

## NOTICE OF PROPOSED DEVELOPMENT

Notice is hereby given that an application has been made for planning approval for the following development:

## SITE: 1 Correa Street, Primrose Sands

## PROPOSED DEVELOPMENT: 2 LOT SUBDIVISION

The relevant plans and documents can be inspected at the Council Offices at 47 Cole Street, Sorell during normal office hours, or the plans may be viewed on Council's website at <u>www.sorell.tas.gov.au</u> until **Tuesday 4<sup>th</sup> February 2025**.

Any person may make representation in relation to the proposal by letter or electronic mail (sorell.council@sorell.tas.gov.au) addressed to the General Manager. Representations must be received no later than **Tuesday 4<sup>th</sup> February 2025**.

APPLICANT: Rogerson & Birch Surveyors

 APPLICATION NO:
 SA 2024 / 00026 - 1

 DATE:
 17 January 2025

### Part B: Please note that Part B of this form is publicly exhibited.

Full description of Proposal:	Use:						
	Development: Proposed Subdivision						
	Large or complex proposals should be	e described in a letter or planning report.					
Design and const	ruction cost of proposal:	\$					

Is all, or some the work already constructed:

No: 🗖 Yes: 🗖

Location of	Street address:
proposed works:	Suburb: Primrose Sands Postcode: 7173
	Certificate of Title(s) Volume:

Current Use of	Residential
Site	

Current

Owner/s:

Name(s). Peter Earl Cousins & Catherine Jane Cousins .....

Is the Property on the Tasmanian Heritage Register?	No: 🗹 Yes: 🗖	lf yes, please provide written advice from Heritage Tasmania				
Is the proposal to be carried out in more than one stage?	No: 🗹 Yes: 🗖	If yes, please clearly describe in plans				
Have any potentially contaminating uses been undertaken on the site?	No: 🗖 Yes: 🗖	If yes, please complete the Additional Information for Non-Residential Use				
Is any vegetation proposed to be removed?	No: 🔲 Yes: 🗖	<i>If yes, please ensure plans clearly show area to be impacted</i>				
Does the proposal involve land administered or owned by either the Crown or Council?	No: 🗹 Yes: 🗖	If yes, please complete the Council or Crown land section on page 3				
If a new or upgraded vehicular crossing is required from Council to the front boundary please						
complete the Vehicular Crossing (and Associated Works) application form						
https://www.sorell.tas.gov.au/services/engir	neering/					

Development Application: Development Application - 1 Correa Street, Primrose Sands P1.pdf

Plans Reference:P1 Date Received: 30/10/2024

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### Declarations and acknowledgements

- I/we confirm that the application does not contradict any easement, covenant or restriction specified in the Certificate of Title, Schedule of Easements or Part 5 Agreement for the land.
- I/we consent to Council employees or consultants entering the site and have arranged permission and/or access for Council's representatives to enter the land at any time during normal business hours.
- I/we authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation and have permission of the copyright owner for such copies.
- I/we declare that, in accordance with s52(1) of the Land Use Planning and Approvals Act 1993, that I have notified the owner(s) of the intention to make this application.
- I/we declare that the information in this application is true and correct.

Details of how the Council manages personal information and how you can request access or corrections to it is outlined in Council's Privacy Policy available on the Council website.

- I/we acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process, for display purposes during public exhibition, and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.
- Where the General Manager's consent is also required under s.14 of the *Urban Drainage Act 2013*, by making this application I/we also apply for that consent.

**Applicant Signature:** 

whiley\_ Signature: 🦾 ... Date:

### Crown or General Manager Land Owner Consent

If the land that is the subject of this application is owned or administered by either the Crown or Sorell Council, the consent of the relevant Minister or the Council General Manager whichever is applicable, must be included here. This consent should be completed and signed by either the General Manager, the Minister, or a delegate (as specified in s52 (1D-1G) of the Land Use Planning and Approvals Act 1993).

Please note:

- If General Manager consent if required, please first complete the General Manager consent application form available on our website <u>www.sorell.tas.gov.au</u>
- If the application involves Crown land you will also need a letter of consent.
- Any consent is for the purposes of making this application only and is not consent to undertaken work or take any other action with respect to the proposed use or development.

 SUBDIVISION WASTEWATER ASSESSMENT

1 Correa Street Primrose Sands October 2024



## GEO-ENVIRONMENTAL SOLUTIONS



Development Application: Development Application - 1 Correa Street, Primrose Sands P1.pdf Plans Reference:P1 Date Received: 30/10/2024

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## **Investigation Details**

Client:	Rogerson & Birch Surveyors
Site Address:	1 Correa Street, Primrose Sands
Date of Inspection:	05/09/2024
Proposed Works:	Subdivision
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

### **Site Details**

Certificate of Title (CT):	109772/17
Title Area:	Approx. 2 ha
Applicable Planning Overlays:	Bushfire-prone Areas
	Flood-prone Area
	Priority Vegetation Area
Slope & Aspect:	Approx. 9% E facing slope
Vegetation:	Grass & Weeds

## **Background Information**

Geology Map:	MRT
Geological Unit:	Quaternary sediments
Climate:	Annual rainfall approx. 500mm
Water Connection:	Tank
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	AS1547:2012



### **Investigation**

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below. Tests were conducted to assess the capacity of the materials for onsite wastewater disposal according to AS1547:2012.

### Soil Profile Summary

Test hole Depth (m)	Horizon	Description
0.00 - 0.40	A1	Dark Grey Brown <b>SAND (SW)</b> : moist medium dense consistency, gradual boundary to
0.40 – 1.60	A2	Grey <b>SAND (SW)</b> : slightly moist loose consistency, gradual boundary to
1.60 – 2.0+	A3	Brown <b>Clayey SAND (SC)</b> : moist medium dense consistency, lower boundary undefined.

### **Site Notes**

The site features moderately deep soils formed from Quaternary sediments. These soils are highly permeable with low CEC and nutrient retention capacity for onsite wastewater disposal.

### **Site Summary**

The current proposal is for the subdivision of the existing title (CT: 109772/17, approx. 2 ha) into two lots. Proposed Lots 1 (balance lot) and 2 will each have an area of approx. 1 ha. Site investigation found the soil profile on both lots to be deep sands. No groundwater was encountered during investigations. The soils across the site area classified according to AS1547-2012 as **Category 1 – SAND**.

### **Nutrient Balance and Sustainable Wastewater Application**

The soils across the entire site are developed from alluvial Quaternary sediments with a low Cation Exchange Capacity (CEC). Therefore, the soils have a limited capacity to retain nutrients from applied wastewater.



### Hydrological Balance and Wastewater Disposal

The existing dwelling on the balance lot is serviced by a primary treatment system that is located with sufficient distance from the proposed boundaries of the subdivision. As such, the balance lot is not included within this assessment given that the system is not expected to be impacted by the proposed subdivision. Modelling of wastewater application on the proposed lots was undertaken using the Trench program, long term weather average for Primrose Sands, and the observed soil profile characteristics.

Assuming the construction of a three-bedroom dwelling with a typical domestic wastewater loading, the expected loading under AS1547-2012 is 600L/day. This is based on a tank water supply with an average daily use of 5 people at 120L/person/day. For a primary treatment system with a Design Loading Rate (DLR) of 20L/m<sup>2</sup>/day, an absorption area of 30m<sup>2</sup> would be required. A secondary treatment system (e.g., package treatment system with subsurface irrigation) would require a minimum irrigation area of 120m<sup>2</sup> using a Design Irrigation Rate (DIR) of 5mm/day.

The assessment concludes that the proposed new lot would be sufficient to accommodate wastewater from future residential development. Consideration has been given to the Flood-prone Areas overlay, which leaves adequate space to accommodate onsite wastewater disposal, subject to the configuration of the site as plans for site development are produced.

It is recommended the final decision of wastewater system approval rest with the permit authority at the time of site-specific design to ensure the most compatible environmental and economic outcomes. Therefore, it is not warranted to restrict the lot to a single wastewater system type at the subdivision approvals stage, as each dwelling will have individual nuances which may be more suited to any one of a range of designs allowable within AS1547-2012. The land application area is to be excluded from traffic or any future building works. For each lot a 100% reserve area should be set aside for future wastewater requirements.

A number of indicative minimum boundary setbacks applicable to the development have been modelled based on the average slope of 5° utilising the Trench program and with reference to the Building Act 2016 wastewater guidelines;

- Boundaries (upslope/across slope) 1.5m
- Boundaries down slope primary 10m, secondary 6.5m
- Buildings down slope primary 9m, secondary 3.25m
- Down slope surface water 100m

Wastewater disposal on all lots will take into account any drainage lines, water courses, and landslide hazard areas.



