

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	Plan
Document Identification	TP851305R
Number of Pages (excluding this cover sheet)	1
Document Assembled	02/11/2023 10:47

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EDITION 1 TP851305R

Notations

TITLE PLAN

LOCATION OF LAND

Parish: ORBOST
 Township:
 Section: A -
 Crown Allotment: 13 (PT) B (PT) & C (PT)
 FORMER GOVERNMENT ROAD (PT)
 Last Plan Reference: LP 4109
 Derived From: VOL. 7254 FOL. 651
 Depth Limitation: VOL. 7254 FOL. 652

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land/Easement Information

As to the land coloured blue Together with a right of carriage way over the road coloured brown on the said map - - - - -

ENCUMBRANCES

As to the land coloured blue ---

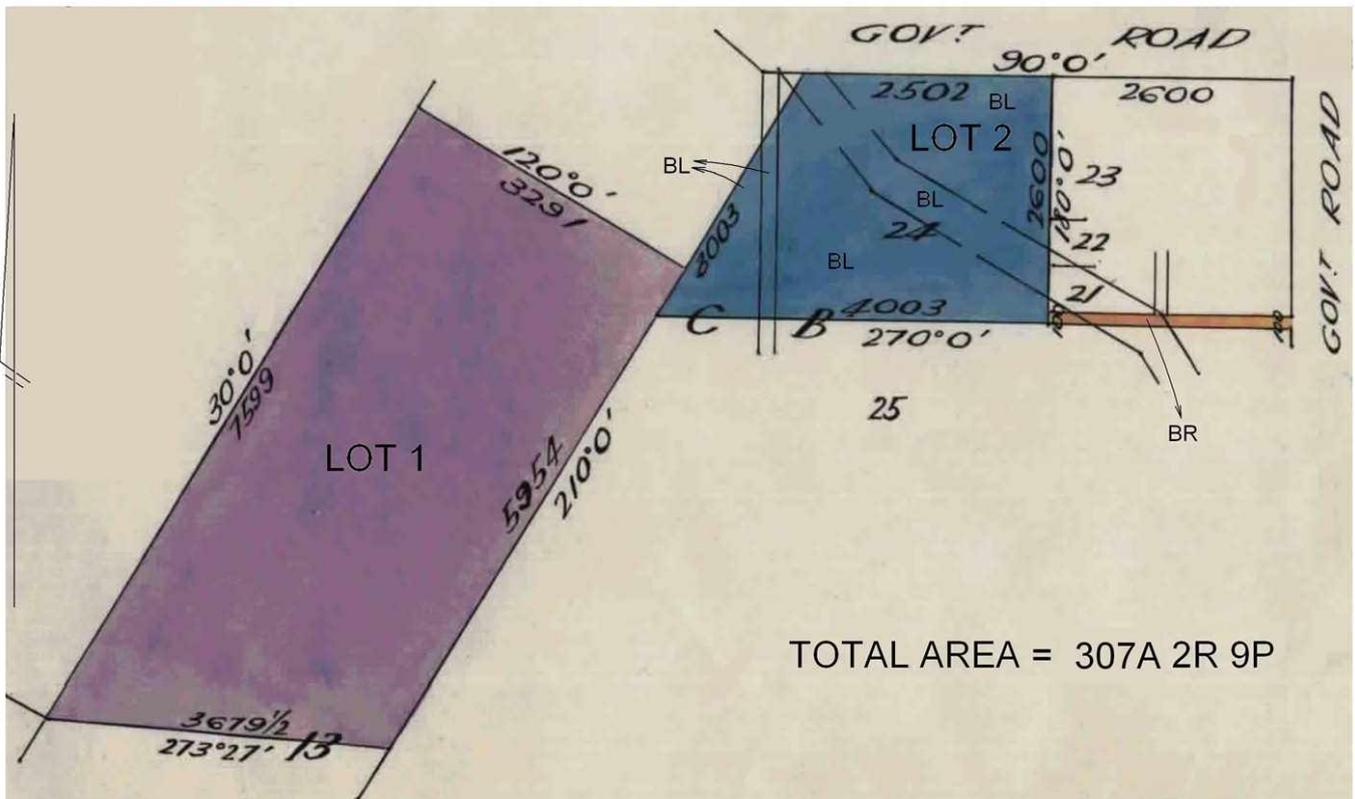
THE RIGHTS (if any) of Orbost Shire Council of access to the said land for drainage purposes - - - - -

THIS PLAN HAS BEEN PREPARED BY LAND REGISTRY, LAND VICTORIA FOR TITLE DIAGRAM PURPOSES

COMPILED: Date: 02-03-06

VERIFIED: A. DALLAS
 Assistant Registrar of Titles

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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20
23

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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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1. INTRODUCTION

Development Solutions Victoria Pty Ltd act on behalf of David McMahan, 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)

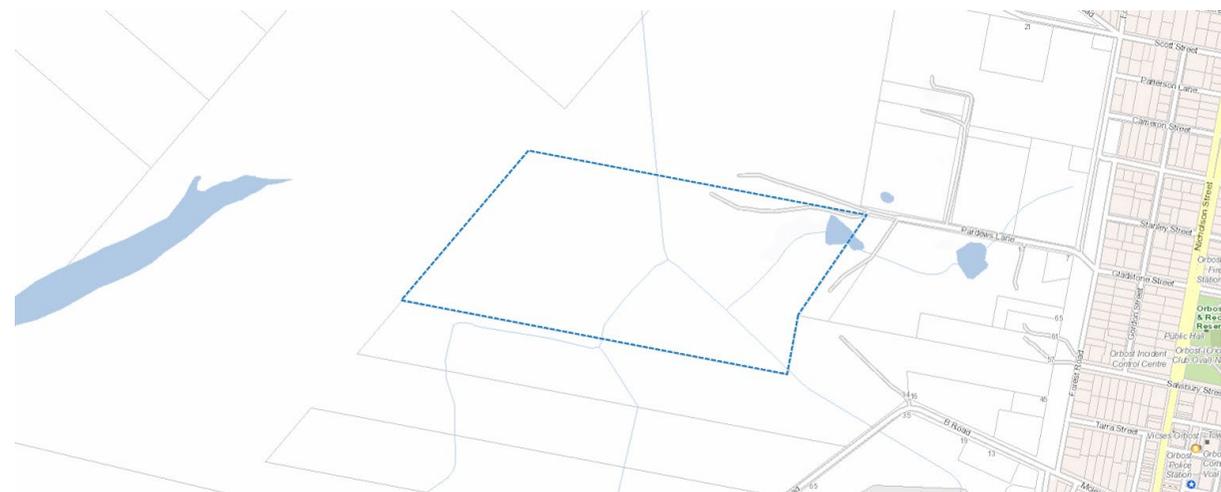


Figure 2 – Locality Plan – 33 Pardews Lane, Orbost (source: mapshare.vic.gov.au)

Surrounds

The land surrounding the site comprises farming land.

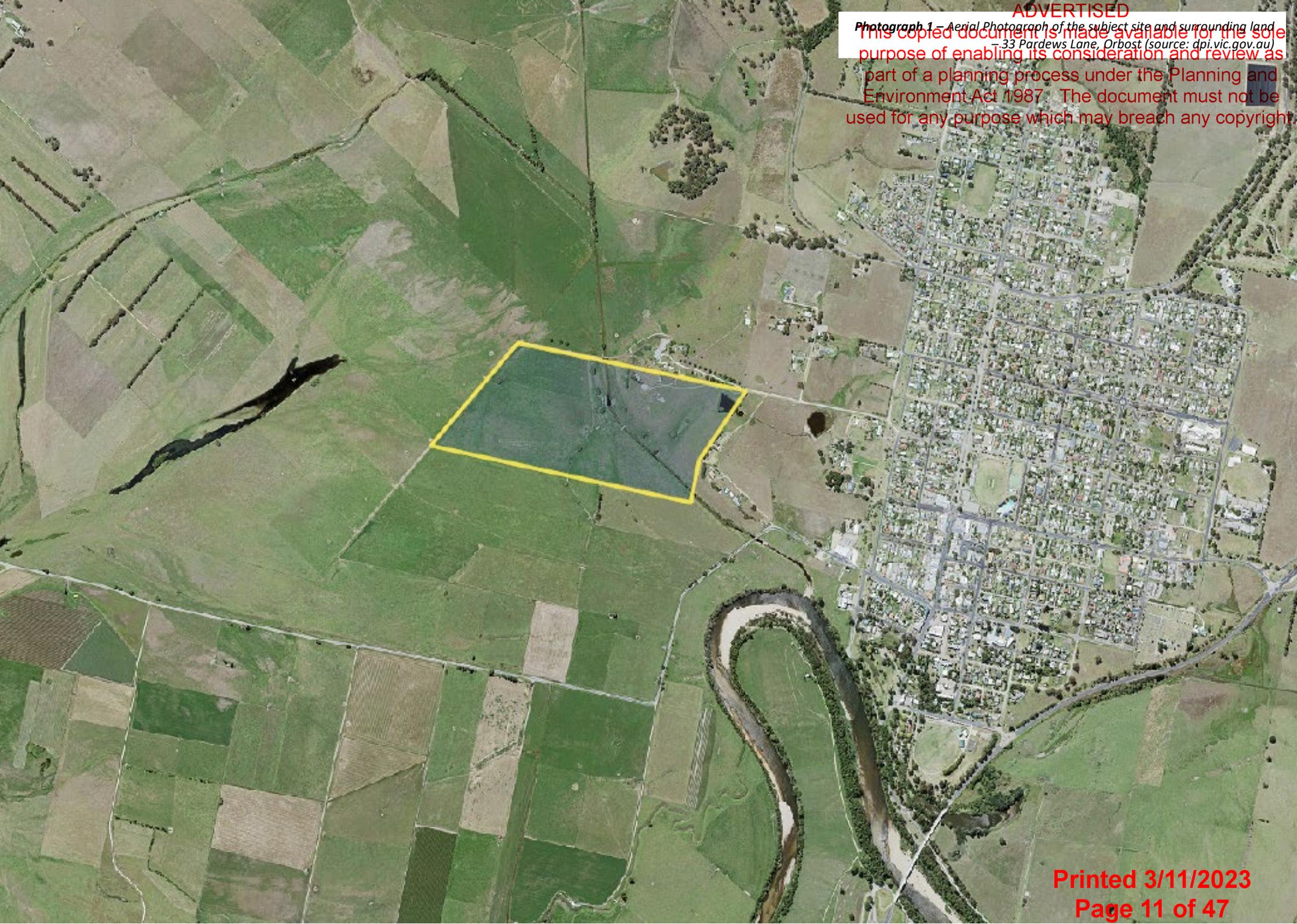
North of the subject site is existing farming land used in conjunction with the property in this application and contains a dwelling, associated facilities and operational dairy farm. East of the subject site contains Pardews Lane and an existing dwelling. South and west of the subject site comprises 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
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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 321.25m². 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.

