

**PP224/2017-1**

**19333**

**14 Cassidy Drive KENNET RIVER**

**Lot: 78 LP: 61188 V/F: 10787/068, Parish of Wongarra**

**Buildings and Works Comprising Construction of Dwelling**

**M L Onoff Architecture**

**Officer – Helen Evans**

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**EXHIBITION**

**FILE**

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Submissions to this planning application will be accepted until a decision is made on the application.

If you would like to make a submission relating to a planning permit application, you must do so in writing to the Planning Department

Onoff A +D  
Michael Larionoff  
2/70 Kerr Street  
FITZROY VIC 3065  
T 0407766110  
mlarionoff@onoff.com.au

15<sup>th</sup> September, 2017

Colac Otway Shire  
2-6 Rae Street  
COLAC VIC 3250

Dear Sir/ Madam

**RE 14 Cassidy Drive, Kennett River – Application for Planning Permit**

Please find attached an application form, copies of relevant title documents, Rescode assessment summary, BMO and EMO assessments, payment form, and a drawing set including the existing site conditions as well as proposed plans.

If any further information is required please do not hesitate in making contact as we will provide any clarifications or additional documents as soon as possible.

Yours Faithfully,

Michael Larionoff

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Planning Enquiries  
 Phone: (03) 5232 9412 ☐☐  
 Web: [www.colacotway.vic.gov.au](http://www.colacotway.vic.gov.au) ☐☐

<b>Office Use Only</b>	Fee: \$
Application No.:	Receipt No.:
Date Lodged: / /	Ward:
Date Allocated: / /	Zone(s):
Allocated to:	Overlay(s):

# Application for Planning Permit

Use this form to make an application for a planning permit and to provide the information required by section 47 of the *Planning and Environment Act 1987* and regulations 15 and 38 of the *Planning and Environment Regulations 2005*.

Supplementary information requested in this form should be provided as an attachment to your application.  Please print clearly or complete the form electronically (refer to How to complete the Application for Planning Permit form).

### Privacy notice

**▲** Information collected with this application will only be used to consider and determine the application. It will be made available for public inspection in accordance with section 51 of the *Planning and Environment Act 1987*.

## Need help with the application?

If you need help to complete this form, read *How to complete the Application for Planning Permit form*. For more information about the planning process, refer to *Planning: a Short Guide*. These documents are available from your local council, the Planning Information Centre (Ph: 03 9637 8610, 8 Nicholson Street, Melbourne), or [www.dse.vic.gov.au/planning](http://www.dse.vic.gov.au/planning).

Contact council to discuss the specific requirements for this application and obtain a planning permit checklist. Insufficient or unclear information may delay your application.

① Has there been a pre-application meeting with a council officer?

Yes  No

If yes, with whom?

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Date: DD / MM / YYYY

## The land

② Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address

Street No.:  Street Name:

Suburb/Locality:  Postcode:

Formal Land Description

**▲** This information can be found on the certificate of title.

Lot No.:  on Lodged Plan, Title Plan or Subdivision Plan No.:

OR

Crown Allotment No.:  Section No.:  Parish Name:

③ Title information.

Attach a full, current copy of title information for each individual parcel of land, forming the subject site.

④ Describe how the land is used and developed now.

eg. single dwelling, three dwellings, shop, factory, medical centre with two practitioners, licensed restaurant with 80 seats.

⑤ Plan of the land.

Attach a plan of the existing conditions. Photos are also helpful.

## The proposal

**▲** You must give full details of your proposal and attach the information required to assess the application.

If you do not give enough detail or an adequate description of the proposal you will be asked for more information. This will delay your application.

- 6 For what use, development or other matter do you require a permit?

Read *How to complete the Application for Planning Permit form* if you need help in describing your proposal.

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- 7 Additional information about the proposal.

Contact council or refer to council planning permit checklists for more information about council's requirements.

Attach additional information providing details of the proposal, including:

- Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
- Plans showing the layout and details of the proposal.
- If required, a description of the likely effect of the proposal (eg. traffic, noise, environmental impacts).

- 8 Encumbrances on title.

Encumbrances are identified on the certificate of title.

Is the land affected by an encumbrance such as a restrictive covenant, section 173 agreement or other obligation on title such as an easement or building envelope?

- No, go to 9.
- Yes,  Attach a copy of the document (in summary) specifying the details of the encumbrance.
- Does the proposal breach in any way the encumbrance on title?
- No, go to 9.
- Yes, contact council for advice on how to proceed before continuing with this application.

### **▲** Note

Council must not grant a permit that authorises anything that would result in a breach of a registered restrictive covenant (sections 61(4) and 62 of the *Planning and Environment Act 1987*).

Contact council and/or an appropriately qualified person for advice.

## Costs of buildings and works/permit fee

Most applications require a fee to be paid. Where development is proposed, the value of the development affects the fee. Contact council to determine the appropriate fee.

- 9 Estimated cost of development for which the permit is required.

Cost \$

**▲** You may be required to verify this estimate.

Write 'NIL' if no development is proposed (eg. change of use, subdivision, removal of covenant, liquor licence)

- 10 Do you require a receipt for the permit fee?

Yes  No



## Contact, applicant and owner details

⑪ Provide details of the contact, applicant and owner of the land.

### Contact

The person you want Council to communicate with about the application.

Name:	
Organisation (if applicable):	
Postal address:	
	Postcode: <input type="text"/>
Contact phone:	<input type="checkbox"/>
Mobile phone:	<input type="checkbox"/>
Email:	<input type="checkbox"/>
Fax:	<input type="checkbox"/>

Indicate preferred contact method

### Applicant

The person or organisation who wants the permit.

Same as contact. If not, complete details below.

Name:	
Organisation (if applicable):	
Postal address:	
	Postcode: <input type="text"/>

### Owner

The person or organisation who owns the land.

Same as contact  Same as applicant

Where the owner is different from the applicant or contact, provide the name of the person or organisation who owns the land.

Name (if applicable):	
Organisation (if applicable):	
Postal address:	
	Postcode: <input type="text"/>

## Checklist

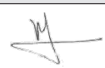
⑫ Have you?

<input type="checkbox"/>	Filled in the form completely?
<input type="checkbox"/>	Paid or included the application fee?
<input checked="" type="checkbox"/>	Attached all necessary supporting information and documents?
<input type="checkbox"/>	Completed the relevant council planning permit checklist?
<input type="checkbox"/>	Signed the declaration on the next page?

# Declaration

13 This form must be signed. Complete one of A, B or C

▲ Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

<p><b>A Owner/Applicant</b></p> <p>I declare that I am the applicant and owner of the land and all the information in this application is true and correct.</p>	<p>Signature </p> <p>Date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>
<p><b>B Owner</b></p> <p>I declare that I am the owner of the land and I have seen this application.</p>	<p>Signature</p> <p>Date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>
<p><b>Applicant</b></p> <p>I declare that I am the applicant and all of the information in this application is true and correct.</p>	<p>Signature</p> <p>Date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>
<p><b>C Applicant</b></p> <p>I declare that I am the applicant and:</p> <ul style="list-style-type: none"> <li>• I have notified the owner about this application;</li> <li>• and all the information in this application is true and correct.</li> </ul>	<p>Signature</p> <p>Date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>

# Lodgement

Lodge the completed and signed form and all documents with:

Colac-Otway Shire  
 PO Box 283 COLAC VIC 3250  
 2-6 Rae Street, COLAC VIC 3250  
 Telephone: (03) 5232 0412  
 Fax: (03) 5232 1046   
 Email: [inq@colacotway.vic.gov.au](mailto:inq@colacotway.vic.gov.au)   
 TTY: (03) 5231 6787

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For help or more information

**REGISTER SEARCH STATEMENT (Title Search) Transfer of  
Land Act 1958**

Page 1 of 1

VOLUME 10787 FOLIO 068

Security no : 124054543969F  
Produced 23/03/2015 06:48 pm

**LAND DESCRIPTION**

Lot 78 on Plan of Subdivision 061188.  
PARENT TITLE Volume 08498 Folio 131  
Created by instrument AC718136H 04/03/2004

**REGISTERED PROPRIETOR**

Estate Fee Simple  
Sole Proprietor

NANDJANDHANDJ INVESTMENTS PTY LTD of 14 CASSIDY DRIVE KENNETT RIVER VIC  
3221  
AG545518U 04/06/2009

**ENCUMBRANCES, CAVEATS AND NOTICES**

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

**DIAGRAM LOCATION**

SEE LP061188 FOR FURTHER DETAILS AND BOUNDARIES

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**ACTIVITY IN THE LAST 125 DAYS**

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 14 CASSIDY DRIVE KENNETT RIVER VIC 3234

DOCUMENT END

**LP 61188**  
EDITION 1  
PLAN APPROVED  
9/6/64

2 SHEETS  
SHEET 1

**COLOUR CODE**  
E-1 = BLUE  
E-2 = BROWN  
E-3 = PURPLE  
E-4 = GREEN

**APPROPRIATIONS**

THE LAND COLOURED BLUE AND PURPLE IS APPROPRIATED OR SET APART FOR EASEMENTS OF DRAINAGE AND SEWERAGE

THE LAND COLOURED BROWN IS APPROPRIATED OR SET APART FOR EASEMENTS OF WAY AND DRAINAGE.

**NOTE.**

THE REGISTERED PROPRIETOR HAS SET APART THE LAND COLOURED GREEN AND PURPLE AS A RESERVE FOR THE BENEFIT OF LOTS ON THIS PLAN OF SUBDIVISION AND HAS AGREED TO TRANSFER THE SAID LAND TO THE COUNCIL.

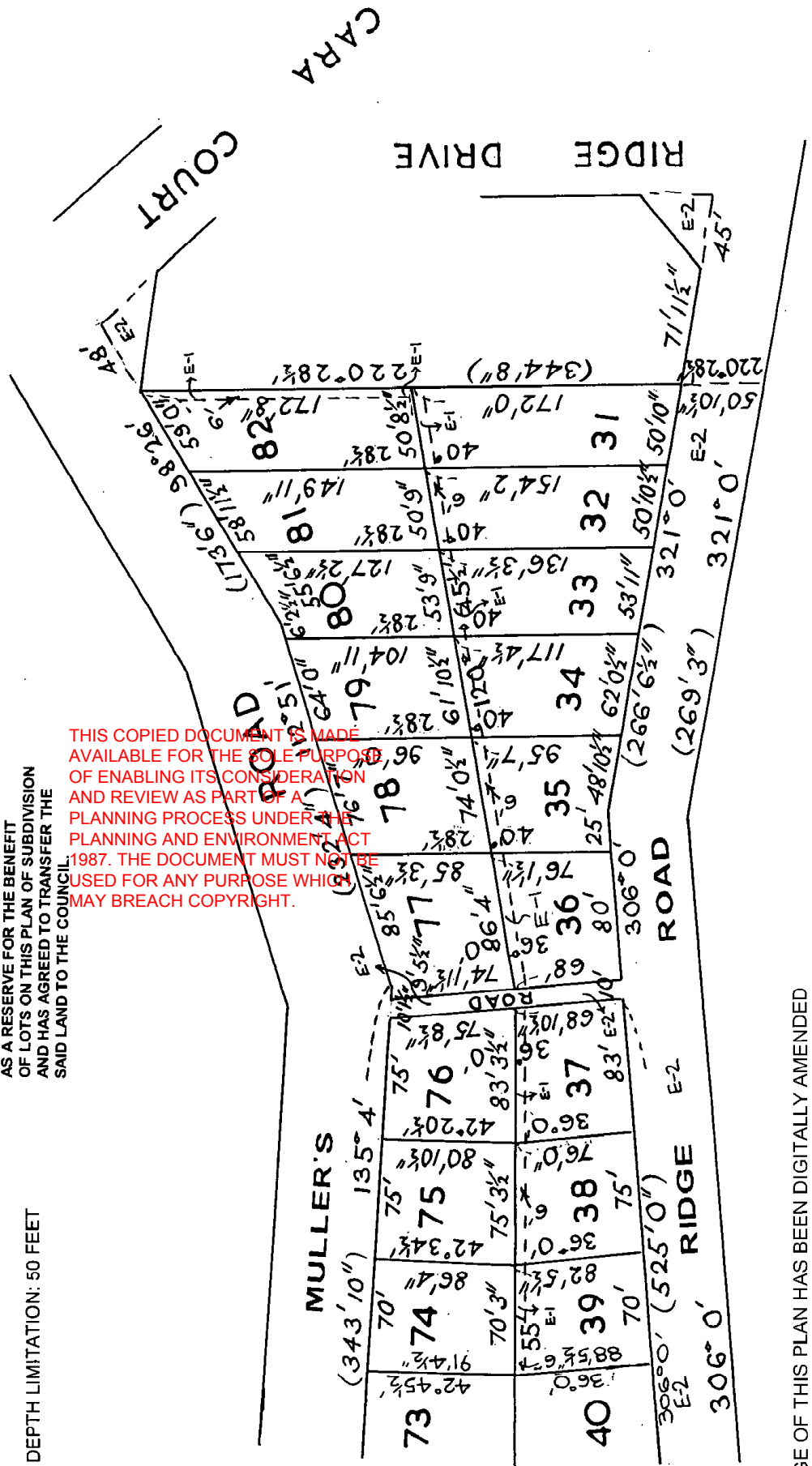
DEPTH LIMITATION: 50 FEET

VOL.8284 FOL.228  
MEASUREMENTS ARE IN FEET AND INCHES

PLAN OF SUBDIVISION  
PART OF CROWN ALLOTMENT 10A  
PARISH OF WONGARRA  
COUNTY OF POLWARTH



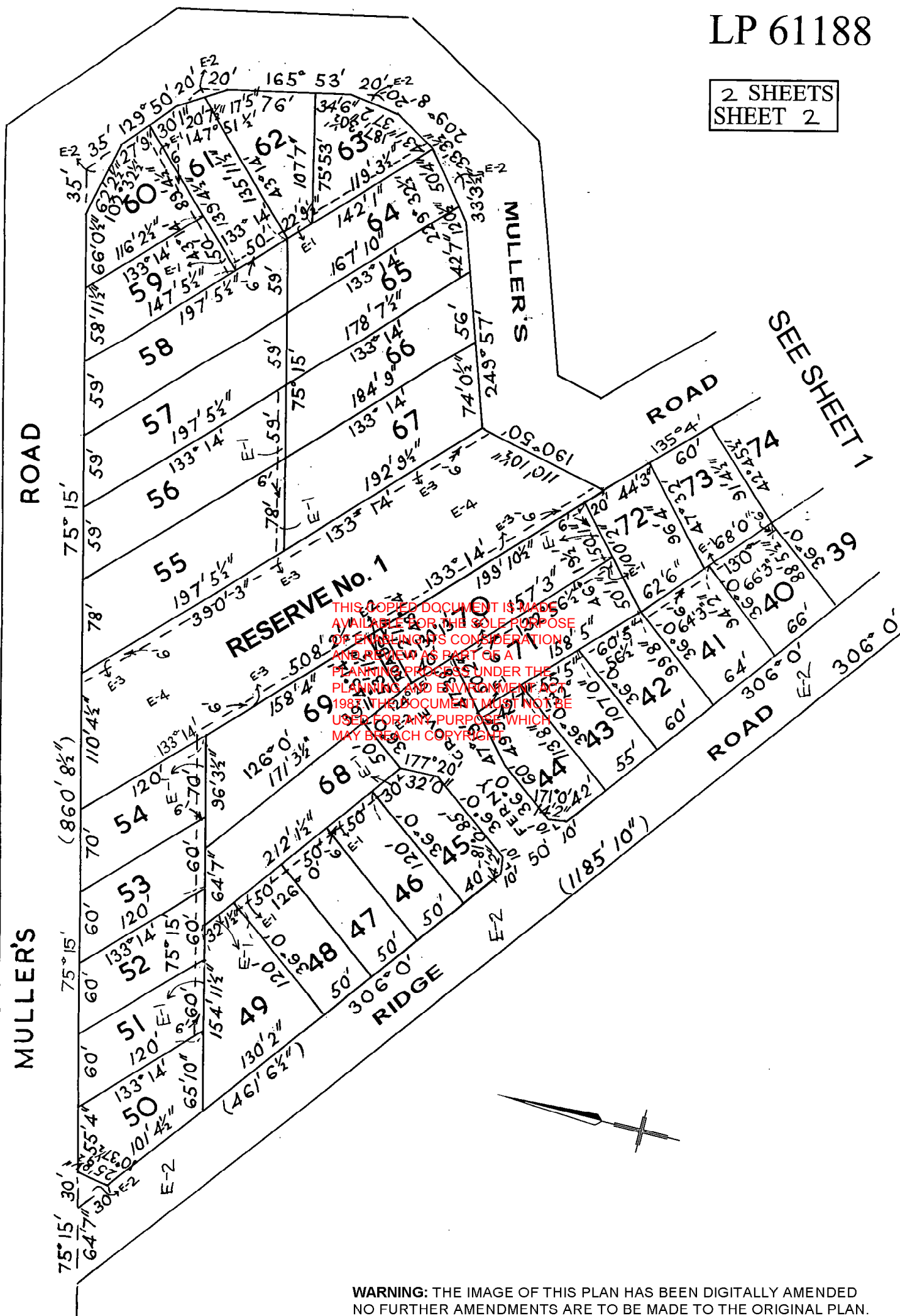
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LP 61188

2 SHEETS  
SHEET 2



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SEE SHEET 1

WARNING: THE IMAGE OF THIS PLAN HAS BEEN DIGITALLY AMENDED NO FURTHER AMENDMENTS ARE TO BE MADE TO THE ORIGINAL PLAN.

PLANNING APPROVAL APPLICATION FOR

**Proposed 2 Bedroom Dwelling for 14 Cassidy Drive, Kennett River, VIC**

13 JULY 2017

RES.CODE ASSESSMENT SUMMARY – CLAUSE 54 – ONE DWELLING ON A LOT

**Clause 54: One Dwelling on a Lot**

**CLAUSE 54.01**

**NEIGHBOURHOOD & SITE DESCRIPTION & DESIGN RESPONSE**

An application must be accompanied by:

- A Neighbourhood and site description.
- A Design Response

**CLAUSE 54.01-1**

**NEIGHBOURHOOD AND SITE DESCRIPTION**

The neighbourhood and site description may use a site plan, photographs or other techniques and must accurately describe:

**- In relation to the neighbourhood**

- The built form, scale and character of surrounding development including front fencing.
- Architectural and roof styles.
- Any other notable features or characteristics of the neighbourhood.

**- In relation to the site**

- Site shape, size, orientation and easements.
- Levels of the site and the difference in levels between the site and surrounding properties.
- Location of existing buildings on the site and on surrounding properties, including the location and height of walls built to the boundary of the site.
- The use of surrounding buildings.
- The location of secluded private open space and habitable room windows of surrounding properties which have an outlook to the site within 9 metres.
- Solar access to the site and to surrounding properties.
- Location of significant trees existing on the site and any significant trees removed from the site in the 12 months prior to the application being made, where known.
- Any contaminated soils and filled areas, where known.
- Views to and from the site.
- Street frontage features such as poles, street trees and kerb crossovers.
- Any other notable features or characteristics of the site.

PLEASE REFER TO TP03 OF DRAWING PACKAGE  
NEIGHBOURHOOD DESCRIPTION

The subject site at 14 Cassidy Drive Kennett River sits empty between an old single storey dwelling to the south-east and a double storey dwelling to the north-west. Both dwellings are fibro cottages and have a single pitch roof similar to many other houses in the Kennett river precinct.

The precinct is comprised of combination of older and contemporary dwellings comprised of single sloped and single pitched roof lines. All newer houses in the area are clad in metal sheet and follow the theme of single sloped and single pitch roofs. In the step surrounding slope, the neighbouring houses are often two storey or split level, being sympathetic to the steep slope of the site. Most of the houses within the precinct have street facing living areas and with protruding balconies that also face the descending slope.

**SITE DESCRIPTION**

The subject site at 14 Cassidy Drive Kennett is a total of 685 square metres with a steep incline of around 20 degrees. The site is currently vacant with an existing driveway. The site has an approx. 11m fall from the rear (south-west) to the front (northeast) of the site. The front of the site runs along Cassidy drive. The neighbouring dwelling, 13 Cassidy Drive, comprises of a double storey fibro house with windows on the top floor that fall within the 9m overlook constraint. The other neighbouring dwelling 15 Cassidy Drive consists of a two-level cedar structure with front deck and 1 window on the upper floor that falls within the 9m overlooking constraint.

The vegetation on site comprises of native grasses along with 7 mature eucalypt and wattle trees to the rear of the site and a smaller group of 4 eucalypts at the front of the site.

The site consists of an existing driveway. Minimal cut and fill site work has been undertaken here to allow access to the site. The site's closest electrical pole sits approx. 8m from the east corner of the site.

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**CLAUSE 54.01-2  
DESIGN RESPONSE**

The design response must explain how the proposed design:

- Derives from and responds to the neighbourhood and site description.
- Meets the objectives of Clause 54.
- Responds to any neighbourhood character features for the area identified in a local planning policy or a Neighbourhood Character Overlay.
- The design response must include correctly proportioned street elevations or photographs showing the development in the context of adjacent buildings.

PLEASE REFER TO TP06 OF DRAWING PACKAGE  
DESIGN RESPONSE

The proposal is a split-level, two-bedroom dwelling with open living arrangement designed for a family who will live at the property during holiday periods.

The proposal will use the existing driveway to provide access to the dwelling. The proposed dwelling sits to the rear of the site. The front setback for the dwelling is established by averaging the front setbacks of the two neighbouring dwellings. Living areas are situated to the front of the house to maximise views of the bush and coast to the East.

Steel columns and steel screw in pile cap footings will make up the floor structure between dwelling and landscape minimising the effect of natural soil stability and possible landslip risk. This also minimises excavation. The pole house design, in line with local vernacular, uses the fall of the landscape to allow the structure to follow the slope.

The building height for the new dwelling is established by taking the building heights of the two neighbouring dwellings and averaging between the two.

The project will use materials that are common in the area and consist of natural tones allowing it to relate to neighbouring houses as well as connect to the natural surroundings. A combination of corten cladding will make up the exterior of the house with its varied and aging patina blending it in with the natural surroundings.

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The house is setback from the boundaries to allow existing trees on site to be retained. The setbacks will also allow access for the CFA between the front and rear of the property.

A 10,000L CFA water tank is situated at the front of the site for CFA access. The house will also have an additional 10,000L water tank that will service the house water supply. A septic system and EPA approved rhizopods system will service the waste water from the proposed dwelling.

**CLAUSE 54.02  
NEIGHBOURHOOD CHARACTER**

**CLAUSE 54.02-1  
NEIGHBOURHOOD CHARACTER**

**OBJECTIVES**

To ensure that the design respects the existing neighbourhood character or contributes to a preferred neighbourhood character.  
To ensure that the design responds to the features of the site and the surrounding area.

**STANDARD A1**

- The design response **must** be appropriate to the neighbourhood and the site.
- The proposed design **must** respect the existing or preferred neighbourhood character and respond to the features of the site.

**Decision Guidelines**

Before deciding on an application, the responsible authority must consider:

- Any relevant neighbourhood character objective, policy or statement set out in this scheme.
- The neighbourhood and site description.
- The design response.

PLEASE REFER TO NEIGHBOURHOOD CHARACTER AND DESIGN RESPONSE DESCRIPTION.

<p><b>CLAUSE 54.02-2</b> <b>INTEGRATION WITH THE STREET</b></p> <p><b>OBJECTIVES</b> To integrate the layout of development with the street.</p> <p><b>STANDARD A2</b></p> <ul style="list-style-type: none"> <li>- Dwellings <u>should</u> be orientated to front existing and proposed streets.</li> <li>- High fencing in front of dwellings <u>should</u> be avoided if practicable. Dwellings <u>should</u> be designed to promote the observation of abutting streets and any abutting public open spaces.</li> </ul> <p><i>Decision Guidelines</i> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- Any relevant neighbourhood character objective, policy or statement set out in this scheme.</li> <li>- The design response.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The dwelling is integrated with the street by having living areas and balconies facing NE towards Cassidy Drive. Access to the property is also via existing driveway from Cassidy Drive.</p> <p>The proposal does not consist of any front fencing.</p>
<p><b>CLAUSE 54.03</b> <b>SITE LAYOUT AND BUILDING MASSING</b></p>	
<p><b>CLAUSE 54.03-1</b> <b>STREET SETBACK</b></p> <p><b>OBJECTIVES</b> To ensure that setbacks of buildings from a street respect the existing or preferred neighbourhood character and make efficient use of the site</p> <p><b>STANDARD A3</b> Walls of buildings <u>should</u> be setback from streets the distance specified in Table A1 as follows:</p> <ul style="list-style-type: none"> <li>- Where there are existing buildings on both abutting lots facing the same street, and the site is not on a corner, the average distance of front walls of existing adjacent buildings facing the same street or 7m, whichever is lesser.</li> <li>- Where there are existing buildings on one abutting lot facing the same street, and no existing building on the other abutting lot facing the same street and the site is not on a corner, the same distance as the front wall of the existing adjacent building or 7m, whichever is lesser.</li> <li>- Where there are no existing buildings on either abutting lot facing the same street and the site is not on a corner, 6m for streets in a Road Zone Category 1, and 4m for other streets.</li> <li>- Where the site is on a corner, and there is a building on the abutting lot facing the front street, the same distance as the setback of the front wall of the existing abutting building facing the front street, or 7m whichever is lesser.</li> <li>- Where the site is on a corner and there is no building on the abutting lot facing the front street, 6m for streets in a Road Zone Category 1, and 4m for other streets.</li> <li>- Buildings should be setback from the side street of a corner site, the same distance as the setback of the front wall of any existing building on the abutting allotment facing the side street, or 2m, whichever is the lesser.</li> </ul> <p><b>Note 1:</b> for a corner lot, the frontage or front street is the smaller frontage. For lots with equal frontage to two streets, the Council may nominate the frontage or front street.</p>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>Setback of front walls sit approx. 10m from closest front boundary corner, well behind the 7m minimum thus complying with standard A3. The front setback is also comparable to the average setback between the two neighbouring houses.</p> <p style="color: red; text-align: center;">THIS DOCUMENT IS MADE AVAILABLE FOR THE SOLE PURPOSE OF ENABLING ITS CONSIDERATION AND REVIEW AS PART OF A PLANNING PROCESS UNDER THE PLANNING AND ENVIRONMENT ACT 1987. THE DOCUMENT MUST NOT BE USED FOR ANY PURPOSE WHICH MAY BREACH COPYRIGHT.</p>



**Note 2:** Porches, pergolas and verandas that are less than 3.6m high and eaves may encroach not more than 2.5m into the setbacks of this standard.

**Decision Guidelines**

Before deciding on an application, the responsible authority must consider:

- Any relevant neighbourhood character objective, policy or statement set out in this scheme.
- The design response.
- Whether a different setback would be more appropriate taking into account the prevailing setbacks of existing buildings on nearby lots.
- The visual impact of the building when viewed from the street and adjoining properties.
- The value or retaining vegetation within the front setback.

**CLAUSE 54.03-2  
BUILDING HEIGHT**

**OBJECTIVES**

To ensure that the height of the buildings respects the existing or preferred neighbourhood character

**STANDARD A4**

- The maximum building height should not exceed 8 metres or two storeys, whichever is the lesser.
- Buildings are to be stepped to follow the contours of the site.
- Changes of building height between existing buildings and new buildings should be graduated by recessing the upper levels from the ground level.

**Decision Guidelines**

Before deciding on an application, the responsible authority must consider:

- Any relevant neighbourhood character objective, policy or statement set out in this scheme.
- The design response.
- The effect of the slope of the site on the height of the building.
- The relationship between the proposed building height and the height of existing adjacent buildings.
- The visual impact of the building when viewed from the street and adjoining properties.

PLEASE REFER TO DRAWING PACKAGE

The proposed dwelling does not exceed the 8m height limit. The building is also split to allow the house to step down and follow the contours of the site.

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**CLAUSE 54.03-3  
SITE COVERAGE**

**OBJECTIVE**

To ensure that the site coverage respects the existing or preferred neighbourhood character and responds to the features of the site.

**STANDARD A5**

The site area covered by buildings should not exceed the following amounts in the Precincts as shown on the Character Precinct Maps at Clause 21.04-13 (Skenes Creek), 21.04-14 (Kennett River) and 21.04-15 (Wye River and Separation Creek):

- ☑ Wye River Precinct 1 – 20%
- ☑ Wye River Precinct 2 – 20%
- ☑ Kennett River Precinct 1 – 20%
- ☑ Kennett River Precinct 2 – 20%
- ☑ Separation Creek Precinct 1 – 25%
- ☑ Skenes Creek Precinct 1 – 20%
- ☑ Skenes Creek Precinct 2 – 25%

PLEASE REFER TO DRAWING PACKAGE

The proposal has a site coverage of 18.9% which does not exceed the 20% limit for the precinct thus complying with Standard A5.

<p><b>Decision Guidelines</b>  Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>☑ Any relevant neighbourhood character objective, policy or statement set out in this scheme.</li> <li>☑ The design response.</li> <li>☑ The existing site coverage and any constraints imposed by existing development or the features of the site.</li> <li>☑ The site coverage of adjacent properties.</li> <li>☑ The effect of the visual bulk of the building and whether this is acceptable in the neighbourhood.</li> </ul>	
<p><b>CLAUSE 54.03-4</b>  <b>PERMEABILITY</b></p> <p><b>OBJECTIVES</b>  To reduce the impact of increased stormwater run-off on the drainage system.  To facilitate on-site stormwater infiltration</p> <p><b>STANDARD A6</b>  ☑ At least 20 % of the site should not be covered by impervious surfaces.</p> <p><b>Decision Guidelines</b>  Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The design response</li> <li>- The existing site coverage and any constraints imposed by existing development or the features of the site.</li> <li>- The capacity of the drainage network to absorb additional stormwater.</li> <li>- The capacity of the site to absorb run-off</li> <li>- The practicality of achieving at least 20 per cent site coverage of pervious surfaces, particularly on lots of less than 300m<sup>2</sup>.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The proposal consists of approximately 78% of permeable area, well exceeding the required 20% amount, thus complying with standard A6.</p> <p style="color: red; text-align: center;">THIS COPIED DOCUMENT IS MADE AVAILABLE FOR THE SOLE PURPOSE OF ENABLING IT'S CONSIDERATION AND REVIEW AS PART OF A PLANNING PROCESS UNDER THE PLANNING AND ENVIRONMENT ACT 1987. THE DOCUMENT MUST NOT BE USED FOR ANY PURPOSE WHICH MAY BREACH COPYRIGHT.</p>
<p><b>CLAUSE 54.03-5</b>  <b>ENERGY EFFICIENCY PROTECTION</b></p> <p><b>OBJECTIVES</b>  To achieve and protect energy efficient dwellings.  To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy.</p> <p><b>STANDARD A7</b></p> <ul style="list-style-type: none"> <li>- Buildings should be:</li> <li>- Orientated to make appropriate use of solar energy.</li> <li>- Sited and designed to ensure that the energy efficiency of existing dwellings on adjoining lots is not unreasonably reduced.</li> <li>- Living areas and private open space <u>should</u> be located on the north side of the dwelling, if practicable.</li> <li>- Dwellings should be designed so that solar access to north-facing windows is maximised.</li> </ul> <p><b>Decision Guidelines</b>  Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The design response</li> <li>- The size, orientation and slope of the lot.</li> <li>- The existing amount of solar access to abutting properties.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The dwelling consists of large windows to the north-east and smaller windows on other faces of the facade to maximise natural light entering the northern living areas.</p> <p>Terrace located on northern corner of the dwelling to maximise solar access to private open space.</p> <p>The bespoke cladding fins are self-shading.</p> <p>Setbacks and low building height ensure little to no shading of existing dwellings on adjoining lots.</p>

<ul style="list-style-type: none"> <li>- The availability of solar access to north facing windows on the site.</li> </ul>	
<p><b>CLAUSE 54.03-6</b> <b>SIGNIFICANT TREES</b></p> <p><b>OBJECTIVES</b> To encourage development that respects the landscape character of the neighbourhood. To encourage the retention of significant trees on the site.</p> <p><b>STANDARD A8</b></p> <ul style="list-style-type: none"> <li>- Development should provide for the retention or planting of trees, where these are part of the neighbourhood character.</li> <li>- Development should provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made.</li> </ul> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- Any relevant neighbourhood character objective, policy or statement set out in this scheme.</li> <li>- The design response.</li> <li>- The health of any trees that were removed or are proposed to be removed.</li> <li>- Whether a tree was removed to gain a development advantage.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The proposal setbacks allow for retention of 9 mature eucalypt and wattle trees on the block. Smaller native trees and grasses will be planted in terraced planters and surrounds to add vegetation to the site and to further retain soil stability. The trees that are proposed to be removed are one smaller juvenile eucalypt within the footprint of the proposed dwelling and two mature eucalypts which are dead and pose a risk of dropping limbs. Refer to TP101 Demolition Plan for tree locations.</p>
<p><b>CLAUSE 54.03-7</b> <b>PARKING</b></p> <p><b>OBJECTIVE</b> To ensure that car parking is adequate for the needs of residents.</p> <p><b>STANDARD A9</b> Two car spaces should be provided per dwelling with:</p> <ul style="list-style-type: none"> <li>- One space at least 6m x 3.5m and covered or capable of being covered.</li> <li>- One space at least 4.9m x 2.6m.</li> <li>- If the car spaces are in a garage, car port or otherwise constrained by walls, a double space may have an internal width of 5.5m.</li> <li>- A building may project into a car space if it is at least 2.1m above the space.</li> </ul> <p><b>Note:</b> the requirements of this standard do not apply to extensions to existing dwellings.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The likely needs of users</li> <li>- The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The proposal consists of an on-grade parking platform sited on existing site cutting. The space is 6.1m x 6.1m, sufficient for two cars to comply with Standard A9. The design proposal intends to minimise driveway length and site excavation due the site gradient. Therefore, two uncovered spaces have been provided however they are "capable of being covered"</p>

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<ul style="list-style-type: none"> <li>- The reduction of on-street car parking spaces resulting from the provision of car parking on the site, particularly for lots of less than 300 square metres.</li> <li>- The availability of public transport and on-street parking.</li> <li>- Any relevant local planning policy or parking precinct plan.</li> </ul>	
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**CLAUSE 54.04  
AMENITY IMPACTS**

<p><b>CLAUSE 54.04-1 SIDE AND REAR SETBACKS</b></p> <p><b>OBJECTIVE</b> To ensure that the height and setback of a building from a boundary respects the existing or preferred neighbourhood character and limits the impact on the amenity of existing dwellings.</p> <p><b>STANDARD A10</b></p> <ul style="list-style-type: none"> <li>- A new building should be set back from both side boundaries a minimum of 3 metres.</li> <li>- A new building should be setback a minimum of 5 metres from the rear boundary.</li> <li>- A new building should be setback from the side or rear boundary a minimum of 3 or 5 metres as required above, plus 0.3 metres for every metre of height over 3.6 metres up to 6.9 metres, plus 1 metre for every metre of height over 6.9 metres.</li> <li>- Sunblinds, verandas, balconies, porches, eaves, fascia's, gutters, chimneys, flues, pipes, domestic fuel or water tanks, and heating or cooling equipment associated with a dwelling, may encroach into the setbacks of this standard.</li> </ul> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- Any relevant neighbourhood character objective, policy or statement set out in this scheme.</li> <li>- The design response.</li> <li>- The impact on the amenity of the habitable room windows and secluded</li> <li>- Private open space of existing dwellings.</li> <li>- Whether the wall is opposite an existing or simultaneously constructed wall built to the boundary.</li> <li>- Whether the wall abuts a side or rear lane.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The building envelope has only minor encroachments in the 3m setback from each side boundary and 5m rear setback. Due to the orientation of the building, the vast majority of the building envelope is well behind the prescribed setbacks thus reducing the impact of these minor corner encroachments.</p> <p style="color: red; text-align: center;">THIS COPIED DOCUMENT IS MADE AVAILABLE FOR THE SOLE PURPOSE OF ENABLING ITS CONSIDERATION AND REVIEW AS PART OF A PLANNING PROCESS UNDER THE PLANNING AND ENVIRONMENT ACT 1987. THE DOCUMENT MUST NOT BE USED FOR ANY PURPOSE WHICH MAY BREACH COPYRIGHT.</p>
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<p><b>CLAUSE 54.04-2 WALLS ON BOUNDARIES</b></p> <p><b>OBJECTIVE</b> To ensure that the location, length and height of a wall on a boundary respects the existing or preferred neighbourhood character and limits the impact on the amenity of existing dwellings.</p> <p><b>STANDARD A11</b></p> <ul style="list-style-type: none"> <li>- A new wall should not be constructed on a boundary</li> </ul> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- Any relevant neighbourhood character objective, policy or statement set out in this scheme.</li> <li>- The design response.</li> <li>- The extent to which wall on boundaries are part of the neighbourhood character.</li> <li>- The visual impact of the building when viewed from adjoining properties.</li> <li>- The impact on the amenity of existing dwellings.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The dwelling does not propose any walls on boundary.</p>
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<p><b>CLAUSE 54.04-3 DAYLIGHT TO EXISTING WINDOWS</b></p>	<p>PLEASE REFER TO DRAWING PACKAGE</p>
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<p><b>OBJECTIVE</b> To allow adequate daylight into existing habitable room windows.</p> <p><b>STANDARD A12</b></p> <ul style="list-style-type: none"> <li>- Buildings opposite an existing habitable room window should provide for a light court to the existing window, of at least 3m<sup>2</sup> and 1m clear to the sky. The area may include land on the abutting lot.</li> <li>- Walls or carports more than 3m height opposite an existing habitable room window should be setback from the window at least 50% of the height of the new wall if the wall is within a 55-degree arc from the centre of the existing window. The arc may be swung to within 35 degrees of the plane of the wall containing the existing window.</li> </ul> <p><b>Note:</b> Where the existing window is above ground level, the wall height is measured from the floor level of the room containing the window.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The design response.</li> <li>- The extent to which the existing dwelling has provided for reasonable daylight access to its habitable rooms through the siting and orientation of its habitable room windows.</li> <li>- The impact on the amenity of existing dwellings</li> </ul>	<p>Because of proposed setbacks of 3m and low building height, neighbouring houses will continue to experience sufficient daylight to existing windows.</p>
<p><b>CLAUSE 54.04-4</b> <b>NORTH FACING WINDOWS</b></p> <p><b>OBJECTIVE</b> To allow adequate solar access to existing north facing habitable room windows.</p> <p><b>STANDARD A13</b> If a north-facing habitable room window of an existing dwelling is within 3m of a boundary of an abutting lot, a building should be setback:</p> <ul style="list-style-type: none"> <li>- 1m, plus 0.6m for every metre height over 3.6m up to 6.9m, plus 1m for every metre height over 6.9m, for a distance of 3m from the edge of each side of the window.</li> </ul> <p><b>Note:</b> A north facing window is a window with an axis perpendicular to its surface orientated north 20 degrees west to north 30 degrees east.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The design response.</li> <li>- Existing sunlight on the north-facing habitable room window of the existing dwelling</li> <li>- The impact on the amenity of existing dwellings.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>Due to the orientation of the site and neighbouring properties, there are no windows facing directly north. Building envelope does not encroach the north facing window rescode line.</p> <p style="color: red; text-align: center;">THIS COPIED DOCUMENT IS NOT AVAILABLE FOR THE SOLE PURPOSE OF ENABLING ITS CONSIDERATION AND REVIEW AS PART OF A PLANNING PROCESS UNDER THE PLANNING AND ENVIRONMENT ACT 1987. THE DOCUMENT MUST NOT BE USED FOR ANY PURPOSE WHICH MAY BREACH COPYRIGHT.</p>
<p><b>CLAUSE 54.04-5</b> <b>OVERSHADOWING OPEN SPACE</b></p> <p><b>OBJECTIVE</b> To ensure buildings do not unreasonably overshadow existing secluded private open space.</p> <p><b>STANDARD A14</b></p> <ul style="list-style-type: none"> <li>- Where sunlight to the secluded private open space of an existing dwelling is reduced, at least 75%, or 40m<sup>2</sup> with a minimum dimension of 3m, whichever is the lesser area, or the secluded open space should receive a minimum of 5 hours sunlight between 9am and 3pm at 22 September.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>Please refer to TP102 for shadow study. Both neighbouring properties POS receive sufficient access to sunlight.</p>

