	N/A	46.4m	N/A	N/A
Bal level	N/A	BAL-12.5	N/A	N/A

Note: The above table is a summary of the significant variables used to determine the highest BAL for this proposal. THIS TABLE IS NOT INTENDED FOR CONSTRUCTION! Only the highest BAL level is shown, aspects marked as N/A will still have a BAL. Refer to section 11 for construction requirements for these other aspects.

2 General.

This proposal relates to the alterations and additions to an existing dwelling on the subject lot and its ability to comply with the rules and regulations for building in a bushfire prone area.

The methodology used on this report is based on Planning for Bushfire Protection 2019 (PBP) as published by the New South Wales Rural Fire Service.

Any wording that appears in *blue italics* is quotes from Planning for Bushfire Protection 2019. Some of the measurements used in this report have been taken from aerial photographs and as such are approximate only.

3 Block Description.

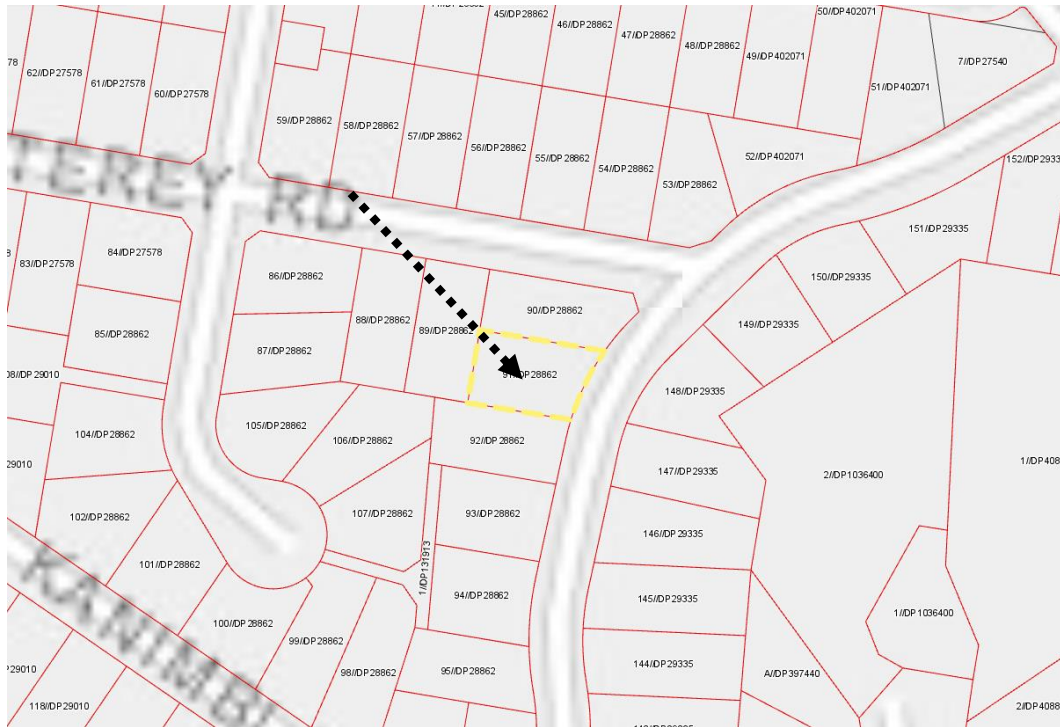
The subject block is situated on the western side of Kanimbla Crescent in an established area of Bilgola Plateau.

The lot currently contains a multi-level class 1 dwelling.

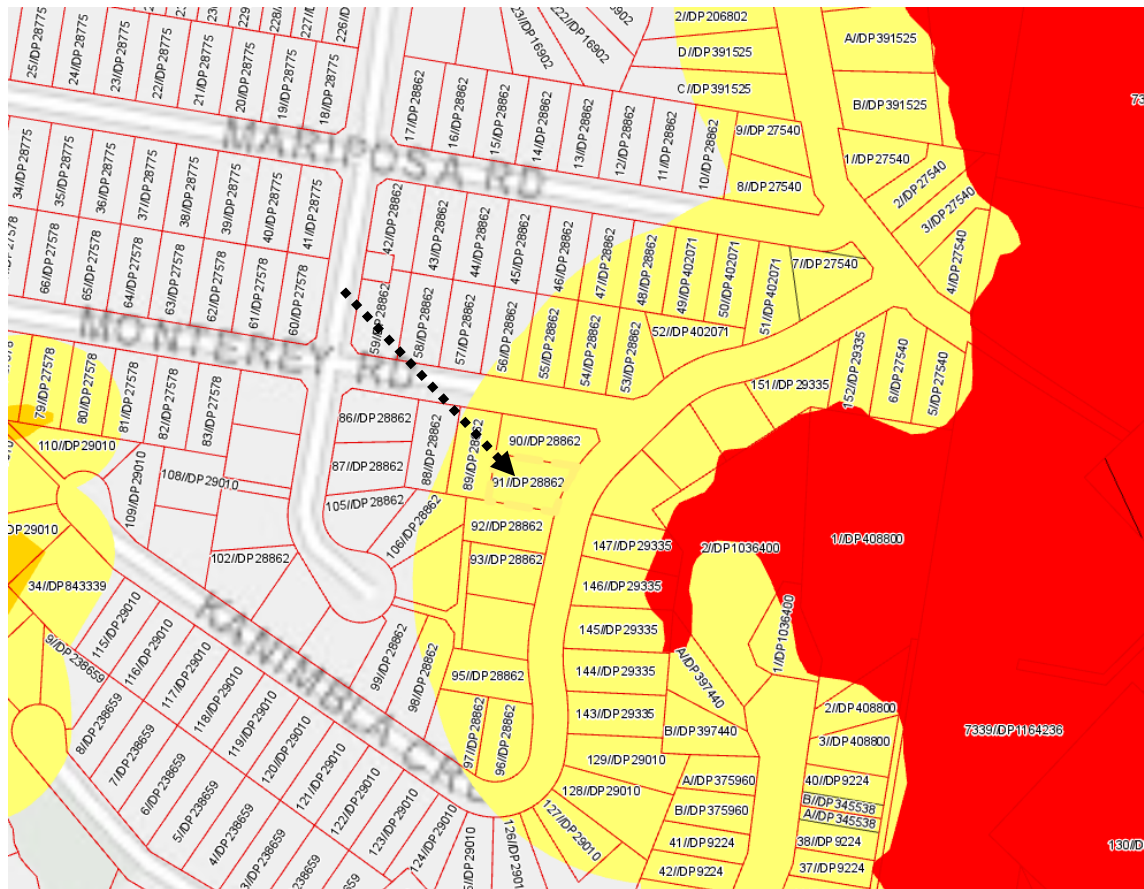
The lands surrounding the proposed site on the subject lot to a distance of at least 46.4m contain existing development or land that is otherwise not considered to be a significant bushfire hazard.

- Lot; 91
- DP; 28862.
- LGA; Northern Beaches.
- Area; 665m².
- Address; 12 Kanimbla Crescent, Bilgola Plateau.

This section has been left blank.



Map 1 shows the cadastral layout around the subject lot.



Map 2 is an extract from the councils' bushfire prone land map. The map shows lot 91 to be within the buffer zone of category 1 bushfire vegetation.

4 Vegetation.

The study area for the vegetation is 140m surrounding the subject block.

The vegetation within the study area for this development is considered to be largely managed land.

The major potential hazard to this development is the vegetation within an area of undeveloped land to the east.

The mapped hazard to this proposal has been identified as “Coastal Escarpment Littoral Rainforest” in the SydneyMetroArea_v3_2016_E_4489 vegetation overlay as available from the NSW Department of Environment and Heritage.

For the purpose of this assessment and compliance with Planning for Bushfire Protection this area of undeveloped land is considered to be Rainforest and is the hazard to this proposal.

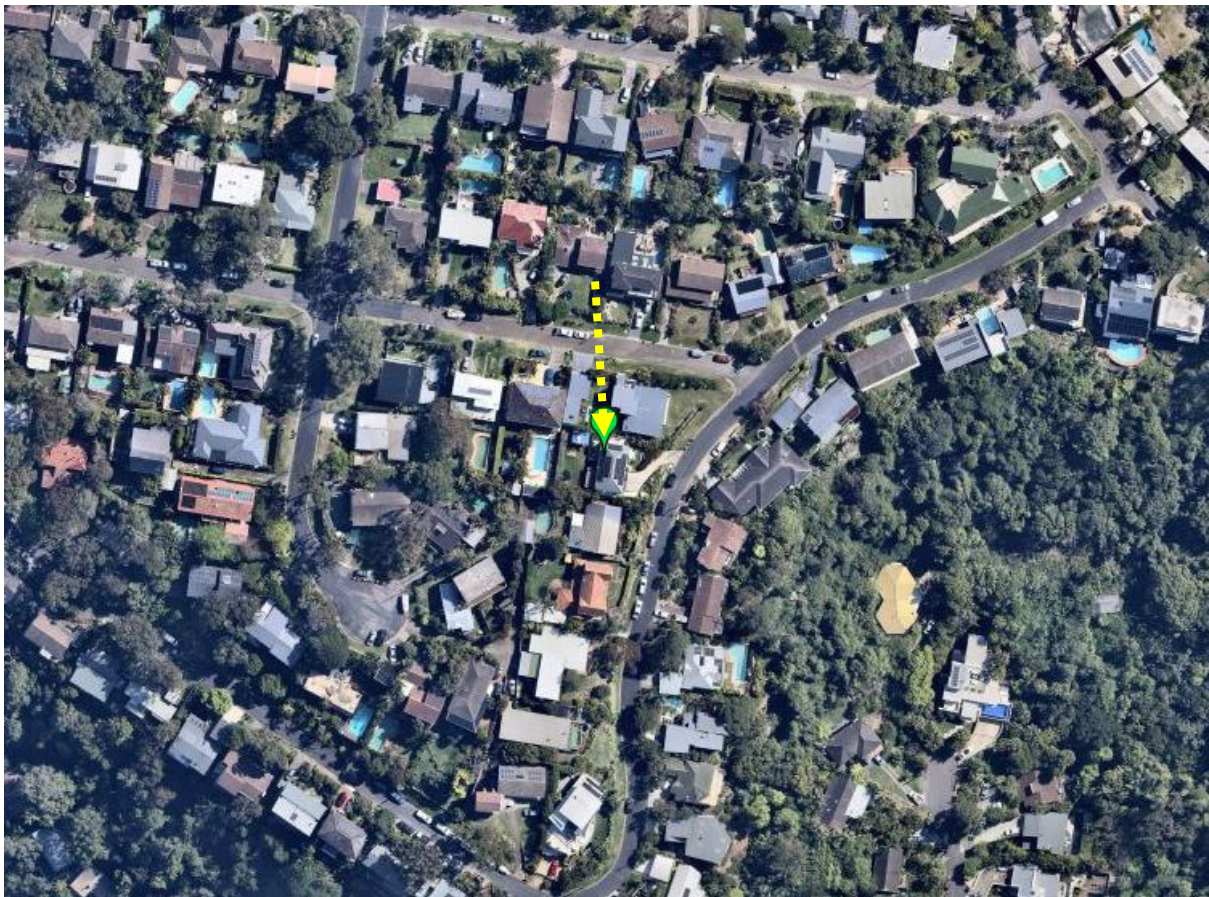


Photo 1 - An overview of the vegetation within the general area.