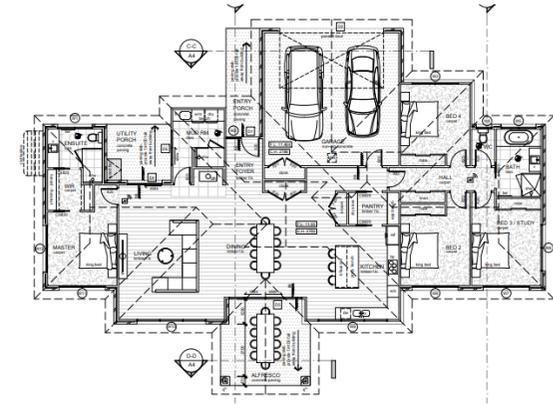


Figure 3 – Proposed Floor Plan – Sands Building Design



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.

The decision guidelines of the Farming Zone at Clause 35.07-8 addressed below in Section 6.



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.

The dwelling will be located outside the area affected by the Land Subject to Inundation Overlay and as such a permit is not required under these provisions.

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

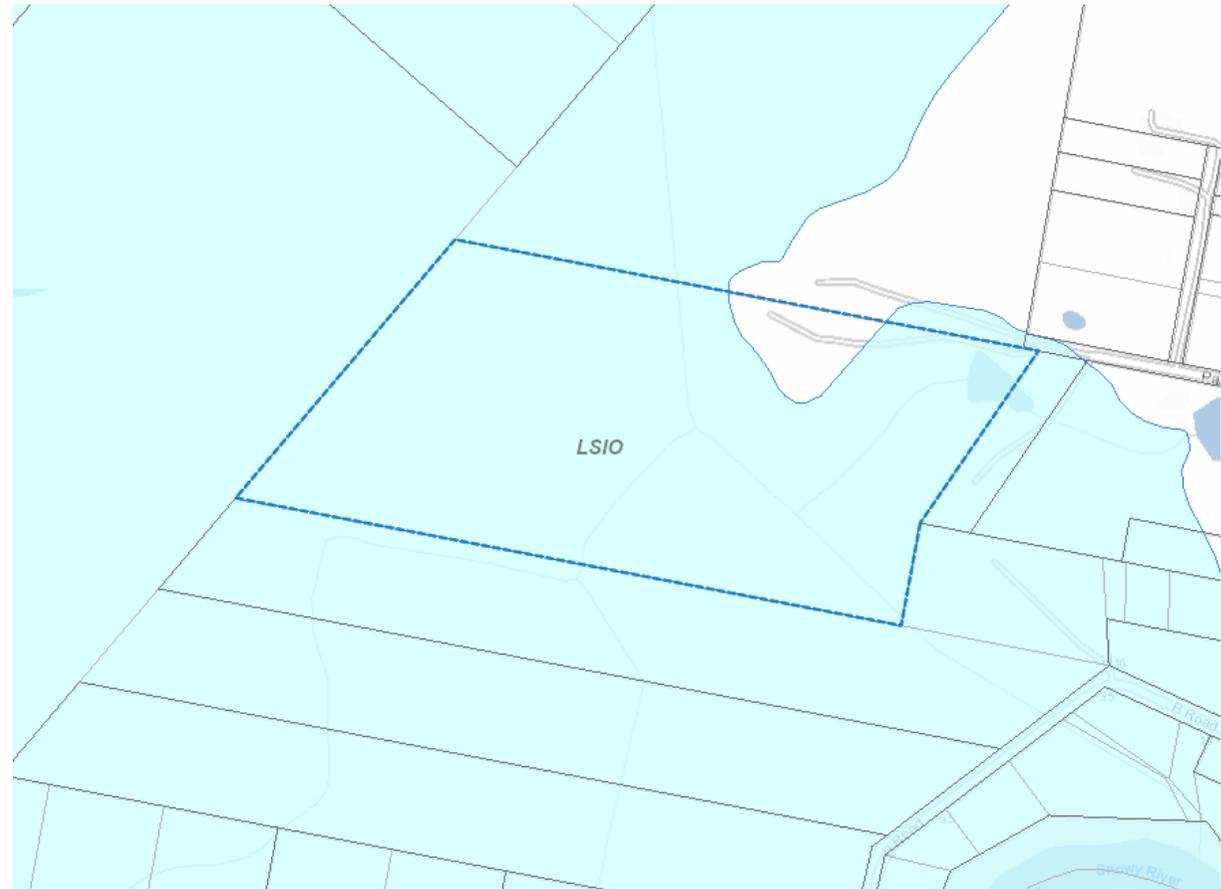


Figure 6 – Land Subject to Inundation Overlay – (source - mapshare.vic.gov.au)

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 existing 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

DSV Ref: 23045

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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
Produced 17/07/2023 12:37 PM

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
MCPAHON 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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TP 845791N

TITLE PLAN	EDITION 1	
Location of Land Parish : ORBOST Township : - Crown Allotment : - Section : - Base record : DCMB Last Plan Reference : LP 4109 Derived From : VOL. 8470 FOL. 479 Depth Limitation : NIL		Notations ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land/ Easement Information

ENCUMBRANCES

THE EXISTING RIGHT (if any) of the Orbost 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

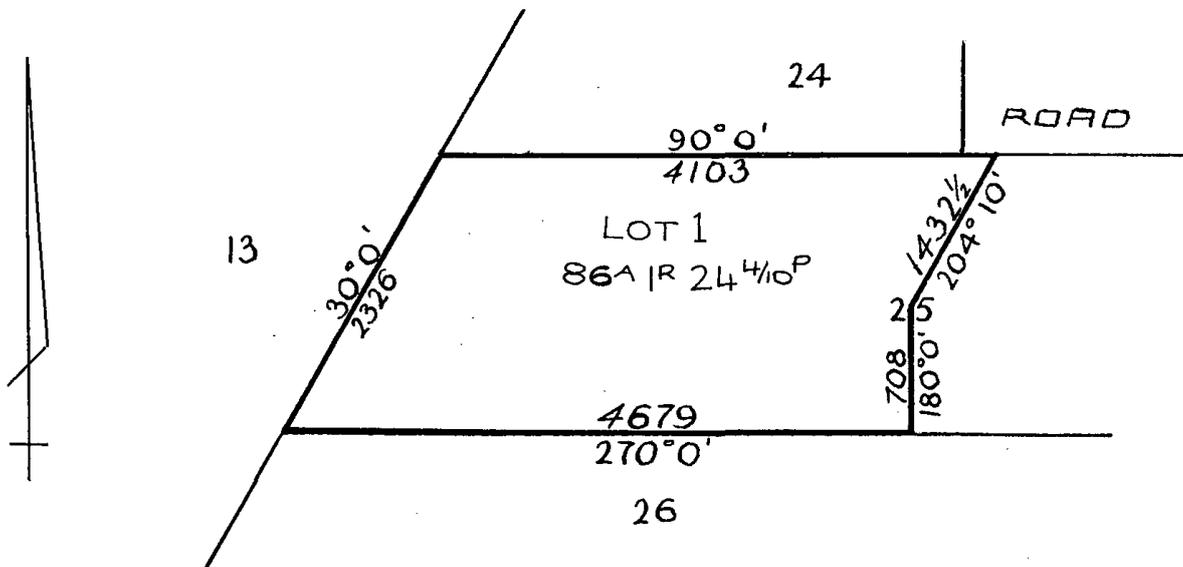


TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on the Title Plan this does Not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
LOT 1 = LOT 25 ^V ON LP 4109 (PT)

LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links
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EGCMA Ref: EGCMA-F-2023-00091
Document No: 1
Date: 26 April 2023

sophie@devsolvic.com.au

Sophie Dilks
Development Solutions Victoria Pty Ltd

Dear Sophie,

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

Property: **Street:** 33 Pardews Lane, Orbost Vic 3888
 Cadastral: 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 (AEP³) flood level (commonly known as the 1 in 100 year flood) under current climatic conditions is 9.7 metres AHD⁴.

Information available to the Authority indicates that the **dwelling site** is unlikely to be subject to riverine inundation during a 1% Annual Exceedance Probability (AEP³) 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. To assist the Authority in handling any enquiries please quote **EGCMA-F-2023-00091** in your correspondence with us.

