



Attachment to item number 5.1 -

Geotechnical Assessment;
Natural Values Assessment; and
Bushfire Risk Assessment & Management Measures

 **Sorell Council**
Development Application: Response to
Request for information - 14 Knights Road,
Connellys Marsh - P4.pdf.pdf
Plan Reference: P4
Date received: 17/09/2024

GEOTECH 23-135b

ROCK SOLID GEOTECHNICS PTY LTD

10/9/2024

CLIENT:

Estate of the late Mrs Gail Vivienne Ann Lawler
Attn: Mrs Karen Lawler – Executor

Via John Medbury
medbury@optusnet.com.au

Peter Hofto
163 Orielson Road
ORIELTON
TAS 7172

0417 960 769
peter@rocksolidgeotechnics.com.au

Amended Geotechnical Assessment - Subdivision of Land at 14 Knights Road, Connellys Marsh

This report assesses the onsite wastewater potential of the land designated for a subdivision at 14 Knights Road, Connellys Marsh. Mrs Karen Lawler (Executor of the estate) has proposed a two-lot subdivision of the property (Figure 1).

It is proposed to subdivide the land into two blocks.

Lot 1	3600m ²	Vacant Land
Balance	4170m ²	Residence block

Each Lot must be capable of accommodating an on-site wastewater treatment system adequate for the future use and development of the land.

For this report, it is reasonable to assume that a likely minimum future use of proposed Lot 1 is the development of a three-bedroom residence and associated infrastructure.

INVESTIGATION

A field survey was completed on Thursday 31 August, 2023, encompassing field mapping of geological and geomorphological features and hazards to assess the site for onsite wastewater disposal potential.

Test Holes were completed over the sites utilising a 4WD mounted SAMPLA25 mechanical auger with 100mm diameter solid flight augers. The locations of the Test Holes are marked on Figure 1.

The 1:50000 Mines Department Geological Map "Sorell" indicates that the upper, northern portion of the site is underlain by Jurassic dolerite, with the lower, southern section (adjacent to Connellys Marsh Beach) is underlain by sandy Quaternary aged sediments.

The land designated for subdivision lies between Fulham Road and Connellys Marsh Beach.

The Sorell Council's Inundation Mapping indicates that the southern portion of the property is prone to inundation in a 1 in 100-year flood event (Figure 2).

A small portion of the proposed Balance Lot is covered in a Low-Level Landslip Overlay (List Map) – Figure 3.

Balance Lot - 4170m²

The residence on the proposed Balance Lot (4170m²) is serviced with an onsite wastewater system consisting of a septic tank and absorption trench(es), located to the immediate north of the dwelling. There is no evidence of system failure in the current onsite wastewater Land Application Area (LAA). The current onsite wastewater system is wholly contained on the proposed Balance Lot.

The residence lies on the highest portion of the block, on the top of the sand dune immediately to the north of Connellys Marsh Beach (Plate 1). The major portion of the Balance Lot slopes shallowly to the north, towards a natural drainage line and seasonal creek running west to southeast adjacent to the proposed northern property boundary (Plate 2).

The Balance Lot extends up the slope (towards Fulham Road) – with this portion of the site designated as a potential future reserve onsite wastewater Land Application Area (LAA). This is necessary as the remainder of the Balance Lot lies in a defined potential flood zone (Figure 2).

If the current onsite wastewater system requires remediation, it will be necessary to utilise the land on the upper portion of the Balance Lot for a new LAA. A test hole was completed in this area to determine subsurface conditions (Plate 3) (Location marked on Figure 1).

This area is covered in a Low-Level Landslip Overlay (List Map) – Figure 3. This area is slightly steeper than the land upslope (up from 8 to 10 degrees).

Test Hole #2 was completed in this defined zone and encountered shallow dolerite bedrock. This Low Landslip Risk area is stable and suitable for both residential development and onsite wastewater disposal.

Plate 1 – Current residence (LHS in the trees) from Knights Road - looking to the southwest.

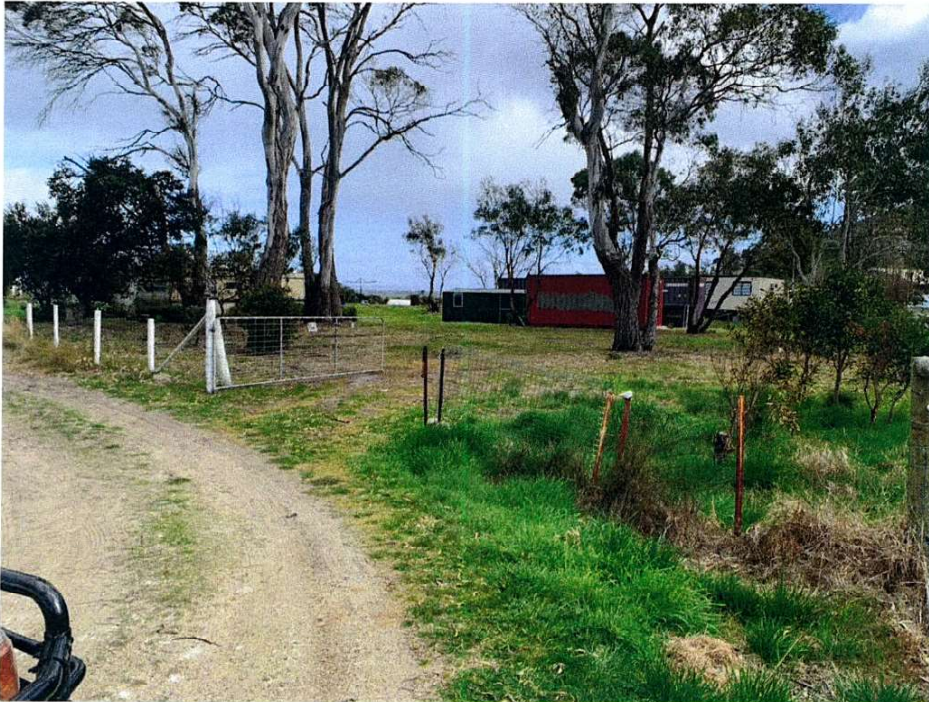


Plate 2 - Natural drainage line and seasonal creek running to the - looking to the northwest.



Plate 3 – Balance 1. Test Hole #2 - Looking to the southeast.



The profile encountered in Test Hole #2 (Plate 3) consisted of;

0.00 – 0.20m	SAND: fine to medium grained, brown, trace clay, trace roots & rootlets - TOPSOIL
0.20 – 0.75m	sandy CLAY: medium to high plasticity, dark brown / olive brown, to 30% fine to coarse grained sand, moist
0.75 – 0.80m	gravelly & clayey SAND: fine to coarse grained, yellowish brown, 20% clay, 20% fine to medium angular dolerite gravel, dry – EXTREMELY WEATHERED DOLERITE
0.80m+	Mechanical auger refusal on dolerite bedrock

Groundwater was not encountered in the test hole.

The site is classified as CLASS 6 – CLAY/BEDROCK (AS1547) w.r.t. onsite wastewater disposal.

The 2016 Director's Guidelines for Onsite Wastewater Disposal specifies;

- If dispersive soils or a limiting layer is encountered within the upper 1m of the soil profile, then the area required must be calculated based on the requirements for Category 6 soil.

A remediated onsite wastewater system (if required) for the Balance Lot will require the utilisation of secondary treated wastewater effluent, most probably an Aerated Wastewater Treatment System (AWTS) with a shallow sub-surface irrigation Land Application Area (LAA) – to be located on the upper, or northern, portion of the block.

The size of the Land Application Area (LAA) / subsurface irrigation zone is conditional on the potential wastewater load entering the system and the permeability of the site. The potential wastewater load is determined by the number of bedrooms in the dwelling (as mentioned above this assessment is based on ensuring that the proposed block can sustain a residence with a minimum of three bedrooms).

A Design Irrigation Rate (DIR) of 1.6mm/day is appropriate (Class 6 CLAY / BEDROCK site).

The *2016 Director's Guidelines for Onsite Wastewater* specify the minimum area required for onsite wastewater. 156m² of LAA is required per bedroom, or 468m² for a three-bedroom residence.

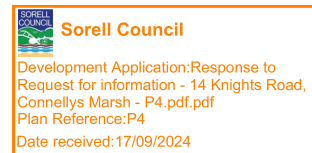
Lot 1 – 3600m²

Proposed Lot 1 lies directly downslope from Fulham Road. The land generally slopes at between 8 and 10 degrees to the south/southeast. The block is covered in grass and several shrubs and mature trees.

The profile encountered in **Test Hole #1 (Plate 4)** consisted of;

0.00 – 0.20m	SAND: fine to medium grained, brown, trace clay, trace roots & rootlets - TOPSOIL
0.20 – 0.75m	sandy CLAY: medium to high plasticity, dark brown / olive brown, to 30% fine to coarse grained sand, moist
0.75 – 0.80m	gravelly & clayey SAND: fine to coarse grained, yellowish brown, 20% clay, 20% fine to medium angular dolerite gravel, dry – EXTREMELY WEATHERED DOLERITE
0.80m+	Mechanical auger refusal on dolerite bedrock

Groundwater was not encountered in either test hole.



The site is classified as CLASS 6 – CLAY/BEDROCK (AS1547) w.r.t. onsite wastewater disposal.

The *2016 Director's Guidelines for Onsite Wastewater Disposal* specifies;

- If dispersive soils or a limiting layer is encountered within the upper 1m of the soil profile, then the area required must be calculated based on the requirements for Category 6 soil.

Lot 1 will likely require the utilisation of secondary treated wastewater effluent, most probably an Aerated Wastewater Treatment System (AWTS) with a shallow sub-surface irrigation Land Application Area (LAA).

Plate 4 – Lot 1. Test Hole #1 - Looking to the southeast.



The size of the Land Application Area (LAA) / subsurface irrigation zone is conditional on the potential wastewater load entering the system and the permeability of the site. The potential wastewater load is determined by the number of bedrooms in the dwelling (as mentioned above this assessment is based on ensuring that the proposed block can sustain a residence with a minimum of three bedrooms).

A Design Irrigation Rate (DIR) of 1.6mm/day is appropriate (Class 6 CLAY / BEDROCK site).

The *2016 Director's Guidelines for Onsite Wastewater* specify the minimum area required for onsite wastewater. 156m² of LAA is required per bedroom, or 468m² for a three-bedroom residence. There is ample available land on proposed Lot 1 for a 468m² LAA.

The type, size and position of onsite wastewater system will need to be determined by site specific investigation, when the details of the individual developments are determined.

Proposed Lot 1 has ample suitably sized and located land onsite wastewater disposal – that is compliant with the requirements of both the Director's Guidelines and the *Land Use Planning and Approvals Act 1993* and the *Tasmanian Planning Scheme – Sorell Council*.

SITE AND SOIL EVALUATION REPORT – Proposed Lot 1 & northern portion of Balance Lot

<u>Soil Category:</u> (as stated in AS/NZS 1547-2000) 1,...2,...3,...4,...5,...6	Modified Emerson Test Required If Yes, Emerson Class No.	No
<u>Soil Profile:</u>	The location of the test hole is nominated on the site plan.	
<u>Measured or Estimated Soil Permeability (m/d):</u>	0.06-0.5m/d	
<u>Design Irrigation Rate (DIR)</u>	1.6mm/day (Secondary Treated Effluent)	
<u>Geology:</u>	Jurassic dolerite.	