This area has been left intentionally blank.



Photo 2 is a closer view of the vegetation in the area.

Table 1 outlines the vegetation orientation and distance from the development area.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land/rainforest	Managed land	Managed land
Setback within lot 91	N/A	6.4m	N/A	N/A
Off-site setback	N/A	40m	N/A	N/A
Total setback	N/A	46.4m	N/A	N/A

Table 1 - Any aspect marked with "N/A" in the table above indicates that it is considered there is none or only a secondary hazard in that direction.

This area has been left intentionally blank.

5 Known constraints on subject block.

I have not been informed or know of any places of cultural or environmental significance within the boundaries of the subject block. Given the nature of the surrounding land it is considered highly unlikely that anything of significance will be affected by this development.

6 Slope.

The slope of the land beneath the hazard that is most likely to influence bushfire behaviour has been calculated by topographical map analysis to a distance of 100m from the subject lot. An extract of the topographical map for the area is shown below and the relevant slope analysis is shown in Table 2.

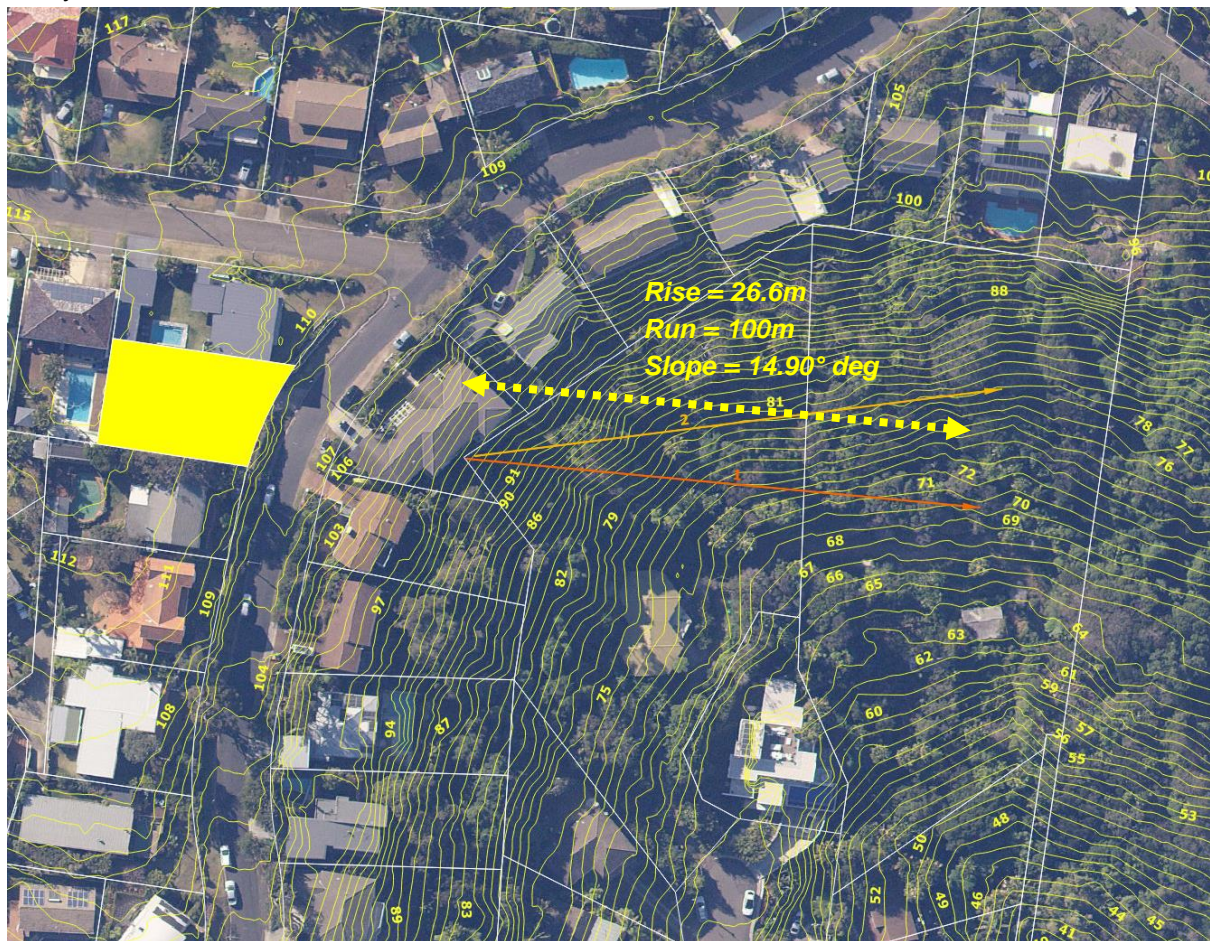


Table 2 shows the slope beneath the hazard.

Aspect	North	East	South	West
Slope	N/A	10-15 degrees downslope	N/A	N/A

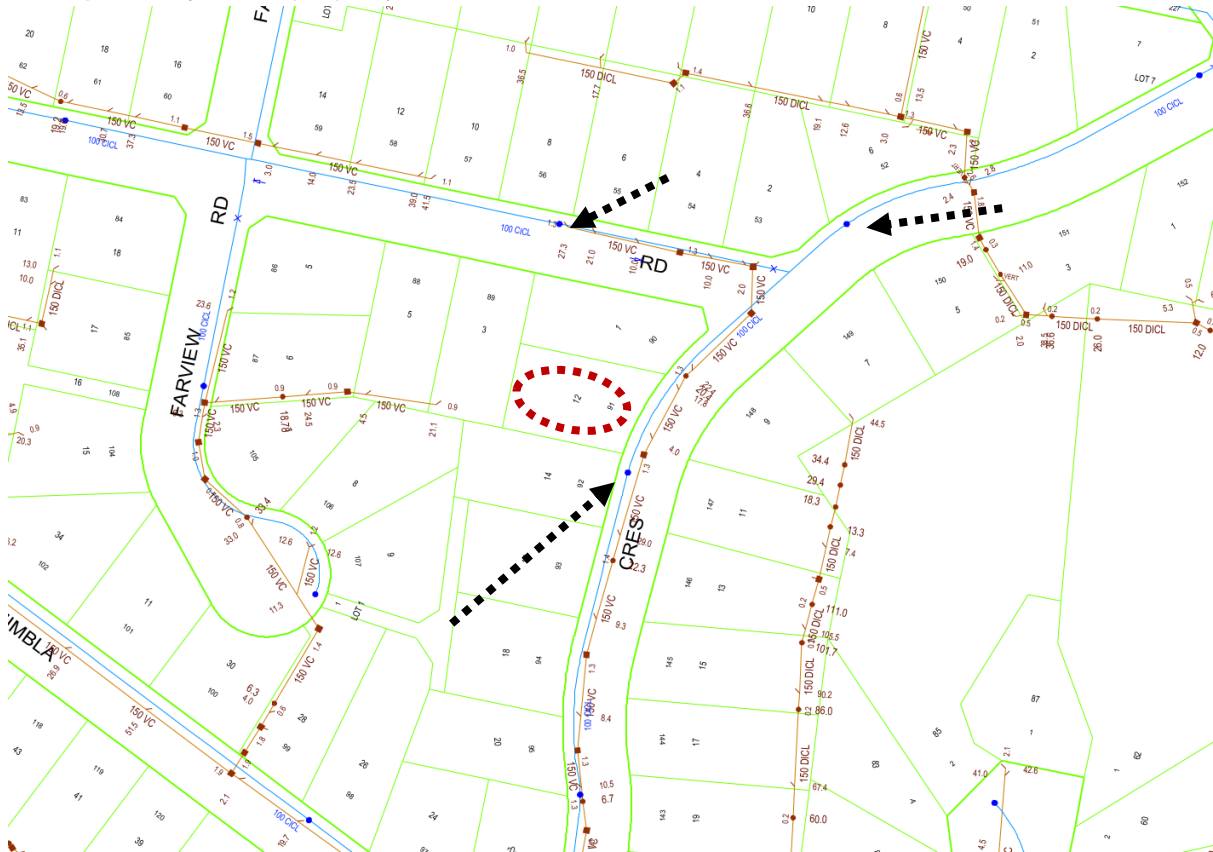
Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction.

7 Utilities.

7.1 Water.

The subject block will be serviced by a reticulated water supply.

The following map is an extract from Sydney waters hydrant map. Hydrants are indicated by a blue dot on a blue line. As can be seen there is at least one hydrant point indicated within close proximity of the property.



7.2 Electricity

Main's electricity is available to the block.

7.3 Gas

It is unknown if either bottled, or mains gas is to be altered or installed in this proposal.

8 Access/Egress.

Access to the development site will be via a short private driveway from Kanimbla Crescent.

All roads in the vicinity are considered to be capable of carrying emergency services vehicles and pedestrian access onto the lot is also considered to be adequate.

Analysis of development and recommendation.

9 Compliance with Planning for Bushfire Protection setbacks.

Based on the development design, vegetation classification, effective slope estimates and setback distance already outlined in this report the subject development will be required to comply with the deemed to satisfy construction requirements of AS 3959-2018 BAL-12.5 and the RFS requirements on all fire prone aspects.

The following table is an extract from table A1.12.5 of Planning for Bushfire Protection 2019. This table is used to calculate the BAL for a proposal in an area with an FDI of 100.

