

## Form 2

## NOTICE OF AN APPLICATION FOR PLANNING PERMIT

The land affected by the application is located at:	33 Pardews Lane ORBOST 3888 Lot: 1 TP: 845791
The application is for a permit to:	Use and Development of a Dwelling and Creation of an Easement
The applicant for the permit is:	Development Solutions Victoria Pty Ltd
The application reference number is:	5.2023.315.1
You may look at the application and any documents that support the application on the website of the responsible authority.	COVID-19 Omnibus (Emergency Measures) Bill 2020 now modifies the requirement of Form 2 so that <i>Planning documents previously required to be physically available to view at local government offices are now only required to be available for online inspection.</i>

This can be done anytime by visiting the following website:

<https://www.eastgippsland.vic.gov.au/building-and-development/advertised-planning-permit-applications>

Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

An objection must

- ♦ be made to the Responsible Authority in writing,
- ♦ include the reasons for the objection, and
- ♦ state how the objector would be affected.

The Responsible Authority will not decide on the application before:	Subject to applicant giving notice
--	------------------------------------

**If you object, the Responsible Authority will tell you its decision.**

The responsible authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.

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

Page 1 of 1

VOLUME 07254 FOLIO 651

Security no : 124110235374U  
Produced 02/11/2023 10:45 AM

### LAND DESCRIPTION

Lots 1 and 2 on Title Plan 851305R.  
PARENT TITLE Volume 05732 Folio 369  
Created by instrument 2194135 10/02/1949

### REGISTERED PROPRIETOR

Estate Fee Simple  
As to 1 of a total of 2 equal undivided shares  
Sole Proprietor

### 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 set out under DIAGRAM LOCATION below.

### DIAGRAM LOCATION

SEE TP851305R FOR FURTHER DETAILS AND BOUNDARIES

### ACTIVITY IN THE LAST 125 DAYS

NIL

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

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

OTHER TITLES WITH INTERESTS AFFECTING THIS LAND  
7254/652

### ADMINISTRATIVE NOTICES

AT571704M NOMINATION TO PAPER INST 02/09/2020

eCT Control 16667Y GADENS LAWYERS  
Effective from 11/09/2020

DOCUMENT END

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Document Type	<b>Plan</b>
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Document Assembled	<b>02/11/2023 10:47</b>

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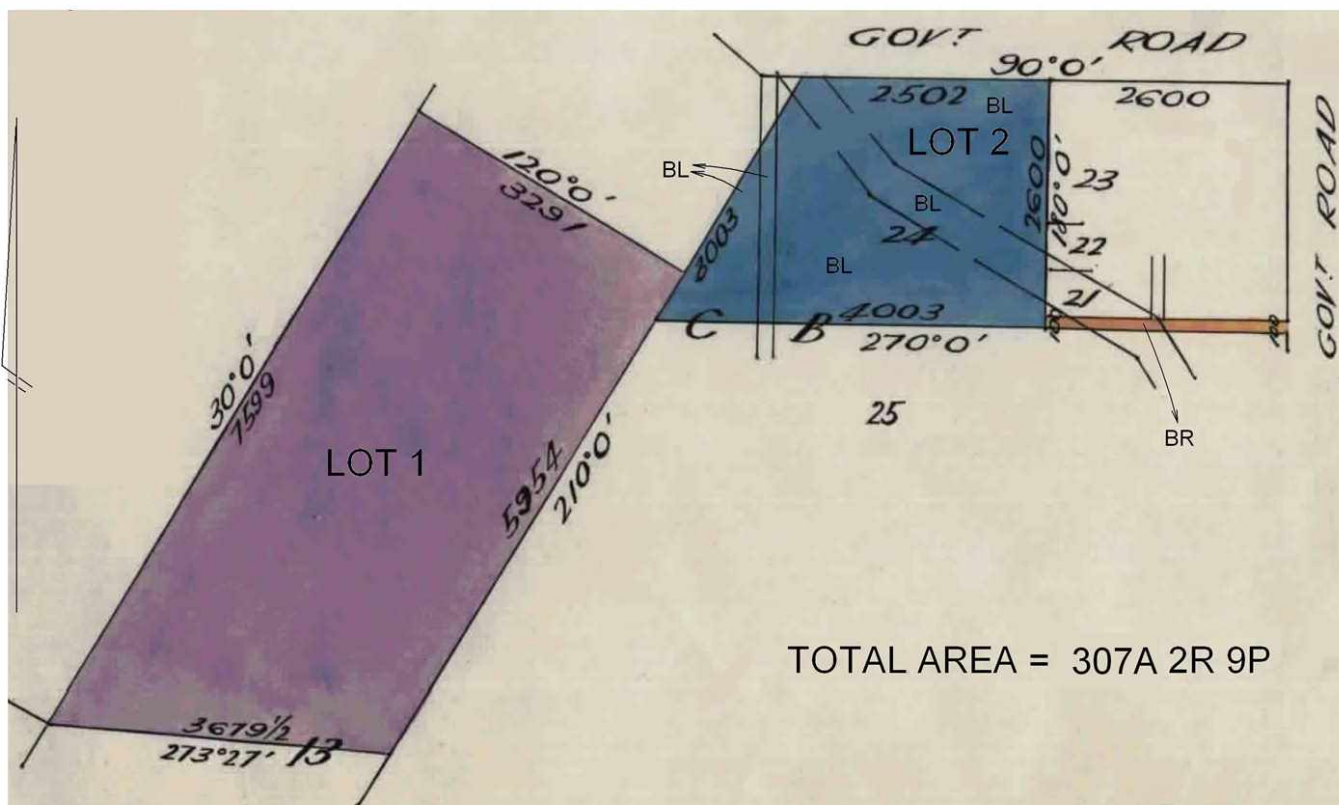
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<h1>TITLE PLAN</h1>		<p>EDITION 1</p> <p>TP851305R</p> <p>Notations</p>
<p><b>LOCATION OF LAND</b></p> <p>Parish: ORBOST</p> <p>Township:</p> <p>Section: A -</p> <p>Crown Allotment: 13 (PT) B (PT) &amp; C(PT)</p> <p>FORMER GOVERNMENT ROAD (PT)</p> <p>Last Plan Reference: LP 4109</p> <p>Derived From: VOL. 7254 FOL. 651</p> <p>Depth Limitation: VOL. 7254 FOL. 652</p>		<p>ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN</p>

<p><b>Description of Land/Easement Information</b></p> <p>As to the land coloured blue Together with a right of carriage way over the road coloured brown on the said map - - - - -</p> <p><b>ENCUMBRANCES</b></p> <p>As to the land coloured blue ---</p> <p><u>THE RIGHTS</u> (if any) of Orbost Shire Council of access to the said land for drainage purposes - - - - -</p>	<p>THIS PLAN HAS BEEN PREPARED BY LAND REGISTRY, LAND VICTORIA FOR TITLE DIAGRAM PURPOSES</p> <p>COMPILED: Date: 02-03-06</p> <p>VERIFIED: A. DALLAS Assistant Registrar of Titles</p>
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COLOUR CODE  
BL = BLUE BR = BROWN



TOTAL AREA = 307A 2R 9P

TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
LOT 1 = CA 13 (PT) SECTION A LOT 2 = LOT 24 ON LP 4109

LENGTHS ARE IN LINKS	Metres = 0.3048 Feet Metres = 0.201168 x Links	Sheet 1 of 1 Sheets
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JUL  
20  
23

APPLICATION FOR PLANNING PERMIT

**USE AND DEVELOPMENT OF A DWELLING  
AND CREATION OF AN EASEMENT**

33 PARDEWS LANE, ORBOST  
DAVID McMAHON  
REF: 23045



## CONTENTS

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## APPENDIX

A	Copy of title and Plan of Subdivision
B	Proposed Development Plans
C	Land Capability Assessment
D	EGCMA Advice Letter

## DOCUMENT REVISION

1	Draft Report	DAC	29/07/2023
2	Final Report	CMC	06/08/2023



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337 ARDELS LANE, ORBOST



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## 1. INTRODUCTION

Development Solutions Victoria Pty Ltd act on behalf of David McMahon, the owner of the land seeking approval for the use and development of a dwelling and creation of an easement at 33 Pardews Lane, Orbost.

This submission and supporting documentation provide details of the subject site, relevant planning controls and policies and provides an assessment against the provisions of the East Gippsland Planning Scheme.

The proposal is consistent with the objectives of the East Gippsland Planning Scheme, is an appropriate development in this location and will result in an appropriate planning outcome.

Address	33 Pardews Lane, Orbost
Site Description	Lot 1 on title Plan 845791N
Title Particulars	Vol 08470 Fol 479
Site Area	35.02ha
Proposal	Use and Development of a Dwelling
Planning Scheme	East Gippsland Planning Scheme
Zone	Farming Zone – Schedule 1
Overlays	Land Subject to Inundation Overlay
Aboriginal Cultural Heritage	Identified as an area of Cultural Heritage Sensitivity
Permit Triggers	Clause 35.07-1 Farming Zone - Use of land for a dwelling Clause 35.07- 4 Buildings and works for a Section 2 use and within 100 metres of a watercourse
Notice	No exemption available
Referrals	EGCMA
Work Authority Licence	Not applicable
Planning Scheme requirements	Municipal Planning Strategy – Clause 02 Settlement – Clause 02.03-1 Environmental and landscape values – Clause 02.03-3 Environmental risks and amenity – Clause 02.03-3 Built environment and heritage – Clause 02.03-5 Planning Policy Framework – Clause 10 Settlement – East Gippsland Settlements Clause 11.01-1L-01 Rural Settlements – Orbost 11.01-1L-03 Environmental and landscape values – Clause 12 Environmental risks and amenity – Clause 13 Natural Resource Management – Clause 14 Built environment and heritage – Clause 15 Farming Zone - Clause 35.07 Decision guidelines – Clause 65

## 2. SITE CONTEXT

### Site

The subject site is located at 33 Pardews Lane, Orbost. A copy of the Title and Title Plan is contained in **Appendix A**. The title is not affected by any restrictive covenants or agreements.

The site is irregular in shape with a total area of approximately 35.02 hectares. The site is predominantly grazing land, is undulating in nature and contains scattered vegetation throughout. The subject site contains multiple watercourses which are primarily concentrated to the eastern portion. The site contains existing agricultural shedding and associated facilities. There was previously a dwelling on the site that has been demolished.

The subject site is currently used for agriculture being the operation of a dairy farm. Details of the site are depicted in the photographs provided below.

Access to the site is existing via a gravel driveway directly from Pardews Lane.

The subject site in relation to Orbost as well as the surrounding land, is shown in the locality plans in **Figure 1** and **Figure 2**.



Figure 1 – Locality Plan – 33 Pardews Lane, Orbost (source: mapshare.vic.gov.au)

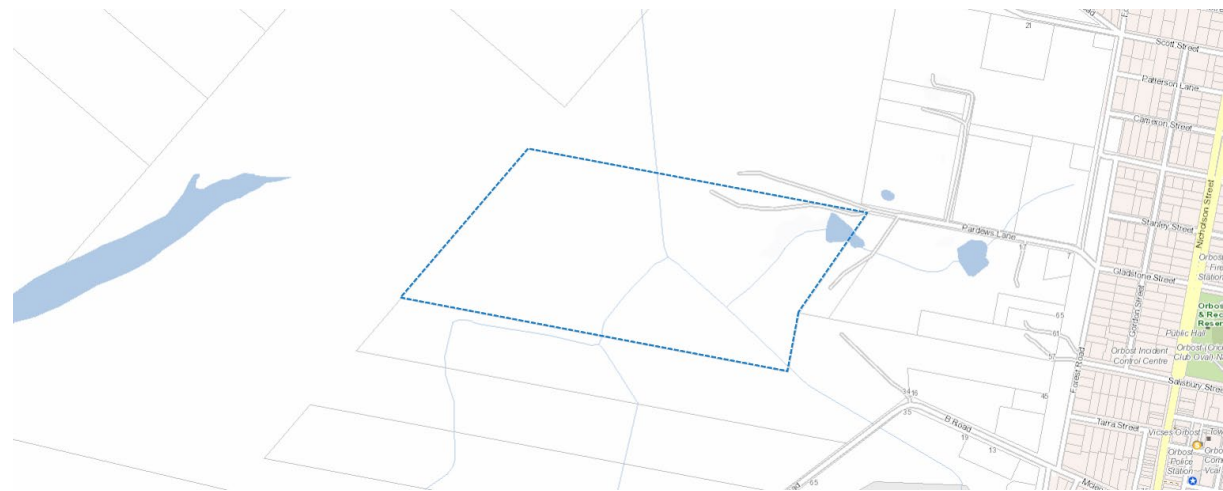


Figure 2 – Locality Plan – 33 Pardews Lane, Orbost (source: mapshare.vic.gov.au)



## Surrounds

The land surrounding the site comprises farming land.

North of the subject site is existing farming land used in conjunction with the property in this application and contains a dwelling, associated facilities and operational dairy farm. East of the subject site contains Pardews Lane and an existing dwelling. South and west of the subject site comprises of further farming land.

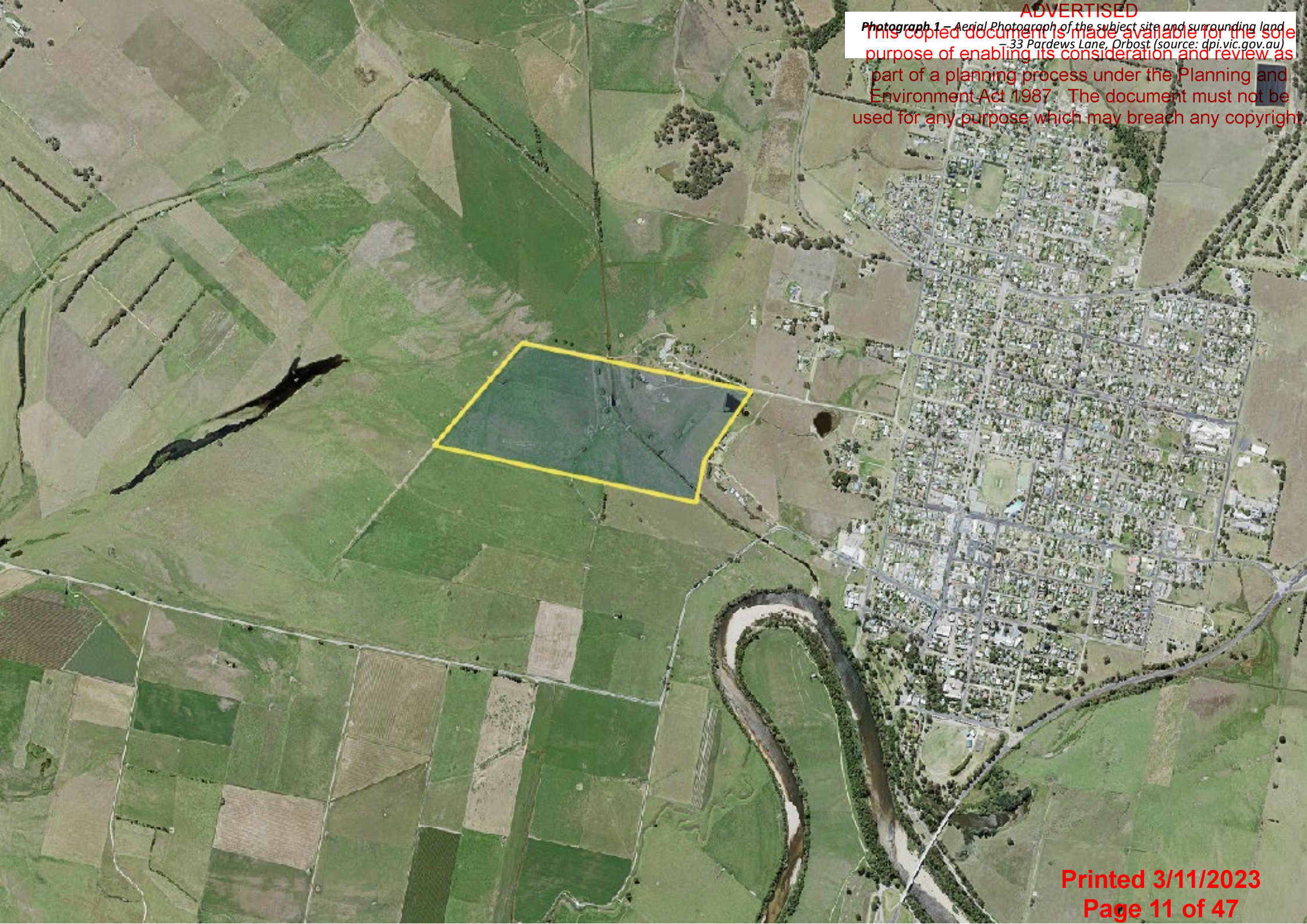
The subject site is located to the west of the Central Business District of Orbost. Orbost is a large rural service centre with a range of services and facilities. Orbost is located approximately 89km east of Bairnsdale. Bairnsdale provides a full suite of services and facilities to the area.

A visual description of the subject site and surrounding land is outlined in the aerial photograph below.





Photograph 1 – Aerial photograph of the subject site and surrounding land  
 – 33 Pardews Lane, Orbost (source: dpi.vic.gov.au)  
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**Photograph 2** – Existing driveway entrance to the subject site at 33 Pardews Lane, Orbost.



**Photograph 4** – Subject site facing north.



**Photograph 6** – Subject site facing south showing proposed dwelling location.



**Photograph 3** – Existing hay shed on site facing west.



**Photograph 5** – Subject site facing east.



**Photograph 7** – Subject site facing southwest.





**Photograph 8** – Subject site facing west.



**Photograph 10** – Existing dairy in association with subject site directly opposite at 25 Pardews Lane, Orbost.



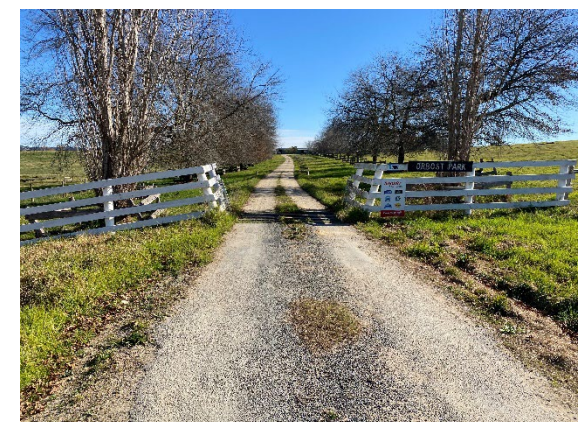
**Photograph 12** – Pardews Lane facing east.



**Photograph 9** – Existing dam in the eastern portion of the subject site.



**Photograph 11** – Neighbouring property adjoining the subject site along the eastern boundary at 31 Pardews Lane, Orbost.



**Photograph 13** – Pardews Lane facing west.

### 3. THE PROPOSAL

This application seeks approval for the use and development of a dwelling and the creation of a carriageway easement. The proposed development plans are contained in **Appendix B**.

The proposed dwelling will be located in the northern portion of the site and will have a setback of approximately 83.6 metres to the northern boundary, 235 metres to the eastern boundary and 303 metres to the southern boundary.

The proposed dwelling will be single storey and will be finished with a combination of materials including face brickwork, James Hardy Scyon Stria cladding and Colorbond roof sheeting.