Yours sincerely,



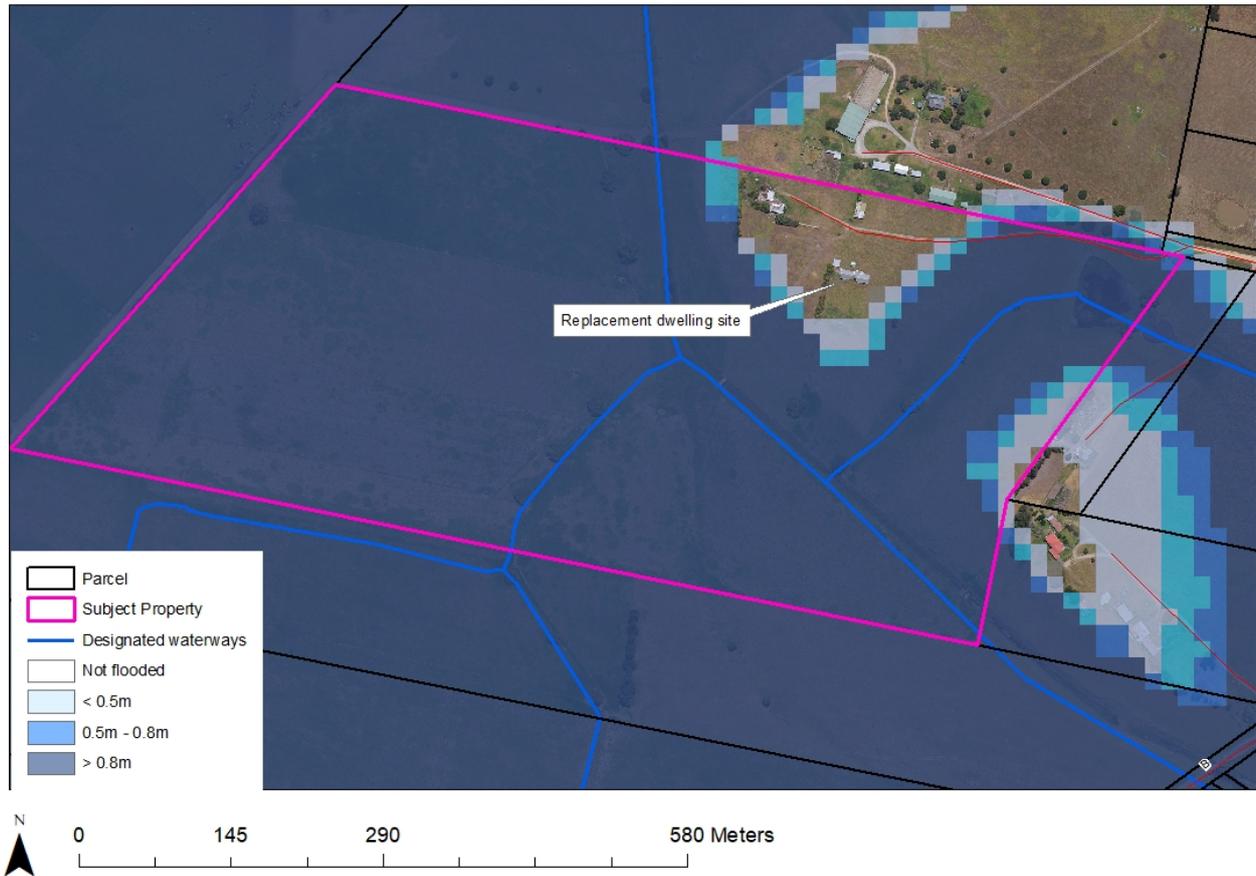
Adam Dunn
Gippsland Floodplain Officer

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

	Current conditions
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
FLOOD DEPTH	
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
FLOOD VELOCITY	
Maximum flow velocity for the purposes of the Building Code of Australia (Construction of Buildings in Flood Hazard Areas)	< 1.0 m/s
HAZARD ASSESSMENT	
Hazard category – development site	Low
Hazard category – road - current driveway	Extreme

1% AEP³ 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 (ARI⁵) 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 AHD⁴, 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.

 Simon Anderson Consultants <small>CIVIL STRUCTURAL PROJECT ENGINEERS</small> P.O. Box 1700 111 Main St Bairnsdale, Vic, 3875 ACN 073 392 266	Job: McMahon Residence 33 Pardews Lane Orbost	Date: 20 June 2023 Designed: SJA
	Client: SandS Building Design Checked:	Job No.: 438143 Page No.: 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.**

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

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

² AWTS – Aerated Wastewater Treatment System (EPA approved)
438143 LCA (McMahon)

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2.0 PURPOSE/SCOPE OF ASSESSMENT

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

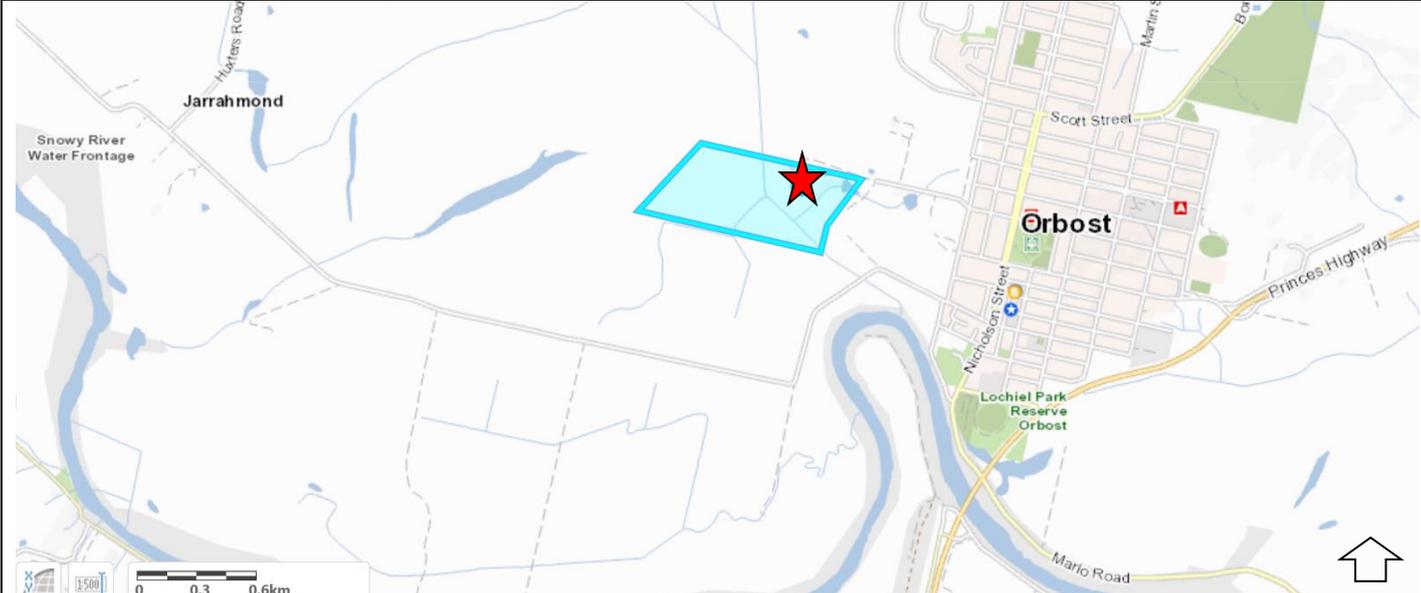


Figure 1: Locality Plan

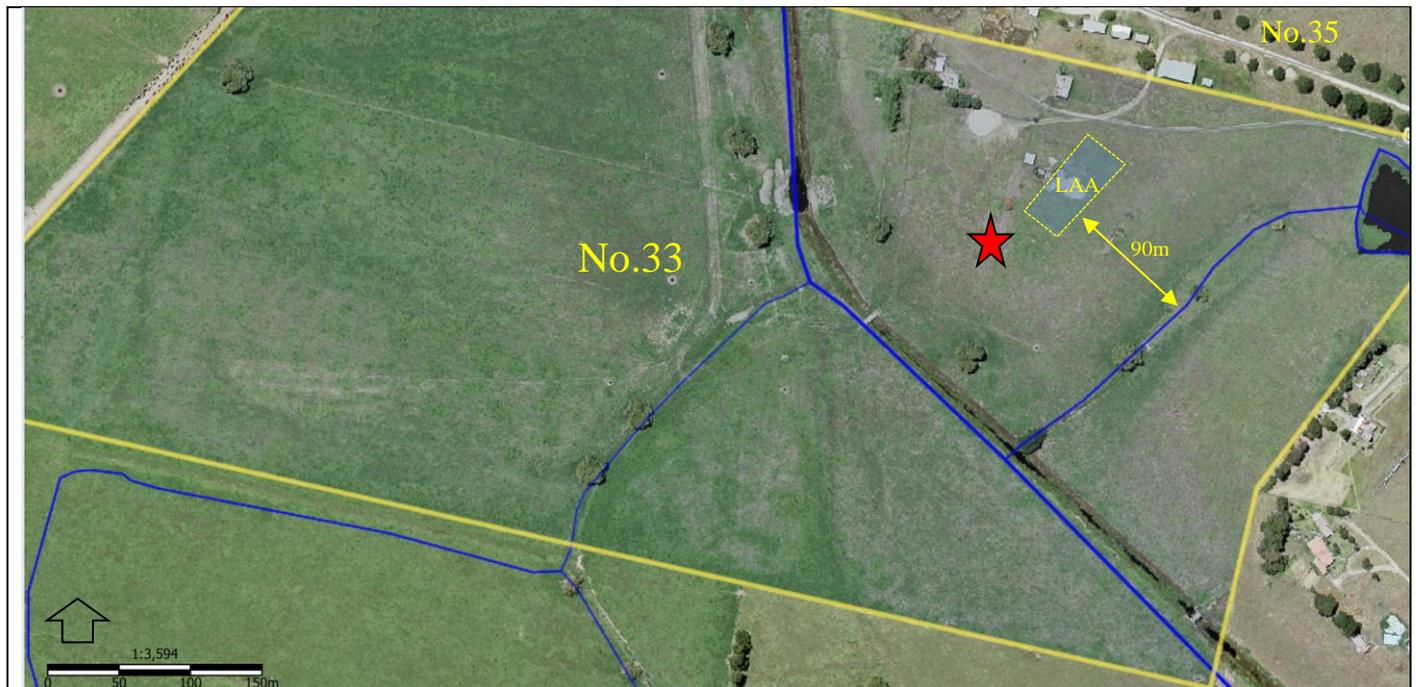


Figure 2: Aerial view of subject site (approximate title boundaries shown)

 Denotes proposed house site

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3.0 SITE KEY FEATURES

Criteria / Feature	Description	Implications for Wastewater Management
Allotment/s		
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
Infrastructure		
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 seweraged 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
Land Features		
Geology	Qa1 (Qra) - 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 runoff.
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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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 pH³, electrical conductivity⁴ and Emerson Aggregate Class⁵. The soil profile of bore 1 is detailed below.

Depth (m)	Description	Horizon
0.0	TOPSOIL: Dk Grey/Brown Moist Loamy	A1
0.1		
0.2	SILT: Lt Brown Dry Dense Fine Sandy	A2
0.3		
0.4	CLAY: Yellow/Brown Dry Very Stiff	B1
0.5	Red mottling	
0.6		
0.7		
0.8		
0.9		
1.0+	Note: Bore 2 limiting horizon at 500mm depth	



³ The pH of 1:5 soil/water suspensions was measured using a Merck pH strip
⁴ EC (dS m⁻¹) was calculated by measuring the electrical conductivity of 1:5 soil water suspension.
⁵ Appendix C shows photographic results of Emerson Aggregate Test (Slaking/Dispersion)
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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 ⁶	L	FSL	HC
Structure	Moderate	Weak	Massive
pH	7	6	6
EC (dS m ⁻¹)	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
Soil Category⁷ (AS/NZ1547:2012)	3a	3b	6c
Design Irrigation Rate ⁸ (DIR mm/day)	4	4	2
Design Loading Rate ⁹ (DLR mm/day)	15	10	NR

NA: Not Applicable NR: Not Recommended

Depth (m)	Description	Horizon	
0.0 - 0.1	TOPSOIL: Moist Loamy	A1	
0.2 - 0.5	SILT: Dry Dense Fine Sandy	A2	
0.6 - 1.5+	CLAY: Dry Very Stiff	B1	

Soil Bore Log Profile

⁶ Refer Appendix D for description details(all soil samples have been sieved to minus 2mm and air-dried before being analyzed)
⁷ As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Appendix A, Table 9
⁸ For sub-surface irrigation (Refer Table M1 of AS/NZS 1547:2012)
⁹ For absorption trenchesand bed
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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)
General characteristics					
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		
Soil profile characteristics*					
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 ¹⁰	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
Overall Site Rating¹¹				Poor	4

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

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

¹¹ 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 L/day;
 - DIR – 2 mm/day;
 - Irrigation Area – 375 m²
- To determine if the irrigation area recommended above is adequate, a water balance¹² 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 – 500m²**
 - 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.