The variables that have already been outlined in this assessment are highlighted in red with the highest BAL highlighted in yellow.

10-15 DEGREES DOWNSLOPE	Keith Vegetation Formation	BUSHFIRE ATTACK LEVEL (BAL)				
		BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
	Arid-Shrublands (acacia and chenopod)	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 36	36 -< 45	45 -< 60	60 -< 77	77 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 15	15 -< 20	20 -< 29	29 -< 41	41 -< 100
	Freshwater Wetlands	< 5	5 -< 7	7 -< 11	11 -< 16	16 -< 100
	Grassland	< 11	11 -< 15	15 -< 23	23 -< 32	32 -< 50
	Grassy and Semi-Arid Woodland (including Mallee)	< 19	19 -< 25	25 -< 36	36 -< 49	49 -< 100
	Rainforest	< 17	17 -< 23	23 -< 34	34 -< 46	46 -< 100
	Short Heath	< 10	10 -< 13	13 -< 20	20 -< 29	29 -< 100
	Tall Heath	< 17	17 -< 22	22 -< 32	32 -< 44	44 -< 100

For the purpose of this assessment the eastern aspect has been chosen as the most potentially hazardous aspect due to the effective slope, potential run of fire and the prevailing fire weather of the area.

10 Siting.

The current site provides adequate separation between the proposed building and surrounding vegetation for a compliant structure to be built.

Recommendation;

Nil.

11 Construction and design.

All new work is to be undertaken in accordance with the relevant requirements of the NCC and AS3959 2018. The following recommendations are a minimum level of construction. Constructing the proposal to a higher level than that recommended is allowable under AS3959.

Recommendation; all new work.

1. New construction on the aspects shall comply with the requirements of section 3 of Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and,
2. New construction on the aspects shall also comply with the requirements of BAL-12.5 Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" or NASH Standard "National Standard Steel Framed Construction in Bushfire Areas" and any additional construction requirements contained within section 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019.
3. New roofing valleys and guttering should be fitted with a non-combustible leaf protection to stop the accumulation of debris.

AS-3959 2018 is available as PDF from;

https://infostore.saiglobal.com/en-au/standards/as-3959-2018-122340_saig_as_as_2685241/

12 Utilities.

12.1 Water.

The proposed development will have access to a reticulated water supply. There is at least one hydrant indicated within the required distance from the dwelling.

Recommendation;

Nil.

12.2 Electricity and Gas.

Recommendation;

4. Any new electricity or gas connections are to comply with the requirements of table 7.4a of Planning for Bushfire Protection.

13 Asset Protection Zone (APZ).

The Asset Protection Zone is *"An area surrounding a development managed to reduce the bushfire hazard to an acceptable level. The width of an APZ will vary with slope, vegetation and construction level"*.

Recommendation;

5. At the commencement of building works and in perpetuity the entire property shall be managed as an Asset Protection Zone in accordance with the requirements of Planning for Bushfire Protection, the RFS document Standards for Asset Protection Zones and in a manner that does not create a bushfire hazard to the property.

14 Landscaping.

Recommendation;

6. Any new fencing is to be constructed in accordance with section 7.6 of Planning for Bushfire Protection 2019.
7. Any new landscaping to the site is to comply with the principles of Appendix 4 and section 3.7 of Planning for Bush Fire Protection 2019. In this regard the following landscaping principles are, where applicable, to be incorporated into the development¹:
 - Suitable impervious areas being provided immediately surrounding the building such as courtyards, paths, and driveways;
 - Grassed areas/mowed lawns/ or ground cover plantings being provided in close proximity to the building;
 - Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
 - Maximum tree cover should be less than 30%, and maximum shrub cover less than 20%;
 - Planting should not provide a continuous canopy to the building (i.e., trees or shrubs should be isolated or located in small clusters);
 - When considering landscape species consideration needs to be given to estimated size of the plant at maturity;
 - Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
 - Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
 - Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e., leaf litter);
 - Avoid climbing species to walls and pergolas;
 - Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
 - Locate combustible structures such as garden sheds, pergolas, and materials such timber garden furniture way from the building; and
 - Use of low flammability vegetation species.

¹Refer to referenced documents for a complete description.

15 Constraints on the subject block.

None known.

Recommendation;

Nil

16 Access/Egress.

All roads in the area are considered to be capable of handling emergency service vehicles. Access from the roadway onto the property is also considered to be adequate for firefighting purposes.

Recommendation

Nil

17 Compliance or non compliance with the specifications and requirements for bushfire protection measures.

APZ A defensible space is provided onsite. An APZ is provided and maintained for the life of the development.	Achievable with the implementation of the recommendations in section 13
SITING AND DESIGN: Buildings are sited and designed to minimise the risk of bush fire attack.	Achievable with the implementation of the recommendations in section 10
CONSTRUCTION STANDARDS: It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat, and flame contact.	Achievable with the implementation of the recommendations in section 11
ACCESS Safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire, (satisfying the intent and performance criteria for access roads in sections 4.1.3 and 4.2.7).	Achievable with the implementation of the recommendations in section 16
WATER AND UTILITY SERVICES: • adequate water and electricity services are provided for firefighting operations	Achievable with the implementation of the recommendations in section 12

<ul style="list-style-type: none"> • Gas and electricity services are located so as not to contribute to the risk of fire to a building. 	
LANDSCAPING: <ul style="list-style-type: none"> • it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions. 	Achievable with the implementation of the recommendations in section 14

18 Conclusions.

Based on the above report and with the implementation of the recommendation contained within this report the consent authority should determine that this development can comply with the requirements of AS 3959-2018 and 'Planning for Bushfire Protection' guidelines.

The recommendations contained within this report are to be implemented in their entirety. Changing one aspect may have an adverse effect on the rest of the recommendations.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.

This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers' experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith however this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

This document is to assist the consenting authorities with their assessment of this proposal. The recommendations contained in this assessment reflect the normal conditions that are typically applied by the consent authority for a proposal such as this however the conditions of consent for the proposal will be supplied by the certifying authority on approval of the development and may not necessarily be the same as the recommendations of this assessment.

The recommendations in this assessment are for planning guidance only, construction details and compliance with all building requirements are the responsibility of the Architect/Designer, Builder and Certifier.

To avoid confusion, unless specifically referenced by the consenting authority, it is strongly recommended that once this proposal has been approved that this document is no longer referenced and that only the official conditions of consent as reflected in documentation by the certifying body are used for construction guidance.

If any further clarification is required for this report, please do not hesitate to contact me using the details above.

