Office: 9 Melbourne Street,
Postal: PO Box 6 Triabunna 7190
Phone: 6256 4777 Fax: 6256 4774
Email: admin@freycinet.tas.gov.au
Web: www.gsbc.tas.gov.au
ABN: 95 641 533 778

GLAMORGAN SPRING BAY COUNCIL

Application for Planning Approval

OFFICE USE ONLY	
DATE RECEIVED:	PID:
FEE	RECEIPT No:
DA:	PROPERTY FILE:

Advice:

Use this form for all no permit required, permitted and discretionary planning applications including subdivision, planning scheme amendment & minor amendments to permits.

For visitor accommodation in the General Residential, Low Density Residential, Rural Living, Environmental Living or Village Zone use the sharing economy form available on the Council website.

Completing this form in full will help ensure that all necessary information is provided and avoid any delay. The planning scheme provides details of what other information may be required at clause 8.1 and in each applicable Code.

Please provide the relevant details in each applicable section by providing the information or circling Yes or No as appropriate. If relevant details are provided on plans or documents please refer to the drawing number or other documents in this form.

Often, it is beneficial to provide a separate written submission explaining in general terms what is proposed and why and to justify the proposal against any applicable performance criteria.

If you have any queries with the application form or what information is required please contact the office.

Details of Applicant & Owner

Applicant:	Triabunna Investments Pty Ltd			
Contact person: (if different from applicant)	Gillian Richards			
Address:	PO Box 183		Phone	
	Dover	TAS 7117	Fax:	
Email:	vanishpointdesign@gmail.com		Mobile:	0488775992
Do you wish for all correspondence to be sent solely by email?			Yes ☑	No ☐

Owner: (if different from applicant)	Triabunna Investments Pty Ltd			
Address:	Po Box 41		Phone:	
	Triabunna	TAS 7109	Fax:	
Email:	stuart.loone@springbaymill.com		Mobile:	+61 400 429 436

Application for Planning Approval

Details of Site and Application

Please note, if your application is discretionary the following will be placed on public exhibition.

Site Details

Address / Location of Proposal:	555 Freestone Point Road		
	Suburb Triabunna Post Code 7190		
Size of site	..... m^2	or	40.47 ..... Ha
Certificate of Title(s):	147559/1		

Current use of site:	Tourism

General Application Details

Complete for All Applications

☐	New Dwelling	☐	Change of use
☐	Additions / Alterations to Dwelling	☐	Intensification or modification of use
☐	New Outbuilding or Addition	☐	Subdivision or boundary adjustment
☐	New Agricultural Building	☐	Minor amendment to existing permit DA …… / …..
☑	Commercial / Industrial Building	☐	Planning Scheme Amendment

Estimated value of works (design & construction)	$ 500,000

Describe the order and timing of any staged works:	It is proposed that the works are completed in one stage.	or N/A

General Background Information

Please state the name of any Council officers that you have discussed this proposal with:	Officer's name :	or N/A
Is the site listed on the Tasmanian Heritage Register?	Yes ☐	No ☑
Have any potentially contaminating activities ever occurred on the site? *If yes, please provide a separate written description of those activities.*	Yes ☐	No ☑
Is the proposal consistent with any restrictive covenants or Part 5 agreements that apply to the site?	Yes ☑	No ☐

Does the proposal involve any of the following?		
Type of development		**Brief written description if not clearly shown on the plans:**
Partial or full demolition	☐ Yes ☑ No	
Fencing	☐ Yes ☑ No	
New or upgraded vehicle / pedestrian access	☑ Yes ☐ No	
New or modified water, sewer, electrical or telecommunications connection	☐ Yes ☑ No	
Retaining walls	☐ Yes ☑ No	
Cut or fill	☐ Yes ☑ No	
Signage	☐ Yes ☑ No	
New car parking	☐ Yes ☑ No	Existing Car parking will be renovated & reused.
Vegetation removal	☑ Yes ☐ No	Minimal clearing required for Bush Fire management.

Existing floor area 0 m^2	Proposed floor area 780 m^2

Number of existing car parking on site 77	Number of proposed car parking on site .....

Describe the width & surfacing of vehicular access (existing or proposed) and how drainage/runoff is collected and discharged:	Refer to attached Report & drawings.
If vehicular access is from a road sign-posted at more than 60 km/hr, please state the sight distance in both directions:	..... or N/A

Please note, if a gravel driveway is proposed from a sealed public road please address the following clause (E6.7.6 P1):

Parking spaces and vehicle circulation roadways must not unreasonably detract from the amenity of users, adjoining occupiers or the quality of the environment through dust or mud generation or sediment transport, having regard to all of the following:

(i) the suitability of the surface treatment;
(ii) the characteristics of the use or development;
(iii) measures to mitigate mud or dust generation or sediment transport.

Will stormwater from buildings and hardstand areas be managed by: (details should be clearly shown / noted on plans)	Discharge to a main:	☐ Yes / ☑ Not applicable
	Discharge to kerb & gutter:	☐ Yes / ☑ Not applicable
	Discharge to roadside table drain:...	☐ Yes / ☑ Not applicable
	Discharge to natural watercourse: ..	☐ Yes / ☑ Not applicable
	Retained on site:	☑ Yes / ☐ Not applicable

Materials:				
External building material	Walls:	Fibre Cement	Roof:	Colorbond
External building colours	Walls:	Dark Grey, Natural Tones	Roof:	'Monument'
Fencing materials	N/A	Retailing wall materials	N/A	

For all outbuildings

Describe for what purpose the building is to be used:	Visitor accommodation
Describe any intended toilet, shower, cooking or heating to be installed:	Refer to SBM SHK 5-20 DA Report
If the building is to be used wholly or partly as a domestic workshop, what type of tools and machines will be used?	N/A

For all non-residential applications

Hours of Operation						
Current hours of operation	Monday to Friday:	7am to 6pm	Saturday:	-	Sunday & Public holidays:	-
Proposed hours of operation	Monday to Friday:	7am to 10pm	Saturday:	7am to 10pm	Sunday & Public holidays:	7am to 10pm

Number of Employees			
Current Employees Total:	3	Maximum at any one time:	3
Proposed Employees Total:	16	Maximum at any one time:	10

Describe any delivery of goods to and from the site, including the types of vehicles used and the estimated average weekly frequency:	Refer to SBM SHK 5-20 DA Report or N/A
Describe current traffic movements into the site, including the type & timing of heavy vehicle movements & any proposed change:	Refer to SBM SHK 5-20 DA Report or N/A
Describe any hazardous materials to be used or stored on site:	Refer to SBM SHK 5-20 DA Report or N/A
Describe the type & location of any large plant or machinery used (refrigeration, generators)	Refer to SBM SHK 5-20 DA Report or N/A
Describe any retail and/or storage of goods or equipment in outdoor areas:	Refer to SBM SHK 5-20 DA Report or N/A
Describe any external lighting proposed:	Refer to SBM SHK 5-20 DA Report or N/A

Personal Information Protection Statement:

The personal information that Council is collecting form you is deemed personal information for the purposes of the *Personal Information Protection Act 2004*. The intended recipients of personal information collected by Council may include its officers, agents or contractors or data service providers. The supply of the information by you is voluntary. If you cannot provide or do not wish to provide the information sought, Council may be unable to process your application. Council is collecting this personal information from you for the purposes of managing, addressing, advising upon and determining the application and other related Council matters.

Declaration:

I/we hereby apply for planning approval to carry out the use or development described in this application and the accompanying documents and declare that: -

- The information in this application is true and correct.
- In relation to this application, I/we agree to allow Council employees or consultants to enter the site in order to assess the application.
- I/we confirm that I/we are the copyright holder or have the authority to sign on behalf of any person with copyright for documents to this application and authorities Council to provide a copy of this application to any person for assessment or statutory consultation.
- I/we authorise Council to provide a copy of any documents relating to this application to any person for the purpose of assessment or public consultation and agree to arrange for the permission of the copyright owner of any part of this application to be obtained.
- I acknowledge that if the application is discretionary that the application will be exhibited in the Council offices and on the Council website.
- I/We declare that the Owner has been notified of the intention to make this application in accordance with section 52(1) of the *Land Use Planning and Approvals Act 1993*.

Signature:	Gillian Richards	Date:	14/11/2018

If application is not the owner

If the applicant is not the owner, please list all persons who were notified of this application pursuant to section 52 of the *Land Use Planning and Approvals Act 1993*.

Name:	Method of notification:	Date of notification:
Stuart Loone	Email: stuart.loone@springbaymill.com	14/11/2018

If application is on or affect Council or Crown owned or administered land

If land affected by this application is owned or administered by the Crown or Council then the written permission of the relevant Minister (or their delegate) and/or the General Manager must provided and that person must also sign this application form below:

I ..... being responsible for the administration of land at ..... declare that I have given permission for the making of this application by ..... for use and/or development involving ....

Signature: ..... Date: .....

It is the applicant's responsibility to obtain any such consent prior to lodgement. Written requests for consent of the Council must be sent to General Manager. Request for Ministerial consent should be directed to the relevant department.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
147559	1
EDITION	DATE OF ISSUE
2	25-Jul-2012

SEARCH DATE : 30-Nov-2018
SEARCH TIME : 04.37 PM

DESCRIPTION OF LAND

Parish of TRIABUNNA Land District of PEMBROKE
Lot 1 on Plan 147559
Derivation : Part of 1000A-0R-0P & 920A-0R-8P Gtd to Thomas Daunt Lord
Derived from A22019

SCHEDULE 1

C950107 TRANSFER to TRIABUNNA INVESTMENTS PTY LTD
Registered 25-Jul-2012 at noon

SCHEDULE 2

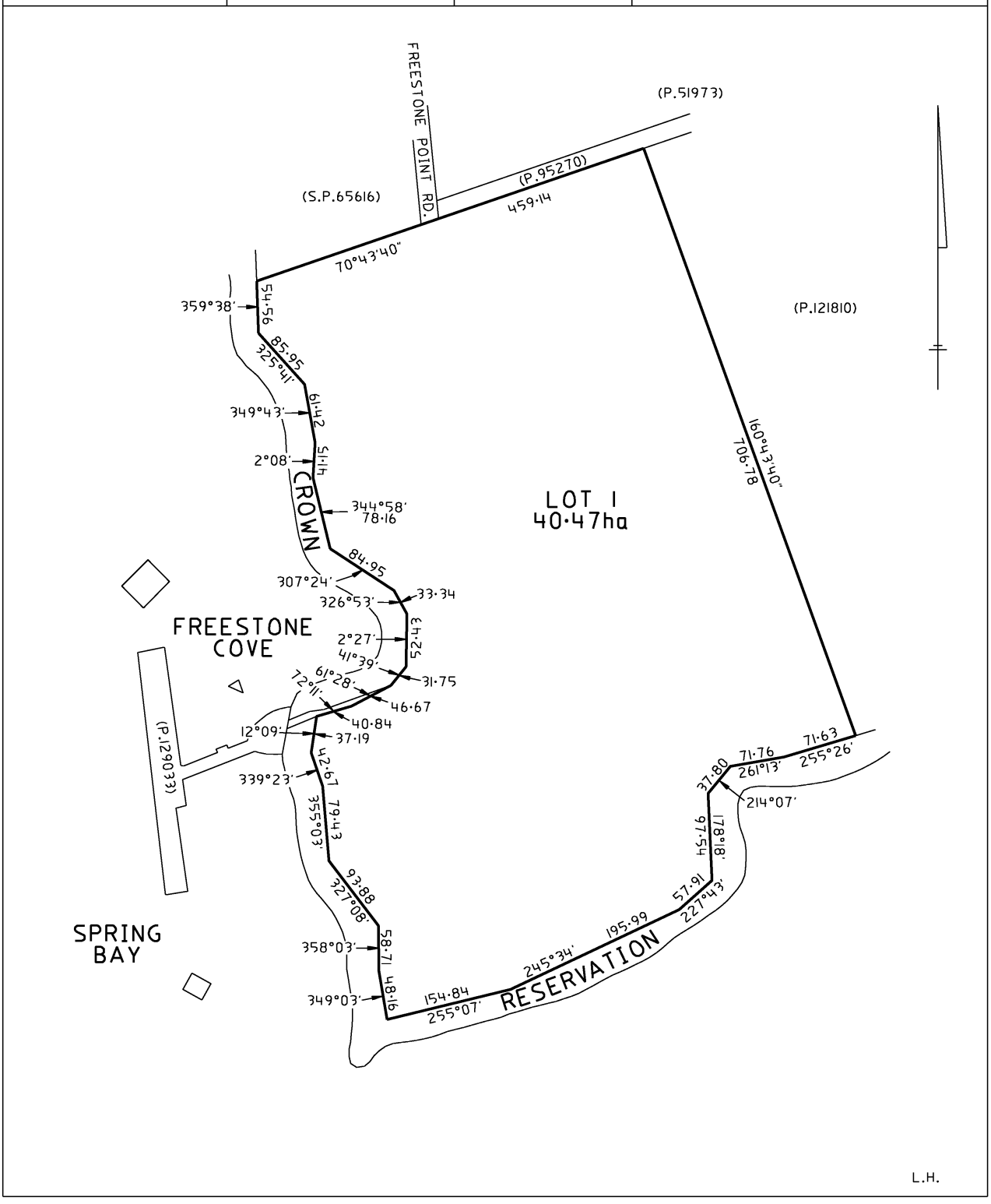
Reservations and conditions in the Crown Grant if any
CONVEYANCE Made Subject to Boundary Fences Condition

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER LAND TITLES ACT 1980 FOLIO REFERENCE A.22019 GRANTEE PART OF 1000AC GTD. TO THOMAS DAUNT LORD & PART OF 920A-0R-8P GTD. TO THOMAS DAUNT LORD	**PLAN OF TITLE** LOCATION PEMBROKE - TRIABUNNA FIRST SURVEY PLAN No. 92/1 D.O. COMPILED BY L.D.R.B. SCALE 1: 4000 LENGTHS IN METRES	Registered Number P.147559 APPROVED 7 JUL 2006 Alice Kava Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 112(5628)	LAST UPI No 3000618	LAST PLAN No.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



Spring Bay Mill

Report addressing the Development Approval of cabins (Shacks) 5 to 20.

This report is to be read in conjunction with the drawings:

SBM SHK A00:	COVER PAGE
SBM A01 REV 5:	LOCATION PLAN
SBM SHK A01a:	SITE PLAN 1
SBM SHK A01b:	SITE PLAN 2
SBM B101:	RECEPTION SITE PLAN WITH U/A CABIN
SBM SHK A02:	SHACK TYPE 1: FLOOR PLAN & ELEVATION
SBM SHK A03:	SHACK TYPE 2: FLOOR PLAN & ELEVATION
SBM SHK A04:	TYPICAL SECTION
SBM SHK A07	SHACK TYPE 3: FLOOR PLAN & ELEVATIONS
SBM SHK A08:	SHACK TYPE4 (UA): FLOOR PLAN & ELEVATIONS
SBM SHK A09:	AMMENITIES BUILDING FOR GLAMPING

Introduction

This proposed Development Approval is for stage two of the proposed cabins on site, Shacks 5-20.

Site details are as follows: No further accommodation is proposed on site.

Applicant / Owner: Triabunna Investments Pty Ltd

Contact Person: Gillian Richards: Vanishing Point Design

Municipality: Glamorgan Spring Bay

Certificate of Title: CT 147559/1

Address: 555 Freestone Point Rd, Triabunna 7190

Postal Address: PO Box 41, Triabunna 7190

Building Height

All shacks will have an average of a maximum height of 5m from natural ground level. No cabin will have any part above 10m from natural ground level.

Setback

The minimum setback is 7m from the property side boundary. The average set back of the cabins is 24m.

Cabin Types

The cabin types are as follows:

Cabin 5:	One Bedroom Cabin: Shacks Type 1
Cabin 6:	One Bedroom Cabin: Shacks Type 1
Cabin 7:	Two Bedroom Cabin: Shacks Type 2
Cabin 8:	Two Bedroom Cabin: Shacks Type 2
Cabin 9:	Two Bedroom Cabin: Shacks Type 2
Cabin 10:	One Bedroom Cabin: Shacks Type 3
Cabin 11:	One Bedroom Cabin: Shacks Type 3
Cabin 12:	One Bedroom Cabin: Shacks Type 3
Cabin 13:	One Bedroom Cabin: Shacks Type 1
Cabin 14:	Two Bedroom Cabin: Shacks Type 2
Cabin 15:	Two Bedroom Cabin: Shacks Type 2
Cabin 16:	Two Bedroom Cabin: Shacks Type 2
Cabin 17:	Two Bedroom Cabin: Shacks Type 2
Cabin 18:	One Bedroom Cabin: Shacks Type 1
Cabin 19:	Two Bedroom Cabin: Shacks Type 2
Cabin 20:	Two Bedroom Cabin: Universal Access Type 4 Shack

Design, Materials & Colour Schemes

Materials & Colour schemes will be selected in accordance with the policy of having less than 40% reflectivity & will be of natural tones. Some smaller areas of feature colours will be used as part of the branding & signage of the site. These colours will be consistent with the design intent of the site as a whole. The building was deemed to be of a low to moderate risk in the 'Swift Parrot Collision Risk Assessment by NorthBaker. Glazing will adhere with the recommendations set out in this report. The existing building will reclad & paint finish in a colour in a natural tone. The sixteen units make up a total of 780m2. Site area is 40.47 Ha. With this additional built area site coverage is less than 1%.

Landscaping

The proposed cabins are located on site to minimise the site clearing required for installation. The bush fire management plan has also been designed as a performance solution to minimise the clearing of native vegetation required. All landscaping works will be done in accordance with the Natural Resource Management Conditions of DA 2016/00202 & the Natural Values & Bush Hazard Management Plan reporting done by NorthBarker. As stated in condition 12 & 13, all works will be done in accordance with the recommendations for removal & management of weed species on site. In accordance with Condition 8 no native vegetation will be removed as part of the works.

Car Parking & Access

Number of Car Parking Bays as required in; Parking & Access Code, Table E6.1

1 space for each 2 bedrooms and 1 space for each accommodation unit, as applicable.

Total car bays required = 16 Car Bays required

77 car bays are currently available in the two-area's shown on the attached site plan of the reception building (SBM B1-01). 43 of these spaces are required for the reception / restaurant building B1, while 4 are required for cabins 1-4; this is a total of 63 spaces. These car parking bays will be marked to AS NZS 2890.1-2004 Parking Facilities – Off-street Parking. These parking areas are within an existing sealed carparking area. The finish will be renovated & retained for reuse. All storm water drainage will be controlled on site a recommended by the approved water management plan.

Cabin number 20: will have a universal access parking bay that is built to AS 2890.6 Off street parking for people with disabilities.

Lighting will be provided to this carparking area in AS/NZS 1158.3.1:2005

The entry road to this car parking facility will be dual carriageway of a minimum of 6m width. Please refer to site plan for proposed car parking access & layout. Visitors will be delivered to each unit via on site transport from the centralised car parking.

Access to the industrial areas of the site will be controlled at the point of entry to adhere to safety requirements.

Proposed Water Management

A composting & grey water drainage design has been prepared by Geosolutions for each cabin site. This report is attached this application.

The existing potable water supply will be supplied from the water tanks at each site. These tanks will be supplemented by the existing water service on the site.

The building roof area will be drained to water tanks at each unit.

Cabin number 20 & the glamping amenities building will have reticulated water from the site's mains supply. Water will still be collected from the roof of these buildings to be reused on site.

Hours of Operation

The current hours of operation of the site are Monday to Friday 7am to 6pm. As the facility is a tourism facility the hours of operation are dependent on the arrival of visitors, functions & events. The proposed hours of operation for this facility are 7am to 10pm 7 days a week.

Employees

The site currently has 3 employees plus contractors. The facility is likely to have a total staff number of around 16 persons with no more than 8 onsite at any one time. During specialist events requiring further staff further facilities will be provided as required.

Traffic Management / Deliveries

Deliveries to the site are managed by staff during the hours of operation. The proposal will increase the delivery of goods required for the running of the facility such as laundry, produce, products for display or sale, food or drink. It is estimated that no more than 8 deliveries per day on average will be required. Prior to larger events further deliveries may be required, this will be managed by staff as to not impact of on the safety or comfort of staff & patrons. No heavy vehicles are expected as part of the normal use of the site. No impact on neighbouring properties is foreseen.

External Lighting

As per condition 21. Of DA 2016/00202 all carparking shall have lighting in accordance with clause 3.1 'Basis of Design' & clause 3.6 "Carparks" in AS/NZS 1158.3.1:2005. Likewise, pathways & Pedestrian areas will have lighting to the approval of the councils General Manager.