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

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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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Job: McMahon Residence
33 Pardews Lane
Orbost

Client: SandS Building Design

Checked:

Date: 20 June 2023
Designed: SJA
Job No.: 438143

Page No.: 9 of 11

APPENDIX B

Orbost 084145

Evap.data

Orbost 084030

Mean

average Pan evaporation

Source: AS1547-1994 - Table G1

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

1	2	3	4	5	6	7	8	9		
Month	Days	daily pan per month (B.Met)	Pan Eo	Et +Cf*Eo	Rainfall P	Retained Re=(1-r)P	LTAR*N	Disposal rate/month (Et-Re)+ LTAR*N	Effluent applied per month	Size of area (8)/(7)
		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 (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

Variables Table

Change as required

Porosity in disposal area = 40%

Runoff Coeff = 0.25 percentage runoff

Summer Crop Factor = 0.85 crop transpiration rate Oct-Mar

Winter Crop Factor = 0.6 crop transpiration rate -Apr-Sep

LTAR = 2 L/m2/day

FLOWS = 750 L/day

Estimated area of effluent drainfield = 500 square metres

Maximum depth of stored effluent = 92 mm depth

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

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	Client: SandS Building Design	Job No.: 438143
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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	S	Sand	coherence nil to very slight, cannot be moulded; sand grains of medium size; single sand grains stick to fingers	nil	< 5%
2	LS	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%
	CS	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%
	SL	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	FSL	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%
	L	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%
	ZL	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	SCL	Sandy clay loam	strongly coherent bolus, sandy to touch; medium size sand grains visible in finer matrix	25 - 40	20% to 30%
	FSCL	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%
	CL	Clay loam	coherent plastic bolus, smooth to manipulate	40 - 50	30% to 35%
	ZCL	Silty clay loam	as for clay loams but not spongy; very smooth and silky; dries out rapidly	40 - 50	30% to 35%
	SC	Sandy clay	plastic bolus; fine to medium sand can be seen, felt or heard in clayey matrix	50 - 75	35% to 40%
5	SiC	Silty clay	plastic bolus; smooth and silky to manipulate; long but very fragmentary ribbon; dries out rapidly	50 - 75	30% to 40%
	LC	Light clay	plastic bolus; smooth to touch; slight resistance to shearing between thumb and forefinger	50 - 75	35% to 40%
	LMC	Light medium clay	plastic bolus; smooth to touch; slight to moderate resistance to ribboning shear	75	40% to 45%
6	MC	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%
	HC	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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	Client: SandS Building Design Checked:	Job No.: 438143 Page No.: 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.

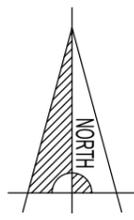
Standards Australia / Standards New Zealand (2012). AS/NZS 1547:2012 *On-Site Domestic Wastewater Management*.

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

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

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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

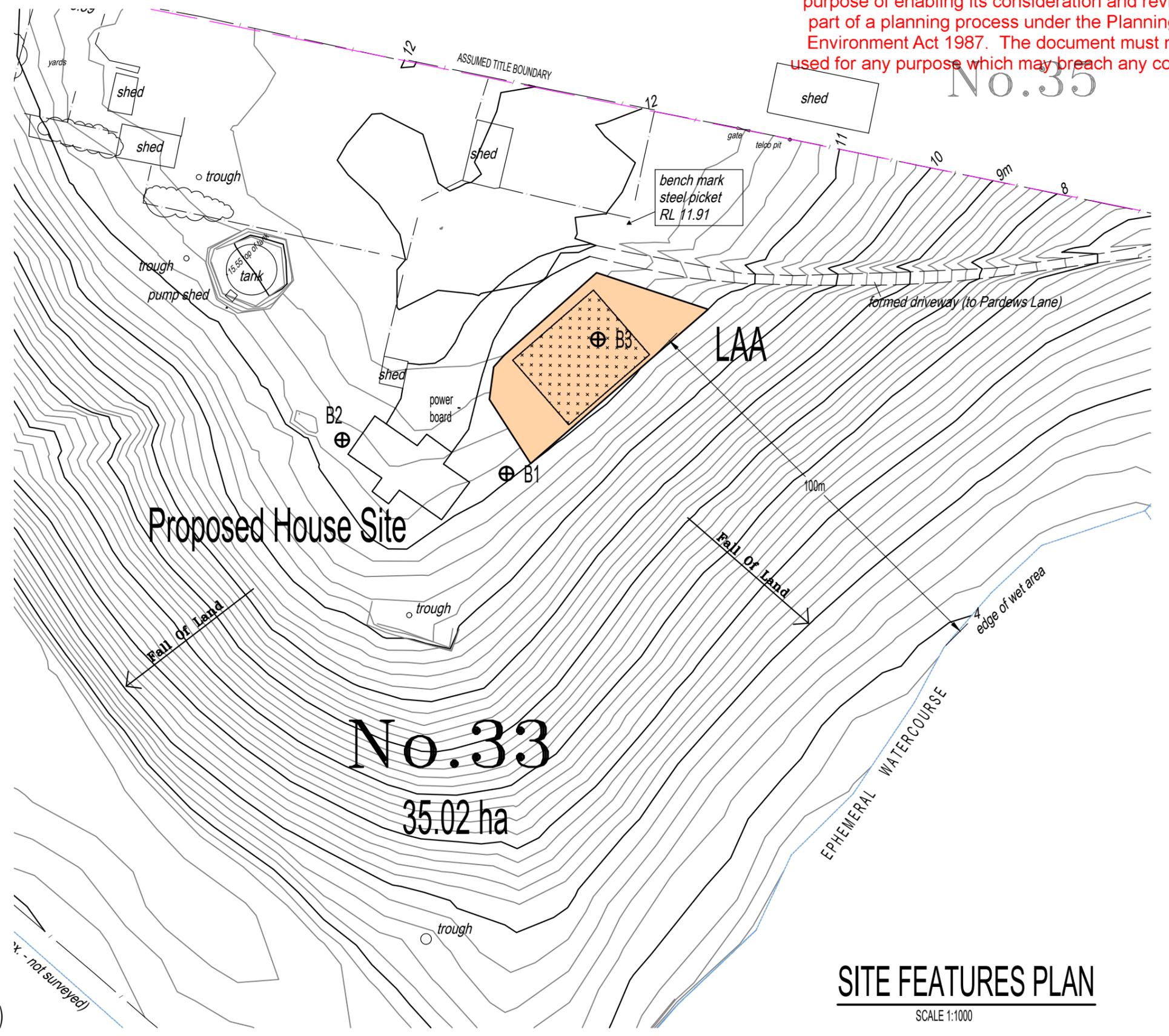


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 TITLES BOUNDARIES SHOWN MAY NOT REPRESENT EXACT TITLE POSITION.
 FOR EXACT TITLE POSITION IT IS RECOMMENDED THAT A TITLE RE ESTABLISHMENT SURVEY BE CARRIED OUT BY A LICENCED SURVEYOR



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 - 1000m² available)
- IRRIGATION AREA - 500 m² required (for a 4 bedroom dwelling)

SITE FEATURES PLAN
 SCALE 1:1000

REV	DESCRIPTION	CHKD	DATE
-	-	-	-

Design: JDP
 Drawn: JDP
 Checked: SJA
 Date: 20 June 2023

Project:
SITE ANALYSIS
 33 Pardews Lane, Orbst

Client:
 SandS Building Design

Job No:
 438143

Drawing No:
 LC1

Revision No.
 -



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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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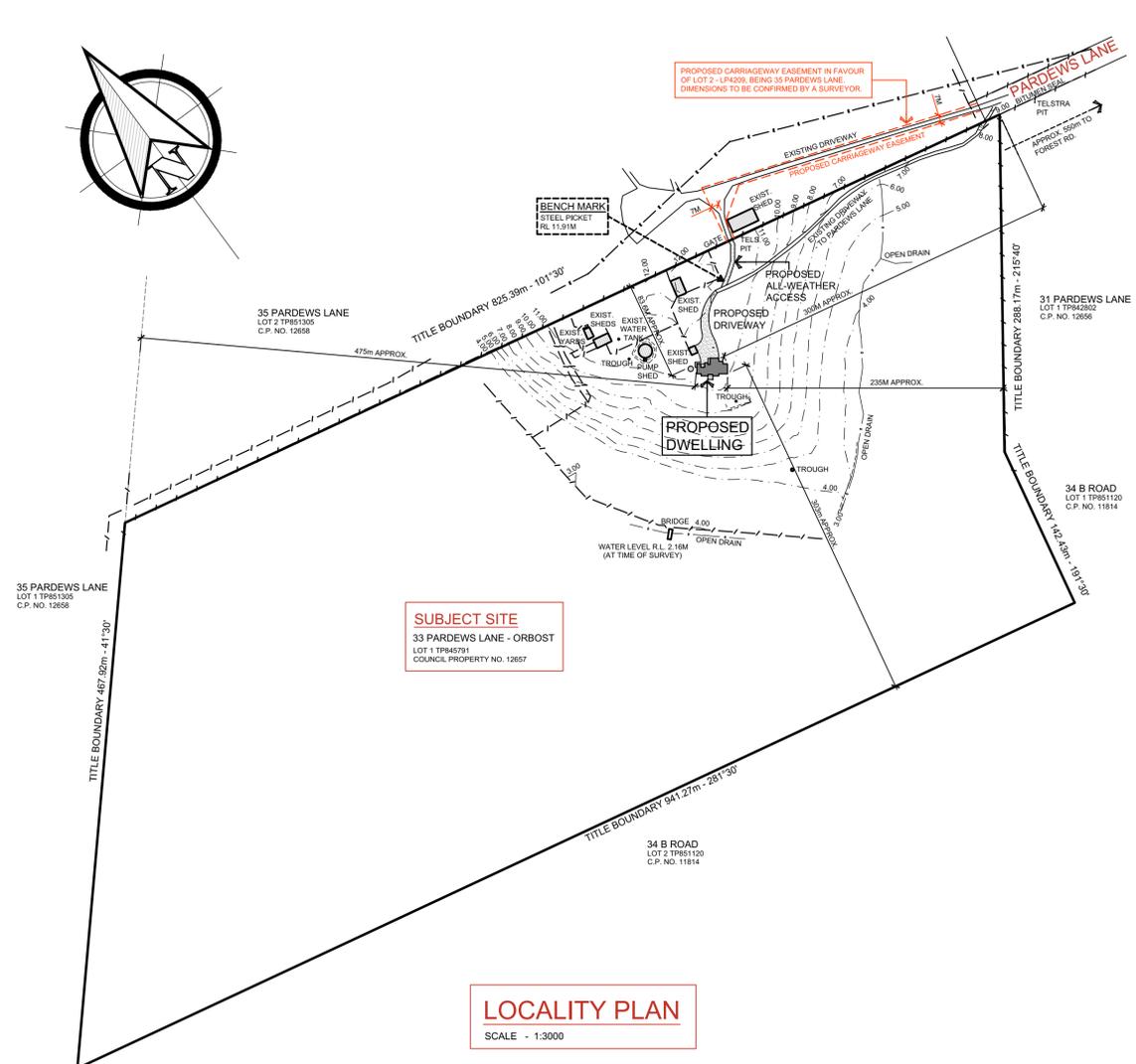