Yours Sincerely



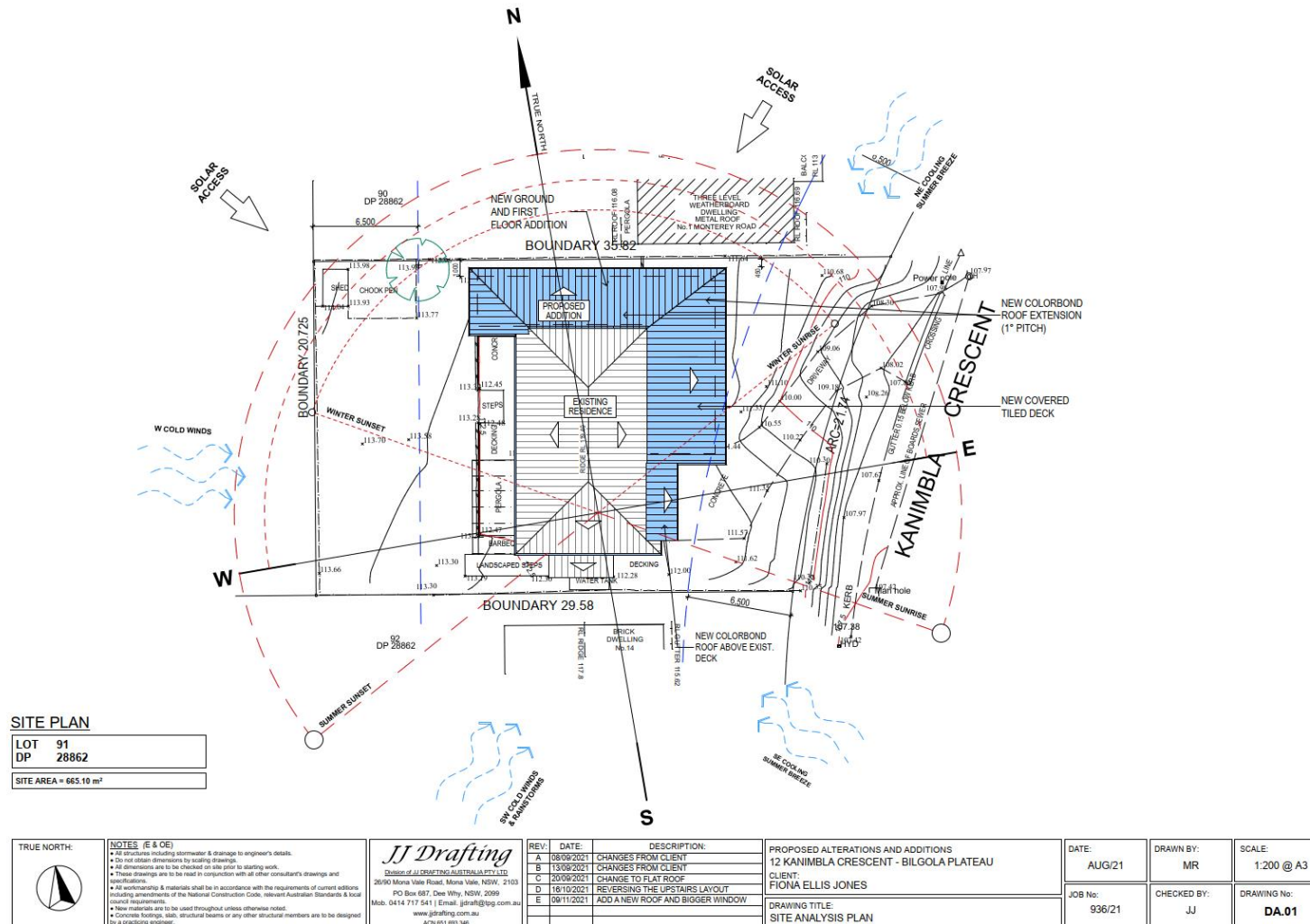
Matthew Willis

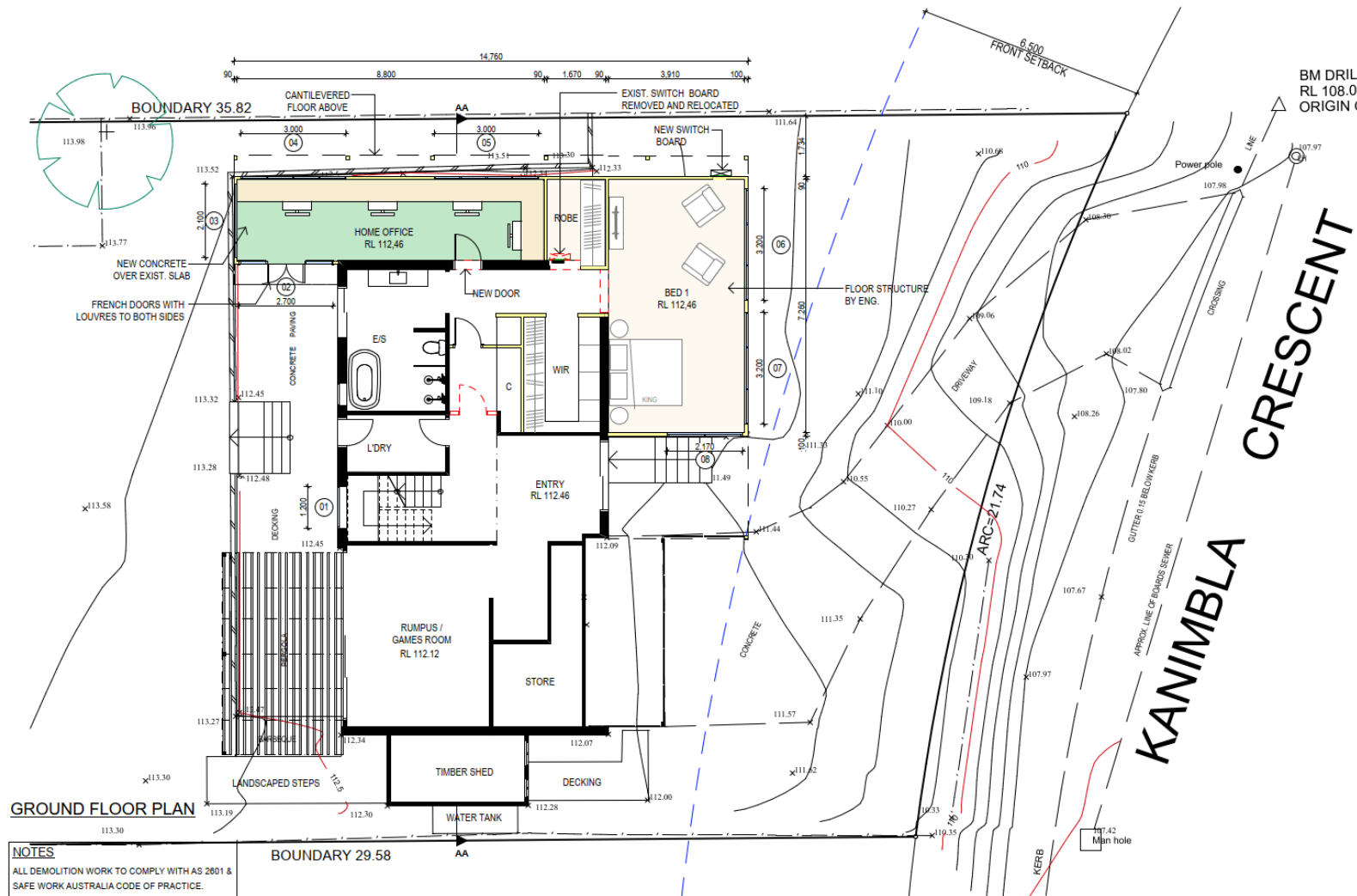
*Grad Dip Planning for Bushfire Prone Areas
Bushfire Planning Services Pty Limited*

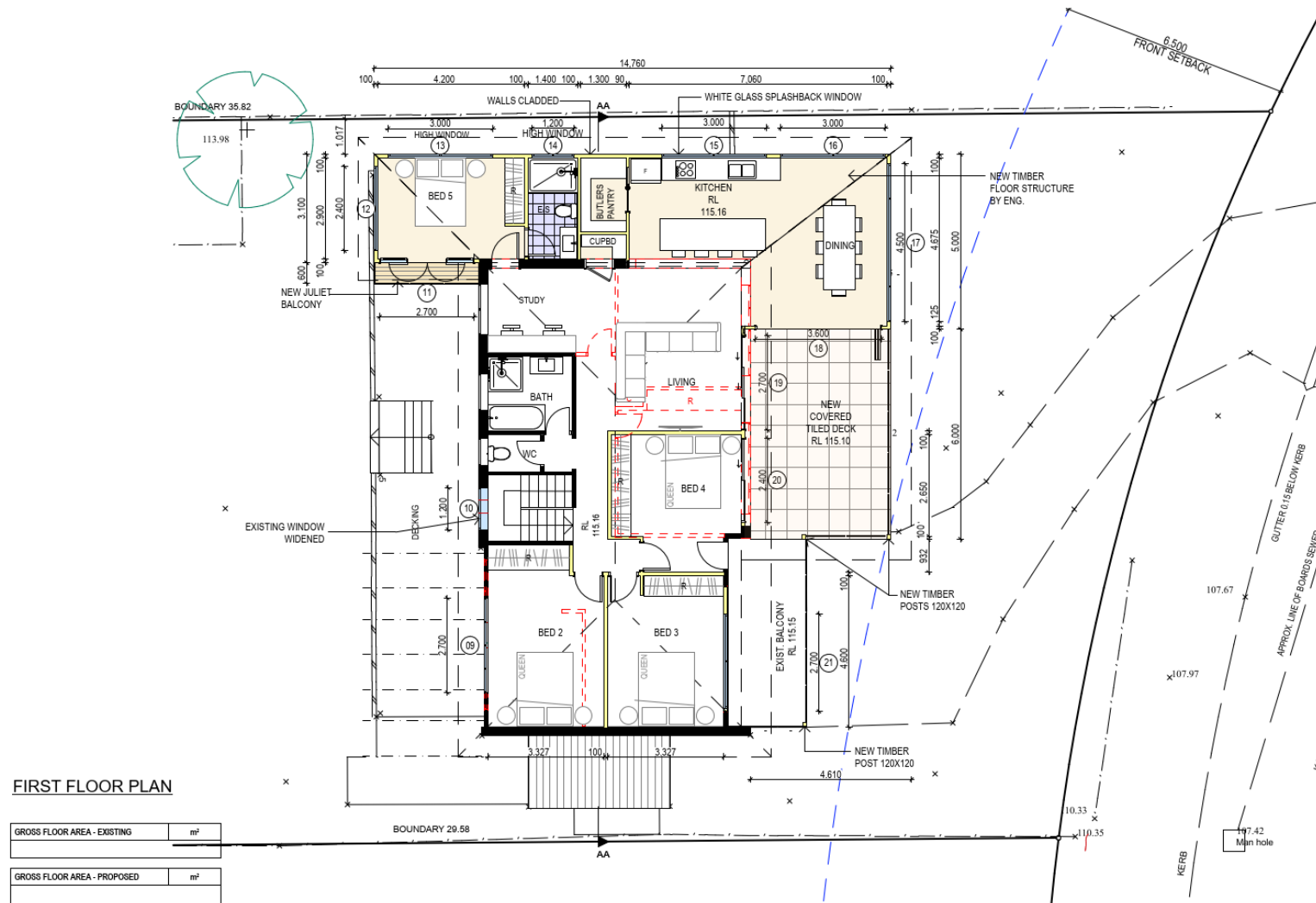
19 References.

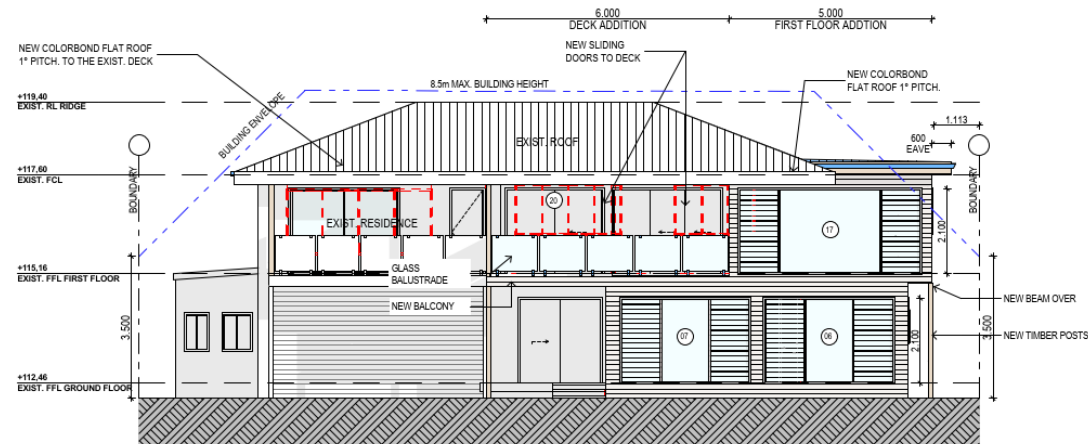
- *Australian Building Codes Board (2019). National Construction Code Volume One - Building Code of Australia. ABCB*
- *Australian Building Codes Board (2019). National Construction Code Volume two - Building Code of Australia. ABCB.*
- *Keith, D.A. (2004). Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation.*
- *National Association of Steel Framed Housing (2014). "Steel Framed Construction in Bush Fire Areas. NASH*
- *Ramsay, C and Rudolph, L (2003) "Landscape and Building Design for Bush fire Areas". CSIRO Publishing, Collingwood.*
- *Resources and Energy NSW (2016). ISSC 3 Guide for the Managing Vegetation in the Vicinity of Electrical Assets. NSW Government*
- *Rural Fire Service NSW (2005) "Standards for Asset Protection Zones"*
- *Standards Australia (2018). "AS 3959, Construction of buildings in bush fire prone areas".*
- *Standards Australia (2018). "AS/NZS 1530.8.1 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Radiant heat and small flaming sources".*
- *Standards Australia (2018). "AS/NZS 1530.8.2 Methods for fire tests on building materials, components and structures - Tests on elements of construction for buildings exposed to simulated bush fire attack - Large flaming sources".*
- *Standards Australia (2014). "AS/NZS 1596 The storage and handling of LP Gas".*