<u>Slope:</u>	8-10 degrees
<u>Drainage lines / water courses:</u>	Nil
<u>Vegetation:</u>	Grass, mature trees
<u>Site History: (land use)</u>	Rural block
<u>Aspect:</u>	South / southeast
<u>Pre-dominant wind direction:</u>	Northwest to southwest
<u>Site Stability:</u> Will on-site wastewater disposal affect site stability?	No
<u>Is geological advice required?</u>	No
<u>Drainage/Groundwater:</u>	Not encountered
<u>Depth to seasonal groundwater (m):</u>	Not Encountered
<input checked="" type="checkbox"/> <u>Water Tanks</u>	
<u>Date of Site Evaluation:</u>	31/8/2023
<u>Weather Conditions:</u>	Fine



Sorell Council
 Development Application: Response to
 Request for information - 14 Knights Road,
 Connellys Marsh - P4.pdf.pdf
 Plan Reference: P4
 Date received: 17/09/2024

CONDITIONS OF INVESTIGATION

This report remains the property of Rock Solid Geotechnics Pty. Ltd. (RSG). It must not be reproduced in part or full, or used for any other purpose without written permission of this company. The investigations have been conducted, & the report prepared, for the sole use of the client or agent mentioned on the cover page. Where the report is to be used for any other purpose RSG accepts no responsibility for such other use. The information in this report is current and suitable for use for a period of two years from the date of production of the report, after which time it cannot be used for Building or Development Application.

This report should not be used for submission for Building or Development Application until RSG has been paid in full for its production. RSG accepts no liability for the contents of this report until full payment has been received.

The results & interpretation of conditions presented in this report are current at the time of the investigation only. The investigation has been conducted in accordance with the specific client's requirements &/or with their servants or agent's instructions. This report contains observations & interpretations based often on limited subsurface evaluation. Where interpretative information or evaluation has been reported, this information has been identified accordingly & is presented based on professional judgement. RSG does not accept responsibility for variations between interpreted conditions & those that may be subsequently revealed by whatever means.

Due to the possibility of variation in subsurface conditions & materials, the characteristics of materials can vary between sample & observation sites. RSG takes no responsibility for changed or unexpected variations in ground conditions that may affect any aspect of the project. The classifications in this report are based on samples taken from specific sites. The information is not transferable to different sites, no matter how close (ie if the development site is moved from the original assessment site an additional assessment will be required).

It is recommended to notify the author should it be revealed that the sub-surface conditions differ from those presented in this report, so additional assessment & advice may be provided.

Investigations are conducted to standards outlined in Australian Standards:

- AS1726-1993: Geotechnical Site Investigations
- AS1547-2012: Onsite Domestic Wastewater Management

& as specified in 'Guidelines for Geotechnical Assessment of Subdivisions and Recommended Code of Practise for Site Classification to AS2870 in Tasmania' - Institute of Engineers, Tasmanian Division.

Copyright: The concepts & information contained in this report are the Copyright of Rock Solid Geotechnics Pty. Ltd.

RECOMMENDATIONS

The onsite wastewater system that services the current residence is wholly located within the boundaries of the Balance Lot. The land on the upper, northern portion of the Balance Lot will need to be used for any future wastewater disposal area (reserve LAA).

Proposed Lot 1 can sustain an onsite wastewater system for a single, three-bedroom dwelling, in compliance with the *Land Use Planning and Approvals Act 1993* and the *Tasmanian Planning Scheme – Sorell Council*.



PETER HOFTO
ROCK SOLID GEOTECHNICS PTY LTD



OWNER: ESTATE OF G V A LAWLER
FOLIO REF: FR 80986/8
PROPOSED EASEMENTS as shown

LOCATION 14 KNIGHTS ROAD
CONNELLYS MARSH
GRANTEE PART OF LOT 31478 819-2-20 GTD TO
DONALD GEORGE DODDERIDGE

IMPORTANT NOTE

This plan was prepared for EST OF G V A LAWLER as a proposed subdivision application to the SORELL COUNCIL and should not be used for any other purpose. The dimensions, areas and total number of lots shown herein are subject to field survey and also to the requirements of council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land. This note is an integral part of this plan.

Scale: 1:1000

Municipality: SORELL



Date: 19-09-2023
Am "D" 13-08-2024

Ref No. 93057_bfh
(10947)

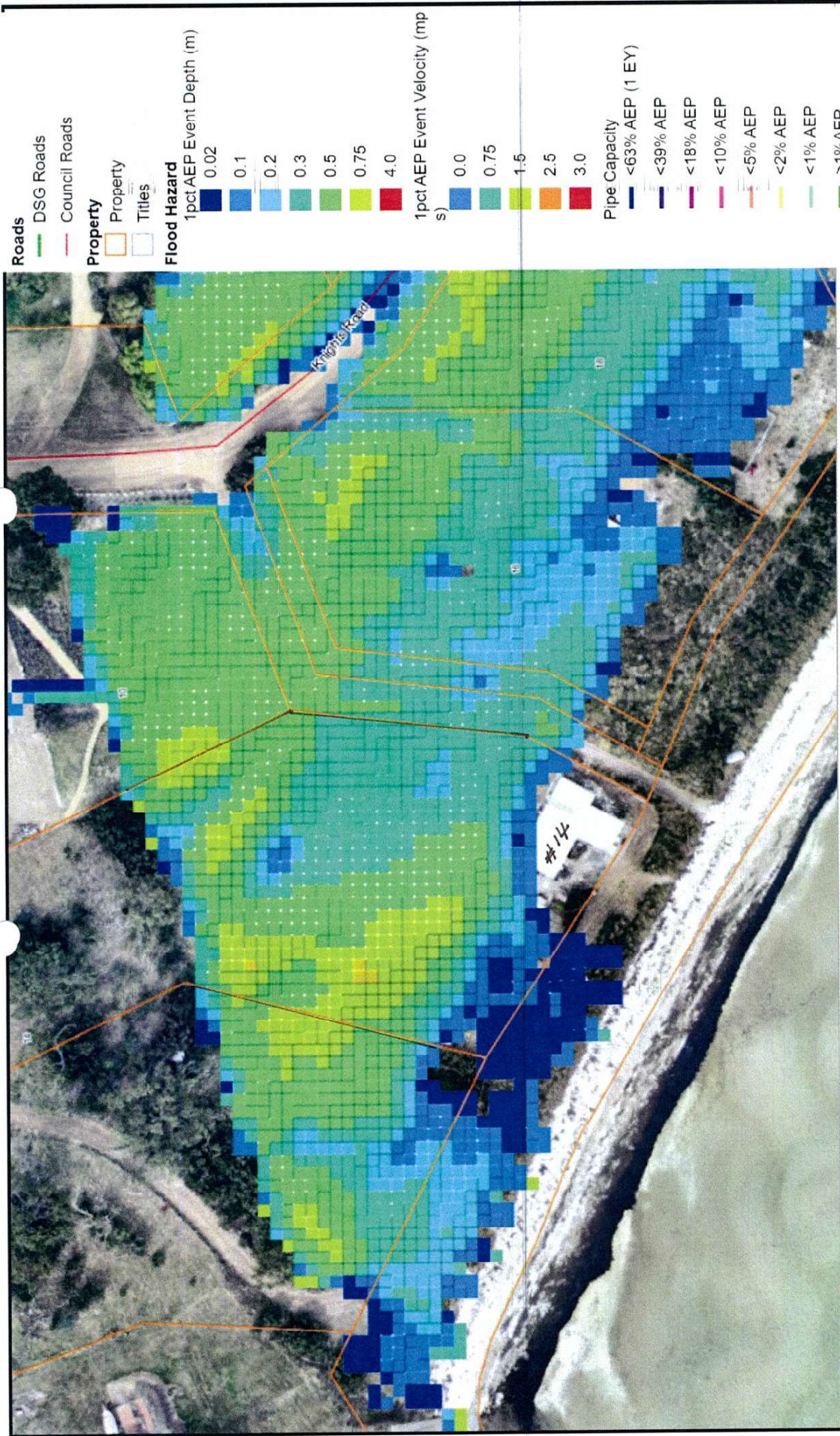
Access added 01/07/2024

Sorell Council
Development Application: Response to Request for information - 14 Knights Road, Connellys Marsh - P4.pdf.pdf
Plan Reference: P4
Date received: 17/09/2024

LEGEND

-  Minimum 10 X 15 Area
-  Dwelling setback
-  Landslip Hazard (low hazard band)
-  Existing Lot Boundary
-  LAA - Area > 400m²





20 m

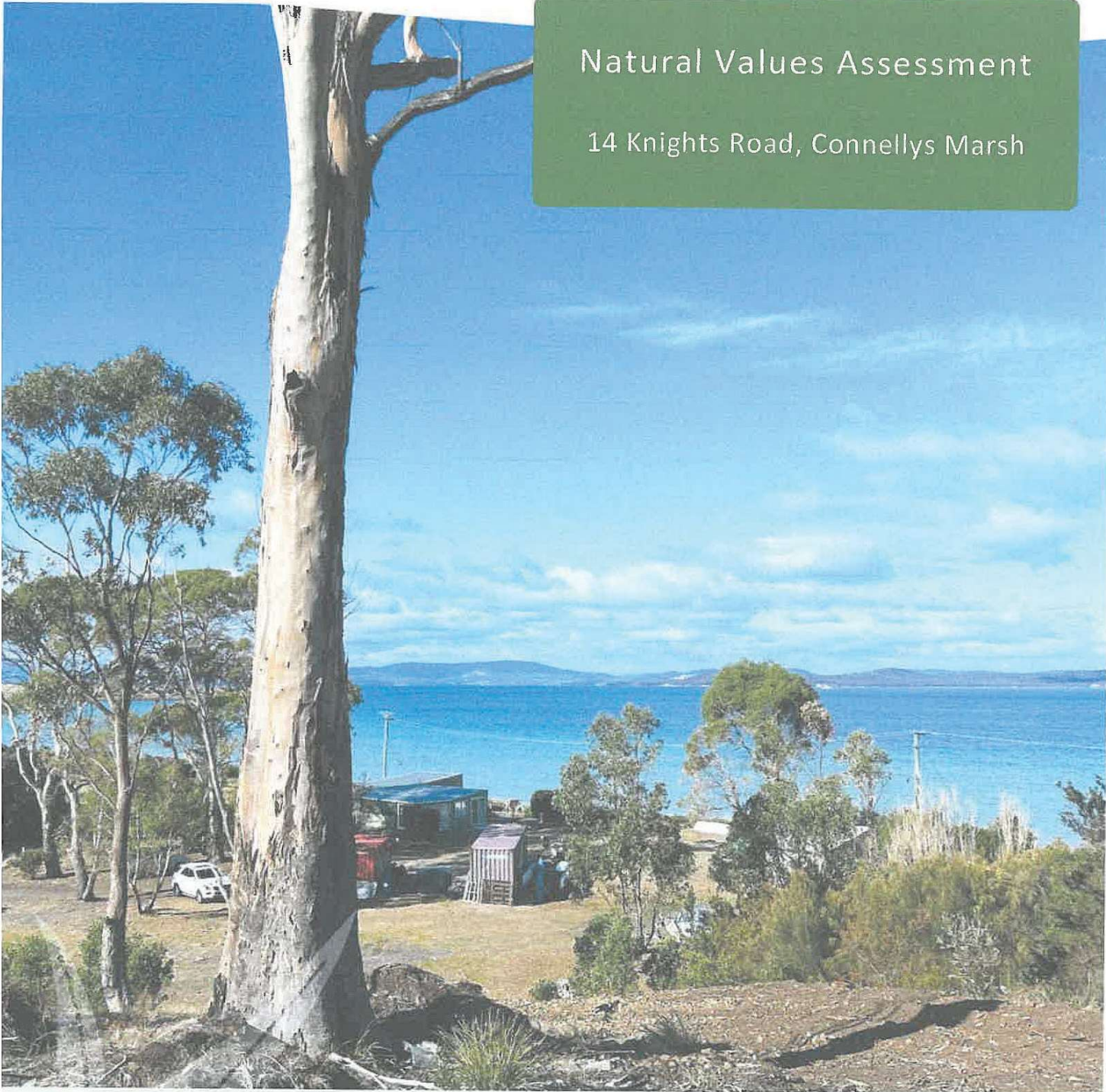
FIGURE 2

Sorell Council
 Development Application: Response to
 Request for information - 14 Knights Road,
 Connellys Marsh - P4.pdf.pdf
 Plan Reference: P4
 Date received: 17/09/2024