<ul style="list-style-type: none"> <li>- If existing sunlight to the secluded private open space of a dwelling is less than the requirements of this standard, the amount of sunlight should not be further reduced.</li> </ul> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The design response.</li> <li>- The impact on the amenity of existing dwellings.</li> <li>- Existing sunlight penetration to the secluded private open space of the existing dwelling.</li> <li>- The time of day that sunlight is available to the secluded private open space of the existing dwelling.</li> <li>- The effect of a reduction in sunlight on the existing use of the secluded private open space.</li> </ul>	
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<p><b>CLAUSE 54.04-6 OVERLOOKING</b></p> <p><b>OBJECTIVE</b> To limit views into existing secluded private open space and habitable room windows.</p> <p><b>STANDARD A15</b></p> <ul style="list-style-type: none"> <li>- Habitable room windows, balconies, terraces etc should be located and designed to avoid direct view to secluded private open space and habitable room windows of an existing dwelling within 9m distance, and a 45 degree arc from the window, balcony etc.</li> <li>- The window, balcony etc may:</li> <li>- Be offset at least 1.5m from the edge of one window to the edge of the other; or</li> <li>- Have sill heights, obscure glazing or permanent screens of at least 1.7m above floor level.</li> <li>- Obscure glazing may be openable provided it does not allow direct views.</li> </ul> <p><b>Note:</b> This standard does not apply to a new habitable room window, balcony, terrace etc which faces a property boundary where there is a visual barrier at least 1.8m height and the floor level of the habitable room, balcony, terrace etc is less than 0.8m above ground level at the boundary.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> <li>- The design response.</li> <li>- The impact on the amenity of the secluded private open space or habitable room window.</li> <li>- The existing extent of overlooking into the secluded private open space and habitable room windows of existing dwellings.</li> <li>- The internal daylight to and amenity of the proposed dwelling.</li> </ul>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>All windows avoid direct views into secluded private open space and habitable room windows of existing dwellings.</p>
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<p><b>CLAUSE 54.05 ON-SITE AMENITIES AND FACILITIES</b></p>	
<p><b>CLAUSE 54.05-1 DAYLIGHT TO NEW WINDOWS</b></p>	<p>PLEASE REFER TO DRAWING PACKAGE</p>

<p><b>OBJECTIVES</b> To allow adequate daylight into new habitable room windows.</p> <p><b>STANDARD A16</b> - A window in a habitable room should be located to face: - an outdoor space clear to the sky or a light court with a minimum area of 3m<sup>2</sup> and minimum dimension of 1m, not including land on an abutting lot, or - a verandah provided it is open for at least 1/3rd of its perimeter, or - a carport provided it has two or more open sides and is open for at least 1/3rd of its perimeter.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider: - The design response. - Whether there are other windows in the habitable room which have access to daylight.</p>	<p>Due to setbacks and plan layout, all habitable rooms experience adequate daylight.</p>
<p><b>CLAUSE 54.05-2</b> <b>PRIVATE OPEN SPACE</b></p> <p><b>OBJECTIVE</b> To provide adequate private open space for the reasonable recreation and service needs of residents.</p> <p><b>STANDARD A17</b> - A dwelling should have private open space of: - 80m<sup>2</sup> or 20% of the lot area, whichever is the lesser, but not less than 40m<sup>2</sup>. - At least one part of the private open space should consist of secluded private open space with a minimum area of 25m<sup>2</sup> and a minimum dimension of 3m at the side or rear of the dwelling with convenient access from a living room.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider: - The design response. - The useability of the private open space, including its size and accessibility. - The availability of and access to public open space. - The orientation of the lot to the street and the sun.</p>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>The proposed dwelling has 13m<sup>2</sup> of secluded private open space on the North orientated terrace which has direct access to the main living area.</p> <p>In addition to the terrace there is over 145 m<sup>2</sup> of private open space to the sides and rear of the dwelling which is naturally screened by existing vegetation.</p>
<p><b>CLAUSE 54.05-3</b> <b>SOLAR ACCESS TO OPEN SPACE</b></p> <p><b>OBJECTIVE</b> To allow solar access into the secluded private open space of a new dwelling.</p> <p><b>STANDARD A18</b> - The private open space should be located on the north side of the dwelling, if practicable. - The southern boundary of secluded private open space should be setback from any wall on the north of the space at least (2 +0.9h), where 'h' is the height of the wall.</p> <p><b>Decision Guidelines</b> Before deciding on an application, the responsible authority must consider: The design response; The useability and amenity of the secluded private open space based on the sunlight it will receive.</p>	<p>PLEASE REFER TO DRAWING PACKAGE</p> <p>There is sufficient solar access as the terrace is not covered and screen doors are operable.</p>

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## CLAUSE 54.06

### DETAILED DESIGN

#### CLAUSE 54.06-1 DESIGN DETAIL

##### OBJECTIVE

To encourage design detail that respects the existing or preferred neighbourhood character.

##### STANDARD A19

The design of buildings, including:

- The number of storeys,
- Verandas, eaves and parapets,
- Materials, colours and finishes, and
- Building siting, including space around buildings should respect the preferred neighbourhood character of the area. Garage and car port design should be visually unobtrusive and compatible with the development and the preferred neighbourhood character

##### Decision Guidelines

Before deciding on an application, the responsible authority must consider:

- Any relevant neighbourhood character objective, policy or statement set out in this scheme.
- The design response.
- The effect on the visual bulk of the building and whether this is acceptable in the neighbourhood setting.
- Whether the design is innovative and of a high architectural standard.

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The proposal is one split level dwelling much like other dwellings in the area and sympathetic to the sloping site. Similar to surrounding dwellings, the palette of the new dwelling consists of raw textures and natural tones to blend in with the natural surroundings.

#### CLAUSE 54.06-2 FRONT FENCES

##### OBJECTIVE

To encourage front fence design that respects the existing or preferred neighbourhood character.

##### STANDARD A20

- The design of front fences should complement the design of the dwelling and any front fences on adjoining properties.
- A front fence within 3m of a street should not exceed:
  - 2m height for streets in a Road Zone, Category 1; or
  - 1.5m height for any other street.

##### Decision Guidelines

Before deciding on an application, the responsible authority must consider:

- Any relevant neighbourhood character objective, policy or statement set out in this scheme.
- The design response.
- The setback, height and appearance of front fences on adjacent properties.
- The extent to which slope and retaining walls reduce the effective height of the front fence.
- Whether the fence is needed to minimise noise intrusion.

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No front fence has been designed.



PLANNING APPROVAL APPLICATION FOR

**Proposed 2 Bedroom Dwelling for 14 Dassidy Drive, Kennett River, VIC**

23 MAY 2017

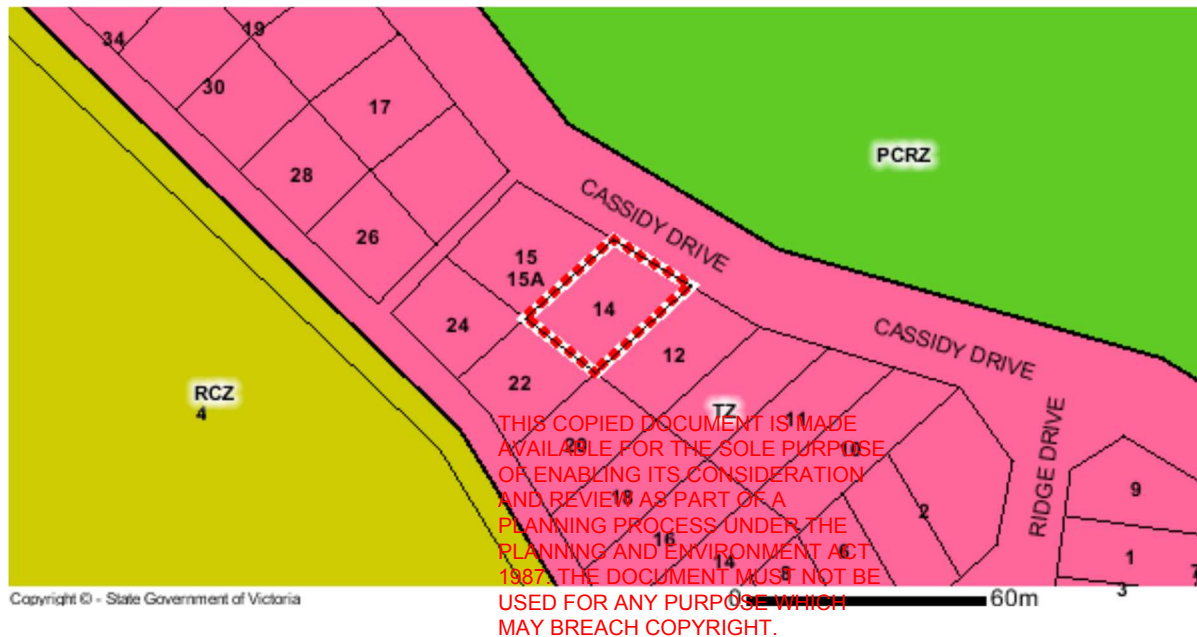
OVERLAY ASSESSMENT

**Overlays**

**Zoning**

Township Zone (TZ)

Schedule To The Township Zone



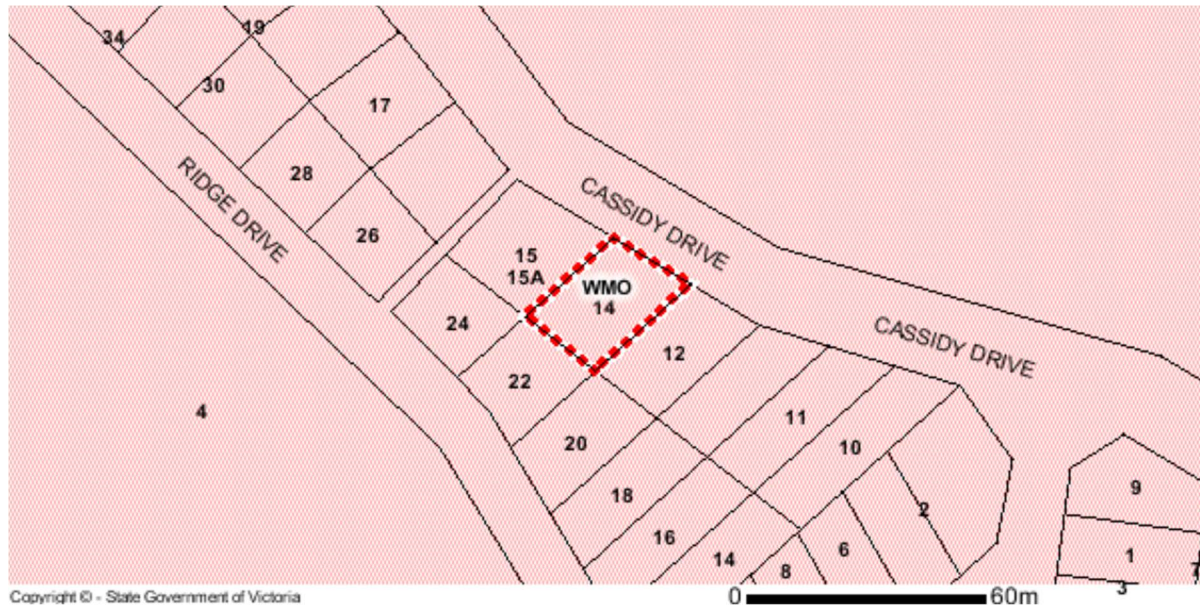
**Decision Guidelines**

Construction and extension of one dwelling on a lot Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The objectives, standards and decision guidelines of Clause 54.
- Any other decision guidelines specified in a schedule to this zone.

## Overlays

### Bushfire Management Overlay (BMO OR WMO)



#### 44.06-6 Decision guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 52.47 and Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies;
- Any other matters specified in a schedule to this overlay.

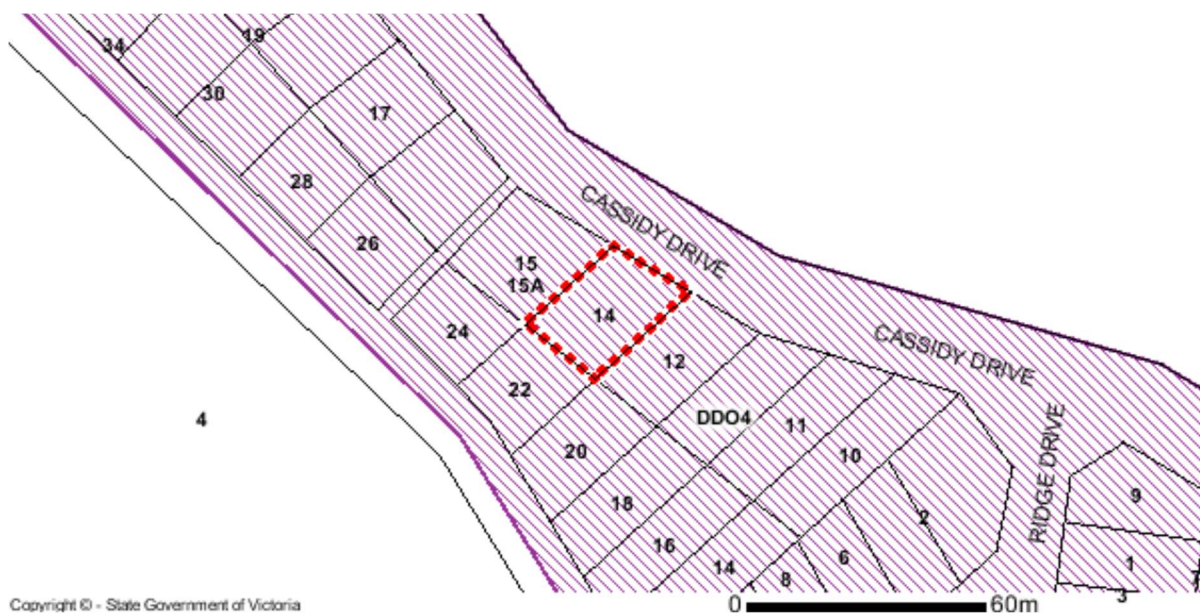
Please find attached copy of BMO assessment for 14 Cassidy Drive Kennett River.

File Title  
14 Cassidy Drive\_BMO Assessment

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### Design and Development Overlay (DDO)

#### Design and Development Overlay – Schedule 4 – Weather Protection (DD04)



**43.02-1 Design objectives**

A schedule to this overlay must contain a statement of the design objectives to be achieved for the area affected by the schedule

Please refer to Neighbourhood and Site Description in Rescode Assessment Document

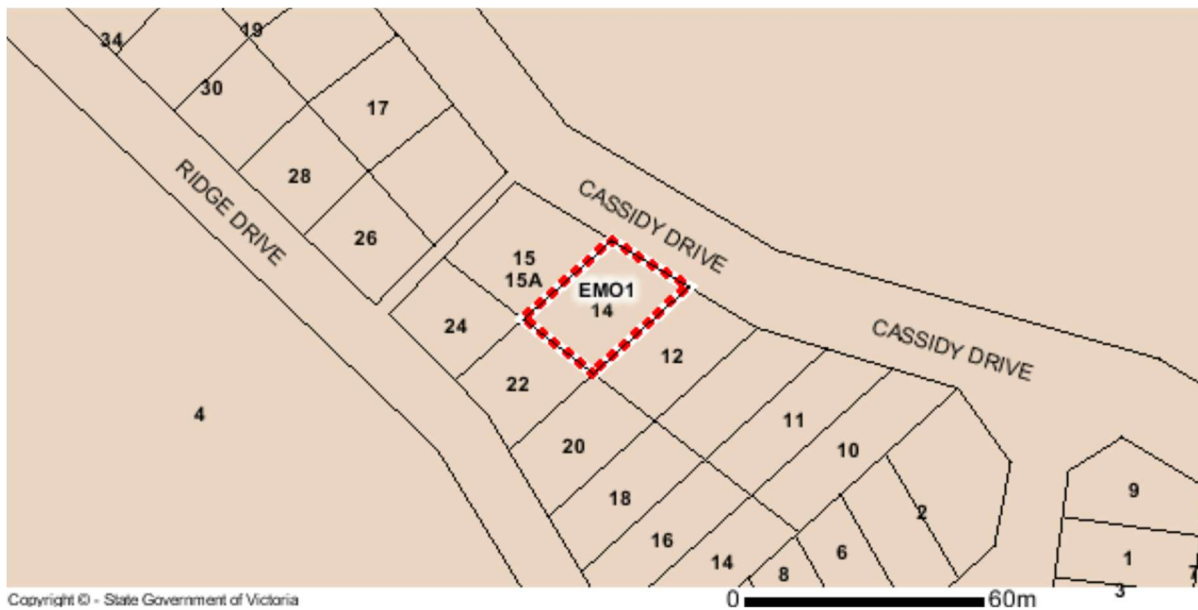
**43.02-5 Decision guidelines**

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The design objectives of the relevant schedule to this overlay.
- The provisions of any relevant policies and urban design guidelines.
- Whether the bulk, location and appearance of any proposed buildings and works will be in keeping with the character and appearance of adjacent buildings, the streetscape or the area.
- Whether the design, form, layout, proportion and scale of any proposed buildings and works is compatible with the period, style, form, proportion, and scale of any identified heritage places surrounding the site.
- Whether any proposed landscaping or removal of vegetation will be in keeping with the character and appearance of adjacent buildings, the streetscape or the area.
- The layout and appearance of areas set aside for car parking, access and egress, loading and unloading and the location of any proposed off street car parking.
- Whether subdivision will result in development which is not in keeping with the character and appearance of adjacent buildings, the streetscape or the area.
- Any other matters specified in a schedule for this overlay.

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**Erosion Management Overlay (EMO)  
Erosion Management Overlay – Schedule 1 (EMO1)**



**44.01-7 Decision guidelines**

Before deciding on an application, in addition to the decision guidelines

in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- Regional Catchment Strategy (Catchment and Land Protection Act 1994).
- Environmental Guidelines for Major Construction Sites, Environment Protection Authority, February 1996.
- Construction Techniques for Sediment Pollution Control, Environment Protection Authority, May 1991.
- Control of Erosion on Construction Sites, Soil Conservation Authority.
- Your Dam, an Asset or a Liability, Department of Conservation and Natural Resources.
- Any proposed measures to manage concentrated runoff and site drainage.
- Any proposed measures to minimise the extent of soil disturbance.
- Whether the removal of vegetation will increase the possibility of erosion, the susceptibility to landslip or other land degradation processes, and whether such removal is consistent with sustainable land management.
- The need to stabilise disturbed areas by engineering works or revegetation.
- Whether the land is capable of providing a building envelope which is not subject to high or severe erosion concern.
- Whether buildings or works are likely to cause erosion or landslip.
- Whether access and servicing of the site or building envelope is likely to result in erosion or landslip. Land Capability Report (if prepared) as developed by the Department of Environment, Land, Water and Planning.
- The need to remove, destroy or lop vegetation to create defensible space to reduce the risk of bushfire to life and property.
- Any technical information or reports required to be provided by a schedule to this overlay.

**Please find attached copy of Geotechnical Assessment and Land Stability Assessment Report for 14 Cassidy Drive Kennett River.**

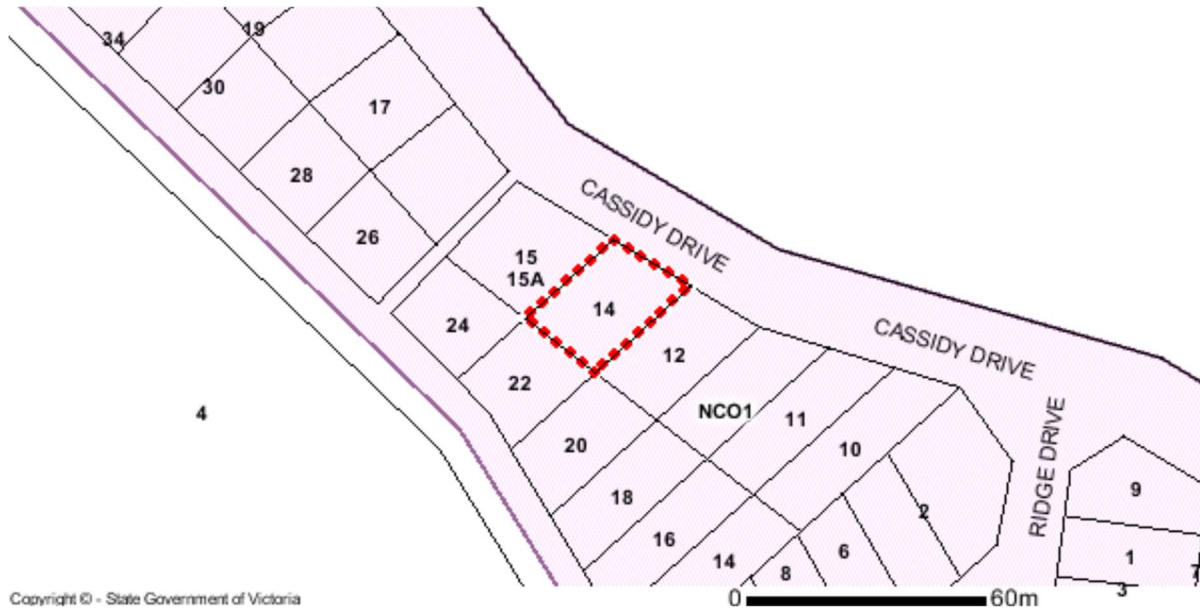
File Title

14 Cassidy Drive\_EMO Assessment

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# Neighbourhood Character Overlay



### 43.05-1 Neighbourhood character statement and objectives

A schedule to this overlay must contain:

- A statement of the key features of the neighbourhood character.
- The neighbourhood character objectives to be achieved for the area affected by the schedule

Please refer to Neighbourhood and Site Description in Rescode Assessment Document

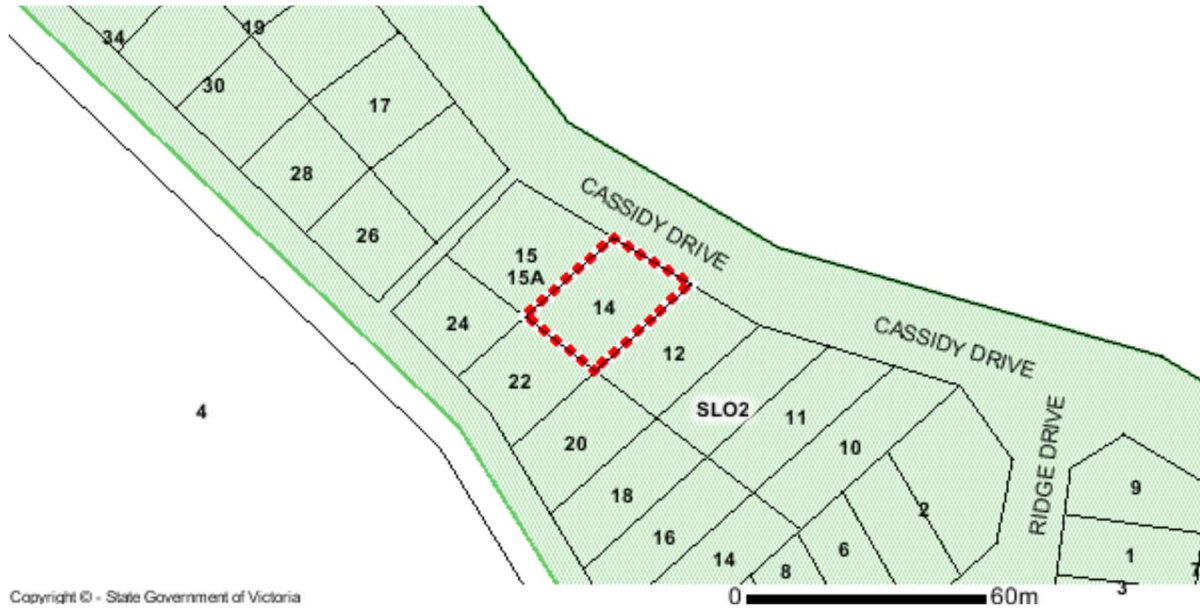
### 43.05-5 Decision guidelines

Before deciding on an application, in addition to the decision guidelines of Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The statement of the key features of the neighbourhood character and the neighbourhood character objectives contained in a schedule to this overlay.
- Whether the location, layout and form of the proposed development respects the neighbourhood character.
- The contribution that the existing building makes to the neighbourhood character.
- Whether the site is to remain vacant or is to be developed for another purpose.
- The contribution that the tree makes to the neighbourhood character.
- The health of the tree.
- Any proposed landscape improvements.
- Any matter specified in a schedule to this overlay.

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**Significant Landscape Overlay (SLO)**  
**Significant Landscape Overlay – Schedule 2 (SL02)**



**42.03-1 Landscape character and objectives**

A schedule to this overlay must contain:

- A statement of the nature and key elements of the landscape.
- The landscape character objective to be achieved.

Please refer to Neighbourhood and Site Description in Rescode Assessment Document

**42.03-4 Decision guidelines**

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The statement of the nature and key elements of the landscape and the landscape character objective contained in a schedule to this overlay.
- The conservation and enhancement of the landscape values of the area.
- The need to remove, destroy or lop vegetation to create defensible space to reduce the risk of bushfire to life and property.
- The impact of the proposed buildings and works on the landscape due to height, bulk, colour, general appearance or the need to remove vegetation.
- The extent to which the buildings and works are designed to enhance or promote the landscape character objectives of the area.
- The impact of buildings and works on significant views.
- Any other matters specified in a schedule to this overlay.

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# BMO ASSESSMENT

Architectural Steel Pty Ltd

14 Cassidy Drive, Kennett River

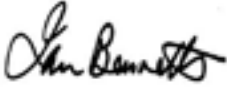
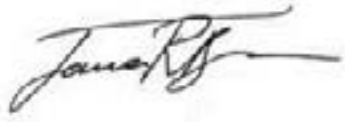
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### **Statement of Limitations**

This report has been prepared in accordance with the agreement between Architectural Steel Pty Ltd and GreencapNAA.

Within the limitations of the agreed upon scope of services, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

This report is solely for the use of Architectural Steel Pty Ltd and any reliance on this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments are provided by GreencapNAA.

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**BMO Assessment**  
**Architectural Steel Pty Ltd**  
**14 Cassidy Drive, Kennett River**

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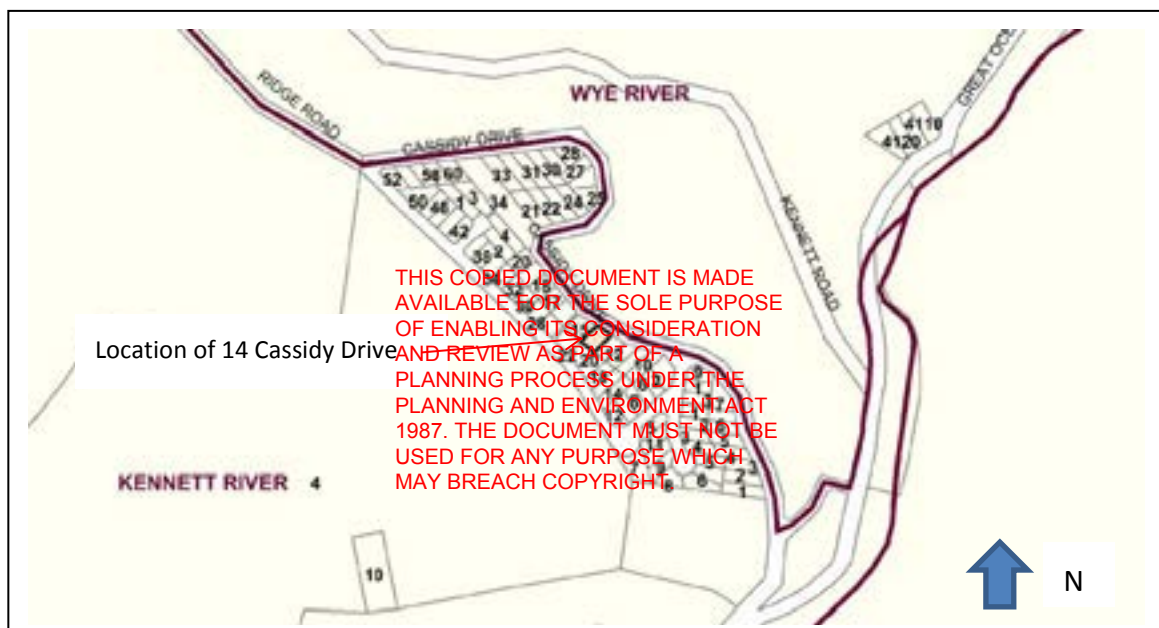
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## 1. INTRODUCTION

GreencapNAA understand that it is proposed to construct a dwelling on the site at 14 Cassidy Drive, Kennett River. The location of the site in relation to other allotments is shown in Figure 1.

A previous BMO Assessment has been undertaken for 10 Cassidy Drive, Kennett River. In that particular case, the site visit was conducted in the company of Mr Matt Allan of CFA – who at that time was the Team Leader, Fire Safety Services, CFA Barwon South West Region. The corresponding BMO submission took account of local terrain factors and the presence of a poweline easement to mitigate the potential bushfire severity. The same factors are applicable in the case of No. 14 even though it is located a little further up Cassidy Drive. This was confirmed by a site visit undertaken on the 10<sup>th</sup> December, 2016 which enabled the overall and local terrain to be considered as well as an inspection of the No. 14 allotment.

The Client also attended this site meeting and presented an overview of the planning overlays applicable to this site and which have determined the location of the proposed dwelling.



**Figure 1 Location of 14 Cassidy Drive**

Given the fact that Kennett River is within the Bushfire Management Overlay (previously termed the WMO) it is necessary, as part of the response to the Planning Provisions [1], to assess the site and proposed location having regard for the type of construction and the defensible space. It is noted that there has been no significant bushfire at Kennett River for more than 50 years.

## 2. PURPOSE OF REPORT AND APPROACH

GreencapNAA has been asked to assist by preparing a response to Clause 44.06 Bushfire Management Overlay of the Victorian Planning Scheme. The clause requires that the relevant requirements of Clause 52.47 be addressed which relate to construction standards, defensible space, water supply and access. Clause 52.47 provides for both Approved Measures and Alternative Measures where it is not possible to meet the Approved Measures. It is noted an “*alternative measure may be considered where the responsible authority is satisfied that the (relevant) objective can be met. The responsible authority may consider other unspecified alternative measures*”. It is noted that Decision Guidelines with respect to meeting the requirements of Clause 52.47 are to take

into account (amongst other factors), the bushfire hazard landscape assessment, the bushfire hazard site assessment and the bushfire management statement.

Due to the complexity of the topography and vegetation in the vicinity of the site and some distance away it is not possible to simply apply the Approved Measures given in Clause 52.47-1. Rather it is necessary to address the proposed construction via Clause 52.47-2. In particular, **AltM3.3** (roadway and powerline easement to be included) and **AltM 3.4** are to be utilised. **AltM 3.4** is to be used to permit the nature of the vegetation and the effect of local topography to be taken into account. This alternative method is used to determine the relevant BAL given the defendable space. As far as Clause 52.47-2.3 (Water supply and access) is concerned, it will be contended that the proposed measures meet Approved Measure **AM4.1**.

**3. CONSIDERATION OF SITE**

**3.1 Introduction**

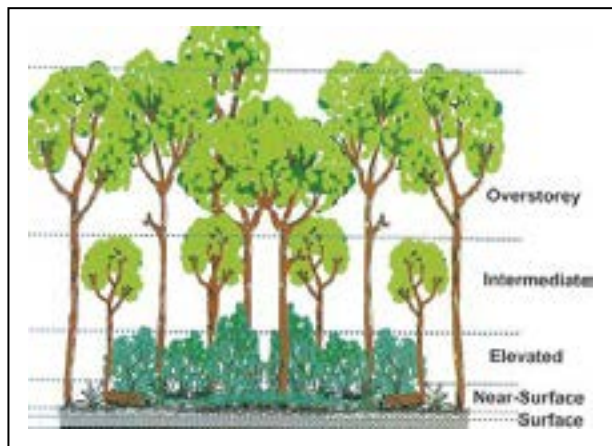
No. 14 Cassidy Drive is positioned such that it is adjacent to the allotments associated with Numbers 13 and 15 Cassidy Drive and Number 22 Ridge Rd (at the rear). All of these allotments have existing dwellings. Forest vegetation is located to the west of Ridge Rd and to the east of Cassidy Drive. As can be seen from Figure 1, Cassidy Drive (which is a surfaced road) runs into Ridge Rd and then extends down to the Great Ocean Rd located approximately 450m away in a downhill direction. The rear boundary of No. 14 is more than 40m away from the western edge of Ridge Rd. The dwelling on No. 22 Ridge Drive is behind and above the proposed dwelling at No. 14 and will provide shielding from a forest fire event coming from the west of Ridge Road. Subsequently (after the flame front has passed), the dwelling on No. 22 may ignite and present a radiation hazard to the dwelling on No. 14. However, such matters are outside the scope of the Bushfire Management Overlay. Relevant aspects of the adjacent vegetation and buildings are now considered.

**3.2 Vegetation**

**General**

The vulnerability of a particular patch of vegetation to supporting a bushfire is a function of the likelihood and speed of spread which, in turn, are influenced by relative humidity and ambient temperature history, wind speed (the combination of these gives the Fire Danger Index (FDI)) and the nature of the vegetation. As far as a general description of vegetation is concerned, it is helpful to use the terminology shown in Figure 2 for describing the vegetation.

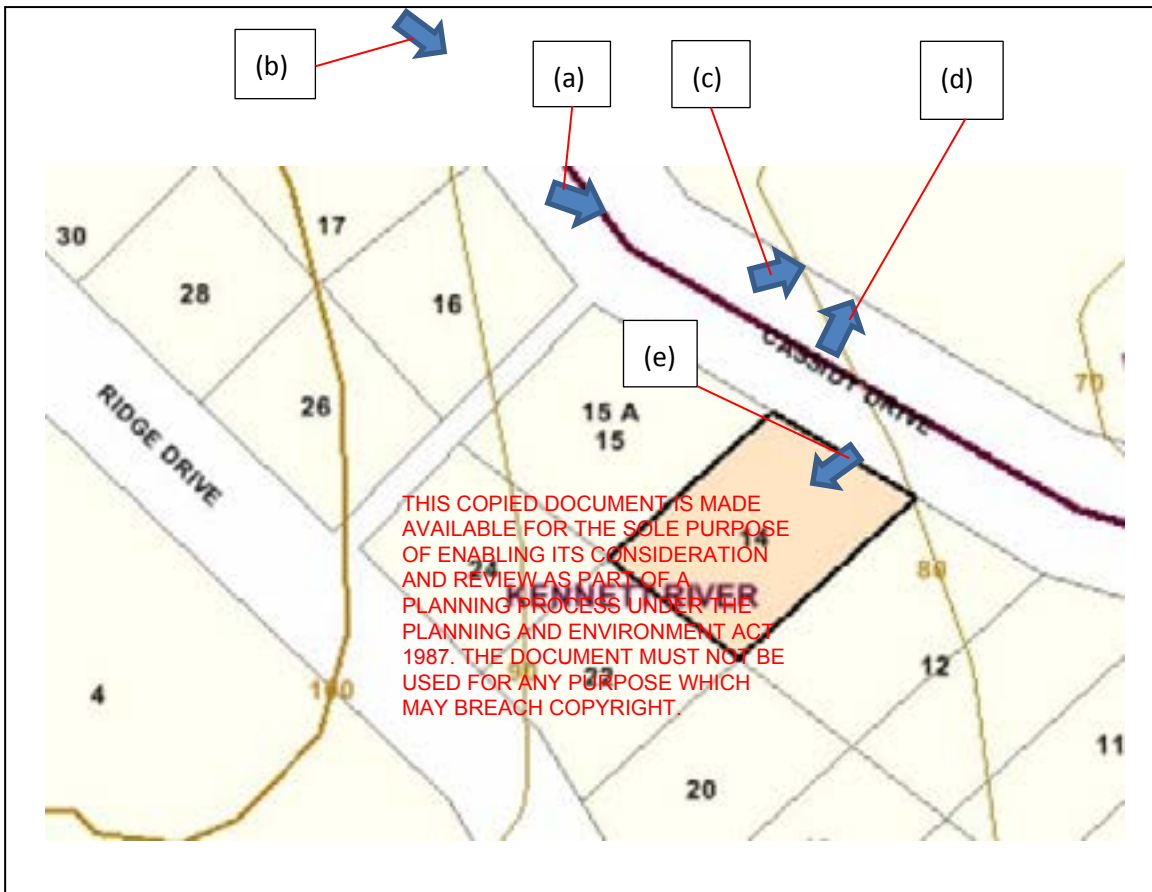
The important terms are *Near Surface* vegetation (e.g. grasses and litter), *Elevated* vegetation (e.g. shrubs), *Intermediate* vegetation (smaller trees or low tree branches) and *Overstorey* vegetation (high level tree "crown"). The term "litter" is used in relation to the surface fuel or near surface fuel.