20 Appendix 1 - Plans .

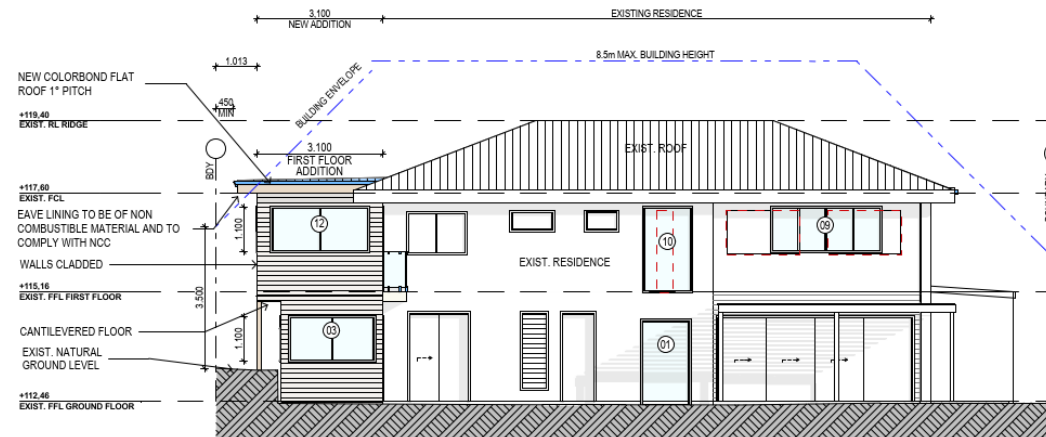








EAST ELEVATION



WEST ELEVATION

NOTES (E & OE)

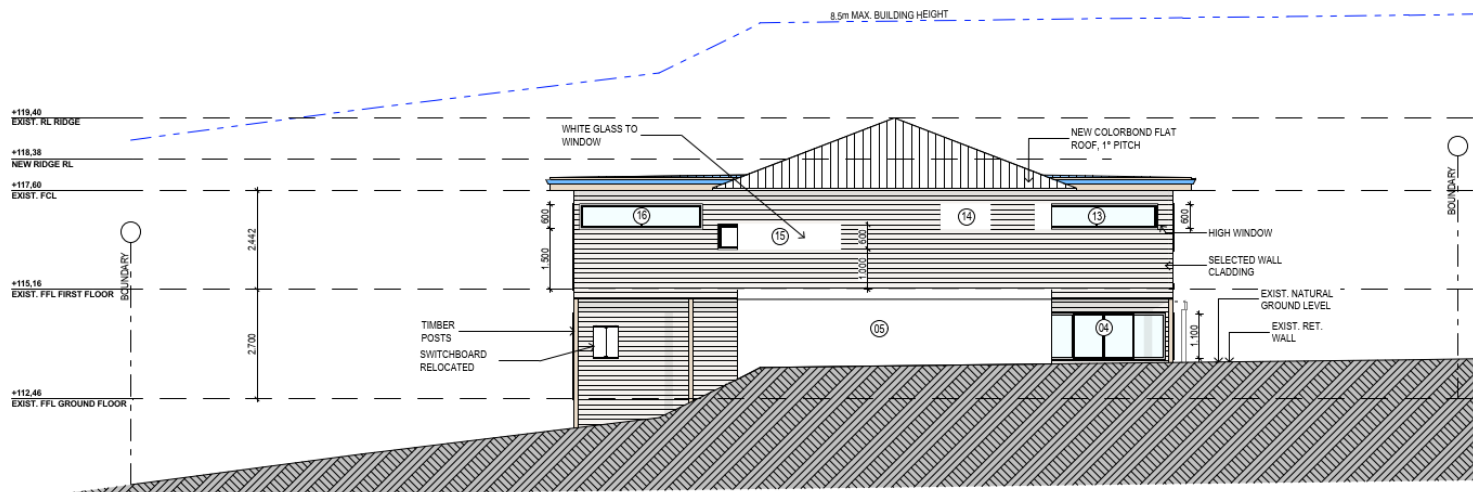
- All structures including stormwater & drainage to engineer's details.
- Do not obtain dimensions by scaling drawings.
- All dimensions are to be checked on site prior to starting work.
- These drawings are to be read in conjunction with all other consultant's drawings and specifications.
- All workmanship & materials shall be in accordance with the requirements of current editions including amendments of the National Construction Code, relevant Australian Standards & local council requirements.
- New materials are to be used throughout unless otherwise noted.
- Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.

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ACN 651 853 348

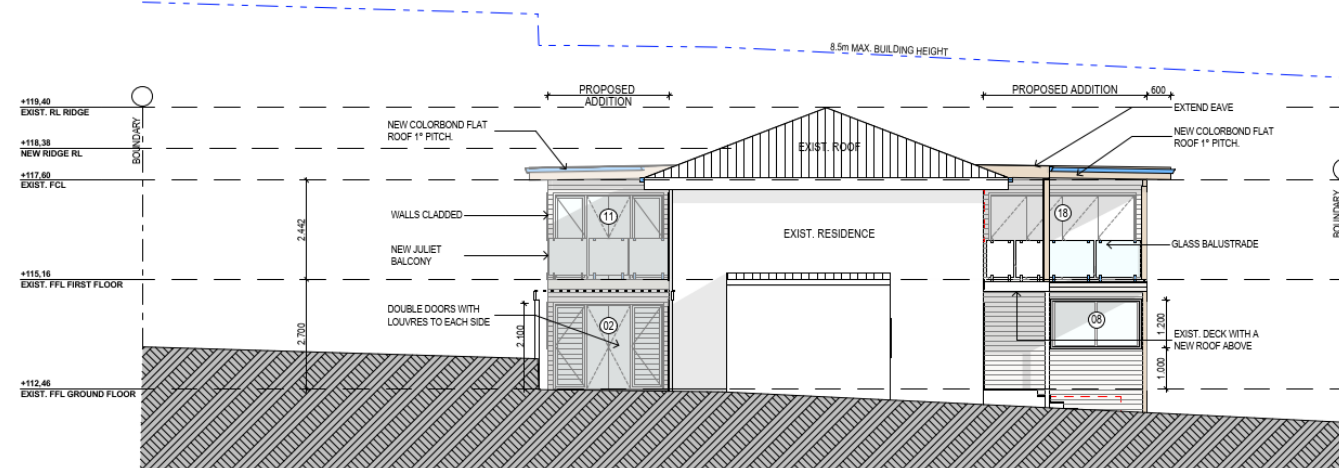
REV:	DATE:	DESCRIPTION:
A	08/09/2021	CHANGES FROM CLIENT
B	13/09/2021	CHANGES FROM CLIENT
C	20/09/2021	CHANGE TO FLAT ROOF
D	18/10/2021	REVERSING THE UPSTAIRS LAYOUT
E	08/11/2021	ADD A NEW ROOF AND BIGGER WINDOW

PROPOSED ALTERATIONS AND ADDITIONS
12 KANIMBLA CRESCENT - BILGOLA PLATEAU
CLIENT:
FIONA ELLIS JONES
DRAWING TITLE:
ELEVATIONS SHEET 1