### **Conclusions**

The current subdivision proposal allows for sufficient space on the proposed lots to be created for the installation and successful operation of wastewater treatment systems, with adequate setbacks in regards boundaries and sensitive features. The actual setbacks applied will require fine tuning at the special plumbing permit stage as access, parking, and building footprints are finalised in conjunction with wastewater disposal areas. Modelling at this planning stage does however suggest that sufficient room is available on the proposed lots to accommodate the required setbacks.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD Director



### Disclaimer

This Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the Client. To the best of GES's knowledge, the information presented herein represents the client's requirements at the time of printing of the Report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that discussed in this Report. In preparing this Report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this Report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible geotechnical parameter or the soil conditions over the whole area of the site. Soil and rock samples collected from the investigation area are assumed to be representative of the areas from where they were collected and not indicative of the entire site. The conclusions discussed within this report are based on observations and/or testing at these investigation points.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required.

No responsibility is accepted for use of any part of this report in any other context or for any other purpose by third a party.



### GES

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

### **Assessment Report**

### Site assessment for on-site waste water disposal

Assessment for	Rogerson & Birch Surveyors	Assess. Date	14-Oct-24
		Ref. No.	
Assessed site(s)	1 Correa Street, Primrose Sands	Site(s) inspected	5-Sep-24
Local authority	Sorell	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and sustem sizing and design issues. Site Capability and Environmental sensitivity issues are reported separately, where 'Alert' columns flag factors with high (A) or very high (AA) limitations which probably require special consideration for system design(s). Blank spaces on this page indicate data have not been entered into TRENCH.

#### Wastewater Characteristics

Wastewater volume (L/day) used for this assessment = 600

- Septic tank wastewater volume (L/day) = 200
  - Sullage volume (L/day) = 400
- Total nitrogen (kg/year) generated by wastewater = 1.8

Total phosphorus (kg/year) generated by wastewater = 1.2

#### Climatic assumptions for site

(using the 'No. of bedrooms in a dwelling' method)

(Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	41	36	36	45	36	29	46	47	40	48	44	56
Adopted rainfall (R, mm)	41	36	36	45	36	29	46	47	40	48	44	56
Retained rain (Rr, mm)	37	32	32	41	32	26	41	42	36	43	40	50
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	93	78	59	23	10	3	-10	0	27	41	65	76
					Annı	ial evapotr	anspiratio	n less ret	ained rain	(mm) =	4	63

Annual evapotranspiration less retained rain (mm) =

#### Soil characterisitics

#### Texture = SAND

Adopted LTAR (L/sq m/day) = 20

Category = 1 Thick. (m) = 2Min depth (m) to water = 5

### Proposed disposal and treatment methods

Adopted permeability (m/day) = 3

Proportion of wastewater to be retained on site: The preferred method of on-site primary treatment: The preferred method of on-site secondary treatment: The preferred type of in-ground secondary treatment: The preferred type of above-ground secondary treatment: Site modifications or specific designs: All wastewater will be disposed of on the site In dual purpose septic tank(s) In-ground

Trench(es) None

#### Not needed

#### Suggested dimensions for on-site secondary treatment system

Total length (m) =	20
Width $(m) =$	1.5

- Depth (m) = 06
- Total disposal area (sq m) required = 60
- comprising a Primary Area (sg m) of: 30
- and a Secondary (backup) Area (sq m) of: 30

### Sufficient area is available on site

Comments

The proposed lot has been modelled on a typical three-bedroom dwelling with a primary treatment system. Using the DLR for primary treated effluent of 20L/m<sup>2</sup>/day within a Category 1 soil, an absorption area of at least 30m<sup>2</sup> would be required. This is for modelling purposes only and may not be suitable for future development on the site - final system and design to be subject to developed site plans.



GES

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

### Site Capability Report Site assessment for on-site waste water disposal

Assessment for	Rogerson & Birch Surveyors	Assess. Date	14-Oct-24
		Ref. No.	
Assessed site(s)	1 Correa Street, Primrose Sands	Site(s) inspected	5-Sep-24
Local authority	Sorell	Assessed by	John Paul Cumming

This report summarises data relating to the physical capability of the assessed site(s) to accept wastewater. Environmental sensitivity and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) site limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

				Confid	Lim	itation	
Alert	Factor	Units	Value	level	Trench	Amended	Remarks
	Expected design area	sq m	5,000	V. high	Very low		
	Density of disposal systems	s /sq km	5	Mod.	Very low		
	Slope angle	degrees	5	High	Very low		
	Slope form	Straight s	simple	High	Low		
	Surface drainage		Good	High	Very low		
	Flood potential	Site floods <1:1	00 yrs	High	Very low		
	Heavy rain events	Infre	equent	High	Moderate		
	Aspect (Southern hemi.)	Faces E	or W	V. high	Moderate		
	Frequency of strong winds	Со	mmon	High	Low		
	Wastewater volume	L/day	600	High	Moderate		
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	2.0	V. high	Very low		
	Depth to bedrock	m	2.5	V. high	Very low		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		5.5	High	Low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	8	V. high	Very low		
	Adopted permeability	m/day	3	Mod.	Very high	Moderate	Other factors lessen impact
	Long Term Accept. Rate	L/day/sq m	20	High	Low	Moderate	

Comments

The site has the capability to accept disposal of wastewater.



GES

Land suitability and system sizing for on-site wastewater management Trench 3.0 (Australian Institute of Environmental Health)

### Environmental Sensitivity Report Site assessment for on-site waste water disposal

Assessment for	Rogerson & Birch Surveyors	Assess. Date	14-Oct-24
		Ref. No.	
Assessed site(s)	1 Correa Street, Primrose Sands	Site(s) inspected	5-Sep-24
Local authority	Sorell	Assessed by	John Paul Cumming

This report summarises data relating to the environmental sensitivity of the assessed site(s) in relation to applied wastewater. Physical capability and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

				Confid	Lim	itation	
Alert	Factor	Units	Value	level	Trench	Amended	Remarks
AA	Cation exchange capacity	mmol/100g	25	High	Very high		
Α	Phos. adsorp. capacity	kg/cub m	0.2	High	High		
	Annual rainfall excess	mm	-463	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	3.1	High	Very low		
	G'water environ. value	Agric non-s	ensit	V. high	Low		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores	Ve	ry low	V. high	Very low		
	Surf. water env. value Agi	ric sensit/dom	drink	V. high	Moderate		
	Dist. to nearest surface water	m	130	V. high	Moderate		
	Dist. to nearest other feature	m	50	V. high	Moderate		
	Risk of slope instability		Low	V. high	Low		
L	Distance to landslip	m	70	V. high	Moderate		

Comments

The soils on site have a sandy texture and low CEC, therefore the soil system has a low capacity to cope with the applied nutrient load. To manage this, it is recommended to plant deep rooted grasses and perennial species to aid in nutrient uptake.



## S O L U T I O N S

## Proposed Subdivision 1 Correa Street, Primrose Sands Bushfire Hazard Report



Applicant: P & C Cousins September 2024, J10839v1

### Sorell Council

Development Application: Development Application - 1 Correa Street, Primrose Sands P1.pdf Plans Reference:P1 Date Received: 30/10/2024

Geo-Environmental Solutions - 29 Kirksway Place, Battery point, Tasmania, 7004. Phone: 036223 1839 Email: Web: www.geosolutions.net.au

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Appendix A - P	lan of Subdivision
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- Appendix B BAL assessment tables
- Appendix C Bushfire Hazard Management Plan
- Appendix D Planning Certificate
- Appendix E Certificate of Others (form 55)

### 1.0 Introduction

This Bushfire Hazard Report has been completed to form part of supporting documentation for a planning permit application for a proposed subdivision. The proposed subdivision occurs in a Bushfire-prone Area defined by the Tasmanian Planning Scheme Sorell (the Scheme). This report has been prepared by Mark Van den Berg a qualified person under Part 4a of the *Fire Service Act 1979* of Geo Environmental Solutions Pty Ltd for P & C Cousins

The report considers all the relevant standards of Code C13 of the planning scheme, specifically;

- The requirements for appropriate Hazard Management Areas (HMA's) in relation to building areas;
- The requirements for Public and Private access;
- The provision of water supplies for firefighting purposes;
- Compliance with the planning scheme, and
- Provides a Bushfire Hazard Management Plan to facilitate appropriate compliant future development.