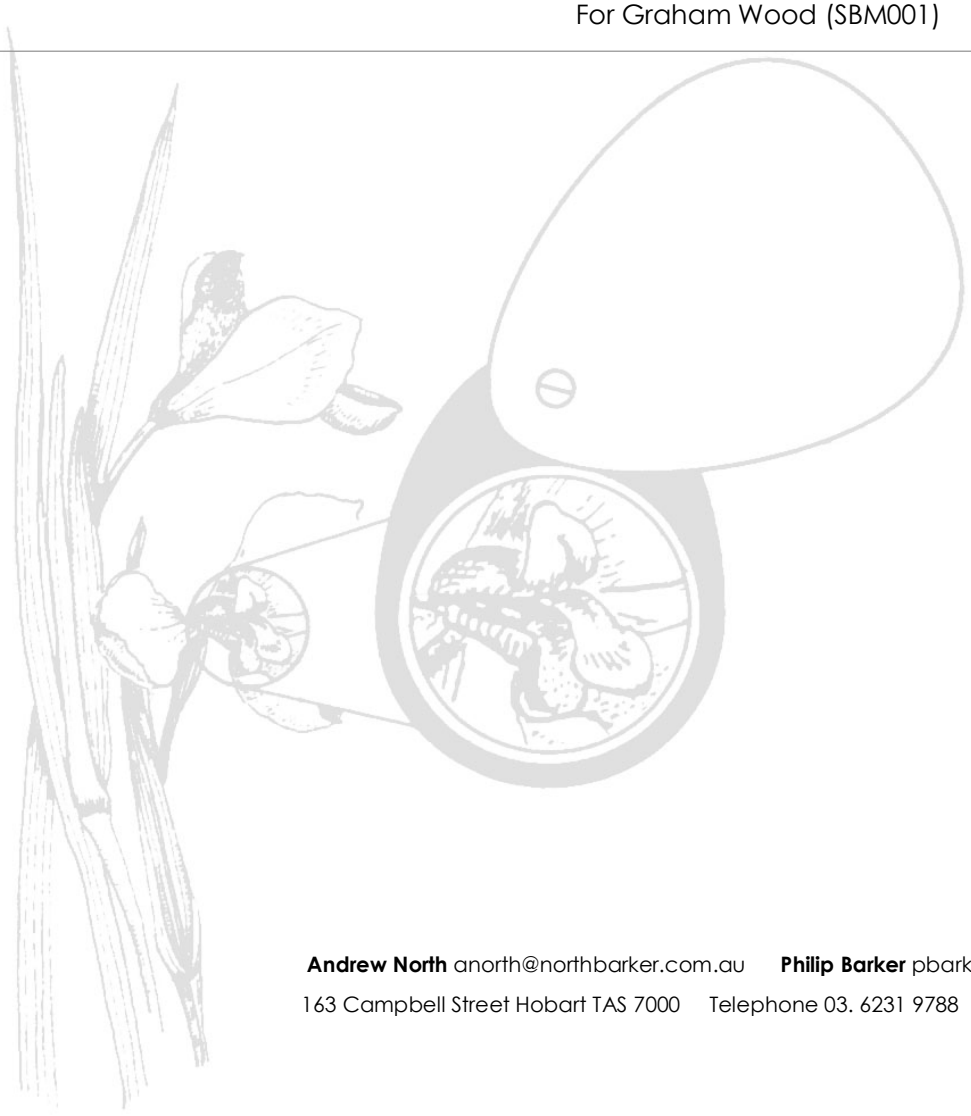
northbarker
ECOSYSTEM SERVICES

Spring Bay Mill - Visitor Accommodation

Bushfire Report and Hazard Management Plan
DRAFT

5th November 2018

For Graham Wood (SBM001)



Andrew North anorth@northbarker.com.au **Philip Barker** pbarker@northbarker.com.au
163 Campbell Street Hobart TAS 7000 Telephone 03. 6231 9788 Facsimile 03. 6231 9877

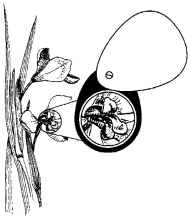
Contents

ACKNOWLEDGMENTS

Client: Graham Wood

Survey and report: Philip Barker

Mapping: Linda Drummond



1. INTRODUCTION

The proposal is for the redevelopment of the Spring Bay wood chip mill industrial site near Triabunna in south east Tasmania. The proposal includes refurbishment of an existing building to be used as a reception and restaurant and construction of 4 (four) beach "shacks" for use as visitor accommodation.

As part of the planning process the Glamorgan Spring Bay Council require a Bush Fire Hazard Management Plan (BHMP) demonstrating the impact of the implementation of a BHMP. Further to that, the proposed use is Vulnerable, being visitor accommodation and a BHMP and Emergency Plan is required to gain a building permit.

BAL separation distances will be complimented by building materials that meet the relevant AS3959 requirements (including shielding), vegetation management, compliant access, provision of water to fight bushfires and an emergency and evacuation plan. The HMP is in Appendix 1.

Some existing buildings on the industrial footprint are proposed to be retained for various purposes. A number of independent 1 bedroom "shacks" are proposed to be constructed as visitor accommodation on land previously not utilised and a "glamping" area will provide more visitor accommodation. Table 1 indicates the classification for each new and existing building for the purposes of this bushfire hazard management (Figure 2).

The visitor accommodation is intended to provide a relatively secluded experience within a natural landscape. To achieve the desired ambiance it is proposed to locate the shacks in a scattered fashion amongst native vegetation. The building will need to comply with building Performance Requirements of the Directors Determination (Building Act 2016).

This proposal intends to rely on evacuation of visitors and staff to safer places in the event of a bushfire and well as a minimisation of the impact of embers by incorporating ember proofing techniques and materials to the "shacks".

The proposal is being developed in stages. This plan includes details of two existing certified BHMP's and attendant emergency evacuation plans; this BHMP supersedes all earlier plans.

Table 1. Building identification, use and classification.

Building code	**Building Description**	**Classification (BCA)**
A	Managers residence	1a
B1	Reception / Restaurant	5 and 6
B2	Admin and service	5 and 8
F1	Library / small gathering venue:	9b
G1-4	Beach Accommodation	1b
G 5-**	Bush Accommodation	1b
I	Performance space	9b
J	Workshop	10a
J2	Staff Maintenance	8
L	Universal Access Accommodation	1b
M 1-12	Camping Accommodation Cabin	1b

2. SITE DESCRIPTION

The land is within the Glamorgan Spring Bay Council municipality. The Council identifies the land as occurring in a Particular purpose zone which includes parts within a Biodiversity Protection Area and bushfire prone vegetation.

The location is on a post industrial site, previously used to produce woodchips from Tasmanian forests. The site still supports the woodchip mill building and ancillary buildings. The previous development has occurred around two high points that each slope away in all directions, either toward the coast or inland. The site is accessed by a bitumen road of 8m width from a Tasmanian A class road. There are a number of internal tracks.

The existing development area is clear of vegetation other than gardens and stands of planted blue gums. The proposed development area occupies the same site other than a proposal for some accommodation units above the beach of Windless Bay in the east.

The vegetation surrounding the development area is predominantly native forest and woodland.

The predominant wind direction during summer in fire weather is north through west, often with south-westerly fronts on the same day of highest FDI.

See Figure 1 for the context and locality of the proposal.

Limitations:

This report on based on site investigations at the time of inspection and from information provided by the proponent. The report is limited in scope to bushfire hazard assessment and mitigation only. The assessment is based on this development proposal and its findings are for this site only. Future changes to the building proposal or changes in the vegetation that affect bushfire hazard have not been considered.

Tasmanian HMP's are required to comply with BAL measures that relate to a Fire Danger Index of 50. 97% of buildings lost to bushfires are lost on days on which the FDR exceeds 50. The BAL separation distances provided in this report may not protect the building from exposure to radiant heat levels that may be experienced at higher FDI's. FDI's greater than 50 are common in south eastern Tasmania.

Separation distances for visitor accommodation on this site (G5-19) do not meet deemed to satisfy requirements and as such a performance solution is applied.

Separation distances for buildings G5-19 and L and M rely on a Performance solution described below.

Figure 1. The location and context of the site.

3. BUSHFIRE SITE ASSESSMENT

Vegetation: The existing vegetation within 100 m of the site is predominantly forest and woodland. The existing vegetation is depicted in Figure 2 and tabulated in Table 2.

The vegetation surrounding the development area is predominantly native *E. globulus* forest/woodland and planted *E. globulus* forest and *E. amygdalina* forest/woodland. Smaller stands of forest and other vegetation are also present. A number of large stands have been managed to reduce fuel by slashing and a "fire break" has been maintained in the north east. However, these stands do not meet the criteria for exclusion as low threat vegetation and so have been classified as fire prone.

Slope and fire paths: From the central highpoints of the development the land slopes gently westward and southward from the development and then more steeply at the coast. From the east and north the land slopes gently upward toward the development.

The slope differs around the aspect sectors but is consistent beneath the fire prone vegetation both upslope and downslope within 100 m of the site. Only the slopes and vegetation that affect the BAL rating at the adjacent wall of the building are reported in Table 2.

Depending on ignition points the most likely fire paths are from the north through forest, and the east through pasture. The beach to the southeast has only private access and so the level of use and therefore risk of ignition from visitors is low. The western coast is not easily accessible either.

Distance:

Table 2 lists the dimensions for the HMA's for the relevant BAL solutions for aspect of each building.

All distances assume a building size as illustrated on Figure 2. The dimensions of the defendable space extend from the outside walls of the buildings.

Figure 2 illustrates the classified vegetation for a 100 m radius (minimum from building). Figure 3 illustrates the process of developing HMA including the some existing low threat vegetation that will be altered by landscaping. This alteration has been included as a "botanical" garden and so remains LTV. Other areas of LTV are accommodated by assuming a worst case scenario; i.e. the establishment of forest. This affects the minimum separation distances required to achieve BAL 12.5.

Where buildings are near the property boundary the separation distances (width of hazard management area) provided in Table 2 would cross the property boundary. At these sites an alternative solution to the deemed to satisfy requirements is provided. This solution does not require management of the vegetation on neighbouring land. Consequently no Part 5 agreement is required with the neighbouring land owner.

Table 2 Slope and vegetation characteristics and AS3959 minimum distance solution for BAL.

Aspect quarter	Vegetation class Table 2.3 AS3959 (LTV*=, LTV & Non vegetated) (*all assumed to be planted to forest)	Building code, as per Figure 1. *Performance solution required.	Effective Slope (degrees)	Minimum Defendable Space Required for BAL 12.5, 19+ (superscripts indicate BAL construction requirement including effect of shielding)	Distance under effective slope	Exclusions of low threat vegetation under 2.2.3.2 AS3959. *all LTV not identified as a specific use is assumed to be planted to forest and mitigated according to BAL 12.5.
Ancillary buildings						
North	Forest	A	> 0-5°	27+	100	
East	Forest	A	upslope	23+	100	
South	LTV -shielded	A	> 0-5°	27+	75	
West	Forest	A	> 0-5°	27+	21	
North	LTV Forest	B1	> 0-5°	38	100	
East	LTV Forest	B1	upslope	32	100	
South	LTV Forest	B1	> 0-5°	38	100	
West	LTV Forest	B1	> 5-10°	46	48	
North	LTV Forest	B2	upslope	32	100	
East	LTV Forest	B2	> 0-5°	38	100	
South	LTV Forest	B2	> 0-5°	38	100	
West	LTV Forest	B2	> 5-10°	46	100	
North	LTV	F1	upslope	0	80	(f) botanical garden
East	LTV	F1	upslope	0	100	(f) botanical garden
South	Forest	F1	> 5-10°	46	100	
West	Forest	F1*	>15-20°	56	100	
North	LTV - Forest shielded	I	upslope	32	100	
East	LTV Forest	I	upslope	32	100	
South	LTV Forest - shielded	I	> 0-5°	38	100	
West	Forest	I	> 5-10°	46	45-100	
North	LTV Forest	J1	upslope	32	100	
East	LTV Forest	J1	upslope	32	100	
South	LTV Forest	J1	upslope	32	100	
West	LTV Forest	J1	> 5-10°	46	100	
North	LTV Forest - shielded	J2	upslope	32	100	
East	LTV Forest - shielded	J2	upslope	32	100	
South	LTV Forest	J2	upslope	32	100	
West	Forest	J2	> 5-10°	46	100	
Visitor Accommodation						
Beach Shacks						
North	Grassland	G1	upslope	14	100	
East	Grassland		> 5-10°	19	100	
South	Woodland		> 5-10°	26	100	
West	Grassland		upslope	14	100	
North	Forest	G2-4	upslope	32	100	
East	Grassland		> 0-5°	16	100	
South	Grassland		> 5-10°	19+	100	
West	Forest		upslope	32	100	
Southern Shacks						
North	Forest	G5*	>0-5	38	100	

Aspect quarter	Vegetation class Table 2.3 AS3959 (LTV*=, LTV & Non vegetated) (*all assumed to be planted to forest)	Building code, as per Figure 1. *Performance solution required.	Effective Slope (degrees)	Minimum Defendable Space Required for BAL 12.5, 19[+] (superscripts indicate BAL construction requirement including effect of shielding)	Distance under effective slope	Exclusions of low threat vegetation under 2.2.3.2 AS3959. *all LTV not identified as a specific use is assumed to be planted to forest and mitigated according to BAL 12.5.
East	Forest		>10 -15	56	75	
South	Forest		>20	>100	100	
West	Forest		upslope	32	50	
North	Forest	G6*	upslope	32	30	
East	Forest		>20	>100	100	
South	Scrub		>20	>100	60	
West	Forest		upslope	32	80	
North	Forest	G7*	upslope	32	20	
East	Forest		>10 -15	56	100	
South	Forest		>10 -15	56	100	
West	Scrub		upslope	27	20	
North	Scrub	G8*	upslope	27	20	
East	Forest		>20	>100	100	
South	Forest		>20	>100	100	
West	Scrub		upslope	27	40	
North	Scrub	G9*	upslope	27	20	
East	Forest		>5-10	46	100	
South	Forest		>20	>100	80	
West	Woodland		>0-5	38	100	
North	Woodland	G10*	upslope	22	40	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	50	
West	Woodland		>5-10	32	100	
North	Woodland	G11*	upslope	22	50	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	50	
West	Woodland		>10-15	40	100	
North	Woodland	G12*	upslope	22	80	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	50	
West	Woodland		>15-20	32	100	
North	Woodland	G13*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	100	
West	Woodland		>15-20	48	100	
North	Woodland	G14*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>5-10	32	50	
West	Woodland		>20	>100	40	
North	Woodland	G15*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>5-10	32	100	
West	Woodland		>20	>100	40	
North	Woodland	G16*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>0-5	26	100	

Aspect quarter	Vegetation class Table 2.3 AS3959 (LTV*=, LTV & Non vegetated) (*all assumed to be planted to forest)	Building code, as per Figure 1. *Performance solution required.	Effective Slope (degrees)	Minimum Defendable Space Required for BAL 12.5, 19^{+} (superscripts indicate BAL construction requirement including effect of shielding)	Distance under effective slope	Exclusions of low threat vegetation under 2.2.3.2 AS3959. *all LTV not identified as a specific use is assumed to be planted to forest and mitigated according to BAL 12.5.
West	Woodland		>15-20	48	100	
North	Woodland	G17*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>5-10	32	100	
West	Woodland		>20	>100	50	
North	Woodland	G18*	upslope	22	30	
East	Woodland		upslope	22	60	
South	Woodland		>15-20	48	100	
West	Woodland		>20	>100	60	
North	Woodland	G19*	upslope	22	30	
East	Woodland		upslope	22	40	
South	Woodland		>5-10	32	100	
West	Woodland		>15-20	48	100	
Universal Access						
North	Forest	L	upslope	32		
East	Forest	L	upslope	32		
South	Forest	L	>5-10	46		
West	Forest	L	>0-5	38		
Camping Ground						
North	Forest	M	> 5-10°	32		
East	Forest	M	> 5-10°	32		
South	Forest	M	upslope	22		
West	Forest	M	upslope	22		

Figure 2. Classified vegetation and associated low threat vegetation.

Figure 3. Indicative hazard management areas within classified vegetation.

Water supply and storage for reticulated system.

Building B - Building to be refurbished as reception and restaurant .

Building I – Conference centre assembly point and refuge.

Blue gum plantation north (upslope) of proposed shack sites G2-4.

Location of shack sites G2-4 above Windless Bay safer place.

Vegetation at proposed shack site G1.

Slashed fire break north east of Glamping site L

Blue gum forest near M - Universal use shack

4. BUSHFIRE PRONE AREAS MANAGEMENT OBJECTIVES

Sections 4. 1- 4.4 and the attendant Tables below summarise the elements and requirements for each of the directions included in the Directors Determination for development of new habitable buildings in bushfire prone areas (Version 2 February 2017). The proposal is a Vulnerable use, being visitor accommodation. The Deemed to Satisfy requirements indicated below are required to be implemented for the proposal to comply. Where the proposal cannot meet the DTS a Performance solution is required.

Separation distances for buildings G5-19 and L and M do not meet one or more deemed to satisfy requirements and so rely on a Performance solution described below each relevant DTS Table 4.1 - 4.4.

Performance Requirements for visitor accommodation

(1) A building to which this Determination applies must, to the degree necessary, be:

(a) Designed and constructed to reduce the ignition from bushfire, appropriate to the –

(i) Potential for ignition caused by burning embers, radiant heat or flame generated by bushfire; and

(ii) Intensity of the bushfire attack on the building;

(b) Provided with vehicular access to the site to assist fire fighting and emergency personnel to defend the building or evacuate occupants;

(c) Provided with access at all times to a sufficient supply of water for fire fighting purposes on the site; and

(d) Provided with appropriate separation of the building from the bushfire hazard.

An alternative solution has been sought from TFS to allow the proposal to rely in evacuation in place of compliant HMA's for G5-19, L and M.

DEEMED TO SATISFY REQUIREMENTS

4.1 Construction Requirements

(1) Building work (including additions or alterations to an existing building) in a bushfire-prone area must be designed and constructed in accordance with an Acceptable Construction Manual determined by the BCA, being either: -

(a) AS 3959-2009; or

(b) Standard for Steel Framed Construction in Bushfire Areas published by the National Association of Steel Framed Housing Inc. (NASH). As appropriate for a BAL determined for that site.

(2) Despite subsection (1) above, variations from requirements specified in 1(a) and 1(b) are as specified in Table 4.1 below.

Note that the glamping structures (building M) do not comply with AS3959 or the BCA. These structures are included in this plan to provide for the safety of the occupants to the extent possible and will rely on an emergency evacuation plan.

Table 4.1 Relevant Construction Requirements & Construction Variations

Column 1		Column 2
Element		Requirement
C	Shielding provisions under AS3959 – 2009.	To reduce construction requirements due to shielding, building plans must include detailed elevations or plans that demonstrate Section 3.5 of the Standard have been met.
D	Construction standard for vulnerable use	Building work for a building classified as vulnerable use must be constructed to a BAL that is determined in a certified BHMP.

4.2 Property Access

(1) A new building constructed in a bushfire-prone area must be provided with property access to the building and the water connection point, accessible by a carriageway, designed and constructed as specified in Table 4.2.

Table 4.2 Standards for Property Access

Element		Requirement
B	Property access length is 30 metres or greater; or access is for a fire appliance to a fire fighting water point.	The following design and construction requirements apply to 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° (1:8 or 12.5%) entry and exit angle; (h) Curves with a minimum inner radius of 10 metres; (i) Maximum gradient of 15° (1:3.5 or 28%) for sealed roads, and 10° (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 inner 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.

C	Property access is 200 m or greater.	(a). The requirements for B above (b). Passing bays of 2 m additional carriageway and 20 m length every 100 m

4.3 Water Supply for Fire fighting

In this case a reticulated water supply is provided for firefighting and for other use at the reception and restaurant. At the shack sites a static water supply will be in use.

(1) A new building constructed in a bushfire-prone area, must be provided with a water supply dedicated for firefighting purposes as specified in subsections (2) and (3) below.

(2) Water supplies for firefighting must meet the requirements described in Tables 4.3A and 4.3B for building A.

(3) The water supply must be:

(a) Provided from a fire hydrant or static water supply;

(b) Located within the specified distance from the building to be protected; and

(c) Provided with a hardstand and suitable connections.

Table 4.3A Reticulated water supply for Fire fighting for all ancillary buildings, building L and area camping area M.

Element		Requirement
A	Distance between building area to be protected and water supply	The following requirements apply: (a) The building area to be protected must be located within 120 metres of a fire hydrant and (b) The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.
B	Design criteria for hydrants	The following requirements apply: (a) Fire hydrant system must be designed and constructed in accordance with Taswater Supplement to Water Supply Code of Australia WSA 03 – 2011 -3.1 MRWA Edition 2.0; and (b) Fire hydrants are not installed in parking areas.
C	Hard stand	A hardstand area for fire appliances must be provided: a) No more than three metres from the water connection point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); b) No closer than six metres from the building area to be protected; c) With 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 4.3B Static water supply for fire-fighting – Shacks G1-19.

Column 1		Column 2
Element		Requirement
A	Distance between building area to be protected and water supply	The following requirements apply: (a) The building area to be protected must be located within 90 metres of the water connection point of a static water supply; and (b) The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.
B	Static water supply	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 3959-2009, 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.
C	Fittings pipework and accessories (including stands and tank supports)	Fittings and pipework associated with a water connection point for a static water supply must: (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) Where buried, have a minimum depth of

		300mm; (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 water supply connections.	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: (a) comply with water tank signage requirements within Australian Standard AS 2304-2011 Water storage tanks for fire protection systems; or (b) comply with the Tasmania Fire Service Water Supply Signage Guideline published by the Tasmania Fire Service.
E	Hard stand	A hardstand area for fire appliances must be provided: (a) No more than three metres from the water connection point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); (b) No closer than six metres from the building area to be protected; (c) With 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.

4.4 Hazard Management Areas

The following are deemed to satisfy the HMA requirements for buildings A-F, G1-4 and I-J.

(1) A new building, or extension to a building, constructed in a bushfire-prone area must be provided with a HMA of sufficient dimensions and which provides an area around the building which separates the building from the bushfire hazard.

(2) The HMA must comply with Table 4.4; and

(3) The HMA for a particular BAL must have the minimum dimensions required for the separation distances specified for that BAL in Table 2.4.4 of AS 3959-2009; and

(4) The HMA must be established such that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to the bushfire attack.

Buildings G5-19 and L and M rely on a Method 2 assessment of fuel and a reconsideration of the likely fire direction and conditions under which a bushfire is likely to burn. With this understanding management of the HMA is modified and safety will rely on a detailed evacuation plan.

All accommodation buildings will also have a 1 m curtilage managed to be free of fuel and ember proofing materials fitted to minimise the risk of ignition.

Table 4.4 Hazard Management Area Requirements

Element		Requirement
D	Hazard management areas for new buildings and additions and alterations to buildings classified as an accommodation building BCA Class 1b, BCA Class 2, or BCA Class 3, other than communal residence for persons with a disability, a respite centre or a residential aged care facility or similar.	A new building or an addition or alteration including change of use must: (a) Be: (i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or (ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for fire fighting; and (b) Have a HMA established in accordance with a certified bushfire hazard management plan.

Alternative Solution for HMA- buildings G5-19 and L.

The BAL of the site will be calculated by TFS to consider the slope of greater than 20° around the coast line, a modified fire attack direction and length of fire run.

These buildings will be built to a minimum of BAL 12.5 specifications with additional mitigation to make the buildings ember proof. The ember proof design should be certified by a building surveyor.

Each building will have a curtilage of 1 m surrounding the building protected by a mineral surface such as gravel of concrete.

The ground below all raised areas such as decks and floors will be protected by a mineral surface.

An emergency evacuation plan is attached which provides for timely and safe evacuation and includes affective consideration of people with mobility constraints and people who may not speak English or have impaired hearing.

4.5 Compliance

Table 3 lists each direction and the relevant requirements and means of compliance

Table 3. Compliance of the proposal with the requirements for building in bushfire prone areas (Directors Determination 2016).

Direction	Deemed to satisfy requirements (Elements)	Solution	Compliance
4.1	Construction requirements	AS 3959 - 2009	TBA
4.2	Access	4.2 C	DTS
4.3	Reticulated and static water supply for fire fighting	4.3A – A,B,C, 4.3B – A-E	DTS
4.4	Hazard management areas (buildings A-F, G1-4 and I-J)	4.4 C a (i), (ii) and b	DTS
4.4	Hazard management areas (buildings G5-19, L and M)	4.4 D a (i), (ii) and b `	Alternative Solution

5. MANAGEMENT OF THE HMA'S AND LANDSCAPING

5.1 Management in HMA's Deemed to Satisfy

The bushfire hazard management plan (Appendix 1) has resolved all aspects to the relevant BAL. All HMA's should be maintained in a low fuel state as described below.