GDA94 MGA55 : 558962E, 5251704N 1:846 **Disclaimer and Copyright Notice**

*LOW LANDSLIP HAZARD MAPPING
FIGURE 3*



Natural Values Assessment
14 Knights Road, Connellys Marsh

 **Sorell Council**
Development Application: Subdivision Application
- 14 Knights Road, Connellys Marsh.pdf
Plans Reference: P1
Date Received: 5/06/2024

Client: Karen Lawler
Prepared by: Fiona Walsh
April 2024

Contents

1	Introduction	1
2	Background	1
2.1	Site Description	1
2.2	Proposal	2
3	Methods.....	4
3.1	Desktop analysis	4
3.2	Field survey	4
3.3	Limitations of the survey	4
4	Natural Values Assessment	5
4.1	Vegetation Communities	5
4.2	Flora	7
4.2.1	Threatened Flora	7
4.2.2	Weeds.....	7
4.3	Fauna	8
4.3.1	Threatened fauna	8
4.3.2	Threatened fauna habitat	8
5	Development Impacts and Legislation	9
5.1	Commonwealth Environment Protection and Biodiversity Conservation Act 1999	9
5.2	Tasmanian Threatened Species Protection Act 1995	9
5.3	Tasmanian Nature Conservation Act 2005	9
5.4	Tasmanian Biosecurity Act 2019.....	9
5.5	Tasmanian Planning Scheme - Sorell.....	10
6	Conclusion and Recommendations	13
	References.....	14
	Appendix 1 – Vascular Plant Species List	15
	Appendix 2 – Natural Values Atlas Records within 5 km	17

1 Introduction

This natural values report has been prepared as a requirement of a subdivision application under the Tasmanian Planning Scheme - Sorell.

Enviro-dynamics has been contracted to undertake this natural values assessment on behalf of the proponents. The assessment identifies the natural values of the site including the type and extent of vegetation communities, presence of threatened species and threatened fauna habitat. It also maps weed infestations and identifies any other threats present. Any potential impacts to natural values posed by the development are then analysed against the requirements of the relevant legislation.

2 Background

2.1 Site Description

The site (PID 5967720) covers 7764 m² with the northern boundary adjacent to Fulhams Road, the southern boundary bordering the coastline and the east and west boundaries adjacent to private blocks. There is access to the block via a small access off Knights Road in the east.

The land has a southerly aspect with a moderate upslope to the north. The geology is primarily Jurassic dolerite.

It is zoned Low Density Residential within the Sorell Municipality and has the following overlays covering all or part of the site:

- Bushfire Prone Area
- Waterway Coastal Protection Area.
- Flood Prone Areas
- Coastal Inundation Hazards
- Coastal Erosion
- Priority Vegetation Area

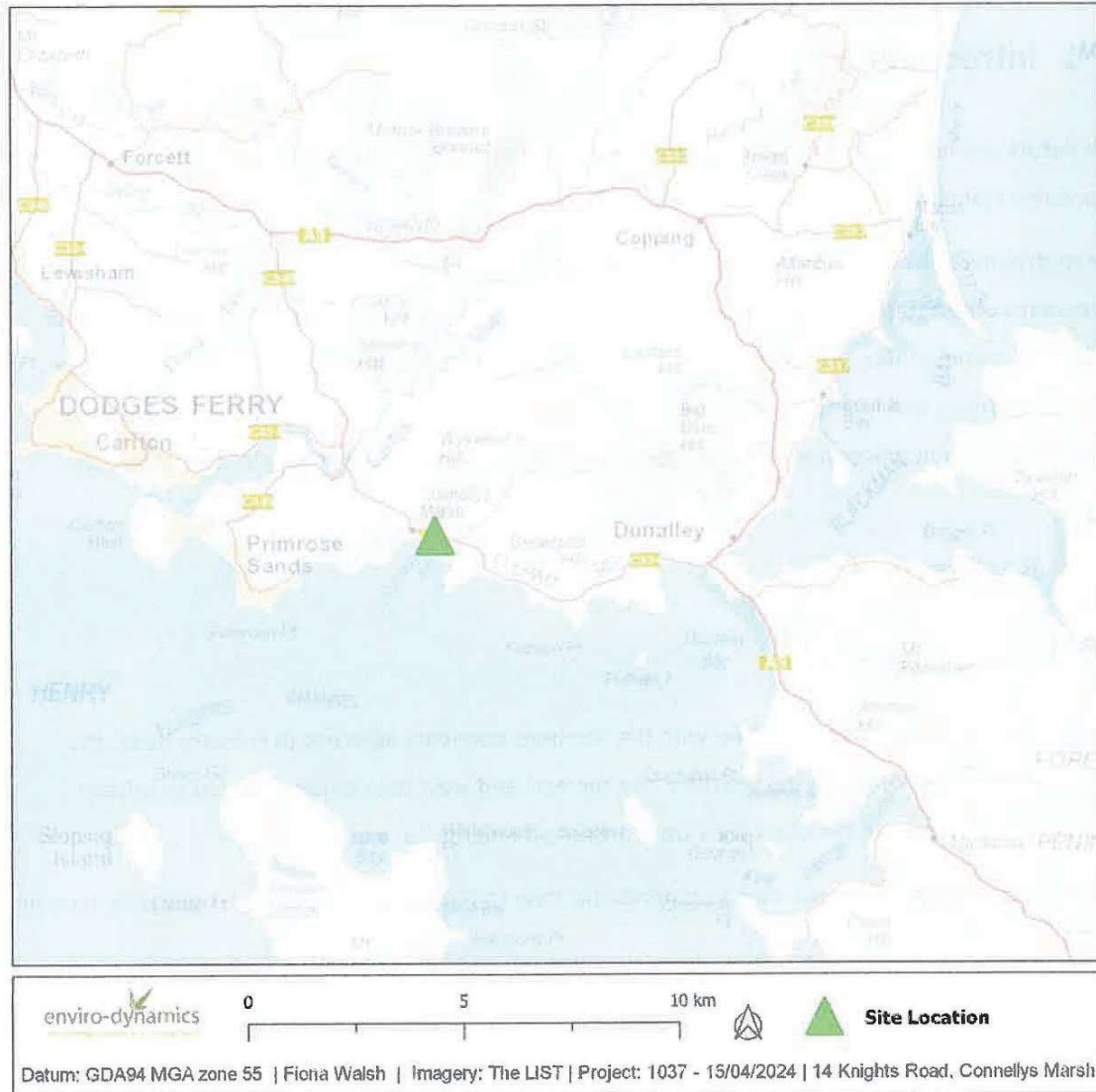


Figure 1: Site Location

2.2 Proposal

The proposal is for a subdivision of the land, to create two separate titles. The proposed 'balance lot' incorporates the existing dwelling, with the remainder of the land becoming 'Lot 1' for a future residential development. This can be seen in Figure 2.



Figure 2: Proposed subdivision plan as supplied by the proponent

3 Methods

The natural values assessment was undertaken in two stages; desktop analysis and field survey.

3.1 Desktop analysis

The desktop analysis involved extracting data from the following sources:

- Natural Values Atlas report, generated 15 April 2024 (NRE 2023)
- LIST map

3.2 Field survey

The field survey was undertaken on the 10th of April 2024. Vegetation communities on the site were assessed and classified according to TASVEG 4.0. All vascular plant species encountered were recorded, with an emphasis on detecting rare and threatened species. Searches for potential threatened fauna habitat e.g. tree hollows and den sites, and other evidence e.g. scats, diggings and tracks were also undertaken. No detailed fauna surveys were conducted.

Locations of threatened flora, fauna habitat and significant weeds were mapped using Mergin Maps (merginmaps.com) on an iPhone handheld device with built in GPS at an accuracy of between 3.5 and 5 m and population data was captured e.g. numbers of individuals, area occupied etc. Geographic datum used was GDA94 Zone 55.

Taxonomic nomenclature for flora follows the latest Census of Vascular Plants of Tasmania (Baker & de Salas 2023). Classification of vegetation communities is in accordance with Kitchener and Harris (2013) and TASVEG 4.0.

3.3 Limitations of the survey

Whilst every effort was made to compile a complete list of vascular plants, a single survey is unlikely to detect all species present due to seasonal/temporal variations. Some plants could not be identified to a species level and some species may have been overlooked due to a lack of fertile material. It is also possible that additional species are present but were dormant at the time of survey e.g. annuals, ephemerals.

4 Natural Values Assessment

This section outlines the findings of the desktop analysis and field survey, including a description of the vegetation communities, threatened flora, fauna habitat values and weeds (Figure 3).

4.1 Vegetation Communities

Two modified vegetation community was identified during the field survey, as per the TASVEG 4.0 classification system.

- Regenerating cleared land (FRG)
- Urban Areas (FUR)

Site description (FRG and FUR)

TASVEG Live maps the site as part Urban areas (FUR) with a band of *Eucalyptus viminalis* – *Eucalyptus globulus* coastal forest and woodland (DVC) through the centre. However, a site survey determined the area to be a heavily modified landscape, with not enough trees to constitute calling it a forest or woodland community. Historically, the area may have been vegetated with DVC before the land was developed for various shacks and dwellings.

There is one large tree within the centre of the site, and scattered shrubs, mainly confined to the fence lines. The southern part of the site (FUR) has an existing dwelling and a series of outbuildings, shipping containers and vehicles. This area has some small, scattered trees present. An access road has been constructed from the entrance to the site, up slope to the shed site in the north.