DATE: AUG/21	DRAWN BY: MR	SCALE: 1:100 @ A3
JOB No: 936/21	CHECKED BY: JJ	DRAWING No: DA.04



NORTH ELEVATION



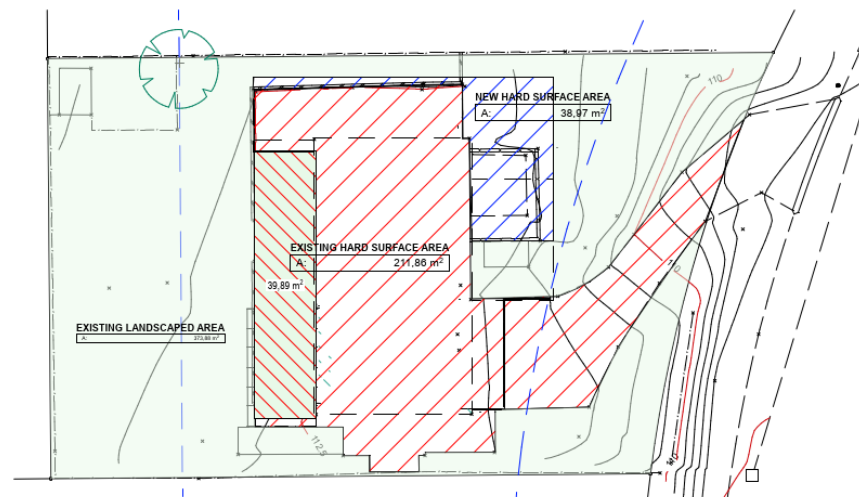
SOUTH ELEVATION

<div>NOTES (E & OE)</div> <div><ul style="list-style-type: none">All structures including stormwater & drainage to engineer's details.Do not obtain dimensions by scaling drawings.All dimensions are to be checked on site prior to starting work.These drawings are to be read in conjunction with all other consultant's drawings and specifications.All workmanship & materials shall be in accordance with the requirements of current editions including amendments of the National Construction Code, relevant Australian Standards & local council requirements.New materials are to be used throughout unless otherwise noted.Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.</div>	<div>JJ Drafting</div> <div>Division of JJ DRAFTING AUSTRALIA PTY LTD</div> <div>26/90 Mona Vale Road, Mona Vale, NSW, 2103</div> <div>PO Box 687, Dee Why, NSW, 2099</div> <div>Mob. 0414 717 541 Email: jjdraft@jpdg.com.au</div> <div>www.jjdrafting.com.au</div> <div>ACN 651 893 346</div>	<div>REV: DATE: DESCRIPTION:</div> <div><div>A08/09/2021CHANGES FROM CLIENT</div><div>B13/09/2021CHANGES FROM CLIENT</div><div>C20/09/2021CHANGE TO FLAT ROOF</div><div>D18/10/2021REVERSING THE UPSTAIRS LAYOUT</div><div>E08/11/2021ADD A NEW ROOF AND BIGGER WINDOW</div></div>	<div>PROPOSED ALTERATIONS AND ADDITIONS</div> <div>12 KANIMBLA CRESCENT - BILGOLA PLATEAU</div> <div>CLIENT:</div> <div>FIONA ELLIS JONES</div> <div>DRAWING TITLE:</div> <div>ELEVATIONS SHEET 2</div>	<div>DATE:</div> <div>AUG/21</div> <div>JOB No:</div> <div>936/21</div>	<div>DRAWN BY:</div> <div>MR</div> <div>CHECKED BY:</div> <div>JJ</div>	<div>SCALE:</div> <div>1:100 @ A3</div> <div>DRAWING No:</div> <div>DA.05</div>
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SPECIFICATION NOTES INTERNAL LINING - PROVIDE PLASTERBOARD LINING. - INSTALL TO MANUFACTURERS SPECIFICATIONS & AS 2589 EXTERNAL WALLS: - LIGHTWEIGHT TIMBER OR COMPOSITE WALL CLADDING IN ACCORDANCE WITH NCC VOL 2 PART 3.5.4. - LIGHTWEIGHT TIMBER WALL. FLOOR: - GROUND FLOOR TO BE REINFORCED CONCRETE SLAB IN ACCORDANCE WITH AS2870. - FIRST FLOOR TO BE TIMBER FRAMED FINISHED WITH T&G HARDWOOD FLOORING. WET AREAS: - ALL WATERPROOFING TO AS 3740 - PROVIDE A GUARANTEED FLEXIBLE WATERPROOF MEMBRANE TO ALL WET AREA FLOORS & SHOWERS - WALLS TO MANUFACTURERS INSTRUCTIONS BEARERS AND JOISTS: - SHALL BE INSTALLED TO COMPLY WITH AS1684 AS AMENDED FOR TIMBER COMPONENTS OR AS3620 - FOR LIGHTWEIGHT STEEL FRAMING SECTIONS OR AS PER THE NASH ALTERNATIVES TO AS 3623. ANT CAPS: - SHALL BE INSTALLED IN ACCORDANCE WITH AS3680. PROFILED STEEL ROOF: - COLORBOND ROOF CLADDING - NCC VOL 2 PART 3.5.1. - DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH AS/NZS 1562. ROOF TILES OR SHINGLES: - NCC VOL 2 PART 3.5.2. CONCRETE: - SHALL BE IN ACCORDANCE WITH NCC VOL 1 PART B1.4 OR VOL 2 PART 3.2.3. - ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT EDITIONS OF THE AS3600.			
FOOTINGS: - FOOTINGS TO BE IN ACCORDANCE WITH AS1480. - FOOTINGS TO BE IN ACCORDANCE WITH NCC VOL 2 PARTS 3.2.3, 3.2.4 AND 3.2.5 - ALL REINFORCEMENTS SHALL CONFORM TO AS1302, AS1303 AND AS1304. BRICK AND BLOCKWORK: - CONSTRUCTION OF MASONRY BUILDINGS SHALL BE AS PER AS3700 OR AS4773. CARPENTRY: - TIMBER TO COMPLY WITH AS1170.2 OR AS4055. - ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS1684 AND 1720 AS APPLICABLE. TIMBER FRAMING: - TO COMPLY WITH NCC VOL 2 PART 3.4 - GROUND FLOOR TIMBERS SHALL BE ONLY OF HARDWOOD, CYPRESS PINE OR PRESSURE TREATED - RADIATA OR CANADA PINE BELOW A HEIGHT OF 300mm ABOVE FINISHED GROUND LEVEL AND MUST NOT - BE BUILT INTO BRICKWORK. - SUBFLOOR VENTILATION SHALL CONFORM TO NCC VOL 2 PART 3.4.1. - IN BUSHFIRE PRONE AREAS SPECIAL CONDITIONS APPLY. - WHERE TERMITE BARRIERS NEED TO BE INSPECTED, 400mm CLEARANCE IS REQUIRED BETWEEN THE - UNDERSIDE OF BEAKER AND GROUND SURFACE. - USE TREATED TIMBER WHERE REQUIRED FOR DURABILITY. - DO NOT USE TIMBER UNSUITABLE FOR EXPOSURE TO MOISTURE IN EXPOSED LOCATION. - PROVIDE STRUCTURE BRACING IN ACCORDANCE WITH AS1684 - PROVIDE STRUCTURE TIEDOWN IN ACCORDANCE WITH AS1684 - USE GALVANISED FIXINGS WHERE EXPOSED TO WEATHER. TERMITE CONTROL: - TO BE IN ACCORDANCE WITH TO AS3680.1 - SHALL BE IN ACCORDANCE WITH NCC VOL 2 PART 3.1.4 OR VOL 1 PART B1.4. FLASHING AND CAPPING: - SELECTION AND INSTALLATION OF METAL RAINWATER GOODS REFER TO AS2180 - FLASH PROJECTIONS ABOVE THE ROOF WITH TWO PART FLASHINGS CONSISTING OF AN APRON - FLASHING AND OVER FLASHING, WITH AT LEAST 100mm OVERLAP. - PROVIDE FOR INDEPENDENT MOVEMENT BETWEEN ROOF AND PROJECTION. CONCRETE BLOCKS OR BRICKS: - TO COMPLY WITH TO AS4455 MASONRY BUILDING BLOCKS/PAVER.			
LIGHTING: - 40% OF NEW OR ALTERED LIGHT FIXTURES TO BE FITTED WITH FLUORESCENT, COMPACT FLUORESCENT, OR LIGHT-EMITTING-DIODE (LED) LAMPS DOORS & WINDOWS: - ALL FRAMED WINDOWS SHALL BE INSTALLED IN ACCORDANCE WITH AS2947-48 FOR ALUMINIUM WINDOWS AND AS2947 FOR TIMBER WINDOWS - WEATHER STRIPPING IS TO BE PROVIDED TO ALL EXTERNAL WINDOWS AND DOORS. STAIRS, HANDRAILS AND BALUSTRADES: - NCC VOL 2 PARTS 3.8.1 AND 3.8.2 - RELATIONSHIP OF RISER TO GOING SHALL BE BETWEEN 1:3 AND 1:1.35 UNLESS OTHERWISE DIRECTED TO GOING SHALL BE BETWEEN 1:2 AND 1:1.35 UNLESS OTHERWISE DIRECTED OR AS PERMITTED IN AS1687. - BALUSTRADES SHALL BE PROVIDED TO ALL LANDINGS, RAMPS, DECKS, ROOFS AND OTHER ELEVATED PLATFORMS WHERE THE VERTICAL DISTANCE FROM THAT LEVEL IS MORE THAN 1m ABOVE THE ADJOINING FLOOR OR FINISHED GROUND LEVEL. - THE HEIGHT OF BALUSTRADE MUST BE A MINIMUM OF 1m HIGH ABOVE LANDING AND NOT LESS THAN 865mm ABOVE THE NOSINGS OF ANY STAIR TREADS OR FLOOR RAMP AND HAVE NO OPENING GREATER THAN 125mm. - THE HEIGHT OF BALUSTRADE TO THE NEW STAIRCASES IS TO BE MEASURED A MINIMUM 865mm ABOVE THE NOSING LINE AND HAVE NO OPENING GREATER THAN 125mm. SLIP RESISTANCE: - MATERIALS TO BE USED FOR SURFACES OF FLOORS, STAIR LANDING, STEPS AND NOSINGS SHALL BE IN ACCORDANCE WITH THE CLASSIFICATIONS FOR SLIP RESISTANCE AS APPLY IN AS4586 AND HB198.			
WATERPROOFING FOR EXTERNAL TILED BALCONIES: - WATERPROOFING TO COMPLY WITH AS4654 GLAZING: - NCC VOL 1 PARTS B 1.4, D 3.12, F1.13 OR NCC VOL 2 PART 3.8 SMOKE DETECTOR/ALARM: - NCC VOL 2 PART 3.7.5. FIRE/SMOKE DETECTORS COMPLYING WITH THE REQUIREMENTS OF THE LOCAL GOVERNMENT ACT AND/OR STATE OR TERRITORY REGULATIONS MUST BE FITTED IN THE LOCATIONS REQUIRED AND APPROVED BY THE AUTHORITY AND SHALL BE INSTALLED IN ACCORDANCE WITH AS3786. - INSTALLATIONS IN BUILDINGS OTHER THAN CLASS 1 AND 10 MUST BE INSTALLED AND MANAGED TO COMPLY WITH NCC SPEC. E2.2a. - MULTIPLE ALARMS WITHIN HOUSES AND SOLE OCCUPANCY UNITS MUST BE HARD WIRED AND INTERCONNECTED. WASTE MANAGEMENT: - ALL WASTE SHALL BE TAKEN AWAY BY TRUCKS TO A SUITABLE LANDFILL OR RECYCLE DEPOT. - ALL WASTE SHALL BE COVERED DURING TRANSPORTATION. - WASTE GENERATED DURING CONSTRUCTION SHALL BE PLACED IN STEEL BINS AND TAKEN AWAY BY AN APPROVED CONTRACTOR TO A APPROVED LANDFILL SITE. SEDIMENT CONTROL: - A FILTER CLOTH SYSTEM SHALL BE INSTALLED TO STOP ANY SEDIMENT ENTERING COUNCILS STORMWATER SYSTEM. NOTE: ALL PLANS ARE TO BE READ IN CONJUNCTION AND COMPLY WITH THE BASIC CERTIFICATE, BUSHFIRE AND GEOTECH REPORTS.			