### 2.0 Proposal

The subdivision of land resulting ion two lots is proposed as per the proposed plan of subdivision in appendix A. Public access to new lots will be provided by existing public roadways. The development is proposed to occur as a single stage. Lot 1 Contains existing residential development; Lot 2 is undeveloped vacant land.

### 3.0 Site Description

The subject site comprises private land on a single title at 1 Correa Street, Primrose Sands, CT: 109772/17 (Figure 1). Located in the municipality of Sorell, this application is administered through the Tasmanian Planning Scheme - Sorell, which makes provision for subdivision. The proposed development falls within the Rural Living zone.

The site is situated to the north-east of the Primrose Sands settled area, approximately 1 km north north-east of Primrose Point (Figure 1). It is characterized by rural residential development on large lots (generally >1 hectare) with significant retention of native vegetation. The sites feature gentle to moderate slopes with easterly aspects. Surrounding lots are mostly developed and contain, variously, low-threat, grassland and woodland vegetation (Figure 2), in addition to residential development.



Figure 1. The site in a topographical context, pink line defines the subdivision boundary (approx.).



Figure 2. Aerial image of the site, pink line defines the approximate subdivision boundary.

### 4.0 Bushfire Hazard Assessment

### 4.1 Vegetation

The site and adjacent lands within 100 metres of the proposed building areas carry a mosaic of grassland and native woodland vegetation which is fragmented, the varying extents, by residential development and associated low threat vegetation. Lands to the north, south and west are dominated by residential development on lots between approximately 1Ha to 2 Ha in extent. Lands to the east carry residential development on smaller lots (~<0.1Ha) (figures 3 to 5). The highest risk vegetation occurs in the north-western quadrant from the sites.

### 4.2 slopes

The effective slopes in relation to the proposed new lots are gentle to moderate (0 to 10 degrees) and may influence the bushfire attack at the sites.



Figure 3. Existing development within lo1 from the building area within lot 2.



Figure 4. Low threat vegetation looking north from the building area on lot 1.



Figure 5. Woodland vegetation to the north of the building area within Lot 2.

### 4.3 Bushfire Attack Level

An assessment of vegetation and topography was undertaken within and adjacent to the subdivision area. A bushfire attack level assessment as per *AS3959-2018* was completed which has determined setbacks for each building area from bushfire-prone vegetation such that subsequent residential development does not exceed BAL-19 of AS3959-2018 (appendix B). This process defined the building area for lot 2, the building area on lot 1 reflects the footprint of existing development. The building areas and bushfire attack level are marked on the BHMP.

### 5.0 Bushfire Prone Areas Code

Code C13 of the planning scheme articulates requirements for the provision of hazard management areas, standards for access and firefighting water supplies and requirements for hazard management for staged subdivisions.

### 5.1 Hazard Management Areas

Hazard management areas are required to be established and/or maintained for both lots, they provide an area around the building within which fuels are managed to reduce the impacts of direct flame contact, radiant heat and ember attack on the site. Lot 1 will require the HMA to be established prior to the sealing of titles.

The Bushfire Hazard Management Plan (BHMP) shows building areas (for habitable buildings) and the associated HMA's for each lot, guidance for establishment and maintenance of HMA's is provided below.

The subdivision is to occur as a single stage. Each proposed lot can accommodate a hazard management area with sufficient separation from bushfire-prone vegetation not exceeding the requirements for BAL-19 of AS3959-2018. This means that each lot is not dependent on adjacent land use or management for bushfire mitigation.

### 5.1.1 Building areas

Building areas for habitable buildings on each lot are shown on the BHMP. Each lot has been assessed and a Bushfire Attack Level (BAL) assigned to it. If future buildings are located within the building area and comply with the minimum setbacks for the lot, the buildings may be constructed to the bushfire attack level assigned to that lot. If associated structures like sheds or other non-habitable buildings exist or are proposed, they do not need to conform to a BAL unless they are within 6 metres of the habitable building.

### 5.1.2 Hazard Management Area requirements

A hazard management area is the area, between a habitable building or building area and the bushfire prone vegetation which provides access to a fire front for firefighting, is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire. This can be achieved through, but is not limited to the following strategies;

- Remove fallen limbs, sticks, leaf and bark litter;
- Maintain grass at less than a 100mm height;
- Avoid or minimise the use of flammable mulches (especially against buildings);
- Thin out under-story vegetation to provide horizontal separation between fuels;
- Prune low-hanging tree branches (<2m from the ground) to provide vertical separation between fuel layers;
- Remove or prune larger trees to establish and maintain horizontal separation between tree canopies;
- Minimise the storage of flammable materials such as firewood;
- Maintain vegetation clearance around vehicular access and water supply points;
- Use low-flammability plant species for landscaping purposes where possible;
- Clear out any accumulated leaf and other debris from roof gutters and other debris accumulation points.

It is not necessary to remove all vegetation from the hazard management area, trees and shrubs may provide protection from wind borne embers and radiant heat under some circumstances if other fuels are appropriately managed.

### 5.2 Public and Firefighting Access

### 5.2.1 Public Roads and Fire trails

There is no proposal for the construction of new public roadways or fire trails, in this circumstance there are no applicable standards for the construction of new public roads or fire trails.

### 5.2.2 Property access (for building compliance)

5.2.2.1 - Lot 2

Property access length is greater than 30 metres and access is required for a fire appliance to connect to a firefighting water point. The following design and construction requirements apply to property access:

- (a) All-weather construction;
- (b) Load capacity of at least 20 tonnes, including for bridges and culverts;
- (c) Minimum carriageway width of 4 metres;
- (d) Minimum vertical clearance of 4 metres;
- (e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
- (f) Cross falls of less than 3° (1:20 or 5%);
- (g) Dips less than  $7^{\circ}$  (1:8 or 12.5%) entry and exit angle;
- (h) Curves with a minimum inner radius of 10 metres;

(i) Maximum gradient of  $15^{\circ}$  (1:3.5 or 28%) for sealed roads, and  $10^{\circ}$  (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 10 metres;
- (ii) A property access encircling the building; or
- (iii) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long

5.2.2.2 - Lot 1

Property access is less than 30 metres in length. In this circumstance there are no further design or construction requirements for property access.

### 5.3 Water supplies for firefighting

The subdivision is not serviced by a reticulated water supply. In this circumstance, a static water supply dedicated for firefighting for each building area which is compliant with the specifications of table 1 is required. Lot 1 has existing residential development, the firefighting water supply for lot 1 will need to be installed prior to the sealing of titles and is subject to the following additional specifications:

1) In addition to the specifications in Table 1, the firefighting water connection point must be located within 30 metres, measured along the centreline of the property access, from the public roadway.

Element Requirement Distance between А The following requirements apply: building area to be (a) The building area to be protected must be located within 90 metres of the firefighting water point of a static water supply: and protected and water supply (b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area. В Static Water Supplies A static water supply: (a) May have a remotely located offtake connected to the static water supply; (b) May be a supply for combined use (firefighting and other uses) but the specified minimum quantity of firefighting water must be available at all times; (c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including firefighting 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 AS 3959-2018, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by: (i) metal; (ii) non-combustible material; or (iii) fibre-cement a minimum of 6 mm thickness. С Fittings and pipework associated with a fire fighting water point for a static water Fittings, pipework and accessories supply must: (a) Have a minimum nominal internal diameter of 50mm: (including stands and tank supports) (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) Where buried, have a minimum depth of 300mm (compliant with AS/NZS 3500.1-2003 Clause 5.23); (e) Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting 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 220 mm length); (h) Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and (i) Where a remote offtake is installed, ensure the offtake is in a position that is: (i) Visible; (ii) Accessible to allow connection by firefighting equipment, (iii) At a working height of 450 - 600mm above ground level; and (iv) Protected from possible damage, including damage by vehicles. D Signage for static Signage for static water connections The firefighting water point for a static water supply must be identified by a sign water connections permanently fixed to the exterior of the assembly in a visible location. The sign must: (a) comply with the water tank signage requirements within Australian Standard AS2304-2011 Water storage tanks for fire protection systems; or (b) comply with the Tasmania Fire Service Water Supply Guideline published by the Tasmania Fire Service Е A hardstand area for (a) no more than three metres from the firefighting water point, measured as a fire appliances must hose lay (including the minimum water level in dams, swimming pools and the be provided: like): (b) no closer than six metres from the building area to be protected; (c) a minimum width of three metres 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.

Table 1. Specifications for static water supplies for firefighting.

### 6.0 Compliance

### 6.1 Planning Compliance

Table 2 summarises the compliance requirements for subdivisions in bushfire prone areas of Code C13 as they apply to this proposal. A planning certificate has been issued for the associated BHMP as being compliant with the relevant standards as outlined below and is located in appendix D.