Native species present across the site include *Eucalyptus amygdalina*, *E. globulus*, *Lepidosperma* species, *Lomandra longifolia*, *Styphelia humifusa* and *Themeda triandra*. A full species list can be found in Appendix 1.

Natural Values Assessment for 14 Knights Road, Connellys Marsh



Figure 3: Natural Values recorded on site.

4.2 Flora

A total of 23 vascular plants were recorded during the survey, of which 7 are introduced species. Additional flora species are likely to occur within the site and some plants could have been overlooked due to the inherent limitations of the survey e.g. seasonal timing, timed meander method. For the full list of flora species recorded during the survey see Appendix 1.

4.2.1 Threatened Flora

No threatened flora species listed under the *Threatened Species Protection Act 1995* (TSPA) or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) were recorded during the survey.

A search of the Natural Values Atlas (NRE database) indicated that seven threatened flora species have been recorded within 5 km of the site. None of these species were recorded on site and due to the heavily modified nature of the land and the lack of intact vegetation there is no suitable habitat for any of these species to occur on the site. The full list can be found in Appendix 2.

4.2.2 Weeds

A range of introduced species were recorded at the site. Two of which, spanish heath and californian thistle (Table 1) are listed as declared pests under the *Biosecurity Act 2019* (BA) and are both Weeds of National Significance (WoNS).

Both species are classed as Zone B, which includes those Tasmanian municipalities for which containment of the declared weed is the principal management objective. Such municipalities host large, widespread infestations of the declared weed that are not deemed eradicable because the feasibility of effective management is low at this time.

These will need to be managed in accordance with the act following the best practise prescriptions as laid out in the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (DPIPWE, Stewart and Askey-Doran, 2015)

Table 1: Declared weeds present on site

Species	Comment	BA Zone	WoNs
californian thistle <i>Cirsium arvense</i> var. <i>arvense</i>	Scattered throughout the site, are being controlled by landowner	Zone B Containment	-
spanish heath <i>Erica lusitanica</i>	Scattered throughout the site, are being controlled by landowner	Zone B Containment	-

4.3 Fauna

4.3.1 Threatened fauna

No threatened fauna species listed under the *Threatened Species Protection Act 1995* (TSPA) or under the *Environment Protection and Biodiversity Act 1999* (EPBCA) were recorded during the survey.

4.3.2 Threatened fauna habitat

No significant areas of habitat were identified which would support any threatened species populations. However, there is one large tree on the site (Figure 3), which has visible hollows and has the potential to provide nesting habitat for local fauna and avifauna, including threatened species such as swift parrots and blue winged parrots should they be present in the area.

A search of the Natural Values Atlas (NRE database) indicated that several threatened fauna species had been recorded within 5 km of the site. Aside from the one tree on the site which may provide nesting for small parrots, there is no habitat for any other species. The full list of those recorded within 5 km can be found in Appendix 2.

5 Development Impacts and Legislation

The following section outlines the impacts of the proposed development on natural values and provides an assessment of the proposal against the relevant legislation.

Impacts on natural values

There will be no impacts to any natural values on the site due to the proposal being a subdivision application. The future residential development of proposed Lot 1 will also have minimal impact on natural values.

5.1 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

A person must not take an action that has, will have or is likely to have a significant impact on any of the matters of national environmental significance without approval from the Australian Government Minister for the Environment (the Minister).

No species listed under the EPBCA were observed on site therefore no action needs to be taken.

5.2 Tasmanian Threatened Species Protection Act 1995

In Tasmania, threatened species (flora and fauna) are protected under the Tasmanian Threatened Species Protection Act 1995. Under this Act, a permit is required to knowingly "take" (which includes kill, injure, catch, damage, destroy and collect), keep, trade in or process any specimen of a listed species.

No species under the TSPA were observed on site therefore no permits will be required.

5.3 Tasmanian Nature Conservation Act 2005

No threatened vegetation communities listed under the NCA were observed on the site.

5.4 Tasmanian Biosecurity Act 2019

Two declared weeds were recorded on site, blackberry and californian thistle which are both Zone B species. Zone B classifications are those which have infestations that are not deemed eradicable, and the objective for these species is to contain them and prevent the spread to neighbouring properties.

These will need to be managed in accordance with the relevant Statutory Weed Management Plans following the best practise prescriptions as laid out in the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (DPIPWE, Stewart and Askey-Doran, 2015)

5.5 Tasmanian Planning Scheme - Sorell

Parts of the site subject to the Natural Assets Code (C7.0) due to the priority vegetation overlay covering much of the site – including the area of proposed Lot 1. The waterway and coastal protection overlay has also been applied along the southern boundary of the parent lot (proposed balance lot). This overlay has not been considered in detail below, given that it applies only to the area of the land that is already developed. Requirements relating to natural values are addressed below.

Requirements of the Natural Assets Code (C7.0)

The site is subject to the Natural Assets Code (C7.0) as it is within Priority Vegetation Area (PVA) overlays. Within the definition of terms in the planning scheme (C7.3.1) 'Priority Vegetation' is defined. Given the heavily modified and cleared nature of the land, no threatened communities or flora species, and limited habitat values identified in the survey, the vegetation is not considered to meet the definition for 'priority vegetation'. However, the relevant sections of the Natural Assets Code have been addressed for clarity.

C7.7.2 - Subdivision within a priority vegetation area

Response: Acceptable solutions cannot be met; therefore, performance criteria must be addressed.

P1.1 - Each lot, or a lot proposed in a plan of subdivision, within a priority vegetation area must be for:

(a) subdivision for an existing use on the site, provided any clearance is contained within the minimum area necessary to be cleared to provide adequate bushfire protection, as recommended by the Tasmanian Fire Service or an accredited person;

Response: Not applicable. The subdivision will create an additional residential lot.

(b) subdivision for the construction of a single dwelling or an associated outbuilding;

Response: The proposed new Lot 1 will provide for a new single dwelling. The vegetation on the site is not considered to meet the definition of 'priority vegetation' as outlined above and elsewhere in this report. The proposal can comply.

(c) subdivision in the General Residential Zone or Low Density Residential Zone;

Response: The proposed subdivision is within the Low Density Residential Zone. The proposal can comply.

(d) use or development that will result in significant long term social and economic benefits and there is no feasible alternative location or design;

Response: The proposed development will contribute to the municipal economy.

(e) subdivision involving clearance of native vegetation where it is demonstrated that on-going pre-existing management cannot ensure the survival of the priority vegetation and there is little potential for long-term persistence; or

Response: The proposed subdivision and future proposed residential development will require minimal clearing, given that the majority of the site has been previously cleared.

(f) subdivision involving clearance of native vegetation that is of limited scale relative to the extent of priority vegetation on the site.

Response: The vegetation on the site is not considered to meet the definition of 'priority vegetation'.

P1.2 - Works association with subdivision within a priority vegetation area must minimise adverse impacts on priority vegetation, having regard to:

(a) the design and location of any works, future development likely to be facilitated by the subdivision, and any constraints such as topography or land hazards;

Response: The vegetation on the site is not considered to meet the definition of 'priority vegetation'. However, there is mature *Eucalyptus viminalis* tree within the area of proposed Lot 1 that should be retained if possible for its habitat value.

(b) any particular requirements for the works and future development likely to be facilitated by the subdivision;

Response: As above.

(c) the need to minimise impacts resulting from bushfire hazard management measures through siting and fire-resistant design of any future habitable buildings;

Response: The vegetation on the site is not considered to meet the definition of 'priority vegetation'. However, the siting of the future dwelling could take into account the mature *Eucalyptus viminalis* tree in the application of bushfire hazard management areas. This appears to be possible, as illustrated on Figure 2.

(d) any mitigation measures implemented to minimise the residual impacts on priority vegetation;

Response: The vegetation on the site is not considered to meet the definition of 'priority vegetation'.

(e) any on-site biodiversity offsets; and

Response: Not applicable.

(f) any existing cleared areas on the site.

Response: The majority of the site is already cleared, including that of the proposed 'Lot 1' and location of the future dwelling.

6 Conclusion and Recommendations

The natural values of land at 14 Knights Road, Connellys Marsh were assessed as part of an application for a subdivision.

Threatened species and communities observed:

- None

Council may consider incorporating the following recommendations into a planning permit, in the event the proposed development is approved.

Recommendations:

- Retain the large habitat tree within the site, which can be seen in Figure 3.
- All declared weeds (i.e. blackberry and californian thistle) must be controlled in accordance with the Statutory Weed Management Plan and the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (DPIPWE, Stewart and Askey-Doran, 2015). Weed management should be undertaken prior to the commencement of works.
- Any soil or gravel imported to the site for construction or landscaping purposes should be from a weed free source to prevent the establishment of further introduced species on the site.

References

Biosecurity Act 2019.

Available at <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2019-022>

Commonwealth of Australia (1999) Environment Protection and Biodiversity Conservation Act 1999. No. 91, 1999.

de Salas, M.F. & Baker, M.L. (2019) *A Census of the Vascular Plants of Tasmania, Including Macquarie Island.* (Tasmanian Herbarium, Tasmanian Museum and Art Gallery. Hobart)

DPIPWE (2015) *Guidelines for Natural Values Survey – Terrestrial Development Proposals. Version 1.0. 16th April 2015.* Policy and Conservation Advice Branch. Department of Primary Industries, Parks, Water and Environment, Hobart.

DPIPWE (2015). *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania.* (Eds.) Karen Stewart and Michael Askey-Doran. Department of Primary Industries, Parks, Water and Environment, Hobart, Tasmania.

FPA (2014), *Identifying swift parrot breeding habitat, Fauna Technical Note No. 3,* Forest Practices Authority, Hobart, Tasmania.

FPA (2016), *Identifying masked own habitat, Fauna Technical Note No. 17,* Forest Practices Authority, Hobart, Tasmania.

FPA (2016) *'Habitat descriptions and survey notes for Tasmania's threatened flora species'*, Forest Practices Authority, Hobart, Tasmania

TASVEG 4.0, Released July 2020. Tasmanian Vegetation Monitoring and Mapping Program, Natural and Cultural Heritage Division.

Harris, S and Kitchener, A. 2005, *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation,* DPIW, Hobart.

NRE *Threatened Species Note Sheets, Listing Statements and Recovery Plans*

Available at <https://www.threatenedspecieslink.tas.gov.au/>

Nature Conservation Act 2002.

Available at <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2002-063>

Threatened Species Protection Act 1995.

Available at <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1995-083>

Appendix 1 – Vascular Plant Species List

Recorder: Fiona Walsh

Date: Tuesday, 9 April 2024

Dicotyledons

ASTERACEAE

<i>Cirsium arvense var. arvense</i>	creeping thistle	i	d
<i>Hypochaeris radicata</i>	rough catsear	i	

ERICACEAE

<i>Erica lusitanica</i>	spanish heath	i	d
<i>Styphelia humifusa</i>	native cranberry		

FABACEAE

<i>Acacia mearnsii</i>	black wattle		
<i>Acacia melanoxylon</i>	blackwood		
<i>Acacia verticillata subsp. verticillata</i>	prickly moses		
<i>Bossiaea prostrata</i>	creeping bossia		

GENTIANACEAE

<i>Centaurium erythraea</i>	common centaury	i	
-----------------------------	-----------------	---	--

MYRTACEAE

<i>Eucalyptus amygdalina</i>	black peppermint		end
<i>Eucalyptus globulus subsp. globulus</i>	tasmanian blue gum		
<i>Melaleuca sp.</i>			

PITTOSPORACEAE

<i>Bursaria spinosa subsp. spinosa</i>	prickly box		
<i>Pittosporum undulatum</i>	sweet pittosporum	i	

PLANTAGINACEAE

<i>Plantago lanceolata</i>	ribwort plantain	i	
----------------------------	------------------	---	--

SANTALACEAE

Leptomeria drupacea erect currantbush

Monocotyledons

ASPARAGACEAE

Lomandra longifolia sagg

CYPERACEAE

Lepidosperma longitudinale pithy swordsedg

Lepidosperma sp.