The total building area of the proposed dwelling will be 321.25m<sup>2</sup>. The overall height of the proposed dwelling will be 5.84 metres. An extract from the plans showing the floor plan and south elevation is provided to the right.

Vehicle access to the site will be provided via a newly created carriageway easement via the property adjoining the northern boundary which will provide access in a flood free area.

No vegetation removal is required and no extensive earthworks will be required.

The proposed dwelling will connect to the existing services including telecommunications and electricity. Water will be provided via a proposed water tank and wastewater disposal will be via a secondary treatment system as recommended in the Land Capability Assessment contained in **Appendix C**.

The proposed dwelling will be used for a farm manager to live onsite and assist with the operation of the existing dairy farm. The operation of a dairy farm requires someone to be available 24/7 to ensure animals are adequately cared for. Care of cattle is not restricted to milking times only. During calving season some cattle may need urgent care, and as such it is imperative that a manager live onsite to ensure no delay in treatment of animals.

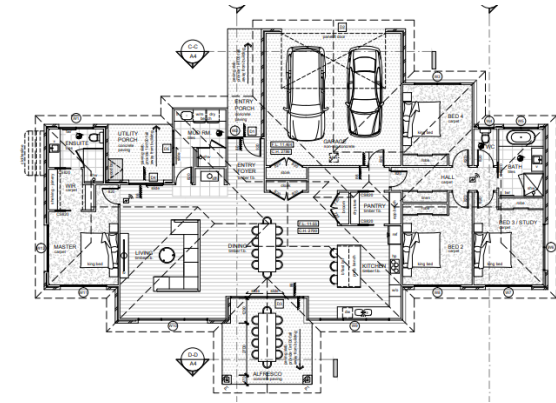


Figure 3 – Proposed Floor Plan – Sands Building Design



Figure 4 – South Elevation – Sands Building Design



Preliminary advice has been obtained from the East Gippsland Catchment Management Authority which concludes the authority is unlikely to object to the proposal. A copy of the preliminary advice is contained in **Appendix D**. In addition, preliminary advice has been obtained from the East Gippsland Shire Council for the proposal and concludes Council would be supportive of the proposed dwelling for the purposes of farm management.

As with many regional areas, Orbost has seen significant growth over the last few years. The levels of growth have quickly occupied available housing options that might otherwise be available for incoming workers. There is limited properties for sale within an affordable price range and minimal to no rental properties available within the Orbost area. Alternate accommodation options need to be explored to find and retain workers such as this proposal.

Below is a table of the existing land holdings owned and managed under the existing agricultural enterprise.

Address	Area
33 Pardews Lane, Orbost	35 Ha
36 Pardews Lane, Orbost	150 Ha
B Road	8 Ha
Bouchers Lane	20 Ha
Knob Track	52 Ha

#### 4. ZONES AND OVERLAYS

##### Farming Zone – Schedule 1

The purpose of the Farming Zone is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for the use of land for agriculture.
- To encourage the retention of productive agricultural land.
- To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.
- To encourage the retention of employment and population to support rural communities.
- To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
- To provide for the use and development of land for the specific purposes identified in a schedule to this zone.

An extract of the Farming Zone Map is provided to the right in **Figure 5**:

A dwelling on an allotment that is less than 40 hectares is a Section 2 use - permit required.

A permit is required to construct a building or construct or carry out works for use in Section 2 and within 100 metres of a watercourse at Clause 35.07-4.



Figure 5 – Zoning Map – (source - mapshare.vic.gov.au)

## Land Subject to Inundation Overlay

The purpose of the Land Subject to Inundation Overlay is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To identify flood prone land in a riverine or coastal area affected by the 1 in 100 (1 per cent Annual Exceedance Probability) year flood or any other area determined by the floodplain management authority.
- To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, responds to the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.
- To minimise the potential flood risk to life, health and safety associated with development.
- To reflect a declaration under Division 4 of Part 10 of the Water Act, 1989.
- To protect water quality and waterways as natural resources by managing urban stormwater, protecting water supply catchment areas, and managing saline discharges to minimise the risks to the environmental quality of water and groundwater.

- To ensure that development maintains or improves river, marine, coastal and wetland health, waterway protection and floodplain health.

An extract of the Land Subject to Inundation Overlay Map is provided below in **Figure 6**:

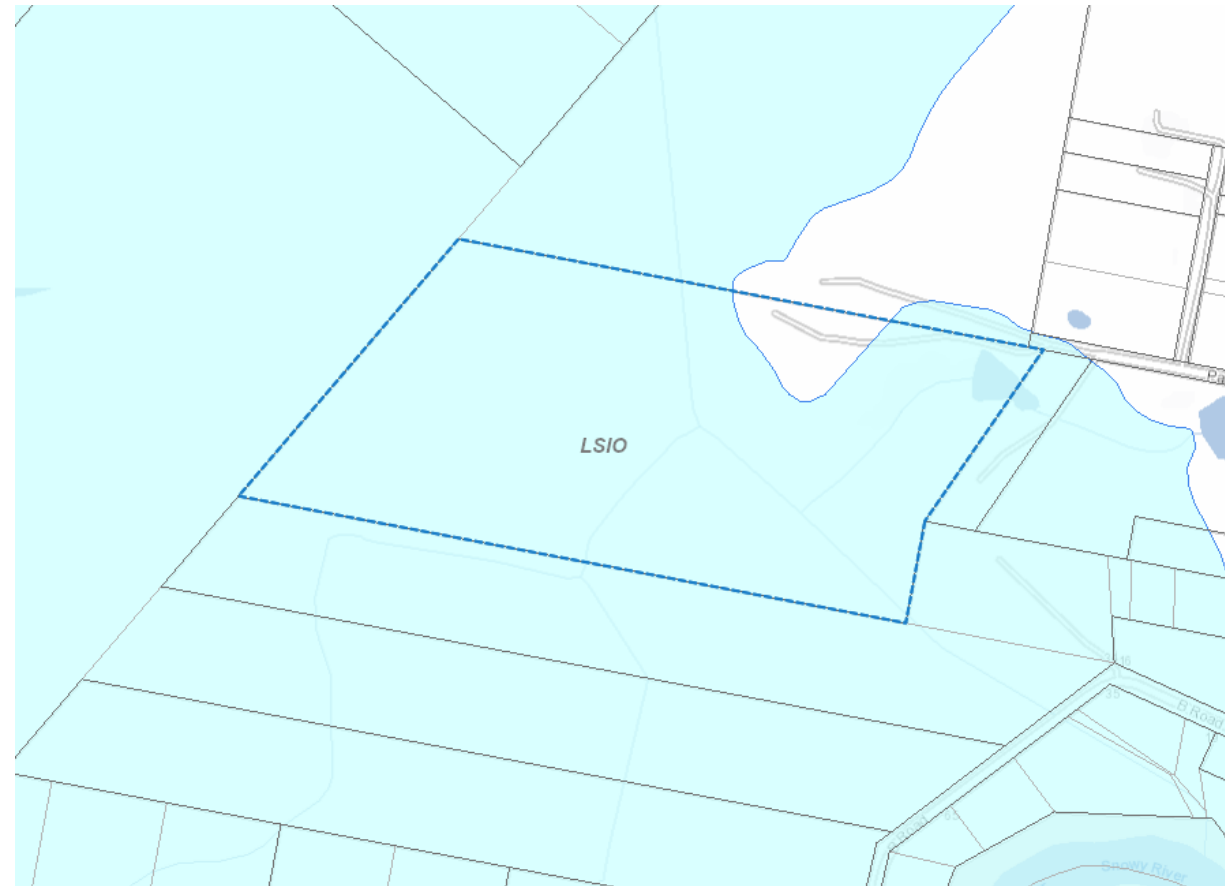


Figure 6 – Land Subject to Inundation Overlay – (source - mapshare.vic.gov.au)

Preliminary advice from the East Gippsland Catchment Management Authority provides that the authority would be unlikely to object if alternative access is provided via the adjoining property to the north at 35 Pardews Lane.

A copy of the preliminary advice from the East Gippsland Catchment Management Authority is provided in **Appendix D**

This proposal includes the creation of a carriageway easement on the adjoining property at 35 Pardews Lane. As the easement is to be registered on the title of 35 Pardews Lane in favour of the property at 33 Pardews Lane primarily for access provision a Section 173 Agreement is not deemed necessary. The creation of a carriageway easement on land that is not liable to flooding is considered to be an appropriate measure to ensure flood free access to the proposed dwelling site.

## Aboriginal Cultural Heritage

Under the provisions of the *Aboriginal Heritage Act 2006* the subject site is partly recognised as being within an area of Aboriginal Cultural Heritage Sensitivity.

An extract of the Aboriginal Cultural Heritage Map is provided to the right in **Figure 7**.

The proposed use and development of a dwelling is an exempt activity and as such does not require a Cultural Heritage Management Plan.



Figure 7 – Aboriginal Cultural Heritage Map – (source - mapshare.vic.gov.au)



## 5. PLANNING ASSESSMENT

This proposal has been assessed against the objectives and standards of applicable clauses of the East Gippsland Planning Scheme and it is considered that the proposal is appropriate for the following reasons:

- The proposal meets the objectives of the Municipal Planning Strategy at **Clause 02** and the Planning Policy Framework at **Clause 10** providing the use and development of a dwelling that will enhance and support agricultural use.
- The proposal will contribute to a high standard of environmental sustainability, urban design and amenity by locating the proposed dwelling within an area that is clear of vegetation, reducing any potential negative environmental implications as sought to achieve by the relevant clauses including **Clause 02.03** and **Clause 11**.
- The location of the proposed dwelling has been selected to ensure no earthworks are required and the proposed dwelling is located within a flood free area of the site. The risks associated with inundation have been considered and the proposal is deemed to have appropriately reduced the risks to an acceptable level as sought to be achieved by **Clause 02.03-3** and **Clause 13** in particular by providing an access driveway

that will be located in a flood free area via a carriageway easement in the adjoining property to the north owned by the same owner.

- The proposed use and development of a dwelling encourages growth and support of the existing use of the subject site being for the operation of a dairy farm. The economic importance of agricultural production is recognised in **Clause 14**, which also seeks to ensure agricultural land is managed sustainably. The proposed dwelling will be for a farm manager to live on site and assist in the running of the farm. With housing shortages in the area, employing staff is difficult without offering accommodation.
- The proposed dwelling will be located in the northern portion of the site in an area that is not affected by the Land Subject to Inundation Overlay, access to the site and proposed dwelling will be via a carriageway easement in a flood free area via the property to the north which is also owned by the same owner.
- The development is keeping with the character of the area and will not be dissimilar to surrounding development.
- **Clauses 02.03-3, 13.03-1S and 44.04** requires consideration of floodplains and inundation hazards and implications as a result of any proposed development.

Preliminary advice has been sought from East Gippsland Catchment Management Authority and is provided in **Appendix D** which provides the authority is unlikely to object to the proposal provided the access driveway can be located in flood free area. The owner of the subject site also owns the property to the north and will provide a carriageway easement to supply flood free access to the site.

- The proposal is consistent with the decision guidelines of the Farming Zone at **Clause 35.07-6** which seeks to protect and enhance agricultural land.
- The proposed use and development of a dwelling will enhance and support the existing agricultural uses undertaken on the site by providing accommodation for a full time Farm Manager in proximity to the main farming and dairying operations. Having a dwelling on this site will also provide for additional surveillance of animals and enable increased improvements to the site.
- The dwelling will be connected to existing services including electricity and telecommunications. Water will be provided via a proposed water tank and wastewater will be managed via a secondary treatment septic system as recommended in the Land Capability Assessment contained in **Appendix C**.

The proposed dwelling will be located approximately 90 metres north west of an existing watercourse, however, is unlikely to impact the watercourse and will direct all drainage to the proposed water tank with overflow directed to the legal point of discharge to the satisfaction of the responsible authority.

- The East Gippsland Regional Catchment Strategy recognises the site and proposed dwelling as being located within the Protecting the Best – Far East Gippsland Local Area. The site is within approximately 400 metres of the Snowy River which is recognised as one of the five Victorian ‘heritage rivers’. The river valleys are mostly used for agricultural production.
- The proposal does not permanently remove any productive agricultural land. The dwelling is located in proximity to other exiting buildings used for the agricultural activities on the land.
- This submission has addressed the decision guidelines of **Clause 65** and the proposal supports orderly planning of the area. The proposal has taken into consideration the potential effect on the environment, human health and the amenity of the area and it is deemed to have no negative impacts. The proposal does not require the removal of any native vegetation and there will not be

any negative impact on the existing road network or surrounding watercourses. The natural hazards associated with the site have been addressed and measures implemented to ensure the risks can be reduced to an acceptable level.

- The proposal is not in proximity to any public land and there are no factors of this proposal that are likely to cause or contribute to land degradation, salinity or reduce water quality.
- The proposed use and development of a dwelling will enhance and support existing agricultural uses undertaken on the site and surrounding.



## 6. CONCLUSION

This submission is in support of a planning permit application for the use and development of a dwelling and creation of an easement at 33 Pardews Lane, Orbost.

The relevant provisions of the East Gippsland Planning Scheme have been addressed and it has been ascertained that the proposed development is appropriate in this location. It is requested that the proposal be supported for the following reasons:

- The proposal is consistent with the objectives and strategies outlined in the Municipal Planning Strategy and the Planning Policy Framework.
- The proposal is consistent with the objectives of the Farming Zone.
- The proposed building will enhance and support agricultural practices undertaken on the site.
- The design of the building is complementary to the buildings surrounding the subject site and is consistent with the character of the area.

It is requested that a planning permit be granted for this development.

**Development Solutions Victoria**

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

Page 1 of 1

VOLUME 08470 FOLIO 479

Security no : 124107656286C  
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### LAND DESCRIPTION

Lot 1 on Title Plan 845791N.  
PARENT TITLE Volume 07043 Folio 458  
Created by instrument B762073 01/10/1963

### REGISTERED PROPRIETOR

Estate Fee Simple  
Sole Proprietor  
MCMAHON DAIRY FARMS PTY LTD of 27 SERVICE STREET BAIRNSDALE VIC 3875  
AM888109V 27/06/2016

### ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AT451170U 23/07/2020  
WESTPAC BANKING CORPORATION

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 set out under DIAGRAM LOCATION below.

### DIAGRAM LOCATION

SEE TP845791N FOR FURTHER DETAILS AND BOUNDARIES

### ACTIVITY IN THE LAST 125 DAYS

NIL

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

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

Street Address: 33 PARDEWS LANE ORBOST VIC 3888

### ADMINISTRATIVE NOTICES

NIL

eCT Control 16320Q WESTPAC BANKING CORPORATION  
Effective from 23/07/2020

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<b>TITLE PLAN</b>	<b>EDITION 1</b>	<b>TP 845791N</b> <small>Notations</small>			
<b>Location of Land</b> Parish : ORBOST Township : - Crown Allotment: - Section : -  Base record : DCMB Last Plan Reference : LP 4109 Derived From : VOL. 8470 FOL. 479  Depth Limitation : NIL		ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN			
<b>Description of Land/ Easement Information</b>  <b>ENCUMBRANCES</b> THE EXISTING RIGHT (if any) of the Orbst Shire Council of access to the above-described land for - - - drainage purposes -		THIS PLAN HAS BEEN PREPARED BY LAND REGISTRY, LAND VICTORIA FOR TITLE DIAGRAM PURPOSES  COMPILED: Date 29/08/05 VERIFIED: A. DALLAS Assistant Registrar of Titles			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">TABLE OF PARCEL IDENTIFIERS</th> </tr> <tr> <td style="padding: 5px;">                     WARNING: Where multiple parcels are referred to or shown on the Title Plan this does Not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962                 </td> </tr> <tr> <td style="padding: 5px;">                     LOT 1 = LOT 25<sup>V</sup> ON LP 4109                      (PT)                 </td> </tr> </table>			TABLE OF PARCEL IDENTIFIERS	WARNING: Where multiple parcels are referred to or shown on the Title Plan this does Not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962	LOT 1 = LOT 25 <sup>V</sup> ON LP 4109 (PT)
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LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links	Printed 3/11/2023 Page 25 of 47			

EGCMA Ref: EGCMA-F-2023-00091  
Document No: 1  
Date: 26 April 2023

[sophie@devsolvic.com.au](mailto:sophie@devsolvic.com.au)

Sophie Dilks  
Development Solutions Victoria Pty Ltd

Dear Sophie,

**Application Number (CMA Ref):** EGCMA-F-2023-00091

<b>Property:</b>	<b>Street:</b>	33 Pardews Lane, Orbost Vic 3888
	<b>Cadastral:</b>	Lot 1 TP845791, Parish of Orbost

Thank you for your enquiry, received at the East Gippsland Catchment Management Authority ('the Authority') on 6 April 2023. The Authority understands you require flood advice for the construction of replacement dwelling.

The 1% Annual Exceedance Probability (AEP<sup>3</sup>) flood level (commonly known as the 1 in 100 year flood) under current climatic conditions is 9.7 metres AHD<sup>4</sup>.

Information available to the Authority indicates that the **dwelling site** is unlikely to be subject to riverine inundation during a 1% Annual Exceedance Probability (AEP<sup>3</sup>) flood event (commonly known as the 1 in 100 year flood) as it is on land that is above 11 metres AHD. However, a portion of the **existing driveway** is subject to depths of flooding greater than 3 metres as shown in Figure 1.

It is understood from our recent phone call that your client also owns 35 Pardews Lane and that there is the possibility of an alternate access being available via that property to ensure all weather access. This would be the preferred option by the Authority.

Should a Planning Permit be sought for the development, the Authority would be **unlikely to object** to the proposal, subject to (but not limited to) the following conditions:

1. Alternate driveway access to be from the north via 35 Pardews Lane

Please note: The Authority has provided this advice as preliminary information only and has been based on the information you have provided. Any flood level advice provided is based on the most accurate information currently available and may change if new information becomes available.

The Authority can provide further information regarding any proposed development of the property in response to a planning permit application referred by the East Gippsland Shire Council in accordance with the *Planning and Environment Act 1987*.

Please refer to the attached **explanatory report** for further detail.

Should you have any queries, please do not hesitate to contact Geraldine Alexander on 1300 094 262 or email [planning@wgcm.vic.gov.au](mailto:planning@wgcm.vic.gov.au). To assist the Authority in handling any enquiries please quote **EGCMA-F-2023-00091** in your correspondence with us.