Clause	Compliance
C13.4 Use or development exempt from this code	Not applicable.
C13.5 1 Vulnerable Uses	Not applicable.
C13.5.2 Hazardous Uses	Not applicable
C13.6.1 Subdivision: Provision of hazard management areas	The Bushfire Hazard Management Plan is certified by an accredited person. Each lot within the subdivision has a building area and associated hazard management area shown which is suitable for BAL-19 or BAL-12.5 construction standards. Hazard management areas are able to be contained within each individual lot, therefore there is no requirement for part 5 agreements or easements to facilitate hazard management. The proposal is compliant with the acceptable solution at A1, (b).
C13.6.2 Subdivision: Public and firefighting access	The Bushfire Hazard Management Plan specifies minimum standards for property access consistent with the requirements of table E2. There is no proposal for public roadways or fire trails as part of this development. The Bushfire Hazard Management Plan is certified by an accredited person. The proposal is compliant with the acceptable solution at A1, (b).
C13.6.3 Subdivision: Provision of water supply for firefighting purposes	The Bushfire Hazard Management Plan requires static water supplies to be provided for all lots. The specifications for static water supplies are provided and are consistent with table E5. The proposal is compliant with the acceptable solution at A2, (b).

### Table 2. Compliance with Code C13 of the Tasmanian Planning Scheme - Sorell

### 6.1.1 Planning Compliance Requirements

Prior to the sealing of titles Lot 1 will require the following to be completed;

- 1) the establishment of the hazard management area as shown on the BHMP, and
- 2) The provision of a static firefighting water supply as specified on the BHMP.

### 6.2 Building Compliance (for future development)

Future residential development may not require assessment for bushfire management requirements at the planning application stage. Subsequent building applications will require demonstrated compliance with the Directors Determination. If future development is undertaken in compliance with the Bushfire Hazard Management Plan associated with this report, a building surveyor may rely upon it for building compliance purposes if it is not more than 6 years old.

### 7.0 Summary

The Bushfire Hazard Report for 1 Correa Street, Primrose Sands, evaluates and mitigates bushfire risks for a proposed subdivision. Prepared by Geo-Environmental Solutions Pty Ltd for P & C Cousins, it supports a planning permit application under the Tasmanian Planning Scheme - Sorell. The site, in the Rural Living zone north-east of Primrose Sands, features large rural residential lots with gentle to moderate slopes. Vegetation includes grassland, woodland, and low-threat vegetation among residential developments.

The report includes a Bushfire Hazard Management Plan (BHMP) detailing hazard management areas, building areas, access requirements, and firefighting water supply provisions to comply with Code C13 of the Tasmanian Planning Scheme. Each proposed lot can accommodate a hazard management area compliant with BAL-19 and BAL-12.5 standards (AS3959-2018). The BHMP also outlines requirements for property access and firefighting water supplies, ensuring the development meets compliance standards. Future development must achieve the requirements of BHMP to mitigate bushfire risks effectively, if the requirements cannot be achieved, a new report will be required.

### 8.0 Limitations Statement

This Bushfire Hazard Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the applicant. To the best of GES's knowledge, the information presented herein represents the Client's requirements at the time of printing of the report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that described in this report. In preparing this report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible bushfire hazard condition and does not provide a guarantee that no loss of property or life will occur as a result of bushfire. As stated in AS3959-2018 "It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions". In addition, no responsibility is taken for any loss which is a result of actions contrary to AS3959-2018 or the Tasmanian Planning Commission Bushfire code.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required. No responsibility is accepted for use of any part of this report in any other context or for any other purpose by third party

### 9.0 References

Building Amendment (Bushfire-Prone Areas) Regulations 2014

Building Regulations 2016.

Directors Determination – Bushfire Hazard Areas, version 1.2, 16th July 2024.

Standards Australia 2018, *Construction of buildings in bushfire prone areas,* Standards Australia, Sydney.

Tasmanian Planning Commission 2017, *Planning Directive No.5.1 – Bushfire prone Areas Code*. Tasmanian Planning Commission, Hobart. 1<sup>st</sup> September 2017.

The Bushfire Planning Group 2005, *Guidelines for development in bushfire prone areas of Tasmania – Living with fire in Tasmania*, Tasmania Fire Service, Hobart.

Tasmanian Planning Scheme - Sorell.

Appendix A - Site Plan



### Appendix B – Bushfire Attack Level assessment tables

Table	1 Rushfire	Attack I	evel A	ssessmen	t for I	ot 1 -	existing	develo	nment
lanc	I. Dusinite	ALLAUK L		133633111611		_01 1 -	Children	ue velo	pinent

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
	Exclusion 2.2.3.2 (e, f)^	flat 0°	0 to 22 metres		
	Woodland <sup>^</sup>	flat 0°	22 to 100 metres		
North				22 metres	BAL-12.5
	Exclusion 2.2.3.2 (e, f)^	>0 to 5° downslope	0 to 26 metres		
Fact	Woodland <sup>^</sup>	>0 to 5° downslope	26 to 80 metres	00 1	
East	Exclusion 2.2.3.2 (e, f)^	>0 to 5° downslope	80 to 100 metres	26 metres	BAL-12.5
	Exclusion 2.2.3.2 (e, f) <sup>^</sup>	flat 0°	0 to 22 metres		
0 a vith	Woodland^	flat 0°	22 to 75 metres	00	BAL-12.5
South	Exclusion 2.2.3.2 (e, f)^	flat 0°	75 to 90	22 metres	
	Woodland^	flat 0°	90 to 100 metres		
	Exclusion 2.2.3.2 (e, f) <sup>^</sup>	upslope	0 to 22 metres		
14/2-21	Woodland <sup>^</sup>	upslope	22 to 30 metres	00 /	
west	Exclusion 2.2.3.2 (e, f)^	flat 0°	30 to 45 metres	22 metres	BAL-12.5
	Woodland^	upslope	45 to 100 metres		

Vegetation classification as per AS3959-2018 and Figures 2.4(A) to 2.4 (H).
 \* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
 ^A Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 2. Bushfire Attack Level Assessment for Lot 2.

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
	Woodland^	>0 to 5° downslope	0 to 100 metres		
North-					
east				18 metres BAL-1	
	Woodland^	>0 to 5° downslope	0 to 50 metres		
South-	Exclusion 2.2.3.2 (e, f)^	flat 0°	50 to 70 metres		
east	Woodland^	>0 to 5° downslope	70 to 30 metres	18 metres	BAL-19
	Woodland <sup>^</sup>	upslope	0 to 10 metres		BAL-12.5
South-	Grassland^	upslope	10 to 20 metres	10	
west	Exclusion 2.2.3.2 (e, f)^	upslope	20 to 92 metres	10 metres	
	Woodland^	upslope	92 to 100 metres		
	Woodland <sup>^</sup>	flat 0°	0 to 39 metres		
North-	Low Open Woodland	flat 0°	39 to 100 metres		541.40
west				15 metres	BAL-19

Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

## Appendix C

Bushfire Hazard Management Plan



## Appendix D

Planning Certificate

### **BUSHFIRE-PRONE AREAS CODE**

### CERTIFICATE<sup>1</sup> UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

1. Land to which certif	ficate 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: 1 Correa Street, Primrose Sands TAS, 7173.

Certificate of Title / PID:

109772/17

### 2. Proposed Use or Development

Description of proposed Use and Development:

Subdivision of land resulting in two lots.