HEMEROCALLIDACEAE

Dianella tasmanica forest flaxlily

POACEAE

Dactylis glomerata cocksfoot i

Poa sp.

Themeda triandra kangaroo grass

end = Tasmanian endemic i = introduced

d = declared weed

~ (*Weed Management Act 1999*)

CR = Critically Endangered, EN = Endangered, VU = Vulnerable

~ (*Environment Protection and Biodiversity Conservation Act 1999*)

e = endangered v = vulnerable r = rare

~ (*Tasmanian Threatened Species Protection Act 1995*).

Appendix 2 – Natural Values Atlas Records within 5 km

Verified threatened flora records within 5 km of the project area; SS = Tasmanian Threatened Species Protection Act 1995, NS = Commonwealth Environment Protection and Biodiversity Conservation Act 1999

Threatened flora within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Cotula vulgaris</i> var. <i>australasica</i>	slender buttons	r		n	1	19-Nov-2003
<i>Cuscuta tasmanica</i>	golden dodder	r		n	3	31-Mar-2017
<i>Eryngium ovinum</i>	blue devil	v		n	4	08-Jul-2015
<i>Limonium australe</i> var. <i>australe</i>	yellow sea-lavender	r		n	1	01-May-1978
<i>Ruppia megacarpa</i>	largefruit seatassel	r		n	4	24-Feb-2021
<i>Ruppia tuberosa</i>	tuberous seatassel	r		n	11	30-Sep-2020
<i>Vittadinia muelleri</i>	narrowleaf new-holland-daisy	r		n	3	29-Nov-2023

Verified threatened fauna records within 5 km of the project area; SS = Tasmanian Threatened Species Protection Act 1995, NS = Commonwealth Environment Protection and Biodiversity Conservation Act 1999

Threatened fauna within 5000 metres

Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	21-Sep-2017
<i>Aquila audax</i>	wedge-tailed eagle	pe	PEN	n	1	28-Apr-2013
<i>Aquila audax</i> subsp. <i>fleayii</i>	tasmanian wedge-tailed eagle	e	EN	e	8	20-Aug-2021
<i>Brachionichthys hirsutus</i>	spotted handfish	e	CR	e	2	03-Sep-2013
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	1	20-Mar-2023
Eagle sp.	Eagle	e	EN	n	2	05-May-2022
<i>Eubalaena australis</i>	southern right whale	e	EN	m	5	27-Jul-2019
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	13	30-Jan-2023
<i>Lathamus discolor</i>	swift parrot	e	CR	imbe	15	29-Nov-2023
<i>Megaptera novaeangliae</i>	humpback whale	e		m	7	27-Jun-2021
<i>Mirounga leonina</i> subsp. <i>macquariensis</i>	southern elephant seal	pe	PVU	n	1	05-Mar-2008
<i>Neophema chrysostoma</i>	blue-winged parrot		VU	n	1	30-Nov-1981
<i>Parvulastra vivipara</i>	live-bearing seastar	e	VU	e	12	16-Sep-2021
<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	e	23	21-Jan-2021
<i>Seriolella brama</i>	Blue Warehou		CD	n	1	01-Jan-1995
<i>Thimornis cucullatus</i>	hooded plover		PVU	ae	5	12-Nov-2019
<i>Thymichthys politus</i>	red handfish	e	CR	e	2	30-Apr-2021

Bushfire Risk Assessment and Management Measures

Proposed Residential Subdivision

14 Knights Road, Connellys Marsh

Title Reference: 80986/8

Revision 1
December 2023

AVK Environmental Management

ABN 53 202 252 651

553 Dorans Road, Sandford 7020

Mobile: 041 2141955

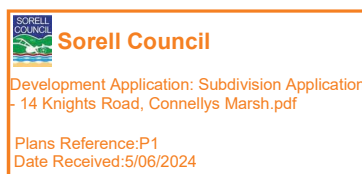
Bushfire Risk Assessment and Management Measures

Proposed Residential Subdivision

14 Knights Road, Connellys Marsh

Title Reference: 80986/8

Owner: Estate of G V A Lawler



Site inspected by: Axel von Krusenstierna **On:** 25 August 2023

Plan prepared by: Axel von Krusenstierna **TFS Accreditation No:** BFP-100

Plan certified: *A. von Krusenstierna* **Date:** 8 December 2023

AVK Environmental Management

ABN 53 202 252 651

553 Dorans Road, Sandford 7020

Mobile: 041 2141955

Contents

	<i>Page</i>
<i>Executive Summary</i>	
1 Introduction	1
1.1 Proposed Development.....	1
1.2 Site Description.....	1
1.2.1 Vegetation	2
1.3 Natural Values	2
2 Bushfire-Prone Land	2
3 Bushfire Hazard and Risk Assessment	2
4 Site Location Map	4
5 Photos of the Site	5
6 Bushfire Protection Measures for the Residential Lots	7
6.1 Hazard Management Area.....	7
6.1.1 Establishing and Landscaping Hazard Management Areas	9
6.2 Vehicle Access.....	10
6.3 Water Supply.....	11
6.4 Building Construction.....	13
6.5 Limitations and Maintenance.....	13
7 References	14
Appendices: Subdivision plan	
Bushfire hazard management plan	
Certificate of Compliance with the Bushfire Prone Areas Code	

LIMITATIONS

- If correctly implemented and maintained for the life of the development, the bushfire risk reduction measures in this report will reduce the bushfire risk to the proposed development to a level considered acceptable in Tasmania. They will not guarantee that buildings will not be damaged or destroyed by bushfire in all circumstances, particularly when the Fire Danger Rating is Severe or higher. The bushfire risk can be further reduced by increasing the width of the hazard management area, constructing buildings to a higher Bushfire Attack Level in Australian Standard 3959 – 2018 and reducing nearby fire hazards.
- The BAL classification may change if the conditions on and surrounding the site change from those noted in the report.
- This report may only be used for the purpose for which it was commissioned.
- This report is not an authority to clear land. Vegetation clearing for bushfire protection recommended in this report may require permits and approvals from various authorities.

EXECUTIVE SUMMARY

DEVELOPMENT LOCATION

Lot 80986/8 (14 Knights Road) at Connellys Marsh, Tasmania.

PROPOSED DEVELOPMENT

Subdivision of Lot 80986/8 to create one new residential lot of 4754 m² and a balance lot of 3000 m², (see attached subdivision plan). The existing dwelling on the property would be retained on the balance lot.

SITE DESCRIPTION

The proposed subdivision is located in the village of Connellys Marsh between Fulham Road and the beach along Connellys Bay. It has an overall south-easterly aspect (see location map in Section 4). The lot has been cleared and is covered with grass and scattered trees and shrubs. The existing dwelling is at the south eastern corner of the lot adjacent to the beach. Overall slope on the proposed new Lot 1 is in the 5 to 10 degree range and the balance lot is almost flat. Altitude ranges from near sea level in the south to 30m on the northern boundary.

The adjoining lots to the east and west have been cleared and developed. Fulham Road runs along the northern boundary of the lot. To the north of Fulham Road is cleared agricultural land. The southern boundary of the lot is separated from the beach by an approximately 10m wide strip of sand dune vegetation.

The proposed subdivision is on land zoned "Low Density Residential" in the Tasmanian Planning Scheme – Sorell.

FLORA, FAUNA AND PLANT COMMUNITIES OF CONSERVATION VALUE

14 Knights Road has been cleared with the vegetation now consisting of grassland with scattered trees and shrubs. The TasVeg 4.0 classification is modified land (FUR) with a woodland structure. There are no records of any threatened flora on or near the lot in the Natural Values Atlas. The Tasmanian devil (*Sarcophilus harrisii*) has been recorded on the open farmland to the north of 14 Knights Road.

BUSHFIRE RISK

The proposed subdivision is within the Bushfire Prone Land overlay of the Tasmanian Planning Scheme – Sorell. As the proposed subdivision borders Connellys Bay to the south, the major bushfire threat would come from fires approaching downslope across the agricultural land to the north and northeast or possibly across slope through the adjoining residential lots to the west.

The last major bushfire in the area was the Dunalley fire in January 2013.

The proposed new lot and balance lot would be accessed from an existing laneway off Knights Road. This laneway also provides access to the beach to the south of Lot 80986/8. Knights Road is an unsealed, dead-end road that connects to Fulham Road, a sealed, 2-way, through road.

The level of bushfire risk on and surrounding the site of the proposed subdivision is not considered to preclude the proposed development provided the bushfire risk reduction measures recommended in this report are incorporated into the development and all building work complies with the Director's Determination – Bushfire-Hazard Areas.

REQUIREMENTS (SEE SECTION 6 FOR FURTHER DETAILS)

The proposed subdivision can meet the acceptable solutions in the Bushfire-prone Areas Code in the Tasmanian Planning Scheme – Sorrell.

Building Construction

1. All new Class 1 to 9 buildings (and any Class 10 buildings within 6m of a Class 1 to 9 building) to be constructed to BAL-19 specifications in AS 3959-2018 Construction of Buildings in Bushfire-prone Areas.

Hazard Management Area

2. Maintenance of the minimum hazard management area for BAL-19 around future Class 1 to 9 buildings (and any Class 10 buildings within 6m of a Class 1 to 9 building) as specified in Section 6.1.
3. Any landscaping within the hazard management area around future dwellings should create a living fuel component that is both discontinuous and of low flammability, any dead fuel should be regularly removed (see Section 6.1.1).

Access for Fire Brigade Vehicles

4. Subdivision access driveways to be constructed to the specifications in Section 6.2 of this report.

Water Supply for Fire Fighting

5. The proposed subdivision will not be provided with a reticulated water supply. Therefore, each new dwelling, and the existing dwelling on the balance lot, require a minimum 10,000 litre stored water supply dedicated for firefighting to the specifications in Section 6.3 of this report. The supply must be accessible by fire brigade vehicles.

Limitations and Maintenance

6. The bushfire protection measures recommended in this report are the minimum requirements for buildings in this location when the forest fire danger rating is Very High. The effectiveness of the bushfire protection measures incorporated into the development will be reduced if they are not properly maintained.

1 Introduction

This report has been prepared for the estate of the late G. V. A. Lawler, by AVK Environmental Management. It evaluates the bushfire risks associated with the proposed subdivision of Lot 80986/8 (14 Knights Road) at Connellys Marsh, Tasmania, due to any bushfire hazard on, or surrounding, the site of the subdivision.