Some of the existing land in between the buildings will be developed into a botanical garden and some will remain hardened surfaces.

All vegetation within the HMA's of the various buildings will be managed in a low fuel state.

- Maintain HMA's in a low fuel state. Ground cover vegetation less than 100 mm tall, trees pruned of limbs and dead wood to > 2m above the ground.
- A botanical garden will be established in the centre of the site which is classified as LTV.

- New tree plantings within the curtilage (10 m from existing buildings or alterations) should not exceed the height of any adjacent roof gutters or other part of the building on which fuel (leaves and twigs) can accumulate.
- Elsewhere the buildings are surrounded by existing Low Threat Vegetation (LTV) much of which is concrete. The LTV can be modified and landscaped and established as forest. Alternatively, the HMA's may be converted into grassland, lawns, botanical gardens, vineyards, orchards, nurseries, nature strips and windbreaks other forms of non vegetated cover, including waterways, footpaths, parking areas and rocky outcrops.

6. BUSHFIRE EMERGENCY PLAN

The aim of the plan is to allow any person using the accommodation to escape an approaching fire by moving to a nominated safer place.

The greatest risk of requiring evacuation to the safer place is posed by the unexpected approach of a fire while people are utilising the site. This may be from a fire starting nearby or a s a result of long distance spotting from a remote fire. As such the person responsible for the management of the accommodation should stay informed with regard to bushfires in the region. Any desire to leave the property should be considered well ahead of the approach of a fire and based on the TFS alert process.

The following ways of staying informed are recommended.

Tasmania Fire Service (TFS)
Phone 1800 000 699
www.fire.tas.gov.au
www.facebook.com/TasmaniaFireService
www.twitter.com/TasFireService (@TasFireService)

ABC Radio
91.7 FM 102.7 FM or 1584 AM

A detailed draft Bushfire Emergency Plan is in Appendix 2. That plan should be reconsidered once planning is completed and the utilisation of all buildings is finalised.

The basic elements of the evacuation plan contained within the Bushfire Emergency Plan are:

1. Assembly point – This location should be clearly communicated and clearly marked.
2. Evacuation point – Figure 1 indicates a safer place.
3. Evacuation route – Figure 1 illustrates the routes from each accommodation building.
    a. Each route has a surface and slope grade that meets the access requirements for people with disabilities.
    b. Each element of each route is constructed from fire proof materials (e.g. gravel, rock, cement and or steel).
4. Evacuation time – the travel time from the assembly point to the safer place will be a maximum of 3 minutes.
5. At the assembly point all residents must be accounted for.
6. If evacuation is not possible, residence should remain in the building while the fire front passes. Once the fire front has passed residence should evacuate if the building has ignited and when it is safe to do so.

7. OTHER PLANNING PROVISIONS

A natural values assessment has indicated that some of the forests on the site are of high conservation value[1]. No forests or habitats of high conservation value are required to be cleared to accommodate the HMA's. A small area of the threatened forest type DGL will be fuel modified to all the Universal Access building to be constructed and protected. As such the HMP does not conflict with the planning schemes Biodiversity Protection Area and code because the proposal minimises the impact of bushfire hazard management.

8. SUMMARY AND RECOMMENDATIONS

The aim of the bushfire hazard management plan is to protect the lives and property associated with the accommodation proposal. This protection is in the context of also wishing to retain vegetation within the site and on adjacent land.

An alternative solution that minimises vegetation clearance while being acceptable under the regulations is proposed. The proposal adopts the required BAL minimum separation distances between fire prone vegetation and buildings where practicable. HMA's in existing low threat vegetation for which a use is not stipulated in the plan assumes forest as the surrounding vegetation.

A reticulated water supply with hydrants is proposed for the reception/restaurant building and all other ancillary spaces.

A static water supply is proposed for all accommodation buildings.

An evacuation plan is included.

The implementation of this proposal will require the standards set out in the Requirements for Building in Bushfire Prone Areas, the Building Amendment Regulations 2016 and the HMP in Appendix 1 to be incorporated and maintained.

An accredited person(s) is to inspect and certify the level of vegetation management in the HMA's and the level of construction provided prior to the application for an occupancy permit.

References

Australian Standard AS 3959 (2009) Construction of Buildings in Bushfire Prone Areas.

Building Amendment (Bushfire-Prone Areas) Regulations 2016.

Director of Building Control – Determination. Requirements for building in Bushfire Prone Areas. Version 2 February 2017

NBES (2016) Flora and fauna habitat assessment. Spring Bay Mill.

Planning Directive 5.1.- Bushfire Prone Areas Code

[1] North Barker 2016

APPENDIX 1. BUSHFIRE HAZARD MANAGEMENT PLAN

The following content complies with the content specified in the Bushfire Hazard Advisory Note N0 4 – 2016 and is a regulatory requirement of the Tasmanian Building Act 2000 and the Building Amendment (Bushfire-prone Area) Regulations 2016.

BUSHFIRE ATTACK LEVEL ASSESSMENT REPORT

November 5 2018
Assessed by Philip Barker
Phone 0438250713

Bushfire Attack Level (BAL) assessment conducted in accordance with Clause 2.2 Simplified Procedure (Method 1) of AS 3959 – 2009.

The BAL Assessment Report has been provided to determine the BAL (in accordance with AS3959-2009) for the site and provide recommendations for BAL reduction methods. Requirements for water supply for fire fighting and vehicle access and egress for firefighting are included in the BHMP; and should be included as part of the Building Surveyors Certificate of Likely Compliance assessment.

Limitations.

All measurements have been made using standard practices and may contain errors of precision.

Compliance with the AS3959 building standards referred to in this assessment and the implementation of the evacuation plan, does not mean that there is no risk to life or property as a result of bushfire.

A major limitation is that the BAL value is determined under a Fire Danger Index rating FDI of 50. The FDI can be significantly higher under certain weather and fuel conditions and consequently the BAL may also be higher than determined here.

Property Details

Applicants Name: Graham Wood

Municipality: Glamorgan Spring Bay

Certificate of title / number: CT 147559/1

Address: 555 Freestone Point Rd Triabunna 7190

Proposal: Class 1 and class 3, 5 and 6 and 9 buildings

Proposed Activity

The BHMP applies to buildings that are to be utilised as commercial visitor accommodation and ancillary uses. All buildings with certainty of use in the near future have been included. Any subsequent changes or confirmation of the use of other existing buildings will be incorporated into a subsequent plan that supersedes this plan.

Bush Fire Attack Level (BAL 12.5 and BAL 19)

Relevant fire danger index: (see clause 2.2.2) FDI 50

Compliance Requirements (see Figure 1 below):

The HMA's for each ancillary building must be maintained in a minimum fuel state. Elsewhere the buildings are surrounded by existing Low Threat Vegetation (LTV) much of which is concrete. The LTV can be modified and landscaped. The landscaping of HMA's indicated as LTV Forest in Table 1 may be converted into forest, grassland, lawns, botanical gardens, vineyards, orchards, nurseries,

nature strips and windbreaks other forms of non vegetated cover, including waterways, footpaths, parking areas and rocky outcrops.

A compliant water supply for firefighting and access to it is to be constructed and maintained. The system will include a reticulated water supply and hydrants to fight fire.

Visitor accommodation "Shacks", Universal access building and the glamping" area 1-4 will rely on an alternative solution including evacuation and will have a static water supply of 10,000 litres for each accommodation building.

Compliant access is planned and is required to meet construction specifications, have passing bays and "turning heads" at the end of each road. The turning heads are to be 13.5 m radius to accommodate the turning circle of a 4WD fire fighting vehicle. Internal roads used to access fire hydrants must have a sealed surface where the slope exceeds 10^{o}.

The location of the assembly point following evacuation areas are illustrated in Figure 1.

Determination of Bushfire Attach Level (BAL) The HMA has been designed to provide the lowest BAL's that are practicable while meeting the landscape potential of the proposal.

Table 1 indicates the minimum defendable space required for the site BAL, these are depicted in Figure 1 (not scaled).

Where the existing surrounding area is currently low threat vegetation (concrete, gravel and gardens) it is assumed to be potentially planted to forest in the future landscaping. These circumstances are indicated as LTV Forest in Table 1.

The BAL of the sites for shacks G5-19 will be recalculated by TFS to consider the slope of greater than 20^{o} around the coast line, a modified fire attack direction and length of fire run.

Recommendations.

Construction:

All DTS measures for ancillary buildings should comply with the Building Regulation requirements for materials and fittings for the appropriate BAL and take into account shielding provisions.

The Alternative Solution for shacks G5-19 requires the construction to a minimum of BAL 12.5 specifications with additional mitigation to make the buildings ember proof. The ember proof design should be certified by a building surveyor.

Access:

Establish DTS access

Water supply:

Construct firefighting water system as per requirements illustrated on the HMP.

HMA management:

Maintain DTS HMA's in a low fuel state.

Maintain Alternative solution HMA's (G5-19, L and M)

- Each building will have a curtilage of 1 m surrounding the building protected by a mineral surface such as gravel of concrete.
- The ground below all raised areas such as decks and floors will be protected by a mineral surface.

An accredited person(s) is to inspect and certify the level of vegetation management in the HMA's and the level of construction provided prior to the application for an occupancy permit.

Table 1. Vegetation and slope characteristics, minimum defendable space and construction requirement for the BAL 12.5 (Including shielding).

Aspect quarter	Vegetation class Table 2.3 AS3959 (LTV*=, LTV & Non vegetated) (*all assumed to be planted to forest)	Building code, as per Figure 1. *Performance solution required.	Effective Slope (degrees)	Minimum Defendable Space Required for BAL 12.5, 19^{+} (superscripts indicate BAL construction requirement including effect of shielding)	Distance under effective slope	Exclusions of low threat vegetation under 2.2.3.2 AS3959. *all LTV not identified as a specific use is assumed to be planted to forest and mitigated according to BAL 12.5.
Ancillary buildings						
North	Forest	A	> 0-5°	27^{+}	100	
East	Forest	A	upslope	23^{+}	100	
South	LTV -shielded	A	> 0-5°	27^{+}	75	
West	Forest	A	> 0-5°	27^{+}	21	
North	LTV Forest	B1	> 0-5°	38	100	
East	LTV Forest	B1	upslope	32	100	
South	LTV Forest	B1	> 0-5°	38	100	
West	LTV Forest	B1	> 5-10°	46	48	
North	LTV Forest	B2	upslope	32	100	
East	LTV Forest	B2	> 0-5°	38	100	
South	LTV Forest	B2	> 0-5°	38	100	
West	LTV Forest	B2	> 5-10°	46	100	
North	LTV	F1	upslope	0	80	(f) botanical garden
East	LTV	F1	upslope	0	100	(f) botanical garden
South	Forest	F1	> 5-10°	46	100	
West	Forest	F1*	>15-20°	56	100	
North	LTV - Forest shielded	I	upslope	32	100	
East	LTV Forest	I	upslope	32	100	
South	LTV Forest - shielded	I	> 0-5°	38	100	
West	Forest	I	> 5-10°	46	45-100	
North	LTV Forest	J1	upslope	32	100	
East	LTV Forest	J1	upslope	32	100	
South	LTV Forest	J1	upslope	32	100	
West	LTV Forest	J1	> 5-10°	46	100	
North	LTV Forest - shielded	J2	upslope	32	100	
East	LTV Forest - shielded	J2	upslope	32	100	
South	LTV Forest	J2	upslope	32	100	
West	Forest	J2	> 5-10°	46	100	
Visitor Accommodation						
Beach Shacks						
North	Grassland	G1	upslope	14	100	
East	Grassland		> 5-10°	19	100	
South	Woodland		> 5-10°	26	100	
West	Grassland		upslope	14	100	
North	Forest	G2-4	upslope	32	100	
East	Grassland		> 0-5°	16	100	
South	Grassland		> 5-10°	19^{+}	100	
West	Forest		upslope	32	100	

Aspect quarter	Vegetation class Table 2.3 AS3959 (LTV*=, LTV & Non vegetated) (*all assumed to be planted to forest)	Building code, as per Figure 1. *Performance solution required.	Effective Slope (degrees)	Minimum Defendable Space Required for BAL 12.5, 19^{+} (superscripts indicate BAL construction requirement including effect of shielding)	Distance under effective slope	Exclusions of low threat vegetation under 2.2.3.2 AS3959. *all LTV not identified as a specific use is assumed to be planted to forest and mitigated according to BAL 12.5.
Southern Shacks						
North	Forest	G5*	>0-5	38	100	
East	Forest		>10 -15	56	75	
South	Forest		>20	>100	100	
West	Forest		upslope	32	50	
North	Forest	G6*	upslope	32	30	
East	Forest		>20	>100	100	
South	Scrub		>20	>100	60	
West	Forest		upslope	32	80	
North	Forest	G7*	upslope	32	20	
East	Forest		>10 -15	56	100	
South	Forest		>10 -15	56	100	
West	Scrub		upslope	27	20	
North	Scrub	G8*	upslope	27	20	
East	Forest		>20	>100	100	
South	Forest		>20	>100	100	
West	Scrub		upslope	27	40	
North	Scrub	G9*	upslope	27	20	
East	Forest		>5-10	46	100	
South	Forest		>20	>100	80	
West	Woodland		>0-5	38	100	
North	Woodland	G10*	upslope	22	40	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	50	
West	Woodland		>5-10	32	100	
North	Woodland	G11*	upslope	22	50	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	50	
West	Woodland		>10-15	40	100	
North	Woodland	G12*	upslope	22	80	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	50	
West	Woodland		>15-20	32	100	
North	Woodland	G13*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>20	>100	100	
West	Woodland		>15-20	48	100	
North	Woodland	G14*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>5-10	32	50	
West	Woodland		>20	>100	40	
North	Woodland	G15*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>5-10	32	100	
West	Woodland		>20	>100	40	

Aspect quarter	Vegetation class Table 2.3 AS3959 (LTV*=, LTV & Non vegetated) (*all assumed to be planted to forest)	Building code, as per Figure 1. *Performance solution required.	Effective Slope (degrees)	Minimum Defendable Space Required for BAL 12.5, 19+ (superscripts indicate BAL construction requirement including effect of shielding)	Distance under effective slope	Exclusions of low threat vegetation under 2.2.3.2 AS3959. *all LTV not identified as a specific use is assumed to be planted to forest and mitigated according to BAL 12.5.
North	Woodland	G16*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>0-5	26	100	
West	Woodland		>15-20	48	100	
North	Woodland	G17*	upslope	22	100	
East	Woodland		upslope	22	100	
South	Woodland		>5-10	32	100	
West	Woodland		>20	>100	50	
North	Woodland	G18*	upslope	22	30	
East	Woodland		upslope	22	60	
South	Woodland		>15-20	48	100	
West	Woodland		>20	>100	60	
North	Woodland	G19*	upslope	22	30	
East	Woodland		upslope	22	40	
South	Woodland		>5-10	32	100	
West	Woodland		>15-20	48	100	
Universal Access						
North	Forest	L	upslope	32		
East	Forest	L	upslope	32		
South	Forest	L	>5-10	46		
West	Forest	L	>0-5	38		
Camping Ground						
North	Forest	M	> 5-10°	32		
East	Forest	M	> 5-10°	32		
South	Forest	M	upslope	22		
West	Forest	M	upslope	22		

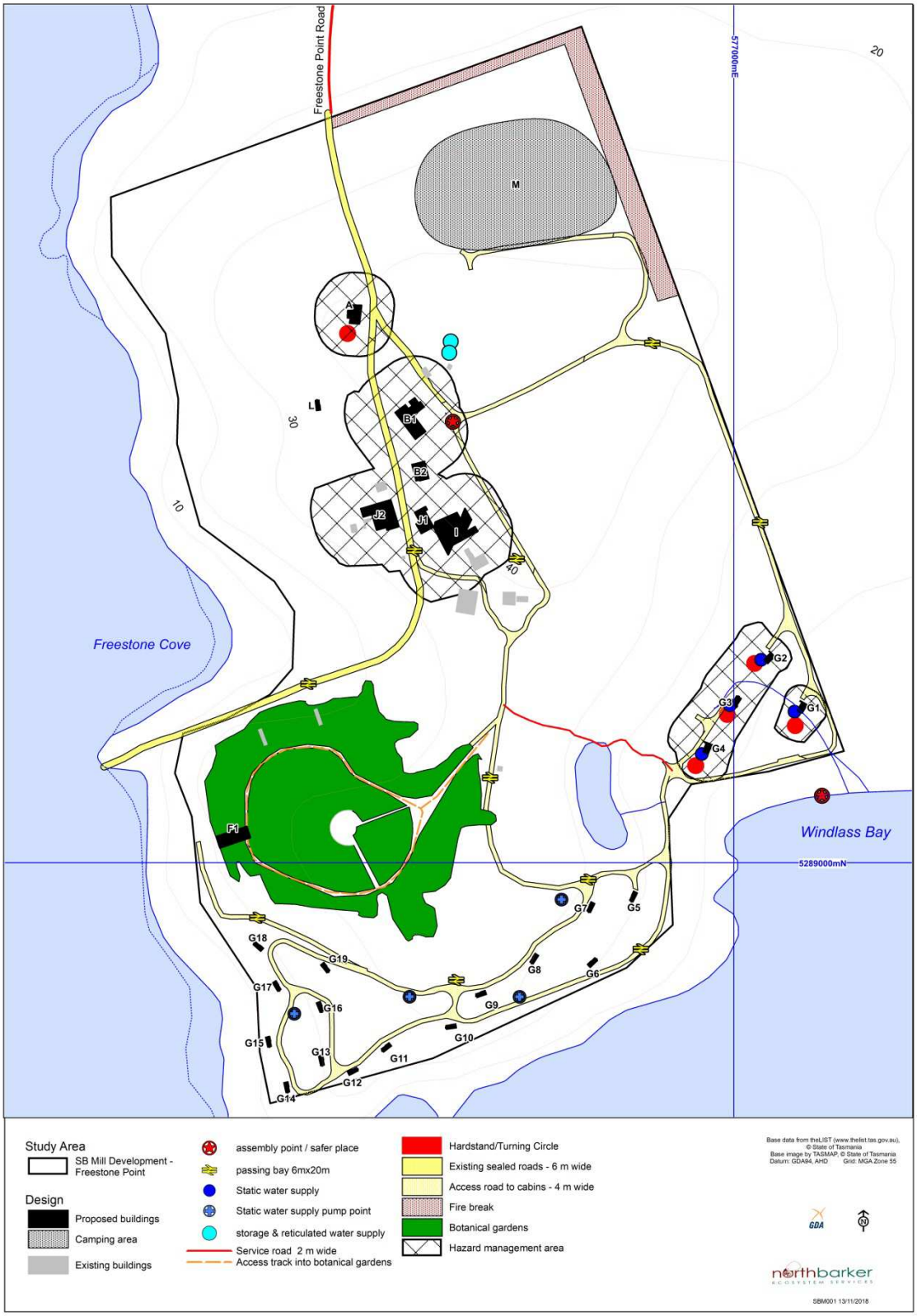


Figure 1. Fire Hazard Management Plan

APPENDIX 2. DRAFT BUSHFIRE EMERGENCY PLAN

BUSHFIRE EMERGENCY PLAN

Name of Site / Facility
Spring Bay Mill

Address of Site / Facility
555 Freestone Point Rd Triabunna 7190

Plan Version	**Version 1 Preliminary April 10 2018**
Plan Prepared By	**Philip Barker**
Plan Approved By	
Date Approved	

The purpose of this plan is to identify appropriate procedures for occupants and site managers to follow in the event of a bushfire emergency.

This Bushfire Emergency Management Plan must be reviewed annually, prior to the bushfire season; information within this plan must be maintained, and key personnel must review their responsibilities under this plan.

REVIEW ANNUALLY

COPY TO TFS

DOCUMENT CONTROL

Revision	Date	Details

Contents

1.0 FACILITY / SITE PRIMARY ACTION, CONTACTS & DETAILS

This Bushfire Emergency Plan has been developed to assist management to protect life and property in the event of a bushfire emergency.

This Plan outlines the procedures for both sheltering (remaining on-site) and evacuation.

1.1 PRIMARY EMERGENCY MANAGEMENT ACTION

The Primary Action to follow under normal bushfire conditions is to **evacuate to safer place. (SAFER PLACE NEAR BUILDING I STILL TO BE DETERMINED _ SUGGEST MAINTAIN LARGE CONCRETE AREA FREE OF VEGETATION)**

1.2 FACILITY / SITE EMERGENCY CONTACT(S)

Primary contact	**TBA**		
Position / role	Site Manager		
Phone number (BH)	**TBA**	**Phone number (AH)**	
Secondary contact	**TBA**		
Position / role			
Phone number (BH)		**Phone number (AH)**	

1.3 FACILITY / SITE DETAILS

Type of facility / site	**Visitor Accommodation**		
Number of buildings	**5**	**Number of employees**	
Number of occupants	**TBA**	**Number with support needs**	

Description of support needs

Mobility – The mobility of visitors is unknown and may be compromised by age, health or disability. Access to and from the Universal Access building (L) is specifically designed for people with mobility constraints.

Mobility issues are to be considered by Management Staff on a case by case basis. Consideration is to include increased evacuation travel time or staff allocation to provide assistance. People with mobility constraints may utilise accommodation buildings other than the Universal Access building (L).

On-site bushfire protection measures
Bushfire Hazard Management area
Dedicated firefighting water
Dedicated firefighting hoses and fittings
Building construction to specified BAL
Ember proofing of visitor accommodation “shacks”
Visitors to vacate visitor accommodation between 10 and 3 of days of Catastrophic fire danger forecast and at other times as this evacuation plan requires.
Assembly point
Evacuation plan, route and safer place for refuge

2.0 ROLES & RESPONSIBILITIES

The following table identifies the emergency control organisation (ECO) – the individuals responsible for implementing the emergency procedures in the event of a bushfire emergency.

Position	Name	Area of Responsibility	Mobile Phone No.
Site manager		Ensure Emergency plan is available to and understood by staff residents	
Identified Staff		Participate in assembly process and location of all persons	

3.0 EMERGENCY CONTACTS

Dial '000' for emergency assistance.

The following table identifies important contacts and information sources for bushfire emergency management purposes.