Applicable Planning Scheme:

Tasmanian Planning Scheme - Sorell

### 3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Plan of Subdivision	Rogerson & Birch	20/08/2024	15706-01
Bushfire Hazard Report 1 Correa Street, Primrose Sands. September 2024. J10839v1	Mark Van den Berg	13/09/2024	1
Bushfire Hazard Management Plan 1 Correa Street, Primrose Sands. September 2024. J10839v1.	Mark Van den Berg	13/09/2024	1

<sup>&</sup>lt;sup>1</sup> 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:

E1.4 / C13.4 – Use or development exempt from this Code		
Compliance test	Compliance Requirement	
E1.4(a) / C13.4.1(a)	Insufficient increase in risk	

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

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

$\boxtimes$	E1.6.1 / C13.6.1 Subdivision: Provision of hazard management areas		
	Acceptable Solution Compliance Requirement		
	E1.6.1 P1 / C13.6.1 P1	<i>Planning authority discretion required. A proposal cannot be certified as compliant with P1.</i>	
	E1.6.1 A1 (a) / C13.6.1 A1(a)	Insufficient increase in risk	
	E1.6.1 A1 (b) / C13.6.1 A1(b)	Provides BAL-19 for all lots	
	E1.6.1 A1(c) / C13.6.1 A1(c)	Consent for Part 5 Agreement	

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

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

5. Bushfire Hazard Practitioner					
Name:	Mark Van den Berg	Phone No:	03 62231839		
Postal Address:	29 Kirksway Place Battery Point Tas. 7004	Email Address:	mvandenberg@geosolutions.net.au		
Accreditati	on No: BFP – 108	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	Madda		
Name:	Mark Van den Berg		13/09/2024
		Certificate Number:	J10839
		(for Practitio	ner Use only)

## Appendix E

Certificate of Others

## CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To:	P & C Cousins	Owner /Agent	FF		
	1 Correa Street	Address	Form <b>JJ</b>		
	Primrose Sands	Suburb/postcode			
Qualified perso	on details:				
Qualified person:	Mark Van den Berg		]		
Address:	20 Kirkoway Place		] Phone No:	03 6223 1920	
Address.		7004	Eax No:	03 0223 1039	
	Ballery Point TAS	7004			
Licence No:	FP-108 Email address. mvan	denberg	@geosolutio	ns.net.au	
Qualifications and Insurance details:Accredited to report on bushfire hazards under Part IVA of the Fire Service Act. BFP-108 scope 1, 2, 3a, 3b, 3c. Sterling Insurance PI policy No. 17080170(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items			3 of the Certificates ssessable		
Speciality area of expertise:	Speciality area of expertise:Analysis of bushfire hazards in bushfire prone areas(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)			4 of the Certificates ssessable	
Details of work					
Address:	1 Correa Street		Lot	No: Lot 1 and 2	
	Primrose Sands, TAS.	7173	Certificate of t	itle No: TBA	
The assessable item related to this certificate:	New building work in a bushfire prone area.       (description of the assessable item being certified)         Assessable item includes –       -         -       a material;         -       a design         -       a form of construction         -       a document         -       testing of a component, building system         -       an inspection, or assessment, performed				
Certificate details:					
Certificate type:	Prtificate type: Bushfire Hazard (description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)			f Dy able	
This certificate is ir	This certificate is in relation to the above assessable item, at any stage, as part of - <i>(tick one)</i> building work, plumbing work or plumbing installation or demolition work: <b>X</b> or				

a building, temporary structure or plumbing installation:

In issuing this certificate the following matters are relevant –

Documents:	Bushfire Hazard Report 1 Correa Street, Primrose Sands. September 2024. J10839v1. Bushfire Hazard Management Plan 1 Correa Street, Primrose Sands. September 2024. J10839v1. and Form 55.
Relevant	
calculations:	N/A
References:	
	Determination, Director of Building Control Requirements for Building in Bushfire-Prone Areas, version 2.2 6 <sup>th</sup> February 2020. Consumer, Building and Occupational Services, Department of Justice, Tasmania. Building Amendment (Bushfire-Prone Areas) Regulations 2014. Standards Australia 2018, Construction of buildings in bushfire prone areas, Standards Australia, Sydney.

Substance of Certificate: (what it is that is being certified)

The Bushfire Attack Level is marked on the Bushfire Hazard management plan for each lot. All specifications of report and BHMP required for compliance.

Scope and/or Limitations

Scope: This report was commissioned to identify the Bushfire Attack Level for the existing property. Limitations: The inspection has been undertaken and report provided on the understanding that;-1. The report only deals with the potential bushfire risk all other statutory assessments are outside the scope of this report. 2. The report only identifies the size, volume and status of vegetation at the time the site inspection was undertaken. 3. Impacts of future development and vegetation growth have not been considered.

I certify the matters described in this certificate.

Qualified person:

Alada

Signed:

Certificate No: J10839 Date: 13/09/2024



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## NATURAL VALUES ASSESSMENT



## DECEMBER 1 CORREA STREET, PRIMROSE SANDS PROPOSED 1 LOT SUBDIVISION

### CLIENT: PETER COUSINS

Report version 1.0 Report Date: November 2023 Field Survey and report: Ben Poortenaar (BSc) and Hein Poortenaar Project management, mapping and report review: Hein Poortenaar (BE, civil)

POORTENAAR CONSULTING PTY LTD 77 Banksia Road, Mountain River, TAS 7109 | 0448 440 346 | hein@poortenaarconsulting.com.au



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## NATURAL VALUES ASSESSMENT

1 CORREA STREET, PRIMROSE SANDS PROPOSED 1 LOT SUBDIVISION

## 2. INTRODUCTION

A 1 lot subdivision is proposed at 1 Correa Place, Primrose Sands. In response to the planning application Council issued an RFI dated 13th November. Poortenaar Consulting have been requested to prepare a natural values assessment.

1. Provide a natural values report prepared by a suitably qualified and experienced ecologist or equivalent that is:

a) prepared in accordance with the Guidelines for Natural Values Surveys (www.nre.tas.gov.au); and

b) has regard to clause C7.7.2 Subdivision within a priority vegetation area P1.1 and P1.2 of Code 7.0 Natural Assets Code. The Natural Assets Code is part of the State Planning Provisions (https://planningreform.tas.gov.au/planning/scheme/state\_planning\_ provisions).

Note: The Natural Values Report must also consider the Bushfire Hazard Management Report & Plan.

## 3. SITE DESCRIPTION

Refer to Appendix A for location map, aerial view of the site, planning scheme overlays, and drawings.

Title references and PIDS	СТ 109772/17		
Planning Scheme	TPS Sorell		
Zoning	Rural Living A		
Planning Scheme codes and overlays	<ul> <li>Bushfire Prone Area - occurs across the entire study area</li> <li>Flood prone hazard area (3 streams)</li> <li>Priority Vegetation Area (Eastern half)</li> </ul>		
Site area	2.01Ha		
Existing	House, shed, driveway, on-site wastewater		
Elevation	30m		
Aspect	South east		
Slope	11%		

### Table 1. Site details (Source: LISTmap<sup>1</sup>)



Geology	Sand of littoral origin
Water courses and water bodies	None
Catchment	Susan Bay, Frederick Henry Bay

## 4. DEVELOPMENT PROPOSAL

A 1 lot subdivision is proposed. Each lot will be 1 Ha. The front lot on Correa Street will have the existing house, driveway, shed and on-site wastewater disposal. The new lot will have frontage and a new driveway on Primrose Sands Road.

The most likely house site is the middle of the site set back from the road and neighbouring properties.







Figure 2. Property (Source Rogerson and Birch)

## 5. METHODS

The desktop assessment, field survey method, and report are consistent with the recommendations of Guidelines for Natural Values Surveys - Terrestrial Development Proposals<sup>2</sup>.

### 5.1 DESKTOP ASSESSMENT

The following resources were consulted for biological records in the area:

- The Natural Values Atlas (NVA) database was consulted for records of threatened species, vegetation types, weeds and plant pathogens buffered by a 500m and 5 km radius<sup>3</sup>. Findings from the NVA report are summarized in this report below.
- Google Earth and The LISTmap<sup>1</sup> (including TASVEG version 4.0<sup>4</sup> digital layer and other natural values and planning layers) were consulted for supplementary information.

<sup>&</sup>lt;sup>2</sup> DPIPWE (2015a).

<sup>&</sup>lt;sup>3</sup> DNRET (2023b)

<sup>&</sup>lt;sup>4</sup> Kitchener and Harris (2013)

PROPOSED SUBDIVISION - 1 CORREA STREET, PRIMSOSE SANDS



### 5.2 FIELD SURVEY

Field surveys were undertaken on the  $17^{th}$  of December 2024.

Detailed surveys were only undertaken for the new lot, because it is the only lot that will require clearance and disturbance of native vegetation.

The DBH and species of all trees wider than 15cm were recorded. Their location was taken using GPS. Each tree's nesting habitat potential was assessed.

A broad assessment of vegetation condition was undertaken with respect to the relevant condition benchmarks.

The site was surveyed for any threatened flora.

Potential threatened fauna habitat (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna) and detection of tracks, scratching/diggings, scats and other signs were searched for.

### 5.3 LIMITATIONS

- The field survey was undertaken in early summer which is ideal time for detecting and identifying most flora species but not all.
- The survey was limited to vascular species.
- Surveys for threatened fauna were largely limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs. The presence of tree hollows and nests was assessed from ground level only.