**Figure 2 Vegetation Levels (after Ref [3])**

This term refers to the combination of leaves, branches and bark that accumulate on the ground which, if present, will provide a well aerated fuel source which can burn intensely under certain conditions and eventually lead to spread to the *Overstorey* resulting in a “crown” fire which is characterised by long flames and high temperatures.

Forested areas have most forms of fuel and therefore, under certain conditions, can develop into severe fires with significant flame length and radiation. On the other hand isolated trees or areas of shrubs that are well separated from forested areas and each other by short grass will not present a significant bushfire hazard.



**Figure 3 Location and Directions of Photographs**

**Vegetation Near or Adjacent to Site**

The location and direction of photographs taken around the allotment are given in Figure 3 whilst the corresponding photographs are given in Figure 4. These photographs are relevant to an assessment of the bushfire hazard associated with both the landscape and the particular site.

The following points should be noted:

- (i) Figure 4(a) shows the relatively cleared area adjacent to Nos 14 and 15 which extends from the edge of Cassidy Drive down to a stream at the bottom of the embankment. This area forms part of the managed easement below the power lines. Due to concerns regarding fire ignition from power lines, this vegetation is being managed by the distribution company. There is evidence of back-burning and slashing. A more detailed view of the cleared area is shown by Figures 4(c) and 4(d) with the latter figure showing a view directly down from the edge of the road. It will be noted that the vegetation associated with the easement is mostly grass with scrub close to the





Figure 4  
Site Photographs

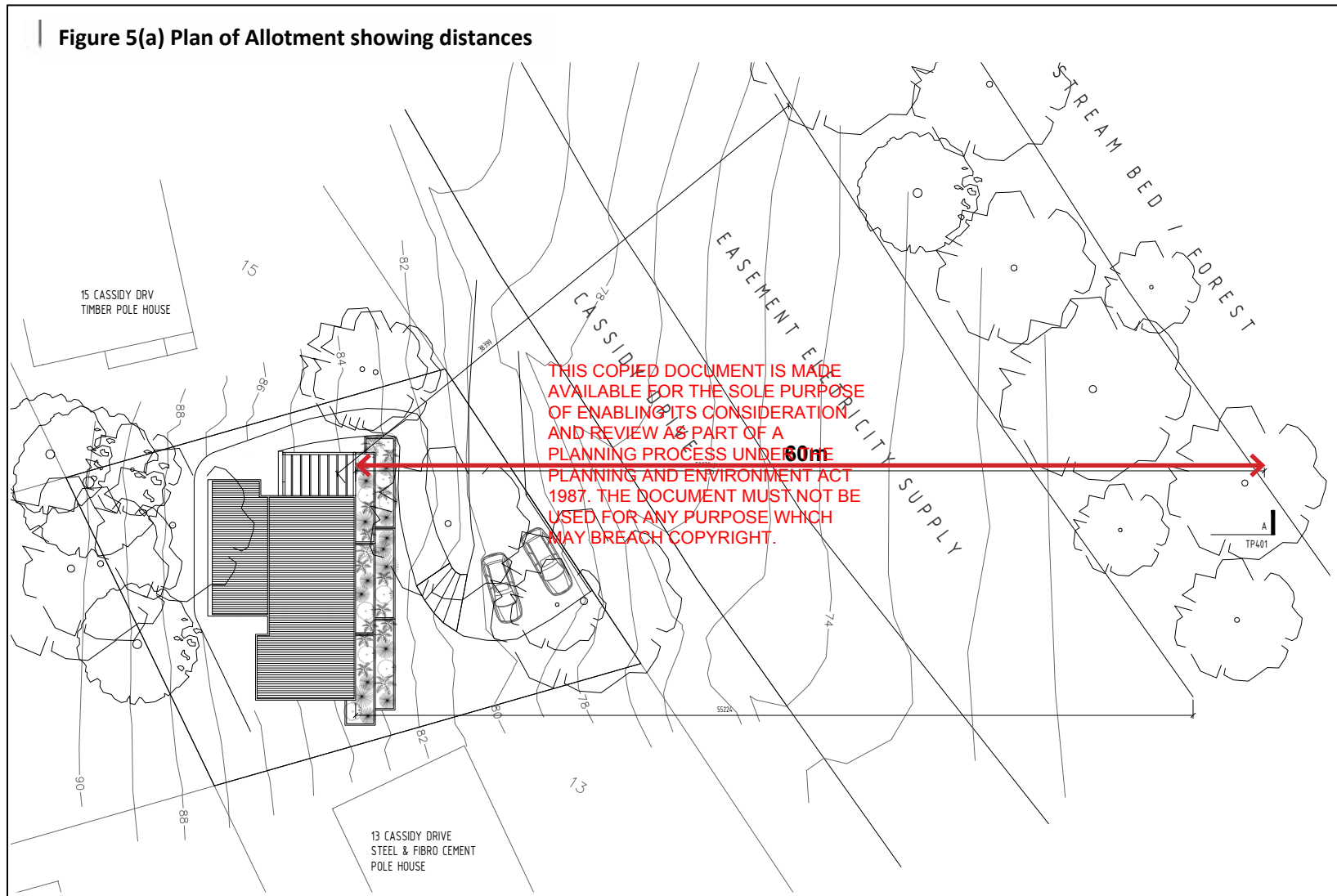


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Figure 4 (continued)

Figure 5(a) Plan of Allotment showing distances





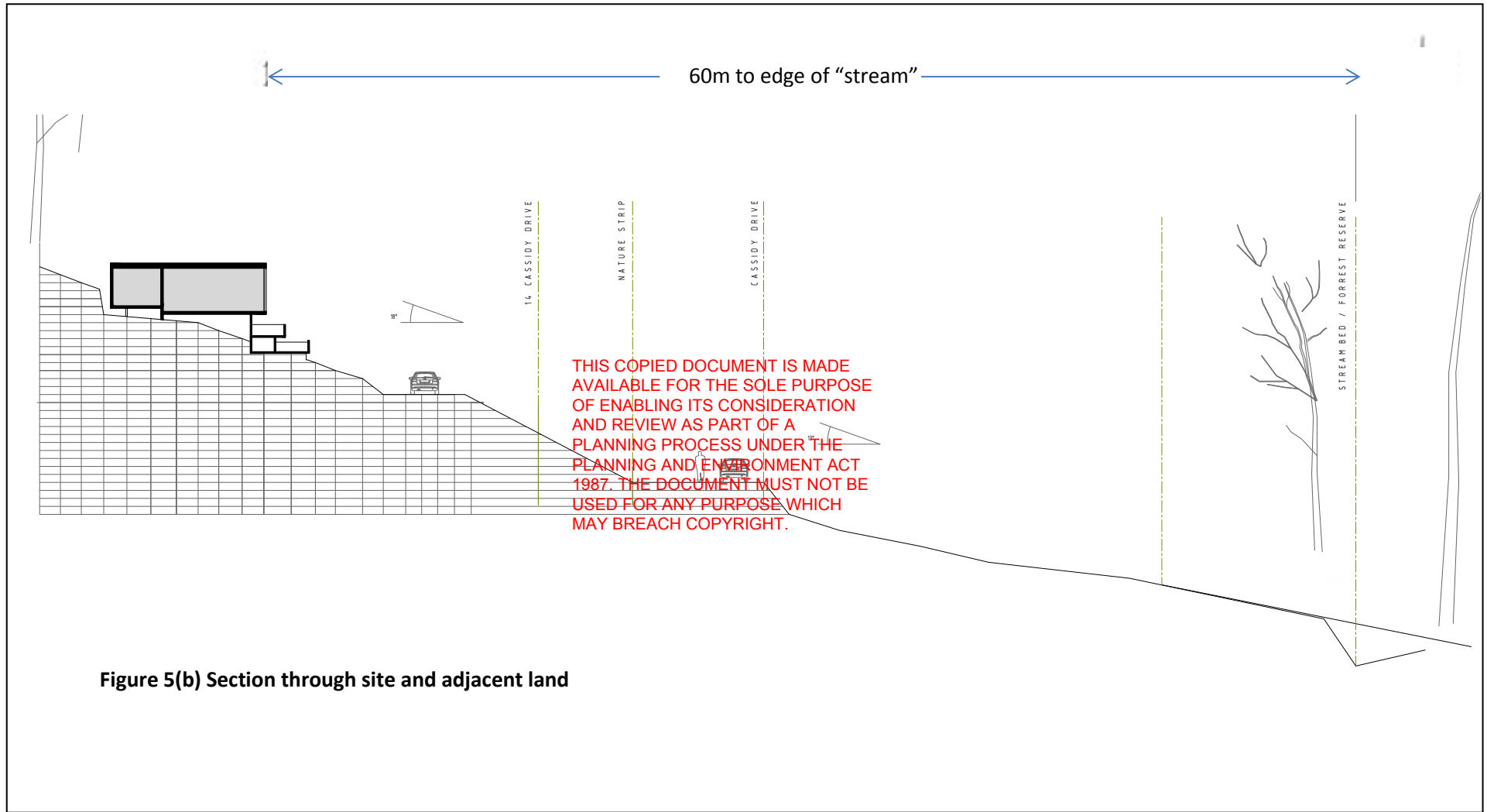


Figure 5(b) Section through site and adjacent land

stream. The vegetation on the other side of the stream is more typical of forest although there is also evidence of clearing. The measured horizontal distance from the edge of the road to the stream is 25m. Figure 4(b) shows that further up Cassidy Drive, the width of the easement reduces due to the fact that the powerlines cross over the road – however, this narrowed easement width occurs at a location well above No. 14

- (ii) Figure 4(g) shows a view up the No. 14 allotment from the road which shows that the block is essentially cleared with the exception of some isolated gum trees. The dwelling at the back can be also seen in this figure. It is understood that most of the gum trees will remain.
- (iii) The vegetation associated with all three adjacent allotments can be described as “manicured” garden not virgin bush. This does not mean that local burning will not occur but that the vegetation on these sites will not generate levels of radiation associated with a fully developed flame front.
- (iv) Two of the adjacent dwellings are shown in Figures 4(e) and (f). These are located around 7m or greater away from the proposed dwelling as will be shown later. The BMO does not require consideration of the effect of such adjacent dwellings on potential fire spread. These separation distances are well in excess of the separation distances permitted for Class 1 buildings (1.8m) or Class 2-9 buildings (6m). Although the BMO does not require adjacent buildings to be considered, it is nevertheless considered that since non-combustible construction is proposed for the dwelling, it is unlikely that fire will spread due to radiant heat associated with a fire in one of the adjacent buildings.

**3.3 Proposed Building Construction and Siting**

The siting of the proposed dwelling on No. 14 is shown in Figure 5(a) whilst a section through the site is given in Figure 5(b). It will be 25m from the stream to the front of the dwelling. The distance between the centre of the stream on the eastern side and the front of the dwelling is 5m. The closest corner of the dwelling appears to be 5m from the rear boundary. As shown in Figure 5(a) parking bays are to be provided approximately 8m to the front of the dwelling.

The building construction is to utilise non-combustible framing and cladding throughout with much of the cladding to be “Corten” stabilised rusting steel. The insulation materials within the walls and roof are to be also non-combustible. It is proposed to build the dwelling to meet BAL-29 in accordance with AS 3959-2009. The level of construction is proposed to provide a greater level of resistance to fires which may eventually occur in the adjacent dwellings after a fire front has passed. The window and door frames are to be steel.

**3.4 Topography**

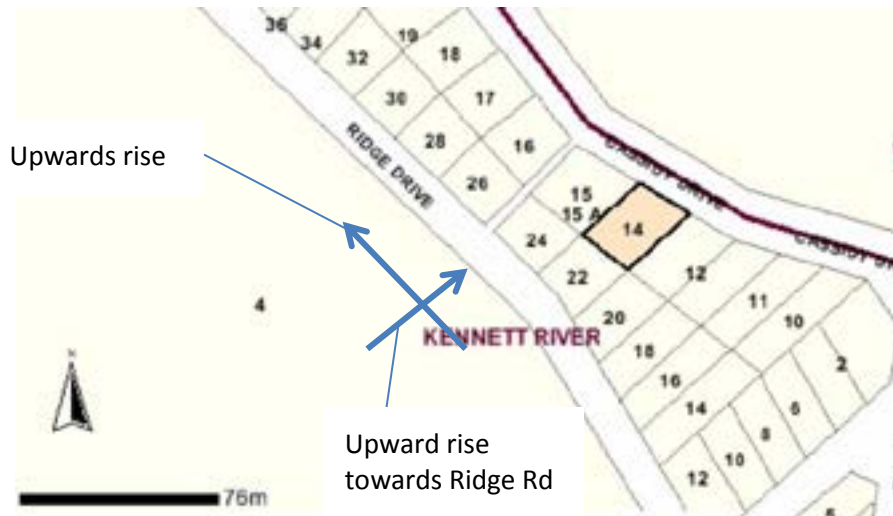
A basic topographic map is given in Appendix 2 noting that the topography in this area is quite important since it will dictate the movement of a fire front. On the west side of Ridge Rd, the forest terrain rises *towards* Ridge Rd but also up wards parallel to Ridge Rd. Due to these rises in slope it is considered that a major fire front will move upwards in a direction that is skewed towards Ridge Rd rather than at right angles to Ridge Rd. This is illustrated in Figure 6. Flames bend towards an upwards slope due to the buoyancy of hot gases and the boundary layer effect.

Given that the dwelling on No. 14 Cassidy Drive:

- (i) Will be shielded by the dwelling on No 22 Ridge Rd given the presence of a west flame front;
- (ii) Is on the other side of the Ridge at a lower elevation;
- (iii) Is separated from the forest by more than the depth of the No. 22 allotment;
- (iv) A severe fire front will not be perpendicular to Ridge Rd but more parallel with it.

It is considered that a flame front from the west or south-west will not present a significant radiation threat.

The situation associated with the east of Cassidy Drive is now considered. The presence of power lines and the associated easement have been previously noted.



**Figure 6 Rise in terrain close to Ridge Rd**

On the eastern side of the Cassidy Drive, the terrain slopes downwards towards the creek and then upwards away from the creek. It is the latter upslope condition that has forest vegetation with essentially only scrub and grass on the slope down to the stream. A view of the vegetation at the stream is given in Figure 7.

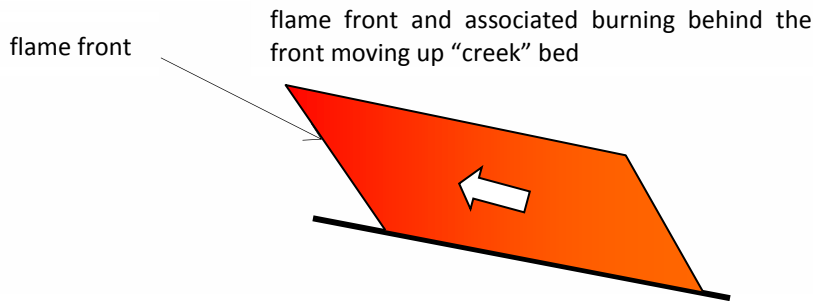
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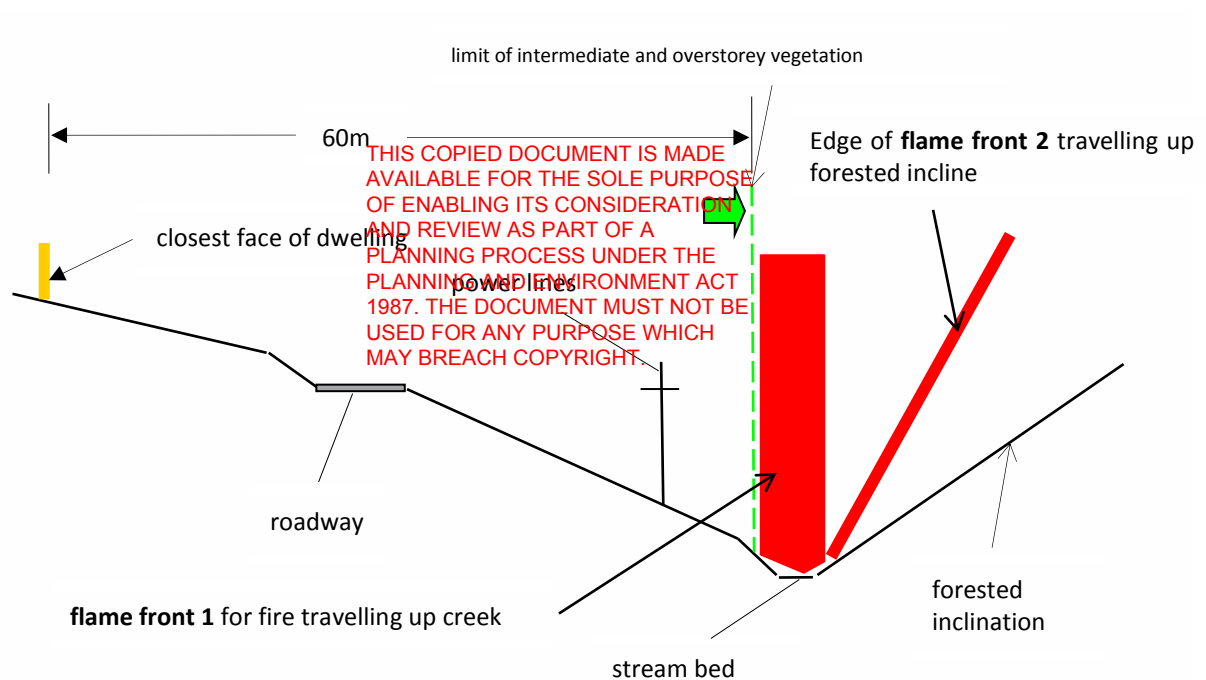
**Figure 7 Vegetation at the stream**

The vegetation directly east of No. 14 is typical of that found in wetter parts of the Otways and closely resembles rain forest. The vegetation has been cleared back to a “stream” bed that has been formed by run-off from higher parts of the terrain. As a result, the soil along the “stream” bed is damp and the surface and near surface vegetation is not as dry as would be expected for a (dry) sclerophyll forest. The fact that the stream bed follows the road and rises upwards means that any fire “front” associated with burning of the vegetation close to the stream bed will move upwards, parallel to the road along the stream bed due to the buoyancy of burning gases and air and the boundary layer effect. This is illustrated in Figure 8.

An approximate cross section through the terrain taken at right angles to Cassidy Drive at this location is shown in Figure 9. It will be noted that the horizontal distance to the edge of the eastern forest vegetation from the front face of the proposed dwelling is 60m.



**Figure 8 Flame front moving parallel to Cassidy Drive up stream bed (front on view)**



**Figure 9 Schematic cross-section**

Two potential flame fronts are shown in Figure 9. The first (flame front 1) is associated with a fire burning up the stream bed (see Figure 8) and is vertically orientated and will be parallel to the face of the proposed dwelling. The second flame front is associated with a fire moving up the forested inclination on the other side of the creek. In this case the flame front will be inclined as shown and therefore will deflect away from the front face of the proposed dwelling.

**3.5 Water Supply and Fire Brigade Access**

Although the BMO requires consideration of Fire Brigade access, this is particularly important for non-bushfire scenarios in the event of an internal fire or emergency. Cassidy Drive is a bitumen road that provides direct access to the front of No.14. As will be noted from the drawings in Appendix 2, a

tank for fire-fighting water is to be provided near the carparking area which is accessed by a driveway. However, it is unlikely that a fire-fighting appliance will be able to access this tank via the driveway. Therefore, the water in this tank is to be accessible from Cassidy Drive via a water supply connection and associated isolation valve located near the edge of the allotment closest to Cassidy Drive. A pathway allowing ready access to the connection and valve from the edge of the road must be provided. This will allow CFA to draw water from the tank and pressurize it such that it can be supplied to the dwelling at the top of the allotment.

### 3.6 Bushfire Management Plan

The Client has confirmed key elements of a bushfire plan:

- (a) Undertake an annual visual inspection of gaps and fissures, particularly around any penetrations into the dwelling to ensure that ember entry gaps are less than 2mm. Similarly the status of screens protecting window openings should be checked prior to the fire season. The fact that the proposed construction is essentially non-combustible means the development of small gaps and fissures in the general façade of the building will be of less significance.
- (b) Maintain grasses and vegetation on the site to minimise the risk of fire spread due to local burning and ensure that any combustibles (such as fire wood) are located at least 6m from the dwelling.
- (c) That the responsible power company (PowerCor) will be contacted prior to each bushfire season to ensure that adequate fuel reduction occurs between the road and the forest. If this work is not undertaken then the Client will contact CFA to request their assistance in getting an adequate response from the power company.

## 4. ASSESSMENT OF BUSHFIRE ATTACK LEVEL FOR PLANNING CONSIDERATIONS

### 4.1 Introduction

AltM 3.4 is adopted in this section in that Appendix B of AS 3959 – 2009 [3] is used to take account of the type and extent of vegetation. The radiation associated with a bushfire in the most critical direction has been determined by conservatively constructing a radiant heat panel with a flame height and width consistent with the vegetation and determining the radiation at the proposed dwelling using an approach that based on Appendix B. However additional factors associated with the local topography and its effect on the angle of the flame front have been taken into account. These factors were presented in Section 3.4.

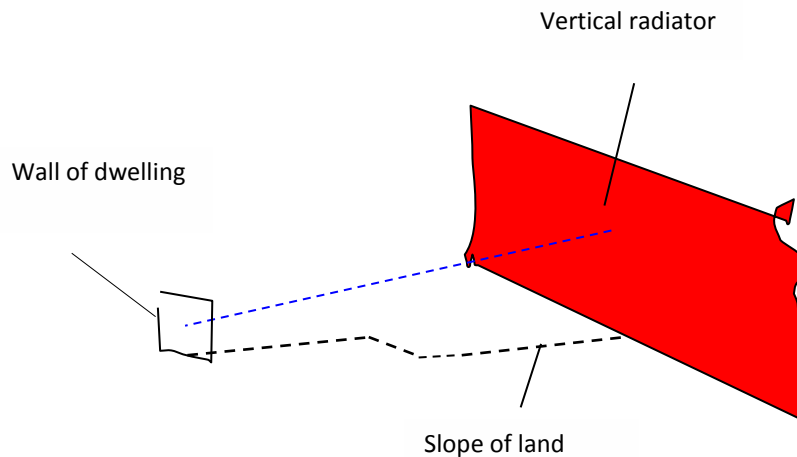
### 4.2 Consideration of Landscape Hazard

It appears that the area of Kennett and Wye River has not been exposed to a serious bushfire since 1939. The most likely scenario is an Otway bushfire that approaches from the North and causing a heavy ember attack on Kennett River. This is likely to result in localised fires associated with near surface and elevated fuel and eventually setting fire to some of the dwellings due to their combustible construction. The Kennett River beach reserve would be capable of acting as a safer place and is located within 1km of No. 14 Cassidy Drive.

### 4.3 Site Hazard Assessment

An assessment of the radiation hazard from the vegetation on the east side of Cassidy Drive has been undertaken. The Bushfire Attack Level (BAL) assessment takes into account the local factors described in Section 3.4. The radiation calculation is given in Appendix 1 with the maximum calculated level of radiation at the face of the proposed dwelling being 14.5kW/m<sup>2</sup>. The situation that has been analysed is illustrated in Figure 10 and consists of a vertical radiator having a width of 100m, a flame length of 27.6m (corresponding to an FDI of 120) and a zero slope in the direction of the house, The flame temperature has been taken as 1200°K.

It is noted that VC109 requires an FDI of 100 and a flame temperature of 1090°K to be used in undertaking such an assessment. The assumed radiator is therefore conservative and considered to represent the worst possible flame front associated with either flame front 1 (fire travelling up stream) or flame front 2 (fire travelling up inclined forested slope). These were illustrated previously in Figures 8 and 9. Due to the fact that the dwelling is elevated with respect to the base of the fire, it has been necessary to determine the maximum level of radiation which occurs at a point that is parallel with the midpoint of the flame front. This is what has been determined in Appendix 1.



**Figure 10 Schematic view of situation analysed**

No significant vegetation burning is expected from either side of the allotment due to the presence of established gardens on each side or from the rear.

The other burning that would take place in the event of either flame fronts 1 or 2 is that the grass up the slope towards the road would also catch fire and spread rapidly up to the road. However this will be very rapid and the flame height would be no more than a few metres. The consequent radiation at the face of the dwelling will be insignificant.

Due to the fact that the proposed construction is conducive to resisting a higher BAL and due to the client's desire to provide a greater level of resistance with respect to fires in adjacent dwellings, it is proposed that the dwelling be constructed to meet BAL 29 construction requirements as set out in AS 3959-2009.

## 5. BUSHFIRE MANAGEMENT STATEMENT

The calculations described in Section 4 demonstrate that the objectives of Clause 52.47-2 will be achieved given the proposed siting of the dwelling on the allotment and BAL 29 construction and the Bushfire Management Plan described in Section 3.6.

Based on the water supply and access provisions given in Section 3.5 it is considered that the objectives of Clause 52.47-2.3 are met via AM4.1. A 10,000 litre tank capacity is to be provided at the nominated location shown in Appendix 2. The water in this tank is to be accessible from Cassidy Drive via a water supply connection and associated isolation valve located near the edge of the allotment closest to Cassidy Drive. A pathway allowing ready access to the connection and valve from the edge of the road must be provided. This connection is to be fitted with a shut-off valve which will enable connection at the road side.



The Bushfire Management Plan outlined in Section 3.6 has been accepted by the owners of the proposed dwelling. As far as the vegetation on the allotment is concerned, the proposed vegetation is very limited. Grass will need to be cut but that is a normal condition for a manicured garden. The verge between the near side of the road and the allotment boundary will also need to be trimmed.

In summary, it is considered that the proposed siting, construction and management plan represent an adequate response to Clause 44.06 of the Planning Provisions.

## 6. REFERENCES

1. Victorian Government, "Victoria Planning Provisions, Sections 44.06 Bushfire Management Overlay" and Section 52.47 Planning for Bushfire
2. Gould J.S. et alia, "Field Guide: Fuel Assessment and Fire Behaviour Prediction in Dry Eucalypt Forest", Interim Edition, Bushfire CRC, 2007
3. Standards Australia, "Construction of Buildings in Bushfire Prone Areas, AS 3959-2009

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## **BMO Assessment**

**Architectural Steel Pty Ltd**

**14 Cassidy Drive, Kennett River**

### **Appendix 1: Radiation Calculation**

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**CALCULATION OF RADIATION LEVEL – APPENDIX B**

*note: yellow rows are input, blue cells are outputs*

**Inputs - Vegetation and Environment**

<i>FDI (Step 1) =</i>	120
<i>surface fuel load (t/ha) (Table B2) =</i>	25
<i>Overall fuel load (t/ha) (Table B2) =</i>	35
<i>Vegetation height (m) (Table B2) =</i>	40
<i>Average wind speed @ 10m (kph) =</i>	45
<i>Age of tussock moorland (if approp) (yrs)</i>	10
<i>Moisture factor - tussock moorland =</i>	1.2
<i>Effective slope (deg) (critical slope of vegetation) (deg)</i>	0

**Rate of Spread Calculation R (km/hr)**

forest and woodland	3.6
shrub and heath	16.8743624
tussock moorland	2.36162706

<i>Nominate appropriate R =</i>	3.6
---------------------------------	-----

**Inputs relation to Site Situation - geometry**

<i>determine whether upslope or downslope</i>	
<i>slope between site and classified vegetation (deg) (Step 5)</i>	0
<i>distance of the site from classified vegetation (step 3) (m) =</i>	60

**Calculation of Flame Length**

If forest or woodlands (downslope)	27.6
If forest or woodlands (upslope)	27.6
Other vegetation (downslope) =	12.6925522
Other vegetation (upslope) =	12.6925522

<b>Choose appropriate Flame Length</b>	27.6
--	------

<b>Input Flame width (m)</b>	100
------------------------------	-----

**Inputs associated with site ('Figure B1)**

slope angle (deg) (previous input B25)	0
distance of the site from classified vegetation (B26)	60
elevation of receiver h (m)	13
<b>input flame angle <math>\alpha</math> (note that is an iterative variable)</b>	90

**Calculation of View Factor**

Is view factor = 1?	no
<b>View factor (choose <math>\alpha</math> to make maximum)</b>	<b>0.16856104</b>
	<b>0.16856104</b>

**Calculation of Atmospheric Transmissivity**

<i>input flame temperature (deg C)</i>	927
path length	60
transmissivity =	0.76275728
emissivity =	0.95

<b>Radiant Heat Flux (kW/m2)</b>	<b>14.360687</b>
----------------------------------	------------------

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## **BMO Assessment**

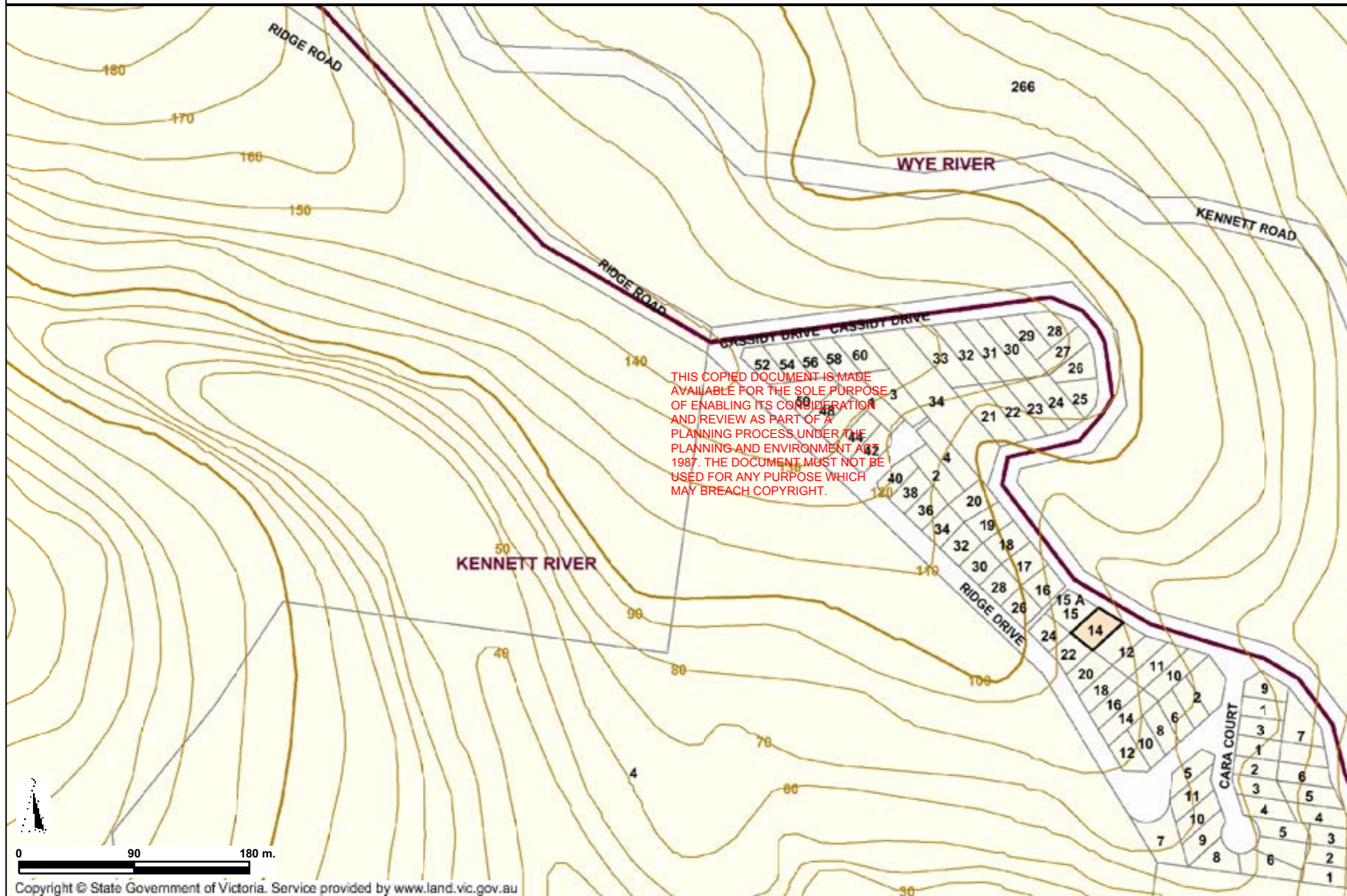
**Architectural Steel Pty Ltd**

**14 Cassidy Drive, Kennett River**

**Appendix 2: Approximate Contour Map and Drawings**

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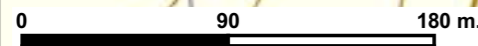




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### Legend

- Major town
- Minor town
- Built up area
- Road
- Road name
- Railway
- Rail trail
- Tramway
- Property or parcel
- Highlighted property
- Address
- Lot number
- Plan number
- Crown allotment number
- River, stream, coastline
- Water body
- Locality
- Locality name
- Local Government Area
- LGA name
- Local Gov Ward (2012)
- Ward name (2012)
- Local Gov Ward (2008)
- Ward name (2008)
- State Lower House (2014)
- Lower House Name (2014)
- State Lower House (2001)
- Lower House Name (2001)
- Bushfire prone area



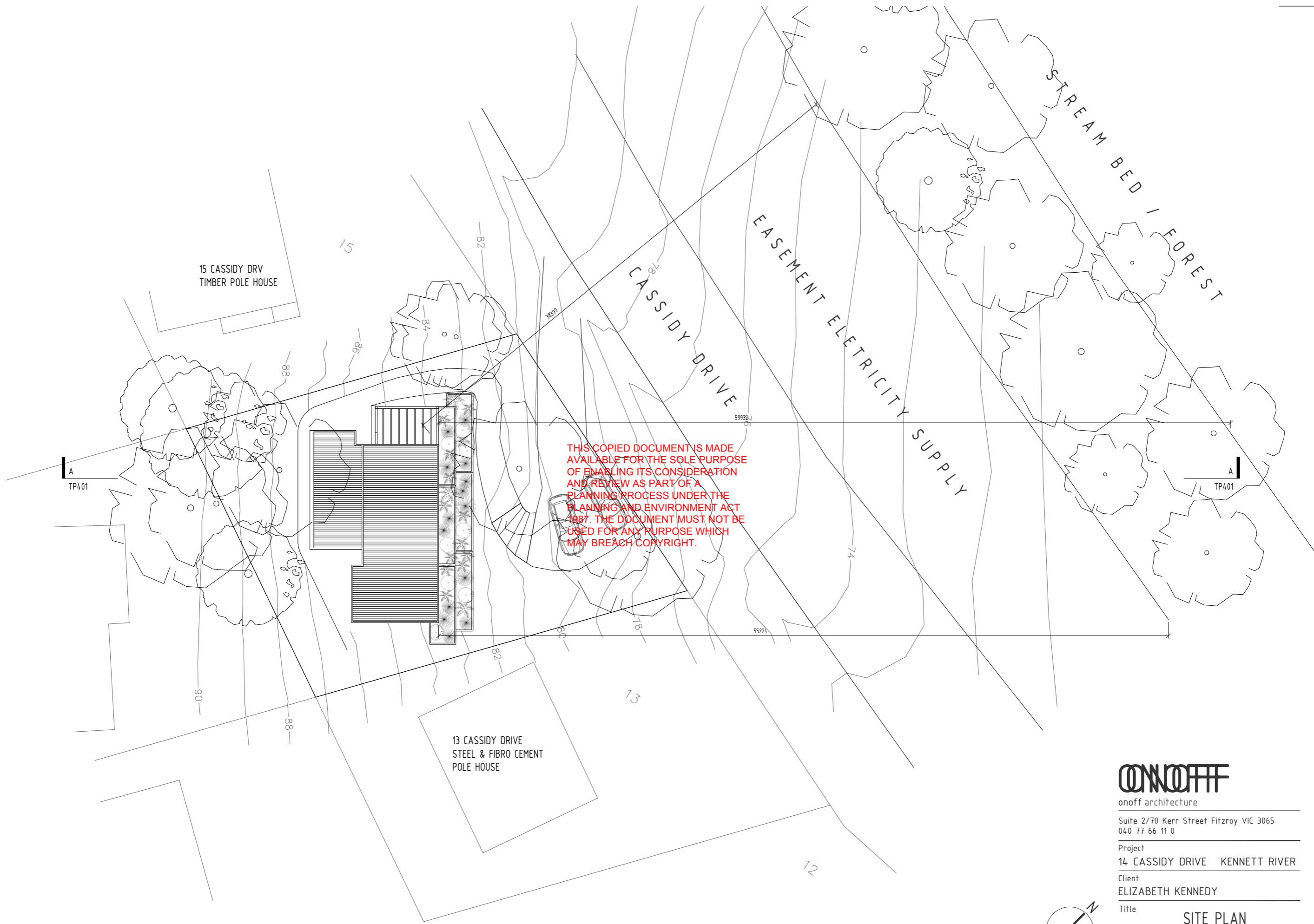
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Disclaimer: This map is a snapshot generated from Victorian Government data. This material may be of assistance to you but the State of Victoria does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for error, loss or damage which may arise from reliance upon it. All persons accessing this information should make appropriate enquiries to assess the currency of data.