Name / Organisation	Details	Phone No. / Website
Fire, Police, Ambulance	Fire or Emergency	000
Tasmania Fire Service	Bushfire Hotline	1800 000 699
Tasmania Fire Service	Incident Information	www.fire.tas.gov.au
Bureau of Meteorology	Fire Weather Information	www.bom.gov.au
Site manager	TBA	TBA
Alternative to site manager	TBA	TBA

4.0 SHELTER-IN-PLACE PROCEDURES

Evaluation of bushfire risk and the safety of employees and occupants has determined that the primary action to follow under normal bushfire conditions is to shelter at a designated on-site refuge.

4.1 On-Site Refuge(s)

Designated On-Site Refuges
1.Ground level of building I as indicated on site plan (Figure 1)
2. Assembly point 2 is on Windless Beach (Figure 1)

4.2 Preparations prior to bushfire season

Actions
1. Ensure emergency plan is visible and up to date and the assembly points and safer places are clearly indicated on the plan and signed on the ground.
2. Ensure that protective clothing (overalls), protective blankets and first aid materials are available for all residence and staff.
3. Site manager to ensure all firefighting appliances function.
4. Ensure that HMA's are in a low fuel state.
5. Ensure that the low threat vegetation zone conforms to BAL low.

4. Ensure all covers and gauzes to prevent ember entry are in good condition.
5. Ensure the building is free of accumulated litter.

4.3 SHELTERING PROCEDURES

Trigger(s)	Actions
1. Catastrophic fire weather warning	Vacate accommodation buildings between 10 am and 3 pm.
2. Knowledge of approaching fire	1. Get latest TFS advice from internet or phone
3. Imminent threat of fire	2. Call all persons on the site to meet at assembly points and identify and locate known missing persons.
4. Approaching fire front/embers/smoke	3. Take refuge adjacent to the reception building (B1) or on Windless Beach at the assembly points.
5. Approaching fire front/embers/smoke	4. Close all windows and doors
6. Fire front at building	5. Stay at refuge

4.4 PROCEDURES FOLLOWING BUSHFIRE

Actions
1. Responsible person(s) to undertake reconnaissance of building and HMA.
2. If necessary and safe to do so the responsible person(s) are to control fire on building and spot fires in HMA.
3. All other people to remain in side building until building fire and spot fires are controlled.
4. If fire cannot be controlled and it is safe to do so evacuate all persons to safer places (Figure 1).
5. Once fire has past responsible person is to despatch two staff members to the Windless Beach safer place to collect evacuated residents from shacks 1-4.

5.0 EVACUATION PROCEDURES

Evaluation of bushfire risk and the safety of employees and occupants have determined that the primary action to follow under normal bushfire conditions is to remain in the buildings. If a building does catch fire and cannot be extinguished, then evacuate to the designated safer place.

5.1 Assembly Points

Designated Evacuation Assembly Points
1. Assembly point 1 is on ground level adjacent to the Reception (B1)
2. Assembly point 2 is on Windless Beach

5.2 Off-Site Refuge(s)

Primary Off-Site Refuge	
Name of venue:	Triabunna High School
Address of venue:	Melbourne Street Triabunna
Nearest cross-street:	Vicary Street Triabunna
Map reference:	574865 E 5293445 N
Venue phone number:	TBA
Travel time to venue:	5 minute drive (6 km)

5.3 Evacuation Transportation Arrangements

Primary Transportation Arrangements	
Number & type of vehicles required:	na
Name of transport provider:	na
Phone number:	na
Time required before transport on-site:	na

5.4 Preparations prior to bushfire season

Actions
1. Site manager to ensure that evacuation route is clear of any obstacle to personal movement for a person in a wheel chair.
2. Ensure emergency plan is visible and evacuation route is clearly illustrated.
3. Protective clothing/blankets and first aid materials are available for residence and staff.

5.5 Evacuation Procedures

	Trigger(s)	Actions
1	Knowledge of approaching fire	Get latest TFS advice from internet or phone
2	Knowledge of approaching fire	Nominated staff member(s) to make contact with all accommodation buildings and all people using the site and ensure all people are aware; including non english speaking guests and people with constrained mobility.
3	Imminent threat of fire	Clients and staff assemble adjacent to the reception/restaurant (B1). Travel by private transport to safer place at Triabunna High School if safe to do so.
4	Not safe to travel to Safer Place	Clients and staff assemble adjacent to the reception/restaurant (B1). Take refuge in the building as directed.
5	Not safe to travel to on site refuge at Reception B1	Clients and staff unable to safely move to B1 are to move along the evacuation route(s) to the assembly point at Windless Bay.
6	Approaching fire front/embers/smoke	Take refuge at safer place with use of protective blanket against radiant heat.
7	Fire front passed	Account for all persons, wait until staff come to assist you.

5.6 PROCEDURES FOLLOWING BUSHFIRE

Actions
1. Account for all persons
2. Clear or secure the position with regard to dangerous items or threats
3. Call appropriate emergency services if required.
4. Seek or apply medical attention if required for shock, smoke inhalation of burning.

6.0 PRE-EMPTIVE PROCEDURES

Evaluation of bushfire risk and the safety of employees and occupants have determined that the following pre-emptive measures should be implemented outside of normal bushfire conditions.

6.1 PREPARATIONS PRIOR TO BUSHFIRE SEASON

Actions
1. Ensure that HMA is maintained in a low fuel state
2. Ensure emergency plan is up to date and in a visible location
3. Ensure that protective clothing (overalls) and first aid materials are available and replenished.
4. Ensure evacuation routes are free of debris and able to be traversed by wheel chair.

1.1 PRE-EMPTIVE PROCEDURES

Trigger(s)	Actions
1. Storm damage	1. Rectify building damage that renders it vulnerable
2. Following wind and seasonally	2. Ensure litter is removed from areas where it accumulates
3. Growth of trees and gardens	3. Monitor and maintain as Low Threat Vegetation

1.2 PROCEDURES FOLLOWING BUSHFIRE

Actions
1. Ensure that the procedures identified in 5.1 – 5.6 are still relevant and able to be enacted.
2. Modify 5.1 to 5.6 as necessary and update emergency plan.

2.0 ATTACHMENTS

☐ Occupant/employee register

☐ Parent/guardian contact register

✚ Bushfire Hazard Management Plan – Figure 1.

✚ Bushfire Action Plan – Figure 2.


BUSHFIRE ACTION PLAN
555 FREESTONE POINT ROAD, TRIABUNNA
VISITOR ACCOMODATION
OFF SITE REFUGE:
TRIABUUNA DISTRICT HIGH
Vicary Street
Triabunna
Boyle Street
landing ground
Dead lake
ROBERTS STREET
OKEHAMPTON ROAD
MOUNT
ROAD
A3
Moreys
Spring Bay
Horseshoe Point
Horseshoe Shoal
Double Creek
BARTON AVENUE
Ancillary (southern) dwelling
Paddys Point
Spit
Alginate Bay
Louisville
Louisville Point
Freestone Point Road
Freestone Cove
Windlass Bay
Freestone Point
EMERGENCY
DIAL
000
IN CASE OF BUSHFIRE
ENSURE ALL STAFF AND RESIDENTS ARE ACCOUNTED FOR
FOLLOW INSTRUCTIONS BELOW
PRIMARY ACTION
MOVE TO ASSEMBLY AREA IN ACCOMMODATION AND EVACUATE TO SAFER PLACE AT TRIABUNNA DISTRICT HIGH
SECONDARY ACTION
RELOCATE TO EVACUATION ASSEMBLY POINT IN ACCOMMODATION
CLOSE ALL DOORS AND WINDOWS
SHELTER ON SITE
SOAK TOWELS AND PLACE UNDER DOORS TO EXCLUDE EMBERS
BUSHFIRE ACTION PLAN
555 FREESTONE POINT ROAD, TRIABUNNA
VISITOR ACCOMODATION
SITE CONTACT 1
TBA
SITE CONTACT 2
TBA
SITE CONTACT 3
PHONE TBA
FIRST AID KIT
EVACUATION ASSEMBLY POINT
FIRE HYDRANT
FIRE HOSE REEL


OFF SITE REFUGE:
TRIABUUNA DISTRICT HIGH
5 km TO NORTH WEST
CONTINUE NORTH ON FREESTONE ROAD
TURN LEFT ONTO BOYLE STREET
CONTINUE OVER THE BRIDGE ONTO VICARY STREET
TRIABUNNA DISTRICT HIGH ON RIGHT HAND SIDE OF ROAD.
BUSHFIRE ACTION PLAN
555 FREESTONE POINT ROAD, TRIABUNNA
VISITOR ACCOMODATION
Freestone Point Road
Freestone Cove
M
A
L1
B1
B2
J2
J1
D
G1
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
G12
G13
G14
G15
G16
G17
G18
G19
F1
EMERGENCY
DIAL
000
IN CASE OF BUSHFIRE
ENSURE ALL STAFF AND RESIDENTS ARE ACCOUNTED FOR
FOLLOW INSTRUCTIONS BELOW
PRIMARY ACTION
MOVE TO ASSEMBLY AREA IN ACCOMMODATION AND EVACUATE TO SAFER PLACE AT TRIABUNNA DISTRICT HIGH
SECONDARY ACTION
RELOCATE TO EVACUATION ASSEMBLY POINT IN ACCOMMODATION
· CLOSE ALL DOORS AND WINDOWS
· SHELTER ON SITE
· SOAK TOWELS AND PLACE UNDER DOORS TO EXCLUDE EMBERS
BUSHFIRE ACTION PLAN
555 FREESTONE POINT ROAD, TRIABUNNA
VISITOR ACCOMODATION
SITE CONTACT 1
TBA
SITE CONTACT 2
TBA
SITE CONTACT 3
PHONE TBA
FIRST AID KIT
EVACUATION ASSEMBLY POINT
FIRE HYDRANT
FIRE HOSE REEL

GEO-ENVIRONMENTAL ASSESSMENT

Triabunna Mill Development

555 Freestone Point Rd

Triabunna

October 2018

GES

GEO-ENVIRONMENTAL

SOLUTIONS

Geo-Environmental Solutions P/L 29 Kirksway Place, Battery Point 7004. Ph 6223 1839

Introduction

Client:	Triabunna Investments Pty Ltd
Date of inspection:	03/07/2018
Location:	555 Freestone Point Rd, Triabunna
Land description:	Approx. 40.49ha block
Building type:	Stage 2 accommodation units
Investigation:	Hydraulic GeoProbe 540ud
Inspected by:	G. McDonald

Background information

Map:	Mineral Resources Tasmania, South East sheet 1:250 000
Rock type:	Triassic Sandstone
Soil depth:	Variable, 0.40m - 2.0m+
Planning Overlay:	Part of the site has a Biodiversity Protection Area overlay, Waterway and Coastal Protection Area, and Landslide Hazard Area.
Local meteorology:	Annual rainfall approx. 650 mm
Local services:	Tank water and on-site waste water disposal.

Site conditions

Slope and aspect:	Approx. 10-20% slope to the East and Southeast, South and West
Site drainage:	Moderate to imperfect subsoil drainage
Vegetation:	Native species
Weather conditions:	Cloudy, <5mm rainfall received in preceding 7 days.
Ground surface:	Slightly moist sandy surface conditions, w

Investigation

A number of excavations were completed to identify the distribution of, and variation in soil materials on the site. Representative excavations were chosen for testing and classification according to AS2870-2011 and AS1547-2012 (see profile summaries).

Profile Summaries - Cabins

Hole 5 Depth (m)	Hole 7 Depth (m)	Horizon	Description
0.0 – 0.50	0.0 – 0.50	A1	Grey **SAND (SP)**, single grain, slightly moist, medium dense consistency, gradual boundary to
0.50 – 1.70	0.50 – 1.40	A2	Light Grey **SAND (SP)**, single grain, slightly moist, medium dense consistency, gradual boundary to
1.70 – 1.80	1.40 – 1.90	Pan	Dark Brown and Black **SAND (SW)**, trace of clay, weak polyhedral part single grain, slightly moist, hard consistency, refusal on pan, lower boundary undefined.

Hole 6 Depth (m)	Hole 8 Depth (m)	Horizon	Description
0.0 – 0.30		A1	Grey **SAND (SP)**, single grain, slightly moist, medium dense consistency, gradual boundary to
0.0 – 0.30	0.0 – 0.30	Fill	Pine bark
0.30 – 1.40	0.30 – 1.40	A2	Light Grey **SAND (SP)**, single grain, slightly moist, medium dense consistency, gradual boundary to
1.40 – 2.0+	1.40 – 1.70	Pan	Dark Brown and Black **SAND (SW)**, trace of clay, weak polyhedral part single grain, slightly moist, hard consistency, possible perched water table in hole 8, refusal on pan, lower boundary undefined.

Hole 10 Depth (m)	Hole 11 Depth (m)	Horizon	Description
0.0 – 0.20	0.0 – 0.10	A1	Greyish Brown **SAND (SW)**, trace of clay, single grain, slightly moist, medium dense consistency, gradual boundary to
0.20 – 0.70	0.10 – 0.20	B1	Dark Brown **CLAY (CL)** well developed polyhedral structure, slightly moist, very stiff consistency, medium plasticity, gradual boundary to
0.70 - 1.50	0.20 – 0.60	B12	Brown **Sandy CLAY (CL)**, moderate polyhedral structure, slightly moist, hard consistency, medium plasticity, medium sand grains, gradual boundary to
1.50 - 1.60	0.60 - 1.00	BC	Pale Brown and Light Grey **Clayey GRAVEL (GC)**, ~5% clay, weak polyhedral structure, slightly moist, hard consistency, medium plasticity, ~50% gravels, refusal on rock.

Hole 12 Depth (m)	**Hole 13 Depth (m)**	**Horizon**	**Description**
0.0 – 0.30	0.0 – 0.30	A1	Greyish Brown **SAND (SW)**, trace of clay, single grain, slightly moist, medium dense consistency, gradual boundary to
	0.30 – 0.40	B1	Dark Brown **CLAY (CL)** well developed polyhedral structure, slightly moist, very stiff consistency, medium plasticity, gradual boundary to
	0.40 – 0.80	B12	Brown **Sandy CLAY (CL)**, moderate polyhedral structure, slightly moist, hard consistency, medium plasticity, medium sand grains, gradual boundary to
0.30 – 0.40	0.80 – 1.00	BC	Pale Brown and Light Grey **Clayey GRAVEL (GC)**, ~5% clay, weak polyhedral structure, slightly moist, hard consistency, medium plasticity, ~50% gravels, refusal on rock.

Hole 14 Depth (m)	**Hole 15 Depth (m)**	**Hole 16 Depth (m)**	**Horizon**	**Description**
0.0 – 0.20	0.0 – 0.40	0.0 – 0.20	A1	Greyish Brown **SAND (SW)**, trace of clay, single grain, slightly moist, medium dense consistency, gradual boundary to
	0.40 – 0.60	0.20 – 0.30	B1	Dark Brown **CLAY (CL)** well developed polyhedral structure, slightly moist, very stiff consistency, medium plasticity, gradual boundary to
	0.60 – 1.30	0.30 – 0.90	B12	Brown **Sandy CLAY (CL)**, moderate polyhedral structure, slightly moist, hard consistency, medium plasticity, medium sand grains, gradual boundary to
0.20 – 0.60	1.30 – 1.50	0.90 – 1.00	BC	Pale Brown and Light Grey **Clayey GRAVEL (GC)**, ~5% clay, weak polyhedral structure, slightly moist, hard consistency, medium plasticity, ~50% gravels, refusal on rock.

Hole 17 Depth (m)	**Hole 18 & 19 Depth (m)**	**Hole 20 Depth (m)**	**Horizon**	**Description**
0.0 – 0.30	0.0 – 0.40	0.0 – 0.10	A1	Dark Greyish Brown **SAND (SW)**, trace of clay, single grain, slightly moist, medium dense consistency, gradual boundary to
0.30 – 0.50	0.40 – 0.50	0.10 – 0.50	B1	Brown **CLAY (CL)** well developed polyhedral structure, slightly moist, very stiff consistency, medium plasticity, gradual boundary to
0.50 – 1.30	0.50 – 1.00	0.50 – 1.00	B12	Pale Brown and Light Grey **Sandy CLAY (CL)**, moderate polyhedral structure, slightly moist, hard consistency, medium plasticity, medium sand grains, gradual boundary to
1.30 – 1.60	1.00 – 1.20	1.00 – 1.20	BC	White and Pale Brown **Clayey GRAVEL (GC)**, ~5% clay, weak polyhedral structure, slightly moist, hard consistency, medium plasticity, ~50% gravels, refusal on rock.

Profile Summaries – Glamping area

BH04 Depth (m)	**Horizon**	**Description**
0.0 – 0.40	A1	Grey **Silty SAND (SM)**, single grain, moist, medium dense consistency, gradual boundary to
0.40 – 0.70	B1	Light Yellowish Brown **CLAY (CL)**, slightly moist, medium dense consistency, low plasticity, gradual boundary to
0.70 – 1.25+	BC	Brownish Yellow **Clayey SAND (SC)**, weak polyhedral part single grain, slightly moist, medium dense consistency, lower boundary undefined.

Soil Profile Notes

The soils on the site vary from deep sands to duplex sands overlying clays, to shallow soils with significant sand and gravel content overlying sandstone bedrock. The variation in depth will affect surface movement pressure on foundations, and the ability of the soil to accept wastewater flows.

Site Classification

According to AS2870-2011 (construction) the soil in the area of units 5-8 is classified as **Class S** which is a slightly reactive site. The natural soil in the area of units 9-20 and BH04 is classified as **Class M** which is a moderately reactive site. Design and construction must adhere to these classifications.

Wind Classification

The AS 4055-2012 *Wind load for Housing* classification of the site is:

Region:	**A**
Terrain category:	**TC2.5**
Shielding Classification:	**NS**
Topographic Classification:	**T2**
Wind Classification:	**N3**
Design Wind Gust Speed ($V_{h,u}$)	**50 m/sec**

Wastewater Classification & Recommendations

According to AS1547-2012 for on-site wastewater management the soil in holes 5-8 is classified as **Sandy Loam (category 2)** with a Design Loading Rate (DLR) of 24L/m^2/day.
The soil in holes 9-20 is classified as **Light Clay (category 5)** with a Design Loading Rate (DLR) of 7L/m^2/day.

Stage two of the proposal is to construct 16x accommodation units. This will consist of 9x two bedroom units and 7x one bedroom units. Each unit will have a composting toilet and a separate greywater system.

The proposed two bedroom units has a calculated maximum greywater loading of 400L/day. This is based on tank water supply and a maximum use of 4 people (100L/ person/day). The proposed one bedroom units each have a calculated maximum greywater loading of 200L/day. This is based on tank water supply and a maximum use of 2 people per unit (100L/ person/day). Laundry amenities will not be included in the development.

Units 5 & 6

Using the daily loading of 200L/day and the DLR of 24L/m^2/day, a greywater absorption area of 9m^2 will be required for each unit. This may be accommodated by one 8m x 1.5m x 0.45m

terraced absorption trench connected to the unit via a modified grease trap (min 45L with mesh).

Units 7 & 8

Using the daily loading of 400L/day and the DLR of 24L/m^2/day, a greywater absorption area of 17m^2 will be required for each unit. This may be accommodated by one 12m x 1.5m x 0.45m terraced absorption trench connected to the unit via a modified grease trap (min 45L with mesh).

Units 9, 14, 15, 16, 17, 19 & 20

Using the daily loading of 400L/day and the DLR of 7L/m^2/day, a greywater absorption area of 58m^2 will be required. This may be accommodated by two 20m x 1.5m x 0.45m terraced absorption trenches connected to the unit via a modified grease trap (min 45L with mesh) and a two-way flow splitter box to ensure equal distribution. The soil in the locations of unit 14 is too shallow and wastewater will need to be diverted into the area of unit 13 for disposal and will require a pump (min 9m head) and pumpwell (min 600L) in order to transport effluent to the absorption area.

Units 10, 11, 12, 13 & 18

Using the daily loading of 200L/day and the DLR of 7L/m^2/day, a greywater absorption area of 29m^2 will be required for each unit. This may be accommodated by one 20m x 1.5m x 0.45m terraced absorption trench connected to each unit via a modified grease trap (min 45L with mesh). The soil in the location of unit 12 is too shallow and wastewater will need to be diverted into the area of unit 13 for disposal.

A cut-off diversion drain will be required upslope of the absorption areas and the areas should be excluded from traffic or any future building works. A 100% reserve area should be set aside for future wastewater requirements. For further detail please refer to the attached plan and Trench summary reports.

The following setback distances are required to comply with the Building Act 2016:

Units	Slope %	Downslope building (m)	Surface water (m)	Downslope boundary (m)
9, 10,	10	10	57	12
5, 6, 20	12-13	11	64	14
7, 8, 11, 12, 13, 14	15	13	78	18
16	18	14	85	20
15, 17, 18, 19	19-20	15	92	22

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table.

Composting Toilet

Extract from Department of Justice website:

"Waterless composting toilets (WCT) are an acceptable means of treating human excreta only. Treated waste from a WCT may be buried on-site where direct access is restricted. Unless otherwise directed by the permit authority, the composted end product is to be:

(a) buried for 6 – 12 months within an area where it will not come into contact with consumable plants or surface waters prior to its application to land. The minimum cover of soil over the deposited end product must be 100 mm; or

(b) retained for an additional period of three months in a lidded compost bin and at the completion of this period the compost may be used as a soil conditioner without any further treatment."

The owners are to bury the waste onsite, away from the immediate house and gardens.

Glamping area

According to AS1547-2012 (on-site waste-water management) the natural soil is classified as **Clay Loam (category 4)** with a Design Loading Rate (DLR) of 14L/m^2/day. The proposed glamping area will consist of up to 12 tents with an average of 3.5people/site (Victorian EPA Guidelines for onsite wastewater systems) and a maximum use of 42 people. The glamping area will be serviced by an amenities block consisting of five showers, handbasins and toilets. The glamping area will have a calculated maximum wastewater loading of 4200L/day. This is based on mains water supply and a maximum use of up to 42 people (100L/person/day). Using

the accommodation average of 63% occupancy (ABS 2017) the average wastewater loading will be 2646L/day.

Using the DLR of 14L/m^2/day, an absorption area of 189m^2 will be required. This may be accommodated by four 20m x 2.5m x 0.7m absorption trenches connected to a dual purpose septic tank (min 6000L) via 3x two-way splitter boxes to ensure equal distribution. During installation, care will be required to ensure the base of the absorption trenches are placed into the clayey sands below 0.7m. A cut-off diversion drain will be required upslope of the absorption area and the area excluded from traffic or any future building works. A 100% reserve area should be set aside for future wastewater requirements. For further detail please refer to the attached plan and Trench summary reports.