This report includes an assessment of the bushfire hazard on the site of the proposed subdivision and its immediate surrounds, and recommended measures to reduce the risk of loss of life and property during bushfires. The report also takes into account any constraints on the siting of building areas due to natural values and other hazards.

1.1 Proposed Development

It is proposed to subdivide Lot 80986/8 to create one new residential lot of 4754 m² and a balance lot of 3000 m², (see attached subdivision plan). The existing dwelling on the property would be retained on the balance lot.

1.2 Site Description

The proposed subdivision is located in the village of Connellys Marsh between Fulham Road and the beach along Connellys Bay, and has an overall south-easterly aspect (see location map in Section 4). Slope on the proposed new lot 1 is in the 5 to 10 degree range and the balance lot is almost flat. Altitude ranges from near sea level in the south to 30m on the northern boundary along Fulham Road.

The proposed subdivision is on land zoned "Low Density Residential" in the Tasmanian Planning Scheme – Sorell.

The proposed subdivision is included in the following code overlays:

- Bushfire-prone areas (whole lot)
- Natural assets - priority vegetation area (approximately 80% of the lot).
- Natural assets – waterway and coastal protection area (approximately 10m wide strip along the southern boundary of the proposed balance lot)
- Landslip hazard – low landslip hazard band (small area in the middle of proposed new lot 1).
- Flood-prone hazard areas (most of the balance lot excluding the existing dwelling).
- Coastal erosion hazard – medium coastal erosion hazard band (approximately 80% of the balance lot excluding the existing dwelling).
- Coastal erosion hazard – high coastal erosion hazard band (remainder of the balance lot including the existing dwelling).
- Coastal inundation hazard – medium coastal inundation hazard band (most of the balance lot excluding the existing dwelling).

- Coastal inundation hazard – low coastal inundation hazard band (remainder of the balance lot including the existing dwelling).

1.2.1 Vegetation

Lot 80986/8 (14 Knights Road) has been cleared with the predominant vegetation now consisting of grassland with scattered trees and shrubs. The TasVeg 4.0 classification is “modified land” (FUR) with a woodland structure (see aerial photo in Section 4 and site photos in Section 5).

The adjoining lots to the east and west have been cleared and developed. Fulham Road runs along the northern boundary of the lot. To the north of Fulham Road is cleared agricultural land. The southern boundary of the lot is separated from the beach by an approximately 10m wide strip of sand dune vegetation, mostly grasses.

1.3 Natural Values

There are no records of any threatened flora on or near the lot in the Natural Values Atlas. The Tasmanian devil (*Sarcophilus harrisii*) has been recorded on the open farmland to the north of 14 Knights Road. Some native vegetation (remnant trees and shrubs) may need to be cleared for the proposed subdivision.

2 Bushfire-Prone Land

The proposed subdivision and adjoining properties to the north, east and west are within the Bushfire-prone Land overlay of the Tasmanian Planning Scheme – Sorell and therefore the Bushfire-Prone Areas Code in the Tasmanian Planning Scheme – Sorell applies to the proposed subdivision.

Due to the bushfire hazard on and surrounding the proposed subdivision it is not considered to be exempt from the Bushfire-prone Areas Code under Clause 13.4.1(a) of the Code.

The Bushfire-Prone Areas Code provides development standards for subdivisions that include acceptable solutions for:

- hazard management areas
- roads and property access
- fire trails
- water supply for firefighting purposes

Compliance with these requirements is addressed in Section 6 of this report and the attached bushfire hazard management plan.

3 Bushfire Hazard and Risk Assessment

Fire History

Tasmania Fire Service records show that the last major bushfire in the area was the Dunalley fire in January 2013. The whole of Lot 80986/8 was burnt in this fire. The existing dwelling on the lot survived the fire but some dwellings on nearby lots were destroyed.

Bushfire Hazard

Bushfire hazard is a combination of slope and fine fuel loads. The vegetation on the proposed subdivision is grass with scattered trees and shrubs. The fuel hazard on the surrounding lots is similar. The grass on Lot 80986/8 and adjoining lots to the east and west appears to be regularly slashed (see aerial photo in Section 4).

Bushfire Attack

The proposed subdivision extends to the foreshore of Connellys Bay to the south. Therefore the major bushfire threat to future dwellings in the proposed subdivision would come from fires approaching downslope across the agricultural to the north and northeast or possibly across slope through the adjoining residential lots to the west.

Overall Risk Assessment

The level of bushfire risk on and surrounding the site of proposed development is not considered to preclude the proposed subdivision provided the bushfire risk reduction measures recommended in this report are incorporated into the development and all building work complies with the Director's Determination – Bushfire-Hazard Areas.

4 Site Location Map



5 Photos of the Site



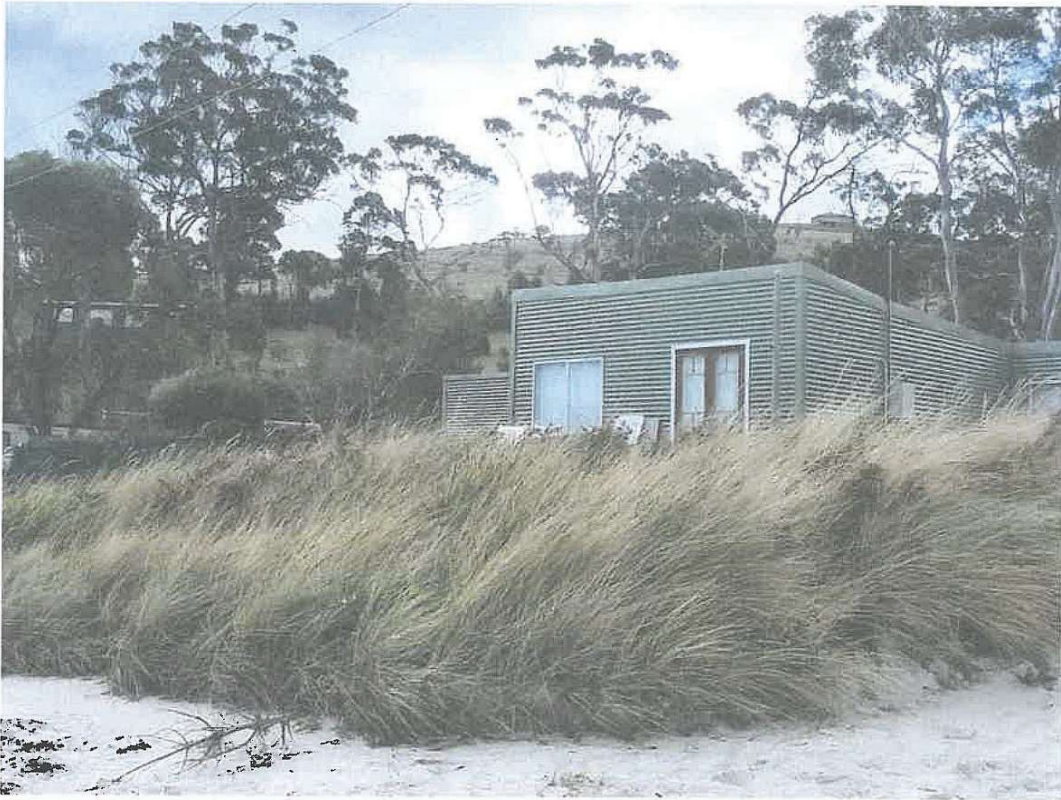
Site of the proposed subdivision looking south across proposed new Lot 1 from Fulham Road.



Looking south across the proposed balance lot.



Looking north across proposed Lot 1 from the balance lot.



Existing dwelling viewed from the south.

6 Bushfire Protection Measures for the Residential Lots

Appropriate bushfire protection measures have been determined with reference to Australian Standard (AS) 3959-2018 Construction of Buildings in Bushfire-prone Areas and the Bushfire-prone Areas Code in the Tasmanian Planning Scheme (V5, 2023).

6.1 Hazard Management Area

Explanation

The Bushfire-prone Areas Code requires class 1 to 9 buildings in bushfire-prone areas to be constructed to AS 3959-2018 and to have a hazard management area with the minimum dimensions required for the specified Bushfire Attack Level (BAL) in AS 3959-2018.

The hazard management area extends outwards from the walls of the building being protected and provides a space around the building with minimal fine fuel and other hazards (e.g. wood piles) that protects it from direct flame contact and intense radiant heat thereby allowing it to be defended from lower intensity bushfires. Fine fuel consists of dead plant matter less than 6 mm in diameter and live plant matter less than 2 mm in diameter (including grasses, bracken, leaves, bark, and twigs and branches). The hazard management area also reduces the risk of wind-blown burning debris from bushfires starting spot fires close to buildings.

The Bushfire-prone Areas Code allows hazard management areas to be located on land external to the proposed subdivision if the application is accompanied by the written consent of the owner of that land to enter into an agreement under Part 5 of the Land Use Planning and Approvals Act 1993 that will be registered on the title of the neighbouring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.

Assessment of the Proposed Subdivision

The acceptable solution for hazard management areas in new subdivisions in Clause 13.6.1 of the Bushfire-prone Areas Code is for the proposed plan of subdivision to show hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to, or greater than, the separation distances required for BAL-19 in Table 2.6 of AS 3959-2018.

The required hazard management area has been determined using Method 1 as described in Section 2 of AS 3959-2018. Using this method the required minimum width of the hazard management area varies with the surrounding vegetation class and slope as set out in Table 2.6 of AS 3959-2018. The minimum widths of the hazard management areas required for BAL-19 construction for different hazard (fuel) types and slopes is shown below:

VEGETATION (HAZARD) TYPE	LOCATION OF THE HAZARD RELATIVE TO THE BUILDING				
	Upslope or flat land	Downslope >0° to 5°	Downslope >5° to 10°	Downslope >10° to 15°	Downslope >15° to 20°
Forest	23 m	27 m	34 m	41 m	51 m
Woodland	15 m	18 m	23 m	28 m	36 m
Shrubland	13 m	15 m	17 m	19 m	22 m
Scrub	19 m	22 m	24 m	28 m	31 m
Grassland	10 m	11 m	13 m	15 m	17 m

The vegetation on existing Lot 80986/8 (14 Knights Road), and the immediately adjoining lots to the east and west, is currently well managed and relatively low risk. Although TasVeg 4 has classified the vegetation structure on lot 8 and adjoining lots as woodland, the separation distance for a “grassland” fuel type have been used to determine the extent of the minimum hazard management area widths for BAL-19 for a nominal 15m by 10m building area on new lot. This assessment is supported by the Tasmania Fire Service.

The building area on new lot 1 has been located so that a driveway on the lot to the west and the managed garden around the existing dwelling on the lot to the east provide an extension of the hazard management area in these directions.

The balance lot has sufficient area to allow a hazard management area for a nominal 15m by 10m building area to be established within the lot. The existing dwelling that will be retained on the balance lot is located in the south-eastern corner of the lot approximately 10m from the beach. There is an existing approximately 5m wide hazard management area between the house and a narrow strip of grassland along the beach. There is an approximately 6m wide hazard management area on the eastern side of the house consisting of an access track to the beach. Although the hazard management areas on the southern and eastern sides of the house do not meet the requirements of AS 3959-2018 and are maintained on a coastal reserve and local government access road respectively, the proximity of the house to the beach means it is at relatively low risk from bushfire and the existing hazard management area is considered sufficient.