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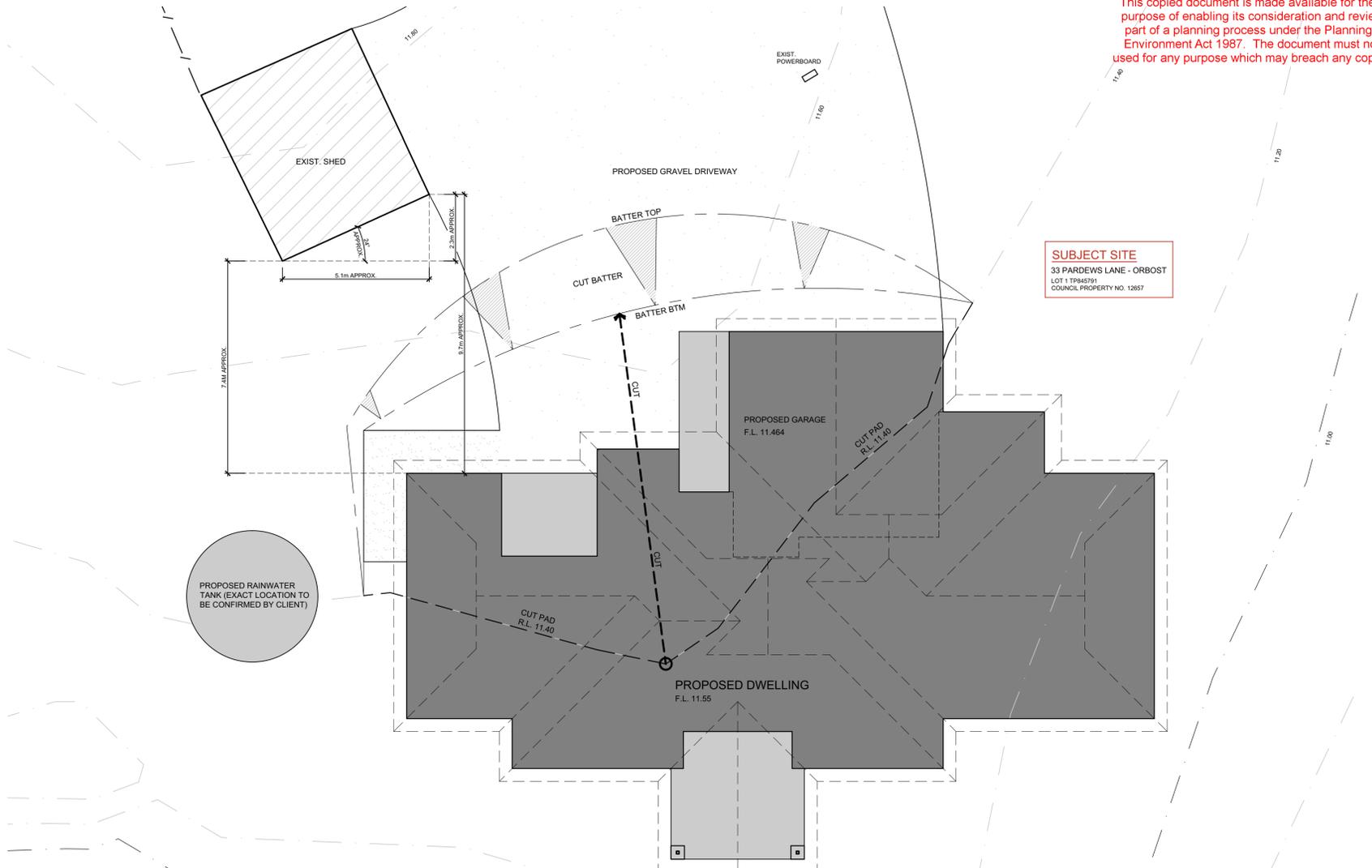
PLANNING ISSUE
REVISION 'A'
Job No. 22853

ISSUE DATE 30/10/23
Page 43 of 47



GENERAL NOTES:-

- General**
 - Written dimensions take precedence over scale, all dimensions are in millimetres U.N.O.
 - 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
 - Unless otherwise specified, the term BCA 2019 shall refer to National Construction Codes Series 2019 Building Code of Australia Vol. 2.
 - These plans shall be read in conjunction with any relevant structural and/or civil engineering computations and drawings related to this project.
 - The builder shall take all steps necessary to ensure the stability of new and existing structures during all works.
 - 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.
 - All previously issued drawings marked preliminary shall now be considered void
 - Exact set out of residence to be determined on site and shall be verified by Owner, Builder and Building surveyor
- Footings**
 - Soil classification to AS 2870. Refer Engineers Soil Report.
 - Concrete to be N20 grade unless noted otherwise.
 - Dimensions and Reinforcements shown are minimum requirements of AS2870.1.
 - The owners attention is drawn to Appendix A of AS2870.1. "Performance Requirements and Foundation Maintenance".
 - Footings not to encroach title boundaries and easement lines.
- Termite Treatment**
 - Where required termite treatment to comply with BCA 2019 Part 3.1.3 and in accordance with A.S.1694 or A.S.3360
- Drainage**
 - Stormwater, spoon and sub-soil drains shall be taken to legal point of discharge.
 - Sewer or septic system shall be in accordance with the relevant authority requirements.
 - 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
 - The Builder to provide sub soil drainage ie.100mm socked 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.
- Brickwork**
 - Provide wall ties to brickwork at maximum 600mm ctrs. in each direction and within 300mm of articulation joints.
 - Spacing of wall ties to top and sides of openings to be halved.
 - 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.
 - Provide cavity flashing and weep holes in accordance with BCA 2019 Vol. 2, Part 3.3.4 and AS4773
- Timber**
 - Provide sub-floor ventilation to timber floors to achieve 6000sq mm/metre run of perimeter wall in accordance with BCA 2019 Vol. 2, Part 3.4.1 table 3.4.1.1.
 - Provide minimum clearance from underside of bearer to finished ground level of 400mm
 - Design wind classification: Refer Structural Engineers drawings
 - 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.
- Wet Areas**
 - All wet areas to comply with BCA 2019 Vol 2 Part 3.8 and AS 3740. Wall finishes shall be impervious to height of 1600mm above floor level to shower enclosures and 150mm above baths, basins, sinks and troughs if within 75mm of the wall.
- Building Fabric**
 - 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
 - Any Sarking must have a flammability index of not more than 5.
 - All sarking and insulation to be approved vapour permeable in accordance with AS/NZ 4200.1
- Doors, Windows & Glazing**
 - All glass and glazing to comply with BCA 2019 Vol 2 part 3.6. and AS1288
 - Window sizes and type are nominal and may vary according to selected manufacturer. Site measure prior to fabrication.
 - Provide safety glass to shower screens & windows over baths in accordance with A.S.1288
 - All doors, windows, gaps & cracks to be sealed
 - All external doors to be weather stripped
 - All external doors and windows to be installed to manufacturers specification and flashed all round.
 - Refer to Energy Raters thermal assessment and BAL Assessment for further information and special glazing requirements.
- Smoke Detectors**
 - 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.
- Copyright**
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- Driveways and Excavations**
 - New driveways and crossovers to be in accordance with local requirements and owner/builder shall obtain relevant permits prior to commencement of work.
 - Any excavations, extent and position of any fill or stockpiling to verified on site with Owner/Builder
- Stairs, Steps & Balustrades**
 - 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.
 - 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.
 - 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
- Stormwater & Roof Drainage**
 - All roofing, gutters, downpipes, drainage etc. to be installed in accordance with BCA 2019 Volumes 2 & 3 and AS3500
 - Exact number of downpipes to be determined on site by Builder, Plumber and Owner.
 - Each downpipe must not serve more than 12.0 metres of gutter.
 - Builder to ensure that a downpipe is located within 1200mm of an internal roof valley or provide slotted spouting or gutters (overflow)
 - Valley gutters on a roof less than 12.5 degrees - must be designed as a box gutter with a minimum width of 300mm.
 - 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.
 - 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
- Rescove**
 - Building and siting to comply with current Rescove, designer to be notified if any discrepancies are found by surveyor/builder/owner prior to construction or any site works
- Energy Efficiency**
 - 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
 - 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.
 - 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.
- Smoke Detectors**
 - 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.