The following setback distances are required to comply with the Building Act 2016:

Upslope or level buildings:	3m
Downslope buildings:	9m
Upslope or level boundaries:	1.5m
Downslope boundaries:	10m
Downslope surface water:	50m

Compliance with Building Act 2016 Guidelines for On-site Wastewater Management Systems is outlined in the attached table.

Construction Recommendations

According to AS2870-2011 (construction) the natural soil in the area of units 5-8 is classified as **Class S** which is a slightly reactive site. The soil in the area of units 9-20 and BH04 is classified as **Class M** which is a moderately reactive site. Consideration should be given to drainage and sediment control on site during and after construction to minimise loss of the sandy materials onsite. In particular, drainage upslope of the construction area is recommended to minimise possible weakening of the clay sediments in the foundation area and potential foundation movement.

It is recommended that GES be notified of any major variation to the foundation conditions as or wastewater loading predicted in this report.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD
Environmental and Engineering Soil Scientist

Units 5 & 6

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	Triabunna Investments Pty Ltd	Assess. Date	24-Oct-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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 = 200 (using a method independent of the no. of bedrooms)
Septic tank wastewater volume (L/day) = 0
Sullage volume (L/day) = 200
Total nitrogen (kg/year) generated by wastewater = 0.4
Total phosphorus (kg/year) generated by wastewater = 0.4

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	52	45	46	56	58	55	56	61	51	59	66	63
Adopted rainfall (R, mm)	52	45	46	56	58	55	56	61	51	59	66	63
Retained rain (Rr, mm)	44	38	39	48	49	47	48	52	43	50	56	54
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	**86**	**72**	**52**	**15**	**-7**	**-17**	**-16**	**-10**	**20**	**34**	**49**	**72**

Annual evapotranspiration less retained rain (mm) = 349

Soil characterisitics

Texture = Sandy Loam Category = 2 Thick. (m) = 1.8
Adopted permeability (m/day) = 1.5 Adopted LTAR (L/sq m/day) = 24 Min depth (m) to water = 2

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	Only sullage wastes will be disposed of on the site
The preferred method of on-site primary treatment:	No primary treatment is required/proposed
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Trench(es)
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	6
Width (m) =	1.5
Depth (m) =	0.45
Total disposal area (sq m) required =	9
comprising a Primary Area (sq m) of:	9
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments
Using the DLR of 24L/m2/day, a greywater absorption area of 9m2 is required for a one bedroom unit.

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	Triabunna Investments Pty Ltd	Assess. Date	24-Oct-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Expected design area	sq m	2,000	V. high	Low		
	Density of disposal systems	/sq km	15	Mod.	Moderate		
	Slope angle	degrees	7	High	Low		
	Slope form	Straight simple		High	Low		
	Surface drainage	Good		High	Very low		
	Flood potential	Site floods 1 in 75-100 yrs		High	Low		
	Heavy rain events	Infrequent		High	Moderate		
A	Aspect (Southern hemi.)	Faces SE or SW		V. high	High		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	200	High	Very low		
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	1.8	V. high	Very low		
	Depth to bedrock	m	1.8	V. high	Low	Moderate	
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		6.5	High	Very 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	1.5	Mod.	High	Moderate	Other factors lessen impact
	Long Term Accept. Rate	L/day/sq m	24	High	Moderate		

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

Site capability for wastewater disposal on the site is generally good with a large available area suitable for absorption trenches

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	Triabunna Investments Pty Ltd	Assess. Date	24-Oct-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
AA	Cation exchange capacity	mmol/100g	20	High	Very high		
A	Phos. adsorp. capacity	kg/cub m	0.3	High	High		
	Annual rainfall excess	mm	-349	High	Very low		
	Min. depth to water table	m	2	High	Low		
	Annual nutrient load	kg	0.7	High	Very low		
	G'water environ. value	Agric sensit/dom irrig		V. high	Moderate		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores		Very low	V. high	Very low		
AA	Surf. water env. value	Pristine/drink/aquacult		V. high	Very high		
A	Dist. to nearest surface water	m	70	V. high	High		
AA	Dist. to nearest other feature	m	10	V. high	Very high		
	Risk of slope instability		Low	V. high	Low		
AA	Distance to landslip	m	0	V. high	Very high		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The soil on site has a low CEC for the retention of nutrients. Planting of deep rooted grasses is reccomended to encourage nutrient uptake.

Units 7 & 8

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	Triabunna Investments Pty Ltd	Assess. Date	7-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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 = 400 (using a method independent of the no. of bedrooms)
Septic tank wastewater volume (L/day) = 0
Sullage volume (L/day) = 400
Total nitrogen (kg/year) generated by wastewater = 0.7
Total phosphorus (kg/year) generated by wastewater = 0.7

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	52	45	46	56	58	55	56	61	51	59	66	63
Adopted rainfall (R, mm)	52	45	46	56	58	55	56	61	51	59	66	63
Retained rain (Rr, mm)	42	36	37	45	46	44	45	49	41	47	53	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)	**89**	**74**	**54**	**18**	**-4**	**-15**	**-13**	**-7**	**22**	**37**	**52**	**76**

Annual evapotranspiration less retained rain (mm) = 383

Soil characterisitics

Texture = Sandy Loam Category = 2 Thick. (m) = 2
Adopted permeability (m/day) = 1.5 Adopted LTAR (L/sq m/day) = 24 Min depth (m) to water = 2

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	Only sullage wastes will be disposed of on the site
The preferred method of on-site primary treatment:	No primary treatment is required/proposed
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Trench(es)
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	11
Width (m) =	1.5
Depth (m) =	0.45
Total disposal area (sq m) required =	17
comprising a Primary Area (sq m) of:	17
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments
Using the DLR of 24L/m2/day, a greywater absorption area of 17m2 is required for a two bedroom unit.

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	Triabunna Investments Pty Ltd	Assess. Date	7-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Expected design area	sq m	2,000	V. high	Low		
	Density of disposal systems	/sq km	15	Mod.	Moderate		
	Slope angle	degrees	9	High	Moderate		
	Slope form	Straight simple		High	Low		
	Surface drainage	Good		High	Very low		
	Flood potential	Site floods 1 in 75-100 yrs		High	Low		
	Heavy rain events	Infrequent		High	Moderate		
A	Aspect (Southern hemi.)	Faces SE or SW		V. high	High		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	400	High	Low		
	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	Moderate	
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		6.5	High	Very 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	1.5	Mod.	High	Moderate	Other factors lessen impact
	Long Term Accept. Rate	L/day/sq m	24	High	Moderate		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

Site capability for wastewater disposal on the site is generally good with a large available area suitable for absorption trenches

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	Triabunna Investments Pty Ltd	Assess. Date	7-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
AA	Cation exchange capacity	mmol/100g	20	High	Very high		
A	Phos. adsorp. capacity	kg/cub m	0.3	High	High		
	Annual rainfall excess	mm	-383	High	Very low		
	Min. depth to water table	m	2	High	Low		
	Annual nutrient load	kg	1.5	High	Very low		
	G'water environ. value	Agric sensit/dom irrig		V. high	Moderate		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores		Very low	V. high	Very low		
AA	Surf. water env. value	Pristine/drink/aquacult		V. high	Very high		
A	Dist. to nearest surface water	m	80	V. high	High		
AA	Dist. to nearest other feature	m	10	V. high	Very high		
	Risk of slope instability		Low	V. high	Low		
AA	Distance to landslip	m	0	V. high	Very high		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The soil on site has a low CEC for the retention of nutrients. Planting of deep rooted grasses is reccomended to encourage nutrient uptake..

Units .9, 14, 15, 16, 17, 19 & 20

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	Triabunna Investments Pty Ltd	Assess. Date	30-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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

'astewater volume (L/day) used for this assessment = 400 (using a method independent of the no. of bedrooms)

Septic tank wastewater volume (L/day) = 0

Sullage volume (L/day) = 400

Total nitrogen (kg/year) generated by wastewater = 0.7

'otal phosphorus (kg/year) generated by wastewater = 0.7

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	52	45	46	56	58	55	56	61	51	59	66	63
Adopted rainfall (R, mm)	52	45	46	56	58	55	56	61	51	59	66	63
Retained rain (Rr, mm)	42	36	37	45	46	44	45	49	41	47	53	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)	**89**	**74**	**54**	**18**	**-4**	**-15**	**-13**	**-7**	**22**	**37**	**52**	**76**

Annual evapotranspiration less retained rain (mm) = 383

Soil characterisitics

Texture = Light Clay Category = 5 Thick. (m) = 1

Adopted permeability (m/day) = 0.24 Adopted LTAR (L/sq m/day) = 7 Min depth (m) to water = 3

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	Only sullage wastes will be disposed of on the site
The preferred method of on-site primary treatment:	No primary treatment is required/proposed
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Trench(es)
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	36
Width (m) =	1.5
Depth (m) =	0.45
Total disposal area (sq m) required =	58
comprising a Primary Area (sq m) of:	58
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

Using the DLR of 7L/m2/day, a greywater absorption area of 58m2 is required for a two bedroom unit.

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	Triabunna Investments Pty Ltd	Assess. Date	30-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Expected design area	sq m	2,000	V. high	Low		
	Density of disposal systems	/sq km	15	Mod.	Moderate		
	Slope angle	degrees	9	High	Moderate		
	Slope form	Straight simple		High	Low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods 1 in 75-100 yrs		High	Low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces E or W		V. high	Moderate		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	400	High	Low		
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	1.0	V. high	Low		
	Depth to bedrock	m	1.0	V. high	High	Moderate	Other factors lessen impact
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		6.5	High	Very low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	7	V. high	Very low		
	Adopted permeability	m/day	0.24	Mod.	Very low	Moderate	
	Long Term Accept. Rate	L/day/sq m	7	High	Moderate		

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

Site capability for wastewater disposal on the site is good with a large available area suitable for absorption trenches

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	Triabunna Investments Pty Ltd	Assess. Date	30-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Cation exchange capacity	mmol/100g	95	High	Low		
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-383	High	Very low		
	Min. depth to water table	m	3	High	Very low		
	Annual nutrient load	kg	1.5	High	Very low		
	G'water environ. value	Agric sensit/dom irrig		V. high	Moderate		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores		Very low	V. high	Very low		
AA	Surf. water env. value	Pristine/drink/aquacult		V. high	Very high		
A	Dist. to nearest surface water	m	80	V. high	High		
AA	Dist. to nearest other feature	m	10	V. high	Very high		
	Risk of slope instability		Low	V. high	Low		
AA	Distance to landslip	m	15	V. high	Very high		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The soil on site has agood CEC for the retention of nutrients. There is a low risk of effluent moving off site.

Units .10, 11, 12, 13, & 18

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	Triabunna Investments Pty Ltd	Assess. Date	30-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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 = 200 (using a method independent of the no. of bedrooms)
Septic tank wastewater volume (L/day) = 0
Sullage volume (L/day) = 200
Total nitrogen (kg/year) generated by wastewater = 0.4
Total phosphorus (kg/year) generated by wastewater = 0.4

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	52	45	46	56	58	55	56	61	51	59	66	63
Adopted rainfall (R, mm)	52	45	46	56	58	55	56	61	51	59	66	63
Retained rain (Rr, mm)	42	36	37	45	46	44	45	49	41	47	53	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)	**89**	**74**	**54**	**18**	**-4**	**-15**	**-13**	**-7**	**22**	**37**	**52**	**76**

Annual evapotranspiration less retained rain (mm) = 383

Soil characterisitics

Texture = Light Clay Category = 5 Thick. (m) = 1
Adopted permeability (m/day) = 0.24 Adopted LTAR (L/sq m/day) = 7 Min depth (m) to water = 3

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	Only sullage wastes will be disposed of on the site
The preferred method of on-site primary treatment:	No primary treatment is required/proposed
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Trench(es)
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	18
Width (m) =	1.5
Depth (m) =	0.45
Total disposal area (sq m) required =	29
comprising a Primary Area (sq m) of:	29
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments
Using the DLR of 7L/m2/day, a greywater absorption area of 29m2 is required for a one bedroom unit.

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	Triabunna Investments Pty Ltd	Assess. Date	30-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Expected design area	sq m	2,000	V. high	Low		
	Density of disposal systems	/sq km	15	Mod.	Moderate		
	Slope angle	degrees	11	High	Moderate		
	Slope form	Straight simple		High	Low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods 1 in 75-100 yrs		High	Low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces E or W		V. high	Moderate		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	200	High	Very low		
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	1.0	V. high	Low		
	Depth to bedrock	m	1.0	V. high	High	Moderate	Other factors lessen impact
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		6.5	High	Very low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	7	V. high	Very low		
	Adopted permeability	m/day	0.24	Mod.	Very low	Moderate	
	Long Term Accept. Rate	L/day/sq m	7	High	Moderate		

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

Site capability for wastewater disposal on the site is good with a large available area suitable for absorption trenches

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	Triabunna Investments Pty Ltd	Assess. Date	30-Aug-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Cation exchange capacity	mmol/100g	95	High	Low		
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-383	High	Very low		
	Min. depth to water table	m	3	High	Very low		
	Annual nutrient load	kg	0.7	High	Very low		
	G'water environ. value	Agric sensit/dom irrig		V. high	Moderate		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores		Very low	V. high	Very low		
AA	Surf. water env. value	Pristine/drink/aquacult		V. high	Very high		
A	Dist. to nearest surface water	m	80	V. high	High		
AA	Dist. to nearest other feature	m	10	V. high	Very high		
	Risk of slope instability		Low	V. high	Low		
AA	Distance to landslip	m	15	V. high	Very high		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The soil on site has agood CEC for the retention of nutrients. There is a low risk of effluent moving off site.

Glamping

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	Triabunna Investments Pty Ltd	Assess. Date	26-Oct-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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 = 2,646 (using a method independent of the no. of bedrooms)
Septic tank wastewater volume (L/day) = 882
Sullage volume (L/day) = 1,764
Total nitrogen (kg/year) generated by wastewater = 8.0
Total phosphorus (kg/year) generated by wastewater = 6.4

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	52	45	46	56	58	55	56	61	51	59	66	63
Adopted rainfall (R, mm)	52	45	46	56	58	55	56	61	51	59	66	63
Retained rain (Rr, mm)	47	41	41	50	52	50	50	55	46	53	59	57
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	**83**	**69**	**50**	**13**	**-10**	**-20**	**-19**	**-13**	**17**	**31**	**46**	**69**

Annual evapotranspiration less retained rain (mm) = 316

Soil characterisitics

Texture = Clay Loam Category = 4 Thick. (m) = 1.25
Adopted permeability (m/day) = 0.32 Adopted LTAR (L/sq m/day) = 14 Min depth (m) to water = 3

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	All wastewater will be disposed of on the site
The preferred method of on-site primary treatment:	In dual purpose septic tank(s)
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Trench(es)
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Are needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	70
Width (m) =	2.5
Depth (m) =	0.7
Total disposal area (sq m) required =	190
comprising a Primary Area (sq m) of:	189
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments
Using the DLR of 14L/m2/day, a wastewater absorption area of 189m2 is required to accommodate flows from the glamping area.

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	Triabunna Investments Pty Ltd	Assess. Date	26-Oct-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Expected design area	sq m	2,000	V. high	Low		
	Density of disposal systems	/sq km	15	Mod.	Moderate		
	Slope angle	degrees	5	High	Very low		
	Slope form	Straight simple		High	Low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods 1 in 75-100 yrs		High	Low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces NE or NW		V. high	Low		
	Frequency of strong winds	Common		High	Low		
AA	Wastewater volume	L/day	2,646	High	Very high		
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	1.3	V. high	Very low		
	Depth to bedrock	m	2.0	V. high	Low	Moderate	
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		6.5	High	Very low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	7	V. high	Very low		
	Adopted permeability	m/day	0.32	Mod.	Low	Moderate	
	Long Term Accept. Rate	L/day/sq m	14	High	Very low		

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

Site capability for wastewater disposal on the site is good with a large available area suitable for absorption trenches

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	Triabunna Investments Pty Ltd	Assess. Date	26-Oct-18
		Ref. No.	
Assessed site(s)	555 Freestone Point Road, Triabunna	Site(s) inspected	10-Apr-18
Local authority	Glamorgan Spring Bay	Assessed by	P. Lucas

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.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Cation exchange capacity	mmol/100g	75	High	Moderate		
	Phos. adsorp. capacity	kg/cub m	0.6	High	Moderate		
	Annual rainfall excess	mm	-316	High	Very low		
	Min. depth to water table	m	3	High	Very low		
	Annual nutrient load	kg	14.5	High	Moderate		
	G'water environ. value	Agric sensit/dom irrig		V. high	Moderate		
	Min. separation dist. required	m	10	High	Low		
	Risk to adjacent bores		Very low	V. high	Very low		
AA	Surf. water env. value	Pristine/drink/aquacult		V. high	Very high		
	Dist. to nearest surface water	m	300	V. high	Low		
	Dist. to nearest other feature	m	50	V. high	Moderate		
	Risk of slope instability		Low	V. high	Low		
	Distance to landslip	m	285	V. high	Very low		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The soil on site has agood CEC for the retention of nutrients. There is a low risk of effluent moving off site.

Demonstration of wastewater system compliance to *Building Act 2016 Guidelines for On-site Wastewater Disposal*

Acceptable Solutions	**Performance Criteria**	**Compliance**
A1 Horizontal separation distance from a building to a land application area must comply with one of the following: a) be no less than 6m; or b) be no less than: (i) 3m from an upslope building or level building; (ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.	P1 a) The land application area is located so that (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation	Complies with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building. Complies with A1 (b) (ii) Land application area will be located with a minimum separation distance of 15m of downslope building (9-15m required)
A2 Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b) (a) be no less than 100m; or (b) be no less than the following: (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.	P2 Horizontal separation distance from downslope surface water to a land application area must comply with all of the following: a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A2 (b) (i) Land application area will be located with a minimum separation distance of 50-92m of downslope surface water (50-92m required)

A3 Horizontal separation distance from a property boundary to a land application area must comply with either of the following: (a) be no less than 40m from a property boundary; or (b) be no less than: (i) 1.5m from an upslope or level property boundary; and (ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or (iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.	P3 Horizontal separation distance from a property boundary to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an upslope or level property boundary Complies with A3 (b) (ii) Land application area will be located with a minimum separation distance of 10-22m of downslope property boundary (10-22m required)
A4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of the bore whether up or down gradient.	P4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable	Complies with A4 No bore or well identified within 50m

A5 Vertical separation distance between groundwater and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.6m if secondary treated effluent	P5 Vertical separation distance between groundwater and a land application area must comply with the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable	Complies with A5 (a) No groundwater encountered
A6 Vertical separation distance between a limiting layer and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.5m if secondary treated effluent	P6 Vertical setback must be consistent with AS/NZS1547 Appendix R.	Vertical setback of 0.6m is consistent with AS/NZS1547 Appendix R.
A7 nil	P7 A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties	Complies

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AS1547:2012 – Loading Certificate – Greywater System Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 555 Freestone Point Road, Triabunna – Units 5 & 6

System Capacity: 2 persons @ 100L/person/day

Summary of Design Criteria

DLR: 24L/m^2/day.

Absorption area: 9m^2

Reserve area location /use: Not assigned – more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to capacity of system and site area (provided loading changes within 25% of design)

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to visible signs of overloading and owner monitoring.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Risk considered acceptable.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation of lint filter and grease trap by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated greywater in the absorption trenches. The Grease trap and lint filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

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AS1547:2012 – Loading Certificate – Greywater System Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 555 Freestone Point Road, Triabunna – Units 7 & 8

System Capacity: 4 persons @ 100L/person/day

Summary of Design Criteria

DLR: 24L/m^2/day.

Absorption area: 17m^2

Reserve area location /use: Not assigned – more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to capacity of system and site area (provided loading changes within 25% of design)

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to visible signs of overloading and owner monitoring.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Risk considered acceptable.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation of lint filter and grease trap by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated greywater in the absorption trenches. The Grease trap and lint filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

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AS1547:2012 – Loading Certificate – Greywater System Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 555 Freestone Point Road, Triabunna – Units 9, 14, 15, 16, 17, 19 & 20

System Capacity: 4 persons @ 100L/person/day

Summary of Design Criteria

DLR: 7L/m^2/day.

Absorption area: 58m^2

Reserve area location /use: Not assigned – more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to capacity of system and site area (provided loading changes within 25% of design)

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to visible signs of overloading and owner monitoring.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Risk considered acceptable.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation of lint filter and grease trap by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated greywater in the absorption trenches. The Grease trap and lint filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

GES
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AS1547:2012 – Loading Certificate – Greywater System Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 555 Freestone Point Road, Triabunna – Units 10, 11, 12, 13 & 18

System Capacity: 2 persons @ 100L/person/day

Summary of Design Criteria

DLR: 7L/m^2/day.

Absorption area: 29m^2

Reserve area location /use: Not assigned – more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to capacity of system and site area (provided loading changes within 25% of design)

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to visible signs of overloading and owner monitoring.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Risk considered acceptable.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation of lint filter and grease trap by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated greywater in the absorption trenches. The Grease trap and lint filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

AS1547:2012 – Loading Certificate – Greywater System Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 555 Freestone Point Road, Triabunna – Glamping area

System Capacity: 48 persons @ 100L/person/day

Summary of Design Criteria

DLR: 14L/m^2/day.

Absorption area: 189m^2

Reserve area location /use: Not assigned – more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to capacity of system and site area (provided loading changes within 25% of design)

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to visible signs of overloading and owner monitoring.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Risk considered acceptable.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation of lint filter and grease trap by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated greywater in the absorption trenches. The Grease trap and lint filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form **35**

To: Triabunna Investments Pty Ltd *Owner name*

PO Box 41 *Address*

Triabunna 7190 *Suburb/postcode*

Designer details:

Name: John-Paul Cumming

Category: Bld. Srvcs. Dsgnr. - Hydraulic

Business name: Geo-Environmental Solutions

Phone No: 03 6223 1839

Business address: 29 Kirksway Place

Battery Point 7004

Fax No: N/A

Licence No: CC774A

Email address: office@geosolutions.net.au

Details of the proposed work:

Owner/Applicant Triabunna Investments Pty Ltd

Designer's project reference No. 1279

Address: 555 Freestone Point Road

Lot No: 1

Triabunna 7190

Type of work: Building work ☐ Plumbing work ☒ *(X all applicable)*

Description of work:

On-site wastewater management system - design

(new building / alteration / addition / repair / removal / re-erection water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)

Description of the Design Work (Scope, limitations or exclusions): *(X all applicable certificates)*

Certificate Type:	Certificate	Responsible Practitioner
	☐ Building design	Architect or Building Designer
	☐ Structural design	Engineer or Civil Designer
	☐ Fire Safety design	Fire Engineer
	☐ Civil design	Civil Engineer or Civil Designer
	☒ Hydraulic design	Building Services Designer
	☐ Fire service design	Building Services Designer
	☐ Electrical design	Building Services Designer
	☐ Mechanical design	Building Service Designer
	☐ Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
	☐ Other (specify)	

Deemed-to-Satisfy: ☐ Performance Solution: ☒ (*X the appropriate box*)

Other details:
Performance solution in accordance with AS/NZS 1546.2:2008 Part 2: Waterless composting toilets Section 2.5.3 Ventilation. No airlock prescribed, positive airflow for composting toilet via chamber venting external to dwelling.