Map Scale 1:4,278  
December 15, 2014 11:00:40 AM





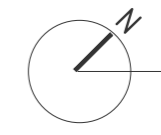


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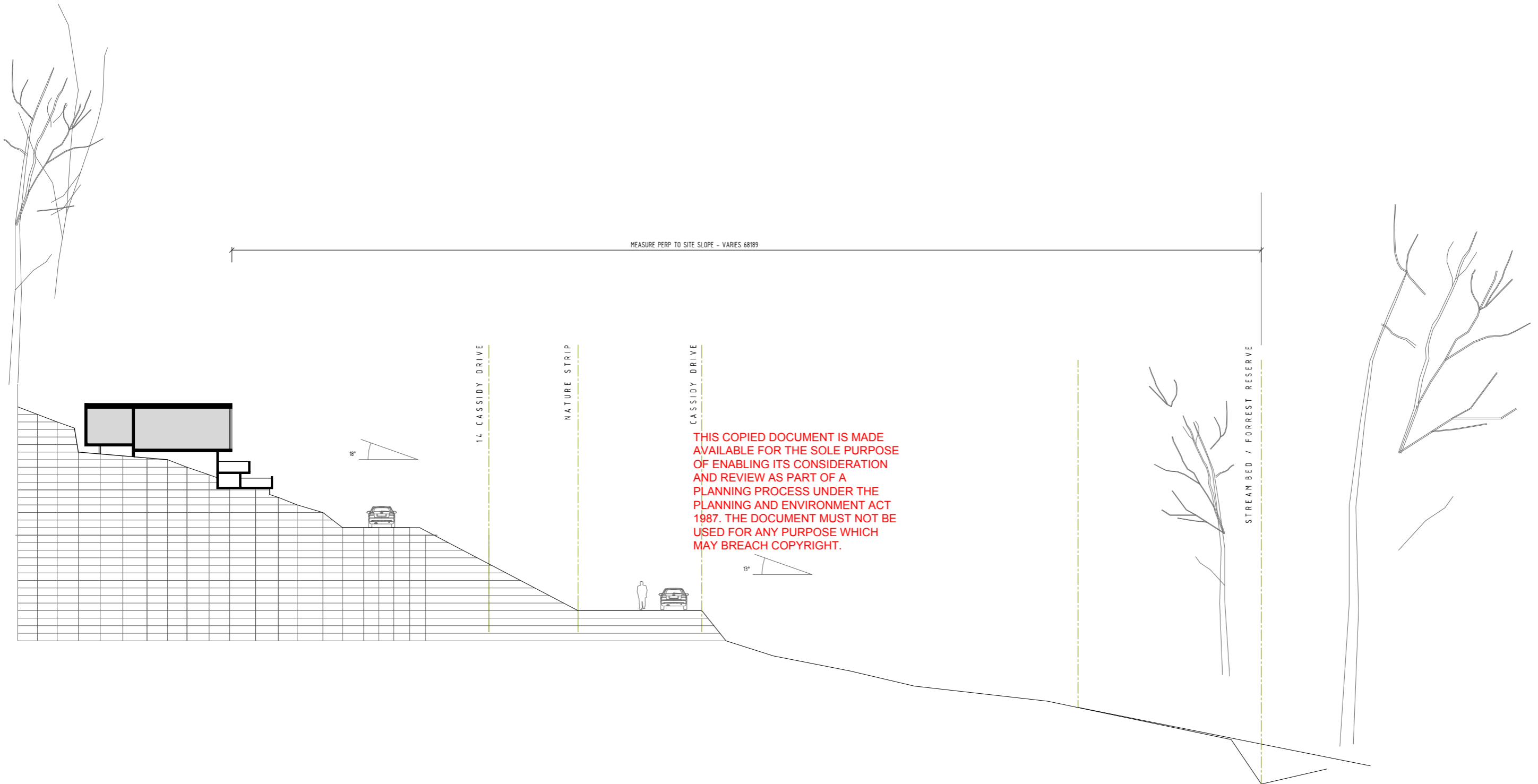


onoff architecture  
 Suite 2/70 Kerr Street Fitzroy VIC 3065  
 040 77 66 11 0

Project  
 14 CASSIDY DRIVE KENNETT RIVER  
 Client  
 ELIZABETH KENNEDY



Title  
**SITE PLAN**  
 Date 02 12 2016 | Rev - | Dwg No  
 Scale 1 : 250 | Job No 2014 200 | **TP400**



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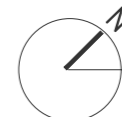
Suite 2/70 Kerr Street Fitzroy VIC 3065  
040 77 66 11 0

Project  
14 CASSIDY DRIVE KENNETT RIVER

Client  
ELIZABETH KENNEDY

Title  
SITE SECTION

Date 02 12 2016	Rev -	Dwg No
Scale 1 : 250	Job No 2014 200	TP401



# GEOTECHNICAL ASSESSMENT AND LAND STABILITY ASSESSMENT REPORT

**PROJECT:**

Proposed Residence at  
14 Cassidy Drive,  
Kennett River.

**CLIENT:**

OnOff Architecture and Design.

**CODES USED:**

AS 2870, 2011  
Australian Geomechanics Society V42 No. March 2007. (AGS Guidelines 2007).

**DESCRIPTION OF WORK:**

Site investigation for proposed residence and Site Classification in accordance with AS 2870, 2011, The Residential Slabs and Footings Code.  
Geotechnical report on proposed development, including slope stability risk assessment.

**ENGINEER:**

Bruce D. Hollioake  
M.I.E. Aust., C.P. Eng.,  
Building Practitioners Registration EC 1249

**DATE:**

9<sup>th</sup> May, 2016.

**REFERENCE:**

16281

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## SCOPE OF WORKS:

Initially to carry out a site investigation at 14 Cassidy Drive, Kennett River, to determine soil conditions and site features, and then prepare a Landslip Risk Assessment in accordance with the AGS Guidelines, 2007. If appropriate, to also classify the site in accordance with AS 2870, 2011.

## CONSTRUCTION:

A part double storey, clad framed residence with a colorbond metal roof, and timber or steel framed sub-floor structure on stumps / poles, located towards the centre of the allotment. There are two primary site cuts and retaining walls up to 1.5m high associated with this proposal. Refer attached drawings TP100, TP300 and TP400 for a site plan of the proposal and cross-sections of the allotment generally showing the proposed earthworks / retaining walls.

## TOPOGRAPHY:

This 685m<sup>2</sup> allotment is located on the high side of Cassidy Drive, and contains a formed earth driveway leading up to the front of the proposed house site. There are existing houses on the allotments on each side and behind this site. The allotment has scattered trees at the front and rear of this allotment. Refer photographs 1, 2 and 3.

The land is generally elevated and towards the top of a ridge line generally running along the line of Ridge Road to the west. There is a gully running along the north-east side of Cassidy Drive, as per the attached Locality Plan. This allotment has a moderate to steep fall to the east, with the building envelope generally having a slope of between 20-21 degrees to the east. A survey including surface levels has been prepared for the site and is included on the architectural drawing TP100.

There are no formal drainage lines on or adjacent to this allotment, although there is a very slight short hollow running through the proposed house site.

The existing soil driveway, which has been formed by cutting into the slope, provides dry weather access to this lot, with gravel surfacing or sealing being required to provide all weather access. Some upgrade may however be required to improve access to turn into the driveway.

There are no significant recent landslips through this allotment, and based on the Colac Otway landslide data base there are none in this immediate area.

The proposed siting of the house limits the available area for effluent disposal, although with some tree removal there is area behind the house and in the north east corner of the allotment. However, should the house siting be subsequently altered on this allotment, the recommendations of this report will remain relevant due to the consistent soil profile and features over the entire allotment.

## SOIL CONDITIONS:

Two boreholes were excavated on the site, however exposed batters were visible along the access driveway, the adjoining houses and in Cassidy Drive, directly in front of the allotment, giving a better appreciation of the soil profile. The soil profiles encountered were generally consistent, and may be summarised as follows:

Typical Soil Profile.

DEPTH	DESCRIPTION	E.B.C.	REACTIVITY
00	Dry, firm, light (brown) grey silty (sandy) clays of low cohesion and plasticity. Minimal rock fragments.	>50 kPa.	Low
400	Moist, stiff, brown-orange silty sandy clays of low to moderate cohesion and plasticity. Sandstone rock fragments Tending to E.W. sandstone at depth.	100+kPa.	Moderate
1600	Highly / Extremely weathered and fractured, sandstone bedrock.		
1800	End borehole.		

Driveway and road cuttings in the area indicate that the depth to the weathered bedrock generally ranges from 1500mm and deeper.

### **GEOLOGICAL CLASSIFICATION:**

The area is indicated as being of Early Cretaceous (K1) origin on a Geological map of the region.

### **SLOPE STABILITY AND POTENTIAL FAILURE MODES:**

The slope of the ground at the proposed house site ranges up to 21 degrees, a slope that exists over much of the allotment, albeit with locally steeper portions over a short distance. The cutting into the slope at the edge of the road table drain is also slightly steeper than this, but with no evidence of obvious failure.

The land has scattered medium to large individual trees, particularly at the front and rear, with the centre of the lot generally cleared with a fair to good grass cover.

There is no evidence of major slope instability at the proposed house site, or on the allotment in general, apart from some evidence of previous soil creep, as evidenced by several curved tree trunks. This movement is likely to have occurred when the site was initially cleared and likely with limited established vegetation, as there is no evidence of damage to the adjoining houses or movement in the driveway excavation to suggest more recent movement.

The Coastal Community Revitalisation Project, and Colac Otway's Historic Landslide Mapping do not indicate a Landslide Feature on or near to this allotment, whilst Council's Landslide Susceptibility Mapping also suggests that this allotment has a lesser susceptibility risk. The dip of the land in this area is generally to the north east or east.

The land uphill from the proposed house site has a similar slope, reducing at the Ridge Road Frontage, before falling relatively steeply to the south west.

There is minimal risk from a debris flow from upslope of the proposed house site, due to the location towards the top of the ridge line.

The access driveway has cut batter heights of less than 1m, and whilst some erosion has occurred, there is minimal risk of a major failure causing significant damage to property or risk to life.

The risk of debris flow from this allotment onto the road below is also limited, with the steeper table drain batter offering a greater risk of minor failure.

The adjoining residences also appear to be generally unaffected by slope stability, although a detailed assessment of each house was not carried out.

The majority of the slope retains a good vegetation cover with the scattered mature trees also assisting to stabilise the slope.

The potential modes of landslip failure considered for the proposed development on this allotment therefore comprises the following:

- Soil creep through the proposed house site during heavy rainfall events.
- Failure of the proposed retaining walls either behind, under or in front of the proposed house.
- Failure of the existing driveway cut batter.
- A major slump failure from the east, extending through the house site.

## DISCUSSION OF POTENTIAL FAILURE MODES AND RISK ASSESSMENT:

### 1. Soil creep through the house site.

On this particular allotment, minor slumping could occur during heavy rainfall events, and whilst there is historical evidence of some soil creep, there is no indication of recent movement. The size of the landslide is expected to be small and have a total movement of less than 10m. We therefore consider the likelihood of minor slumping to be 'Unlikely' with 'Minor' to 'Moderate' consequence.

The qualitative risk to property is therefore assessed as low to moderate.

### 2. Failure of the proposed retaining Walls.

A cut batter of up to 1.5 metre high is proposed behind the house site, with the other retaining walls generally being around 1m high. There is little evidence of failure on the existing driveway batter, and given the general dip of the land to the north east, and slope to the south east, planar failure is unlikely. Therefore localised erosion / minor collapse is more likely. The retaining wall will also be engineer designed with some allowance for soil creep, hence failure of the wall is considered to be 'Unlikely' with 'Minor' damage. The retaining wall post footings will be significant and will also assist in limiting soil creep potential.

This type of failure is likely to be slow and progressive, allowing time for rectification works, although larger sudden failures may occur. The qualitative risk to property is therefore assessed as Low.

### 3. Failure of the existing driveway cut batter.

The existing cut batter is up to 1m high, and no significant change to this is proposed. The current failure involves general erosion of this unsupported batter, which has likely existed for many years. The likely damage to property would be limited to repair of a small portion of roadway, and as such is classed as minor. The qualitative risk to property is therefore assessed as Low.

### 4. A major slump from the east through the house site.

The slope below the house site to the east appears stable, with no evidence of major failure. It is difficult to see a failure plane extending any deeper than the base of the roadside table drain. Accordingly, a major slump to the east is considered to be Rare, but would have major impact and damage to the structure. The qualitative risk to property is assessed as Low. Such a failure that could impact the house site may be rapid, but is more likely to be progressive, and give some warnings such as tension cracks.

Wastewater disposal could be a major issue on this site due to its limited size, but is unlikely to significantly affect the slope stability due to the relatively moderate nature of the slope, but it could potentially trigger soil creep movements or minor slumping of the unsupported driveway cut batter. Given the proposed use of tank water, a natural minimisation of effluent generation may be assumed. Generally, from the aspect of slope stability, the minimisation of effluent is an important part of a management strategy for steep sites.

A risk assessment has been undertaken for both property and life for each mode of failure, in accordance with AGS 2007 guidelines. Refer sheets G1-G4, attached, for workings and comments.

Failure Mode	Risk to Property	Risk to life
Soil creep	Low to Moderate	Rd.i.= 2.5 x10 <sup>-7</sup>
Failure of the Retaining Walls	Low	Rd.i.= 2.5 x10 <sup>-7</sup>
Failure of driveway cut batter	Low to Moderate	Rd.i.= 5.0 x10 <sup>-10</sup>



Major Slump from the east.

Moderate

Rd.i.= 3.0 x10<sup>-8</sup>

The risk to life in all instances is less than both the recommended 'Acceptable Risk' of 10<sup>-5</sup>, and the 'Tolerable Risk' of 10<sup>-4</sup>, and the risk to property is also within acceptable limits in all instances.

Given the generally low risk to life and property for this allotment, there are no additional risk management measures required, however good engineering practice for hillside construction should be followed for this allotment.

### RISK MITIGATION WORKS:

Whilst no specific risk mitigation works are required, the following works and requirements should be undertaken:

- The footing system to the residence to be engineer designed and founded at least 1500mm deep. This will effectively found on the extremely weathered to highly weathered sandstone, but may also be founded on the stiff brown-orange sandy clay. Socketting into the bedrock is not essential.
- Earthworks on this site are generally to be kept to a minimum. The proposed site cuts may be battered or supported by engineer designed retaining walls. However any retaining walls will need to be carefully designed to accommodate possible soil creep loads.
- Provide surface water catch drains around the high side of the house sites, to limit the saturation of the slope. It is important that this water be discharged well beyond the house sites, and desirably be piped to the roadside table drain. In general, water should not be allowed to pond or otherwise saturate the subsoil.
- The house stormwater overflow is also to be discharged to the roadside table drain via a piped system.
- Whilst the existing trees on the allotment are providing some degree of stability to the slope, the small size of this allotment may require some tree clearing to create an effluent disposal area. This is acceptable, but generally tree clearing should be kept to a minimum. The tree abutting the high side of the driveway may be removed without significantly affecting slope stability.
- Ensuring construction and site works are generally undertaken in accordance with good hillside building practice, such as per Appendix J of 'Landslide Risk Management Concepts and Guidelines' published by the Australian Geomechanics Society.

### SITE CLASSIFICATION (AS2870):

Based on the disturbed samples taken, the size and nature of construction of the residence, and our experience of the performance of footings in this area, we have classified the site as:

**Class P – Problem Site – Slope Stability**, in accordance with AS 2870, 2011.

### FOOTING FOUNDING DEPTHS:

Footings to be engineer designed, and founded a minimum of 1500mm deep, into the extremely weathered sandstone or on the stiff brown-orange sandy clay.

Footings founded on the weathered sandstone may be designed for a maximum bearing capacity of at least 200 kPa, and 150 kPa. for the stiff clay.

### INSPECTION REQUIREMENTS:

Footings are to be inspected by the Building Surveyor prior to placement of concrete. We do not require an inspection of the footings unless unforeseen problems arise. The Building Surveyor should check that the footings are founded at least 1500mm deep, and founded through any filling, into the extremely weathered sandstone or on the stiff brown-orange sandy clay.

## **SPECIAL REQUIREMENTS:**

### **DRAINAGE:**

The building perimeters shall be properly drained to prevent the collection of water against the residence, and the flow of water towards the residence. Land slip potential is greatly increased by the presence of water.

Sub-surface drains should be avoided near footings as they can introduce water to the foundation if they become blocked, and contribute towards an increased landslip risk.

Penetrations of footings should be avoided where possible. Where required, they should be sleeved to allow for movement. Provide flexible connections to drains at connection to residence.

During construction, ensure that guttering and downpipes are connected to the stormwater system as soon as possible after installation of the roof cladding to avoid locally saturating the subsoil surrounding the building. Similarly, water must not pond at or near the residence, either during or after construction.

### **VEGETATION INFLUENCE:**

For pad footings founded 1500mm deep, the influence of trees on the footing performance will be limited on this site. To enhance slope stability, minimum tree clearing should be undertaken over this allotment.

### **ARTICULATION:**

Minor cracking in buildings may be caused by shrinkage of timber, plaster or concrete, by brick growth or by soil movement. This minor cracking is generally of little structural significance and does not detract from the performance or durability of the building. It is not economically possible to design footings to eliminate all possibility of cracking.

### **MAINTENANCE:**

Leaks in plumbing pipes and fixtures should be repaired promptly to limit long term ingress of water. For further information on correct site maintenance, refer to the CSIRO publication "Guide to Home Owners on Foundation Maintenance and Footing Performance".

### **CONSTRUCTION DIFFICULTIES:**

Steep site, but has reasonably good access for an excavator.

### **ACCESS AND CONSTRUCTION:**

Access to the site is available via the existing earth driveway, although some minor upgrading is likely to be desired by the owner.

### **IMPACT ON ADJOINING ALLOTMENTS:**

The proposed residence and development of the site will not markedly affect the landslip potential of any nearby allotments. The stormwater will run to the roadside table drain without impacting any other allotment.

Similarly the slope of the land is towards the front and potential wastewater seepage will not enter or influence any other private land.

**VEGETATION REMOVAL:**

Bushfire regulations and requirements usually require a degree of clearing of trees from around a proposed residence. Sometimes the area of clearing can be significant and the removal of trees can increase the potential for landslip. In this instance, the current trees only slightly contribute towards slope stability on this allotment, and our assessment generally does not rely on the existing trees on this allotment remaining.

**SUITABILITY FOR THE PROPOSED DEVELOPMENT:**

Subject to the recommendations contained in this report, we believe that the proposed house is suitable for this allotment.

Yours Faithfully



.....  
Bruce D. Hollioake  
M.I.E. Aust., C.P. Eng.

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1. View of the allotment looking south west from Cassidy Drive.



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2. West portion of the allotment and access driveway looking south west from Cassidy Drive.





3. View of proposed house site looking south west from the existing driveway.

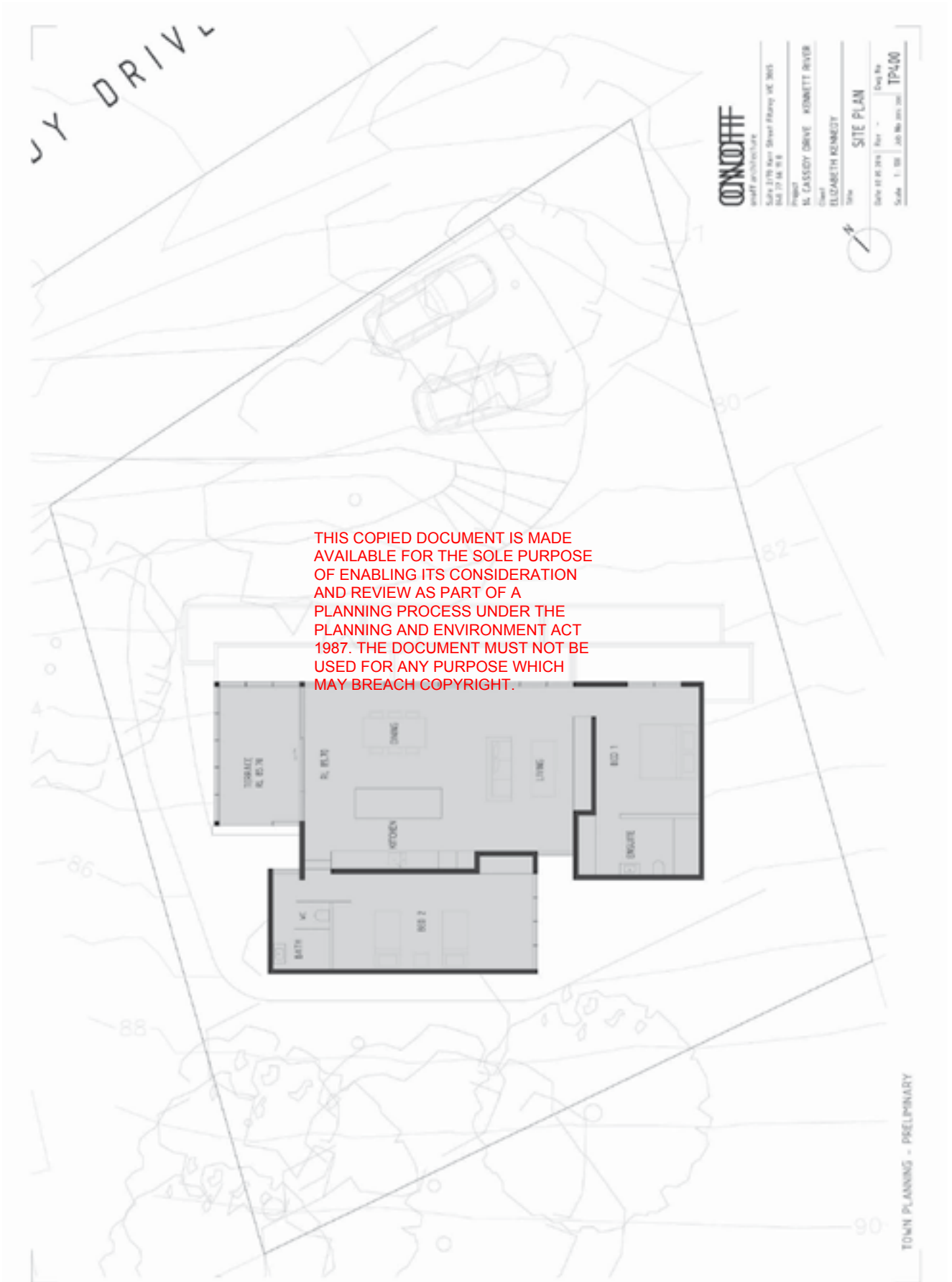


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4. View Google Aerial View.



House Plans / Slope Sections





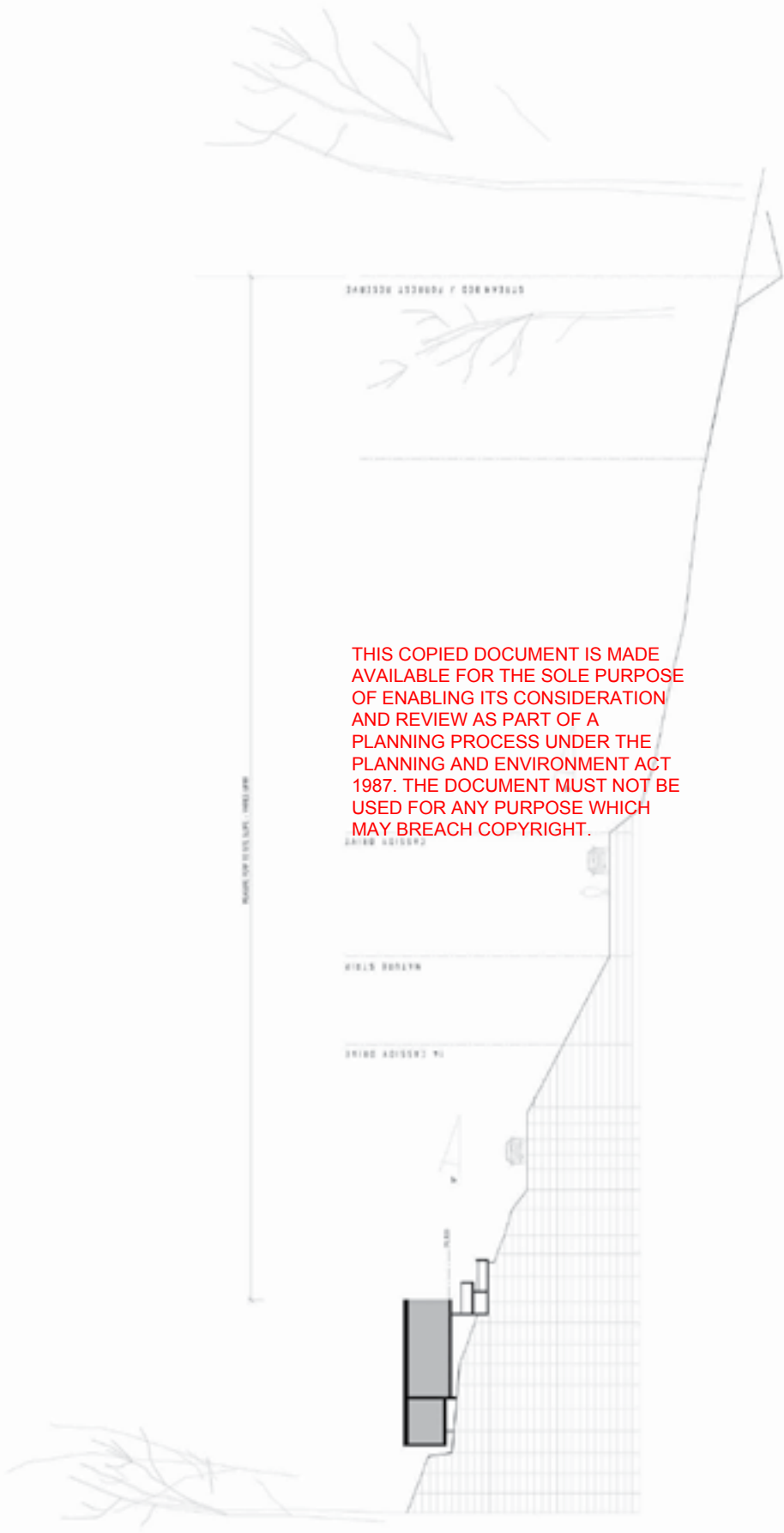
**CONCOFF**  
and architecture

Site 3/78 Upper Street Planning VC 2003  
NS 17 16 11 5

**Project** N CASSEY DRIVE KENNETT RIVER  
**Client** ELIZABETH KENNEDY

**Title** SITE SECTION

Date 01 06 2006 Rev - Draw No  
Scale 1:250 Job No 2006 001 TP402



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**CONROFF**  
architecture

Suite 2/29 Ross Street Phnomh VC 3005  
Tel: 03 9371 8118

Project  
14 CASSIDY DRIVE KENNETT RIVER

Client  
ELIZABETH KENNEDY

Title  
SITE SECTION

Date of site plan Rev - Draw No  
Scale 1:500 Job No 2016.001 TP4/01

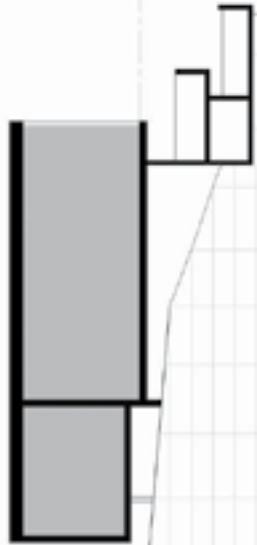


NATURE STRIP

14 CASSIDY DRIVE

P/L BUSES

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## RISK ASSESSMENT - SLOPE STABILITY

Proposed Residence at:  
14 Cassidy Drive, Kennett River

For: OnOff Architecture

Sheet G1  
Job. No. 16281  
Date 23.04.15

Construction: Proposed Residence

Site Data: Slope of Land: 21 degrees  
Existing Landslide: No  
Nearby Slides: No

### Potential Failure Mode:

- (i) Soil Creep extending into the residence site from the south

### A. Risk to Property:

Use a qualitative assessment in accordance with Appendix G. Australian Geomechanics Society - March 2000.

	Level	Descriptor	Probability
Likelihood:	D	Unlikely	0.000100
Consequence:	3	Medium	

Level of Risk to property matrix:

**Low to Moderate**

Comment: Risk is considered acceptable.

### B. Risk to Life:

Use a quantitative assessment in accordance with Appendix F of A.G.S.

Factors:		Probability
(i) Ph =	From Appendix G	0.0001000
(ii) Psh =	Use 0.50 as only part of house is likely to be occupied	0.50
(iii) Pts =	Use 0.05 as unlikely to be occupied	0.05
(iv) Vd.t =	From App F, shallow depth, no inundation of building	0.10

**Individual Risk Rdi = 0.00000025 < 10E-4 Accept risk**

### Discussion:

Risk appears acceptable.

Prepared by: Bruce Holloake  
M.I.E.Aust., C.P. Eng.

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## RISK ASSESSMENT - SLOPE STABILITY

Proposed Residence at:  
**14 Cassidy Drive, Kennett River**

For: OnOff Architecture

Sheet **G2**  
Job. No. **16281**  
Date **23.04.15**

Construction: Proposed Residence

Site Data: Slope of Land: 21 degrees  
Existing Landslide: No  
Nearby Slides: No

### Potential Failure Mode:

- (ii) Failure of Engineer Designed Retaining Walls

### A. Risk to Property:

Use a qualitative assessment in accordance with Appendix G. Australian Geomechanics Society - March 2000.

	Level	Descriptor	Probability
Likelihood:	D	Unlikely	0.000100
Consequence:	4	Minor	

Level of Risk to property matrix: **Low**

Comment: Risk is considered acceptable.

### B. Risk to Life:

Use a quantitative assessment in accordance with section 3.5 of A.G.S.

Factors:		Probability
(i) Ph =	From Appendix G	0.0001000
(ii) Psh =	Use 0.50 as only part of house affected.	0.50
(iii) Pts =	Use 0.05 as unlikely to be occupied.	0.05
(iv) Vd.t =	From App F, shallow depth, no inundation of building	0.10

**Individual Risk Rdi = 0.00000025 < 10E-4 Accept risk**

### Discussion:

Risk appears acceptable.

Prepared by: Bruce Holloake  
M.I.E.Aust., C.P. Eng.

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## RISK ASSESSMENT - SLOPE STABILITY

Proposed Residence at:

14 Cassidy Drive, Kennett River

For: OnOff Architecture

Sheet **G3**  
Job. No. **16281**  
Date **23.04.15**

Construction: Proposed Residence

Site Data: Slope of Land: 21 degrees  
Existing Landslide: No  
Nearby Slides: No

Location: **Existing Access Driveway**

### Potential Failure Modes:

(iii) Driveway Cut Batter Failure

### A. Risk to Property:

Use a qualitative assessment in accordance with Appendix G.

	Level	Descriptor	Probability
Likelihood:	C	Possible	0.0010
Consequence:	4	Minor	

Level of Risk to property matrix:

**Low to Moderate Risk**

Accept risk

Comment: Accept as damage will be repaired by the owner for repair only.

### B. Risk to Life:

Use a quantitative assessment in accordance with section 3.4.4 of AS 4576

Factors:		Probability	
(i) Ph =	From Appendix G	0.0010000	
(ii) Psh =	Use 1.0 as whole alignment under consideration.	1.0000000	
(iii) Pts =	Appendix E. Use 10 vpd, l=5m, V=40kph. Psh=0.00005	0.0000052	Nr=0.1
(iv) Vd.t.=	From App F, assume vehicle is not buried	0.1000000	

**Individual Risk Rdi = 0.0000000005 < 10E-5** Accept risk

### Discussion:

Risk is acceptable for driveway, given the unlikely occurrence of a vehicle on the roadway.

Prepared by: Bruce Holloake  
M.I.E.Aust., C.P. Eng.

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## RISK ASSESSMENT - SLOPE STABILITY

Proposed Residence at:  
**14 Cassidy Drive, Kennett River**

For: OnOff Architecture

Sheet **G4**  
Job. No. **16281**  
Date **23.04.15**

Construction: Proposed Residence

Site Data: Slope of Land: 21 degrees  
Existing Landslide: No  
Nearby Slides: No

### Potential Failure Mode:

(iv) Major Slump from East Impacting House Site

### A. Risk to Property:

Use a qualitative assessment in accordance with Appendix G, Australian Geomechanics Society - March 2000.

	Level	Descriptor	Probability
Likelihood:	E	Rare	0.000010
Consequence:	2	Major	

Level of Risk to property matrix:

**Low to Moderate**

Comment: Risk is considered acceptable

### B. Risk to Life:

Use a quantitative assessment in accordance with section 3.5 of A.G.S.

Factors:		Probability
(i) Ph =	From Appendix G	0.0000100
(ii) Psh =	Use of Appendix G	0.50
(iii) Pt.s =	Use of Appendix G	0.05
(iv) Vd.t =	From App F, shallow depth, no inundation of building	0.10

**Individual Risk Rdi = 0.00000003 < 10E-4 Accept risk**

### Discussion:

Risk appears acceptable.

Prepared by: Bruce Hollioake  
M.I.E.Aust., C.P. Eng.