Yours sincerely,



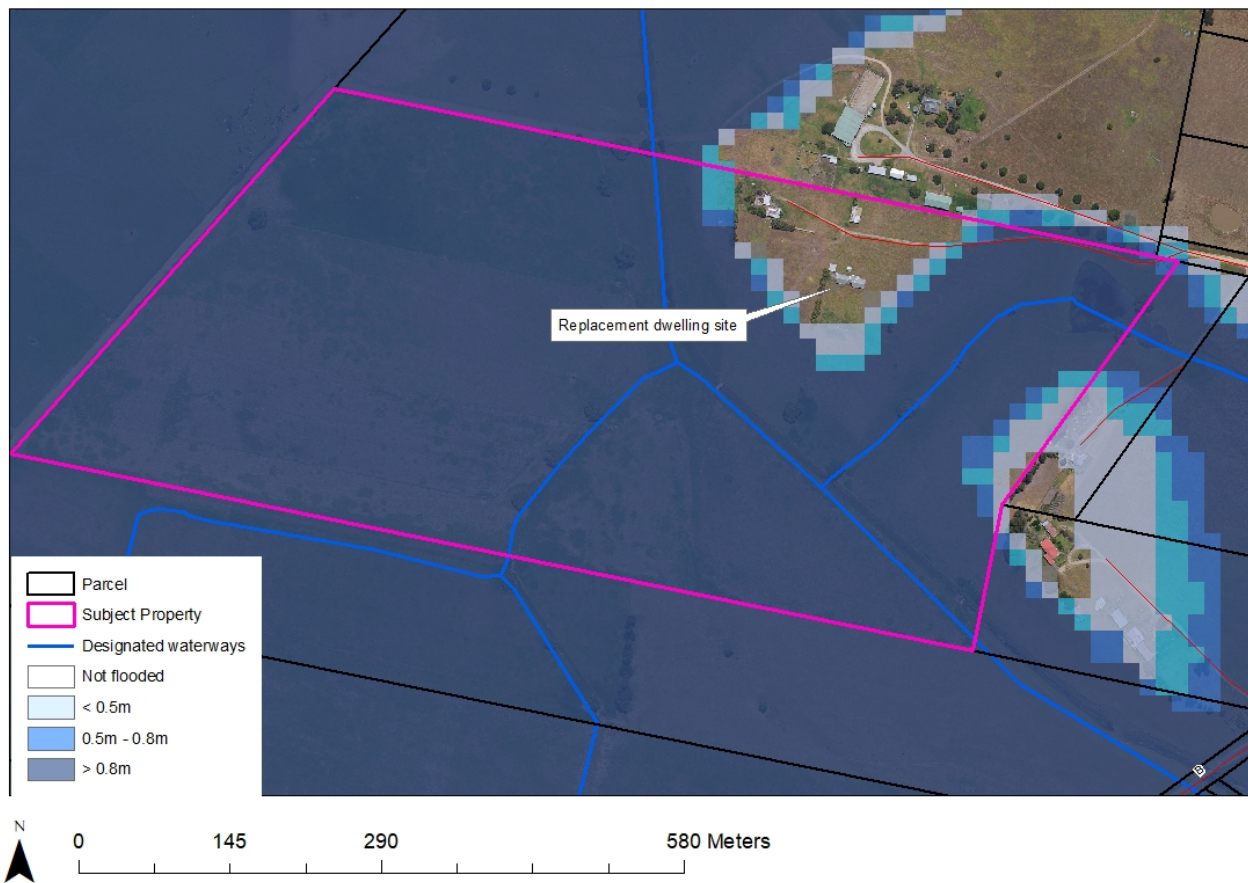
**Adam Dunn**  
**Gippsland Floodplain Officer**

Cc: East Gippsland Shire Council

The information contained in this correspondence is subject to the disclaimers and definitions attached.

## EXPLANATORY REPORT

**Figure 1 – Designated waterways and 1% AEP flood extent and flood depth mapping**



### Decision Guidelines

The East Gippsland Catchment Management Authority assesses all applications against the following National, State and Local Policies, Guidelines and Practice Notes:

1. [‘Technical Flood Risk Management Guideline: Flood Hazard’](#) (Australian Emergency Management Institute, 2014)
2. [‘Victorian Floodplain Management Strategy’](#) (Victoria State Government, 2016)
3. Council Planning Schemes ([Planning Schemes Online](#)), including the:
  - i. Planning Policy Framework
  - ii. Local Planning Policy Framework
  - iii. Relevant Zones and Overlays
4. [‘Guidelines for Coastal Catchment Management Authorities: Assessing development in relation to sea level rise’](#) (DSE, 2012)
5. [‘Applying for a Planning Permit under the Flood Provisions – A Guide for Councils, Referral Authorities and Applicants’](#) (DELWP, 2015)
6. [‘East Gippsland Waterway Strategy’](#) (2014-2022)
7. [‘East Gippsland Regional Catchment Strategy’](#) (2013-2019)
8. [‘East Gippsland Floodplain Management Strategy’](#) (2018-2027)

**Table 1 – Flood Data**

	<b>Current conditions</b>
1% AEP flood level – property	9.7 m AHD
Lowest land elevation – property	0.9 m AHD
Highest land elevation – property	12.3 m AHD
Land elevation – development site	11.6 m AHD
Lowest land elevation – road (current driveway)	6.6 m AHD
<b>FLOOD DEPTH</b>	
Minimum depth of flooding on property	0 m
Maximum depth of flooding on property	8.8 m
Maximum depth of flooding at development site	0 m
Percentage of property flooded	90%
Maximum flood depth on road (current driveway)	3.1 m
<b>FLOOD VELOCITY</b>	
Maximum flow velocity for the purposes of the Building Code of Australia ( <a href="#">Construction of Buildings in Flood Hazard Areas</a> )	< 1.0 m/s
<b>HAZARD ASSESSMENT</b>	
Hazard category – development site	<b>Low</b>
Hazard category – road - current driveway	<b>Extreme</b>

### 1% AEP<sup>3</sup> Flood Level Determination

Floods are classified by the frequency at which they are likely to occur. In Victoria, all proposals for development on floodplains are assessed against a flood that, on average, will occur once every 100 years. A flood of this size has a 1% chance of occurring in any given year and is known as either the 100 year Average Recurrence Interval (ARI<sup>5</sup>) flood or the 1% Annual Exceedance Probability (AEP) flood.

Please note that the 1% AEP flood is the minimum standard for planning in Victoria and is not the largest flood that could occur. There is always a possibility that a flood larger in height and extent than the 1% AEP flood may occur in the future.

Flood levels for the 1% AEP flood event have not been designated or declared for this area under the *Water Act 1989*. The estimated 1% AEP flood level for the location is 9.7 metres AHD<sup>4</sup>, which was obtained from the *Snowy River Regional Flood Mapping Project (DELWP 2017)*.

The Authority holds no information in relation to the arrangement and capacity of stormwater drainage infrastructure in the area and recommends that you contact Council for more information.

### Flood Hazard Assessment

In accordance with East Gippsland Catchment Management Authority policy, where flood depth during a 1% AEP flood event is likely to exceed 0.5 metres over a property or 0.8 metres over the vehicle egress route from the property, a proposal that seeks to intensify development through the creation of additional lots or dwellings at a property is not supported as it would expose additional people and property to the flood hazard.

Table 1 demonstrates that the above criteria **are not met**.

However, the Authority notes that the proposal is for a replacement dwelling and is unlikely to increase the existing flood risk, subject to the condition listed in the cover letter that an alternate driveway be constructed.




### **Definitions and Disclaimers**

1. The area referred to in this letter as the 'proposed development location' is the land parcel(s) that, according to the Authority's assessment, most closely represent(s) the location identified by the applicant. The identification of the 'proposed development location' on the Authority's GIS has been done in good faith and in accordance with the information given to the Authority by the applicant(s) and/or the local government authority.
2. While every endeavour has been made by the Authority to identify the proposed development location on its GIS using VicMap Parcel and Address data, the Authority accepts no responsibility for or makes no warranty with regard to the accuracy or naming of this proposed development location according to its official land title description.
3. **AEP** as Annual Exceedance Probability – is the likelihood of occurrence of a flood of given size or larger occurring in any one year. AEP is expressed as a percentage (%) risk and may be expressed as the reciprocal of ARI (Average Recurrence Interval).

Please note that the 1% probability flood is not the probable maximum flood (PMF). There is always a possibility that a flood larger in height and extent than the 1% probability flood may occur in the future.

4. **AHD** as Australian Height Datum - is the adopted national height datum that generally relates to height above mean sea level. Elevation is in metres.
5. **ARI** as Average Recurrence Interval - is the likelihood of occurrence, expressed in terms of the long-term average number of years, between flood events as large as or larger than the design flood event. For example, floods with a discharge as large as or larger than the 100 year ARI flood will occur on average once every 100 years.
6. Nominal Flood Protection Level – is the minimum height required to protect a building or its contents, which includes a freeboard above the 1% AEP flood level.
7. No warranty is made as to the accuracy or liability of any studies, estimates, calculations, opinions, conclusions, recommendations (which may change without notice) or other information contained in this letter and, to the maximum extent permitted by law, the Authority disclaims all liability and responsibility for any direct or indirect loss or damage which may be suffered by any recipient or other person through relying on anything contained in or omitted from this letter.
8. This letter has been prepared for the sole use by the party to whom it is addressed and no responsibility is accepted by the Authority with regard to any third party use of the whole or of any part of its contents. Neither the whole nor any part of this letter or any reference thereto may be included in any document, circular or statement without the Authority's written approval of the form and context in which it would appear.
9. The flood information provided represents the best estimates based on currently available information. This information is subject to change as new information becomes available and as further studies are carried out.
10. Please note that land levels provided by the Authority are an estimate only and should not be relied on by the applicant. Prior to any detailed planning or building approvals, a licensed surveyor should be engaged to confirm the above levels.

 <b>Simon Anderson Consultants</b> <small>CIVIL   STRUCTURAL   PROJECT ENGINEERS</small> P.O. Box 1700 111 Main St Bairnsdale, Vic, 3875 ACN 073 392 266	<b>Job:</b> McMahon Residence 33 Pardews Lane Orbost	<b>Date:</b> 20 June 2023 <b>Designed:</b> SJA
	<b>Client:</b> SandS Building Design	<b>Job No.:</b> 438143
P.O. Box 566 191-193 Raymond St Sale, Vic, 3850 ACN 145 437 065	<b>Checked:</b>	<b>Page No.:</b> 1 of 11

## LAND CAPABILITY ASSESSMENT ON-SITE DOMESTIC WASTEWATER



33 Pardews Lane, Orbost

### 1.0 INTRODUCTION

Simon Anderson Consultants were engaged to undertake a land capability assessment for the purpose of on-site domestic wastewater management of the McMahon Residence at 33 Pardews Lane, Orbost. The field investigation and report have been undertaken by suitable experienced staff.

The assessment was completed in accordance with the Environment Protection Authority's *Code of Practice – Onsite Wastewater Management* (EPA Publication No. 891.4, July 2016), guidelines for *Land Capability Assessment For On-Site Wastewater Management* (EPA Publication No. 746.1, March 2003), *On-Site Domestic Wastewater Management* (AS/NZS 1547:2012) and East Gippsland and Wellington Shires *Domestic Wastewater Management Plan*.

Information and results are presented in table form for clear data presentation and ease of identification of key points. **Detailed recommendations presented on page 7 of the report. LCA is to be read in conjunction with Site Features Plan 438143-LC1.**


<b>Subject Land</b>	33 Pardews Lane, Orbost
<b>Client</b>	SandS Building Design
<b>Postal Address</b>	PO Box 1735, Bairnsdale VIC 3875
<b>Contact</b>	Ph: (03) 5152 7200
<b>Map Reference</b>	Vicroads 684 A8
<b>Municipality</b>	East Gippsland Shire Council
<b>Proposed Development</b>	4 Bedroom Residence (Potential Occupancy = No. of Bedrooms + 1) <sup>1</sup>
<b>Design Flow</b>	150 L/person/day
<b>Anticipated Wastewater Load</b>	750 L/day
<b>Treatment System Required</b>	Secondary treated effluent to minimum 20/30 standard (ie. AWTS <sup>2</sup> or sand filter)
<b>Disposal System Required</b>	Sub-surface irrigation – Area of 500m <sup>2</sup>

<sup>1</sup> As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Section 3.4.1

<sup>2</sup> AWTS – Aerated Wastewater Treatment System (EPA approved)

438143 LCA (McMahon)



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	<b>Client:</b> SandS Building Design	<b>Job No.:</b> 438143
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## 2.0 PURPOSE/SCOPE OF ASSESSMENT

<b>Purpose and Scope of Assessment</b>	Broad-scale assessment for subdivisional purposes (often requires further lot-specific assessment at later date)	<input type="checkbox"/>
	Detailed investigation for lot-specific management requirements	<input checked="" type="checkbox"/>

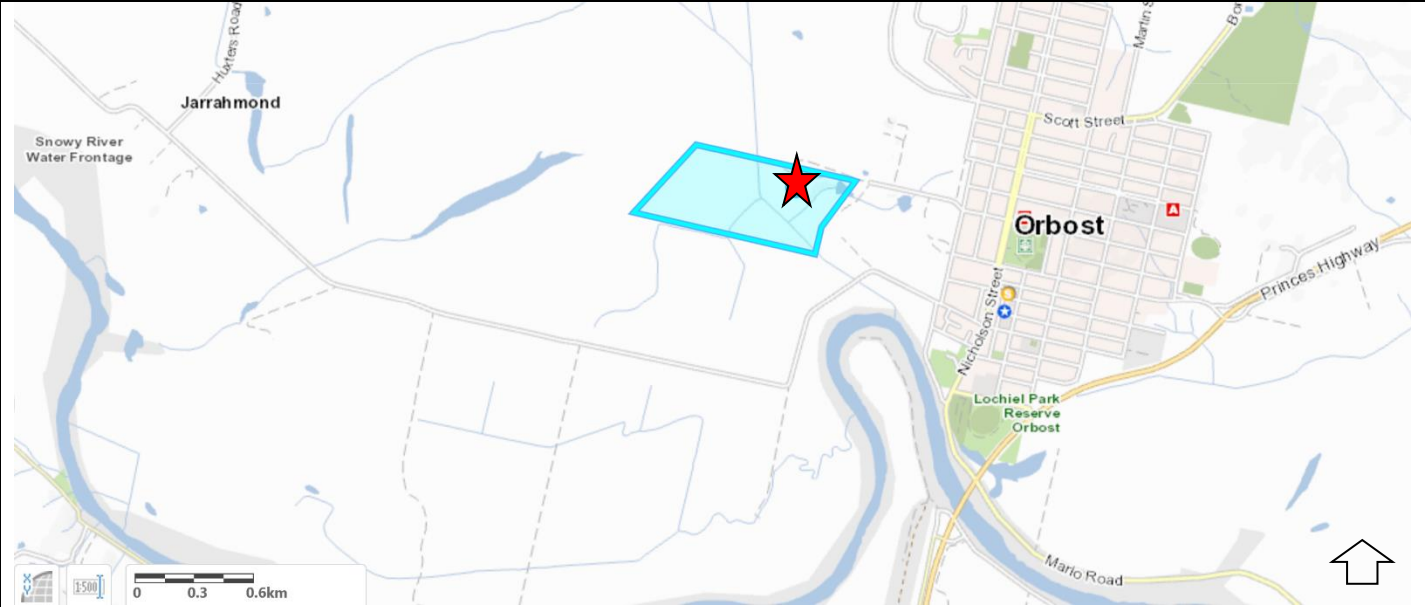


Figure 1: Locality Plan

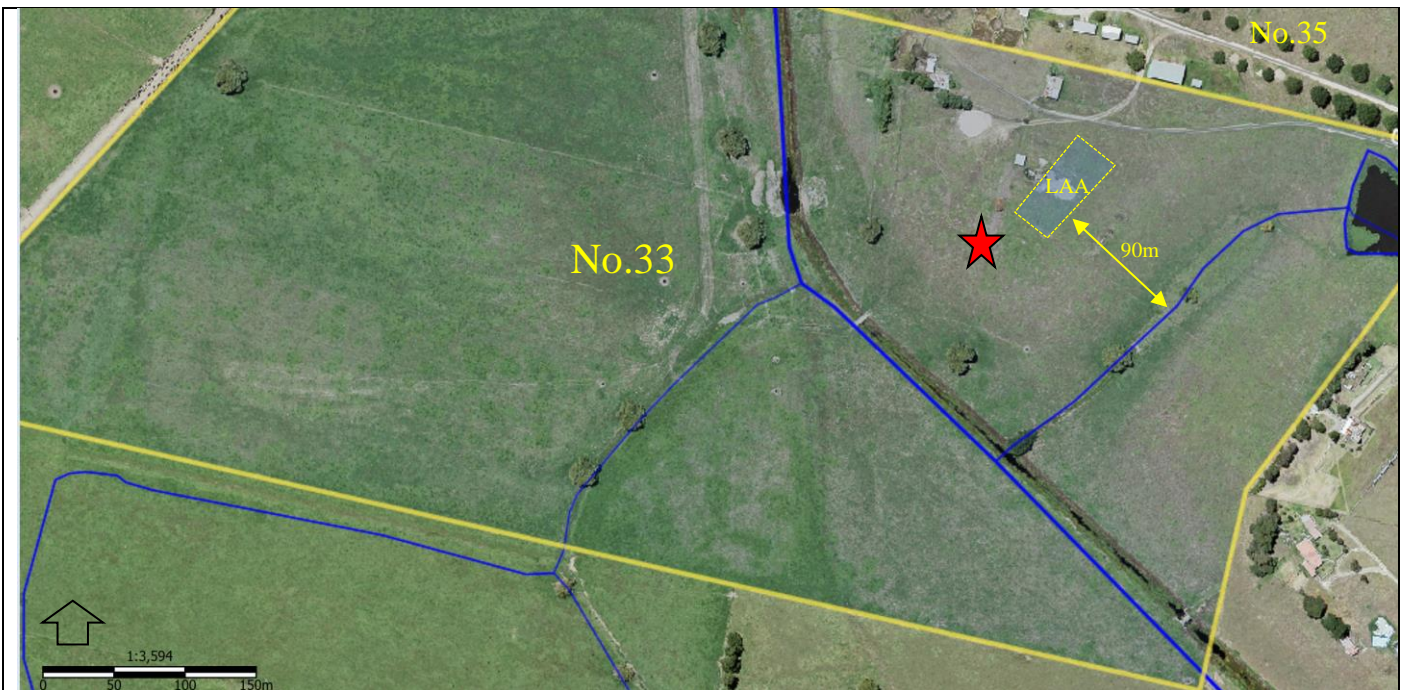




Figure 2: Aerial view of subject site (approximate title boundaries shown)


 Denotes proposed house site

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	<b>Client: SandS Building Design</b>	<b>Job No.: 438143</b>
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### 3.0 SITE KEY FEATURES

Criteria / Feature	Description	Implications for Wastewater Management
<b>Allotment/s</b>		
Title details	Lot 1, TP 845791, Council Property No: 12657	
No. of Lots Proposed	1	
Lot size (EPA recommended minimum lot size = 1.0 ha)	35.02 ha	Large allotment, with ample capacity to locate dwelling and effluent field in a number of sites within allotment boundaries and hence for effluent to be contained on-site.
Dwelling Usage	Likely to be permanent	
Adjoining Lot sizes	Large Farm lots 50+ ha in size.	Overall volume of wastewater being disposed to land in the local district is low.
Current Land Use	Existing Farm Sheds & Water Tanks	Current Wastewater generation is negligible
<b>Infrastructure</b>		
Zoning & Overlays	Farming Zone (FZ) Land Subject to Inundation Overlay (LSIO) Design & Development Overlay-Schedule 6 (DD06)	Effluent disposal field (LAA) and dwelling development to be located well above the level of the land subject to inundation
Nearest Reticulated Sewer	Township of Orbost	Not feasible to connect to reticulated sewer. The area is unlikely to be sewered in the long term future.
Reticulated Water	Available on existing allotment	Increases the risk of excessive water usage
Power	Available on existing allotment	Allows ready use of wastewater treatment plant
<b>Land Features</b>		
Geology	<b>Qa1 (Qra)</b> - Quaternary Non-Marine (Alluvial) deposits consisting of Fluvial: alluvium, gravel, sand, silt (from 1:250,000 Geological Map Series BAIRNSDALE SJ 55-7 )	Observed Soils dominated by loams and sandy loams, overlying stiff heavy clays
Elevation	Ranging from 9m-12m AHD over house site & LAA	
Landscape Elements	The site is situated on the upper slope (waxing divergent) of a river terrace above the level of the present flood plain.	Well contoured landscape providing excellent surface water shedding accelerates and spreads run-off.
Fill	Natural soil profiles were observed throughout the site. No fill was observed.	No filling is proposed in the effluent management area.
Aspect	Area of investigation slopes to the southeast	
River/Stream Catchment	Several Ephemeral Watercourses run through the property and feed into the Snowy River, approximately 400m south of the subject site.	Necessary setbacks are easily achieved
Dams/Surface Water	A small agricultural dam is situated on the northeast corner of the property.	Necessary setbacks are easily achieved
Rock Outcrop	None	Reduces limitations and maximises efficiency of effluent disposal field
Erosion	No evidence of sheet or rill erosion.	The erosion hazard is low.
Vegetation	Pasture/Grass	No vegetation clearing required for establishment of effluent disposal field or dwelling development
Climate	Temperate	Reduces variation in efficiency of effluent field
Solar Exposure	High.	Maximises efficiency of effluent disposal field
Recommended Buffer Distances	All buffer distances recommended in Table 5 of EPA Publication 891.4 (July 2016) are achievable and do not significantly limit siting of the LAA in this case	
Available Land Application Area (LAA)	Considering all site constraints and the buffers mentioned above, the site has ample land that is suitable and available for land application of treated effluent. The preferred area is northeast of the proposed dwelling	By using a system that provides secondary treatment and pressurized sub-surface irrigation, there will be ample protection for surface and groundwater



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	<b>Client:</b> SandS Building Design	<b>Designed:</b> SJA
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## 4.0 SOIL ASSESSMENT & CONSTRAINTS

The sites soils have been assessed for their suitability for onsite wastewater management by a combination of soil survey and desktop review of published soil survey information as outlined below.