Hazard management area (HMA) widths

Lot number	Direction	Hazard type	Hazard location	HMA width
1 BAL-19	N	grassland	upslope	10m
	S	woodland	downslope 5° to 10°	23m
	E	grassland	across slope	10m (to lot boundary)
	W	grassland	across slope	10m (to lot boundary)
Balance lot BAL-19	N	woodland	upslope	15m
	S	grassland	flat land	10m
	E	forest	flat land	23m
	W	woodland	upslope	15m

Requirements

All future Class 1 to 9 buildings in the proposed subdivision (and any Class 10 buildings within 6m of a Class 1 to 9 building) should be surrounded by a hazard management area having the minimum widths indicated in the table above for their particular location. The extent of this hazard management area for nominal 10m by 15m building areas is shown on the bushfire hazard management plan.

6.1.1 Establishing and Landscaping Hazard Management Areas

The hazard management areas for the nominal building envelopes on new lot 1 and the balance lot would be established on existing grassland. No existing trees would need to be removed to establish the hazard management areas.

Any future landscaping within the hazard management areas in the proposed subdivision should aim to achieve a living fuel component which is both discontinuous and of low flammability. Once established hazard management areas must be maintained for the life of the development ensuring fine fuels are reduced sufficiently and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

General recommendations for landscaping the hazard management area include:

- use only mown lawn, bare ground (driveways, paths etc.) or non-flammable succulent ground cover plants immediately adjacent to buildings and decks (within 2 to 5 metres)
- maximum tree canopy cover should be less than 30%, and maximum shrub canopy cover less than 20%
- trees and shrubs should be isolated or in small clumps; avoid continuous canopies
- trees should not be planted closer to buildings than their expected full height
- avoid planting or retaining trees and shrubs with rough fibrous bark, or which retain shed bark in long strips (ribbon bark) (e.g. any of the stringybark group of eucalypts)
- avoid planting or retaining trees and shrubs that retain dead material in their canopies (e.g. most conifers, and most *Melaleuca* and *Leptospermum* species)
- avoid planting or retaining shrubs under trees and prune low hanging tree branches
- avoid planting or retaining trees and shrubs that deposit large quantities of litter in a short period, particularly in spring and summer
- canopies of trees and shrubs should not touch walls or overhang the dwelling
- avoid vines on walls and pergolas
- use non flammable mulches such as gravel.
- Locate any combustible materials, such as woodpiles, flammable fuel stores etc., away from *buildings*.

Landscaping the hazard management area with indigenous and/or introduced species of relatively low flammability would be ideal. This would ensure that the vegetation itself is of relatively low flammability, and reduce the amount of maintenance required to maintain fuel free conditions. The Victorian Country Fire Authority publication *Landscaping for Bushfire: Garden Design and Plant Selection* includes an easy to use key for selecting relatively low flammability plants suitable for planting in a hazard management area.

6.2 Vehicle Access

Explanation

In order to defend a development from a bushfire, fire brigade vehicles require safe access to the buildings in the development, and room to turn the vehicle close to the buildings. Residents also require a safe route for evacuation should this be required during a bushfire. Clause C13.6.2 of the Bushfire-Prone Areas Code has the objective that: "Access roads to, and the layout of roads, tracks and trails, in a subdivision:

- (a) allow safe access and egress for residents, fire fighters and emergency service personnel;
- (b) provide access to the bushfire-prone vegetation that enables properties to be defended when under bushfire attack and for hazard management works to be undertaken;
- (c) are designed and constructed to allow for fire appliances to be manoeuvred;
- (d) provide access to water supplies for fire appliances; and
- (e) are designed to allow connectivity, and where needed, offering multiple evacuation points."

Table C13.1 of the Bushfire-Prone Areas Code contains the requirements for public roads, Table C13.2 the requirements for private access roads and Table C13.3 the requirements for fire trails.

Assessment

There are no public roads within the proposed subdivision and no fire trails are required. New lot 1 would be accessed along a private driveway from a laneway running off Knights Road, an unsealed, two-way, dead-end road that connects to Fulham Road a sealed, main road to the north. A fire appliance turning area is required close to the future dwelling on new lot 1 as indicated on the attached bushfire hazard management plan. The actual location of the access driveway and fire appliance turning area for new lot 1 would need to be determined at the time of building design in accordance with the requirements of Table C13.2(B) of the Code. As the length of the proposed driveway is less than 200m vehicle passing bay are not required. The indicative route of the driveway on new lot 1 has been estimated to have a gradient less than 10 degrees. This will need to be confirmed at construction and any sections of the driveway that exceed 10 degrees would need to be sealed.

Knights Road and the existing access laneway meet the access requirements in the Bushfire-Prone Areas Code for the proposed subdivision.

The existing dwelling on the property that would be retained on the balance lot is accessed via the laneway from Knights Road. There is currently no formal driveway or fire appliance turning area on the proposed balance lot. A compliant fire appliance turning area for the balance lot would be created at the junction of the access driveway to new lot 1 with the laneway when the new driveway is constructed (see attached bushfire hazard management plan). Alternatively, a fire appliance turning area could be provided within the balance lot.

Requirements

The private driveway to proposed new lot 1 from Knights Road would need to meet the requirements of Table C13.2(B) of the Code (see below) unless the development standards for the zone require a higher standard:

- (a) all weather construction
- (b) load capacity of at least 20t, including for bridges and culverts;
- (c) minimum carriageway width of 4m;
- (d) minimum vertical clearance of 4m;
- (e) minimum horizontal clearance of 0.5m from the edge of the carriageway;
- (f) cross falls of less than 3 degrees (1:20 or 5%);
- (g) dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
- (h) curves with a minimum inner radius of 10m;
- (i) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
- (j) terminate with a turning area for fire appliances provided by one of the following:
 - (i) a turning circle with a minimum outer radius of 10m; or
 - (ii) a property access encircling the building; or
 - (iii) a hammerhead "T" or "Y" turning head 4m wide and 8m long.

A compliant fire appliance turning is to be provided at the entrance to the balance lot.

6.3 Water Supply

Explanation

A plentiful water supply is essential for defending property from bushfires and for fighting internal (structural) fires. This can be provided from a fire hydrant if the proposed development has a reticulated supply, or from a water storage on site dedicated for fire fighting. The requirements for fire hydrants and stored water supplies are set out in Clause C13.6.3 of the Bushfire-prone Areas Code.

Assessment

The proposed subdivision would not be provided with a reticulated water supply. Therefore future dwellings would need to rely on stored water supplies for fire fighting. The Bushfire-prone Areas Code requires that a static water supply, dedicated to fire fighting, be provided and located compliant with Table C13.5 of the Code. Indicative static water supply tanks for new lot 1 and the balance lot are shown on the attached bushfire hazard management plan. They have been located adjacent to the fire appliance turning areas that would provide the hardstand. The actual location of the water supply for fire fighting on each new lot would need to be determined at the time of building design in accordance with the requirements below.

Requirements

The requirements for stored water supplies for fire fighting in Table C13.5 of the Bushfire-prone Areas Code are:

Element	Requirement
Distance between building area to be protected and water supply.	<p>The following requirements apply:</p> <ul style="list-style-type: none"> (a) the building area to be protected must be located within 90m of the fire fighting water point of a static water supply; and (b) the distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.
Static Water Supplies	<p>A static water supply:</p> <ul style="list-style-type: none"> (a) may have a remotely located off take connected to the static water supply; (b) may be a supply for combined use (firefighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times; (c) must be a minimum of 10,000l per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems; (d) must be metal, concrete or lagged by non-combustible materials if above ground; and (e) if a tank can be located so it is shielded in all directions in compliance with section 3.5 of <i>Australian Standard AS 3959-2018 Construction of buildings in bushfire-prone areas</i>, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by: <ul style="list-style-type: none"> (i) metal; (ii) non-combustible material; or (iii) fibre-cement a minimum of 6mm thickness.
Fittings, pipework and accessories (including stands and tank supports)	<p>Fittings and pipework associated with a fire fighting water point for a static water supply must:</p> <ul style="list-style-type: none"> (a) have a minimum nominal internal diameter of 50mm; (b) be fitted with a valve with a minimum nominal internal diameter of 50mm; (c) be metal or lagged by non-combustible materials if above ground; (d) if buried, have a minimum depth of 300mm; (e) provide a DIN or NEN standard forged Storz 65mm coupling fitted with a suction washer for connection to fire fighting equipment; (f) ensure the coupling is accessible and available for connection at all times; (g) ensure the coupling is fitted with a blank cap and securing chain (minimum 220mm length); (h) ensure underground tanks have either an opening at the top of not less than 250mm diameter or a coupling compliant with this Table; and (i) if a remote off take is installed, ensure the off take is in a position that is: <ul style="list-style-type: none"> (i) visible; (ii) accessible to allow connection by fire fighting equipment; (iii) at a working height of 450 – 600mm above ground level; and (iv) protected from possible damage, including damage by vehicles.

Element	Requirement
Signage for static water connections.	<p>The fire fighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:</p> <ul style="list-style-type: none"> (a) comply with water tank signage requirements within Australian Standard AS 2304:2019 Water storage tanks for fire protection systems; or (b) comply with the Tasmania Fire Service Water Supply Guideline published by the Tasmania Fire Service.
Hardstand	<p>A hardstand area for fire appliances must be:</p> <ul style="list-style-type: none"> (a) no more than 3m from the fire fighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); (b) no closer than 6m from the building area to be protected; (c) a minimum width of 3m constructed to the same standard as the carriageway; and (d) connected to the property access by a carriageway equivalent to the standard of the property access.

6.4 Building Construction

Construction standards for buildings in bushfire-prone areas are set out in Australian Standard 3959-2018, Construction of Buildings in Bushfire-prone Areas. The Bushfire-prone Areas Code requires that new Class 1 to 9 buildings (and any Class 10 buildings within 6 m of a Class 1 to 9 building) within the proposed subdivision be constructed to BAL-19 in AS 3959-2018.

6.5 Limitations and Maintenance

The bushfire protection measures specified in this report are the minimum required to ensure a building has a reasonable level of protection from a bushfire on a day when the forest fire danger index is less than 50.

It should be emphasised that no development in a bushfire prone area, however well it is designed or sited, is entirely safe from fires. Any additional bushfire protection measures incorporated into the proposed development, as well as active protection of buildings during a bushfire, will increase their chances of surviving a major bushfire. It should be noted that a building provided with the level of protection recommended in this report will not necessarily be considered defensible by the Tasmania Fire Service, especially when the forest fire danger index exceeds 50.

The effectiveness of the bushfire protection measures incorporated into the proposed subdivision and future dwellings will be reduced if they are not properly maintained. Inspection and maintenance of bushfire protection measures should be carried out each year before the beginning of the bushfire danger period in November, and regularly during the bushfire danger period. Dead leaves, dry grass etc. within the hazard management areas should be regularly removed and grass kept to less than 100mm in height to ensure that there is not enough fuel on the ground to sustain a fire under extreme conditions.