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LANDSCAPE CALCULATION PLAN

CALCULATIONS			
SITE AREA			665.10m ²
LANDSCAPE CONTROL		60%	399.06m ²
EXISTING LANDSCAPED AREA		66%	452.87m ²
TOTAL LANDSCAPED AREA			
EXISTING HARD SURFACE AREA			212.23m ²
HARD SURFACE AREA TO BE RETAINED			212.23m ²
NEW HARD SURFACE AREA			38.97m ²
TOTAL HARD SURFACE AREA			251.20m ²

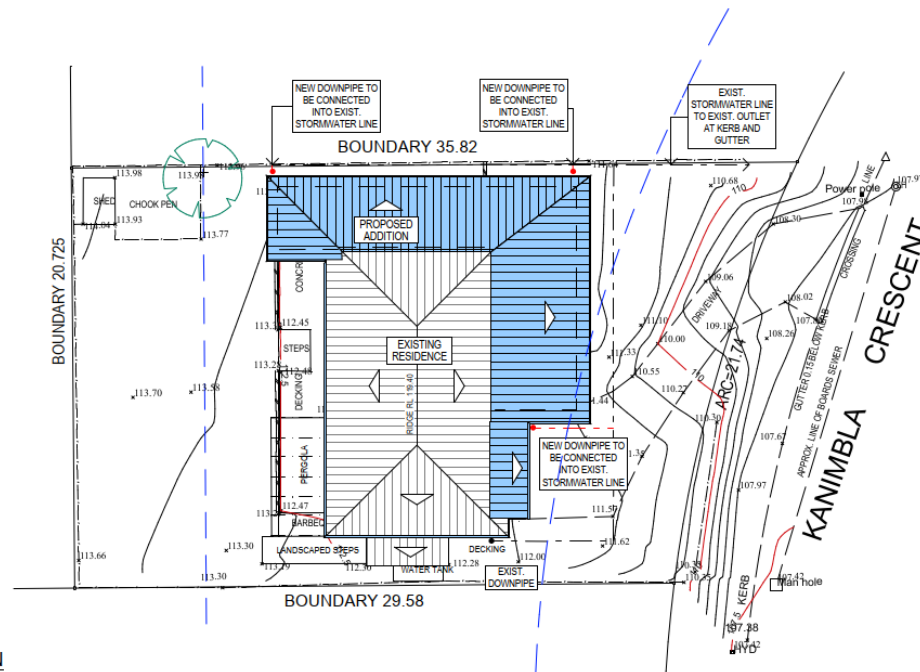
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D	18/10/2021	REVERSING THE UPSTAIRS LAYOUT
E	08/11/2021	ADD A NEW ROOF AND BIGGER WINDOW

PROPOSED ALTERATIONS AND ADDITIONS
12 KANIMBLA CRESCENT - BILGOLA PLATEAU
CLIENT:
FIONA ELLIS JONES
DRAWING TITLE:
LANDSCAPED AREA CALCULATION PLAN

DATE: AUG/21	DRAWN BY: MR	SCALE: 1:1, 1:200 @ A3
JOB No: 936/21	CHECKED BY: JJ	DRAWING No: DA.07



STORMWATER CONCEPT & ROOF PLAN

STORMWATER CONCEPT LEGEND	
EXISTING DOWNPIPES	●
NEW DOWNPIPES	●
EXISTING STORMWATER LINE	—
NEW STORMWATER LINE	- - -

TRUE NORTH: 	NOTES (E & OE)
	<ul style="list-style-type: none"> All structures including stormwater & drainage to engineer's details. Do not obtain dimensions by scaling drawings. All dimensions are to be checked on site prior to starting work. These drawings are to be read in conjunction with all other consultant's drawings and specifications. All workmanship & materials shall be in accordance with the requirements of current editions including amendments of the National Construction Code, relevant Australian Standards & local council requirements. New materials are to be used throughout unless otherwise noted. Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.

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12 KANIMBLA CRESCENT - BILGOLA PLATEAU	
CLIENT:	
FIONA ELLIS JONES	
DRAWING TITLE:	
ROOF & STORMWATER CONCEPT PLAN	

DATE:	AUG/21	DRAWN BY:	MR	SCALE:	1:200 @ A3
JOB No:	936/21	CHECKED BY:	JJ	DRAWING No:	DA.08

NOTES

DESIGNATED SITE MANAGER/BUILDER

PRIOR TO COMMENCEMENT OF WORK A SITE MANAGER OR BUILDER MUST BE NOMINATED. THE SITE MANAGER OR BUILDER WILL BE RESPONSIBLE AND LIABLE FOR ALL WORKS CARRIED OUT ON THE SITE. THIS ASSUMES THE RESPONSIBILITY FOR THE ACTIONS OF ALL SUBCONTRACTED PARTIES AS WELL AS ADVISING THEM OF COUNCIL'S REQUIREMENTS WHEN CARRYING OUT WORKS.

TOPSOIL MANAGEMENT

PRIOR TO THE STRIPPING OF TOPSOIL, THE VEGETATIVE COVER MUST BE REDUCED BY EITHER SLASHING OR MOVING. ALL TOPSOIL IS TO BE RETAINED AND PROTECTED FOR REUSE ON SITE. SOIL STOCKPILES MUST NOT BE LOCATED ON NATURE STRIPS, FOOTPATHS, ROADWAYS, KERBS, ACCESSWAYS, WITHIN DRAINAGE LINES/FLOWS/PATHS OR AROUND OR AGAINST TREE SHRUBS. SEDIMENT CONTROL MEASURES MUST BE INCORPORATED WITH ANY RESULTING STOCKPILE. THE STOCKPILE CAN BE PROTECTED FROM EROSION BY COVERING IT WITH AN IMPERVIOUS MATERIAL, IN CONJUNCTION WITH THE INSTALLATION OF A SEDIMENT FENCE AROUND IT. IF STOCKPILES ARE TO REMAIN FOR MORE THAN ONE MONTH THEY ARE TO BE GRASSED IMMEDIATELY AND STABILISED WITHIN FOURTEEN DAYS. SURPLUS TOPSOIL MUST BE REASONABLY REMOVED FROM SITE.

BUILDING MATERIAL STOCKPILING

SUFFICIENT AREA MUST BE ALLOCATED WITHIN THE SITE FOR SUCH STORAGE OF BUILDING MATERIALS, DEMOLITION WASTE, WASTE CONTAINERS, ETC. AS WILL BE REQUIRED.

SEDIMENT FENCES

A SEDIMENT FENCE SHOULD BE LOCATED ALONG THE DOWNSLOPE, BOUNDARY(S) OF THE SITE, ON THE CONSTRUCTION SIDE OF THE TURF FILTER STRIP OR NATIVE VEGETATION, AND AROUND ALL STOCKPILES OF MATERIAL ON THE SITE.

DUST CONTROL

ALL TRUCKS/VESICLES MUST COVER THEIR LOADS AT ALL TIMES. APPROPRIATE METHODS ARE TO BE EMPLOYED TO PREVENT BLOWING DUST CREATING AN UNACCEPTABLE HAZARD OR NUISANCE ON THE SITE OR DOWN WIND. PRODUCTION OF DUST CAN BE MINIMISED BY LIMITING AREA OF EARTHWORKS, WATERING AND PROGRESSIVE VEGETATION. WHERE DUST IS CREATED AS A RESULT OF WORKS AND/OR SOIL EXPOSURE, THE BARE SOIL AREAS MUST BE WATERED, DURING AND/OR AT THE END OF EACH DAY TO LAY THE DUST. EARTH MOVING ACTIVITIES SHOULD BE AVOIDED WHERE WINDS ARE SUFFICIENTLY STRONG ENOUGH TO RAISE VISIBLE DUST.

EROSION & SEDIMENT CONTROLS

APPROPRIATE EROSION AND SEDIMENT CONTROLS MUST BE IMPLEMENTED ON ALL SITES THAT INVOLVE SOIL DISTURBANCE. THE MEASURES MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF WORK. THOSE CONTROLS ARE TO BE MONITORED AND MAINTAINED IN ORDER TO SERVE THEIR INTENDED FUNCTION FOR THE DURATION OF THE WORKS OR UNTIL SUCH TIME AS THE SITE IS FULLY STABILISED. IF ANY CONTROLS ARE DAMAGED OR BECOME INEFFECTIVE DURING THE COURSE OF THE WORKS THEY ARE TO BE REINSTATED OR REPLACED IMMEDIATELY. SUFFICIENT ACCESS TO THESE CONTROLS MUST BE PROVIDED IN CASE OF THE NEED TO REPAIR.

SEDIMENT TRAPS

WHERE A SEDIMENT FENCE IS NOT USED APPROPRIATE SEDIMENT TRAPS SHOULD BE LOCATED AT ALL POINTS WHERE STORMWATER LEAVES THE CONSTRUCTION SITE OR LEAVES THE GUTTER AND ENTERS THE DRAINAGE SYSTEM. A COMMON TECHNIQUE IS THE GRAVEL SAUSAGE.

DIVERSION CHANNELS

A DIVERSION CHANNEL IS AN EXCAVATED EARTH DITCH OR PATH. THESE STRUCTURES ARE USED TO INTERCEPT AND DIRECT RUN-OFF TO A DESIRED LOCATION WHERE POSSIBLE. ALL STORMWATER RUN-OFF FLOWING ONTO DISTURBED AREAS, INCLUDING STOCKPILES, MUST BE INTERCEPTED, DIVERTED AND/OR SAFELY DISPOSED OF. THIS CAN BE ACHIEVED BY CONSTRUCTING A TEMPORARY EARTH BANK AROUND THE UPSLOPE EXTENT OF THE CONSTRUCTION SITE WHERE THE DIVERSION DOES NOT AFFECT THE NEIGHBOURING PROPERTIES.