### 6. FINDINGS

### 6.1 VEGETATION COMMUNITIES

The vegetation community is a coastal *Eucalyptus amygdalina* woodland with a severely modified understorey. Components of the community are as follows:

- The canopy trees were healthy, the *E.amygdalina* ranging from 0.5 to 1m wide and 15m tall. *Eucalyptus viminalis* is subdominant (20% of trees) and were larger (up to 20m). There was about 1 tree per 10x10m. The stand was mixed age, although there was no current recruitment. LISTmap had no records of fires. No tree hollows were observed.
- There were no understorey trees except for 2 sheoak and 2 banksia. More Banksia could be seen chopped up in piles. At the south of the lot where the driveway situated was a screen of bushy trees, being a mix of sheoak, banksia, black wattle and *Dodonaea viscosa*, all 5m tall (see Figure 4).
- The shrub layer was only bracken, with patches covering roughly 10% of the lot. Lomandra was present on some of the fence lines, and was likely a major component of the shrublayer judging by surrounding properties.
- The groundcover was 50%, being a complex of grass species. There were occasional herbs and low shrubs, some native (eg. *Hibbertia spp, Astroloma humifusum*) and some invasive (eg. capeweed, creeping oxalis).



The poor shrub and ground cover diversity can be attributed to the property being scraped earlier this year. This had been done because the property had ran pigs for a few years, leading to ruts and ditches everywhere. Scraping the soil removed most remaining plants but will aid in the longterm restoration of soil structure and drainage.

TASVEG 4.0 classes the property as Eucalyptus amygdalina coastal woodland (DAC) in the east and Extra-urban miscellaneous (FUM) in the west. Thus, the building envelope was going to be situated on the west of the lot, avoiding the priority vegetation area on the TPS overlay. However, the distinction between communities was not evident on the ground. Therefore, it is recommended the building envelope be placed to minimize the loss of large trees. With this in mind, the ideal location is unfortunately within the priority vegetation area overlay, but has better setbacks from the other lot.

Eucalyptus amygdalina coastal woodland is not listed as a threatened community under schedule 3A of the Nature Conservation Act 2002 or the commonwealth environment protection and biodiversity conservation act 1999 (EPBC). Instead, the woodland being designated as a priority vegetation area under the natural assets code is likely because: (d) it has been identified as native vegetation of local importance.

With respect to the TASVEG vegetation condition benchmarks for DAC Eucalyptus amygdalina coastal forest and woodland: sedgy facies (woodland) the site scores somewhat poorly (54/100, see Table 2). This is mainly due to the aforementioned understorey. No other records of vegetation condition assessments could be found in the nearest 10km.

	Lan	dscap	e Cont	ext		Site Condition				ion			
Component	Patch Size	Neighbourhood	Distance to core	Landscape Context score	Tree Canopy	Large Trees	Logs	Understorey	Recruitment	Weeds	Litter	Site Condition scores	FINAL CONDITION SCORE Landscape Context + Site Condit
	/10	/10	/5	/25	/5	/10	/5	/25	/10	/15	/5	/75	/100
SCORE	8	4	3	15	5	8	0	5	5	13	3	39	54

Table 2. Vegetation condition assessment results









### Figure 4. Non-eucalypt species on the southern boundary.

### 6.2 FLORA

### 6.2.1 Plant species of conservation significance

### 6.2.1.1 <u>Threatened flora recorded within the study area</u>

- No vascular plant species listed under Schedule 3, 4 or 5 of the Threatened Species Protection Act 1995 was recorded on site.
- No vascular plant species of national conservation significance, listed in the Commonwealth Environment Protection & Biodiversity Conservation Act 1999 was recorded on site.

### 6.2.1.2 <u>Threatened flora recorded within the vicinity of the study area</u>

A search of the Natural Values Atlas identified that no threatened flora species have been recorded within 500m of the site and 6 threatened flora species have been recorded within 5000m of the site (Table 5).

### 6.2.2 Weeds

There were no major weed infestations, likely due to the pigs and the current goats. No priority weeds were identified.

Natural Values Atlas verified records of declared weeds that occur within 500m of the site includes Nassella trichotoma (serrated tussock), Cirsium arvense (creeping thistle), Carduus pycnocephalus (slender



thistle), and Chrysanthemoides monilifera (boneseed). There are verified records of 23 species of declared weeds within 5000m of the site.

### 6.2.3 Plant pathogens

There are no verified records of species of biosecurity risk within 1000m of the site. No cinnamon root rot fungus *Phytophthora cinnamomi* was observed on site.

Best practice hygiene protocols should be implemented prior to commencement of any works requiring all vehicles, machinery and equipment to be washed down or shaken down offsite in accordance with 'Tasmanian Washdown Guidelines for Weed and Disease Control: Machinery, Vehicles and Equipment: Edition. Hygiene measures are outlined in the site Weed Management Plan (DPIPWE 2015b).

### 6.3 THREATENED FAUNA AND HABITAT

## 6.3.1 Records of threatened fauna and habitat recorded within 500m and 5000m of the study area

A search of the Natural Values Atlas<sup>5</sup> (and the LISTmap) identified the following:

- No records of threatened fauna species on the site
- Verified records of 3 threatened fauna species within 500m of the site: Lathamus discolor (swift parrot), Haliaeetus leucogaster (white-bellied sea-eagle), Accipiter novaehollandiae (grey goshawk).
- Potential for 13 threatened fauna species to occur within 500m of the site based on range boundaries.
- Verified records of 10 threatened fauna species within 5km of the site.
- Potential for 15 threatened fauna species to occur within 5km of the site based on range boundaries.
- No records of raptor nests of sightings within 500m of the site.
- 4 records of raptor species within 5000m of the site.

Refer to Table 7.

### 6.3.2 Potential for threatened fauna and habitat within the study area

- No significant trees with hollows were observed within the property. However, some of the *E.viminalis* were large enough to form hollows in the near future. Mitigation measures are recommended below.
- The Forest Practices Authority Habitat mature habitat availability map predicts the availability of hollow-bearing trees at the site as low.
- A field-based assessment of potential foraging habitat density for swift parrot determined that the potential foraging-habitat density class was low.
- The following species may forage across the site, but potential for nesting/denning habitat is considered negligible to low: Lathamus discolor Swift parrot, Tyto novaehollandiae subsp. Castanops masked owl (Tasmanian); Haliaeetus leucogaster white-bellied sea-eagle; Accipiter novaehollandiae grey goshawk; Hirundapus caudacutus white-throated needletail; Aquila audax subsp. Fleayi tasmanian wedge-tailed eagle; Dasyurus viverrinus eastern quoll, Dasyurus maculatus subsp.

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Maculatus spotted-tail quoll, Perameles gunnii eastern barred bandicoot, and Sarcophilus harrisii tasmanian devil.

• The proposal is unlikely to increase roadkill of the aforementioned mammalian species as a short driveway is the only road needed.

### 6.4 FRESHWATER ECOSYSTEM VALUES

No freshwater ecosystem values are present on site. The Waterway and Coastal Protection Areas overlay does not occur on the property.



### 7. POTENTIAL IMPACTS

### 7.1.1 Clearance and disturbance of native vegetation communities

The building envelope of a new dwelling will require a minimum of 15x20m. At this minimum size construction can be placed to require the removal of approximately 4 small tree (~300mm dia) and one medium size tree (500mm dia). In terms of natural values there are no other features that need consideration when choosing the building location.

As per the Bushfire Hazard Report by GES the building will require a fuel management area 15m wide on the uphill side and 18m wide on downhill side for BAL 19. This does not require the removal of all trees but selective thinning so there is separation in their canopies. There are 14 trees in this zone and 6 small trees 300mm diameter will need removing. The understory is already clear. Note the Bushfire Report locates the building outside the priority vegetation polygon but the polygon is arbitrary and does not reflect what is on the ground with respect to trees.

Construction of the driveway will involve the removal of 4-6 of the small non-eucalypt trees and shrubs on the southern boundary. Within the property the driveway can avoid the widely spaced trees.

### 7.1.2 Summary of potential impact to other natural values

- No threatened flora was recorded. Impacts to listed threatened plant species is considered unlikely.
- No declared weed species were observed within the site. There is the potential for spread of weeds from/to the property from construction or later usage.
- The site supports the potential for fauna habitats. A range of listed threatened fauna may forage across the site (negligible to moderate foraging habitat species dependent). The potential for nesting and denning habitat of listed threatened fauna species is considered low.
- Overall, it is considered unlikely the proposal will cause a decline in population or impact on survival of threatened species.

### 7.1.3 Alternatives considered

Separating the block north to south is the most logical layout for most aspects of the development. It keeps the lots square, maximising setbacks and privacy. It was considered that by instead having both dwellings on the west of the block it will require no removal of trees, but there wasn't enough space.