### 4.1 Published Soils Information

Soils of the site have been mapped and described in Victorian Resources Online "Soils and Landforms of Far East Gippsland Region", and are described as belonging to the River Terrace (rt6) map unit. This unit occurs on in the Orbost area, just above the level of the present flood plain.

#### Surface soil

A1 0 – 25 cm Very dark greyish brown (10YR3/2); *light clay*; moderate medium (5 – 10 mm) granular structure; weak consistence moist; clear change to:

#### Subsoil

B21 25 – 60 cm Dark grey (10YR4/1) mottled with dark yellowish brown; *medium clay*; moderate coarse (20 – 50 mm) polyhedral structure; very firm consistence moist; diffuse change to:

B21 60 -90 mm Dark greyish brown (10YR4/2); *heavy clay*; weak coarse (20 – 50 mm) polyhedral structure; diffuse change to:

B22 90 – 120 cm Greyish brown (10YR5/2); *heavy clay*; moderate coarse lenticular structure; very firm moist; weak coarse (20 – 50 mm) polyhedral structure.

#### Key profile features


- Little change in soil texture down the profile
- Coarsely structured below the surface horizon.



### 4.2 Soil Survey and Analysis

A Soil survey was carried out at the site to determine suitability for application of treated effluent. Subsoil investigations were conducted at three locations in the vicinity of the proposed building, as shown on the Site Features Plan, using a hand auger (B1-3). This was sufficient to adequately characterise the soils, as only minor variation would be expected throughout the area of interest.


Samples of all discrete soil layers for test bore 3 were collected for subsequent laboratory analysis of pH<sup>3</sup>, electrical conductivity<sup>4</sup> and Emerson Aggregate Class<sup>5</sup>. The soil profile of bore 1 is detailed below.

and Emerson Aggregate Class 7. The soil profile of Bore 1 is detailed below.				
	Depth (m)	Description	Horizon	
	0.0	<b>TOPSOIL:</b> Dk Grey/Brown Moist Loamy	<b>A1</b>	
	0.1			
	0.2	<b>SILT:</b> Lt Brown Dry Dense Fine Sandy	<b>A2</b>	
	0.3			
	0.4	<b>CLAY:</b> Yellow/Brown Dry Very Stiff Red mottling	<b>B1</b>	
	0.5			
	0.6			
	0.7			
	0.8			
	0.9			
	1.0+	Note: Bore 2 limiting horizon at 500mm depth		

<sup>3</sup> The pH of 1:5 soil/water suspensions was measured using a Merck pH strip

<sup>4</sup> EC (dS m<sup>-1</sup>) was calculated by measuring the electrical conductivity of 1:5 soil water suspension.


<sup>5</sup> Appendix C shows photographic results of Emerson Aggregate Test (Slaking/Dispersion)  
438143 LCA (McMahon)

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Soil Features: TEST BORE B1			
Soil Horizon	A1	A2	B1
Depth (mm)	0 - 200	200 – 600	600 +
Boundary Type	NA	Gradual	Clear
Field Texture Grade <sup>6</sup>	L	FSL	HC
Structure	Moderate	Weak	Massive
pH	7	6	6
EC (dS m <sup>-1</sup> )	0.03	0.02	0.14
Dominant Colour	10YR2/2 Very Dark Brown	7.5YR 4/2 Brown	10YR3/4 Dark Yellowish Brown
Mottles	None	None	Red Blotches
Dispersion	8	5	5
Coarse Fragments (% Volume)	None	None	None
<b>Soil Category<sup>7</sup> (AS/NZ1547:2012)</b>	<b>3a</b>	<b>3b</b>	<b>6c</b>
Design Irrigation Rate <sup>8</sup> (DIR mm/day)	4	4	2
Design Loading Rate <sup>9</sup> (DLR mm/day)	15	10	NR

NA: Not Applicable

NR: Not Recommended

Depth (m)	Description	Horizon	
0.0	<b>TOPSOIL:</b> Moist Loamy	<b>A1</b>	
0.1			
0.2	<b>SILT:</b> Dry Dense Fine Sandy	<b>A2</b>	
0.3			
0.4			
0.5			
0.6	<b>CLAY:</b> Dry Very Stiff	<b>B1</b>	
0.7			
0.8			
0.9			
1.0			
1.2			
1.5+			

Soil Bore Log Profile

<sup>6</sup> Refer Appendix D for description details(all soil samples have been sieved to minus 2mm and air-dried before being analyzed)


<sup>7</sup> As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Appendix A, Table 9

<sup>8</sup> For sub-surface irrigation (Refer Table M1 of AS/NZS 1547:2012)

<sup>9</sup> For absorption trenches and bed

438143 LCA (McMahon)



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## 5.0 LAND CAPABILITY ASSESSMENT MATRIX

Land features	Land capability class rating				
	Very good (1)	Good (2)	Fair (3)	Poor (4)	Very Poor (5)
<b>General characteristics</b>					
Site drainage	No visible signs of dampness	Moist soil, but no water in pit		Visible signs of dampness	Water ponding on surface
Runoff	None	Low	Moderate	High - diversionary structures req'd	Very High - diversion not practical
Flood/inundation potential (yearly return exceedence)	Never		< 1 in 100	< 1 in 30	> 1 in 20
Proximity to watercourses	> 60m				< 60m
Slope (%)	0 - 2	2 - 8	8 - 12	12 - 20	> 20
Landslip	None Evident		Low potential for failure	High potential for failure	Present or past failure
Seasonal water table depth (m) (incl. perched water tables)	>5	5 - 2.5	2.5 - 2.0	2.0 - 1.5	< 1.5
Rock Outcrop (% of land surface containing rocks > 200mm)	0	< 10%	10-20%	20-50%	>50%
Vegetation Type	Turf or pasture				Dense forest with little understorey
Average Rainfall (mm/yr)	< 450	450 - 650	650 - 750	750 - 1000	> 1000
Pan Evaporation (mm/yr)	> 1500	1250 - 1500	1000 - 1250	-	< 1000
Fill	No Fill		Fill present		
<b>Soil profile characteristics*</b>					
Structure	High	Moderate	Weak	Massive	Single Grained
Profile depth (of limiting Horizon B1)	> 2.0m	1.5m - 2.0m	1.5m - 1.0m	1.0m - 0.5m	< 0.5m
Soil permeability category <sup>10</sup>	2 and 3	4		5	1 and 6
Presence of mottling	None		Moderate		Extensive
Coarse Fragments (% volume)	<10	10-20	20-40		>40
pH	6 - 8		4.5 - 6		<4.5, >8
Emerson Aggregate Test (dispersion/slaking)	4, 6, 8	5	7	2, 3	1
Salinity (dS/m) (Electrical Conductivity)	<0.3	0.3 - 0.8	0.8 - 2	2 - 4	>4
<b>Overall Site Rating<sup>11</sup></b>	<b>Poor</b>				<b>4</b>

\* relevant to the sites most restrictive soil layer(s)

<sup>10</sup> Refer Table 5.1 (Determination of Soil Category) of AS/NZS 1547:2012

<sup>11</sup> A description of each Land Capability Class Rating is provided in Appendix A. 438143 LCA (McMahon)

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## 6.0 CONCLUSION

This LCA has been prepared to accompany a development application to East Gippsland Shire Council for the McMahon Residence and associated necessary wastewater management system. As such, this report provides recommendations for treatment and land application systems that are appropriate to the land capability.

The site has a number of limitations that result in the development being unsuitable for Primary treatment only (i.e. traditional septic tank and subsoil absorption trenches):

- Limiting Horizon B1 (Medium Clays) have a very low permeability rate,
- Medium Clays at shallow depths (400mm),
- Massively structured (Category 6c) clay soils not suitable for disposal via absorption trenches.
- Effluent at risk of transmission to Ephemeral Watercourses
- Minimum 600mm vertical separation required between bottom of trench & limiting horizon for final polishing (i.e. imported fill would be required to artificially achieve the 600mm vertical buffer.)


The following section provides an overview of a suitable system, with sizing and design considerations. **Detailed design for the system is beyond the scope of this study, but should be undertaken at the time of building application and submitted to Council.**

## 7.0 RECOMMENDATIONS

It is recommended based on this LCA, that if the development of a McMahon Residence on 33 Pardews Lane, at the location indicated on the Site Features Plan 438143 - LC1:

- Install a system that provides secondary treatment with disinfection to meet EPA requirements for irrigation. Indicative target effluent quality is a minimum EPA standard 20mg/L BOD and 30mg/L SS. Several suitable options are available, including aerated wastewater treatment systems (AWTS) and single pass sand filters. Either of these options is capable of achieving the desired level of performance and final selection is the responsibility of the property owner, who will forward details to Council for approval.
- On-site disposal of domestic wastewater should occur within the proposed Land Application Area (refer Site Features Plan 438143 - LC1). The client is allowed flexibility in selecting the final location and configuration of the irrigation system, provided it remains within this envelope and in accordance with the relevant codes/standards.
- Calculation of Irrigation Area based on AS/NZ 1547 equation  $A = Q / DIR$ 
  - $Q = 750 \text{ L/day}$ ;
  - $DIR = 2 \text{ mm/day}$ ;
  - Irrigation Area –  $375 \text{ m}^2$
- To determine if the irrigation area recommended above is adequate, a water balance<sup>12</sup> modelling has been undertaken to achieve a wet weather storage depth of less than 100mm. The calculations are summarized below, with full details in Appendix B.
  - Average daily effluent load – 750 L
  - Design irrigation rate (DIR) – 2 mm/day;
  - Crop factor – 0.6 to 0.85; and
  - Retained Rainfall – 75%.
  - **Irrigation Area –  $500\text{m}^2$**
  - Max Wet Weather Storage Depth – 92 mm (*therefore area shown in bold to be adopted*)
- Minimum setbacks and buffer distances must be obtained when establishing effluent disposal envelopes, as per *EPA Code of Practice – Onsite Wastewater Management, publication 891.4, (July 2016)*.
- The owner shall consult an irrigation expert familiar with wastewater irrigation equipment, to help design and install the irrigation system. The irrigation plan must ensure good, even application of effluent.

<sup>12</sup> Water Balance undertaken in accordance with EPA Publication 168 (1991), Guidelines for Wastewater Irrigation.  
438143 LCA (McMahon)

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	<b>Client: SandS Building Design</b>	<b>Job No.: 438143</b>
	<b>Checked:</b>	<b>Page No.: 8 of 11</b>

## 8.0 MANAGEMENT PROGRAM

### 8.1 Installation Issues

To ensure the satisfactory installation and operation of the AWTS & sub-surface irrigation, the following measures are to be implemented:

- Construction of a shallow table or cut-off drain along the high sides of the effluent disposal area, extending to below the disposal field;
- Overflow from all water storage tanks to be directed into a table drain, or equivalent, to discharge below the effluent disposal field in a manner to avoid scouring or washing away downstream of the discharge point;
- Stormwater flows from the roof must be discharged at a point well clear of the effluent disposal field and runoff from paved surfaces and driveways must be directed away from the disposal site.
- Installation of the sub-surface irrigation system to be undertaken when the soils are dry or moist, not when the ground is saturated;
- Sub-surface irrigation system to be designed to minimise root intrusion from trees;
- Sub-surface irrigation system to utilise pressure dosing to ensure effluent is applied uniformly throughout the effluent disposal area

### 8.2 Ongoing Management & Maintenance Issues

To ensure the satisfactory ongoing performance of the proposed AWTS & sub-surface irrigation, the owners/occupiers will need to ensure that:

- No buildings or impermeable surfaces are constructed on or over the effluent disposal areas;
- Heavy equipment is kept away from effluent disposal areas whilst the soil is saturated;
- The effluent disposal field is maintained as a grassed area, or planted out with shrubs that tolerate wet conditions, have high evapo-transpiration capacity and can tolerate phosphorus levels typically found in treated effluent;
- Trees and/or thick shrubs **are not** to be planted out along the northern or western edges of the effluent disposal areas to prevent exposure to both wind and sun.


The installer of the AWTS & sub-surface irrigation is to ensure that the owners/occupants are aware of and fully understand their responsibilities in relation to operating the treatment system, maintenance requirements and what should be done in the event of any problems. The satisfactory ongoing performance and longevity of the AWTS & sub-surface irrigation can be enhanced by:

- Ensuring that maintenance requirements are undertaken regularly in accordance with the systems' requirements and that both they and future owners/occupiers are aware of the systems capabilities, limitations and ongoing requirements;
- Using biodegradable soaps, low phosphorous detergents and detergents that have low salt, sodium and chlorine levels;
- Limiting the use of germicides (such as strong detergents, disinfectants, toilet cleaners, whiteners and bleaches);
- Not flushing disposable nappies, sanitary napkins or other hygiene products into the systems;
- Not flushing chemicals, paint or similar substances into the systems.
- Fats, oils, milk, tea leaves, coffee grounds and other kitchen food liquids, particles and scraps should be composted in a compost bin. These organic wastes **SHOULD NOT** be disposed of into the onsite wastewater treatment system.

**NOTE:** This report and associated plan(s) does not constitute a Septic Tank Permit. Such a permit should be obtained separately from the Environmental Health Department of East Gippsland Shire Council after development approval is obtained and prior to plumbing works commencing.

## APPENDIX A

Capability Class	Degree of Limitation	General Description
Rating 1	None to Very Slight	The proposed subdivision is suitable for on-site disposal of septic tank discharge. The limitations or environmental hazard from long-term use are considered very slight. Standard performance measures for design, installation and management should prove satisfactory.
Rating 2	Slight	The site has been identified as generally suitable for on-site effluent disposal but there is a slight associated environmental hazard expected. One or more land limitations are present, which may not be compatible with 'straight forward' conventional on-site disposal. The wastewater management program will require careful planning, adherence to specifications and adequate supervision.
Rating 3	Moderate	The site has only a fair capability for on-site effluent disposal with a moderate associated environmental risk always present. Very careful site selection, preparation and specialized design will be required to address the identified land constraints. A management program should be delivered to the responsible authority with the development application and prior to earthworks commencing. It is recommended that, in order to achieve BPEM, wastewater-processing systems which can attain a higher level of treatment with basic monitoring should be considered as an alternative to standard conventional trench disposal.
Rating 4	High	Areas have a poor capability rating with a high associated environmental risk. Considerable difficulties are expected during siting and installation of the wastewater treatment system and during routine operation. A very high Engineering input and close supervision would be needed to minimize the environmental impact. Alternative wastewater processing systems capable of consistently producing a high quality secondary effluent (such as aerated wastewater treatment plants) together with a close monitoring program should be seriously investigated and adopted.
Rating 5	Severe	Areas have a very poor capability and there is severe associated environmental risk. The areas are not generally considered suitable for disposal of septic tank effluent by trench systems. The high levels of Engineering input and management needed at all stages are unlikely to adequately address the identified land constraints and achieve a sustainable outcome. Reticulated sewerage is usually the only acceptable option.