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**Bruce Holloake and Partners**

102 Dawson Street South, Ballarat 3350

ph. 03 5338 8270

Fax 03 5338 8207

## Bore Log

Client: **ON OFF ARCHITECTURE**

Sheet No: **1**

Location: **14 CASSIOP DRIVE, KENNETT RIVER**

Job No: **16281**

Date: **10/1/2016**

Logged by: **B.P.H.**

Drill Type: Hand Auger:

Drill Rig:

Power Auger:

Backhoe:

Hole dia: **90mm**

Depth (m)	Soil Description Type, color, moisture condition consistency and comments.	Testing		Notes
		Samples	In-Situ Tests	
<b>BORE 1</b>	<b>ADJ. N.E. COR. PROPOSED HOUSE</b>			
<b>00</b>	<b>GREY SILTY CLAY / SILT DRY. FIRM.</b>	<b>N.</b>	<b>N.</b>	<b>FRAGILE</b>
<b>1000</b>	<b>DRY BECOMING MOIST. STIFF GREY-BROWN / ORANGE SANDY CLAY. E.W. ROCK FRAGMENT</b>	<b>N</b>	<b>N</b>	
<b>1500</b>	<b>END BORE. BECOMING E.W. SANDSTONE</b>			
<b>BORE 2</b>	<b>ADJACENT CENTRE OF REAR WALL HOUSE</b>			
<b>00-</b>	<b>GREY SILT. DRY. FIRM.</b>	<b>N</b>	<b>N</b>	
<b>450</b>	<b>GREY-BROWN-ORANGE CLAY. (SANDY)</b>	<b>N</b>	<b>N.</b>	
<b>1200</b>	<b>END BORE BECOMING E.W. SANDSTONE</b>			

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### Consistency Index

<b>Cohesive</b>		<b>Non Cohesive</b>	
Very Soft	VSft	Very Loose	VL
Soft	St	Loose	L
Firm	F	Medium	M
Stiff	S	Med/Dense	MD
Very Stiff	VS	Dense	D
Hard	H	Very Dense	VD

### In-Situ Tests

SPT	Standard Penetration
DCP	Dynamic Cone Pen.
V	Vane Shear
PP	Pocket Penetrometer
MC	Moisture Content
WT	Water Table at completion of drilling





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# 14 CASSIDY DRIVE, KENNET RIVER

## DRAWING LIST

TP001	COVER
TP002	LOCATION PLAN
TP003	LAND SURVEY
TP004	SITE CHARACTER
TP005	SITE PLAN
TP006	DESIGN RESPONSE
TP100	PLAN
TP101	DEMOLITION PLAN
TP102	SHADOW STUDY
TP200	ELEVATIONS
TP201	ELEVATIONS
TP202	ELEVATIONS
TP203	ELEVATIONS
TP300	PERSPECTIVES

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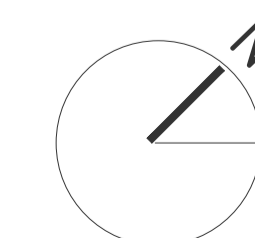
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040 77 66 11 0

Project  
14 CASSIDY DRIVE KENNETT RIVER

Client  
ELIZABETH KENNEDY

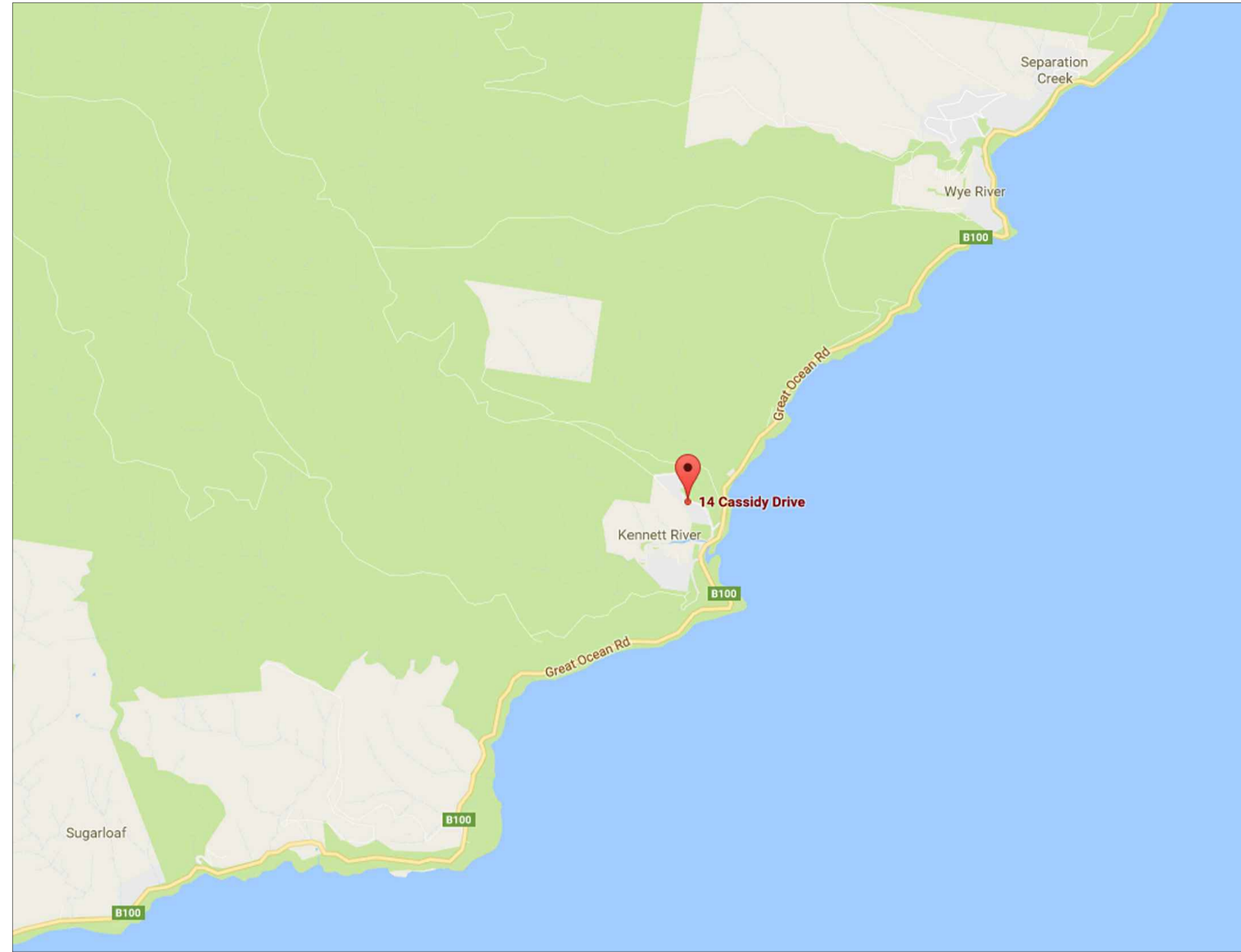
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**COVER**

Date 15 09 2017	Rev -	Dwg No
Scale	Job No 2014 200	<b>TP001</b>

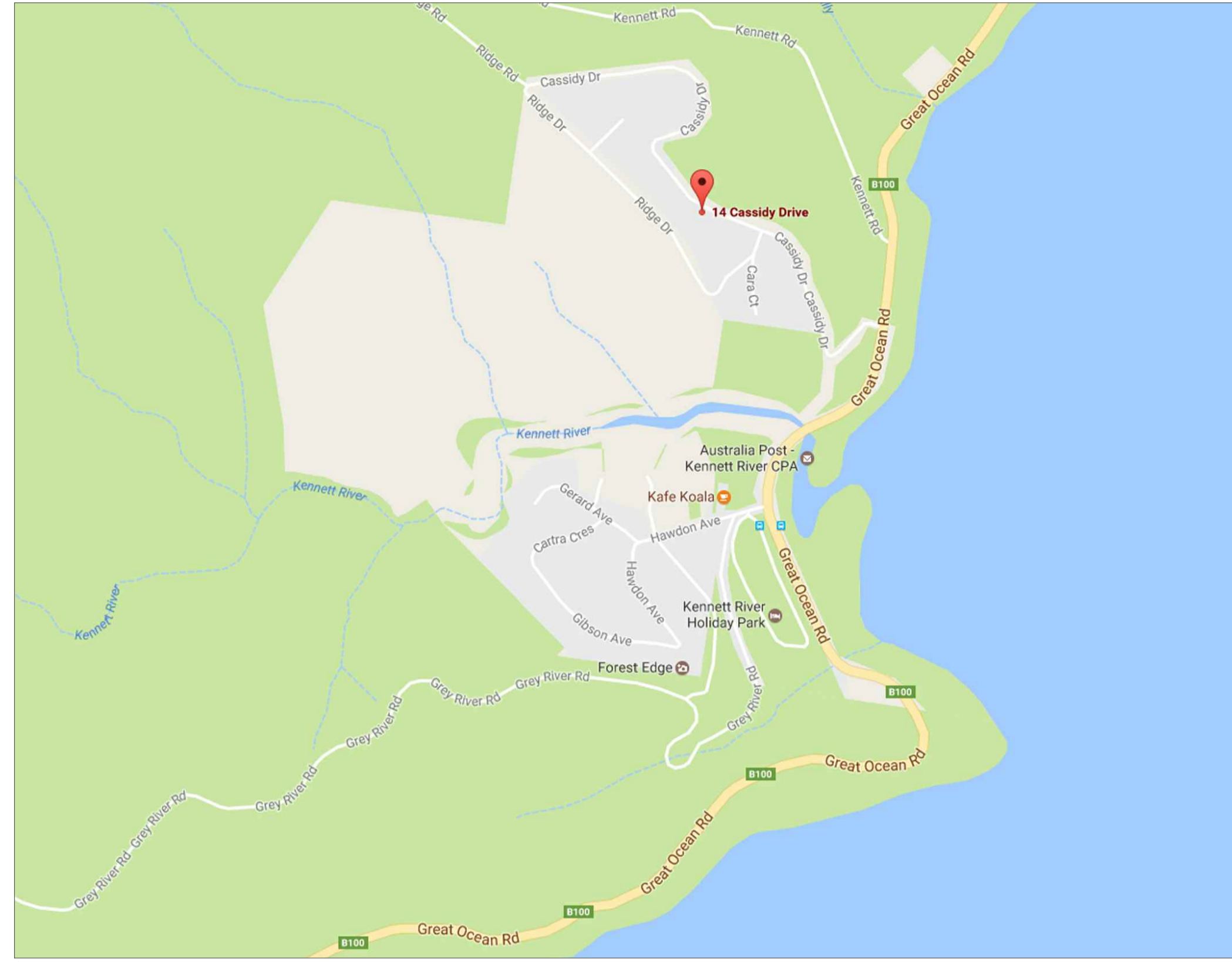




LOCATION MAP 1 - NTS



LOCATION MAP 2 - NTS



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LOCATION MAP 3 - NTS



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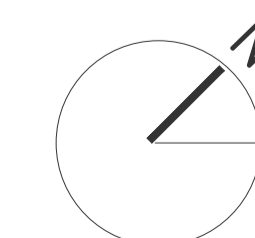
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Title  
LOCATION PLAN

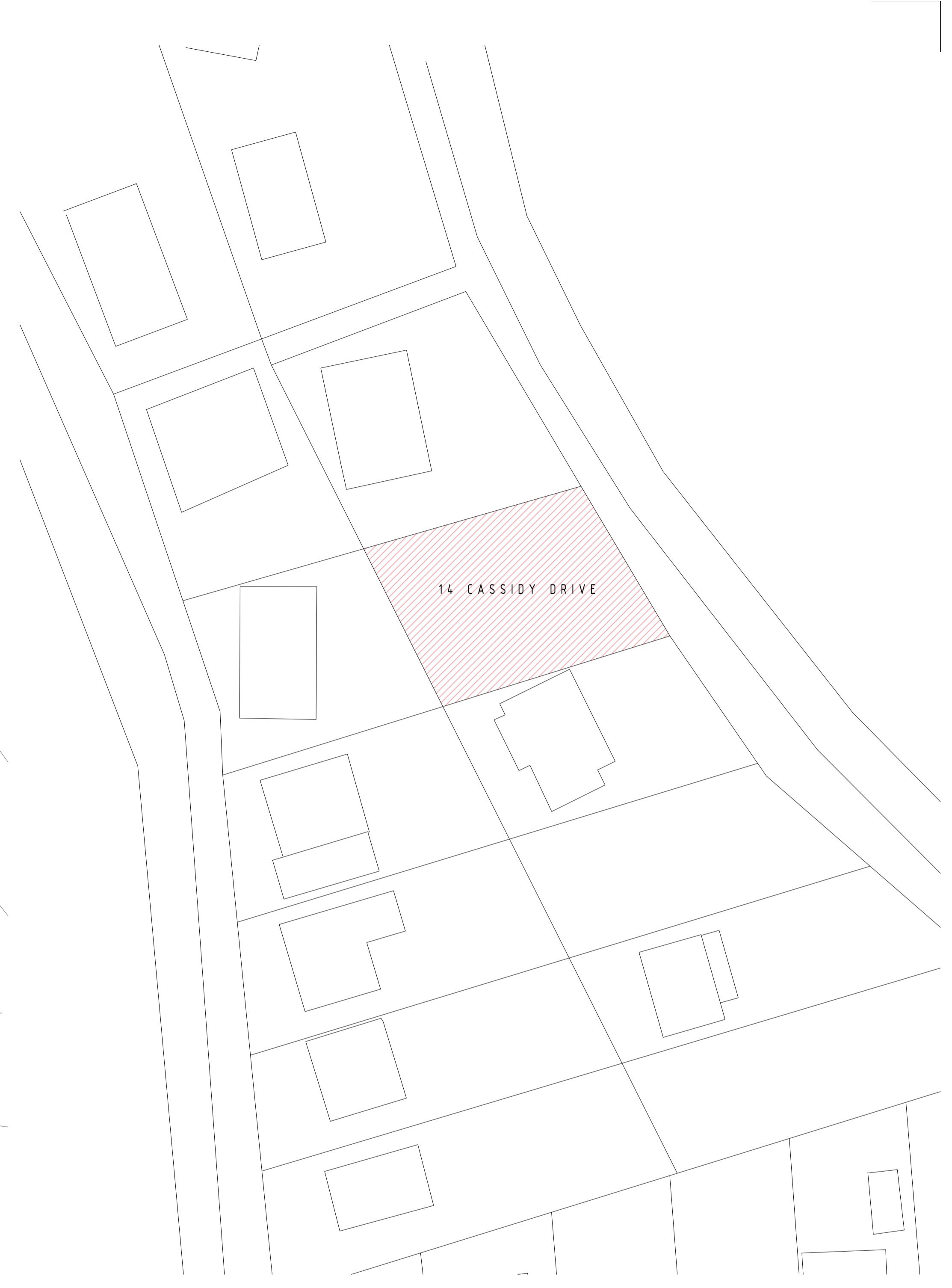
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NEIGHBOURHOOD PLAN  
1:750

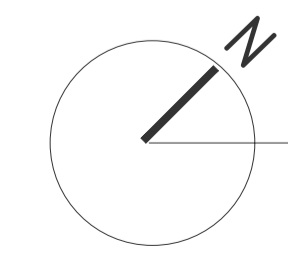
LAND SURVEY  
1:250

TOWN PLANNING



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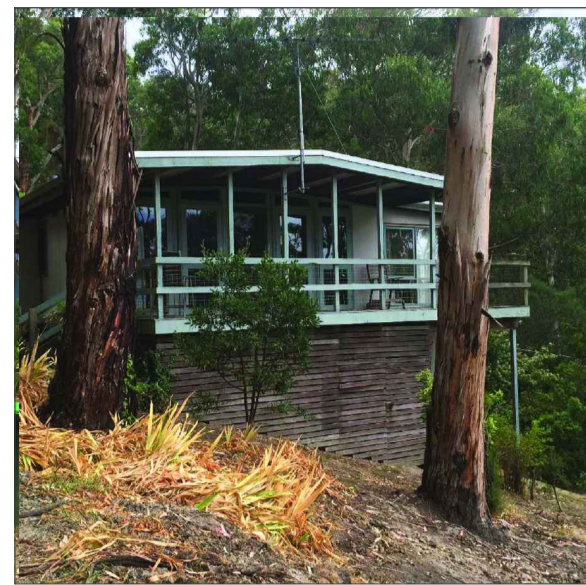
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LAND SURVEY  
Date 15 09 2017 Rev - Dwg No  
Scale 1 : 250 Job No 2014 200 TP003



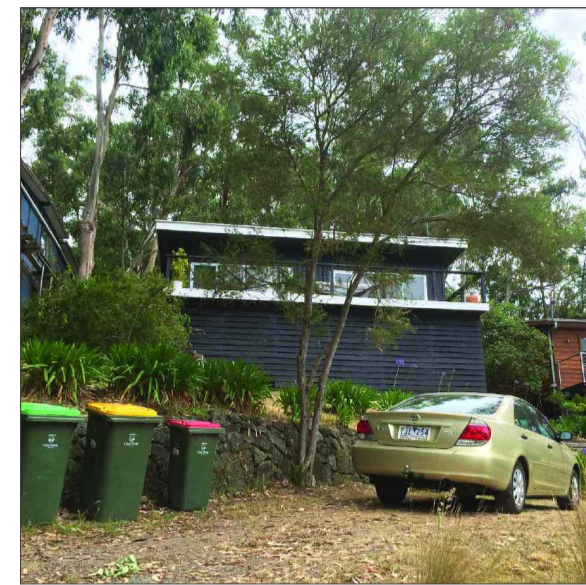
NEIGHBOURHOOD



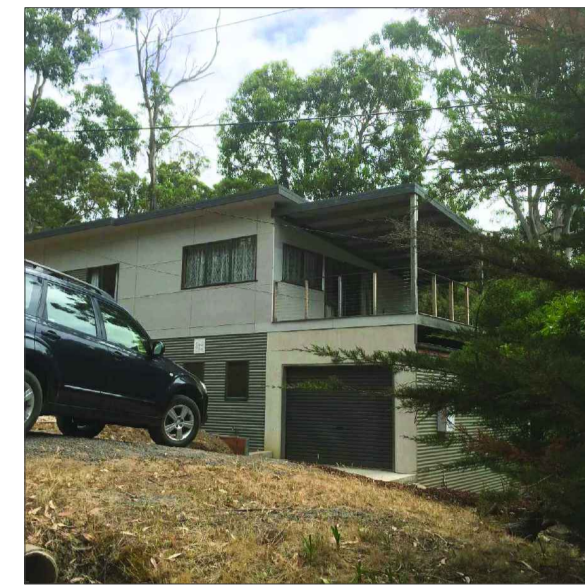
DOUBLE STOREY DWELLING WITH BALCONY.



DOUBLE STOREY DWELLING SITS HIGH ON THE SITE



NO.6 RIDGE ROAD CLAD IN DARK TONED TIMBER BLENDING IN WITH THE NATURAL SURROUNDINGS



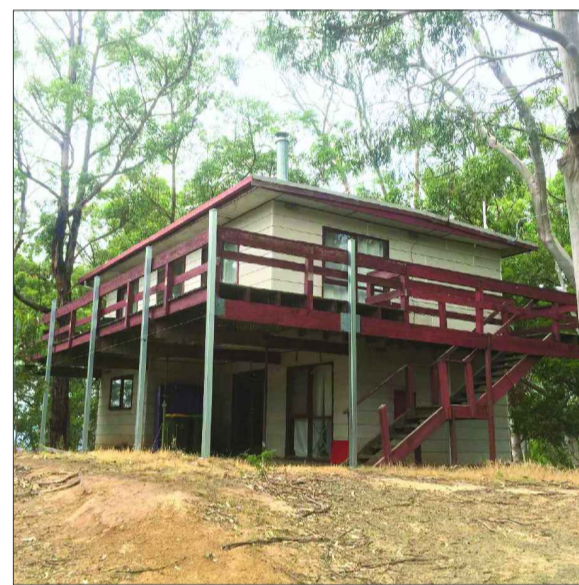
DOUBLE STOREY DWELLING WITH FLAT ROOF & VARYING EXTERNAL FINISHES.



SINGLE STOREY DWELLING CLAD IN GREEN/GREY TONES TO BLEND WITH THE NATIVE VEGETATION.



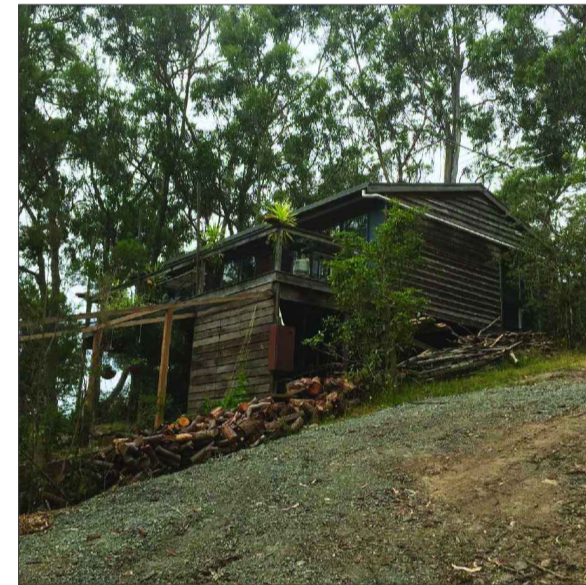
SINGLE STOREY DWELLING CLAD IN TIMBER WITH GREY TONES THAT MATCH NATURAL SURROUNDINGS



DOUBLE STOREY DWELLING WITH FLAT ROOF & VARYING EXTERNAL COLOURS



SINGLE STOREY DWELLING ELEVATED HIGH ON STILTS WITH PROTRUDING BALCONY.



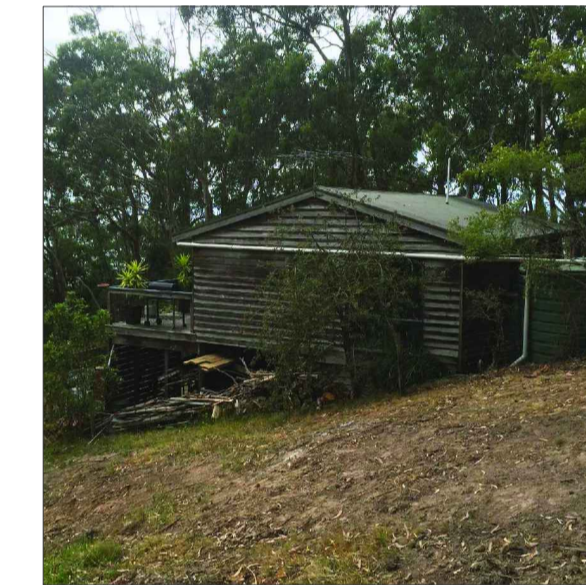
SINGLE STOREY TIMBER CLAD DWELLING WITH FRONT FACING BALCONY



CONTEMPORARY DWELLING WITH FLAT ROOF AND PROTRUDING EAVES AND BALCONIES.



CONTEMPORARY DOUBLE STOREY DWELLING IS SYMPATHETIC TO THE LAND BY TERRACE DOWN THE SITE. CLAD IN GREEN TONES TO MATCH SURROUNDINGS.



SINGLE STOREY DWELLING ON STILTS.

NEIGHBOURHOOD DESCRIPTION

The subject site at 14 Cassidy Drive Kennett River sits empty between a double storey fibro dwelling to the south-east and a two level cedar house to the north-west. Both dwellings are clad in timber and have a single pitch roof similar to many other houses throughout the Kennett river precinct.

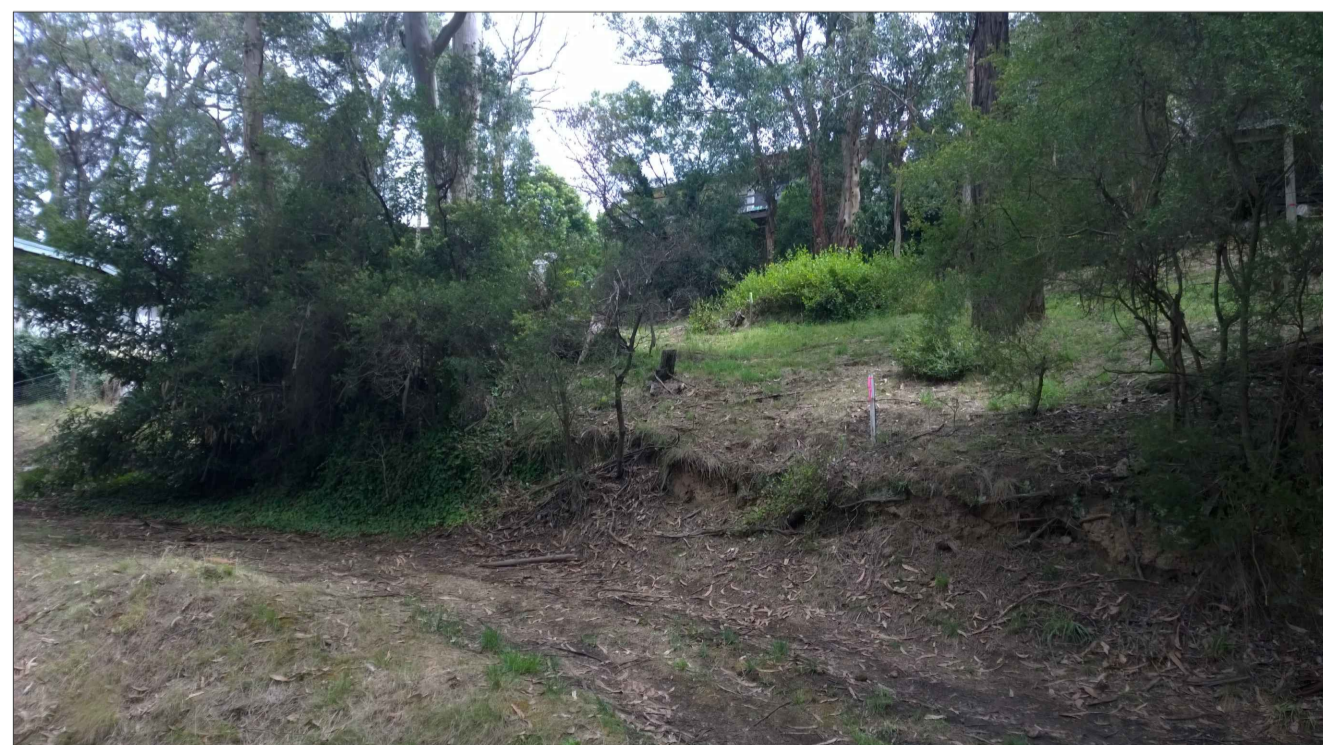
The Kennett River precinct is comprised of a combination of older and contemporary dwellings with single sloped and single pitched roof lines. All of the newer houses in the area are clad in metal sheet and follow the theme of single sloped and single pitch roofs. Due to the steep surrounding slope, the neighbouring houses are often two storey or split level, being sympathetic to the steep slope of the site.

Most of the houses within the precinct have street facing living areas and with protruding balconies that also face the descending slope

SITE DESCRIPTION

The subject site at 14 Cassidy Drive is a total of 685 square metres with a steep incline of around 18 degrees. The site is currently vacant with an existing driveway. The site has an 10.5m fall from the rear (west) to the front (east) of the site. The front of the site runs along Cassidy drive.

SITE



TAKEN ON SUBJECT SITE FACING SLOPE



TAKEN ON SUBJECT SITE DOWN SLOPE TOWARDS CASSIDY DRIVE

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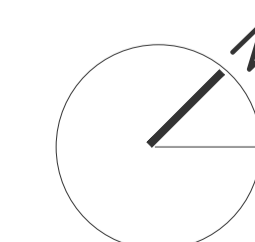
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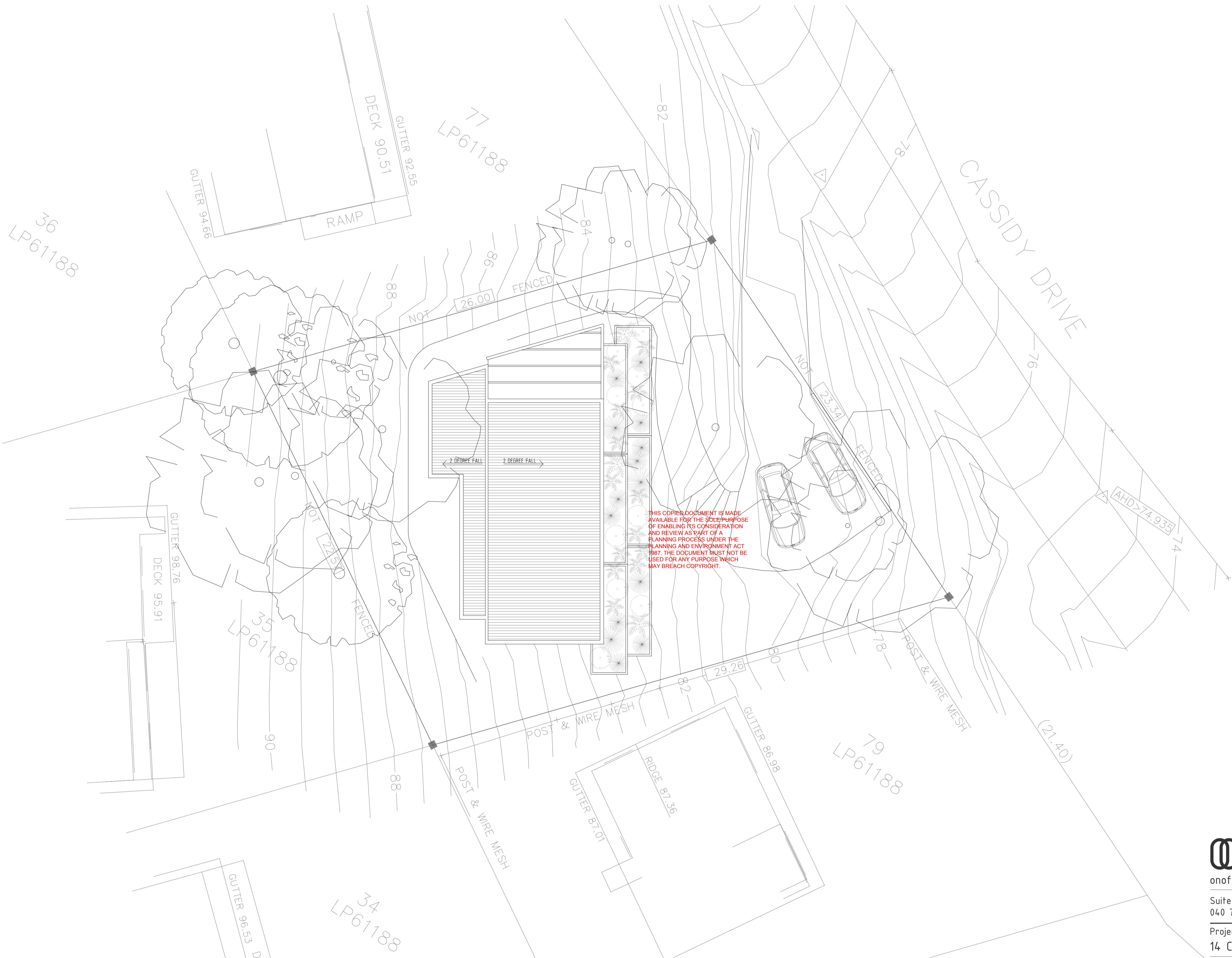
Client  
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Title  
SITE CHARACTER

Date 15 09 2017	Rev -	Dwg No
Scale	Job No 2014 200	TP004







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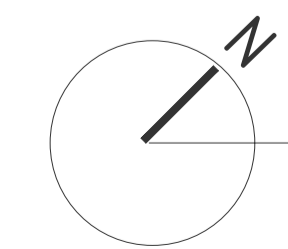
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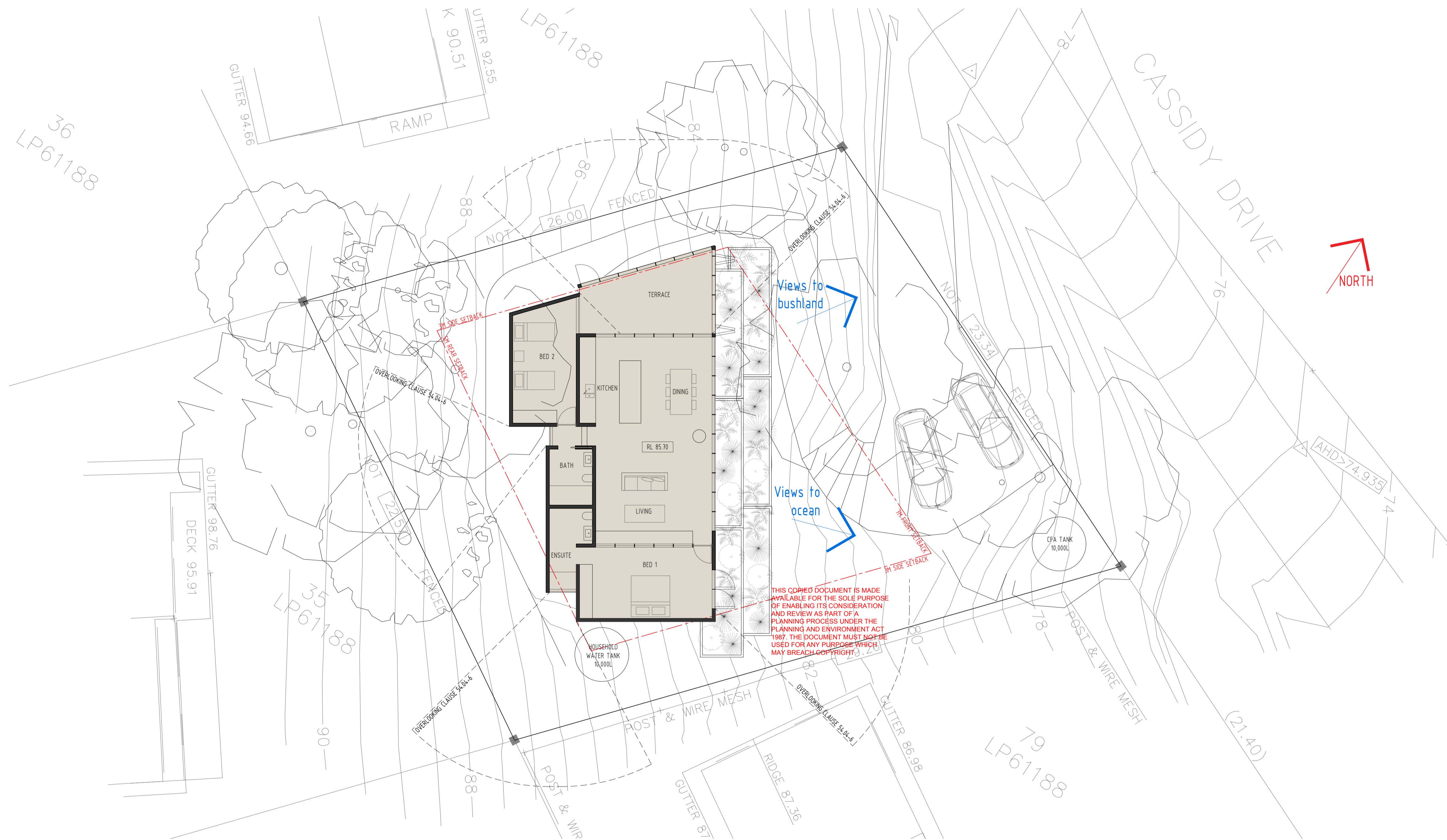
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Title  
SITE PLAN

Date 15 09 2017	Rev -	Dwg No
Scale 1 : 250	Job No 2014 200	TP005







## DESIGN RESPONSE

- The proposal is a split-level, two bedroom dwelling designed as a holiday home for a young family.
- Access to the dwelling will be provided by the existing driveway with space for two cars and an on-grade path to the dwelling proper.
- The proposed dwelling is set well back towards the rear of the site, the front setback is established by an average of the two neighbouring dwellings' setbacks and well beyond the 7m minimum. There are minor encroachments of the 3m side and 5m rear setbacks by some corners due to the building's orientation.
- Living areas are situated at the front of the house in order to maximise views to the coast and bushland as well as ensuring good solar access.
- The dwelling is settled into the slope with terraced planter beds forming a base for the dwelling which sits above, hovering low over the landscape. These planter beds incorporate an EPA approved rhizopod system for evaporated aerated wastewater treatment.
- By keeping the dwelling to a single storey it maintains a low building height in-keeping with local neighbourhood character.
- The natural tones of the corten cladding blend the building in with the landscape aided by the retention of existing trees and the addition of further native vegetation.
- A 10,000L CFA water tank is situated at the front of the site for CFA access. The house will also consist of an additional 10,000L water tank that will service the house water supply. A septic system and EPA approved rhizopods system will service the waste water from the proposed dwelling.