BUSHFIRE ATTACK LEVEL (BAL) 12.5

- 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 FLOORS**
5.3.1 General
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/m³ 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 5.6.3, vents and weepholes in external walls shall be screened with a mesh made of corrosion-resistant steel, bronze or aluminium.
- 5.5 EXTERNAL GLAZED ELEMENTS, ASSEMBLIES AND DOORS**
Where fitted, screens for windows and doors shall have a mesh or perforated sheet made of corrosion-resistant steel, bronze or aluminium.
5.5.3 Windows and sidelights
Window assemblies shall:
Be completely protected by a bushfire shutter that conforms with Clause 3.7 and Clause 5.5.1; or
Be completely protected externally by screens that conform with Clause 3.6 and Clause 5.5.2; or
Conform with the following:
For window assemblies less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the window frame, window frames and window joinery shall be made from one of the following:
Bushfire-resisting timber; or
A timber species as specified in Paragraph E2, Appendix E; or
Metal; or
Metal-reinforced uPVC.
Where glazing is less than 400 mm from the ground or less than 400 mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110 mm in width from the window frame, this glazing shall be Grade A safety glass a minimum of 4 mm in thickness or glass blocks with no restriction on glazing methods.
The opening portions of windows shall be screened internally or externally with screens that conform with Clause 3.6 and Clause 5.5.2.
- 5.5.4 Doors-Side-hung external doors (including French doors, panel fold and bifold doors)**
Side-hung external doors shall:
be completely protected by bushfire shutters that conform with Clause 3.7 and Clause 5.5.1; or
be completely protected externally by screens that conform with Clause 3.6 and Clause 5.5.2; or
conform with the following:
Materials shall be:
non-combustible; or
solid timber, laminated timber or reconstituted timber, having a minimum thickness of 35 mm for the first 400 mm above the threshold; or
hollow core, solid timber, laminated timber or reconstituted timber with a non-combustible kickplate on the outside for the first 400 mm above the threshold; or
hollow core, solid timber, laminated timber or reconstituted timber protected externally by a screen that conforms with Clause 5.5.2; or
for fully framed glazed door panels, the framing shall be made from metal; or
bushfire resisting timber or a timber species as specified in Paragraph E2, Appendix E; or
a timber species as specified in Paragraph E2 of Appendix E; or
metal; or
metal-reinforced uPVC. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel.
The glazing shall be Grade A safety glass a minimum of 4 mm in thickness, or glass blocks with no restriction on glazing methods.
Weather strips, draft excluders or draft seals shall be installed.
- 5.5.5 Doors-Sliding doors**
Sliding doors shall:
be completely protected by a bushfire shutter that conforms with Clause 3.7 and Clause 5.5.1; or
be completely protected externally by screens that conform with Clause 3.6 and Clause 5.5.2; or
conform with the following:
The material for door frames, including fully framed glazed doors, shall be:
bushfire-resisting timber (see Appendix F); or
a timber species as specified in Paragraph E2, Appendix E; or
metal; or
metal-reinforced uPVC and the reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel.
Where doors incorporate glazing, the glazing shall be grade A safety glass a minimum of 4 mm in thickness.
Sliding panels shall be tight-fitting in the frames.
- 5.5.6 Doors-Vehicle access doors (garage doors)**
The following applies to vehicle access doors:
The lower portion of a vehicle access door that is within 400 mm of the ground when the door is closed shall be made from non-combustible material; or
bushfire-resisting timber; or
fibre-cement sheet a minimum of 6 mm in thickness; or
a timber species as specified in Paragraph E1, Appendix E; or
a combination of any of items (i), (ii), (iii) or (iv).
All vehicle access doors shall be protected with suitable weather strips, draught excluders, draught seals or brushes. Door assemblies fitted with guide tracks do not need edge gap protection.
Vehicle access doors with ventilation slots shall be protected in accordance with Clause 3.6.
- 5.6 ROOFS (INCLUDING PENETRATIONS, EAVES, FASCIAS AND GABLES, AND GUTTERS AND DOWNPIPES)**
5.6.1 General
The following applies to all types of roofs and roofing systems:
Roof tiles, roof sheets and roof-covering accessories shall be non-combustible.
The roof/wall and roof/roof junction shall be sealed or otherwise protected in accordance with Clause 3.6.
Roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet conforming with Clause 3.6 and, made of corrosion-resistant steel, bronze or aluminium.
Only evaporative coolers manufactured in accordance with AS/NZS 60335.2.98 shall be used. Evaporative coolers with an internal damper to prevent the entry of embers into the roof space need not be screened externally.
- 5.6.2 Tiled roofs**
Tiled roofs shall be fully sarked.
The sarking shall be located on top of the roof framing, except that the roof battens may be fixed above the sarking;
cover the entire roof area including ridges and hips; and
extend into gutters and valleys.
- 5.6.3 Sheet roofs**
Sheet roofs shall:
be fully sarked in accordance with Clause 5.6.2, except that foil-backed insulation blankets may be installed over the battens; and
have any gaps sealed at the fascia or wall line, hips and ridges by a mesh or perforated sheet that conforms with Clause 3.6 and that is made of corrosion-resistant steel, bronze or aluminium; or
mineral wool; or
other non-combustible material;
- 5.6.4 Veranda, carport and awning roof**
The following applies to veranda, carport and awning roofs:
If forming part of the main roof space, shall meet all the requirements for the main roof, as specified in Clauses 5.6.1 to 5.6.6.
If separated from the main roof space by an external wall conforming with Clause 5.4 shall have a non-combustible roof covering, except where the roof covering is a translucent or transparent material.
- 5.6.5 Roof penetrations**
The following applies to roof penetrations:
Roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors or the like, shall be sealed.
The material used to seal the penetration shall be non-combustible. Openings in vented roof lights, roof ventilators or vent pipes shall conform with Clause 3.6 and be made of corrosion-resistant steel, bronze or aluminium.
This requirement does not apply to a room sealed gas appliance. All overhead glazing shall be Grade A safety glass conforming with AS 1288.
Glazed elements in roof lights and skylights may be of polymer provided a Grade A safety glass diffuser, conforming with AS 1288, is installed under the glazing. Where glazing is an insulating glazing unit (IGU), Grade A toughened safety glass of minimum 4 mm in thickness shall be used in the outer pane of the IGU.
Flashing elements of tubular skylights may be of a fire-retardant material, provided the roof integrity is maintained by an under-flashing of a material having a flammability index not exceeding five.
Evaporative cooling units shall be fitted with non-combustible butterfly closers as close as practicable to the roof level or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
Vent pipes made from PVC are permitted.
Eaves lighting shall be adequately sealed and not compromise the performance of the element.
- 5.6.6 Eaves linings, fascias and gables**
Gables shall conform with Clause 5.4.
Eaves penetrations shall be protected in the same way as roof penetrations, as specified in Clause 5.6.5.
Eaves ventilation openings shall be fitted with ember guards in accordance with Clause 3.6 and made of corrosion-resistant steel, bronze or aluminium.
Joints in eaves linings, fascias and gables may be sealed with plastic joining strips or timber storm moulds.
- 5.6.7 Gutters and downpipes**
Vent pipes made from PVC are permitted.
Box gutters shall be non-combustible and flashed at the junction with the roof with non-combustible material.

**SUMMARY ONLY,
REFER AS 3959 FOR
FURTHER
INFORMATION**

SUBJECT SITE
33 PARDEWS LANE - ORBOST
LOT 1 TP845791
COUNCIL PROPERTY NO. 12657

SITE PLAN
SCALE - 1:100

BUSHFIRE ATTACK LEVEL
BUSHFIRE ATTACK LEVEL IS BAL 12.5 IN ACCORDANCE WITH ASSESSMENT PREPARED BY SANDS BUILDING DESIGN. SPECIFIC CONSTRUCTION IS REQUIRED IN ACCORDANCE WITH AS 3959. FOR MORE DETAIL REFER NOTES ON SHEET A1.

LEVEL NOTE:
SITE FEATURE SURVEY PROVIDED BY FREEMAN LAND SURVEYING - PREPARED OCTOBER 2022. LEVELS ARE TO AND.

SITING NOTE:
BUILDING LOCATION IS APPROXIMATE ONLY. OWNER/BUILDER/SURVEYOR TO CONFIRM EXACT LOCATION ON SITE PRIOR TO CONSTRUCTION.

BOUNDARY NOTE:
TITLE BOUNDARIES ARE APPROXIMATE ONLY. FOR EXACT LOCATION & BEARINGS CONSULT A LICENSED SURVEYOR FOR A RE-ESTABLISHMENT SURVEY.

NO	DATE	REVISION	BY
A	30/10/23	CARRIAGEWAY EASEMENT NOTE AND DIMENSIONS ADDED	PN

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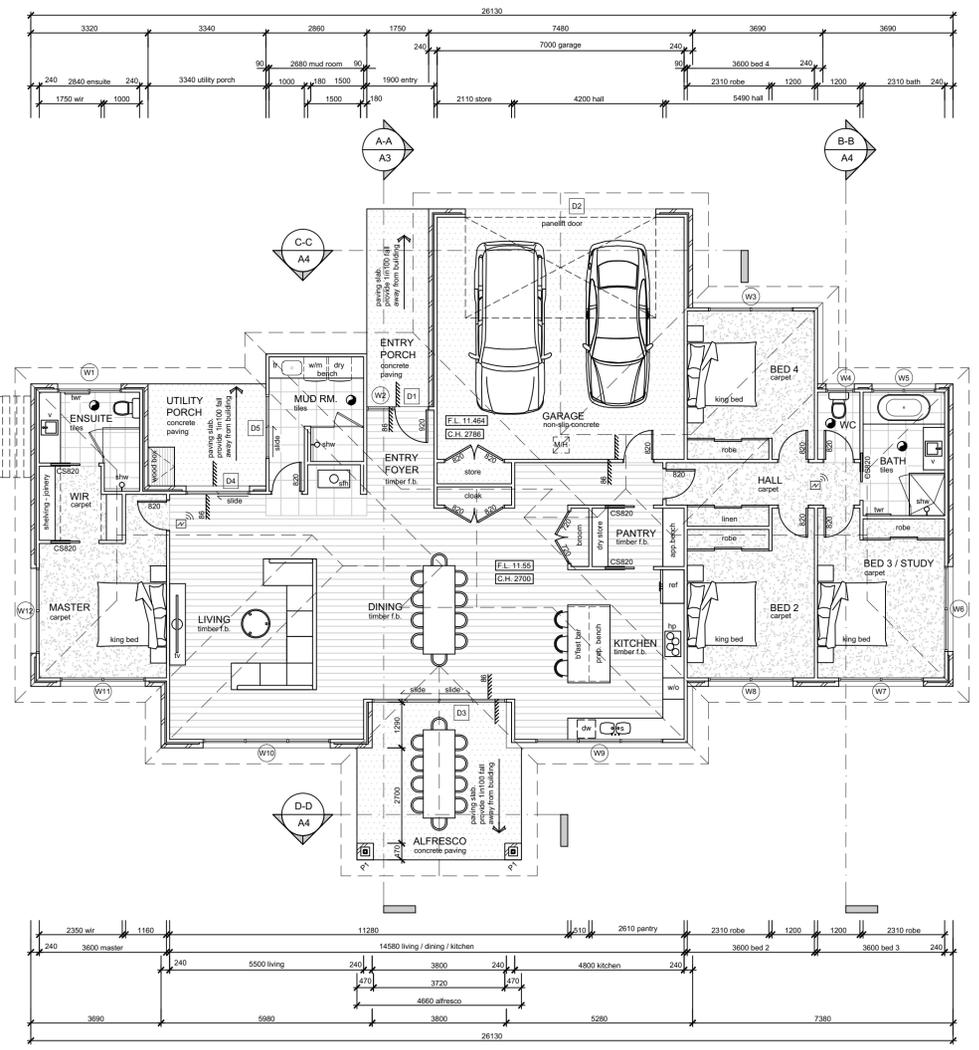