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	<b>Client: SandS Building Design</b>	<b>Job No.: 438143</b>
	<b>Checked:</b>	<b>Page No.: 9 of 11</b>

## APPENDIX B

### Orbost 084145

#### Mean

Source: AS1547-1994 - Table G1

(Prepared by R.A. Patterson, Lanfax Labs. Armidale updated April 2006)

Evap.data

### Orbost 084030

average Pan evaporation

1			2	3	4	5	6	7	8	9
Month	Days	daily pan	Pan Eo	Et	Rainfall	Retained	LTAR*N	Disposal	Effluent	Size of
	per	Eo		+Cf*Eo	P	Rainfall		rate/month	applied	area
	month	(B.Met)				Re=(1-r)P	2	(Et-Re)+	per month	(8)/(7)
								LTAR*N	750	
		mm	mm	mm	mm	mm	mm	mm	L	m2
Jan	31	5.0	155.0	132	46.6	35.0	62	158.8	23250	146
Feb	28	4.6	128.8	109	51.7	38.8	56	126.7	21000	166
Mar	31	3.5	108.5	92	57.9	43.4	62	110.8	23250	210
Apr	30	2.4	72.0	43	72.3	54.2	60	49.0	22500	459
May	31	1.6	49.6	30	57.9	43.4	62	48.3	23250	481
Jun	30	1.3	39.0	23	97.9	73.4	60	10.0	22500	2256
Jul	31	1.4	43.4	26	58	43.5	62	44.5	23250	522
Aug	31	2.0	62.0	37	63.9	47.9	62	51.3	23250	453
Sep	30	2.7	81.0	49	59.8	44.9	60	63.8	22500	353
Oct	31	3.4	105.4	90	63	47.3	62	104.3	23250	223
Nov	30	4.1	123.0	105	69.7	52.3	60	112.3	22500	200
Dec	31	4.6	142.6	121	66.9	50.2	62	133.0	23250	175
Totals			1110.3	857	765.6	574.2				

TABLE G2 - Depth of stored effluent First trial - choose from col.9 table above

1	2	3	4	5	6	7	8	9	10	11
month	first trial area (m2)	application rate (8)/(2) (mm)	Disposal rate per month (above) (mm)	(3)-(4) (mm)	Increase depth of stored effluent (5)/porosity (mm)	Starting depth effluent for month (mm)	increase depth effluent (6) (mm)	computed depth effluent (X) (mm)	reset if Et deficit <0 (mm)	equivalent storage 10 x area (L)
Dec								0.0	0	
Jan	500	47	159	-112	-281	0	-281	-281	0	0
Feb		42	127	-85	-212	0	-212	-212	0	0
Mar		47	111	-64	-161	0	-161	-161	0	0
Apr		45	49	-4	-10	0	-10	-10	0	0
May		47	48	-2	-5	0	-5	-5	0	0
Jun		45	10	35	88	0	88	88	88	13134
Jul		47	45	2	5	88	5	92	92	13869
Aug		47	51	-5	-12	92	-12	81	81	12079
Sep		45	64	-19	-47	81	-47	34	34	5048
Oct		47	104	-58	-145	34	-145	-111	0	0
Nov		45	112	-67	-168	0	-168	-168	0	0
Dec		47	133	-87	-216	0	-216	-216	0	0
Jan		47	159	-112	-281	0	-281	-281	0	0
Feb		42	127	-85	-212	0	-212	-212	0	0
Mar		47	111	-64	-161	0	-161	-161	0	0
Apr		45	49	-4	-10	0	-10	-10	0	0
May		47	48	-2	-5	0	-5	-5	0	0

From calculations in tables above for optimised drainfield area, using Appendix G AS1547-1994

<b>Variables Table</b>	<b>Porosity in disposal area</b>	<b>40%</b>
	<b>Runoff Coeff =</b>	<b>0.25</b> percentage runoff
	<b>Summer Crop Factor =</b>	<b>0.85</b> crop transpiration rate Oct-Mar
	<b>Winter Crop Factor =</b>	<b>0.6</b> crop transpiration rate -Apr-Sep
Change as required	<b>LTAR =</b>	<b>2</b> L/m2/day
	<b>FLows=</b>	<b>750</b> L/day
<b>Estimated area of effluent drainfield =</b>	<b>500</b>	<b>square metres</b>
<b>Maximum depth of stored effluent =</b>	<b>92</b>	<b>mm depth</b>

Water Balance Model for 4 bedroom dwelling  
(prepared by R.A. Patterson, Lanfax Labs. Armidale April 2007)





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**Job:** McMahon Residence  
33 Pardews Lane  
Orbost

**Client:** SandS Building Design

**Checked:**

**Date:** 20 June 2023

**Designed:** SJA

**Job No.:** 438143

**Page No.:** 10 of 11

### APPENDIX C


RECORD OF FIELD TEXTURE DETERMINATION						
Soil	Grittiness	Stickiness	Plasticity	Stain	Ribbon (mm)	Grade
A1	None	Slight	Slight	Moderate	25	L
A2	Slight	None	None	None	20	FSL
B1	None	Extremely	Extremely	Extremely	75+	HC

NONE                      SLIGHT                      MODERATE                      VERY                      EXTREMELY

### APPENDIX D

Soil Category	Field Texture Grade		Behaviour of moist blobs	Ribbon length (mm)	Approx clay content %
1	<b>S</b>	Sand	coherence nil to very slight, cannot be moulded; sand grains of medium size; single sand grains stick to fingers	nil	< 5%
2	<b>LS</b>	Loamy sand	slight coherence; sand grains of medium size; can be sheared between thumb and forefinger to give minimal ribbon of about 5mm	about 5	about 5%
	<b>CS</b>	Clayey sand	slight coherence; sand grains of medium size; sticky when wet; many sand grains stick to fingers; discolours fingers with clay stain	5 - 15	5% to 10%
	<b>SL</b>	Sandy loam	bolus coherent but very sandy to touch; will form ribbon; dominant sand grains of medium size and readily visible	15 - 25	10% to 20%
3	<b>FSL</b>	Fine sandy loam	as for sandy loams, except that individual sand grains are not visible, although they can be heard and felt	15 - 25	10% to 20%
	<b>L</b>	Loam	bolus coherent and rather spongy; smooth feel when manipulated but with no obvious sandiness or "silkeness"; may be somewhat greasy to touch if much organic material present	25	about 25%
	<b>ZL</b>	Silty loam	coherent bolus, very smooth to silky when manipulated, will form a very thin ribbon and dries out rapidly	25	10% to 25%
4	<b>SCL</b>	Sandy clay loam	strongly coherent bolus, sandy to touch; medium size sand grains visible in finer matrix	25 - 40	20% to 30%
	<b>FSCL</b>	Fine sandy clay loam	as for sandy clay loam, except that individual sand grains are not visible although they can be heard and felt.	40 - 50	20% to 30%
	<b>CL</b>	Clay loam	coherent plastic bolus, smooth to manipulate	40 - 50	30% to 35%
	<b>ZCL</b>	Silty clay loam	as for clay loams but not spongy; very smooth and silky; dries out rapidly	40 - 50	30% to 35%
	<b>SC</b>	Sandy clay	plastic bolus; fine to medium sand can be seen, felt or heard in clayey matrix	50 - 75	35% to 40%
5	<b>SiC</b>	Silty clay	plastic bolus; smooth and silky to manipulate; long but very fragmentary ribbon; dries out rapidly	50 - 75	30% to 40%
	<b>LC</b>	Light clay	plastic bolus; smooth to touch; slight resistance to shearing between thumb and forefinger	50 - 75	35% to 40%
	<b>LMC</b>	Light medium clay	plastic bolus; smooth to touch; slight to moderate resistance to ribboning shear	75	40% to 45%
6	<b>MC</b>	Medium clay	smooth plastic bolus; handles like plasticine and can be moulded into rods without fracture; has moderate resistance to ribboning shear	> 75	45% to 55%
	<b>HC</b>	Heavy clay	smooth plastic bolus; handles like stiff plasticine; can be moulded into rods without fracture; has firm resistance to ribboning shear	> 75	50% +

Soil Texture Grade Table (International System, soil sieved < 2mm) &  
Table E1 (Assessment of Soil Textures) pg 106 of AS/NZS 1547:2012

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	<b>Client:</b> SandS Building Design	<b>Job No.:</b> 438143
<b>Checked:</b>		<b>Page No.:</b> 11 of 11

## 9.0 REFERENCES

Environment Protection Authority (July 2016). Publication No. 891.4, *Code of Practice – Onsite Wastewater Management*.

Environment Protection Authority (Mar 2013). Publication No. 746.1, *Land Capability Assessment For On-Site Wastewater Management*.

Environment Protection Authority (1991). Publication 168, *Guidelines for Wastewater Irrigation*.

McDonald, R.C., Isbell, R.F., Spreight, J.G., Walker, J and Hopkins, M.S. (1990). *Australian Soil and Land Survey: Field Handbook. Second Addition*. Inkata Press, Melbourne.

Standards Australia / Standards New Zealand (2012). AS/NZS 1547:2012 *On-Site Domestic Wastewater Management*.

Victorian Resources Online; <http://vro.depi.vic.gov.au/dpi/vro/vrosite.nsf/pages/vrohome>

Munsell Soil-Color Charts (2009 Year Revised / 2012 Production)

NOTES:

DENOTES NATURAL SURFACE LEVEL 10.23

DENOTES FLOOR LEVEL FL 12.00 APP.

ALL LENGTHS ARE IN METRES

CONTOUR INTERVAL IS 0.20m

LEVELS ARE TO AUSTRALIAN HEIGHT DATUM

PLEASE NOTE:

TITLES BOUNDARIES SHOWN MAY NOT REPRESENT EXACT TITLE POSITION.  
FOR EXACT TITLE POSITION IT IS RECOMMENDED THAT A TITLE RE ESTABLISHMENT SURVEY BE CARRIED OUT BY A LICENCED SURVEYOR

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PLEASE NOTE:

THE CLIENT IS ALLOWED FLEXIBILITY IN SELECTING THE FINAL LOCATION AND CONFIGURATION OF THE IRRIGATION SYSTEM, PROVIDED IT REMAINS WITHIN THE LAND APPLICATION AREA (LAA)

PLEASE NOTE:

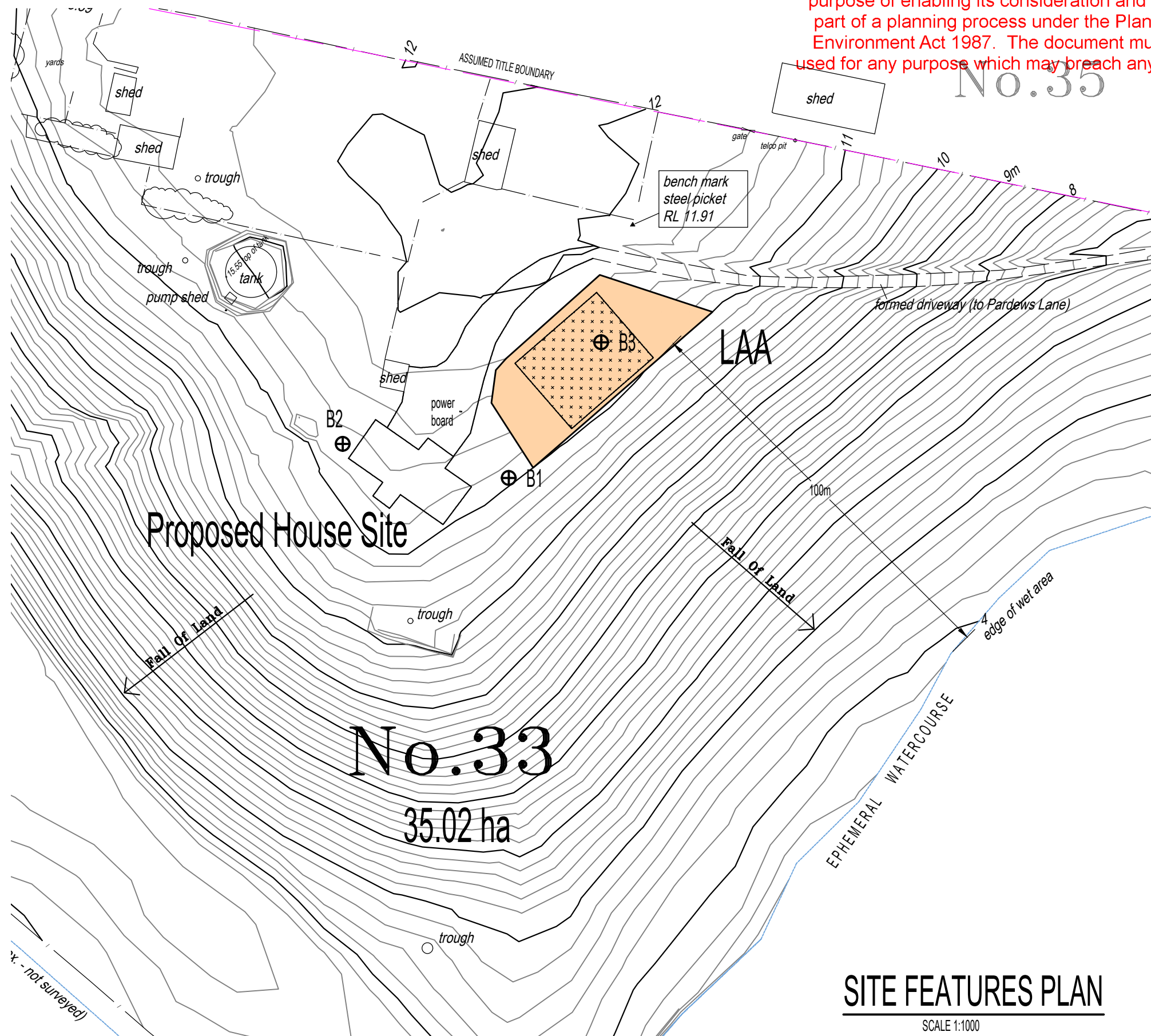
SHALLOW TABLE OR CUT-OFF DRAIN TO BE CONSTRUCTED ALONG THE HIGH SIDES OF THE EFFLUENT DISPOSAL AREA, EXTENDING TO BELOW THE DISPOSAL FIELD.

legend

⊕ B1 DENOTES TEST BORE LOCATION


LAND APPLICATION AREA (LAA - 1000m<sup>2</sup> available)

IRRIGATION AREA - 500 m<sup>2</sup> required (for a 4 bedroom dwelling)



SITE FEATURES PLAN

SCALE 1:1000

REV	DESCRIPTION	CHKD	DATE	Design:	Project:	Job No:	 <b>Simon Anderson Consultants</b> CIVIL   STRUCTURAL   PROJECT ENGINEERS	P.O. Box 1700 111 Main St, Bairnsdale T: 03 5153 1500 ACN 073 392 266 bairnsdale@simonandersonconsultants.com.au BAIKOWAL   SALL   GELONG
-	-	-	-	JDP	<b>SITE ANALYSIS</b> 33 Pardews Lane, Orbst	438143		
				Drawn: JDP		Drawing No: LC1		
				Checked: SJA		Revision No: -		
				Date: 20 June 2023	Client: SandS Building Design			

Printed 3/11/2023



## DRAWING SCHEDULE

### ARCHITECTURAL DRAWINGS

A1	SITE PLAN & LOCALITY PLAN
A2	FLOOR PLAN & ROOF PLAN
A3	ELEVATIONS & SECTIONS
A4	SECTIONS & DETAILS



IMAGE WAS DEVELOPED AT CONCEPT STAGE AND MAY VARY FROM FINAL DESIGN

# McMAHON RESIDENCE

SUBJECT SITE : NO. 33 PARDEWS LANE, ORBOST

CLIENT : DAVID McMAHON

DESIGNER :



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PLANNING ISSUE  
REVISION 'A'

Job No. 22853

ISSUE DATE 30/10/2023  
Printed 3/11/2023  
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## GENERAL NOTES:-

### 1. General

- 1.1 Written dimensions take precedence over scale, all dimensions are in millimetres U.N.O.
- 1.2 Materials and work practices shall comply with but not limited to Building Regulations 2018, National Construction Codes Series 2019 Building Code of Australia Vol 2 and all relevant current Australian Standards
- 1.2.2 Unless otherwise specified, the term BCA 2019 shall refer to National Construction Codes Series 2019 Building Code of Australia Vol. 2.
- 1.3 These plans shall be read in conjunction with any relevant structural and/or civil engineering computations and drawings related to this project.
- 1.4 The builder shall take all steps necessary to ensure the stability of new and existing structures during all works.
- 1.5 The builder & subcontractors to verify all levels, dimensions, setbacks and specifications and all other relevant documentation prior to commencement of works. Report all discrepancies to this office for clarification.
- 1.6 All previously issued drawings marked preliminary shall now be considered void
- 1.7 Exact set out of residence to be determined on site and shall be verified by Owner, Builder and Building surveyor

### 2. Footings

- 2.1 Soil classification to AS 2870. Refer Engineers Soil Report.
- 2.2 Concrete to be N20 grade unless noted otherwise.
- 2.3 Dimensions and Reinforcements shown are minimum requirements of AS2870.1.
- 2.4 The owners attention is drawn to Appendix A of AS2870.1. "Performance Requirements and Foundation Maintenance".
- 2.5 Footings not to encroach title boundaries and easement lines.

### 3. Termitte Treatment

- 3.1 Where required termitte treatment to comply with BCA 2019 Part 3.1.3 and in accordance with A.S.1694 or A.S.3360

### 4. Drainage

- 4.1 Stormwater, spoon and sub-soil drains shall be taken to legal point of discharge.
- 4.2 Sewer or septic system shall be in accordance with the relevant authority requirements.
- 4.3 The Builder and Subcontractors shall ensure that all stormwater drains, sewer pipes and the like are located at a sufficient distance from any buildings footing and / or slab edge beams so as to prevent general moisture penetration, dampness, weakening and undermining of any building and its footing system
- 4.4 The Builder to provide sub soil drainage ie.100mm soaked agi drain at the base (up-slope) of all retaining walls and at the base of footings where there is a possibility of water to enter under building or slab. Agi drains to be connected to legal point of discharge.

### 5. Brickwork

- 5.1 Provide wall ties to brickwork at maximum 600mm ctrs. in each direction and within 300mm of articulation joints.
- 5.2 Spacing of wall ties to top and sides of openings to be halved.
- 5.3 In areas less than 1km from sea or in heavy industrial areas wall ties shall be either- Galvanised sheet steel min. Z 600 or  
Galvanised wire min. 470g/m2, or  
Grade 316 stainless steel, or  
Engineered polymer ties.
- 5.4 Provide cavity flashing and weep holes in accordance with BCA 2019 Vol. 2, Part 3.3.4 and AS4773

### 6. Timber

- 6.1 Provide sub-floor ventilation to timber floors to achieve 6000sqmm/metre run of perimeter wall in accordance with BCA 2019 Vol. 2, Part 3.4.1 table 3.4.1.1.
- 6.2 Provide minimum clearance from underside of bearer to finished ground level of 400mm
- 6.3 Design wind classification: Refer Structural Engineers drawings
- 6.4 All timber sizes, wall and roof framing, fixing and bracing shall be in accordance with AS 1684.1 - AS 1684.4 2010 Residential timber-framed construction manuals parts 1-4 and TPC Timber Framing Span Tables 2010.

### 7. Wet Areas

- 7.1 All wet areas to comply with BCA 2019 Vol 2 Part 3.8 and AS 3740. Wall finishes shall be impervious to height of 1800mm above floor level to shower enclosures and 150mm above baths, basins, sinks and troughs if within 75mm of the wall.

### 8. Building Fabric

- 8.1 Minimum R value of element as per BCA 2019 Vol 2 Vic Table 2:  
Floors R1.0  
External walls R2.5  
Roof or ceiling R4.0
- 8.2 Any Sarking must have a flammability index of not more than 5.
- 8.3 All sarking and insulation to be approved vapour permeable in accordance with AS/NZ 4200.1

### 9. Doors, Windows & Glazing

- 9.1 All glazing and glazing to comply with BCA 2019 Vol 2 part 3.6. and AS1288
- 9.2 Window sizes and type are nominal and may vary according to selected manufacturer. Site measure prior to fabrication.
- 9.3 Provide safety glass to shower screens & windows over baths in accordance with A.S.1288
- 9.4 All doors, windows, gaps & cracks to be sealed
- 9.5 All external doors to be weather stripped
- 9.6 All external doors and windows to be installed to manufacturers specification and flashed all round.
- 9.6 Refer to Energy Raters thermal assessment and BAL Assessment for further information and special glazing requirements.

### 10. Smoke Detectors

- 10.1 Smoke detectors to be installed as per BCA 2019 Vol 2 Part 3.7.2 and to comply with AS3786, hard wired to electric mains with battery back-up.