VEHICLE MOVEMENTS

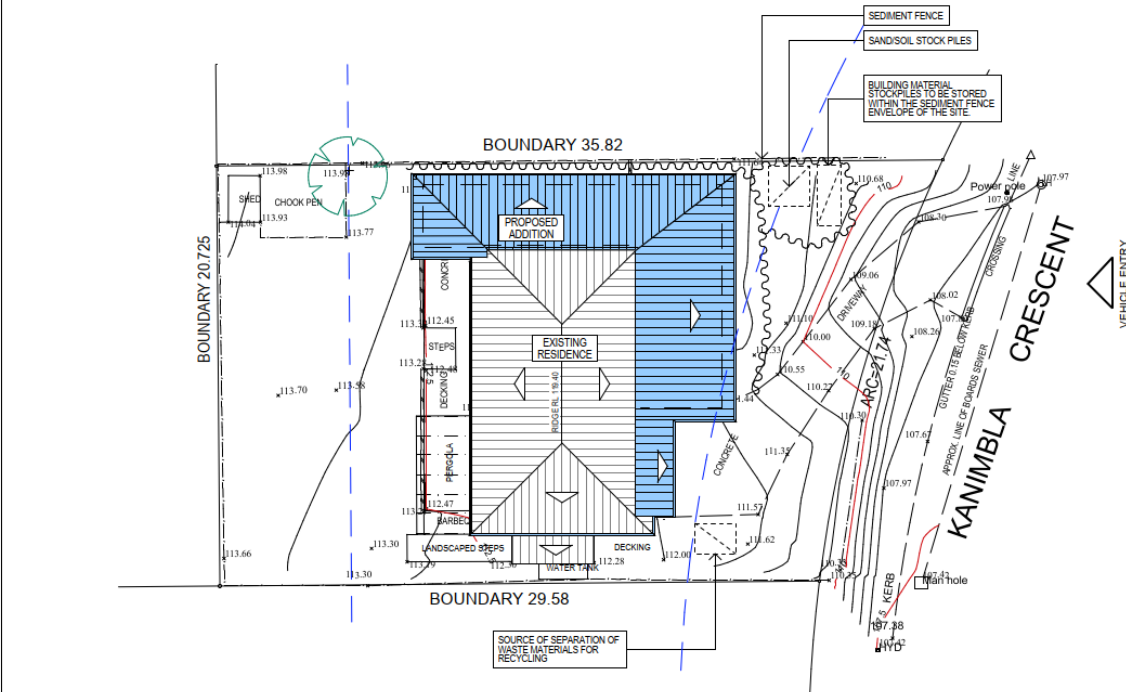
TO LIMIT DISTURBANCE TO THE SITE AND TRACKING OF MATERIAL ONTO THE STREET ALL VEHICLES AND PLANT EQUIPMENT ARE TO USE A SINGLE ENTRY/EXIT POINT UNLESS COUNCIL HAS APPROVED ALTERNATIVE ARRANGEMENTS. ACCESS POINTS AND PARKING AREAS ARE TO BE STABILISED WITH COMPACTED SUB-GRADE ASAP AFTER THEIR FORMATION. IF SPILLAGE DOES OCCUR IT IS TO BE CONTAINED IMMEDIATELY AND CAREFULLY REMOVED. THE AREA AFFECTED IS TO BE RESTORED TO A STANDARD EQUAL TO OR BETTER THAN ITS PREVIOUS CONDITION. ALL VEHICLES ARE TO BE WASHED PRIOR TO EXISTING THE SITE. THIS SERVES THE PURPOSE OF REMOVING SITE MATERIAL ON THE VEHICLE AND PREVENTS IT FROM BEING DEPOSITED ON THE ROAD NETWORK ADJACENT TO THE SITE AND THUS, THE STORMWATER SYSTEM. NO VEHICLE ASSOCIATED WITH THE WORK IS TO BE PARKED ON A FOOTPATH OR PUBLIC RESERVE. ALL VEHICLES VISITING THE SITE DURING DEMOLITION, EXCAVATION AND/OR CONSTRUCTION WORKS, ARE TO COMPLY WITH THE PARKING REQUIREMENTS IN THAT AREA.

TRUE NORTH:



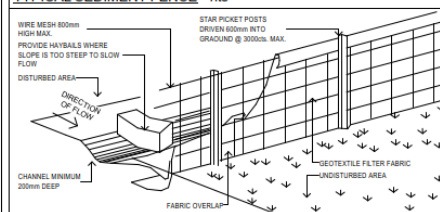
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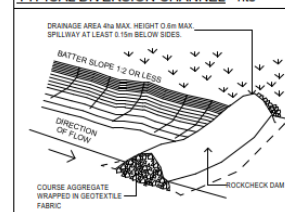


EROSION, SEDIMENT CONTROL & WASTE MANAGEMENT PLAN

TYPICAL SEDIMENT FENCE - nts



TYPICAL DIVERSION CHANNEL - nts



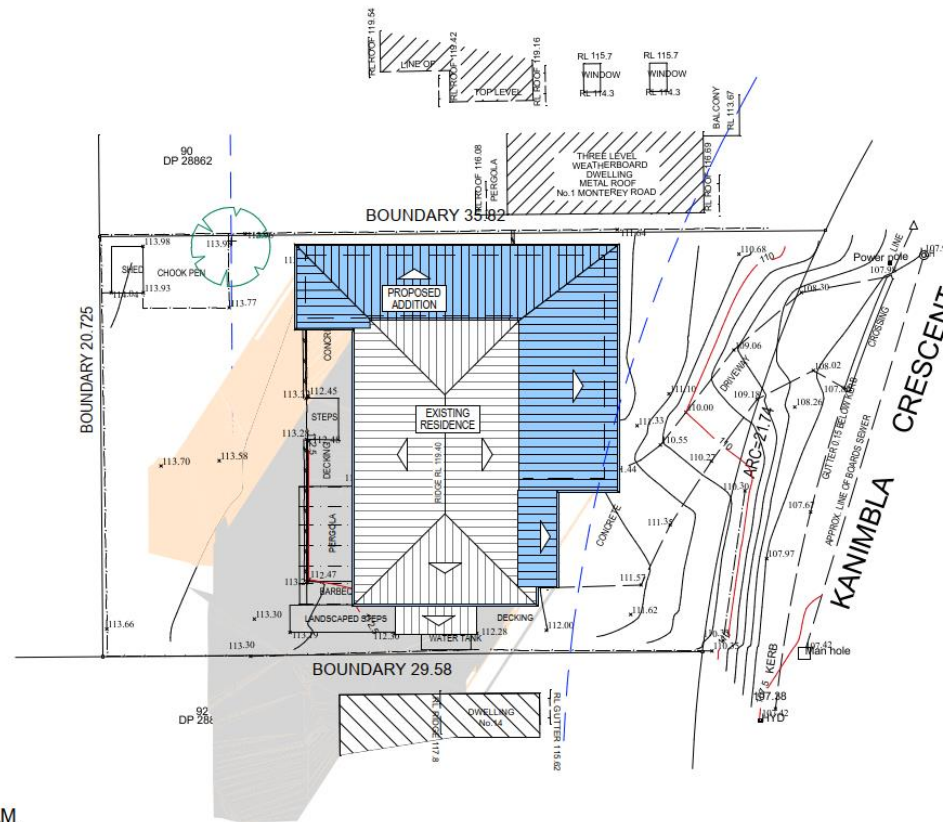
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PROPOSED ALTERATIONS AND ADDITIONS
12 KANIMBLA CRESCENT - BILGOLA PLATEAU
CLIENT:
FIONA ELLIS JONES
DRAWING TITLE:
EROSION & SEDIMENT CONTROL / WASTE
MANAGEMENT PLAN

DATE: AUG/21	DRAWN BY: MR	SCALE: 1:200 @ A3
JOB No: 936/21	CHECKED BY: JJ	DRAWING No: DA.09



SHADOW DIAGRAM JUNE 21 - 9AM

21 JUNE SHADOW DIAGRAM LEGEND	
EXISTING SHADOWS	
NEW SHADOWS	

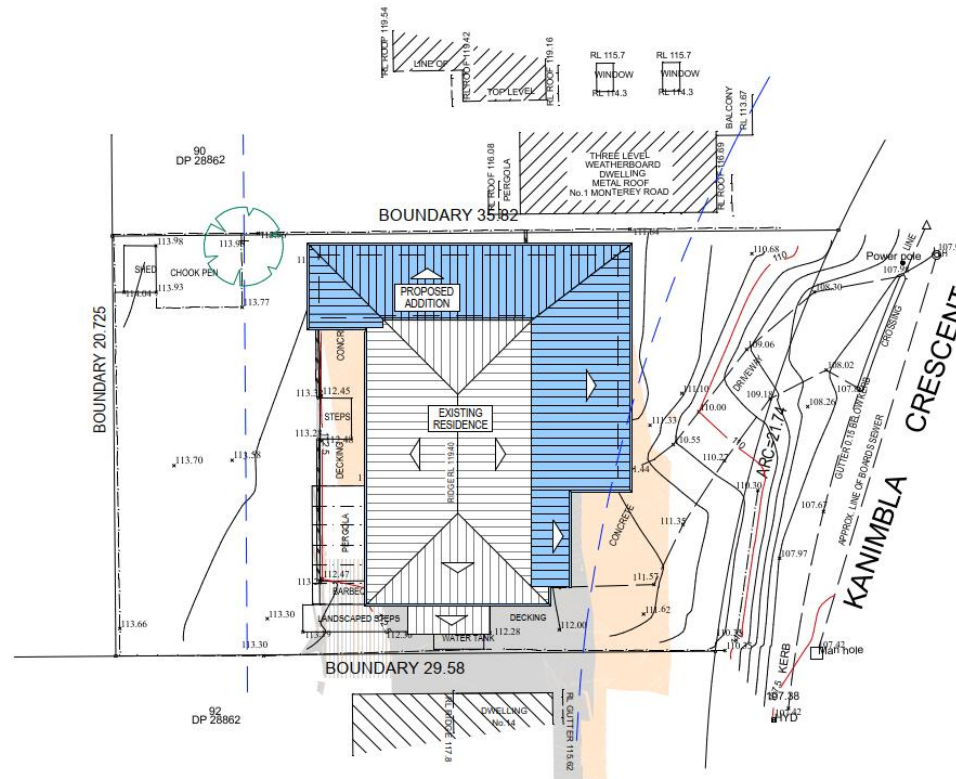
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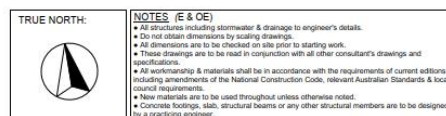
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936/21	JJ	DA.10



SHADOW DIAGRAM JUNE 21 - 12PM

21 JUNE SHADOW DIAGRAM LEGEND	
EXISTING SHADOWS	
NEW SHADOWS	

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ARCHITECTS SINCE 1960

REV:	DATE:	DESCRIPTION:	PROPOSED ALTERATIONS AND ADDITIONS	DATE:	DRAWN BY:	SCALE:
A	08/09/2021	CHANGES FROM CLIENT	12 KANIMBLA CRESCENT - BILGOLA PLATEAU	AUG/21	MR	1:200 @ A3
B	13/09/2021	CHANGES FROM CLIENT	CLIENT:			
C	20/09/2021	CHANGE TO FLAT ROOF	FIONA ELLIS JONES			
D	18/10/2021	REVERSING THE UPSTAIRS LAYOUT		JOB No:	CHECKED BY:	DRAWING No:
E	09/11/2021	ADD A NEW ROOF AND BIGGER WINDOW	DRAWING TITLE:	936/21	JJ	DA.12
			SHADOW DIAGRAM JUNE 21 3:00 pm			