### 8. PROPOSED MITIGATION

The property is managed woodland with relatively sparse trees. Dead and fallen trees have been removed. The understory and surface has been scrapped and levelled. As such the primary consideration is preserving the more significant trees.

Removal of large trees can be avoided by building clear of them to the rear of the site. Removal of medium sized trees with good form can be avoided. The only trees that need removing are small or multi stemmed trees that tend to be poorer form and not as structurally sound.



As the dwelling and driveway location is flexible within the setback requirements optimal placement to preserve significant trees is achievable.

Where the driveway passes large trees, and there is the potential for root damage, excavation will be avoided by raising the road level.

Implement measures to protect Eucalypts retained during construction and upgrade of access in accordance with 'Protection of trees on development sites' (AS 4970-2009

Construction impacts will be managed by a Construction Environment Management Plan (CEMP) which incorporates Soil and Water management and Weed Hygiene Management.

## 9. LEGISLATIVE REQUIRMENTS

### 9.1.1 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act (EPBCA) and EPBC Regulations provide a national framework for environment protection through a focus on protecting matters of national environmental significance (MNES) and on the conservation of Australia's biodiversity. Under the EPBC Act, a referral is required if any new project is likely to have a significant impact on a MNES.

No MNES will be significantly impacted and so there is no reason to assess this proposal under the EPBCA.

### 9.1.2 Tasmanian Nature Conservation Act 2002

Schedule 3A of the Act lists vegetation types classified as threatened within Tasmania. This Development will not impact on any such vegetation types.

### 9.1.3 Tasmanian Threatened Species Protection Act 1995

Any impact on a listed species under the TSPA will require a 'permit to take' from the Policy and Conservation Assessments Branch at the Department of Natural Resources and Environment Tasmania

No listed threatened species were recorded within the study site. The development site constitutes potential habitat for a range of threatened species, however when the ecology of these species is taken into consideration, it is anticipated the development proposal will not significantly impact these species and as such referral will not be required.

### 9.1.4 Tasmanian Weed Management Act 1999

The Weed Management Act 1999 (the Act) provides the principal legislative framework for weed management in Tasmania. Each declared weed has a Statutory Weed Management Plan, which states the management zone in each municipal area in Tasmania:

- Zone A the management objective is eradication.
- Zone B the management objective is containment.

The containment principles of the Act should be sufficiently met as there are no existing weeds and the spread of weeds onto the site will be managed with weed hygiene practices.



### 9.1.5 Tasmanian Planning Scheme

The following planning scheme Codes are relevant to the study area as it is within a priority vegetation area.

### C7.7.2 Subdivision within a priority vegetation area

This development meets the performance criteria for P1.1 and P1.2.

- P1.1 Each lot, or a lot proposed in a plan of subdivision, within a priority vegetation area must be for: (b) subdivision for the construction of a single dwelling or an associated outbuilding.
- 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 (b) any particular requirements for the works and future development likely to be facilitated by the subdivision; (c) the need to minimise impacts resulting from bushfire hazard management measures through siting and fire-resistant design of any future habitable buildings; (d) any mitigation measures implemented to minimise the residual impacts on priority vegetation; (e) any on-site biodiversity offsets; and (f) any existing cleared areas on the site.

The development meets all requirements:

- (a) The design will be a single dwelling, and is unlikely to reach far past the 15x20m minimum building envelope. As previously discussed, the building envelope will be situated to minimize loss of major trees. No future development is planned. There are no other site constraints determining where the building can be placed.
- (b) The works will have no particular requirements .
- (c) The fuel management area for BAL19 requires the removal of only 6 small trees. A higher BAL rating will reduce impact still further.
- (d) It is unclear what residual impacts there may be that wouldn't be a risk currently.
- (e) No offsets are proposed but it is likely the trees will enjoy improved health withy the removal of stock and some ground cover and substory may re-establish.
- (f) There are no existing cleared areas on the lot big enough for the building envelope

## 10. CONCLUSION

The proposed lot 2 is a heavily modified sparce woodland. Dead trees, understory and ground cover has been removed. The whole of the site is similarly vegetated and the priority vegetation polygons are only approximate. The priority is avoiding the larger significant trees and this is achievable.

In general the subdivision will not have a negative effect on the remnant woodland community and may even be an improvement is there is re-establishment of ground cover and shrubbery.



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1 Correa Street subdivision Bushfire Hazard Report, GES, September 2024



## 12. ATTACHMENT – TREE MAP



# STORMWATER MANGEMENT AND FLOOD ASSESSMENT

DECEMBER<br/>20241 CORREA STREET, PRIMROSE SANDSPROPOSED 1 LOT SUBDIVISION

**CLIENT: PETER COUSINS** 

Report version 1.0 Hein Poortenaar (BE, civil)

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## STORMWATER MANGEMENT AND FLOOD ASSESSMENT

1 CORREA STREET, PRIMROSE SANDS PROPOSED 1 LOT SUBDIVISION

## 1. INTRODUCTION

A 1 lot subdivision is proposed at 1 Correa Place, Primrose Sands. In response to the planning application Council issued an RFI dated 13th November. Poortenaar Consulting have been requested to prepare a response to the Flood Prone Areas Code (Item 2 and 3) and Stormwater Management Plan (item 4). (refer below)

2. A written statement and associated amended plans that address and respond to the 'Acceptable Solution(s)' or 'Performance Criteria' of the Flood Prone Area Code- Clause C12.7.1 (Subdivision within a flood-prone hazard area) Development Standards for Subdivision of the Tasmanian Planning Scheme.

3. A flood report from a suitably qualified person for this sub division application that demonstrate that how the following will be managed that includes but not limited to; a. Existing access both internal and external driveway. b. Onsite stormwater location in flood prone area if any.

4. A stormwater management report, including a stormwater plan from a suitably qualified person demonstrating that all stormwater surface run off generated is to be contained on site and not cause nuisance to downstream/ neighbouring properties.

Hein Poortenaar is a Civil Engineer with 35 years of experience in general civil engineering. It this case because the catchment is small and overland flows very minor and because the building envelope is well clear of the flowpath on the large lot the risk is very low and 2D flood modelling by a specialist hydrologist is unwarranted.

## 2. SITE DESCRIPTION

Refer to Fig 1 & 2 for location map, aerial view of the site, planning scheme overlays, and drawings.

Title references and PIDS	CT 109772/17
Planning Scheme	TPS Sorell
Zoning	Rural Living A

### Table 1. Site details (Source: LISTmap<sup>1</sup>)



Planning Scheme codes and overlays	<ul> <li>Bushfire Prone Area - occurs across the entire study area</li> <li>Flood prone hazard area (3 streams)</li> <li>Priority Vegetation Area (Eastern half)</li> </ul>
Site area	2.01Ha
Existing	House, shed, driveway, on-site wastewater
Services	No town water, sewerage
Elevation	30m
Aspect	South east
Slope	11%
Geology	Sand of littoral origin
Water courses and water bodies	None
Catchment	Susan Bay, Frederick Henry Bay
Legal discharge	To open drain in Primrose Sands Road

## 3. DEVELOPMENT PROPOSAL

A 1 lot subdivision is proposed. Each lot will be 1 Ha in area. The front lot on Correa Street will have the existing house, driveway, shed and on-site waste water disposal. The new lot will have frontage and a new driveway on Primrose Sands Road.

The most likely house site is the middle of the site set back from the road and neighbouring properties. The house site will be located clear of drainage lines.









Existing house	174m² to tank
Existing sheds	110m² to tank
Existing driveway - gravel	400m <sup>2</sup>
Likely new house and shed resulting from to subdivision	200m² to tank
Likely additional driveway and parking	400m <sup>2</sup>
Dispersive soils	Nil
Annual rainfall(mean)	495mm
5% AEP Rainfall Intensity (10min)	65.7mm/hr
Existing coefficient of runoff C <sub>20</sub>	0.5

### Table 2. Development summary

Currently infrequent tank overflows discharge to soakage trenches and driveway runoff are discharged to the open drains in Primrose Sands Road. The same arrangement will continue with the subdivision.

### 4. STORMWATER MANAGEMENT

Roof water is captured and stored in rainwater tanks while runoff from impermeable surfaces from driveways is discharged to the stormwater system.

The subdivision will likely result in a new house on lot 2 but this will not increase runoff. It will actually decrease runoff and the rainfall in captured and used. The only additional runoff will be from additional impervious ground surfaces.