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### 12. Driveways and Excavations

- 12.1 New driveways and crossovers to be in accordance with local requirements and owner/builder shall obtain relevant permits prior to commencement of work.
- 12.2 Any excavations, extent and position of any fill or stockpiling to verified on site with Owner/Builder

### 13. Stairs, Steps & Balustrades

- 13.1 Stairs and steps maximum riser(R) 190mm, minimum riser(R) 115mm, maximum going(G) 355mm, minimum going (G) 240mm, slope relationship (2R+G), minimum head room above nosing of stair 2000mm. Maximum 125mm vert. gap between treads on stringer stairs.
- 13.2 Handrail to minimum 865mm above nosing of stairs and 1050mm above balconies and landings with maximum 125mm between rails or balustrades (except wire balustrades refer 13.3). Provide balustrades where balconies or landings exceeds 1000mm above adjacent finished surface level.
- 13.3 Wire balustrade construction to comply with BCA 2019 Volume 2 Part 3.9.2.3 for Class 1 and 10 buildings and BCA 2019. Volume 1 Part D2.16 for other Classes of buildings

### 14. Stormwater & Roof Drainage

- 14.1 All roofing, gutters, downpipes, drainage etc. to be installed in accordance with BCA 2019 Volumes 2 & 3 and AS3500
- 14.2 Exact number of downpipes to be determined on site by Builder, Plumber and Owner.
- 14.3 Each downpipe must not serve more than 12.0 metres of gutter.
- 14.4 Builder to ensure that a downpipe is located within 1200mm of an internal roof valley or provide slotted spouting or gutters (overflow)
- 14.4 Valley gutters on a roof less than 12.5 degrees – must be designed as a box gutter with a minimum width of 300mm.
- 14.5 Stormwater line to be laid to a minimum grade of 1:100 and connected to the legal point of discharge. Provide inspection openings @ 9000mm C/C and at each change of direction.

- 14.6 The cover to underground stormwater drains shall not be less than:  
100mm under soil  
50mm under paved or concrete areas  
100mm under unreinforced concrete or paved driveways  
75mm under reinforced concrete driveways

### 15. Rescode

- 15.1 Building and siting to comply with current Rescode, designer to be notified if any discrepancies are found by surveyor/builder/owner prior to construction or any site works

### 16. Energy Efficiency

- 16.1 Unless permitted otherwise all designs shall be constructed in accordance with the approved plans as provided and stamped by the accredited energy rater without alteration
- 16.2 If a rainwater tank is installed to comply with energy rating requirements, the rainwater tank must have a minimum capacity of 2,000 litres, have a catchment area from a roof of at least 50sq.m and be connected to all sanitary flushing systems within a building.

- 16.3 If a solar water heater is installed to comply with energy rating requirements, the solar water heater must achieve an energy performance of 60% solar gain. Refer SEAV website for a list of solar water heaters which comply.

SUMMARY ONLY,  
REFER AS 3959 FOR  
FURTHER  
INFORMATION

GENERAL  
All construction methods, building materials and prefabricated products to comply with AS 3959-2018 construction of buildings in Bushfire Prone Area 'section 5'

#### 5.3.1 FLOORS

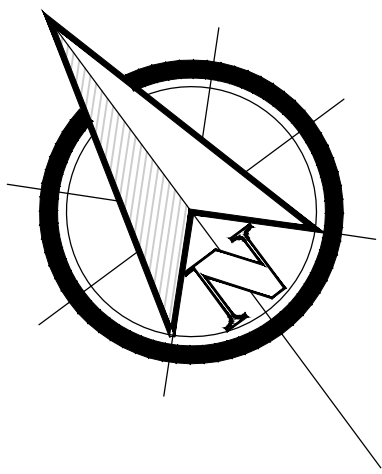
Window assemblies shall  
This Standard does not provide construction requirements for concrete slabs on the ground.

#### 5.4 WALLS

5.4.1 General  
The exposed components of an external wall that are less than 400mm from the ground or less than 400mm above decks, carport roofs, awnings and similar elements or fittings have an angle of less than 18 degrees to the horizontal and extending more than 110mm in width from wall shall be one of the following:  
(a) Non-combustible material including the following provided the minimum thickness is 80mm:  
(i) Full masonry or masonry veneer walls with an outer leaf of clay, concrete, calcium silicate or natural stone.  
(ii) Precast or insitu walls of concrete or aerated concrete.  
(iii) Earth wall including mud brick; or  
(b) Timber logs of species with a density of 680 kg/m<sup>3</sup> or greater at 12% moisture content; of a minimal nominal thickness of 90mm and a minimal thickness of 70mm and gauge glazed; or  
(c) Cladding that is fixed externally to a timber framed or steel framed wall and is:  
(i) non-combustible material; or  
(ii) fibre-cement sheet a minimum of 6mm in thickness; or  
(iii) bushfire resisting timber (see appendix F); or  
(iv) a timber species as specified in Paragraph E1, Appendix E; or  
(v) a combination of any of items (i), (ii), (iii) or (iv); or  
(d) A combination of (a), (b) or (c).

5.4.2 Joints  
All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed.  
5.4.3 Vents and weepholes  
Except for exclusions provided in Clause 3.6, vents and weepholes in external walls shall be screened with a mesh made of corrosion-resistant steel, bronze or aluminium.  
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5.4.4 Joints  
All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed.  
5.4.3 Vents and weepholes  
Except for exclusions provided in Clause 3.6, vents and weepholes in external walls shall be screened with a mesh made of corrosion-resistant steel, bronze or aluminium.  
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5.4.3 Vents and weepholes  
Except for exclusions provided in Clause 3.6, vents and weepholes in external walls shall be screened with a mesh made of



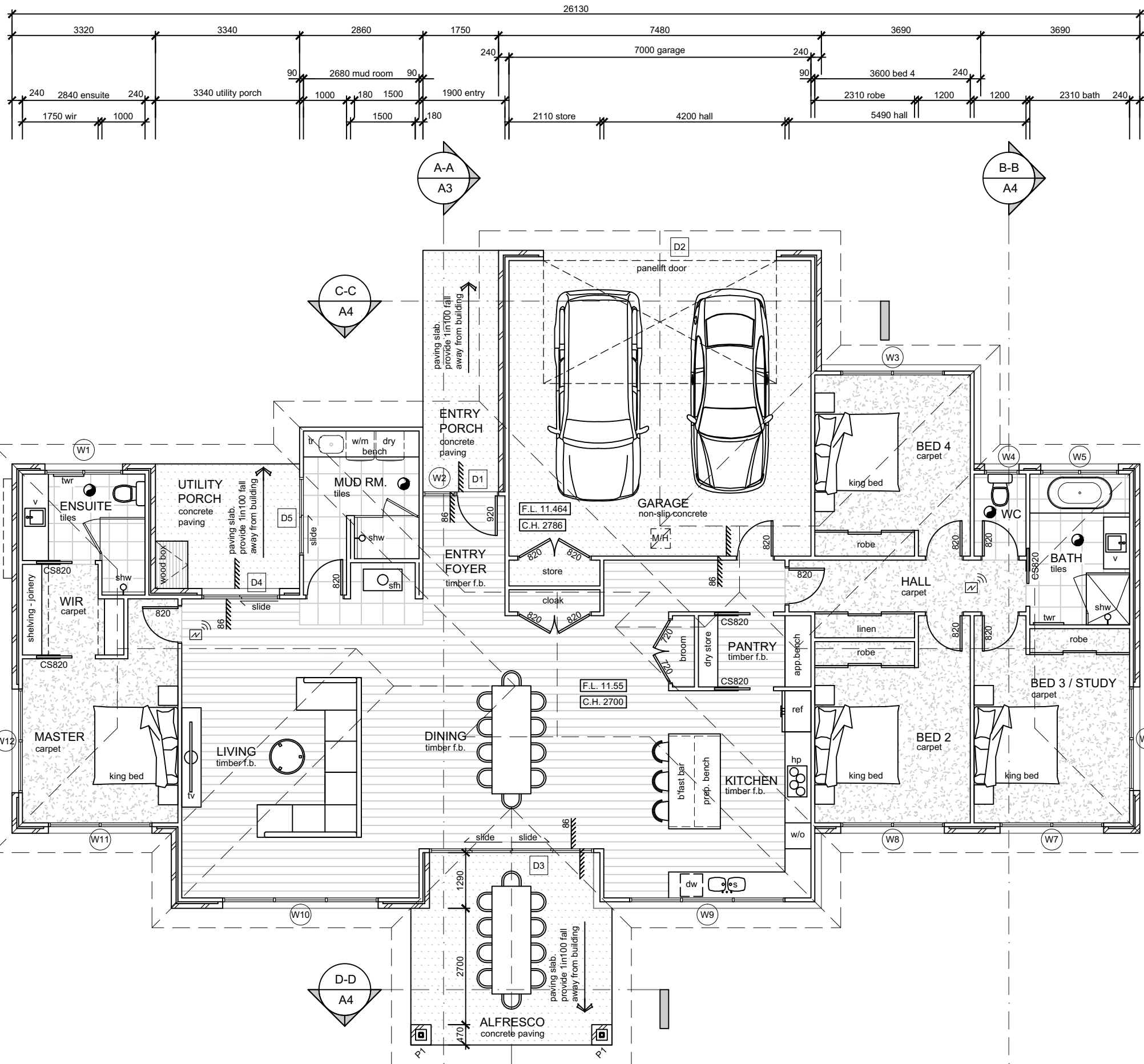


## LEGEND

dry	CLOTHES DRYER
dw	DISHWASHER - AS SELECTED
hp	HOT PLATE, RANGEHOOD OVER, VENT TO OUTSIDE AIR
ref	REFRIGERATOR, PROVIDE WATER CONNECTION FOR ICE MAKER
s	SELECTED STAINLESS STEEL SINK
sh	SOLID FUEL HEATER - AS SELECTED
shw	SHOWER - AS SELECTED
sn	SOAP NICHE REBATED IN WALL
tr	TOWEL RAIL
tr	TROUGH - AS SELECTED
tv	TELEVISION, PROVIDE TELEPHONE POINT
v	VANITY
wm	WASHING MACHINE
w/o	WALL OVEN
F.L. 10.00	FLOOR LEVEL
C.H. 2.70	CEILING HEIGHT FROM FLOOR LEVEL
W19	WINDOW NUMBER
D4	DOOR NUMBER
89 SHS STEEL COLUMN TO STRUCTURAL ENGINEERS DETAIL, 470 BRICK SURROUND	
MANHOLE	
MECHANICAL VENTILATION	
STANDARD APPROVED SMOKE ALARM, HARD WIRED TO ELECTRIC MAINS WITH BATTERY BACK-UP TO AS 3786 INSTALLED AS PER BCA Vol 2 PART 3.7.2.	

## AREA ANALYSIS

GARAGE	53.07 Sq.m	5.71 SQUARES
DWELLING (HABITABLE)	229.06 Sq.m	24.66 SQUARES
TOTAL DWELLING	282.13 Sq.m	30.37 SQUARES
ENTRY PORCH	9.80 Sq.m	
ALFRESCO	19.67 Sq.m	
UTILITY DECK	9.65 Sq.m	



## FLOOR PLAN

SCALE - 1:100

### TIMBER FRAMING NOTE

ALL TIMBER FRAMING, BRACING AND HOLD-DOWN DETAILS SHALL COMPLY WITH AS 1684 2010 RESIDENTIAL TIMBER-FRAMED CONSTRUCTION MANUALS.

### WALL THICKNESS:

INTERNAL WALL THICKNESS DIMENSIONS HAVE BEEN OMITTED FROM PLAN FOR CLARITY. ALL INTERNAL WALLS TO BE 90mm

### BUSHFIRE ATTACK LEVEL

BUSHFIRE ATTACK LEVEL IS B.A.L. 12.5 IN ACCORDANCE WITH ASSESSMENT PREPARED BY SANDS BUILDING DESIGN. SPECIFIC CONSTRUCTION IS REQUIRED IN ACCORDANCE WITH AS 3699. FOR MORE DETAIL REFER NOTES ON SHEET A1

### WARNING!

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVIDED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING UNDERGROUND SERVICES.



## ROOF LEGEND

DP	SUGGESTED LOCATION OF 900 DOWNPIPES
SWD	DENOTES SUGGESTED LOCATION OF 900 STORMWATER PIPE
AGI	1000 SOCKED SUB-SOIL DRAIN PACKED IN COARSE AGGREGATE TO HIGH SIDE OF DWELLING, CONNECT TO STORMWATER SYSTEM

### PART V2.6.1 OF BCA (NCC) - ENERGY EFFICIENCY

TO ENSURE COMPLIANCE, ONE OF THE TWO FOLLOWING OPTIONS MUST BE IMPLEMENTED

- OPTION 1** A RAINWATER TANK RECEIVING RAINFALL FROM A MINIMUM CATCHMENT AREA OF 50 SQUARE METRES AND HAVING A MINIMUM CAPACITY OF 2000 LITRES CONNECTED TO ALL TOILETS IN THE BUILDING FOR THE PURPOSE OF SANITARY FLUSHING - PLUMBING WORK MUST COMPLY WITH THE PLUMBING REGULATIONS 2018
- OR**
- OPTION 2** A SOLAR WATER HEATER SYSTEM. THE PLUMBING REGULATIONS ALLOWS 2 DIFFERENT OPTIONS OF WATER HEATED SYSTEMS TO CHOOSE FROM:
- 1) A GAS BOOSTED SOLAR WATER HEATER, OR
- 2) A HEAT PUMP WATER HEATER (IF IT IS NOT CONNECTED TO THE MAINS ELECTRICITY SUPPLY).
- WHERE A SOLAR WATER HEATER SYSTEM IS USED AND IT INCORPORATES BOOSTER HEATING AND RETICULATED GAS SUPPLY IS AVAILABLE FOR CONNECTION TO THE BUILDING, THE SOLAR WATER HEATER SYSTEM MUST BE GAS BOOSTED.
- WHERE A HEAT PUMP WATER HEATER IS INSTALLED, NO PART OF THE HEATER THAT IS CAPABLE OF HEATING WATER IS TO BE CONNECTED TO MAINS ELECTRICITY.
- IN EITHER CASE (OPTION 1 OR 2), DOCUMENTATION MUST BE PROVIDED TO THE RELEVANT BUILDING SURVEYOR (RBS) TO ENSURE COMPLIANCE.

## ENERGY RATING SUMMARY

<b>RATING</b> 6.1 STARS	<b>CERTIFICATE NO.</b> HR-8XU8H8-01
<b>TOTAL ENERGY</b> 127.9 MJ/m2	<b>DATE</b> 26/06/2023
<b>ACCREDITED ENERGY RATER</b> FRATER CONSULTING SERVICES 03 9891 6928 JACOB EDWARDS DMN/161718	<b>SOFTWARE</b> Hera 3.0.1
<b>ASSESSOR'S REFERENCE</b> FCS 52931	
BUILDING ELEMENT	SPECIFICATION
FLOOR	-
WALLS	R2.5 MINIMUM ADDED WALL INSULATION WITH BRADFORD ENVIROSEAL PROCTOR WRAP (VAPOUR PERMEABLE) SARKING TO OUTSIDE OF ALL EXTERNAL WALLS (INSULATION IN GARAGE OPTIONAL) R2.5 BULK INSULATION TO INTERNAL WALLS ABUTTING GARAGE & MUD ROOM
CEILINGS	R5.0 MINIMUM ADDED CEILING INSULATION (GARAGE OPTIONAL)
ROOF	BRADFORD ANTICON 60 R1.3 ROOF BLANKET INSULATION
WINDOWS	ALL WINDOWS TO BE ALUMINIUM FRAMED DOUBLE GLAZED, WITH MINIMUM VALUES AS LISTED: AWNING, CASEMENT U-VALUE: 3.2 & SHGC 0.46 FIXED, SLIDING U-VALUE: 3.2 & SHGC 0.49
WALL COLOUR	MEDIUM TONING
ROOF COLOUR	MEDIUM TONING
LIGHTING	MAX. WM2 IN A CLASS 1 BUILDING (WITHIN THE BUILDING), SWIM2 MAXIMUM ON A VERANDAH OR BALCONY ATTACHED TO THE CLASS 1, 4 WM2 MAXIMUM IN A CLASS 10 BUILDING (GARAGE/SHED) SWIM2 MAXIMUM
AIR LEAKAGE	IF USED, DOWNLIGHTS ARE TO BE SEALED (FITTED WITH SHROUDS) SELF SEALING EXHAUST FANS WINDOWS AND SLIDING DOORS ARE TO BE FITTED WITH WEATHER-STRIP GAPS & CRACKS AROUND DOORS, WINDOWS AND SERVICE PENETRATIONS ARE SEALED
NOTES:	- THIS SUMMARY IS TO BE READ IN STRICT CONJUNCTION WITH THE ENERGY RATING REPORT PREPARED BY FRATER CONSULTING SERVICES

#HR-8XU8H8-01 26/06/2023

<b>6.1</b> NATIONAL ENERGY RATING HOUSE 127.9 MJ/m2	<b>Assessor</b> Jacob Edwards <b>Accreditation No.</b> DMN/161718 <b>Address</b> 33 PARDEWS LANE, ORBOST, VIC. 3688
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http://www.hera-software.com.au/pdf/HR-8XU8H8-01

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<b>McMAHON RESIDENCE</b> 33 PARDEWS LANE ORBOST	<b>CLIENT</b> DAVID McMAHON <b>JOB NO.</b> 22853 <b>DATE</b> 11/08/23 <b>DESIGNED BY</b> CDP-AD 58137 <b>DRAWN BY</b> FN <b>DESCRIPTION</b> FLOOR PLAN & ROOF PLAN <b>ISSUE</b> PLANNING <b>SCALE</b> 1:100
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ACN 127 480 942  
P.O. Box 1755, 309 Main St, Bairnsdale 3875  
P. 03 51 52 7200 E. clinton@sandsbd.com.au

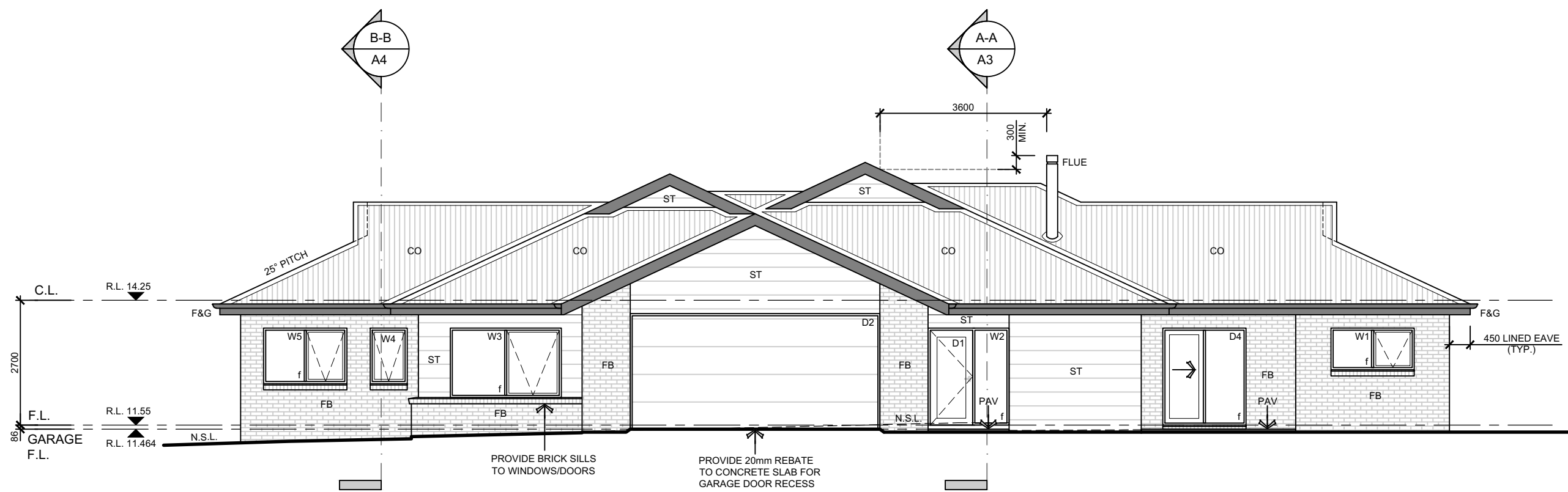
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Page 45 of 47