McMAHON RESIDENCE
33 PARDEWS LANE
ORBOST
CLIENT: DAVID McMAHON
JOB NO: 22853
DATE: 11/08/23
CDP-AD 58137
DESIGNED BY: FN
DRAWN BY: FN
DESCRIPTION: LOCALITY PLAN & SITE PLAN
ISSUE: PLANNING
SCALE: 1:100 / 1:3000
ACN 127 480 942
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Page 44 of 47

DRAWING NO. A1 A



LEGEND

- dry CLOTHES DRYER
- dw DISHWASHER - AS SELECTED
- hp HOT PLATE, RANGEHOOD OVER, VENT TO OUTSIDE AIR
- ref REFRIGERATOR, PROVIDE WATER CONNECTION FOR ICEMAKER
- s SELECTED STAINLESS STEEL SINK
- shb SOLID FUEL HEATER - AS SELECTED
- shw SHOWER - AS SELECTED
- sn SOAP NICHE REBATED IN WALL
- trr TOWEL RAIL
- t TROUGH - AS SELECTED
- tv TELEVISION, PROVIDE TELEPHONE POINT
- v VANITY
- wm WASHING MACHINE
- wfo WALL OVEN
- FL 10.00 FLOOR LEVEL
- CH 2.00 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 3768 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

WINDOW SCHEDULE

NO.	MANUF.	TYPE	STYLE	NOM. SIZE	ORIENT.	ROOM	CLADDING	HEAD HEIGHT	NOTES
W1	AS SELECTED	ALUMINIUM	AWNING	900H x 1900W	N	ENSUITE	BRICK VENEER	2100	
W2	AS SELECTED	ALUMINIUM	FIXED	2100H x 770W	N	ENTRY	STRA	2100	
W3	AS SELECTED	ALUMINIUM	AWNING	1500H x 2400W	N	BED 4	BRICK VENEER	2100	
W4	AS SELECTED	ALUMINIUM	AWNING	1200H x 800W	N	WC	BRICK VENEER	2100	
W5	AS SELECTED	ALUMINIUM	AWNING	1200H x 1800W	N	BATH	BRICK VENEER	2100	
W6	AS SELECTED	ALUMINIUM	AWNING	1200H x 2400W	E	BED 3	BRICK VENEER	2100	
W7	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	S	BED 3	BRICK VENEER	2100	
W8	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	S	BED 2	BRICK VENEER	2100	
W9	AS SELECTED	ALUMINIUM	AWNING	1200H x 3600W	S	KITCHEN	BRICK VENEER	2100	
W10	AS SELECTED	ALUMINIUM	AWNING	1800H x 3600W	S	LIVING	BRICK VENEER	2100	
W11	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	S	MASTER	BRICK VENEER	2100	
W12	AS SELECTED	ALUMINIUM	AWNING	1800H x 2400W	W	MASTER	BRICK VENEER	2100	

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	PANELLIFT	SECTIONAL	2500H x 5400W	N	GARAGE	BRICK VENEER	2500	PROVIDE EASYRIDE AUTOMATIC DOOR OPERATOR
D3	AS SELECTED	ALUMINIUM	SLIDING	2100H x 3800W	S	DINING	STRA	2100	PROVIDE HAVEN WEATHER SEAL
D4	AS SELECTED	ALUMINIUM	SLIDING	2100H x 1800W	N	LIVING	BRICK VENEER	2100	PROVIDE DOWN REBATE IN SLAB
D5	AS SELECTED	ALUMINIUM	SLIDING	2100H x 1800W	W	MUD RM.	STRA	2100	

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 RATERS 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 U.N.O.
ALL INTERNAL DOORS DENOTED ON PLAN AS 'S20' TO BE S20W 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 A FOR ANY FURTHER GLAZING REQUIREMENTS

ENERGY RATING SUMMARY

RATING 6.1 STARS	CERTIFICATE NO. HR-8XU8H-01
TOTAL ENERGY 127.9 MJ/m2	DATE 26/06/2023
ACCREDITED ENERGY RATER FRATER CONSULTING SERVICES 03 9891 6828 JACOB EDWARDS DMN161718	SOFTWARE HERO 3.0.1
ASSESSOR'S REFERENCE FCS 52951	

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))
CEILINGS	R2.5 BULK INSULATION TO INTERNAL WALLS ABUTTING GARAGE & MUD ROOM R5.0 MINIMUM ADDED CEILING INSULATION (GARAGE OPTIONAL)
ROOF	BRADFORD ANTONCO 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 0.49 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

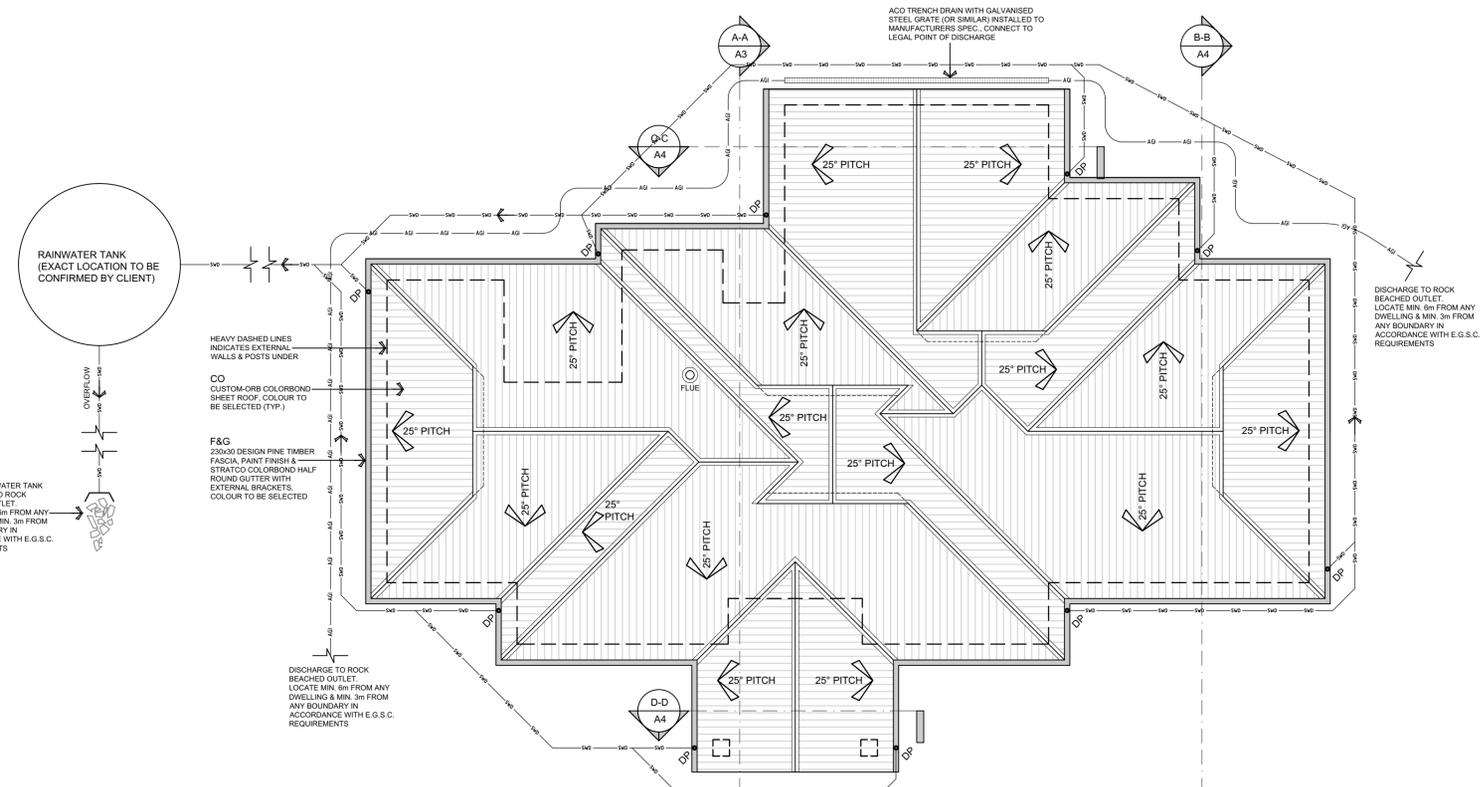
NOTES:
THIS SUMMARY IS TO BE READ IN STRICT CONJUNCTION WITH THE ENERGY RATING REPORT PREPARED BY FRATER CONSULTING SERVICES

TIMBER FRAMING NOTE
ALL TIMBER FRAMING, BRACING AND HOLD-DOWN DETAILS SHALL COMPLY WITH AS 1884 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 3959. 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

DISCHARGE TO ROCK BEACHED OUTLET. LOCATE MIN. 6m FROM ANY DWELLING & MIN. 3m FROM ANY BOUNDARY IN ACCORDANCE WITH E.G.S.C. REQUIREMENTS

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.