## AREA SCHEDULE

BUILD AREA	110.9m <sup>2</sup>
TERRACE AREA	21.7m <sup>2</sup>
TOTAL SITE COVERAGE	132.6m <sup>2</sup>
TOTAL SITE AREA	685m <sup>2</sup>
SITE COVERAGE	19.4%
SITE PERMEABILITY	78.3%

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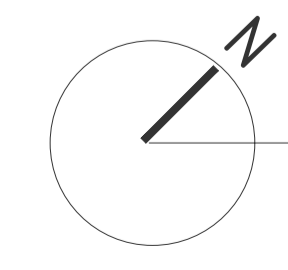
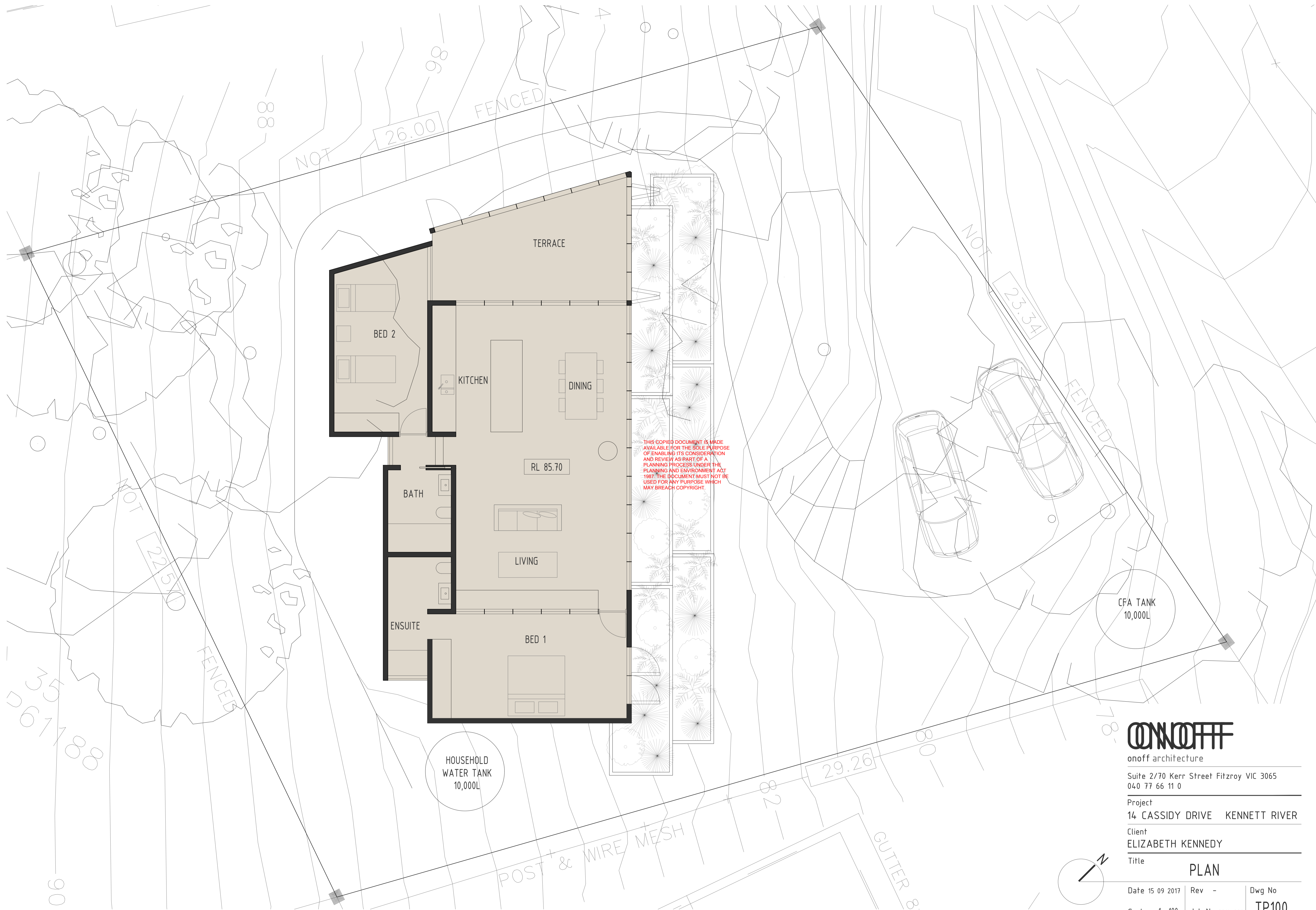
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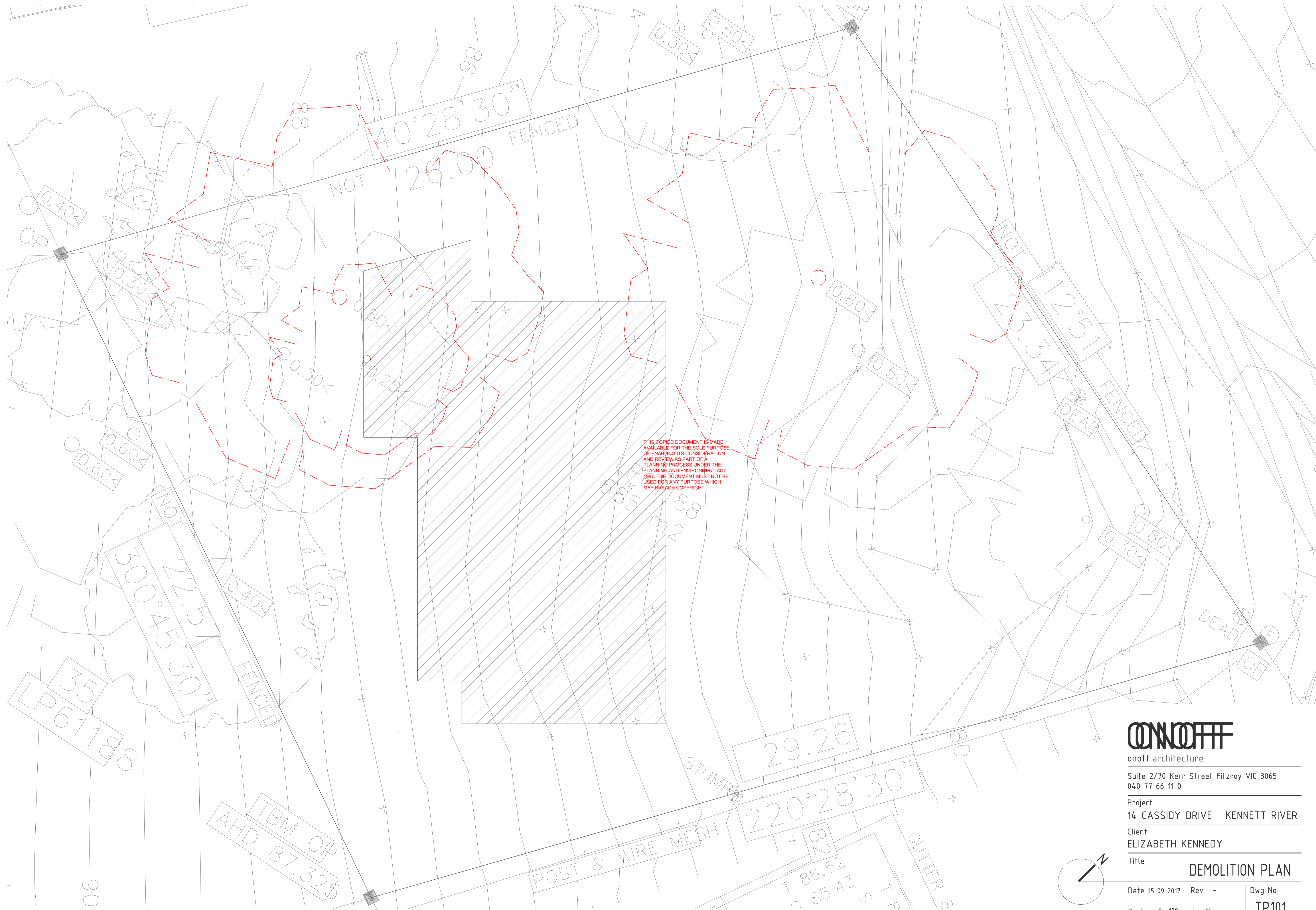
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DESIGN RESPONSE

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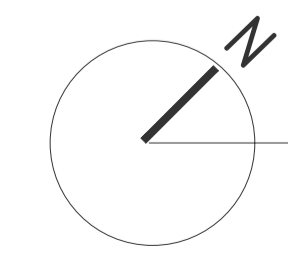
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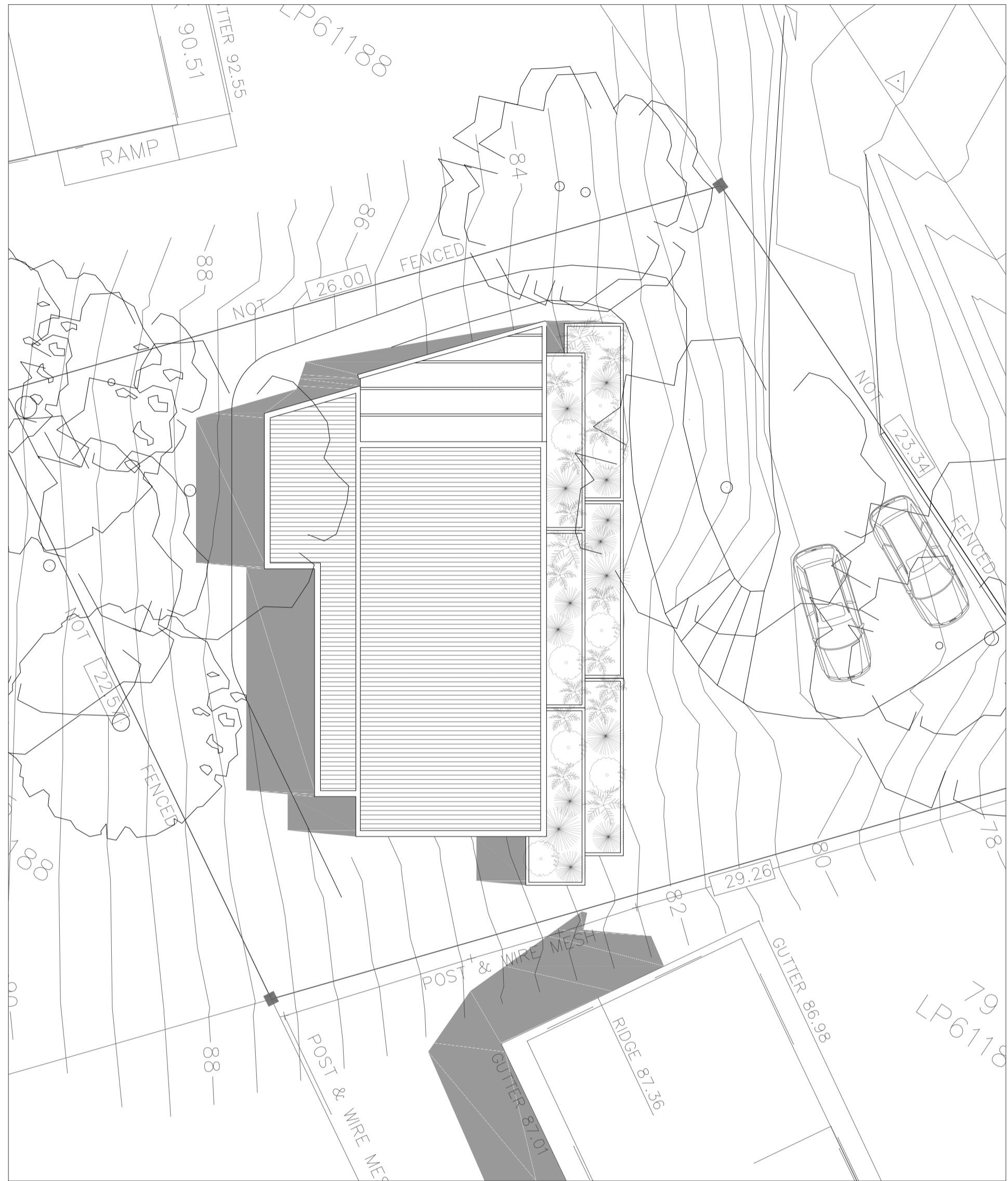
Title  
**DEMOLITION PLAN**

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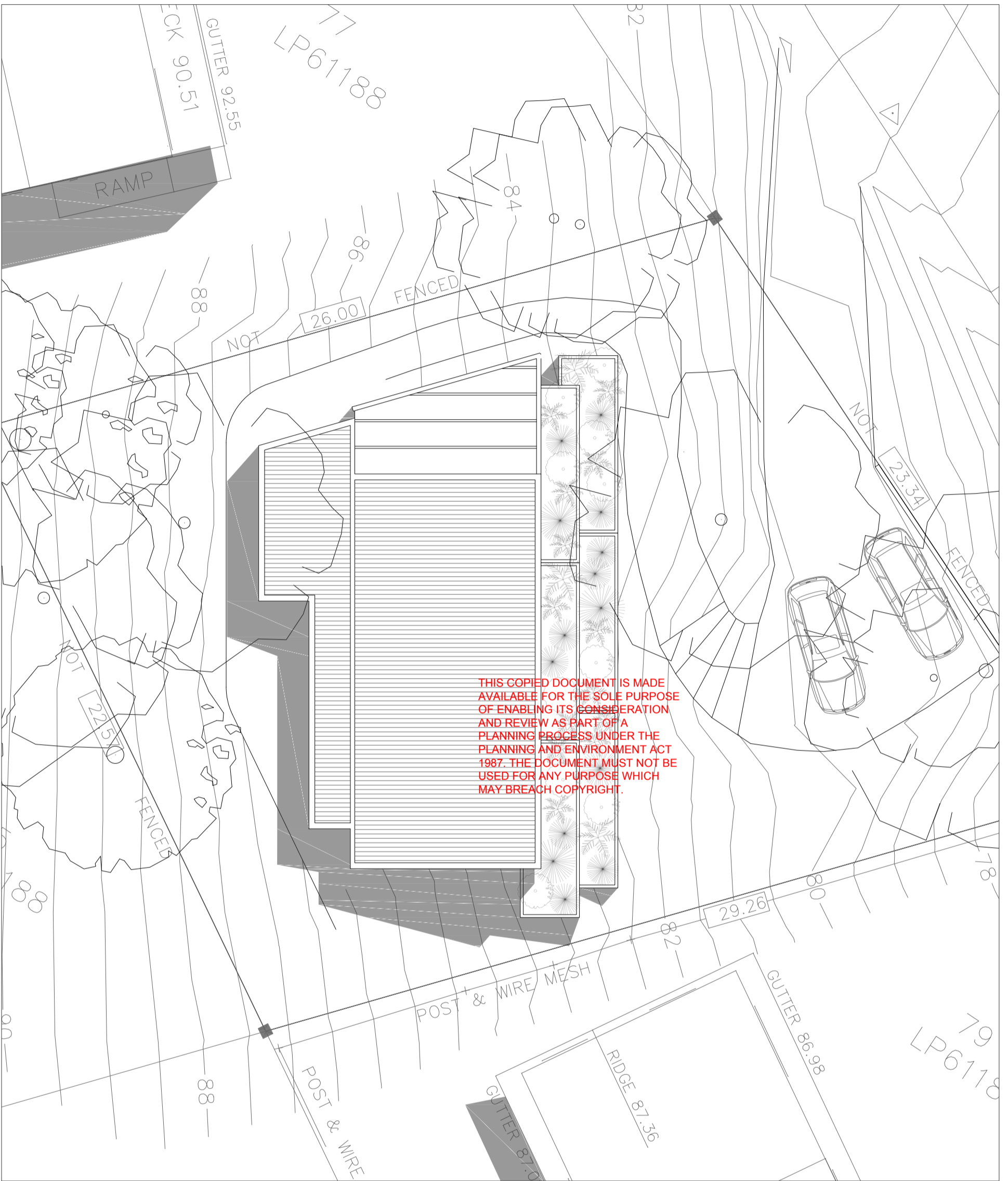






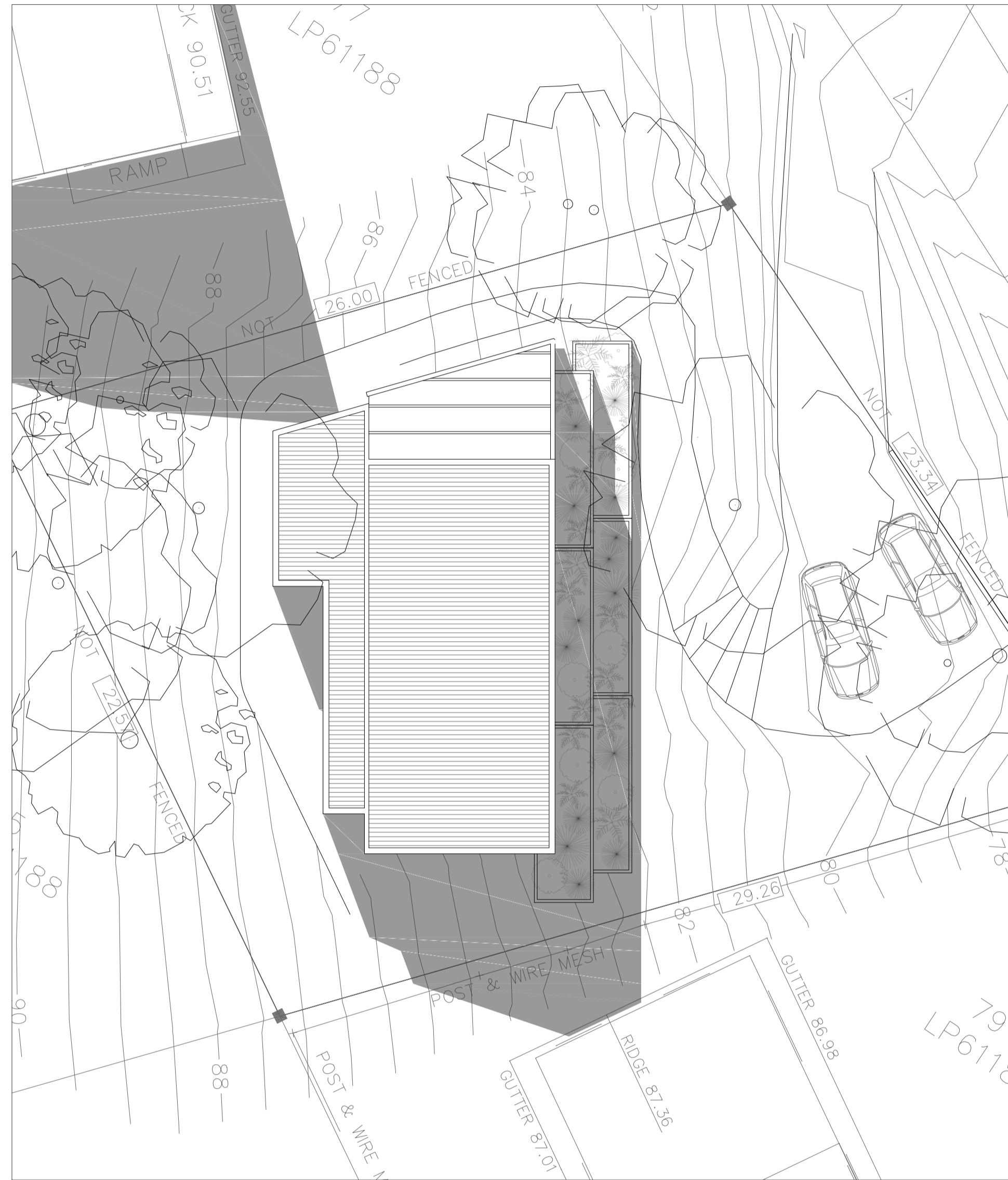
SHADOWS - SEP 23 9AM

1:250



SHADOWS - SEP 23 12PM

1:250



SHADOWS - SEP 23 3PM

1:250



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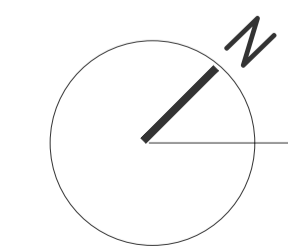
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Client  
ELIZABETH KENNEDY

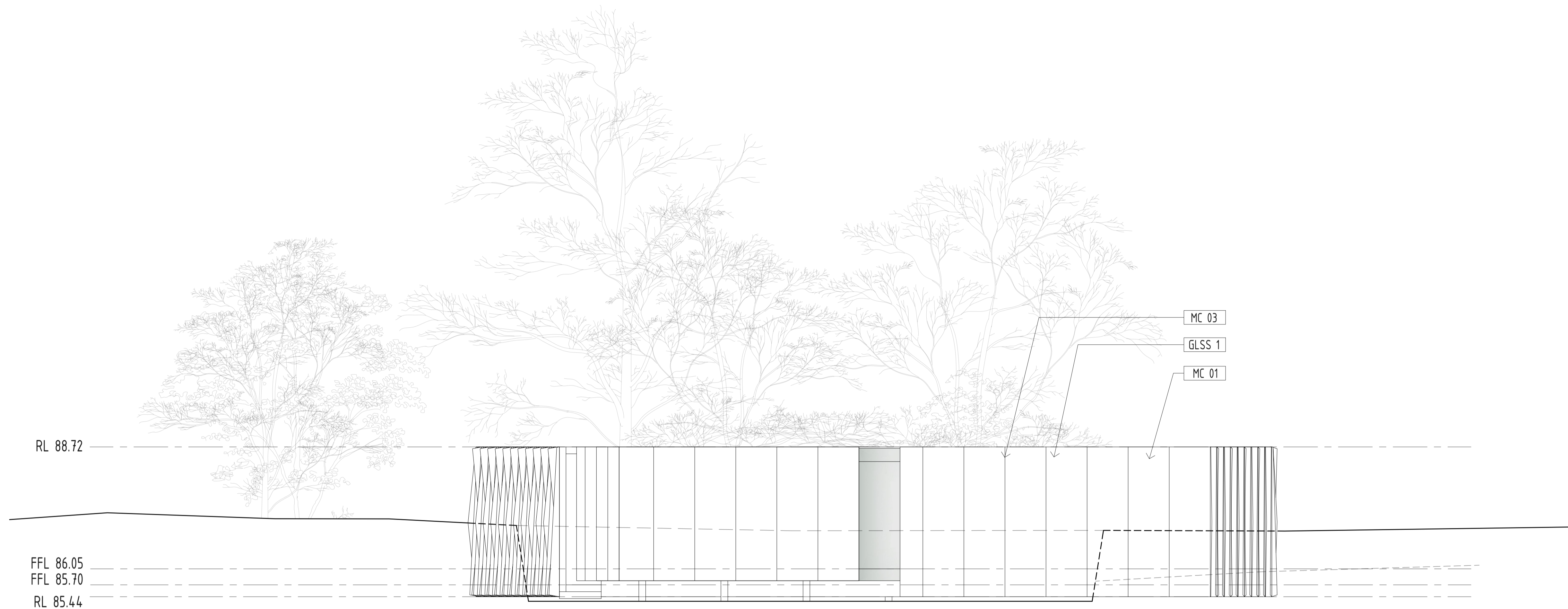
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SHADOW STUDY

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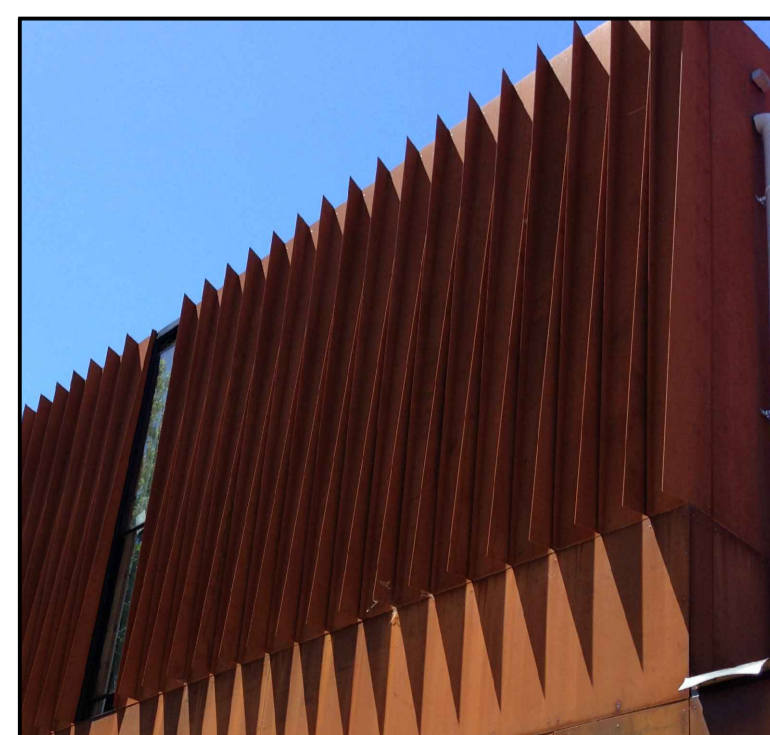




WEST ELEVATION

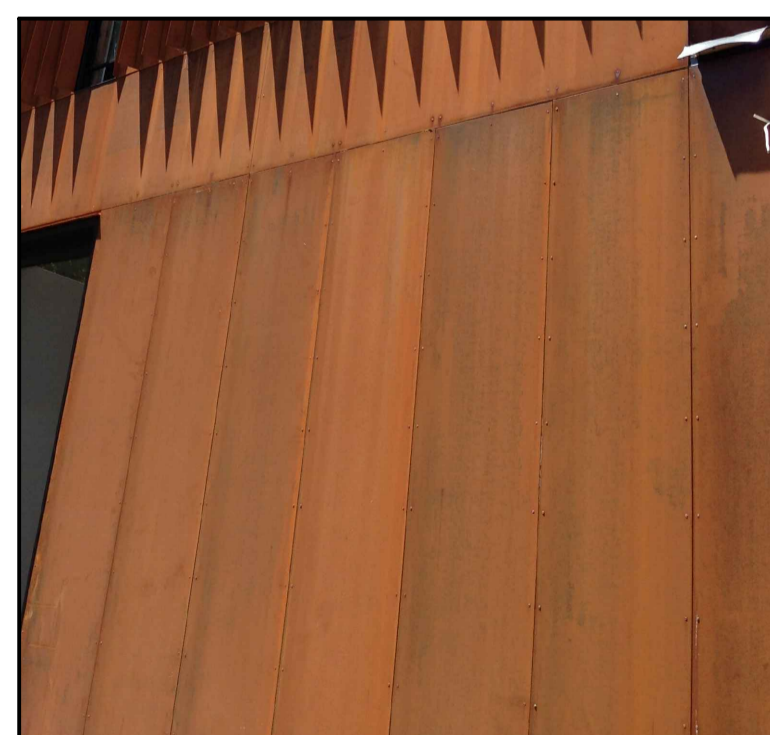
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## MATERIAL SCHEDULE

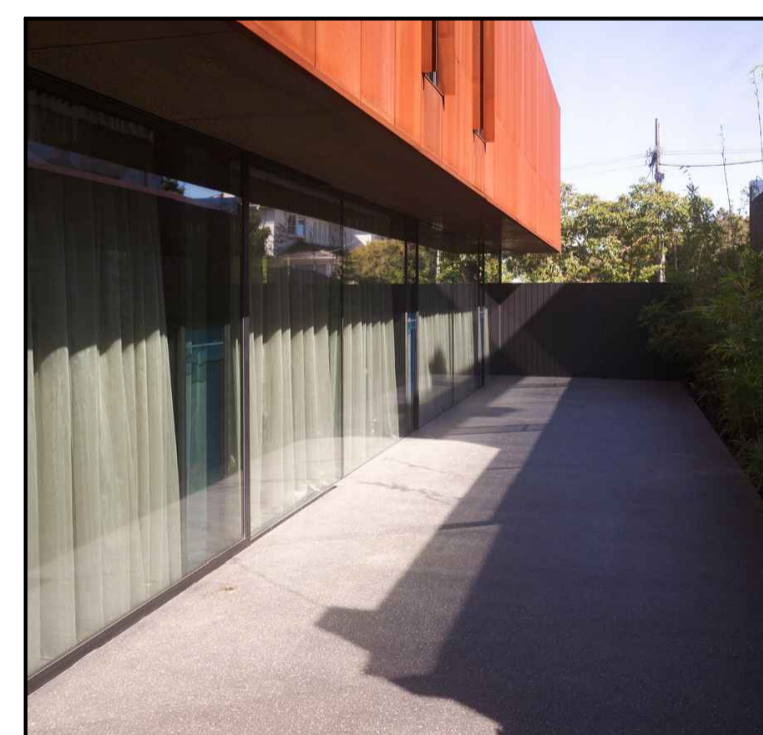


MC 01  
METAL CLADDING  
FOLDED CORTEN STEEL

MC 02  
METAL CLADDING  
FOLDED CORTEN STEEL  
WITH PERFORATIONS



MC 03  
METAL CLADDING  
FLAT CORTEN STEEL



GLSS 1  
STEEL FRAME WINDOWS  
CORTEN STEEL

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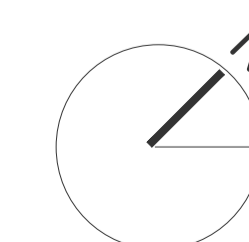
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Title  
ELEVATIONS

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GLSS 1  
MC 01  
MC 02

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RL 87.32

RL 90.55

RL 88.72

FFL 85.70  
RL 85.44

RL 81.04

RL 76.69

EAST ELEVATION

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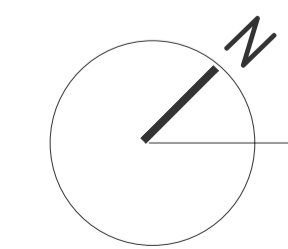
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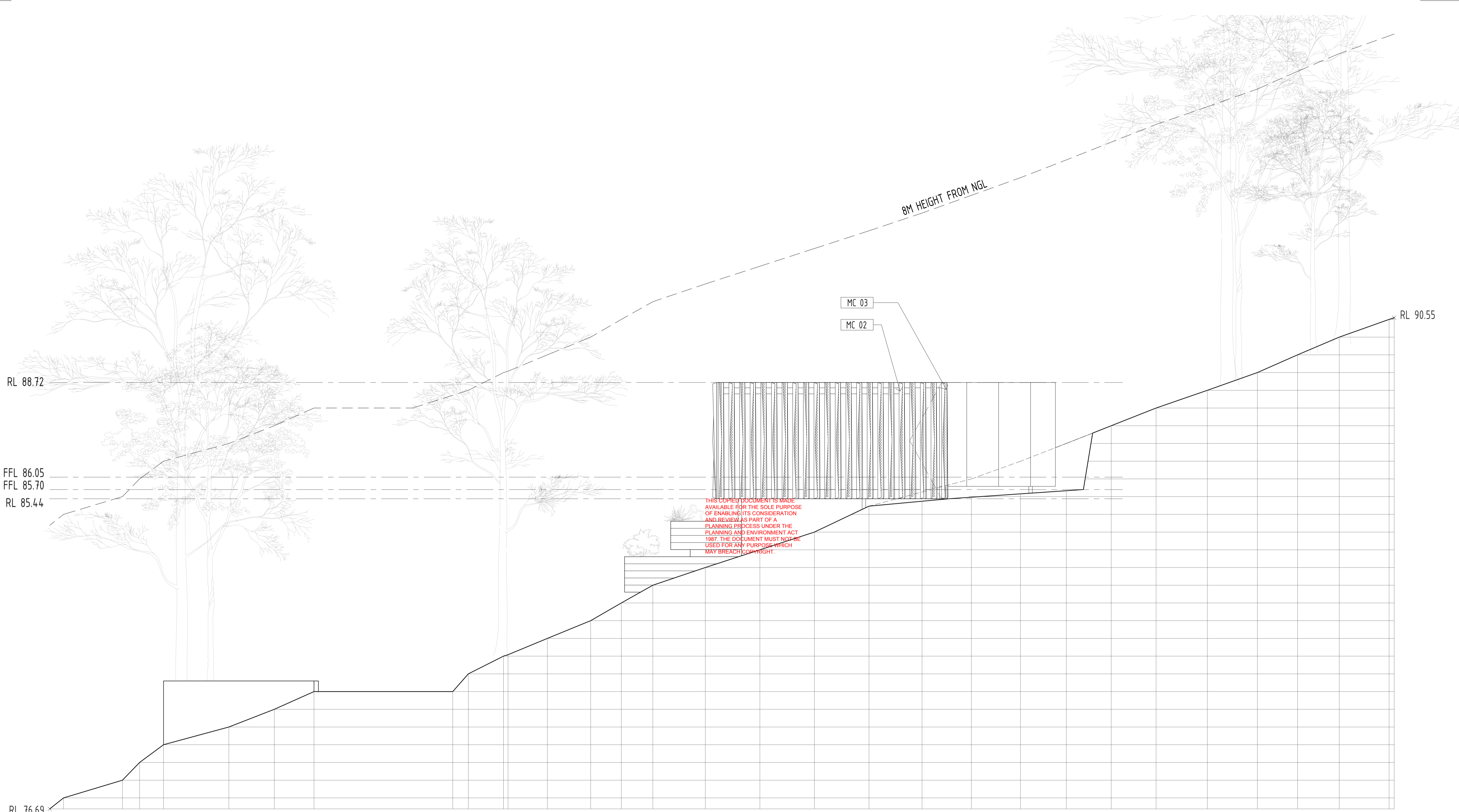
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Title  
ELEVATIONS

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NORTH ELEVATION

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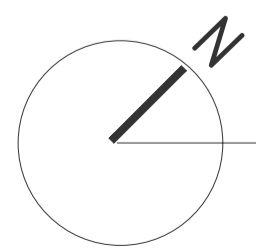
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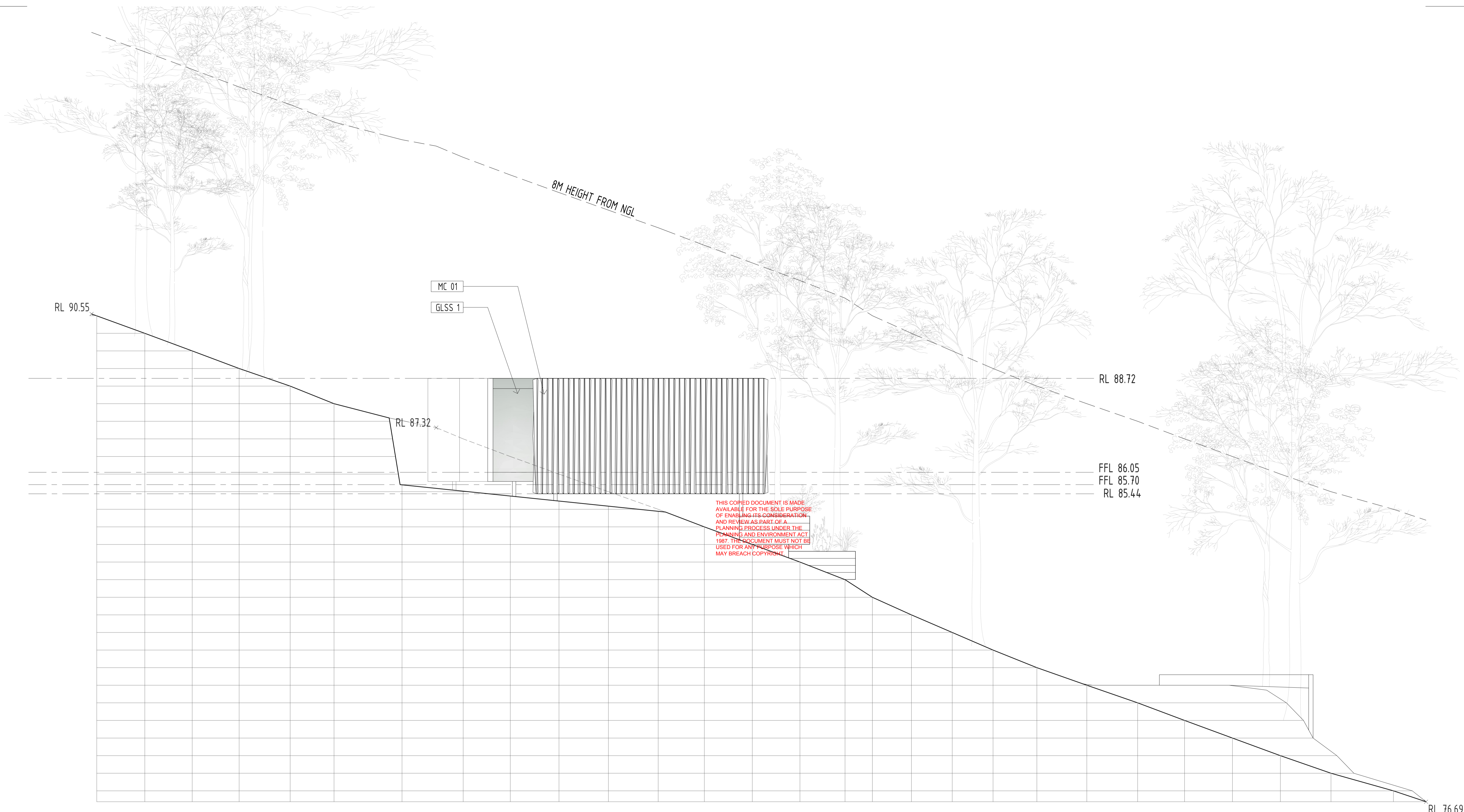
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 ELIZABETH KENNEDY

Title  
**ELEVATIONS**

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Scale 1 : 100	Job No 2014 200	<b>TP202</b>







SOUTH ELEVATION

**CONNOFF**

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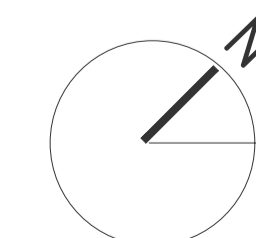
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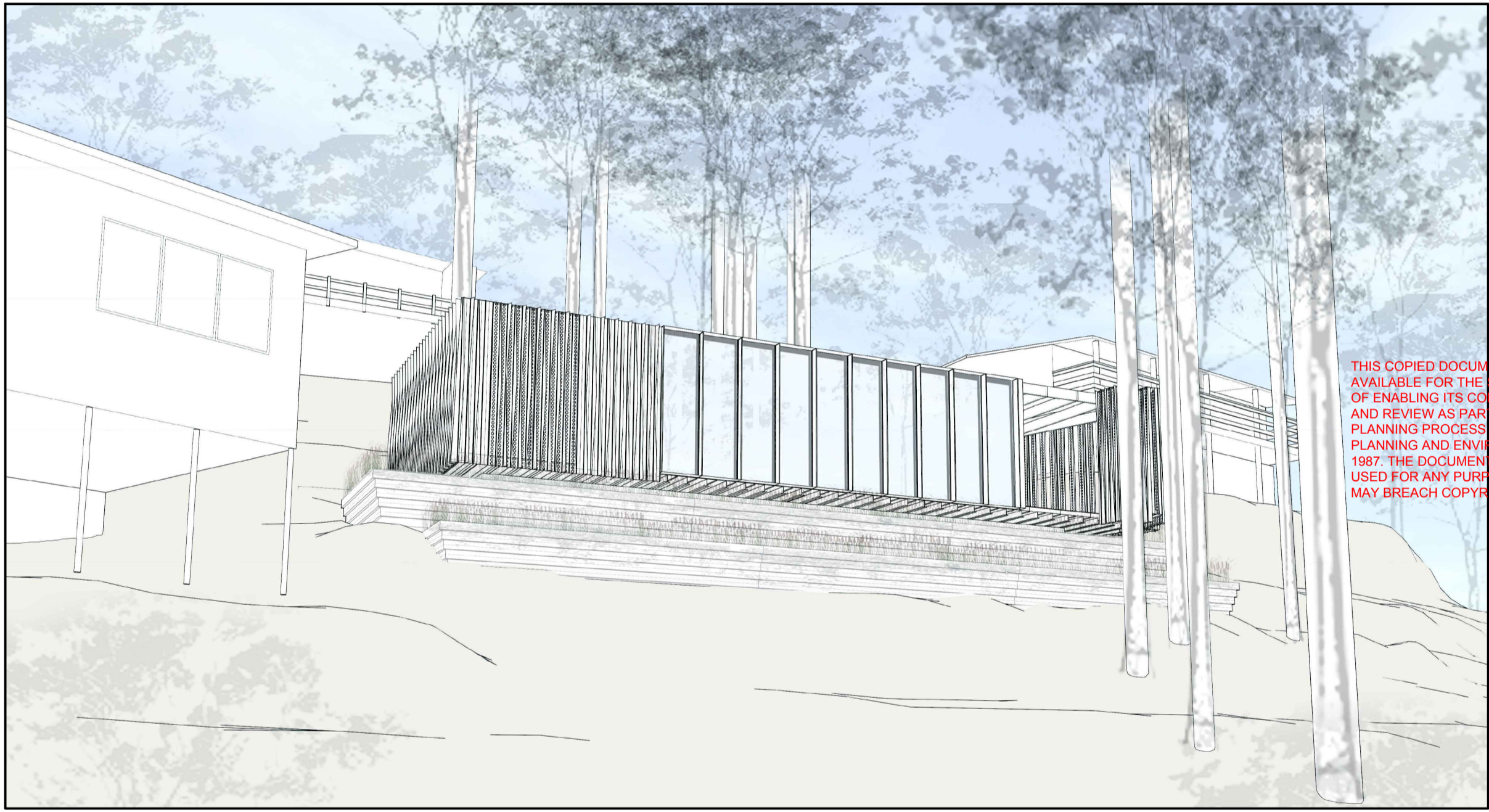
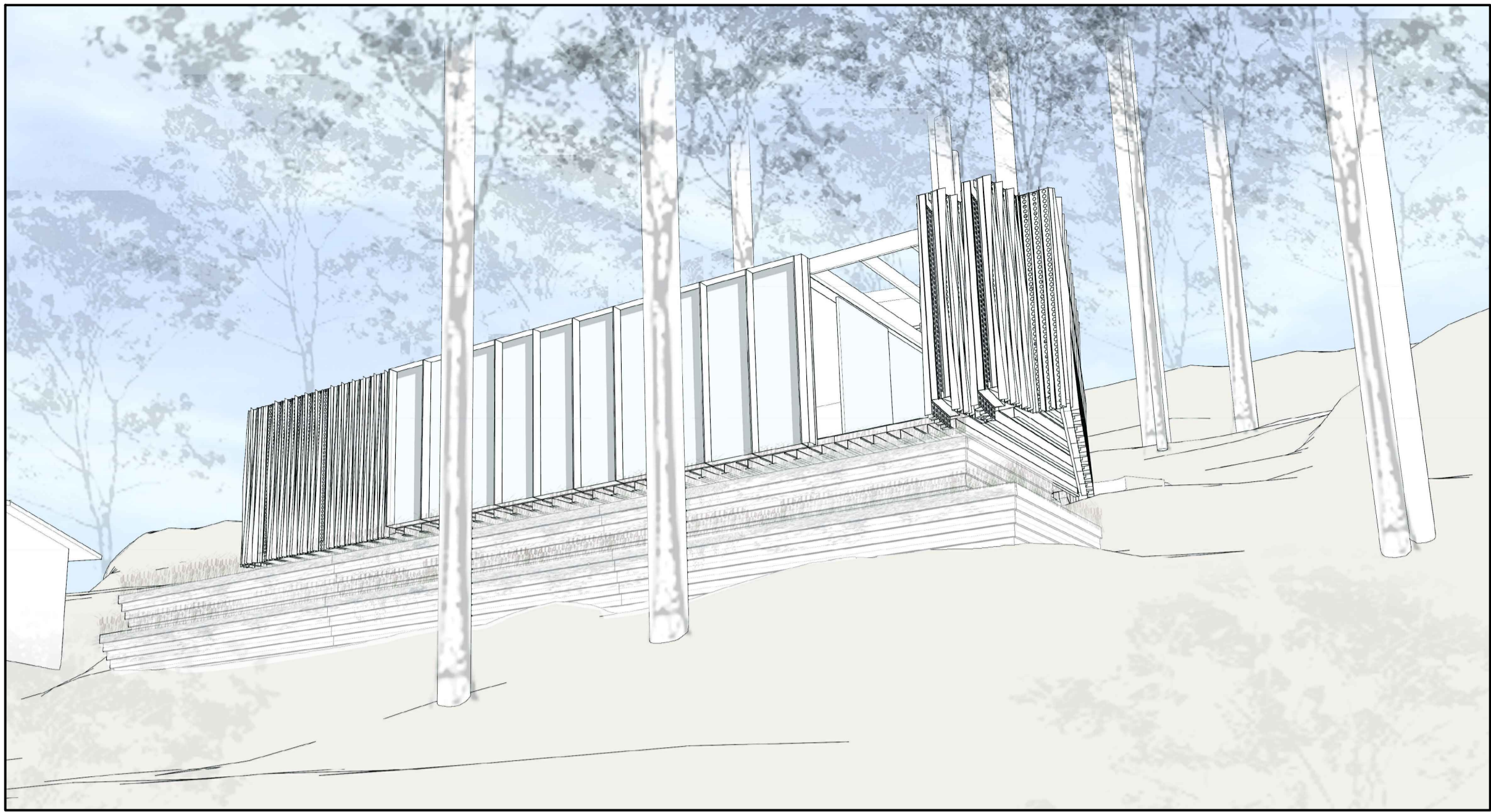
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Title  
ELEVATIONS