### Table 3.Additional Calculated <u>Runoff</u>

	Area	C <sub>20</sub> pre	C <sub>20</sub> post	Change in Runoff Q <sub>20</sub> (L/s)
New house	300	0.3	0	Minus 1.65L/s
Additional impervious driveway	400	0.3	0.7	Plus 2.9L/s
Net	200	0		1.25L/s

There would likely be a small net increase in runoff due to the driveway. This can mitigated against by discharging the driveway to a soakage drain.



## 5. FLOOD ASSESSMENT

The purpose of the report is to assess the overland flow path extent and report on what constraints it may have on a development resulting from the subdivision. The report will recommend building envelope and floor levels such that there is no change to the flood hazard. The report may make recommendations on improving the floodway if necessary. The report will address the requirements of the lnundation Code.

Primrose Sands developed as a holiday village with minimal services – no water, sewerage or stormwater. Roads are typically rural in nature with open drains and culverts. As it has transitioned into a satellite town with permanent residents and infill development flooding has become more of an issue. The sandy nature of the soils underlain by clay means there is considerable soakage when dry but during wet periods the soils are saturated and runoff is high.

Sorell Council has undertaken modelling of the stormwater flows and 3 flow paths are shown through the property at 1 Correa Street:

- The southern one most significant from Correa Street through the corner to Primrose Sand Street following a depression. There is a culvert under Primrose Sands Road at the point the depression is. This impacts just the corner of lot 2. The overflow through the property rather than down the drain in Correa Street is likely due to the capacity of the existing driveway culvert.
- The middle one is a 2m wide x 60m long flow path originating in lot 2 and discharging to Primrose Sands Road. This follows a slight depression.
- The northern one is 2m wide x 50m long originating in lot 2 and discharging to Primrose Sands Road. This follows a slight depression.
- •

### FLOWS

Initial loss and continuing losses are highly variable as noted above and dependent on the preceding weeks rain saturating the sandy soil layer. Therefore an overall coefficient of runoff without an initial loss may be more appropriate. This is considered conservative as the critical storm is only 10 minutes and normally all of the rainfall in the first 5 minutes would soak in.

Flows are summarized:

- Time of concentration 5minutes adopt 10 minutes
- Climate change allowance 16.3% (RCP 8.5 increase to 2100)
- $I_{100} = 108 \text{mm/hr}$
- Coefficient of runoff C<sub>100</sub> = 0.35

### Table 3.Flows

PROPOSED 1 LOT SUBDIVISION - 1 CORREA STREET, PRIMROSE SANDS

Southern	*				
Middle	5700	60	7%	40mm	0.8
Northern	4500	47	6%	40mm	0.7

\*The southern flowpath is not calculated as it does not affect lot 2.

Adopting a trapezoidal channel with invert width of 1m and side slopes of 1 in 20 the depth does not exceed 100mm for the 100 year event.

### DEVELOPMENT EFFECTS

Although the subdivision does not involve any works it will likely result in a dwelling being constructed for lot 2. There is ample space outside the flood path to construct a dwelling so there will be no displacement of flow onto any third party property.

The new dwelling is not likely to have any effect on increasing runoff as all roof water will be captured in rainwater tanks and reused. The area is very dry and a surplus of rainwater leading to overflows is rare.

### NEW HABITABLE BUILDING

To meet the performance criteria of Regulation 54 of the BCA the habitable floor level must be 300mm above the 1% AEP + CC flood level.

As the site is sloping and the flood height varies while the building must achieve a level floor usually requiring excavation at the rear and filling at the front this criteria is difficult to define as it depends where the building is located.

Given the very minor sheetflows expected it is sufficient that the dwelling floor level is 300mm above natural ground level.

### FLOOD HAZARD

The site is expected to be subject to overland flow estimated at up to 40mm deep at a velocity of 0.7m/s. This is considered safe according the hazard categories Australian Disaster and resilience Handbook. (refer figure below)





### **GROUND TRUTHING**

Peter Cousins was interviewed and states. 'I have lived here full time for about the last 20 years. I have only once noticed any surface flow apart from minor flows down the driveway.'

### FLOOD HAZARD RECOMMENDATIONS

The small size of the catchments means flows are very minor. Assuming a 2.6m wide flow path depths do not exceed 40mm for a 100 year storm. Designation of the area as a Flood-Prone Hazard Area is an exaggeration for what is minor nuisance surface water.

Preferably any future building should be clear of the flood hazard zone. However with some minor recontouring, cut off drains or floor level freeboard above the surface the very minor flowpaths are not a constraint on the lot. There is sufficient space for a minimum 15x10 building envelope with clearance to boundaries.

![](_page_65_Picture_1.jpeg)

### QUALIFICATIONS

Hydrology and overland flow are not precise sciences. Flows are presented in terms of likelihood (ie frequency) which may change with climate change. There are a number of different methods available and assumptions that could result in different results. For this study a relatively simple analysis has been used which is appropriate for the value of the possible damage and cost of the works. Generally a reasonably conservative approach has been taken both with the adoption of the 100 year design flow but also with the channel hydraulics.

The overland flow direction is based on contours and has not taken into account diversions that may occur due to future fences, driveways, landscaping and the like now.

### 6. COMPLIANCE WITH THE PLANNING SCHEME

The TPS does not have a Stormwater Code as the Interim Planning Scheme. Stormwater from new developments are regulated by the Southern beaches Onsite Waste Water and Stormwater Specific Area Plan.

### Table 1. SOR-S2.7.2 Stormwater Management

Planning Scheme Code	Objective				
That a developments provides for adequate on-site stormwater management					
A1 Developments must be capable of connecting by gravity to a Public Stormwater System	Satisfied – both lots grade to Primrose Sands Road where there are drains and culverts.				

### RELEVANT PLANNING SCHEME REQUIREMENTS

### Table 1. Inundation Code requirements (Source: TPS)

Planning Scheme Code	Objective
C12.5.1 Uses within a flood prone hazard area	That a habitable building can achieve and maintain a tolerable risk from flood
C12.6.1 Buildings and works within a flood prone hazard area	<ul> <li>(a) Building and works within a flood prone hazard area can achieve and maintain a tolerable risk from flood</li> <li>(b) Buildings and works do not increase the risk from flood to</li> </ul>
	adjacent land an public infrastructure All satisfied as there is space for buildings to be located outside the flood hazard area and even iff the building encroaches on the
	flood hazard area it is so minor that normal precautions such as site drainage and floor level freeboard would fully mitigate against the risk

PROPOSED 1 LOT SUBDIVISION - 1 CORREA STREET, PRIMROSE SANDS

![](_page_66_Picture_1.jpeg)

## 7. CONCLUSION

The site is a lightly developed property with gentle undulations draining to Primrose Sands Road. Ruoff is infrequent due to the sand soils. There is a natural flow path crossing the southern corner of the property. The drain in Correa Street cut off this flow but it may still operate when the culverts capacity is exceeded. It is clear of any development. Two other slight depressions potentially capture runoff within the property. Sheet flow is calculated at less than 40mm deep. Overall the flooding risk in minor and minor flow paths can be avoided or easily designed for with diversion and freeboard.

The new house will capture rainwater for reuse but a driveway may result in additional runoff so it is recommended a soakage swale be constructed along side it to soak away runoff.

No additional runoff will be generated by the subdivision.

![](_page_67_Picture_0.jpeg)

![](_page_68_Figure_0.jpeg)

P COUSINS								
<sup>ed</sup> 1 CORF	<sup>d</sup> 1 CORREA STREET, PRIMROSE SANDS							
PLAN - TREE LOCATIONS								
<sup>e</sup> 1:1000	Designed By: H.POORTENAAR	Date DEC24	A1	Drawing No.	24447-01	Rev A		

200-400mm Ø

500-700mm Ø

>700mm Ø

Multistem E.AMYGDALINA E.VIMINALIS SHEOAK

BANKSIA

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80

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![](_page_69_Figure_0.jpeg)

1:	1.0m   3.0m  1.0	m				
		-				
	37 -37 111					
		$\sim$				
: 50mm ים	SURFACE COURSE RED 200mm SUBBASE 1 VER APPROVED SUBGR STRIP 150mm TOPSOIL	GRA∨EL <sup>S</sup> ADE -	DAKAGE	SWALE		
) RIVEV	VAY CROSS	SECTI	٦N			
<u> </u>	SCALE 1:100		<u></u>			
	EA SIREEI, PRIM	RUSE SAND	5			
Scale 1.1000	Designed By: H POORTENAAD	Date DEC24	Δ1	Drawing No.	24447_01	Rev <b>D</b>
		02024	1		21171-VI	 

![](_page_70_Figure_0.jpeg)