Design documents provided:

The following documents are provided with this Certificate –

Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Oct-18
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Oct-18
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by: Geo-Environmental Solutions	Date: Oct-18
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Oct-18

Standards, codes or guidelines relied on in design process:

AS1547-2012 On-site domestic wastewater management.

AS3500 (Parts 0-5)-2013 Plumbing and drainage set.

AS/NZS1546.2:2008

Any other relevant documentation:

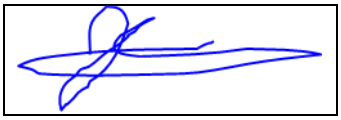
Geo-Environmental Assessment – 555 Freestone Point Road, Triabunna – Oct 18 - GES

Attribution as designer:

I John-Paul Cumming, am responsible for the design of that part of the work as described in this certificate;

The documentation relating to the design includes sufficient information for the assessment of the work in accordance with the *Building Act 2016* and sufficient detail for the builder or plumber to carry out the work in accordance with the documents and the Act;

This certificate confirms compliance and is evidence of suitability of this design with the requirements of the National Construction Code.

	Name: (print)	*Signed*	*Date*
Designer:	John-Paul Cumming		29/10/2018
Licence No:	CC774A		

Assessment of Certifiable Works: (TasWater)

Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.

If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.

TasWater must then be contacted to determine if the proposed works are Certifiable Works.

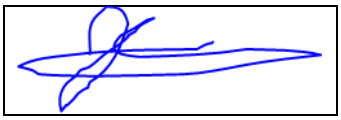
I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:

- [x] The works will not increase the demand for water supplied by TasWater
- [x] The works will not increase or decrease the amount of sewage or toxins that is to be removed by, or discharged into, TasWater's sewerage infrastructure
- [x] The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- [x] The works will not damage or interfere with TasWater's works
- [x] The works will not adversely affect TasWater's operations
- [x] The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- [x] I have checked the LISTMap to confirm the location of TasWater infrastructure
- [x] If the property is connected to TasWater's water system, a water meter is in place, or has been applied for to TasWater.

Certification:

I ..... John-Paul Cumming..... being responsible for the proposed work, am satisfied that the works described above are not Certifiable Works, as defined within the *Water and Sewerage Industry Act 2008,* that I have answered the above questions with all due diligence and have read and understood the Guidelines for TasWater CCW Assessments.

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: www.taswater.com.au

	Name: (print)	*Signed*	*Date*
Designer:	John-Paul Cumming		19/10/2018

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: Triabunna Investments Pty Ltd *Owner /Agent*

PO Box 41 *Address*

Triabunna 7190 *Suburb/postcode*

Qualified person details:

Qualified person: John-Paul Cumming

Address: 29 Kirksway Place

Phone No: 03 6223 1839

Battery Point 7004

Fax No:

Licence No: AO999

Email address: jcumming@geosolutions.net.au

Qualifications and Insurance details: Certified Professional Soil Scientist (CPSS stage 2)

(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items

Speciality area of expertise: AS2870-2011 Foundation Classification

(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Details of work:

Address: 555 Freestone Point Road

Lot No: 1

Triabunna 7190

Certificate of title No: 147559/1

The assessable item related to this certificate: Classification of foundation Conditions according to AS2870-2011

(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 or plumbing system*
- *an inspection, or assessment, performed*

Certificate details:

Certificate type: Foundation Classification

(description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - *(tick one)*

building work, plumbing work or plumbing installation or demolition work ☒

or

a building, temporary structure or plumbing installation: ☐

In issuing this certificate the following matters are relevant –

Documents:	The attached soil report for the address detailed above in 'details of Work'
Relevant calculations:	Reference the above report.
References:	AS2870-2011 residential slabs and footings AS1726-1993 Geotechnical site investigations CSIRO Building technology file – 18.

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

Site Classification consistent with AS2870-2011.

Scope and/or Limitations

The classification applies to the site as inspected and does not account for future alteration to foundation conditions as a result of earth works, drainage condition changes or variations in site maintenance.

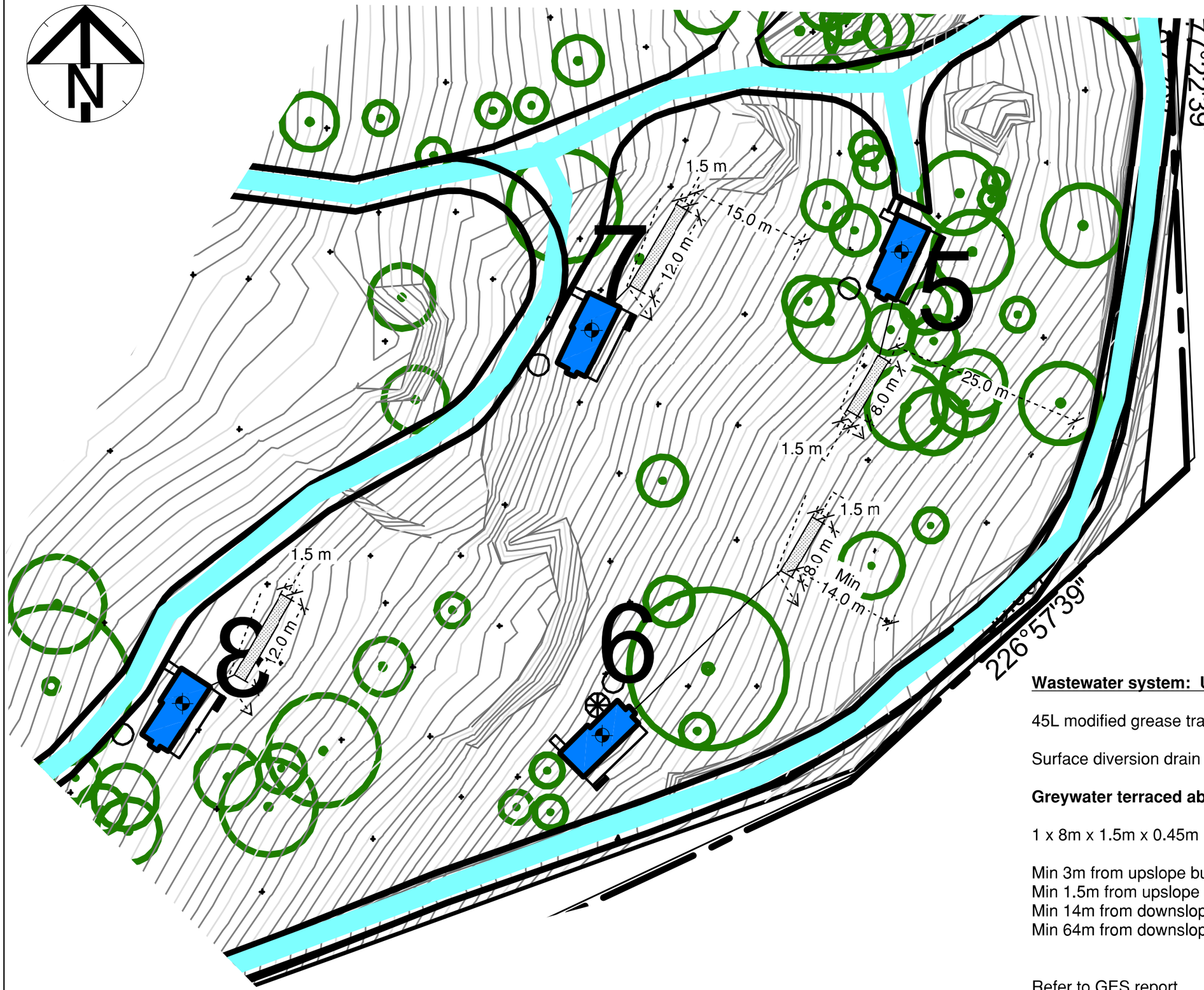
I, John-Paul Cumming certify the matters described in this certificate.

Qualified person:

Signed:

Certificate No: 1279

Date: 29/10/2018



GES

GEO-ENVIRONMENTAL SOLUTIONS

29 Kirksway Place, Battery Point
T| 62231839 E| office@geosolutions.net.au

Wastewater system: Units 7 & 8

45L modified grease traps with mesh

Surface diversion drain

Greywater terraced absorption trenches

1 x 12m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 13m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 18m from downslope boundary
Min 78m from downslope surface water

Refer to GES report

Test hole locations

Wastewater system: Units 5& 6

45L modified grease traps with mesh

Surface diversion drain

Greywater terraced absorption trench

1 x 8m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 1.5m from upslope or level boundaries
Min 14m from downslope boundary
Min 64m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

24/10/2018

Do not scale from these drawings. Dimensions to take precedence over scale.	Triabunna Investments Pty Ltd 555 Freestone Point Road, TRIABUNNA	C.T.: 147559/1 PID: 2507606	Date: 12/09/2018 Amended: 24/10/2018	Geo-Environmental Assessment 555 Freestone Point Road, TRIABUNNA	Drawing Number: 1 Scale 1:500	Sheet 1 of 1 Prepared by: PL

Wastewater system: Unit 9

45L modified grease trap with mesh

Surface diversion drain

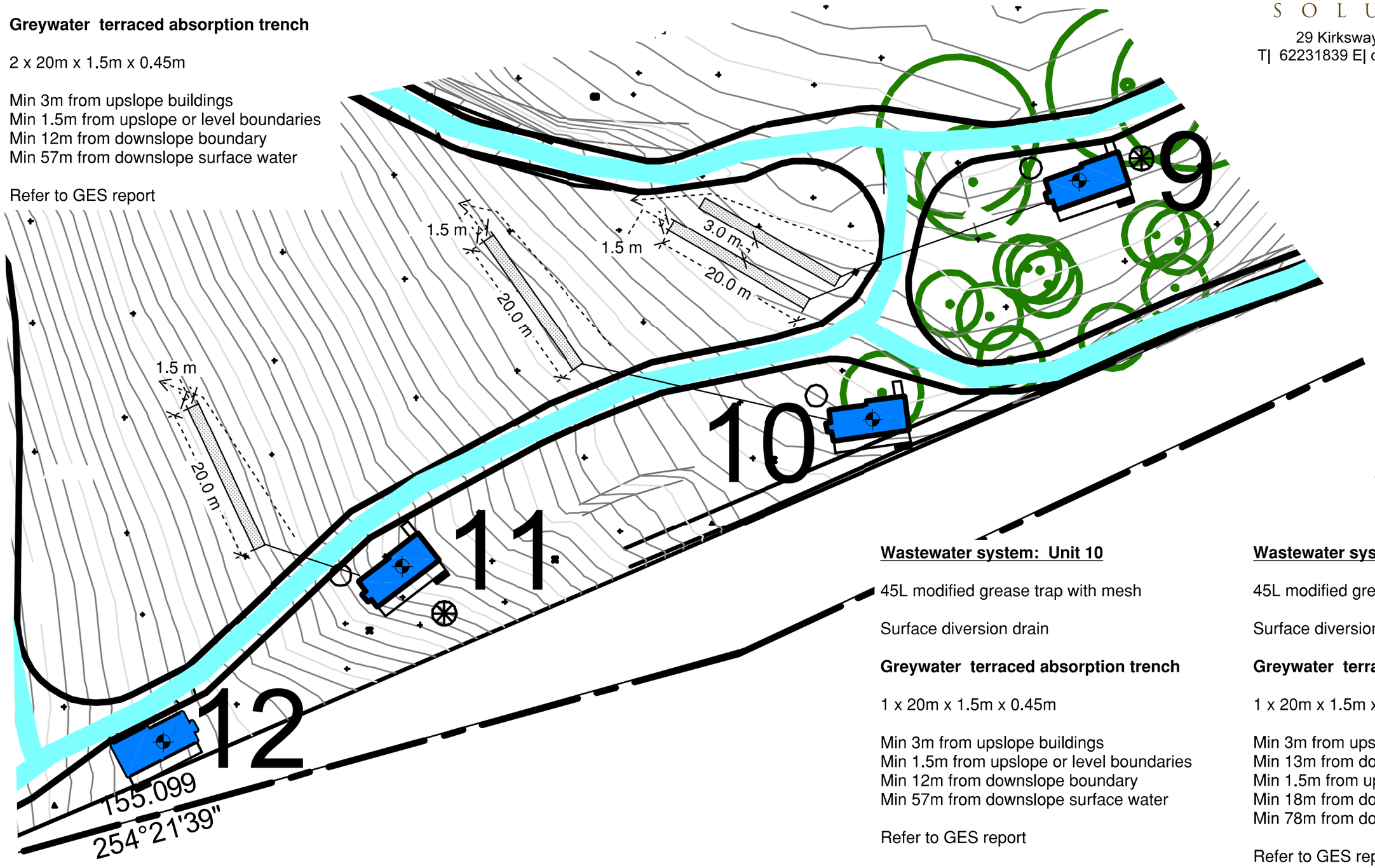
Two-way flow splitter box

Greywater terraced absorption trench

2 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 1.5m from upslope or level boundaries
Min 12m from downslope boundary
Min 57m from downslope surface water

Refer to GES report



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29 Kirksway Place, Battery Point
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Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

24/10/2018

Test hole locations

Wastewater system: Unit 10

45L modified grease trap with mesh

Surface diversion drain

Greywater terraced absorption trench

1 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 1.5m from upslope or level boundaries
Min 12m from downslope boundary
Min 57m from downslope surface water

Refer to GES report

Wastewater system: Unit 11

45L modified grease trap with mesh

Surface diversion drain

Greywater terraced absorption trench

1 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 13m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 18m from downslope boundary
Min 78m from downslope surface water

Refer to GES report

Do not scale from these drawings. Dimensions to take precedence over scale.	Triabunna Investments Pty Ltd 555 Freestone Point Road, TRIABUNNA	C.T.: 147559/1 PID: 2507606	Date: 12/09/2018 Amended: 24/10/2018	Geo-Environmental Assessment 555 Freestone Point Road, TRIABUNNA	Drawing Number: 2 Scale 1:500	Sheet 1 of 1 Prepared by: PL

Wastewater system: Unit 13

45L modified grease trap with mesh

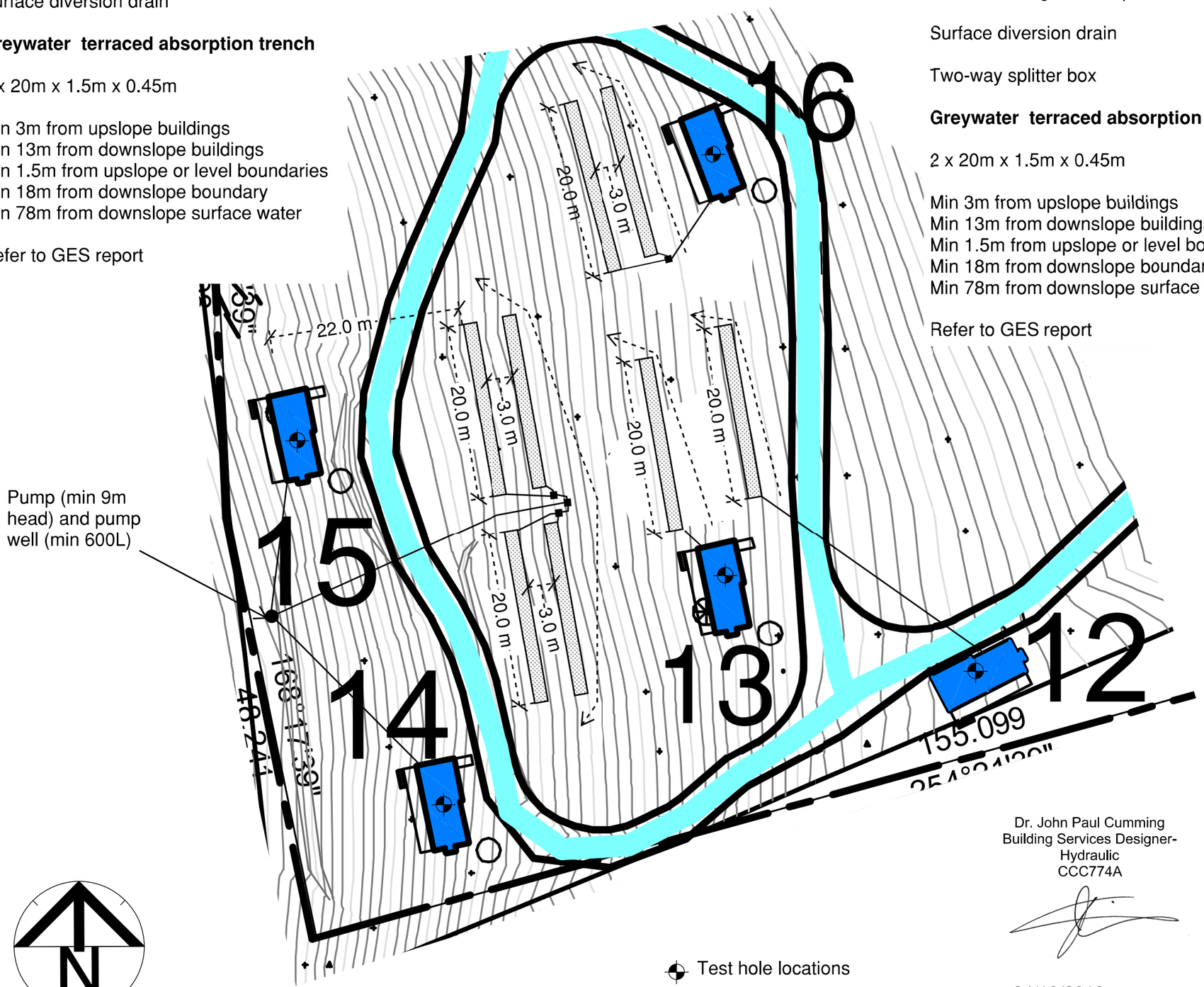
Surface diversion drain

Greywater terraced absorption trench

1 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 13m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 18m from downslope boundary
Min 78m from downslope surface water

Refer to GES report



Wastewater system: Unit 16

45L modified grease trap with mesh

Surface diversion drain

Two-way splitter box

Greywater terraced absorption trench

2 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 13m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 18m from downslope boundary
Min 78m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

24/10/2018

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Wastewater system: Unit 12

45L modified grease trap with mesh

Surface diversion drain

Greywater terraced absorption trench

1 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 13m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 18m from downslope boundary
Min 78m from downslope surface water

Refer to GES report

Wastewater system: Units 14 & 15

45L modified grease traps with mesh

Surface diversion drain

Pump (min 9m head) and pump well (min 600L)

Two-way flow splitter box with velocity reducer

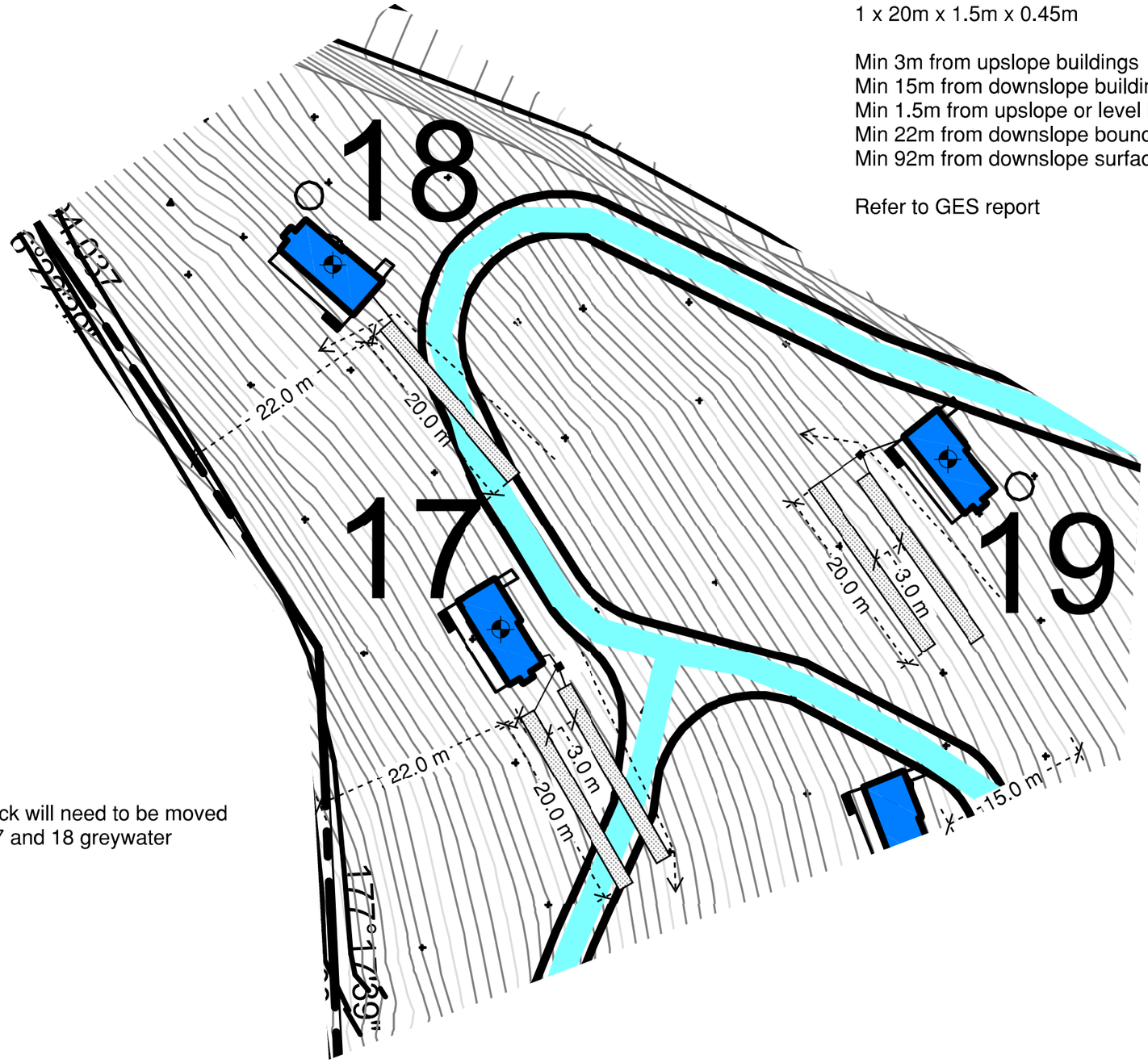
Greywater terraced absorption trenches

2 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 13m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 18m from downslope boundary
Min 78m from downslope surface water