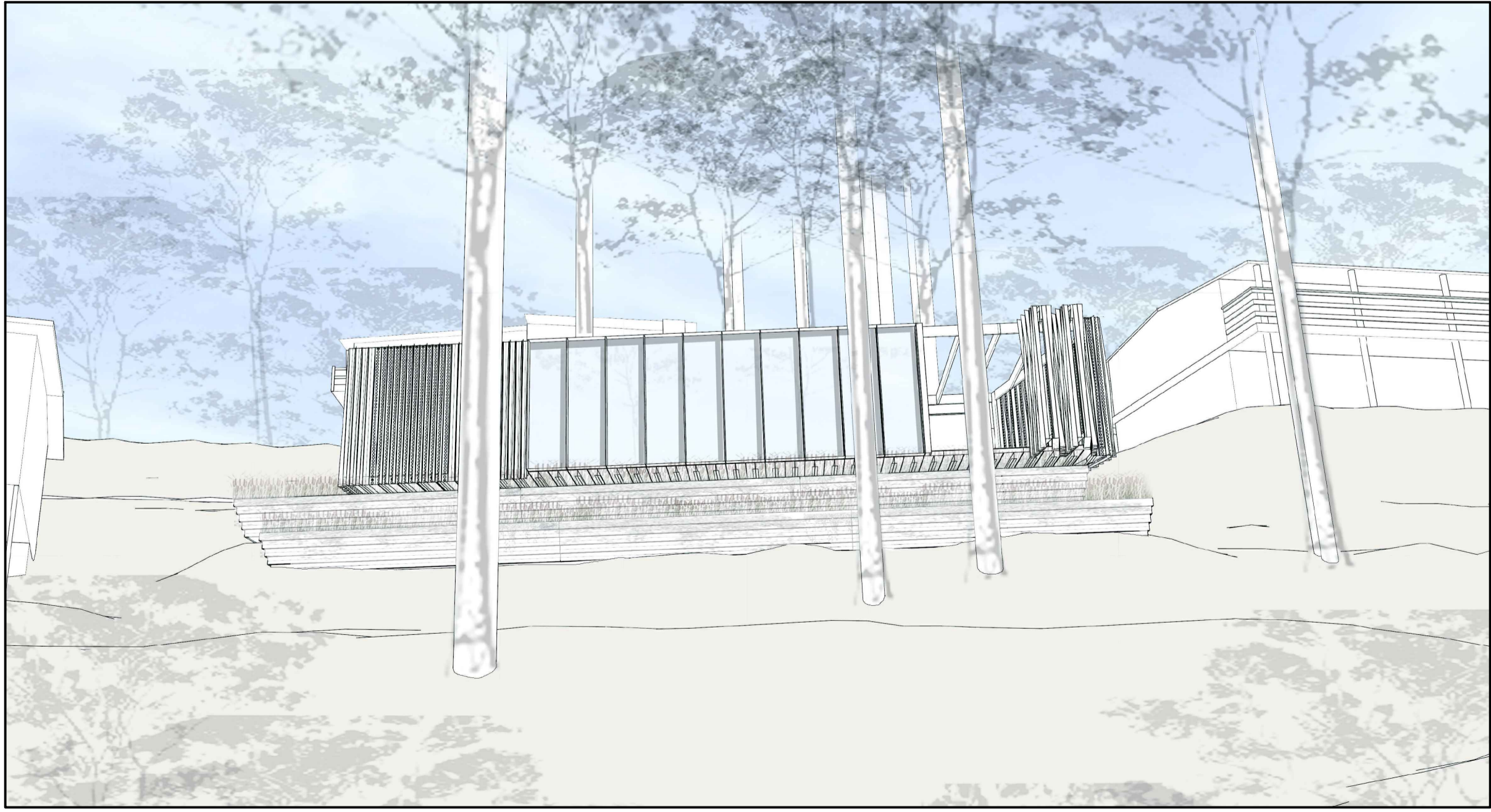
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Scale 1 : 100	Job No 2014 200	TP203







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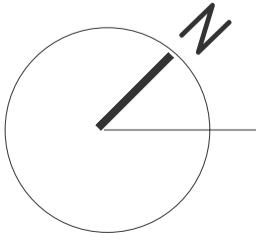
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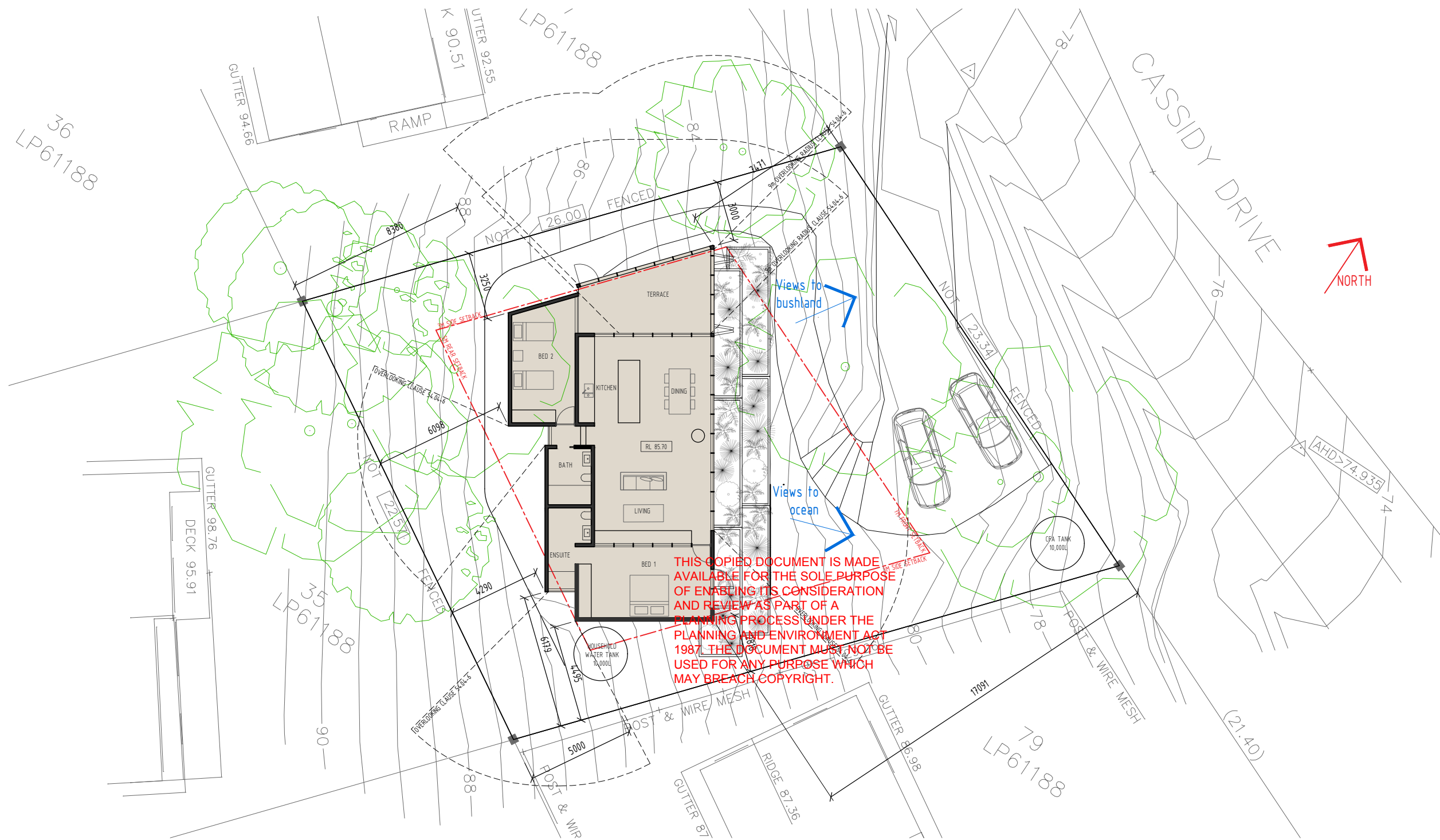
Client  
ELIZABETH KENNEDY

Title  
PERSPECTIVES

Date 15 09 2017 Rev - Dwg No  
Scale NA Job No 2014 200 TP300







## DESIGN RESPONSE

- The proposal is a split-level, two bedroom dwelling designed as a holiday home for a young family.
- Access to the dwelling will be provided by the existing driveway with space for two cars and an on-grade path to the dwelling proper.
- The proposed dwelling is set well back towards the rear of the site, the front setback is established by an average of the two neighbouring dwellings' setbacks and well beyond the 7m minimum. There are minor encroachments of the 3m side and 5m rear setbacks by some corners due to the building's orientation.
- Living areas are situated at the front of the house in order to maximise views to the coast and bushland as well as ensuring good solar access.
- The dwelling is settled into the slope with terraced planter beds forming a base for the dwelling which sits above, hovering low over the landscape. These planter beds incorporate an EPA approved rhizopod system for evaporated aerated wastewater treatment.
- By keeping the dwelling to a single storey it maintains a low building height in-keeping with local neighbourhood character.
- The natural tones of the corten cladding blend the building in with the landscape aided by the retention of existing trees and the addition of further native vegetation.
- A 10,000L CFA water tank is situated at the front of the site for CFA access. The house will also consist of an additional 10,000L water tank that will service the house water supply. A septic system and EPA approved rhizopods system will service the waste water from the proposed dwelling.

## AREA SCHEDULE

BUILD AREA	110.9m <sup>2</sup>
TERRACE AREA	21.7m <sup>2</sup>
TOTAL SITE COVERAGE	132.6m <sup>2</sup>
TOTAL SITE AREA	685m <sup>2</sup>
SITE COVERAGE	19.4%
SITE PERMEABILITY	78.3%

**ONOFF**  
onoff architecture

Suite 2/70 Kerr Street Fitzroy VIC 3065  
040 77 66 11 0

Project  
14 CASSIDY DRIVE KENNETT RIVER

Client  
ELIZABETH KENNEDY

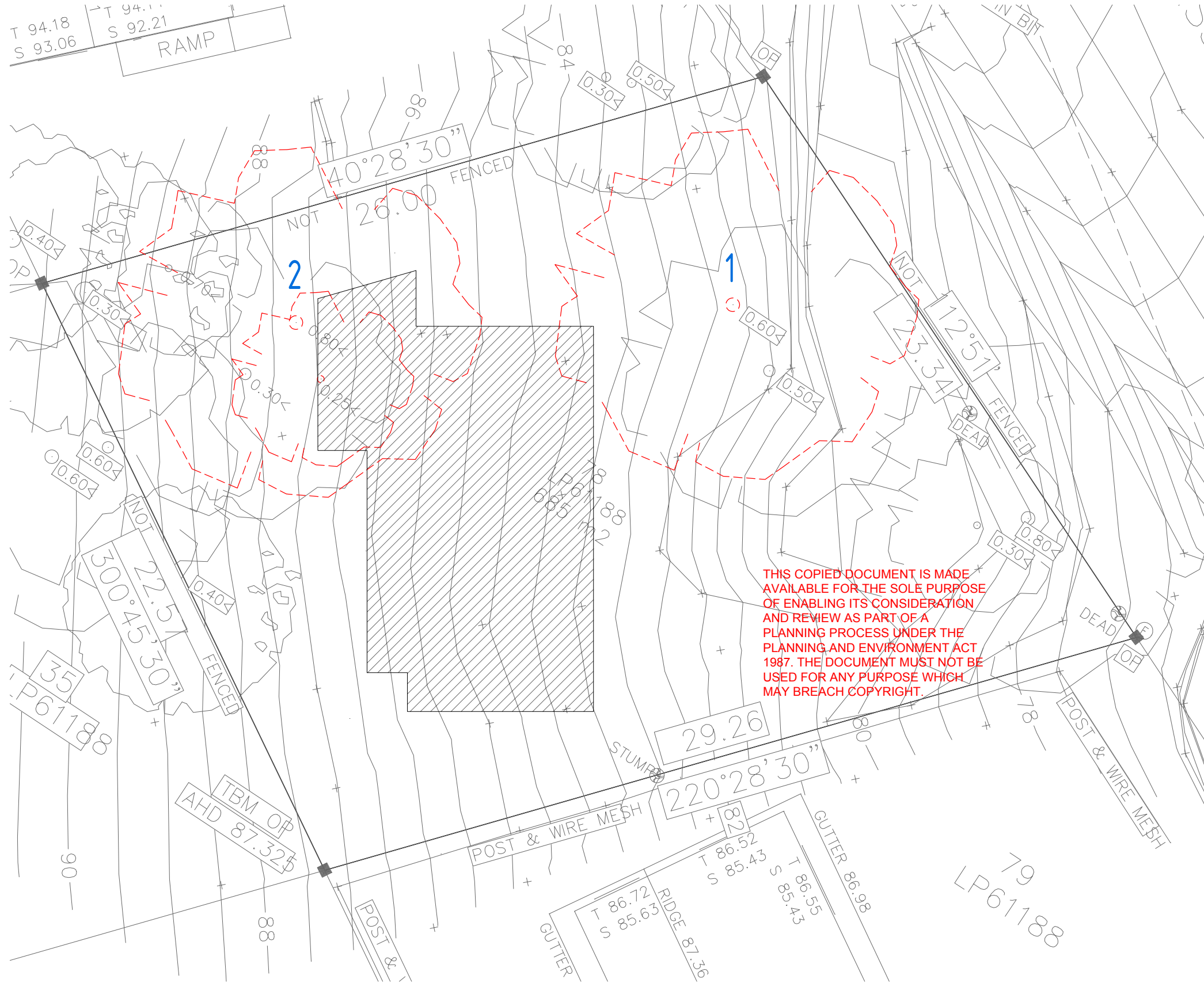
Title  
DESIGN RESPONSE

Date 26 10 2017 | Rev A | Dwg No

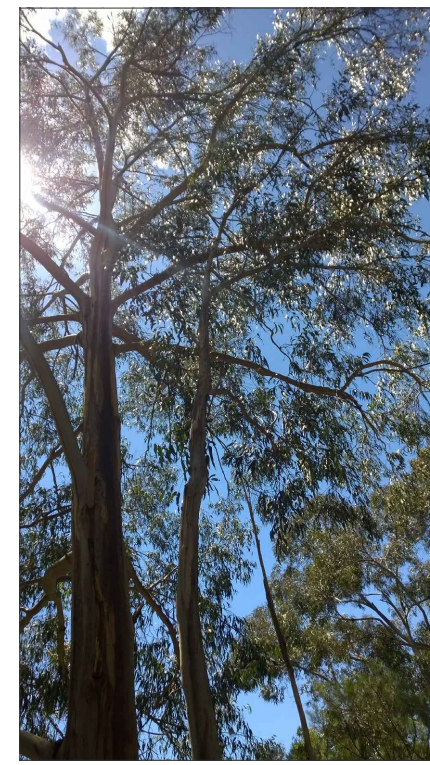
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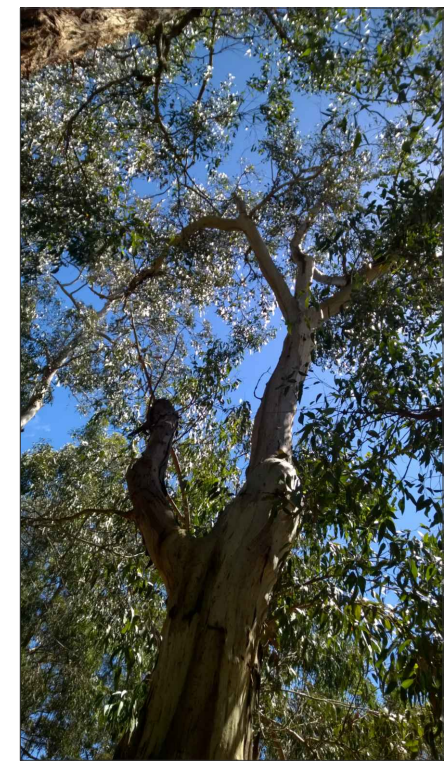
T 94.18 S 93.06  
 T 94.11 S 92.21  
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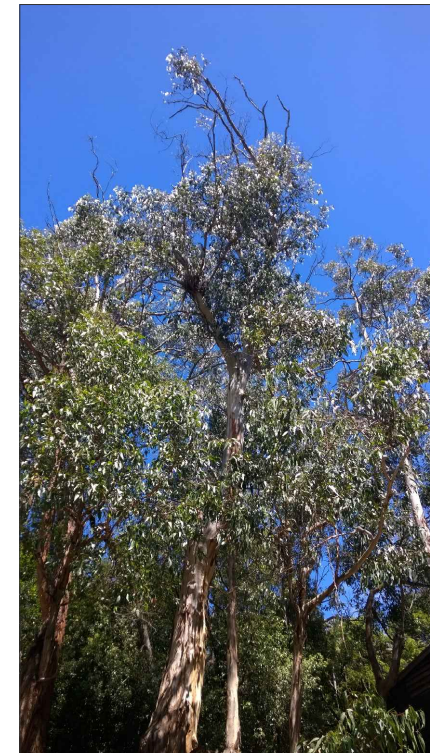
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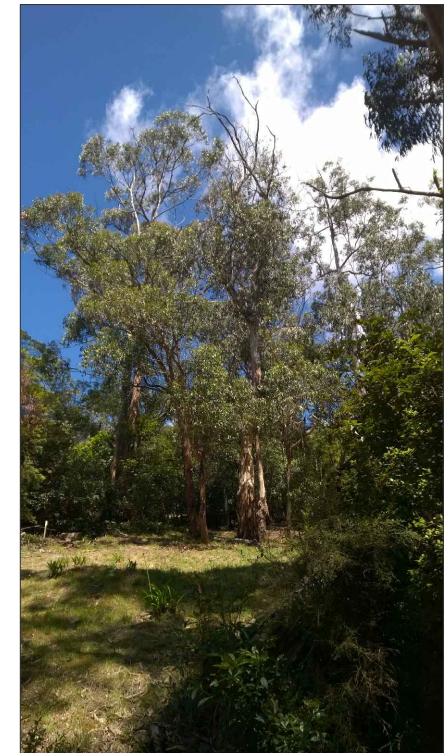
TREE 1



TREE 1



TREE 2



TREE 2

**CONOFF**  
 onoff architecture

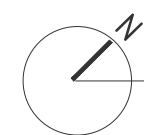
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 040 77 66 11 0

Project  
 14 CASSIDY DRIVE KENNETT RIVER

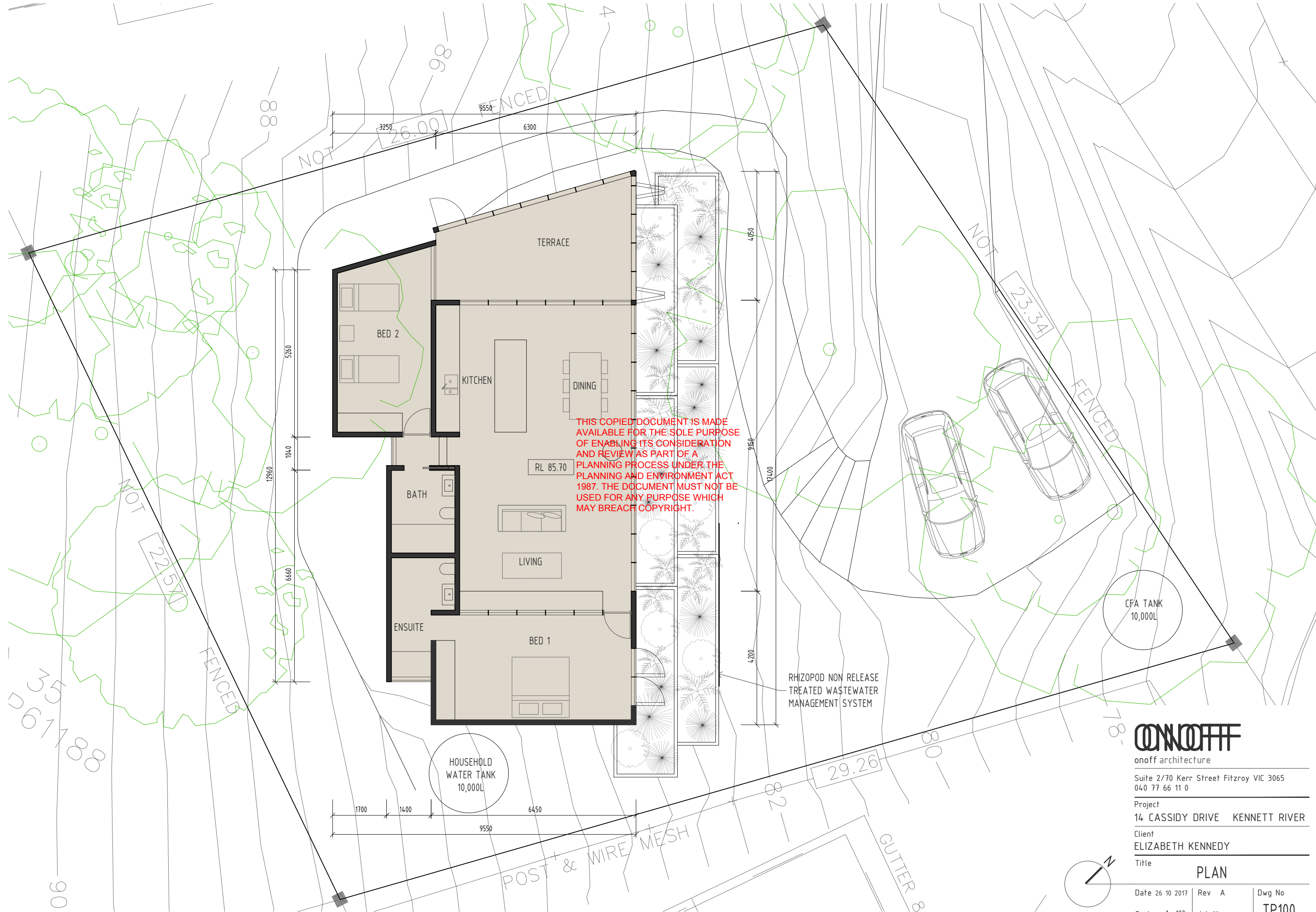
Client  
 ELIZABETH KENNEDY

Title  
**DEMOLITION PLAN**

Date 26 10 2017 Rev A Dwg No  
 Scale 1 : 100 Job No 2014 200 TP101







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**CONNORFF**

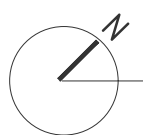
onoff architecture  
 Suite 2/70 Kerr Street Fitzroy VIC 3065  
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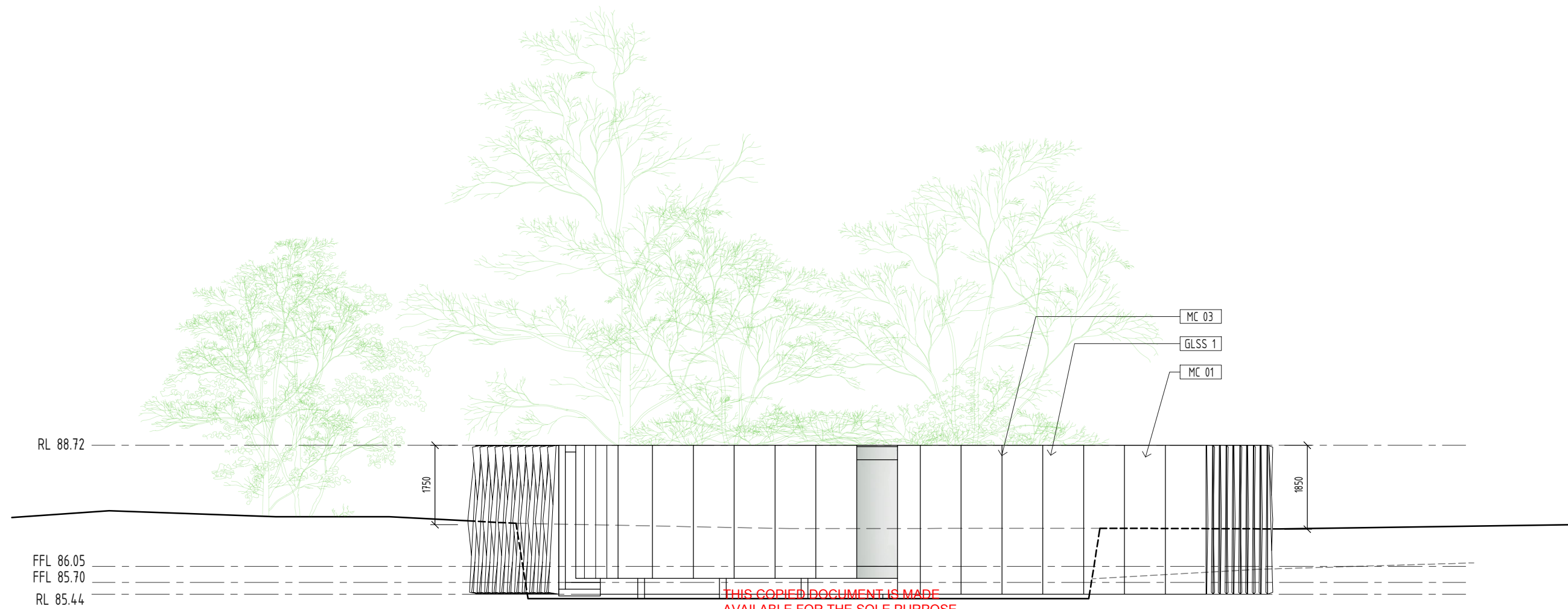
Project  
 14 CASSIDY DRIVE KENNETT RIVER

Client  
 ELIZABETH KENNEDY

Title  
**PLAN**

Date 26 10 2017	Rev A	Dwg No
Scale 1: 100	Job No 2014 200	TP100

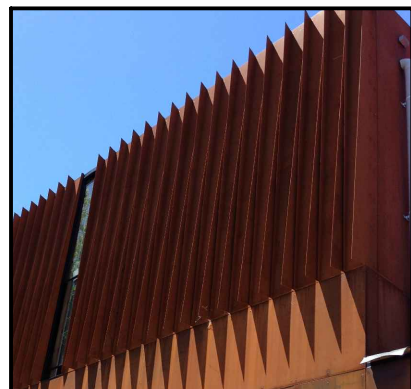




WEST ELEVATION

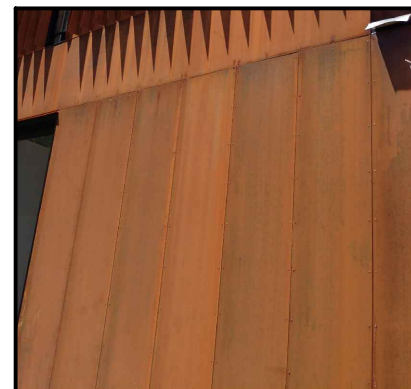
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### MATERIAL SCHEDULE

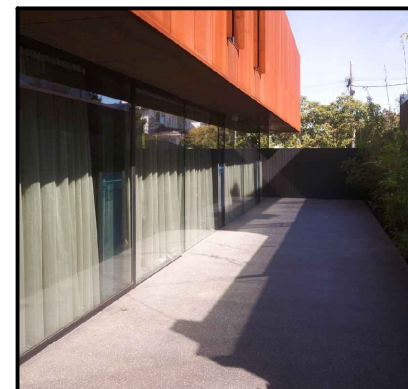


MC 01  
METAL CLADDING  
FOLDED CORTEN STEEL

MC 02  
METAL CLADDING  
FOLDED CORTEN STEEL  
WITH PERFORATIONS



MC 03  
METAL CLADDING  
FLAT CORTEN STEEL



GLSS 1  
STEEL FRAME WINDOWS  
CORTEN STEEL



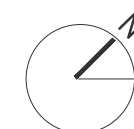
Suite 2/70 Kerr Street Fitzroy VIC 3065  
040 77 66 11 0

Project  
14 CASSIDY DRIVE KENNETT RIVER

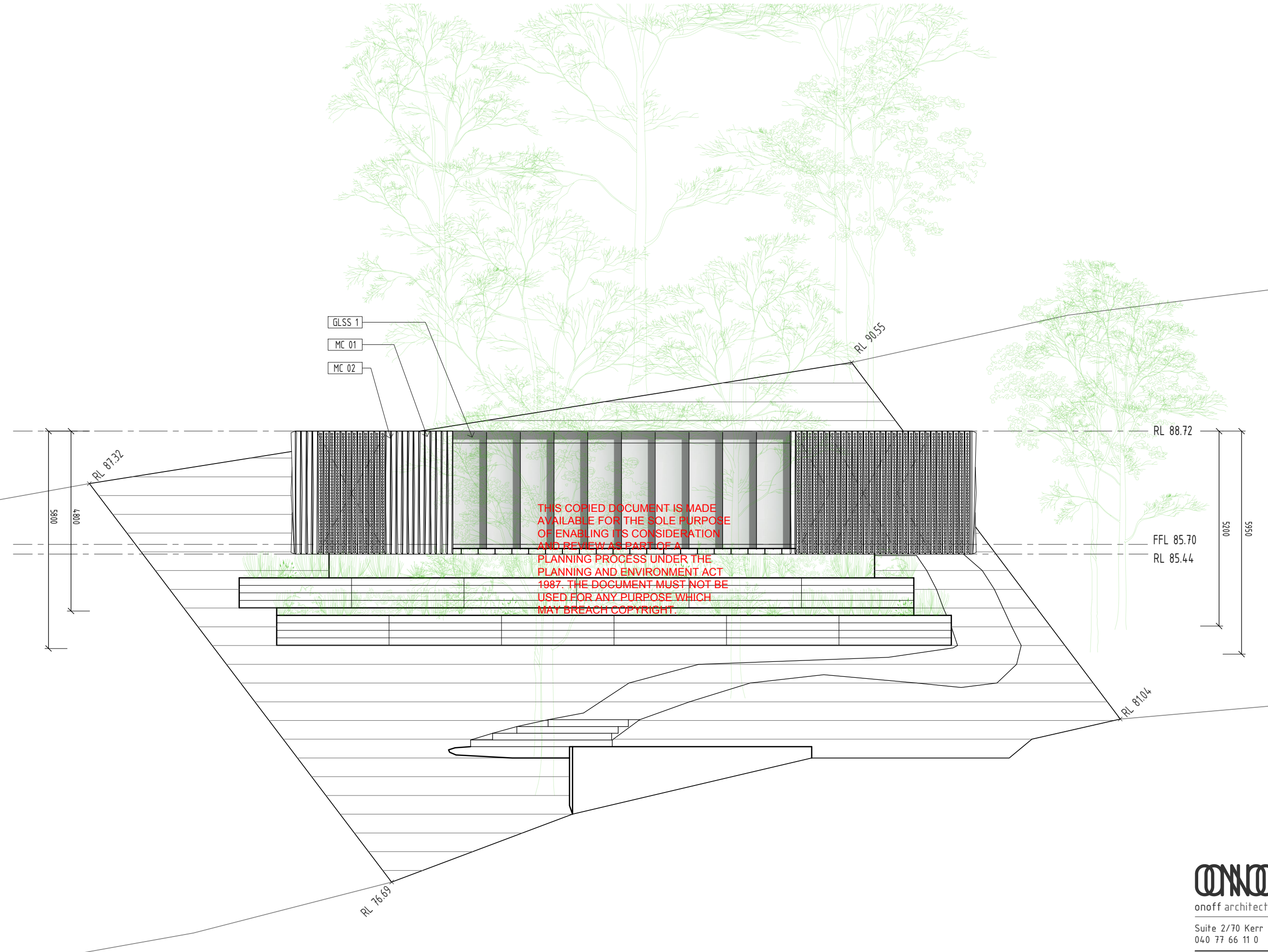
Client  
ELIZABETH KENNEDY

Title  
ELEVATIONS

Date 26 10 2017	Rev A	Dwg No
Scale 1 : 100	Job No 2014 200	TP200







GLSS 1  
MC 01  
MC 02

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EAST ELEVATION



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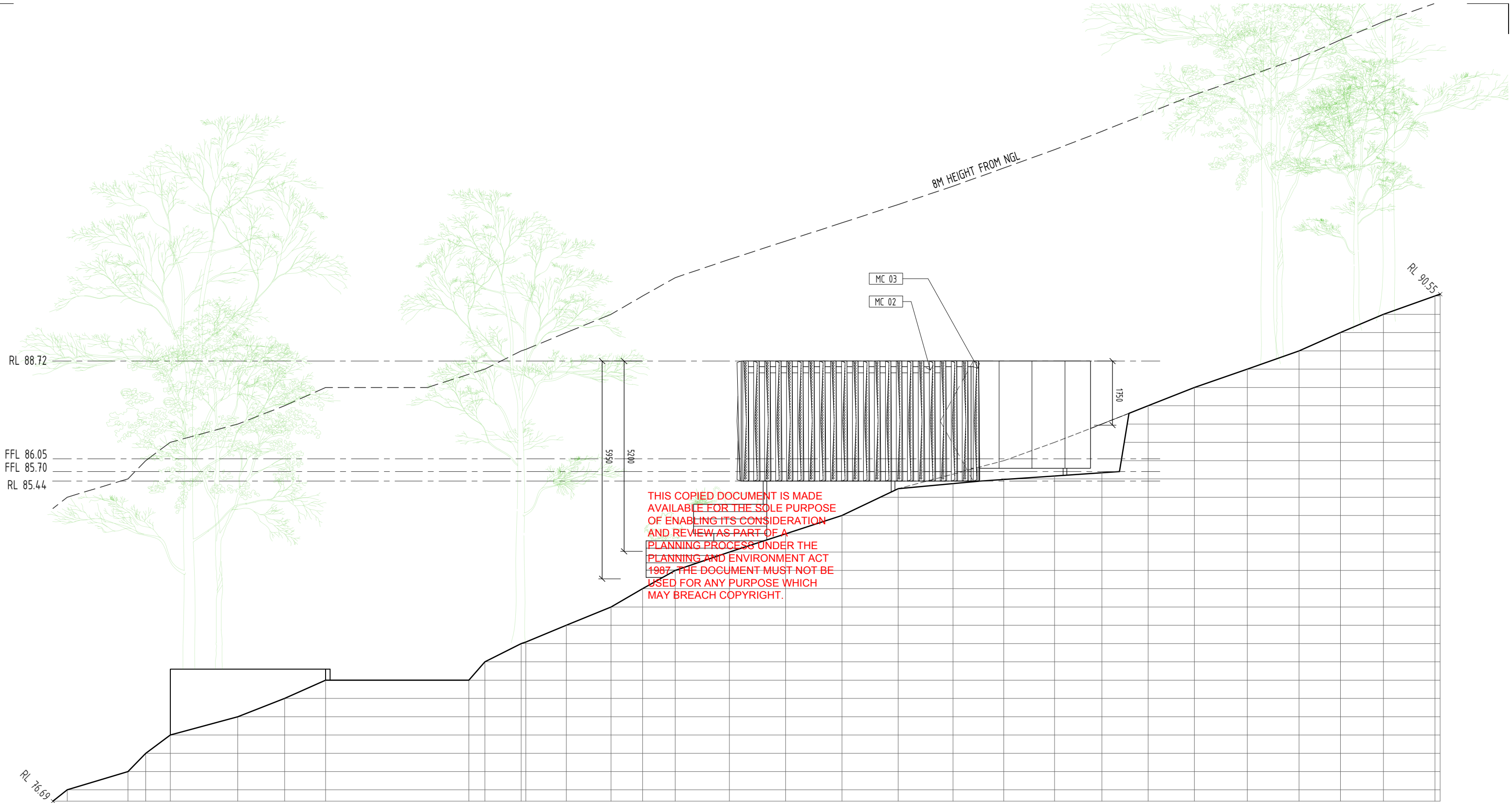
Project  
14 CASSIDY DRIVE KENNETT RIVER