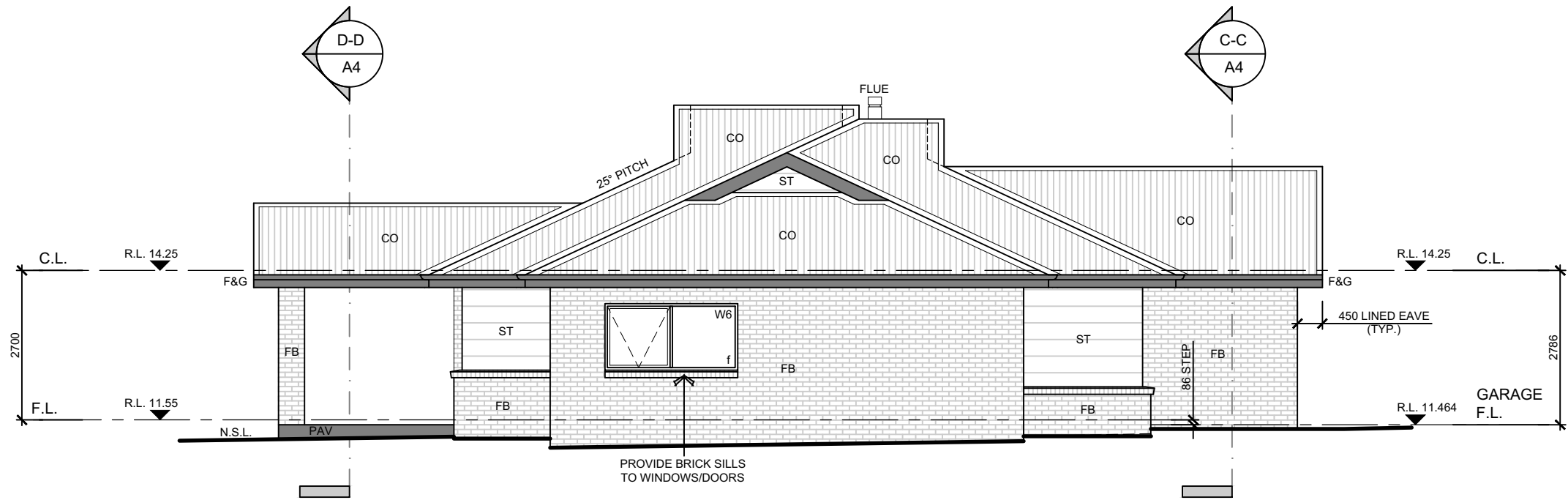
A2 A





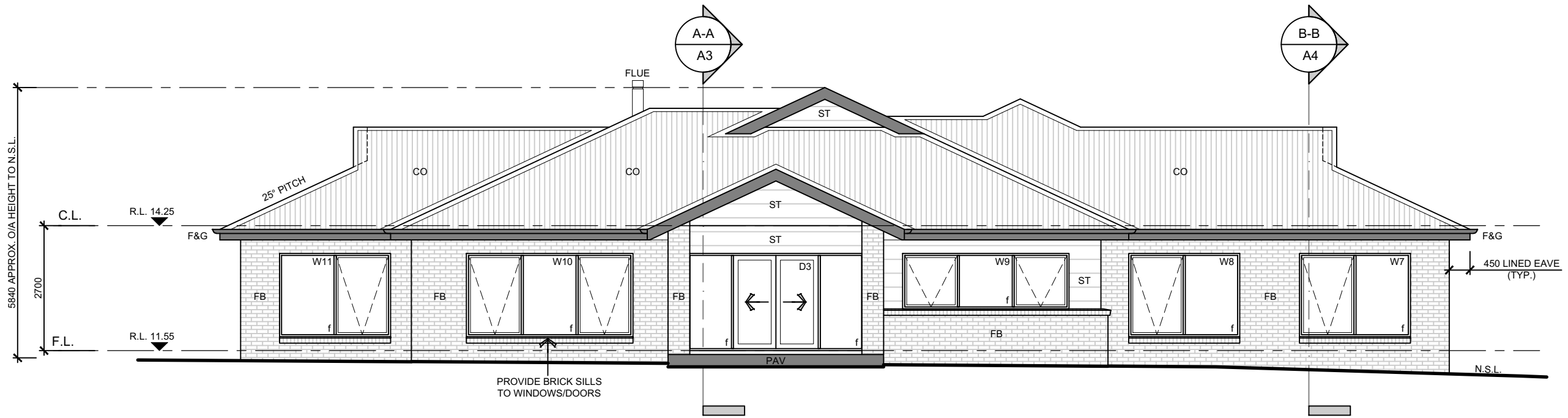
**NORTH ELEVATION**

SCALE - 1:100



**EAST ELEVATION**

SCALE - 1:100



**SOUTH ELEVATION**

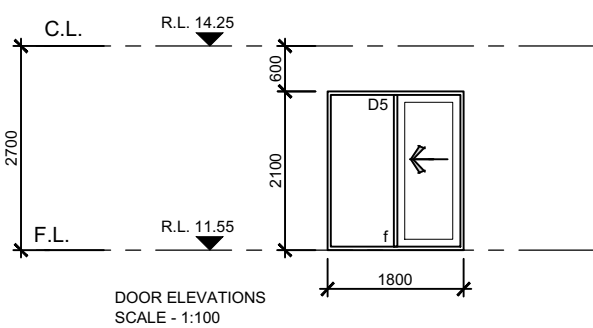
SCALE - 1:100



**WEST ELEVATION**

SCALE - 1:100

THESE DOORS ARE NOT SHOWN (OR A PARTIALLY SHOWN) IN BUILDING ELEVATIONS  
- ALL ELEVATIONS ARE EXTERNALLY VIEWED  
NOTE: ALL WINDOWS & DOORS MUST BE SITE MEASURED PRIOR TO ORDERING & FABRICATION



**DOOR ELEVATIONS**

SCALE - 1:100

TIMBER FRAMING SCHEDULE				
ALL TIMBER FRAMING, BRACING AND HOLD-DOWN DETAILS SHALL COMPLY WITH AS 1684 2010 RESIDENTIAL TIMBER-FRAMED CONSTRUCTION MANUALS AND STRUCTURAL ENGINEERS SPECIFICATIONS.				
WIND CLASSIFICATION: ??? REFER STRUCTURAL ENGINEERING		SOIL CLASSIFICATION: CLASS ??? REFER SOIL REPORT		
ROOF CLADDING: SHEET		ROOF PITCH: 25°		
DESCRIPTION	SIZE mm W x H	STRESS GRADE	CENTRES mm	MAX. HEIGHT / SPAN mm
ROOF BATTENS	70x35	MGP12	900	900 SPAN
CEILING BATTENS	70x35	MGP10	450	900 SPAN
ROOF TRUSSES	REFER MANUF.	MGP10	900	
COMMON WALL STUDS	90x35	MGP10	450	3000 HEIGHT MAX.
JAMB STUDS	2100x45	MGP10		3000 HEIGHT MAX.
GENERAL TOP PLATES	90x45	MGP10		
LOADBEARING TOP PLATES	2100x45	MGP10		
BOTTOM PLATES	90x45	MGP10		
WALL NOGGINGS	90x35	MGP10	1350	
LINTELS	REFER STRUCTURAL ENGINEERS DRAWINGS			

WINDOW SCHEDULE										
NO.	MANUF.	TYPE	STYLE	NOM. SIZE	ORIENT.	ROOM	CLADDING	HEAD HEIGHT	NOTES	
W1	AS SELECTED	ALUMINIUM	AWNING	800H x 1800W	N	ENSUITE	BRICK VENEER	2100		
W2	AS SELECTED	ALUMINIUM	FIXED	2100H x 770W	N	ENTRY	STRA			
W3	AS SELECTED	ALUMINIUM	AWNING	1500H x 2400W	N	BED 4	BRICK VENEER			
W4	AS SELECTED	ALUMINIUM	AWNING	1200H x 800W	N	WC	BRICK VENEER			
W5	AS SELECTED	ALUMINIUM	AWNING	1200H x 1800W	N	BATH	BRICK VENEER			
W6	AS SELECTED	ALUMINIUM	AWNING	1200H x 2400W	E	BED 3	BRICK VENEER			
W7	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	S	BED 3	BRICK VENEER			
W8	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	S	BED 2	BRICK VENEER			
W9	AS SELECTED	ALUMINIUM	AWNING	1200H x 3600W	S	KITCHEN	BRICK VENEER			
W10	AS SELECTED	ALUMINIUM	AWNING	1800H x 3600W	S	LIVING	BRICK VENEER			
W11	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	S	MASTER	BRICK VENEER			
W12	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	W	MASTER	BRICK VENEER			

DOOR SCHEDULE										
NO.	MANUF.	TYPE	STYLE	NOM. SIZE	ORIENT.	ROOM	CLADDING	HEAD HEIGHT	NOTES	
D1	AS SELECTED	ALUMINIUM	SWING	2100H x 920W	N	ENTRY	STRA	2100		
D2	AS SELECTED	PANELIFT	SECTIONAL	2500H x 5400W	N	GARAGE	BRICK VENEER	2500		PROVIDE ENVIROSEAL AUTOMATIC DOOR OPENER HEAD HEIGHT FROM GARAGE F.L. PROVIDE RAVEN WEATHER SEAL PROVIDE 20mm REBATE IN SLAB
D3	AS SELECTED	ALUMINIUM	SLIDING	2100H x 3800W	S	DINING	STRA	2100		
D4	AS SELECTED	ALUMINIUM	SLIDING	2100H x 1800W	N	LIVING	BRICK VENEER			
D5	AS SELECTED	ALUMINIUM	SLIDING	2100H x 1800W	W	MUD RM.	STRA			

**NOTES**

ALL WINDOWS & DOORS MUST BE SITE MEASURED PRIOR TO ORDERING & FABRICATION  
ALL GLAZING TO COMPLY WITH AS 1288  
ALL WINDOWS, DOORS & ACCESSORIES TO BE IN ACCORDANCE WITH ENERGY RATER'S REPORT  
ALL WINDOW & DOOR SECTIONS TO BE ALUMINIUM FRAMED, DOUBLE GLAZED  
ALL FRAMES TO BE POWDERCOAT FINISH, COLOUR TO BE SELECTED BY CLIENT  
INSTALL & FLASH ALL WINDOWS TO MANUF. SPEC.

PROVIDE FLY SCREENS TO ALL EXTERNAL WINDOWS AND DOORS UN.O.  
ALL INTERNAL DOORS DENOTED ON PLAN AS '920' TO BE 920W x 2040H x 35THK. AS SELECTED BY CLIENT  
ANY DISCREPANCIES BETWEEN WINDOW/DOOR SCHEDULE AND WORKING DRAWINGS TO BE REPORTED TO SANDS BUILDING DESIGN PRIOR TO ORDERING AND/OR FABRICATION  
REFER BAL. 12.5 NOTES ON DRAWING A1 FOR ANY FURTHER GLAZING REQUIREMENTS

**BUSHFIRE ATTACK LEVEL**

BUSHFIRE ATTACK LEVEL IS B.A.L. 12.5  
IN ACCORDANCE WITH ASSESSMENT  
PREPARED BY SANDS BUILDING  
DESIGN. SPECIFIC CONSTRUCTION IS  
REQUIRED IN ACCORDANCE WITH AS  
3099. FOR MORE DETAIL REFER NOTES  
ON SHEET A1

**WARNING!**

BEWARE OF UNDERGROUND SERVICES

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**MMAHON RESIDENCE**  
33 PARDEWS LANE  
ORBOST

CLIENT: DAVID MMAHON  
JOB NO: 22853  
DATE: 11/08/23  
DESIGNED BY: CDP-AD 58137  
DRAWN BY: FN  
DESCRIPTION: ELEVATIONS & SECTIONS  
ISSUE: PLANNING  
SCALE: 1:100 / 1:50

ACN 127 480 942  
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A3 A

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Page 46 of 47

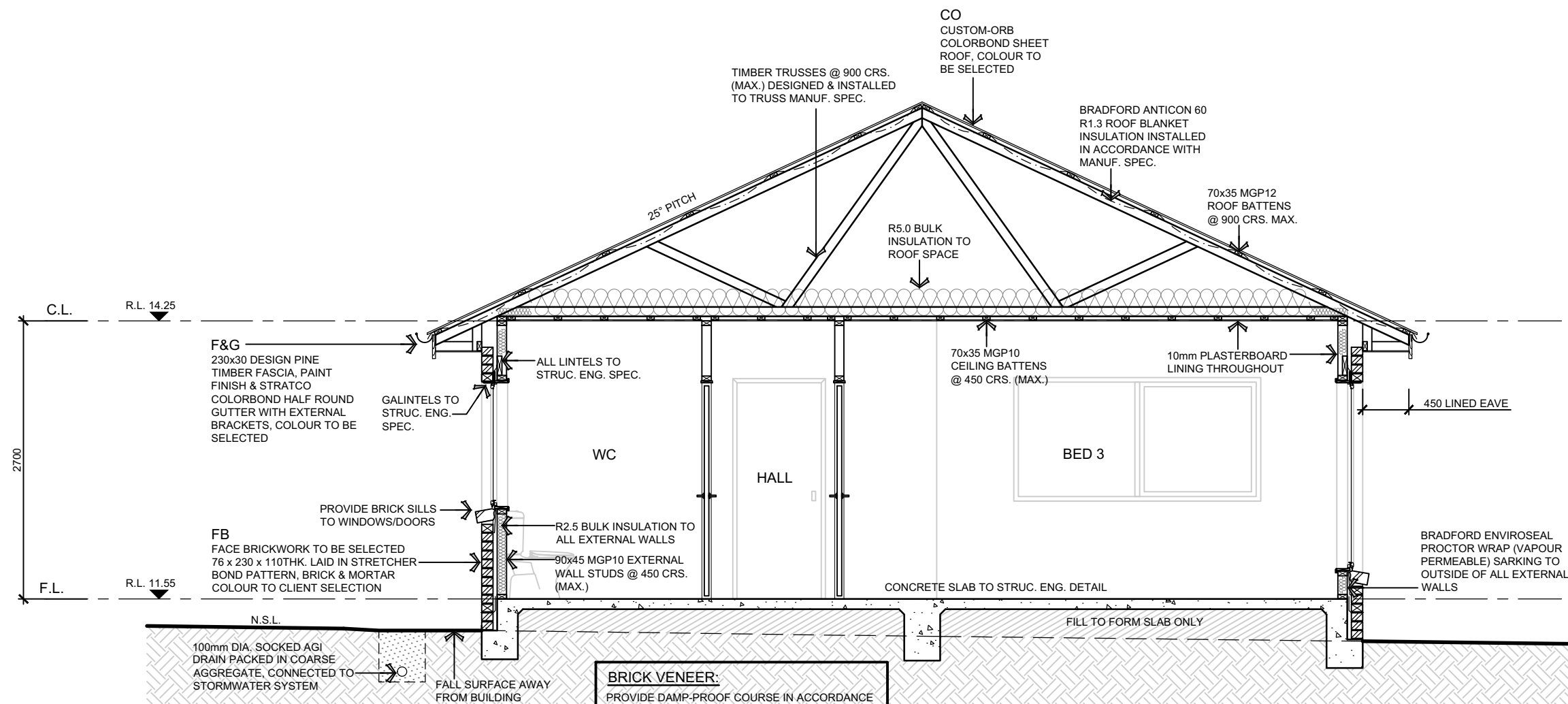
**6.1**  
**HOUSE**  
**127.9**  
star

#HR-6XU8H8-01 29/08/2023

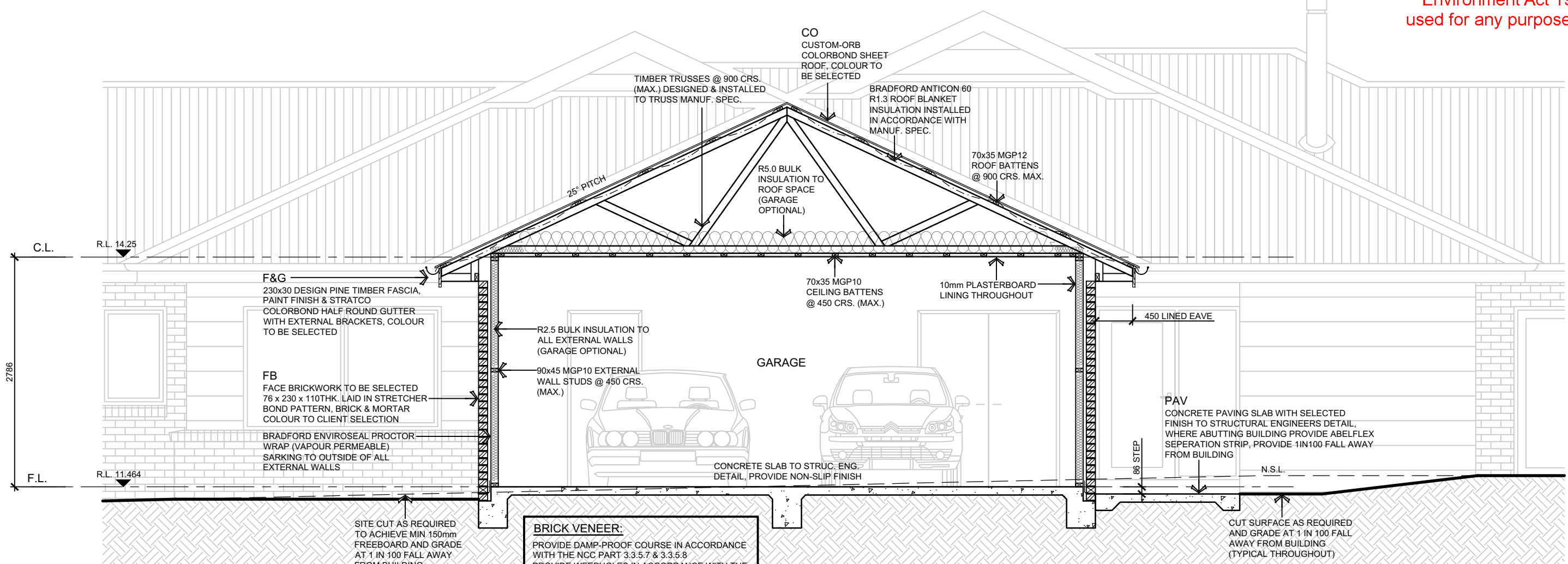
Assessor: Jacob Edwards  
Accreditation No. 0281617118  
Address: 33 PARDEWS LANE, ORBOST, VIC, 3868