7 References

Australian Standard 3959-2018 *Construction of Buildings in Bushfire-prone Areas*. Standards Australia, Sydney.

Building Act 2016, Director's Determination - *Bushfire Hazard Areas (version 1.1, 8/4/21)*

Country Fire Authority (2022) *Landscaping for Bushfire: Garden Design and Plant Selection*. Victorian Country Fire Authority, Melbourne.

Tasmanian Planning Scheme, Version 5 (2023) *Bushfire Prone-Areas Code*. Tasmanian Planning Commission, Hobart.

J. B. MEDBURY PROPOSED SUBDIVISION

Ph. (03) 62 4850893
Email: medbury@opplusnet.com.au

OWNER: ESTATE OF G V A LAWLER

LOCATION 14 KNIGHTS ROAD

IMPORTANT NOTE

This plan was prepared for EST OF G V A LAWLER as a proposed subdivision application to the SORELL COUNCIL and should not be used for any other purpose. The dimensions, areas and total number of lots shown hereon are subject to field survey and also to the requirements of council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land. This note is an integral part of this plan.

FOLIO REF: FR 80986/8

CONNELLYS MARSH

PROPOSED EASEMENTS as shown

GRANTEE PART OF LOT 31478 819-2-20 GTD TO DONALD GEORGE DODDERIDGE

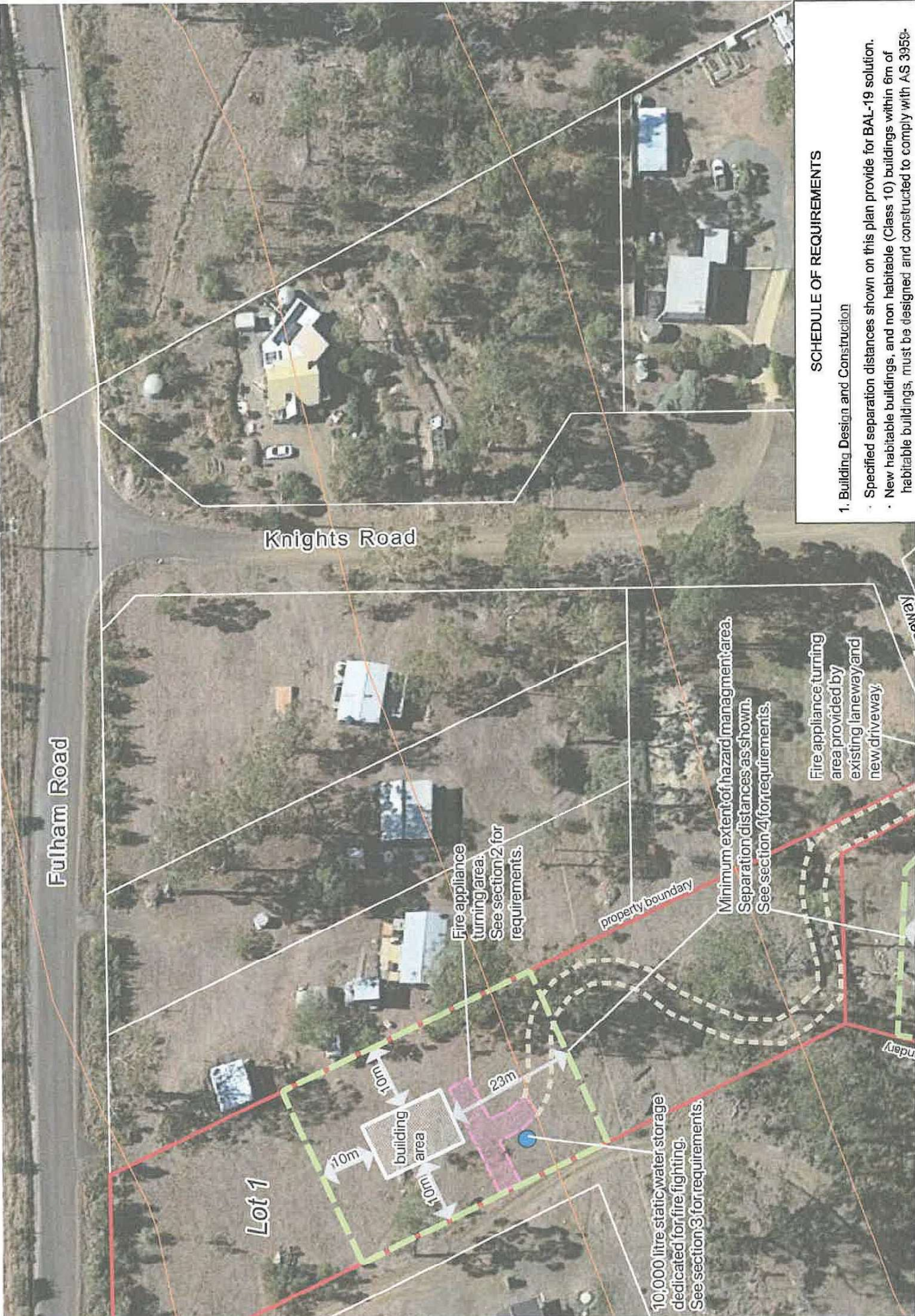
Scale: 1:1000

Municipality: SORELL

Date: 19-09-2023
Am "B" 02-11-2023

Ref No. 93057_bfh
(10947)





SCHEDULE OF REQUIREMENTS

1. Building Design and Construction
 - Specified separation distances shown on this plan provide for BAL-19 solution.
 - New habitable buildings, and non habitable (Class 10) buildings within 6m of habitable buildings, must be designed and constructed to comply with AS 3959.

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE¹ UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

1. Land to which certificate applies

The subject site includes property that is proposed for use and development and includes all properties upon which works are proposed for bushfire protection purposes.

Street address:

14 Knights Road, Connellys Marsh, 7173

Certificate of Title / PID:

80986/8

2. Proposed Use or Development

Description of proposed Use and Development:

Residential subdivision, 1 lot plus balance lot

Applicable Planning Scheme:

Tasmanian Planning Scheme - Sorell

3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Bushfire Risk Assessment and Management Measures, Proposed Residential Subdivision 14 Knights Road, Connellys Marsh	AVK Environmental Management	8 December 2023	Rev 1
Bushfire Hazard Management Plan, Proposed residential subdivision, 14 Knights Road, Connellys Marsh, Title Reference 80986/8	AVK Environmental Management	8 December 2023	Rev 1
Plan of Subdivision, estate of G V A Lawler, 14 Knights Road, Connellys Marsh	J. B. Medbury, Surveyor, 159 Cilwen Road, Cambridge 7170	02 November 2023	Am "B"

¹ This document is the approved form of certification for this purpose and must not be altered from its original form.

4. Nature of Certificate

The following requirements are applicable to the proposed use and development:

<input type="checkbox"/> E1.4 / C13.4 – Use or development exempt from this Code	
Compliance test	Compliance Requirement
<input type="checkbox"/> E1.4(a) / C13.4.1(a)	Insufficient increase in risk

<input type="checkbox"/> E1.5.1 / C13.5.1 – Vulnerable Uses	
Acceptable Solution	Compliance Requirement
<input type="checkbox"/> E1.5.1 P1 / C13.5.1 P1	<i>Planning authority discretion required. A proposal cannot be certified as compliant with P1.</i>
<input type="checkbox"/> E1.5.1 A2 / C13.5.1 A2	Emergency management strategy
<input type="checkbox"/> E1.5.1 A3 / C13.5.1 A2	Bushfire hazard management plan

<input checked="" type="checkbox"/> E1.5.2 / C13.5.2 – Hazardous Uses	
Acceptable Solution	Compliance Requirement
<input type="checkbox"/> E1.5.2 P1 / C13.5.2 P1	<i>Planning authority discretion required. A proposal cannot be certified as compliant with P1.</i>
<input type="checkbox"/> E1.5.2 A2 / C13.5.2 A2	Emergency management strategy
<input type="checkbox"/> E1.5.2 A3 / C13.5.2 A3	Bushfire hazard management plan

<input checked="" type="checkbox"/> E1.6.1 / C13.6.1 Subdivision: Provision of hazard management areas	
Acceptable Solution	Compliance Requirement
<input type="checkbox"/> E1.6.1 P1 / C13.6.1 P1	<i>Planning authority discretion required. A proposal cannot be certified as compliant with P1.</i>
<input type="checkbox"/> E1.6.1 A1 (a) / C13.6.1 A1(a)	Insufficient increase in risk
<input checked="" type="checkbox"/> E1.6.1 A1 (b) / C13.6.1 A1(b)	Provides BAL-19 for all lots (including any lot designated as 'balance')
<input type="checkbox"/> E1.6.1 A1(c) / C13.6.1 A1(c)	Consent for Part 5 Agreement

<input checked="" type="checkbox"/> E1.6.2 / C13.6.2 Subdivision: Public and fire fighting access		
	Acceptable Solution	Compliance Requirement
<input type="checkbox"/>	E1.6.2 P1 / C13.6.2 P1	<i>Planning authority discretion required. A proposal cannot be certified as compliant with P1.</i>
<input type="checkbox"/>	E1.6.2 A1 (a) / C13.6.2 A1 (a)	Insufficient increase in risk
<input checked="" type="checkbox"/>	E1.6.2 A1 (b) / C13.6.2 A1 (b)	Access complies with relevant Tables

<input checked="" type="checkbox"/> E1.6.3 / C13.1.6.3 Subdivision: Provision of water supply for fire fighting purposes		
	Acceptable Solution	Compliance Requirement
<input type="checkbox"/>	E1.6.3 A1 (a) / C13.6.3 A1 (a)	Insufficient increase in risk
<input type="checkbox"/>	E1.6.3 A1 (b) / C13.6.3 A1 (b)	Reticulated water supply complies with relevant Table
<input type="checkbox"/>	E1.6.3 A1 (c) / C13.6.3 A1 (c)	Water supply consistent with the objective
<input type="checkbox"/>	E1.6.3 A2 (a) / C13.6.3 A2 (a)	Insufficient increase in risk
<input checked="" type="checkbox"/>	E1.6.3 A2 (b) / C13.6.3 A2 (b)	Static water supply complies with relevant Table
<input type="checkbox"/>	E1.6.3 A2 (c) / C13.6.3 A2 (c)	Static water supply consistent with the objective

5. Bushfire Hazard Practitioner

Name:	Axel von Krusenstierna	Phone No:	0412141955
Postal Address:	553 Dorans Road, Sandford, 7020	Email Address:	avkem@optusnet.com.au
Accreditation No:	BFP – 100,	Scope:	1, 2, 3A, 3B, 3C

6. Certification

I certify that in accordance with the authority given under Part 4A of the *Fire Service Act 1979* that the proposed use and development:

- Is exempt from the requirement Bushfire-Prone Areas Code because, having regard to the objective of all applicable standards in the Code, there is considered to be an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measures, or
- The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer's requirements and compliant with the relevant **Acceptable Solutions** identified in Section 4 of this Certificate.

Signed:
certifier

A. von Krusenstierna

Name:

Axel von Krusenstierna

Date: 8 December 2023

Certificate
Number: 07/2023

(for Practitioner Use only)