Client  
ELIZABETH KENNEDY

Title  
ELEVATIONS

Date 26 10 2017	Rev A	Dwg No
Scale 1 : 100	Job No 2014 200	TP201

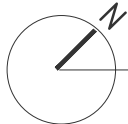




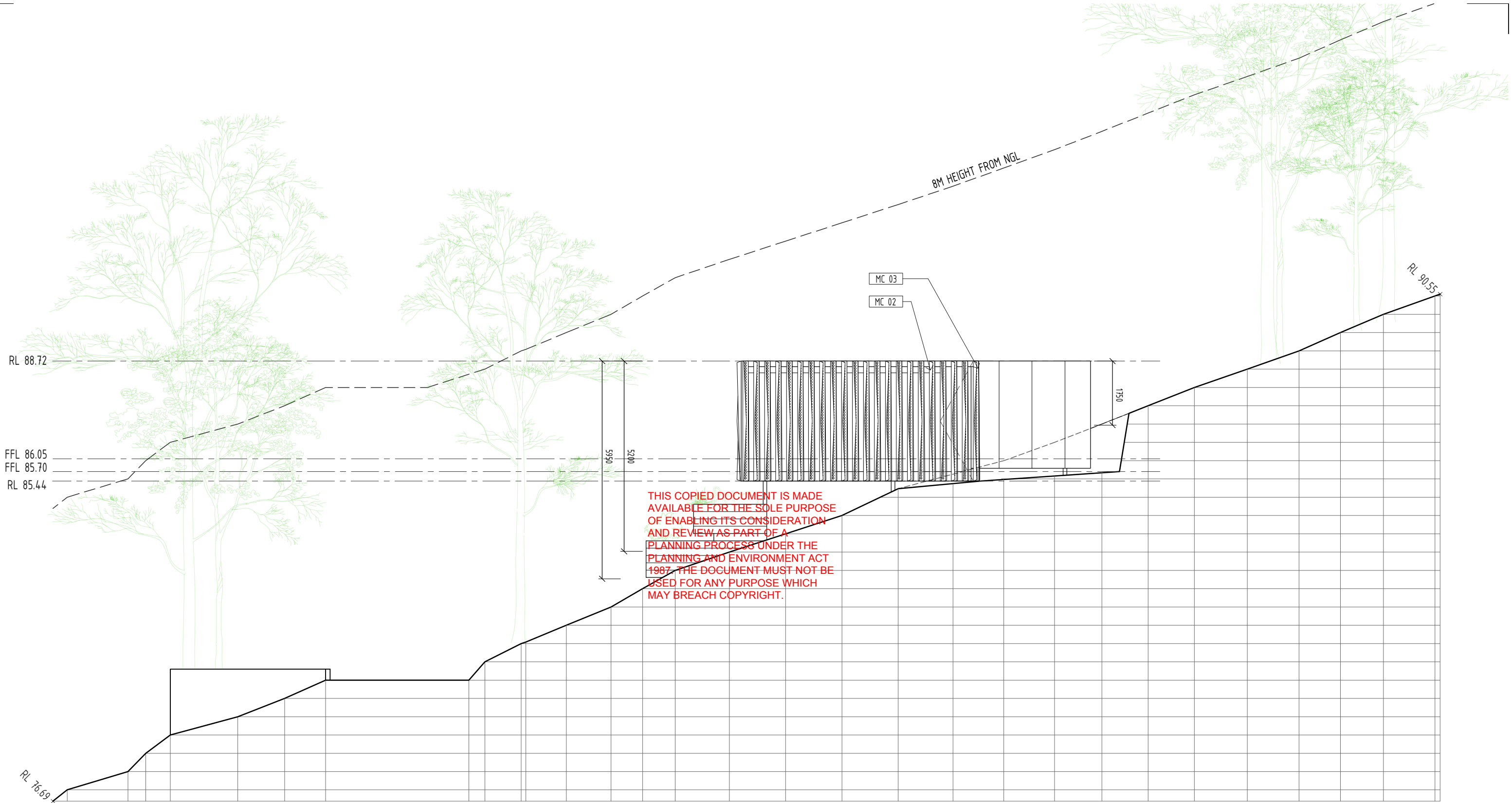
NORTH ELEVATION



onoff architecture  
 Suite 2/70 Kerr Street Fitzroy VIC 3065  
 040 77 66 11 0  
 Project  
 14 CASSIDY DRIVE KENNETT RIVER  
 Client  
 ELIZABETH KENNEDY



Title			ELEVATIONS		
Date 26 10 2017	Rev A	Dwg No			
Scale 1 : 100	Job No 2014 200	TP202			



NORTH ELEVATION



onoff architecture

Suite 2/70 Kerr Street Fitzroy VIC 3065  
040 77 66 11 0

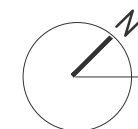
Project  
14 CASSIDY DRIVE KENNETT RIVER

Client  
ELIZABETH KENNEDY

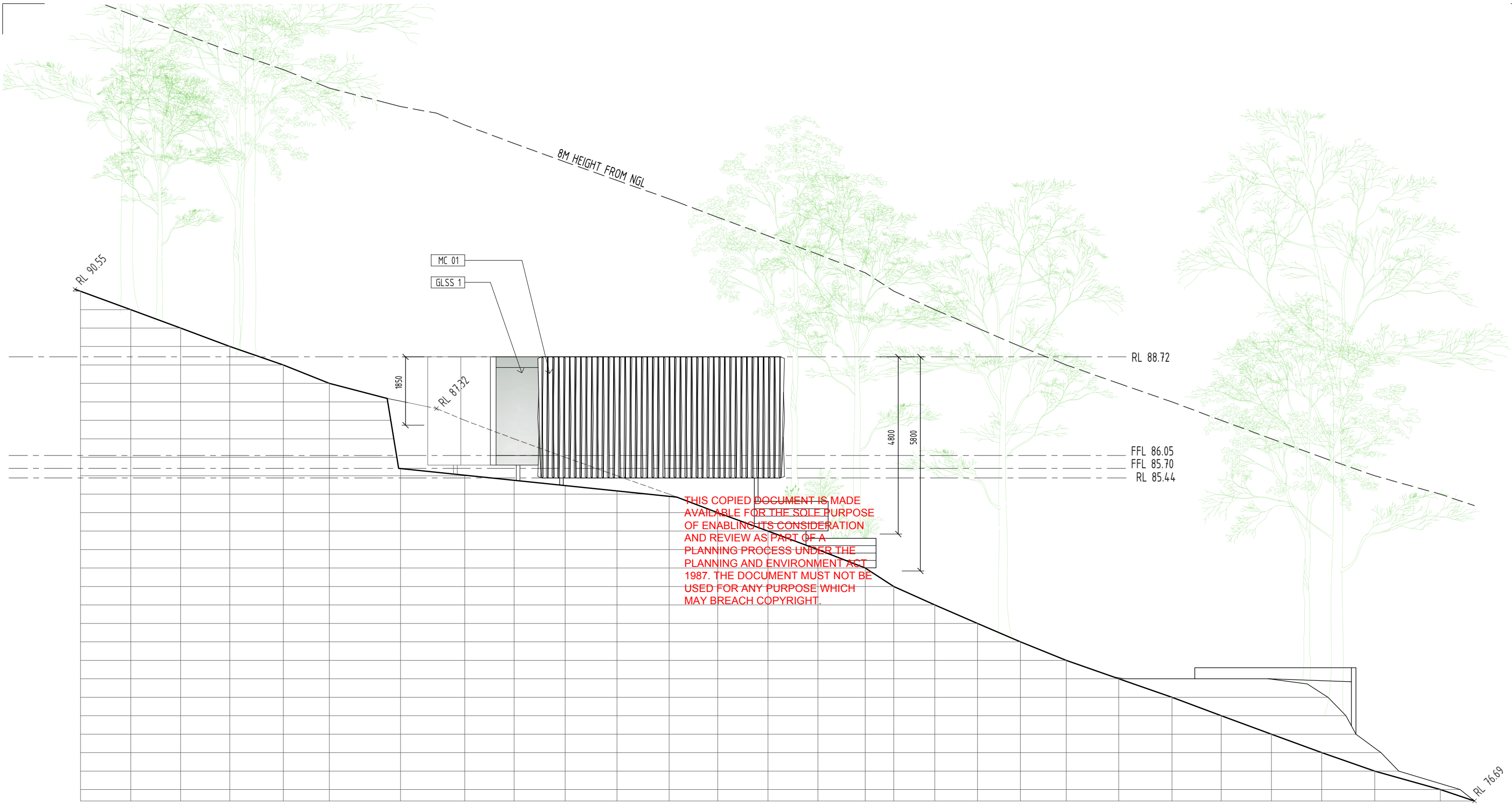
Title  
ELEVATIONS

Date 26 10 2017 Rev A Dwg No

Scale 1 : 100 Job No 2014 200 TP202



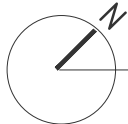




SOUTH ELEVATION



onoff architecture  
 Suite 2/70 Kerr Street Fitzroy VIC 3065  
 040 77 66 11 0  
 Project  
 14 CASSIDY DRIVE KENNETT RIVER  
 Client  
 ELIZABETH KENNEDY



Title <b>ELEVATIONS</b>		
Date 26 10 2017	Rev A	Dwg No
Scale 1 : 100	Job No 2014 200	<b>TP203</b>

**REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958**

VOLUME 10787 FOLIO 068

Security no : 124068914406Q  
Produced 03/11/2017 06:55 am

**LAND DESCRIPTION**

Lot 78 on Plan of Subdivision 061188.  
PARENT TITLE Volume 08498 Folio 131  
Created by instrument AC718136H 04/03/2004

**REGISTERED PROPRIETOR**

Estate Fee Simple  
Joint Proprietors  
MICHAEL JAMES LARIONOFF  
ELIZABETH MARIE KENNEDY both of 92 BRIGHTON STREET RICHMOND VIC 3121  
AL790863M 01/04/2015

**ENCUMBRANCES, CAVEATS AND NOTICES**

CAVEAT AQ388235T 26/10/2017  
Caveator  
SURDEX STEEL PTY LTD  
Grounds of Claim  
CHARGE CONTAINED IN AN AGREEMENT WITH THE FOLLOWING PARTIES AND DATE.  
Parties  
MICHAEL JAMES LARIONOFF  
Date  
28/11/2014  
Estate or Interest  
INTEREST AS CHARGE  
Prohibition  
ABSOLUTELY  
Lodged by  
LANDER & ROGERS  
Notices to  
LANDER & ROGERS of LEVEL 12 600 BOURKE STREET MELBOURNE VIC 3000

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Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

**DIAGRAM LOCATION**

SEE LP061188 FOR FURTHER DETAILS AND BOUNDARIES

**ACTIVITY IN THE LAST 125 DAYS**

NUMBER	CAVEAT	STATUS	DATE
AQ388235T		Registered	26/10/2017

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 14 CASSIDY DRIVE KENNETT RIVER VIC 3234

DOCUMENT END





# Imaged Document Cover Sheet

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Document Type	<b>plan</b>
Document Identification	<b>LP061188</b>
Number of Pages (excluding this cover sheet)	<b>2</b>
Document Assembled	<b>03/11/2017 06:57</b>

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**LP 61188**  
EDITION 1  
PLAN APPROVED  
9/6/64

**2 SHEETS**  
**SHEET 1**

**COLOUR CODE**

- E-1 = BLUE
- E-2 = BROWN
- E-3 = PURPLE
- E-4 = GREEN

**APPROPRIATIONS**

THE LAND COLOURED BLUE AND PURPLE IS APPROPRIATED OR SET APART FOR EASEMENTS OF DRAINAGE AND SEWERAGE

THE LAND COLOURED BROWN IS APPROPRIATED OR SET APART FOR EASEMENTS OF WAY AND DRAINAGE.

**NOTE.**

THE REGISTERED PROPRIETOR HAS SET APART THE LAND COLOURED GREEN AND PURPLE AS A RESERVE FOR THE BENEFIT OF LOTS ON THIS PLAN OF SUBDIVISION AND HAS AGREED TO TRANSFER THE SAID LAND TO THE COUNCIL.

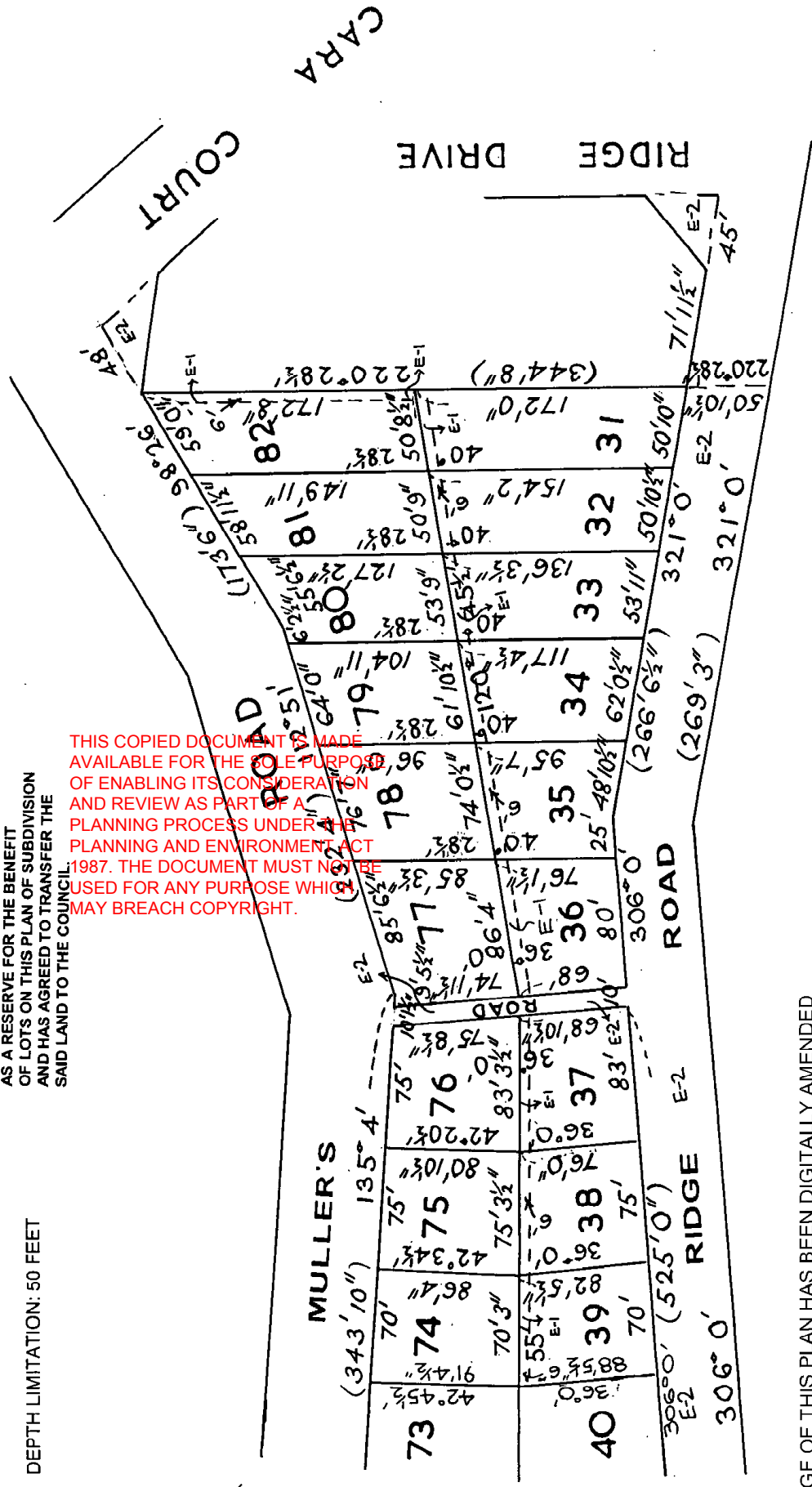
DEPTH LIMITATION: 50 FEET

VOL.8284 FOL.228  
MEASUREMENTS ARE IN FEET AND INCHES

PLAN OF SUBDIVISION  
PART OF CROWN ALLOTMENT 10A  
**PARISH OF WONGARRA**  
COUNTY OF POLWARTH



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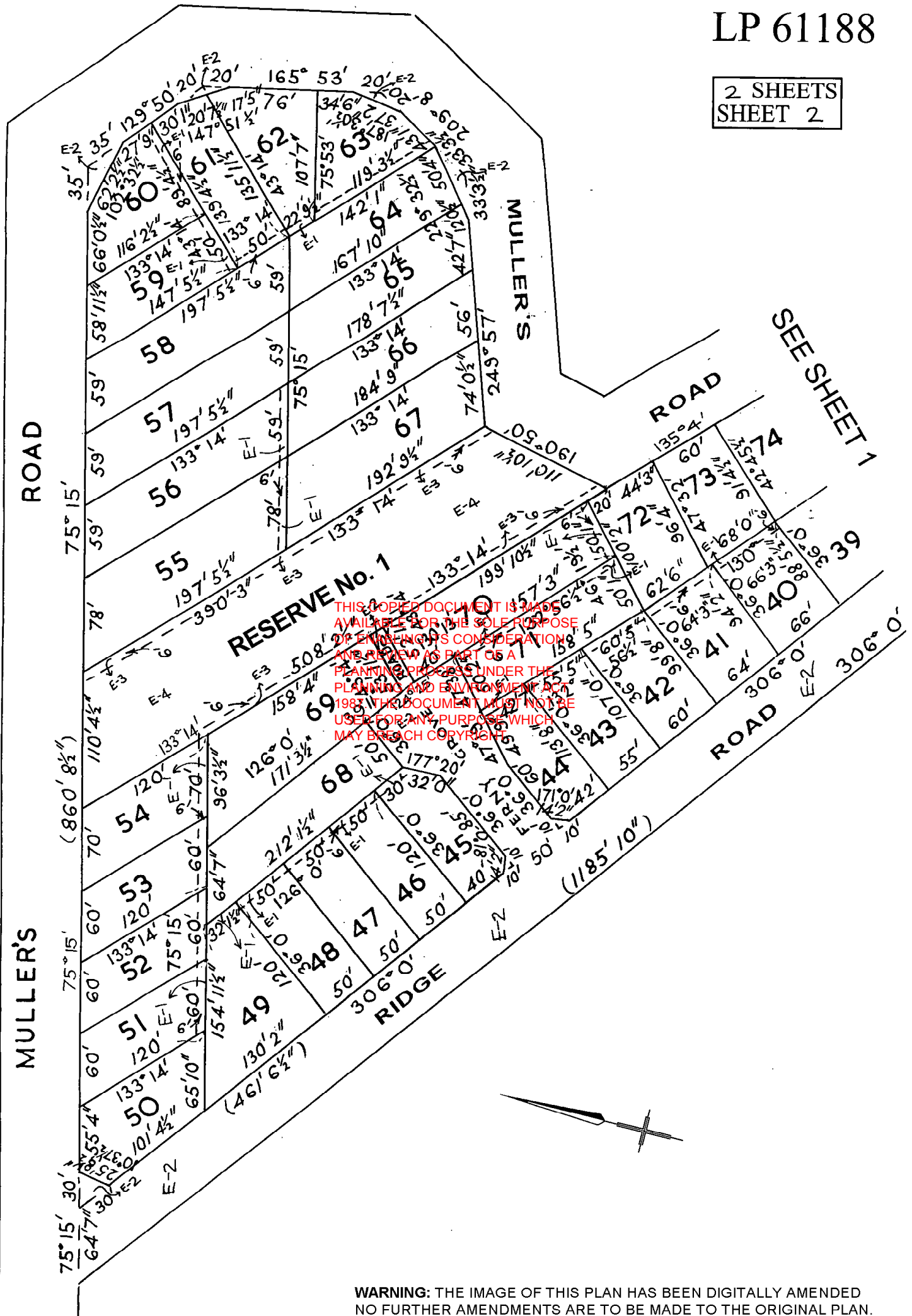
SEE SHEET 2

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LP 61188

2 SHEETS  
SHEET 2



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## DEFENDABLE SPACE

The area of 'Inner Zone' defensible space extends in all directions from the perimeter of the building to the property boundaries. The area is shown hatched on the adjacent plan diagram.

Vegetation and other flammable materials within the 'Inner Zone' of defensible space will be managed and modified in accordance with the following requirements.

- Grass must be less than 50mm high during the declared fire danger period
- Within 10 metres of a building, flammable objects must not be placed in close proximity to vulnerable parts of the building.
- Plants greater than 10 centimetres in height must not be placed within 3m of a window or glass feature of the building.
- Shrubs must not be placed under trees.
- Trees must not overhang or touch any part of the building.
- The canopy of trees must be separated by at least 2 metres and must not exceed 15%
- There must be a clearance of at least 2 metres between the lowest tree branches and ground level
- Features with high flammability such as doormats and firewood stacks should not be located near the building structure.

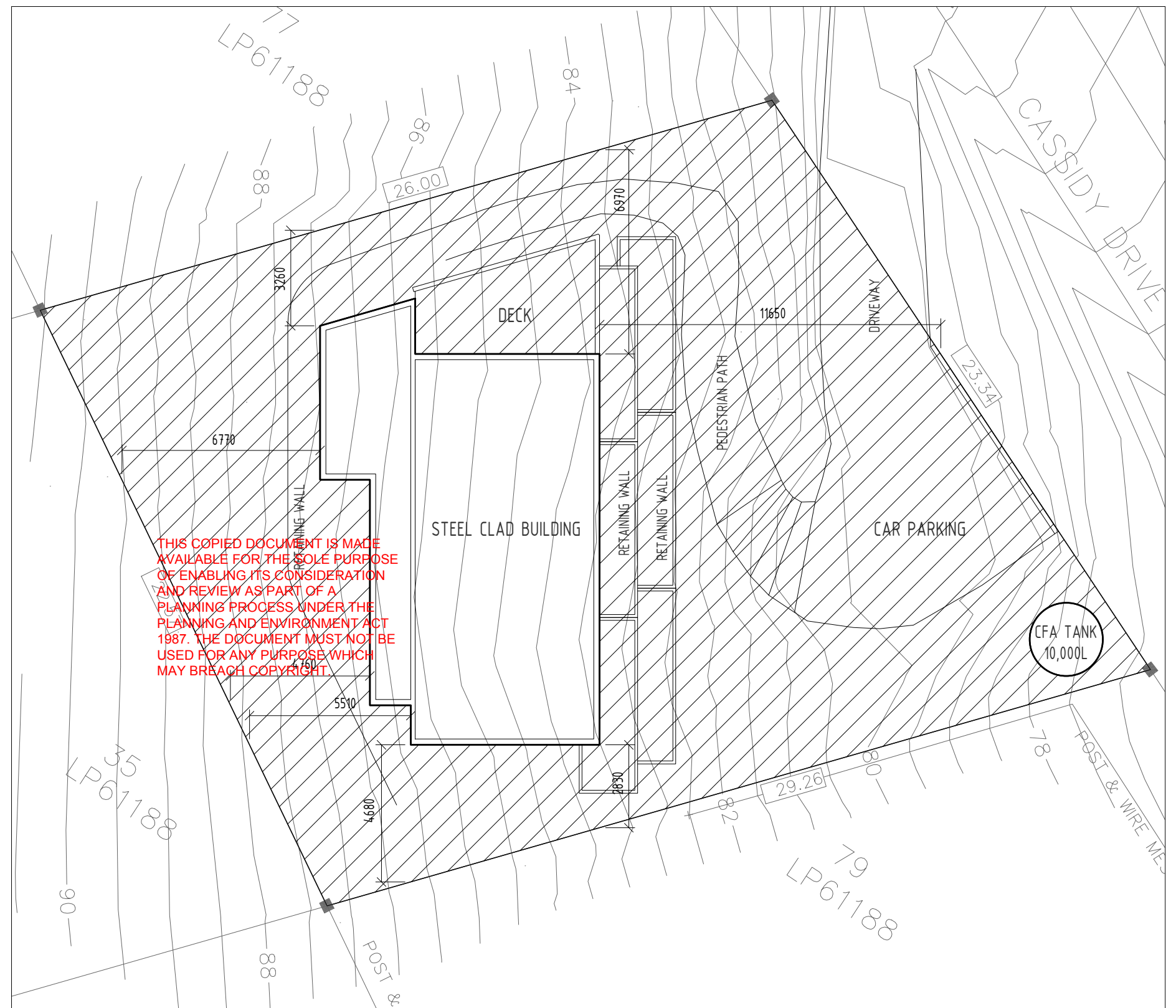
## CONSTRUCTION STANDARDS

All new building work will be designed and constructed to to a minimum Bushfire Attack Level of (BAL) 29.

## WATER SUPPLY

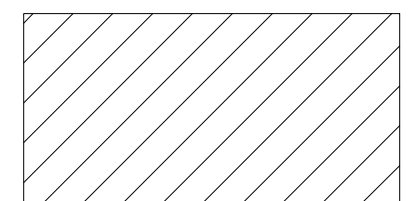
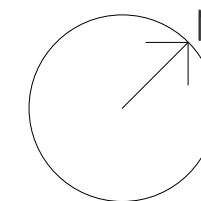
The watertank shown on the plan will hold 10,000 litres of effective water supply for fire fighting purposes and constructed to meet the following requirements:

- Is stored in an above ground water tank constructed of concrete or steel
- All fixed above ground water pipes and fittings required for fire fighting purposes must be made of corrosive resistant metal




# BUSHFIRE MANAGEMENT PLAN

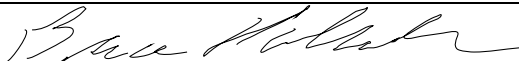
## 26 OCTOBER 2017



HATCHED AREA DENOTES  
DEFENDABLE SPACE



<b>FORM</b>	<b>A</b>	<b>Geotechnical Declaration and Verification Development Application</b>	
Office Use Only			
<p><b>To be submitted with planning application.</b> It must accompany the Geotechnical Assessment and/or Landslip Risk Assessment. This form is essential to verify that the Geotechnical Assessment and/or Landslip Risk Assessment has been prepared in accordance with CI 44.01 of the Colac Otway Planning Scheme and that the author of the Assessment/s is a geotechnical engineer or engineering geologist as defined by this clause.</p>			
<b>Section 1</b>		<b>Related Application</b>	
Planning Application Number (if known)			
Site Address		14 Cassidy Drive	
Applicant		OnOff Architecture and Design	
<b>Section 2</b>		<b>Geotechnical Assessment and /or Landslip Risk Assessment</b>	
Details		Report Title: <b>Geotechnical Investigation - 14 Cassidy Drive, Kennett River</b>	
Author's Company/ Organisation Name:		Bruce Hollioake	Report Reference No: <b>16281</b>
Author:		Bruce Hollioake	Dated: 09 /05 /2016
<b>Section 3</b>		<b>Checklist</b>	
<b>Geotechnical Requirements</b> (Tick as appropriate either Yes or No)		THIS COPIED DOCUMENT IS MADE AVAILABLE FOR THE SOLE PURPOSE OF ENABLING ITS CONSIDERATION AND REVIEW AS PART OF A PLANNING PROCESS UNDER THE PLANNING AND ENVIRONMENT ACT 1987. THE DOCUMENT MUST NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. THIS DOCUMENT IS THE PROPERTY OF THE SHIRE OF COLAC OTWAY AND MUST BE RETURNED TO THE SHIRE OFFICE. MAY BREACH COPYRIGHT.	
		<b>The following checklist covers the minimum requirements to be addressed in a Geotechnical Assessment and/or Landslip Risk Assessment. The report must also cover any additional matters required by Clause 44.01. This checklist must accompany each report. Each item is to be cross-referenced to the section or page of the Geotechnical Assessment and/or Landslip Risk Assessment which addresses that item.</b>	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A review of readily available history of slope instability in the site or related land as per < page 3 >	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	An assessment of the risk posed by all reasonably identifiable geotechnical hazards as per < Page 4 >	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Plans and sections of the site and related land as per < Pages 10-12 >	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Presentation of a geological model as per < Page 3 >	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Photographs and/or drawings of the site as per < Pages 8-9 >	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A conclusion as to whether the site is suitable for the development proposed to be carried out either conditionally or unconditionally as per < Page 6 >	
<input type="checkbox"/> Yes	<input type="checkbox"/> No	If any items above are ticked No, an explanation is to be included in the report to justify why < >	
<b>Is the approval subject to recommendations and conditions relevant to:</b>			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Selection and construction of footing systems.	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Earthworks.	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Surface and sub surface drainage.	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Recommendations for the selection of structural systems consistent with the geotechnical assessment of the risk.	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Any conditions that may be required for the ongoing mitigation and maintenance of the site and the proposal from a geotechnical viewpoint.	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Highlighting and detailing the inspection regime to provide the <PCA> and builder with adequate notification for all necessary inspections.	
50 _____ Years		State the Design Life of the Structure adopted in the Geotechnical Assessment and/or the Landslip Risk Assessment.	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Are the risk mitigation measures as recommended in the Geotechnical Assessment and/or the Landslip Risk Assessment suitable for the design life of the structure?	
<b>NOTE:</b>		<Add Reference> - Add in the relevant section or page number of the listed Geotechnical Assessment and/or Landslip Risk Assessment which addresses each item	

FORM	A	<b>Geotechnical Declaration and Verification Development Application</b>			
<b>Section 4</b> List of Drawings referenced in Geotechnical Assessment and/or Landslip Risk Assessment					
Design Documents	Description	Plan or Document No.	Revision or Version No.	Date	Author
	Site/House Plan - OnOff Architecture	TP001-006		13.07.17	
		TP100-102		13.07.17	
		TP200-203		13.07.17	
		TP300		13.07.17	
<b>Section 5</b> Declaration					
Declaration (Tick all that apply)		I am a geotechnical engineer or engineering geologist as defined by the Colac Otway Planning Scheme and on behalf of the company below:			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	I am aware that the Geotechnical Assessment and/or Landslip Risk Assessment I have either prepared or am technically verifying (referenced above) is to be submitted in support of a planning application for the proposed development site (referenced above) and its findings will be relied upon by the Colac Otway Shire Council in determining the planning application.			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> N/A	I prepared the Geotechnical Assessment and/or Landslip Risk Assessment referenced above in accordance with the Colac Otway Planning Scheme and the AGS Guidelines 2007 as defined in the planning scheme.			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> N/A	I technically verify that the Geotechnical Assessment and/or Landslip Risk Assessment referenced above has been prepared in accordance with the Colac Otway Planning Scheme and the AGS Guidelines 2007 as appropriate.			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	I technically verify that the Geotechnical Assessment prepared for the planning application for the site confirms the land can meet the acceptable risk criteria specified in the schedule to Clause 44.01 of the Colac Otway Planning Scheme taking into account the total development and site disturbance proposed.			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	I technically verify that the Landslip Risk Assessment prepared for the planning application for the site confirms the land can meet the tolerable risk criteria specified in the schedule to Clause 44.01 of the Colac Otway Planning Scheme taking into account the total development and site disturbance proposed.			
<b>Section 6</b> Geotechnical Engineer or Engineering Geologist Details					
Company/ Organisation Name	Bruce Hollioake				
Name (Company Representative)	Surname:	Hollioake	Dr / Mr / Mrs / Ms / Miss		
	Given Name(s)	Bruce Dale			
	Chartered Professional Status	Yes	Registration Number	369570	
Signature				Dated: 06.12.2017	

**Reference:** AGS Guidelines 2007c "Practice Note Guidelines for Landslide Risk Management", Australian Geomechanics Society, Australian Geomechanics. V42. N1 March 2007.

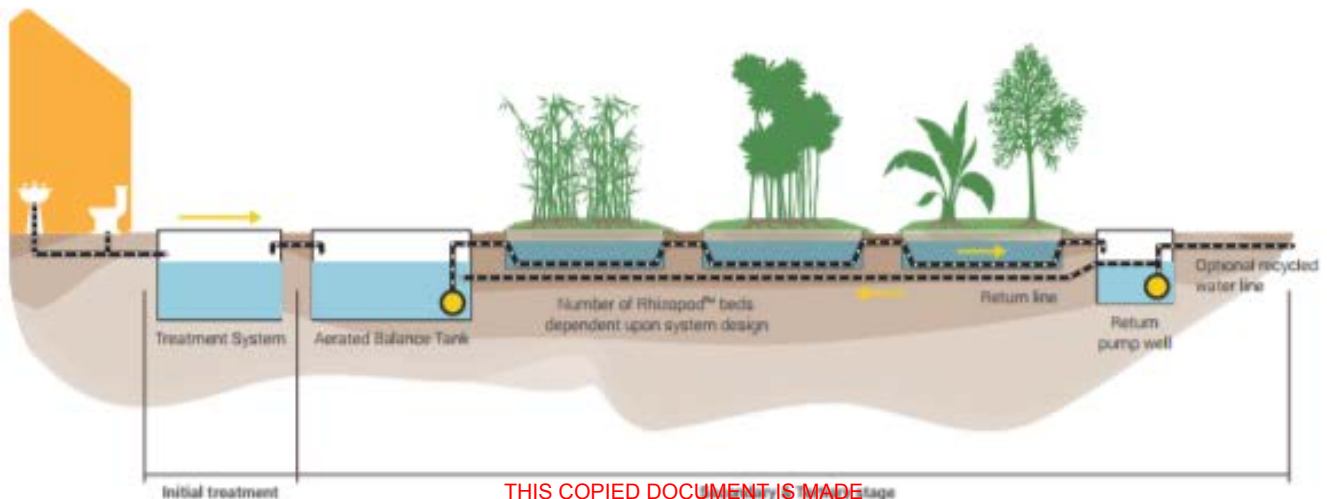
**Note:** N/A = Not Applicable



## BACKGROUND

The Rhizopod system is an on-site wastewater treatment technology that takes advantage of evapotranspiration – the loss of water from the soil by evaporation and by transpiration from plants. This product is a unique completely contained recirculating hydroponic pod arrangement which uses plants to beneficially use and disperse the wastewater from your site.

The Rhizopod technology is a 'no release' system with nil discharge to the local environment



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Rhizopods are being used at single domestic sites and decentralised systems for small communities of 1600EP

It is independent of the local soil type, has a very small footprint, and allows for reduced setback distances.

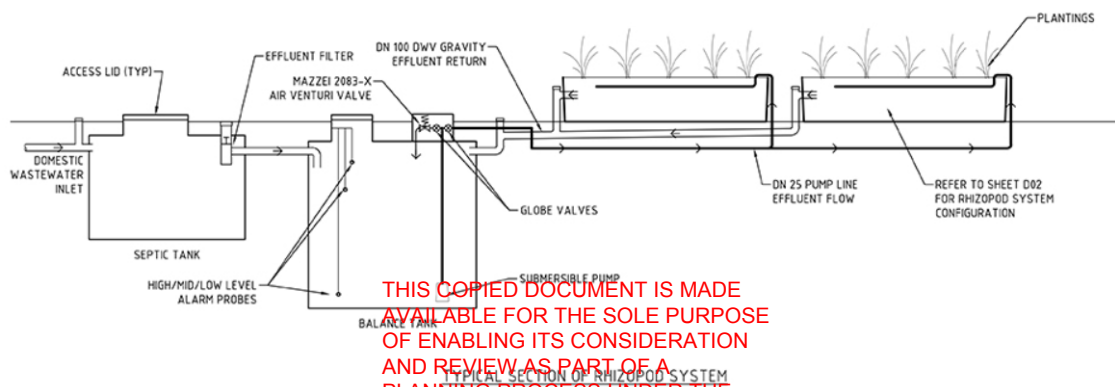
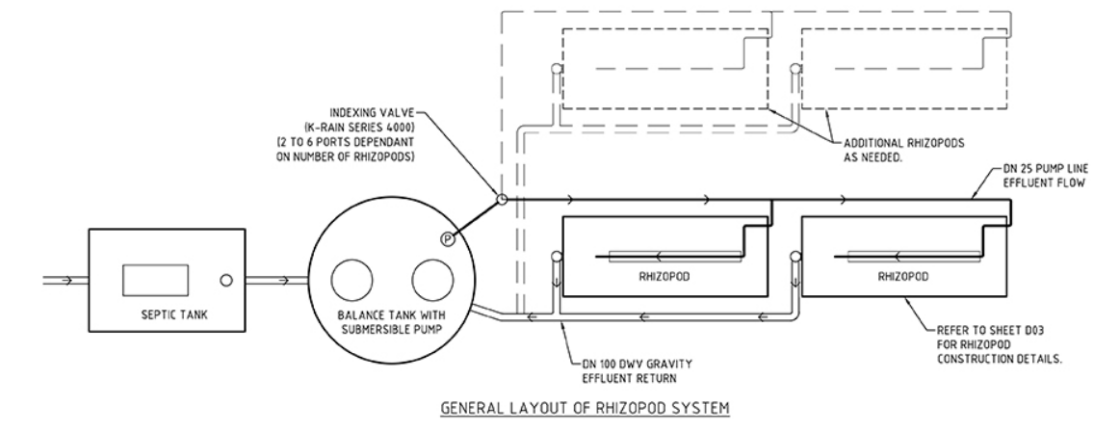
Wastewater is treated to via either a package plant (AWTS) or a septic tank, and is then distributed to the self-contained pod. Effluent overflow drains to a balance tank for recirculation through the system.

The Rhizopod technology has been specifically designed for 'difficult' sites. If your block has heavy clay soils, high water-tables, nearby bores or waterways, or it's just too small to fit both the house you want to build and the on-site wastewater technology; then the Rhizopod system is the solution you need.



FIGURE 1 HOW THE RHIZOPOD WORKS ABOVE AND BELOW GROUND

# ARRIS RHIZOPOD RESIDENTIAL ON-SITE NO RELEASE WASTEWATER MANAGEMENT SYSTEM



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**GENERAL ARRANGEMENT OF SYSTEM**



**TYPICAL ON-GROUND SYSTEM**





**TYPICAL GROUND LEVEL SYSTEM JUST AFTER INSTALLATION**

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**TYPICAL GROUND LEVEL SYSTEM WHEN ESTABLISHED**