#HR-8XU8H-01 26/06/2023

6.1 Star Rating

127.9 MJ/m2

Assessor: Jacob Edwards
Accreditation No. DMN161718
Address: 19 PARDEWS LANE, ORBOST, VIC. 3688

http://www.hero-software.com.au/puathr-8xub-01

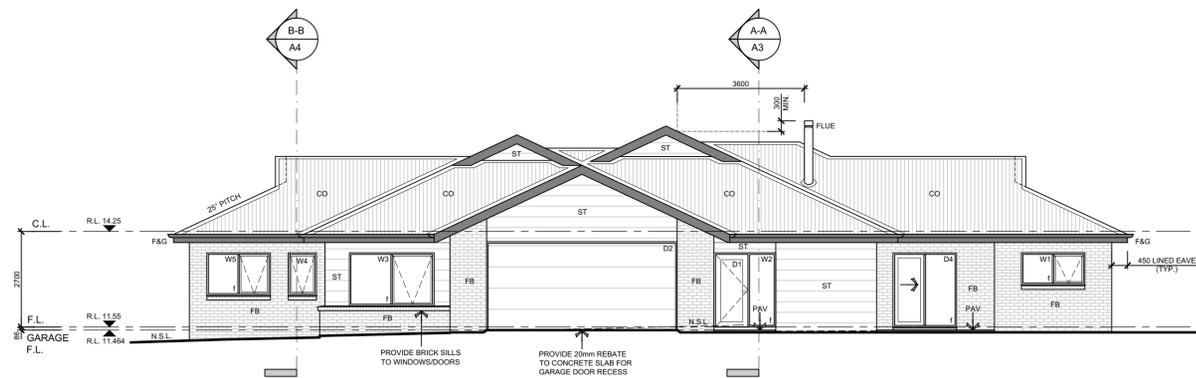
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MCAHON RESIDENCE
33 PARDEWS LANE
ORBOST

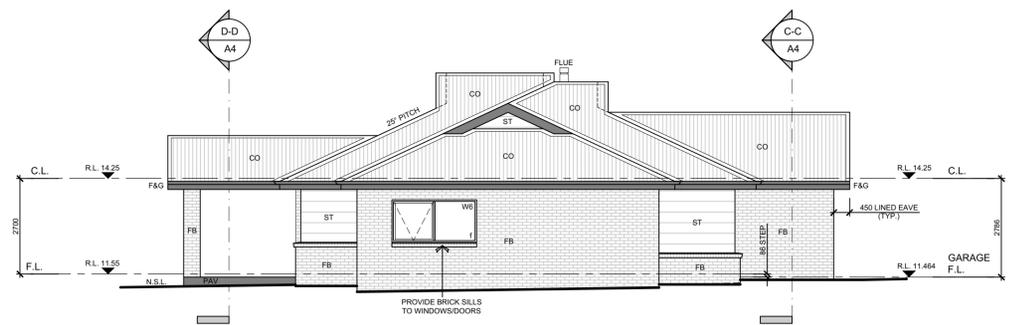
CLIENT: DAVID MCAHON
JOB NO.: 22853
DATE: 11/08/23
DESIGNED BY: CDP-AD 58137
DRAWN BY: FN
DESCRIPTION: FLOOR PLAN & ROOF PLAN
ISSUE: PLANNING
SCALE: 1:100

ACN 127 480 942
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A2 A



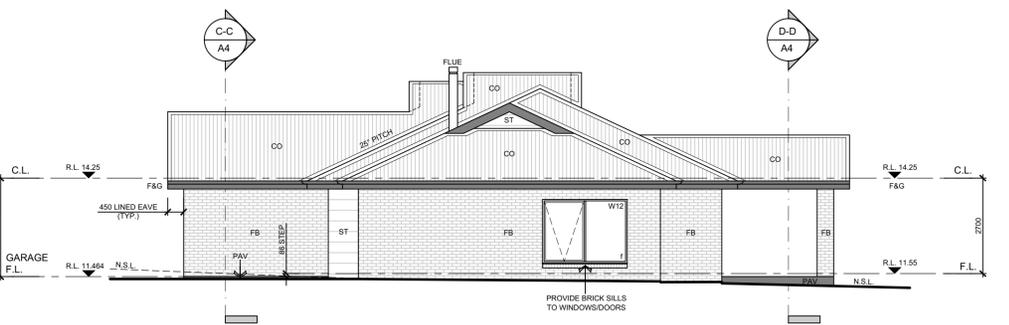
NORTH ELEVATION
SCALE - 1:100



EAST ELEVATION
SCALE - 1:100



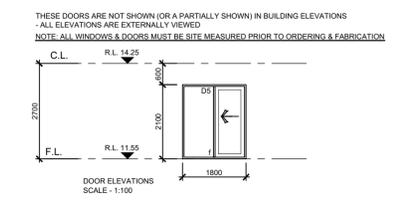
SOUTH ELEVATION
SCALE - 1:100



WEST ELEVATION
SCALE - 1:100

LEGEND

- CO CUSTOM-ORB COLORBOND SHEET ROOF, COLOUR TO BE SELECTED
- F&G 230x30 DESIGN PINE TIMBER FASCIA, PAINT FINISH & STRATCO COLORBOND HALF ROUND GUTTER WITH EXTERNAL BRACKETS, COLOUR TO BE SELECTED
- FB FACE BRICKWORK TO BE SELECTED 75 x 250 x 110THK LAD IN STRETCHER BOND PATTERN, BRICK & MORTAR COLOUR TO CLIENT SELECTION
- P1 89 SHS STEEL COLUMN TO STRUCTURAL ENGINEERS DETAIL
- PAV CONCRETE PAVING SLAB WITH SELECTED FINISH TO STRUCTURAL ENGINEERS DETAIL, WHERE ABUTTING BUILDING PROVIDE ABELFLEX SEPARATION STRIP, PROVIDE 11000 FALL AWAY FROM BUILDING
- ST 325mm x 14mm JAMES HARDIE SCYON STRIA CLADDING INSTALLED HORIZONTALLY TO MANUF. SPEC. PROVIDE MITRE FINISH ON CORNERS, REFER CORNER DETAILS ON SHEET A4, PAINT FINISH TO BE SELECTED.
- W1 eg WINDOW NUMBER
- D1 eg DOOR NUMBER
- F FIXED GLAZING
- F.L FLOOR LEVEL
- C.L CEILING LEVEL
- N.S.L NATURAL SURFACE LEVEL



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: ??? SOIL CLASSIFICATION: CLASS ???
REFER STRUCTURAL ENGINEERING REFER SOIL REPORT

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	REFR MANUF.	MGP10	900	
COMMON WALL STUDS	90x35	MGP10	450	3000 HEIGHT MAX.
JAMB STUDS	290x45	MGP10		3000 HEIGHT MAX.
GENERAL TOP PLATES	90x45	MGP10		
LOADBEARING TOP PLATES	290x45	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	900H x 1800W	N	ENSUITE	BRICK VENEER	2100	
W2	AS SELECTED	ALUMINIUM	FIXED	2100H x 770W	N	ENTRY	STRIA		
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	STRIA	2100	
D2	AS SELECTED	PANELIFT	SECTIONAL	2500H x 5400W	N	GARAGE	BRICK VENEER	2500	PROVIDE EXTERNAL 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	STRIA		
D4	AS SELECTED	ALUMINIUM	SLIDING	2100H x 1800W	N	LIVING	BRICK VENEER	2100	
D5	AS SELECTED	ALUMINIUM	SLIDING	2100H x 1800W	W	MUD RM.	STRIA		

NOTES

ALL WINDOWS & DOORS MUST BE SITE MEASURED PRIOR TO ORDERING & FABRICATION

ALL WINDOWS, DOORS & ACCESSORIES TO BE IN ACCORDANCE WITH ENERGY RATERS REPORT TO SANDS BUILDING DESIGN PRIOR TO ORDERING AND/OR FABRICATION

REFER BAL. 12.5 NOTES ON DRAWING A1 FOR ANY FURTHER GLAZING REQUIREMENTS

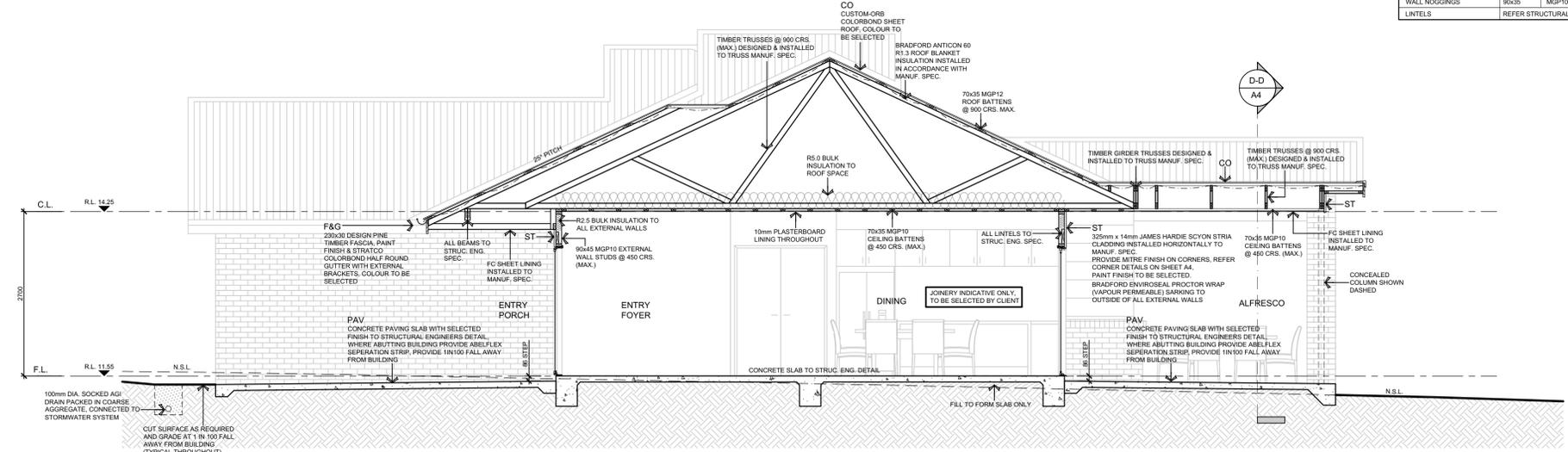
INSTALL & FLASH ALL WINDOWS TO MANUF. SPEC.

PROVIDE FLY SCREENS TO ALL EXTERNAL WINDOWS AND DOORS UN.O.

ALL INTERNAL DOORS DENOTED ON PLAN AS 90° 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



SECTION A-A
SCALE - 1:50

BUSHFIRE ATTACK LEVEL

BUSHFIRE ATTACK LEVEL IS BAL. 12.5 IN ACCORDANCE WITH ASSESSMENT PREPARED BY SANDS BUILDING DESIGN. SPECIFIC CONSTRUCTION IS REQUIRED IN ACCORDANCE WITH AS 3599 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 PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL EXISTING UNDERGROUND SERVICES.



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

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33 FARDEWS LANE,
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6.1 HOUSE 127.9

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

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SANDS BUILDING DESIGN

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MMAHON RESIDENCE
33 FARDEWS LANE
ORBOST

CLIENT: DAVID McMAHON
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

DRAWING NO. REVISION NO.
A3 A

Printed 3/11/2023
Page 46 of 47