Refer to GES report

Do not scale from these drawings. Dimensions to take precedence over scale.	Triabunna Investments Pty Ltd 555 Freestone Point Road, TRIABUNNA	C.T.: 147559/1 PID: 2507606	Date: 12/09/2018 Amended: 24/10/2018	Geo-Environmental Assessment 555 Freestone Point Road, TRIABUNNA	Drawing Number: 3 Scale 1:500	Sheet 1 of 1 Prepared by: PL



Note: Track will need to be moved for unit 17 and 18 greywater trenches

Wastewater system: Units 18

45L modified grease trap with mesh

Surface diversion drain

Greywater terraced absorption trench

1 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 15m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 22m from downslope boundary
Min 92m from downslope surface water

Refer to GES report

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29 Kirksway Place, Battery Point
T| 62231839 E| office@geosolutions.net.au

Wastewater system: Units 17 & 19

45L modified grease traps with mesh

Surface diversion drain

Two-way splitter box

Greywater terraced absorption trenches

2 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 15m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 22m from downslope boundary
Min 92m from downslope surface water

Refer to GES report

Test hole locations

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

24/10/2018

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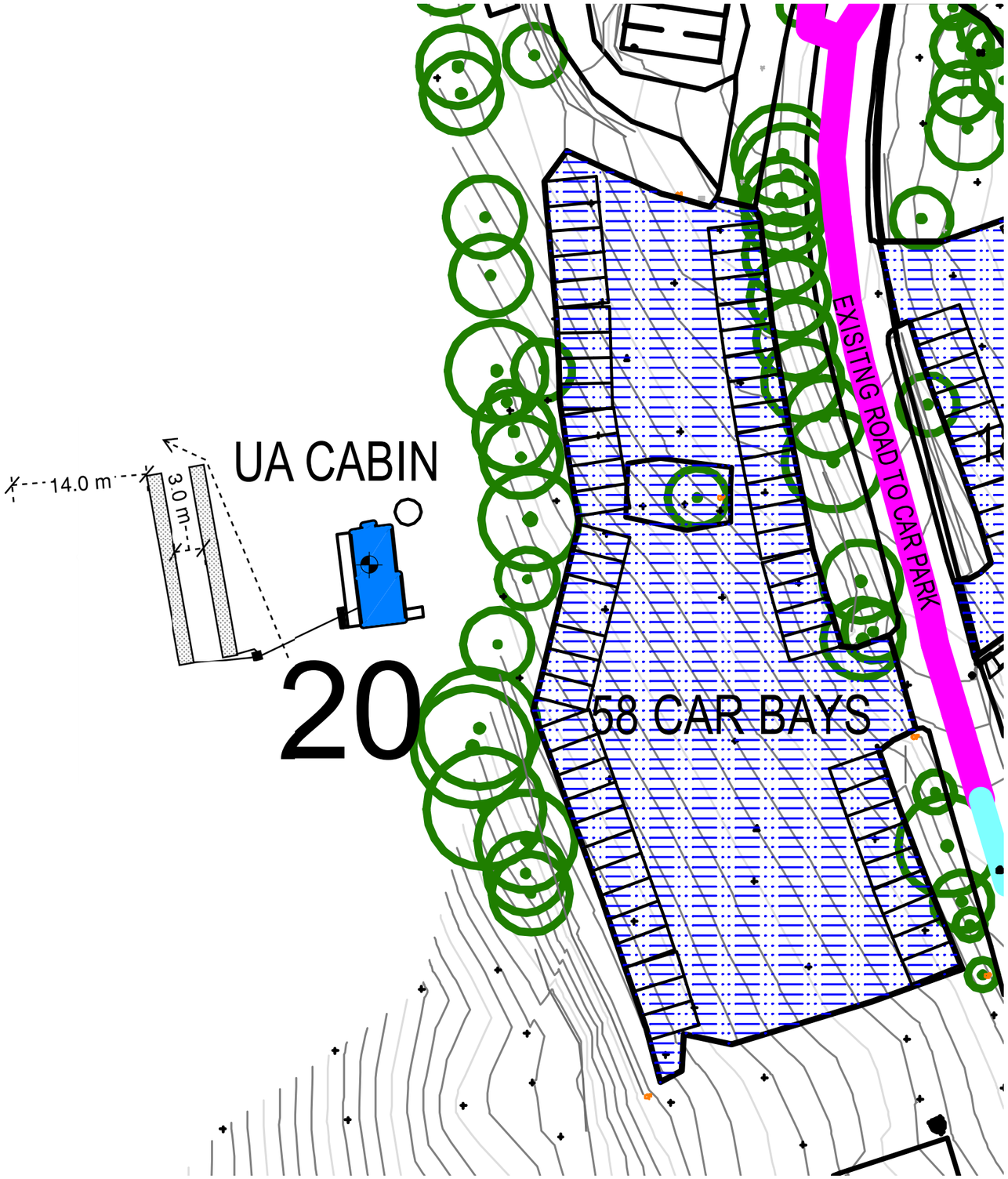

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Wastewater system: Unit 20

45L modified grease trap with mesh

Surface diversion drain

Two-way flow splitter box

Greywater terraced absorption trenches

2 x 20m x 1.5m x 0.45m

Min 3m from upslope buildings
Min 11m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 14m from downslope boundary
Min 64m from downslope surface water

Refer to GES report

⊕ Test hole locations

Dr. John Paul Cumming
Building Services Designer-
Hydraulic
CCC774A

24/10/2018

Do not scale from these drawings. Dimensions to take precedence over scale.	Triabunna Investments Pty Ltd 555 Freestone Point Road, TRIABUNNA	C.T.: 147559/1 PID: 2507606	Date: 12/09/2018 Amended: 24/10/2018	Geo-Environmental Assessment 555 Freestone Point Road, TRIABUNNA	Drawing Number: 5 Scale 1:500	Sheet 1 of 1 Prepared by: PL

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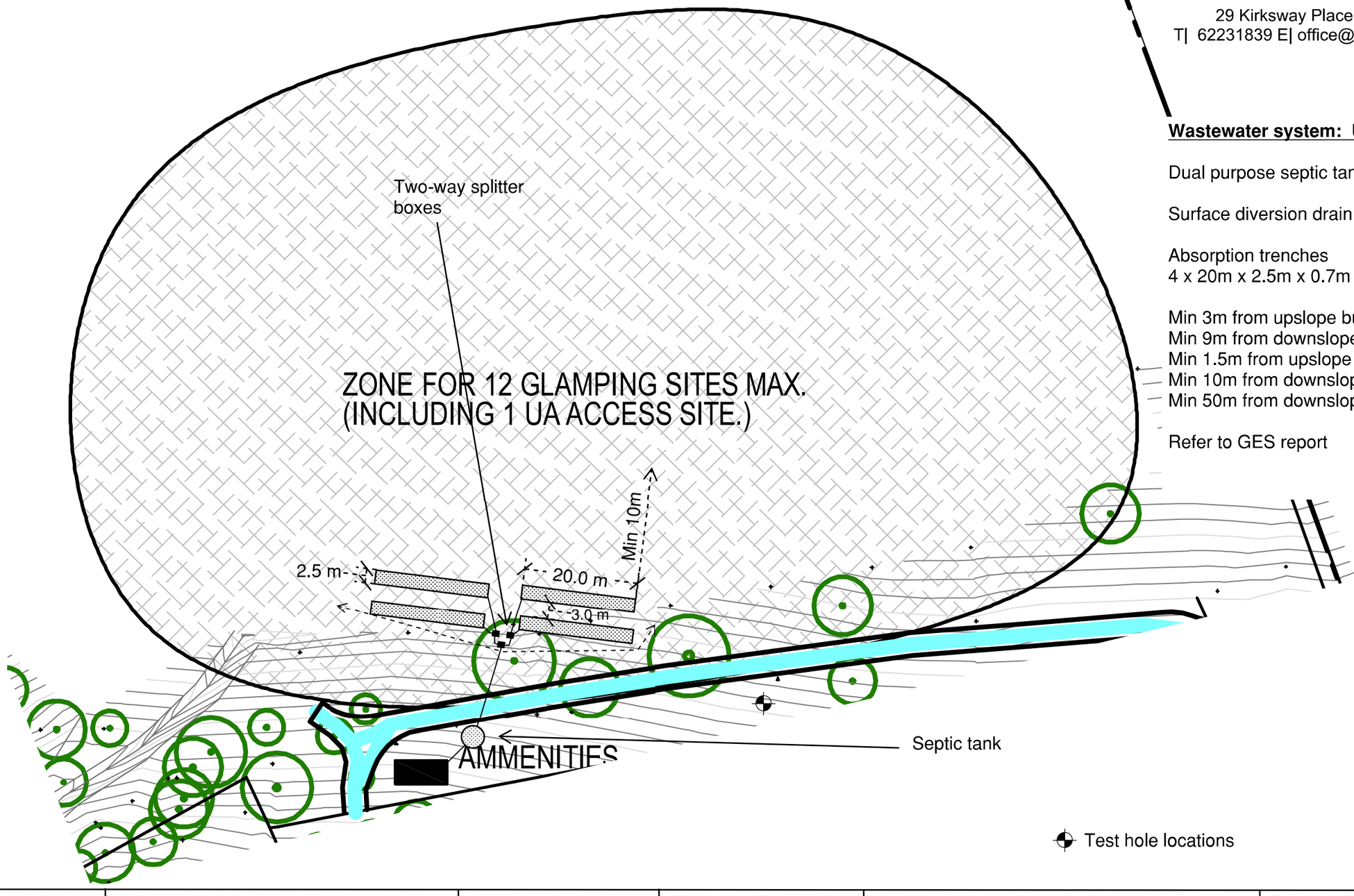


Wastewater system: Units 7 & 8

Dual purpose septic tank (min 6000L)

Surface diversion drain

Absorption trenches
4 x 20m x 2.5m x 0.7m

Min 3m from upslope buildings
Min 9m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 10m from downslope boundary
Min 50m from downslope surface water

Refer to GES report

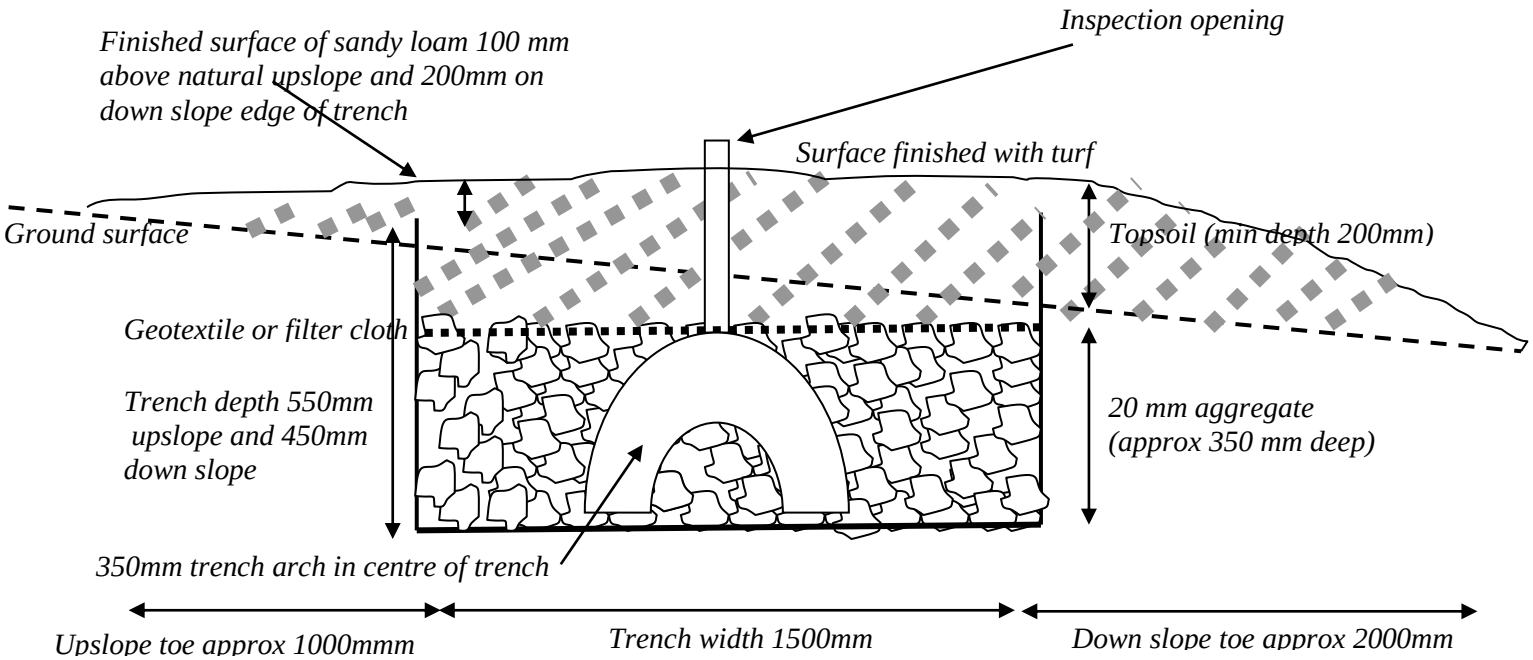
Test hole locations

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

29/10/2018

Do not scale from these drawings. Dimensions to take precedence over scale.	Triabunna Investments Pty Ltd 555 Freestone Point Road, TRIABUNNA	C.T.: 147559/1 PID: 2507606	Date: 29/10/2018	Geo-Environmental Assessment 555 Freestone Point Road, TRIABUNNA	Drawing Number: 1 Scale 1:750	Sheet 1 of 1 Prepared by: PL

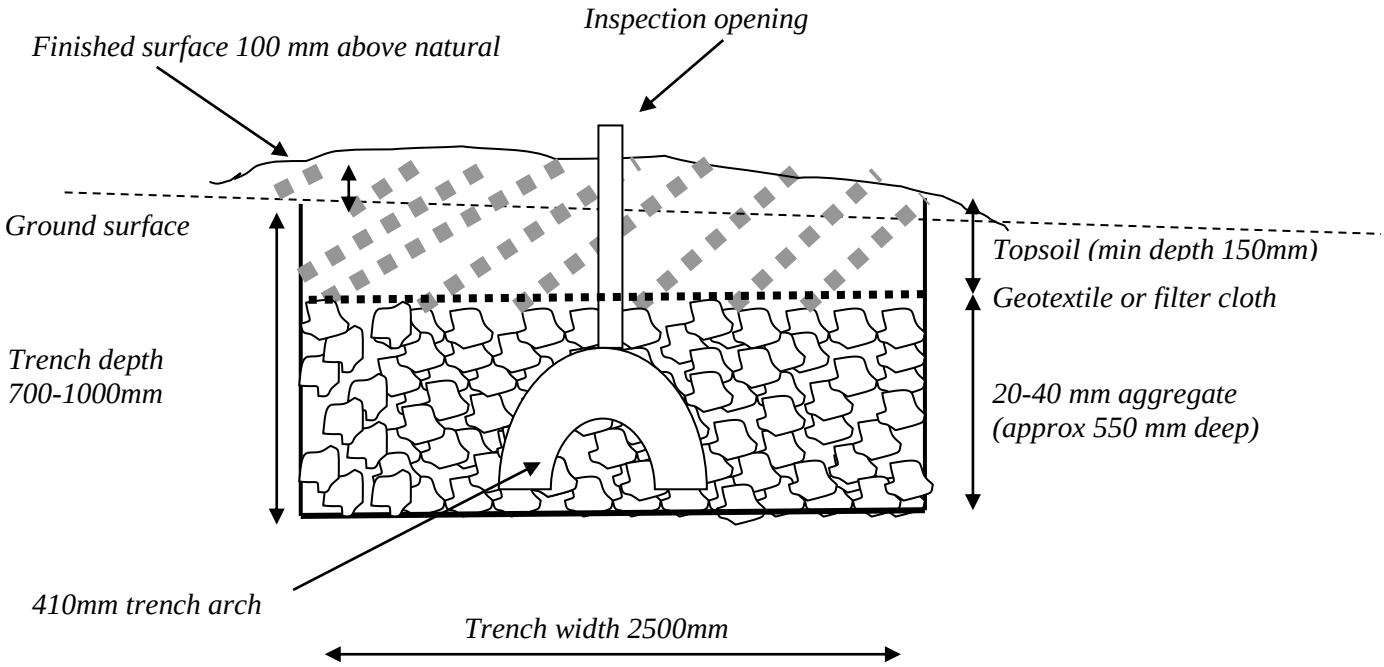
Figure 1 – Terraced Modified Absorption Trench



Design notes:

1. Absorption trench dimensions of up to 20m long by 0.55m deep by 1.5m wide.
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 350-410mm arch should be placed in centre of trench **or** slotted 100mm PVC pipe @ 700mm centres and covered with aggregate (PVC in top 100mm of aggregate).
4. Geotextile or filter cloth to be placed over the distribution arch/PVC pipes to prevent clogging of the pipes and aggregate – in sand (category 1 soils) the sides of the trench over the aggregate should also be covered.
5. Construction on slopes up to 20% to allow trench depth range approx 600mm upslope edge to 400mm on down slope edge.
6. On slopes over 10% the sandy loam cover should be at least 100mm above natural with a downslope batter no less than 2000mm in length to avoid surface water accumulation (up slope ag drain also recommended to divert surface water flows).
7. All works on site to comply with AS3500 and Tasmanian Plumbing code.

Figure 1 –absorption trench design



Design notes:

1. Absorption trench dimensions of up to 25m long by 0.70m deep by 2.5m wide.
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 410mm arch should be placed in centre of trench **or** three rows of slotted 100mm PVC pipe @ 600mm centres and covered with aggregate (PVC in top 100mm of aggregate).
4. Geotextile or filter cloth to be placed over the distribution arch/PVC pipes to prevent clogging of the pipes and aggregate – in sand (category 1 soils) the sides of the trench over the aggregate should also be covered.
5. Construction on slopes up to 20% to allow trench depth range 1000mm upslope edge to 700mm on down slope edge.
6. On slopes over 10% the sandy loam cover should be 150mm above natural with a downslope batter no less than 500mm in length to avoid surface water accumulation (up slope ag drain also recommended to divert surface water flows).
7. All works on site to comply with AS3500 and Tasmanian Plumbing code.

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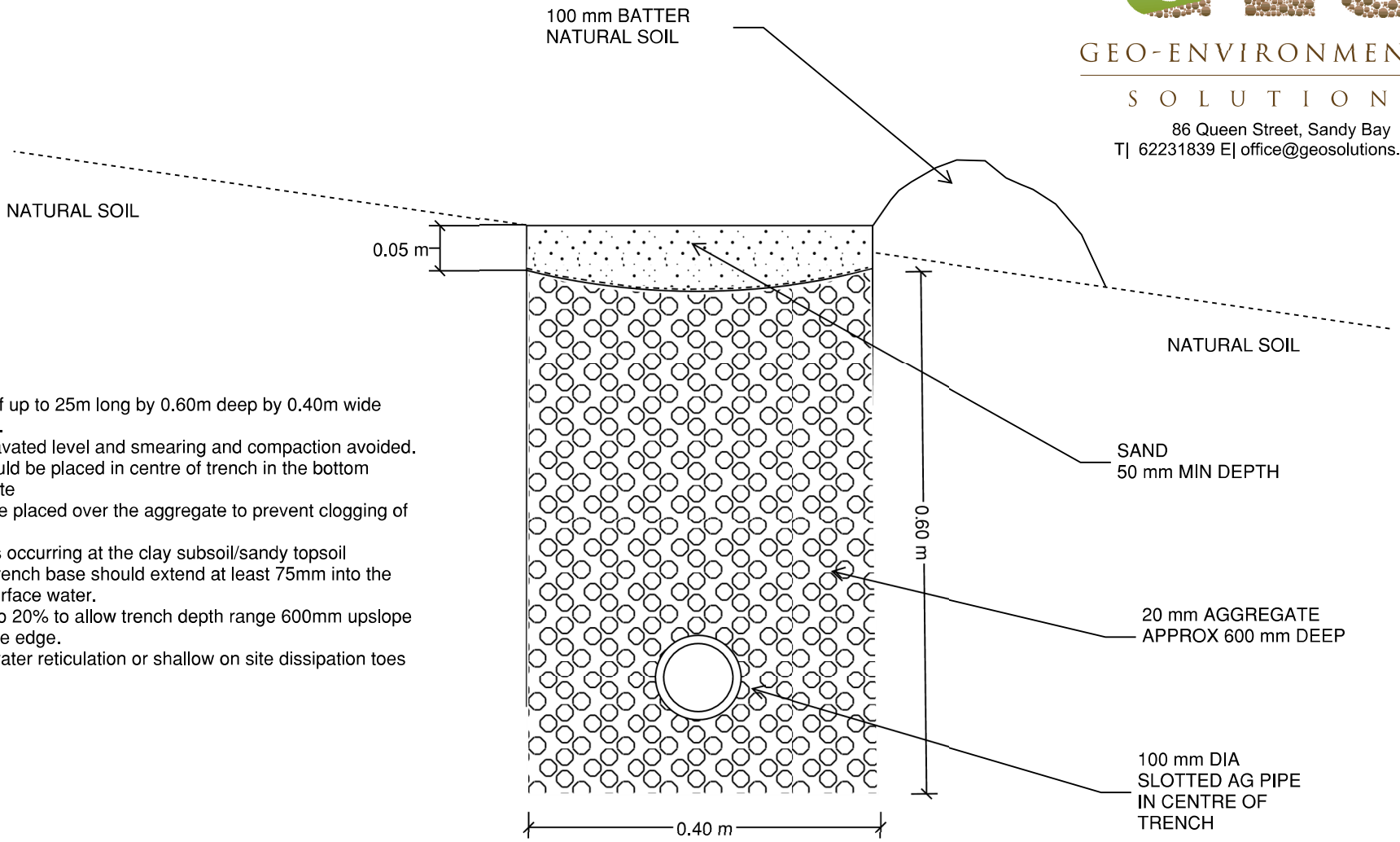
GEO-ENVIRONMENTAL
SOLUTIONS
86 Queen Street, Sandy Bay
T| 62231839 E| office@geosolutions.net.au



Design notes:

1.Cut-off trench dimensions of up to 25m long by 0.60m deep by 0.40m wide (depths and widths minimum).
2.Base of trenches to be excavated level and smearing and compaction avoided.
3.100mm slotted ag-pipe should be placed in centre of trench in the bottom 100mm of the 20mm aggregate
4.Geotextile or filter cloth to be placed over the aggregate to prevent clogging of the pipes and aggregate
5.If shallow subsurface flow is occurring at the clay subsoil/sandy topsoil boundary (duplex soils), the trench base should extend at least 75mm into the subsoil clay to capture sub-surface water.
6.Construction on slopes up to 20% to allow trench depth range 600mm upslope edge to 400mm on down slope edge.
7.Trench discharge to stormwater reticulation or shallow on site dissipation toes across the contour.