http://www.hero-software.com.au/gpdt/HR-6XU8H8-01

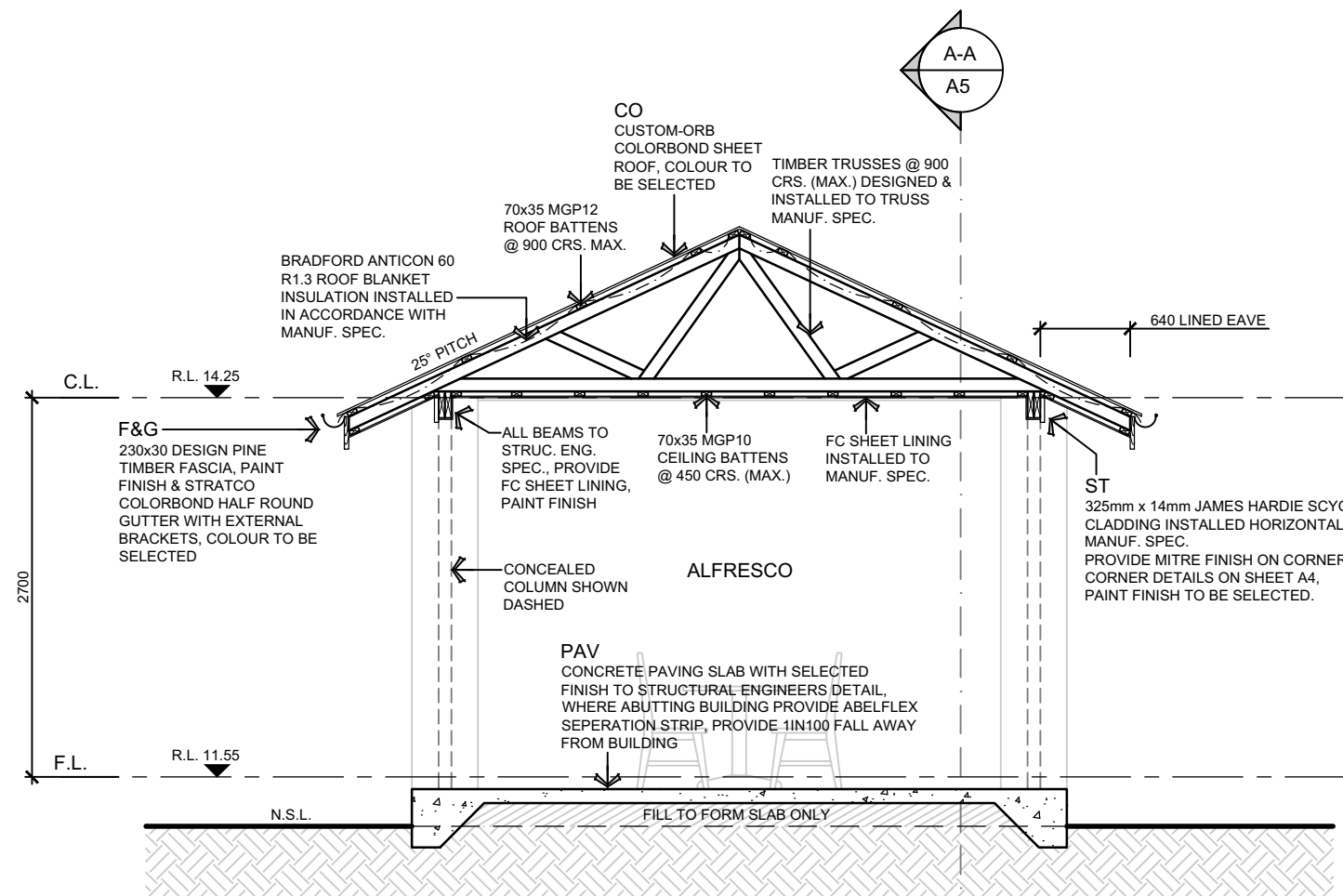




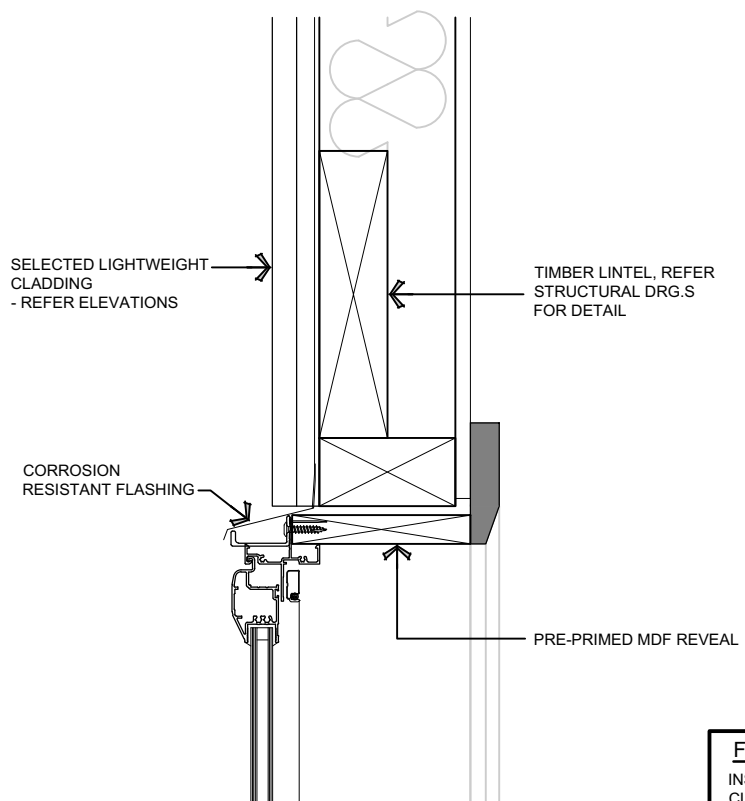
SECTION B-B  
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SECTION C-C  
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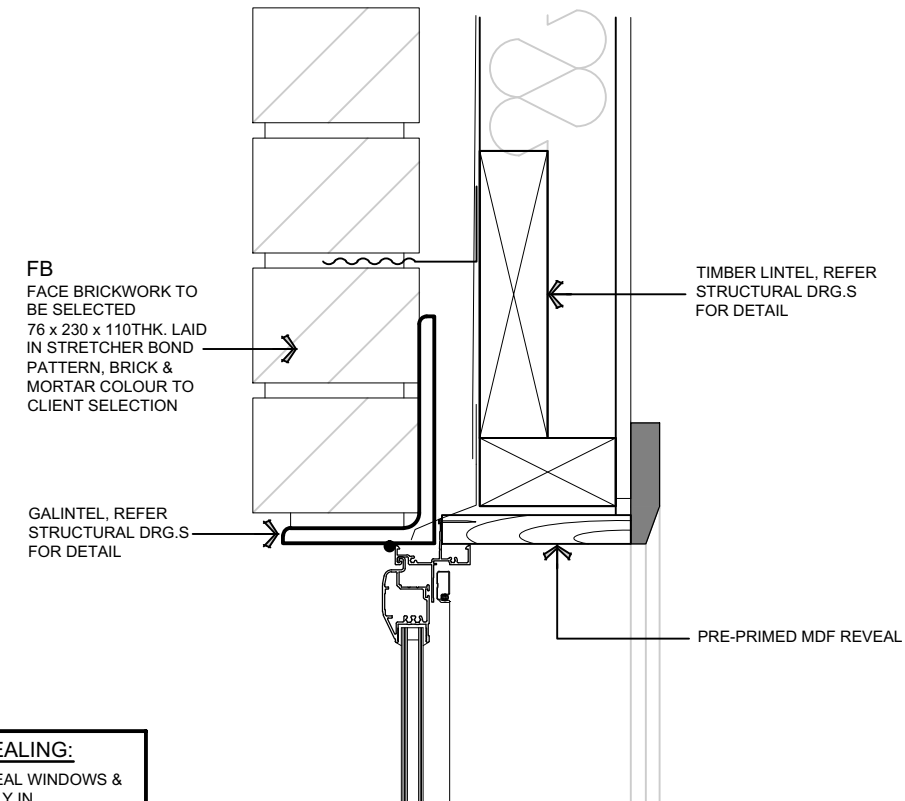


SECTION D-D  
SCALE - 1:50



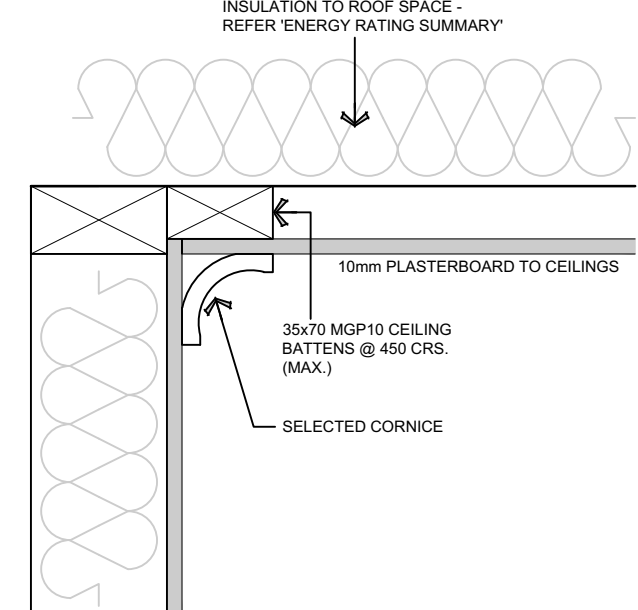
TYPICAL VERTICAL WINDOW DETAIL -  
LIGHTWEIGHT CLADDING

SCALE - 1:5



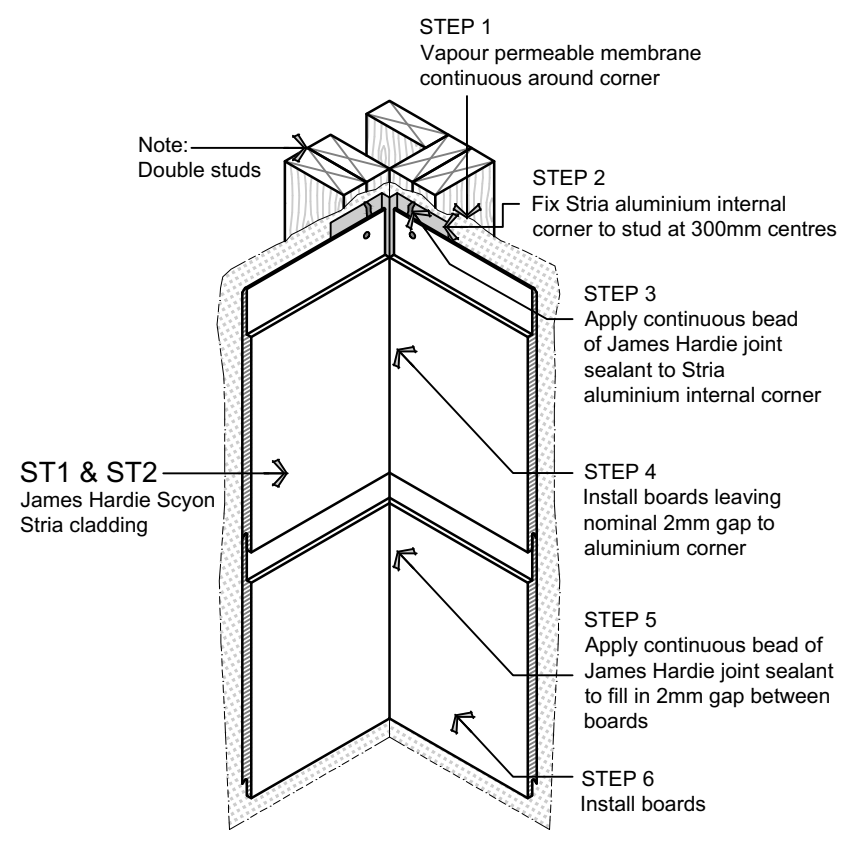
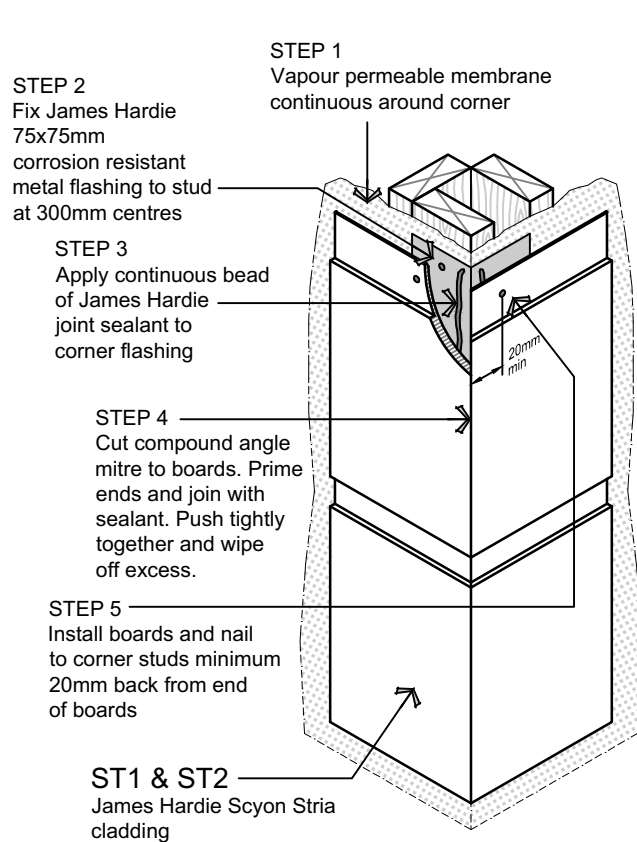
TYPICAL VERTICAL WINDOW DETAIL -  
BRICK VENEER

SCALE - 1:5



CEILING DETAIL (TYP. THROUGHOUT)

SCALE - 1:5



(ST) JAMES HARDIE SCYON STRIA CLADDING - EXTERNAL MITRE CORNER DETAIL  
NOT TO SCALE  
SOURCED FROM FIGURE 13 (DRAWING NO. AUSL-STR-TEC-013 REV A) OF THE JAMES HARDIE INSTALLATION MANUAL.

(ST) JAMES HARDIE SCYON STRIA CLADDING - ALUMINIUM RE-ENTRANT CORNER DETAIL  
NOT TO SCALE  
SOURCED FROM FIGURE 16 (DRAWING NO. AUSL-STR-TEC-016 REV A) OF THE JAMES HARDIE INSTALLATION MANUAL.

PRODUCT TO BE INSTALLED STRICTLY TO MANUFACTURER'S SPECIFICATION, REFER TO RELEVANT/CURRENT JAMES HARDIE TECHNICAL LITERATURE FOR PRODUCT INSTALLATION AND MAINTENANCE RECOMMENDATIONS.

ENERGY RATING SUMMARY	
RATING 6.1 STARS	CERTIFICATE NO. HR-8XUBH-01
TOTAL ENERGY 127.9 MJ/m2	DATE 26/06/2023
ACCREDITED ENERGY RATER FRATER CONSULTING SERVICES 03 8691 6928 JACOB EDWARDS DMN/161718	SOFTWARE HERO 3.0.1
ASSESSOR'S REFERENCE FC8 50393	
BUILDING ELEMENT	SPECIFICATION
FLOOR	-
WALLS	R2.5 MINIMUM ADDED WALL INSULATION WITH BRADFORD ENVIROSEAL PROCTOR WRAP (VAPOUR PERMEABLE) SARKING TO OUTSIDE OF ALL EXTERNAL WALLS (INSULATION IN GARAGE OPTIONAL). R2.5 BULK INSULATION TO INTERNAL WALLS ABUTTING GARAGE & MUD ROOM
CEILINGS	R5.0 MINIMUM ADDED CEILING INSULATION (GARAGE OPTIONAL)
ROOF	BRADFORD ANTICORN 60 R1.3 ROOF BLANKET INSULATION
WINDOWS	ALL WINDOWS TO BE ALUMINIUM FRAMED DOUBLE GLAZED, WITH MINIMUM VALUES AS LISTED AWNING CASEMENT: U-VALUE: 3.2 & SHGC 0.46 FIXED, SLIDING: U-VALUE: 3.2 & SHGC 0.49
WALL COLOUR	MEDIUM TONING
ROOF COLOUR	MEDIUM TONING
LIGHTING	- IN A CLASS 1 BUILDING (WITHIN THE BUILDING) 5W/M2 MAXIMUM ON A VERANDAH OR BALCONY ATTACHED TO THE CLASS 1-4 W/M2 MAXIMUM MAX. W/M2
AIR LEAKAGE	- IF USED, DOWNLIGHTS ARE TO BE SEALED (FITTED WITH SHROUDS) - SELF SEALING EXHAUST FANS - WINDOWS AND SLIDING DOORS ARE TO BE FITTED WITH WEATHER-STRIP - GAPS & CRACKS AROUND DOORS, WINDOWS AND SERVICE PENETRATIONS ARE SEALED
NOTES: - THIS SUMMARY IS TO BE READ IN STRICT CONJUNCTION WITH THE ENERGY RATING REPORT PREPARED BY FRATER CONSULTING SERVICES	

TIMBER FRAMING SCHEDULE				
ALL TIMBER FRAMING, BRACING AND HOLD-DOWN DETAILS SHALL COMPLY WITH AS 1684.2019 RESIDENTIAL TIMBER-FRAMED CONSTRUCTION MANUALS AND STRUCTURAL ENGINEERS SPECIFICATIONS.				
WIND CLASSIFICATION: ???	SOIL CLASSIFICATION: CLASS ???			
REFER STRUCTURAL ENGINEERING	REFER SOIL REPORT			
ROOF CLADDING:	SHEET	ROOF PITCH:		
		25°		
DESCRIPTION	SIZE mm W x H	STRESS GRADE	CENTRES mm	MAX. HEIGHT / SPAN mm
ROOF BATTENS	70x35	MGP12	800	900 SPAN
CEILING BATTENS	70x35	MGP10	450	900 SPAN
ROOF TRUSSES	230x40	MGP10	800	REFER MANUF.
COMMON WALL STUDS	90x35	MGP10	450	3000 HEIGHT MAX.
JAMB STUDS	230x45	MGP10	450	3000 HEIGHT MAX.
GENERAL TOP PLATES	90x45	MGP10		
LOADBEARING TOP PLATES	230x45	MGP10		
BOTTOM PLATES	90x45	MGP10		
WALL NOGGINGS	90x35	MGP10	1350	
LINTELS	REFER STRUCTURAL ENGINEERS DRAWINGS			

SKIRTING DETAIL (TYP. THROUGHOUT)

SCALE - 1:5



BUSHFIRE ATTACK LEVEL  
BUSHFIRE ATTACK LEVEL IS B.A.L. 12.5 IN ACCORDANCE WITH ASSESSMENT PREPARED BY SANDS BUILDING DESIGN. SPECIFIC CONSTRUCTION IS REQUIRED IN ACCORDANCE WITH AS 3699. FOR MORE DETAIL, REFER NOTES ON SHEET A1.

WARNING!  
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McMAHON RESIDENCE  
33 PARDEWS LANE  
ORBOST  
CLIENT: DAVID McMAHON  
JOB NO.: 22853  
DATE: 11/08/23  
DESIGNED BY: CDP-AD 58137  
DRAWN BY: FN  
DESCRIPTION: SECTIONS & DETAILS  
ISSUE: PLANNING  
SCALE: 1:100 / 1:5  
DRAWING NO.: REVISION NO.:  
A4 A

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Page 47 of 47