Do not scale from these drawings. Dimensions to take precedence over scale.	Geo-Environmental Solutions		Date: 01/05/2017	Cut-Off Drain Detail	Sheet 1 of 1

COVER PAGE

RESPONSIBLE BUILDING DESIGNER	VANISHING POINT DESIGN
WASTE & STORM WATER SYSTEM DESIGN	GEO-SOLUTIONS
STRUCTURAL DESIGN	ASSET SAFE: GEORGE SEVERINI
BAL ASSESSMENT	NORTHBARKER
CERTIFICATE OF TITLE REFERENCE	6533/3
BAL RATING	BAL 12.5
SOIL CLASSIFICATION	H1 (OR P AFTER SITE CUT)
WIND SPEED CLASSIFICATION	N3
CLIMATE ZONE	7
DOCUMENT REVISION	REV 5

SBM SHK A00	COVER PAGE
SBM A-01	LOCATION PLAN
SBM SHK-A01a	SITE PLAN 1
SBM SHK-A01b	SITE PLAN 2
SBM B01 REV 11	SITE PLAN FOR RECEPTION BUILDING / UA SHACK
SBM SHK-A02	SHACK TYPE 1: FLOOR PLAN & ELEVATIONS
SBM SHK-A03	SHACK TYPE 2: FLOOR PLAN & ELEVATIONS
SBM SHK-A04	TYPICAL SECTION
SBM SHK-A07	SHACK TYPE 3: FLOOR PLANS & ELEVATIONS
SBM SHK-A08	SHACK TYPE 4: FLOOR PLANS & ELEVATIONS
SBM SHK-A09	AMMENITIES BUILDING FOR GLAMPING

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
3	GRR	13/09/2018	UA CABIN SKETCH PLAN		
2	GRR	23/08/2018	ISSUED FOR CERTIFICATE OF LIEKLY COMPLIANCE		
1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		

Vanishing Point Design

GILLIAN RICHARDS
PO Box 183, Dover 7117
Ph: 0488 775 992
Email: vanishpointdesign@gmail.com
Acc. No. CC6421

SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
SKETCH DESIGN

SCALE NTS

CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SHK-A00

REV REV 5

SHEET

SHEET No

LOCATION PLAN

555 FREESTONE POINT ROAD
TRIABUNNA INVESTMENTS PYT LTD
C.T.65616/1

555 FREESTONE POINT ROAD
TRIABUNNA INVESTMENTS PYT LTD
C.T.147559/1

COMMONWEALTH OF AUSTRALIA C.T.2[illegible]

ZONE FOR 12 GLAMPING SITES MAX.
(INCLUDING 1 UA ACCESS SITE.)

AMMENITIES

OVERFLOW CARPARKING

GARDEN

GREEN HOUSE 5x10m

GREEN HOUSE 5x4m

WT

UA CABIN

20

18 CAR BAYS

58 CAR BAYS

B1

B2

SAFE-ZONE

AMPHITHEATRE

BUNKER

BUSH FIRE ACCESS ROAD MIN 4m WIDE

85.719
275°03'30"

169°05'30"
61.285

11°30'30"
41.038

77.950
344°20'30"

84.721
306°46'30"

196.218
244°46'39"

155.099
254°21'39"

215°51'39"

STAGE 1

- CARETAKERS RESIDENCE
- B1 PROPOSED RECEPTION BUILDING & RESTAURANT
- B2 PROPOSED ADMIN & LAUNDRY BUILDING
- EXIST. SEALED ACCESS ROAD
- BUSH FIRE ACCESS ROAD MIN 4m WIDE
- SERVICE ROAD 2m WIDE
- 1 SHACK
- AREA OF APPROVED DUPLEX SELF CONTAINED ACCOMMODATION
- EXISTING CAR-PARKING RE-USED

N

REVISIONS

REV	BY	DATE	DESCRIPTION
5	GRR	12/11/2018	DA GLAMPING & SHACKS 5-20
4	GRR	07/09/2018	GLAMPING & SHACKS 5-20
3.	GRR	04/07/2018	GREEN HOUSES ADDED
0'	GRR	21/05/2018	ISSUED FOR CONSTRUCTION
E	GRR	13/04/2018	ISSUED FOR DA
D	GRR	05/04/2018	ISSUED FOR DISCUSSION
C	GRR	25/02/2018	ISSUED FOR DISCUSSION
B	GRR	19/01/2018	ISSUED FOR DISCUSSION

GILLIAN RICHARDS
PO Box 183, Dover 7117
Ph: 0488 775 992
Email: vanishpointdesign@gmail.com
Acc. No. CC6421

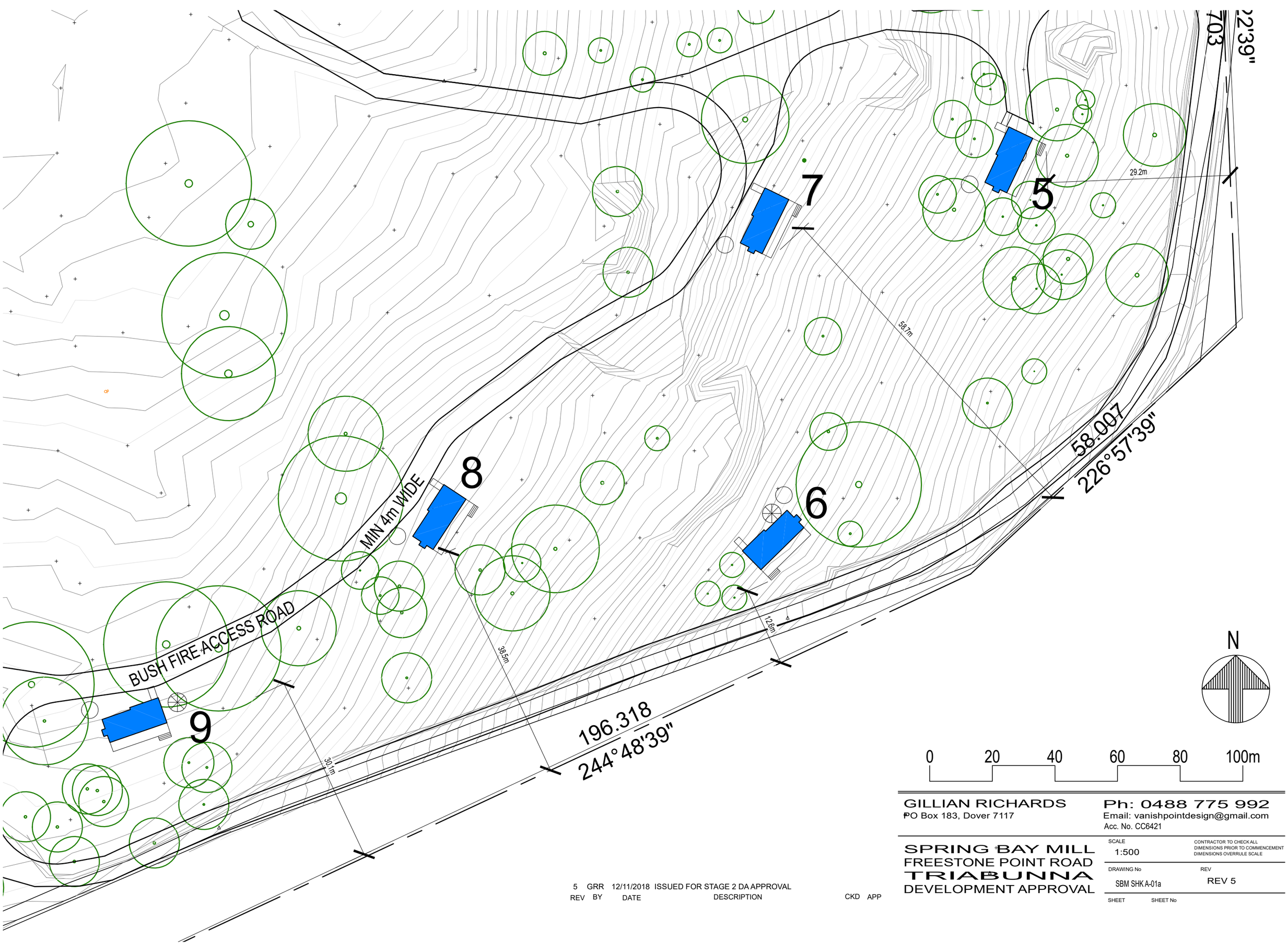
SPRING BAY MILL
555 FREESTONE POINT ROAD
TRIABUNNA
DEVELOPMENT APPROVAL

SCALE: NTS

CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No: SBM-A-01

REV: REV 5



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Acc. No. CC6421

SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
DEVELOPMENT APPROVAL

SCALE 1:500

CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SBM SHK A-01a

REV REV 5

SHEET SHEET No

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 DA APPROVAL		

BUSH FIRE ACCESS ROAD

MIN 4m WIDE

18

19

17

16

15

13

12

11

10

14

16.4m

58.5m

12m

50.8m

177°17'39"

58.808

8.9m

168°17'39"

48.241

14.2

7.5m

20.5m

6.9m

16.2m

155.099

254°21'39"

14.3m

N

0 20 40 60 80 100m

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SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
DEVELOPMENT APPROVAL

SCALE 1:500

CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SBM SHK A-01b

REV REV 5

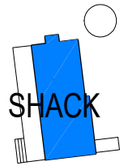
SHEET SHEET No

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 DA APPROVAL		

SEALED ACCESS ROAD

BUSH FIRE ACCESS ROAD
MIN 4m WIDE

EXISTING CAR-PARKING
RE-USED



20

WATER METER

SERVICE ROAD

18 CAR BAYS
EXIST. PARK RENOVATED & REMARKED

UA
PARKING

UA
PARKING

59 CAR BAYS

DELIVERIES

B1

CONCRETE
FLOOR
EXIST. RL -0.023

TIMBER
FLOOR
EXIST. RL 0.0

EXIST. GL -0.185

EXIST. GL -0.340

EXIST. GL -0.675

EXIST. GL -0.70

B2

RECEPTION SITE PLAN

N

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
11	GRR	2/11/2018	ISSUED FOR CoLC ASSESSMENT		
0	GRR	21/05/2018	ISSUED FOR CONSTRUCTION		

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SPRING BAY MILL
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TRIABUNNA
DEVELOPMENT APPROVAL

SCALE 1:200

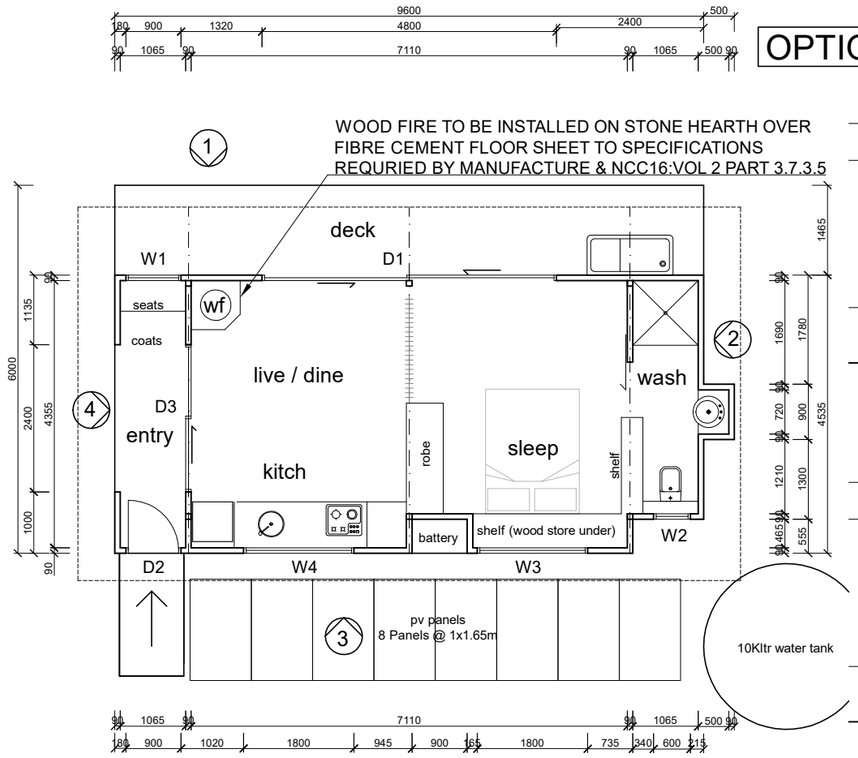
CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SMB B1-01

REV REV 11

SHEET

SHEET No



SHACK 1: FLOOR PLAN

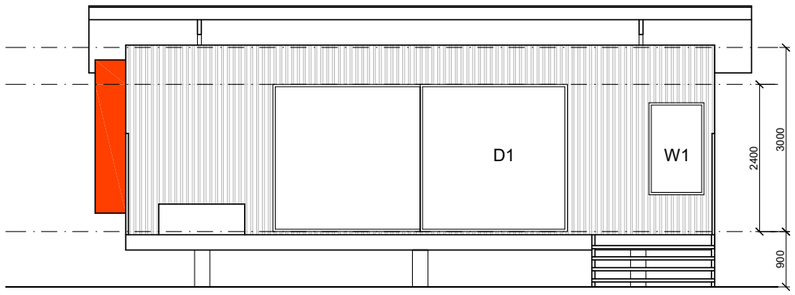
External Finishes Schedule

ROOF	Colorbond Monoclad roof sheet in 'Monument'
EAVES	FC painted finished
WALLS	FC cladding paint finished
WINDOWS	Powdercoated aluminum
DECKS	Timber, natural finish
SCREENS	Timber, natural finish

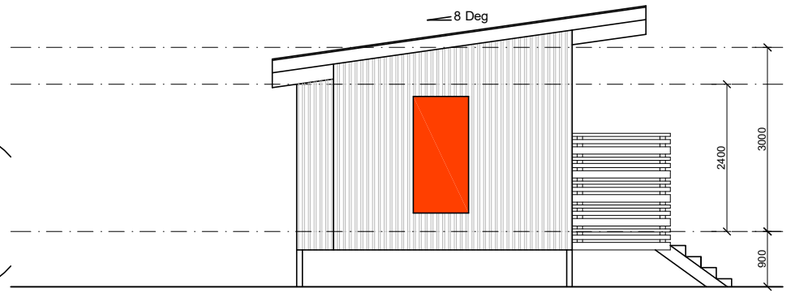
NOTES:

1. Refer to NorthBarker Bushfire Report & Hazard management plan dated 11/04/2018 for details of BAL rating. All construction details to AS3959-2009. Typical section SHK A-04 gives an overview of construction requirements.
2. All selected paint colours to be natural tones of less than 40% reflectivity.
3. Wood heater installed in compliance with NCC:Vol 2 Part 3.7.3.5
4. No perminant water in the propsoed bath on the deck of the shacks

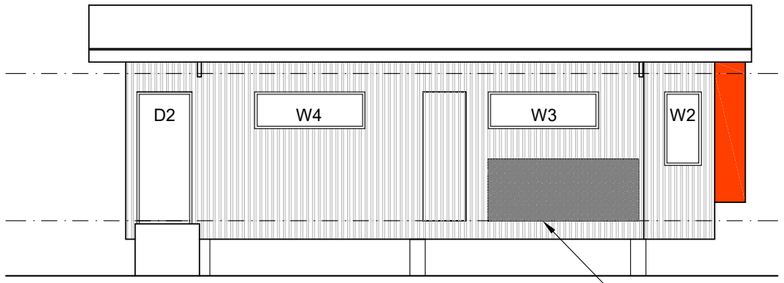
OPTION 1



ELEVATION 1



ELEVATION 2



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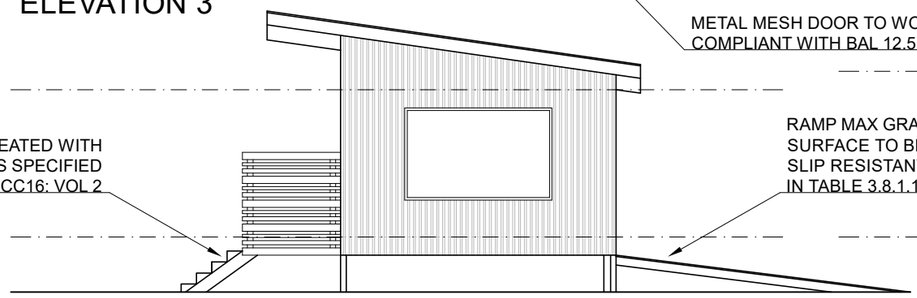
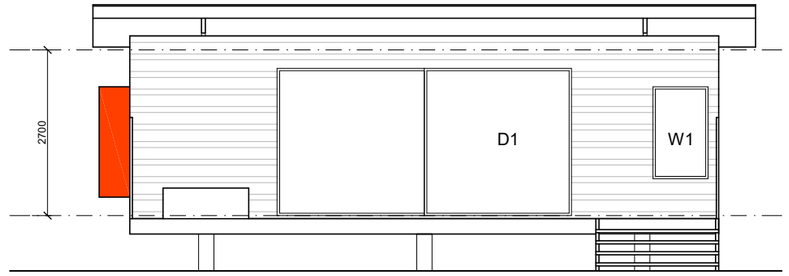


ELEVATION 4

OPTION 2



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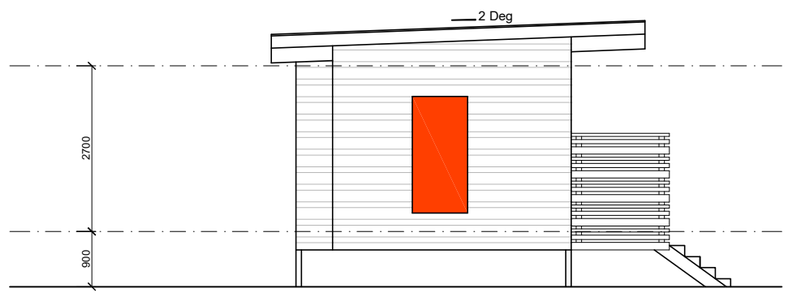
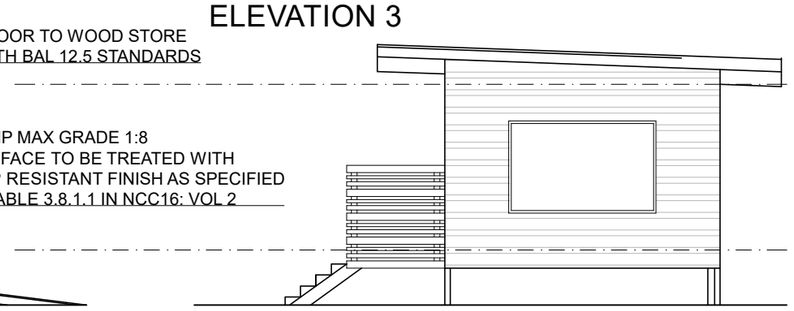


ELEVATION 2

ELEVATION 3



ELEVATION 4

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
3	GRR	13/09/2018	UA CABIN SKETCH PLAN		
2	GRR	23/08/2018	ISSUED FOR CERTIFICATE OF LIEKLY COMPLIANCE		
1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		

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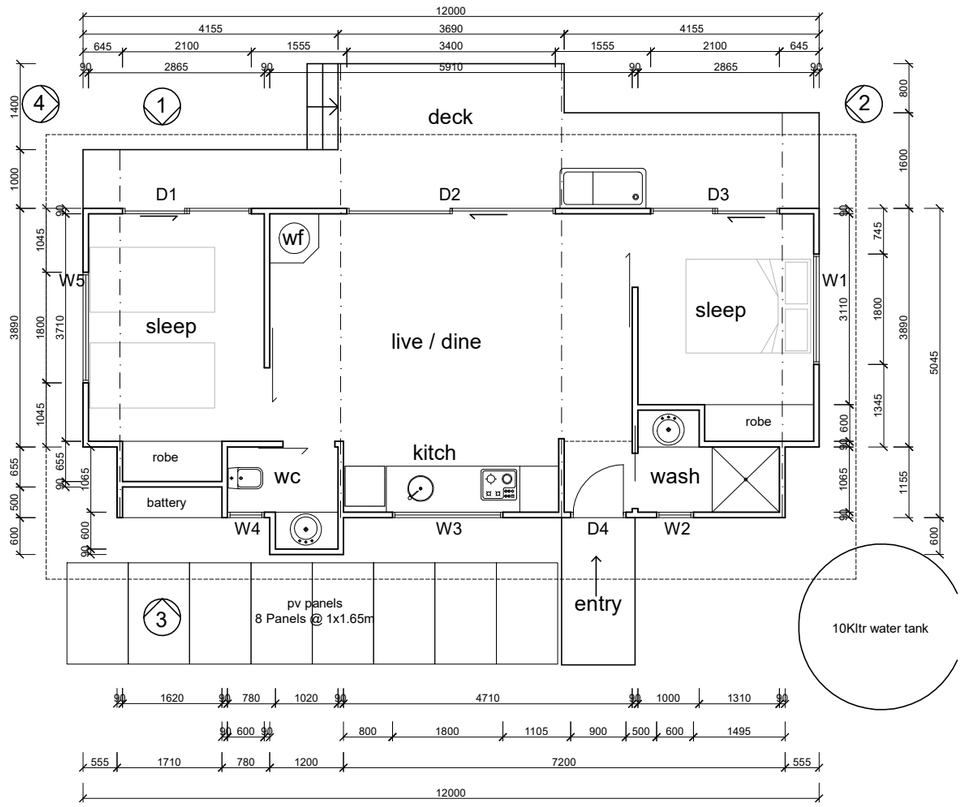
SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
SKETCH DESIGN

SCALE 1:100
CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE
DRAWING No SHK A-02
REV REV 5
SHEET
SHEET No



SHACK 2: FLOOR PLAN

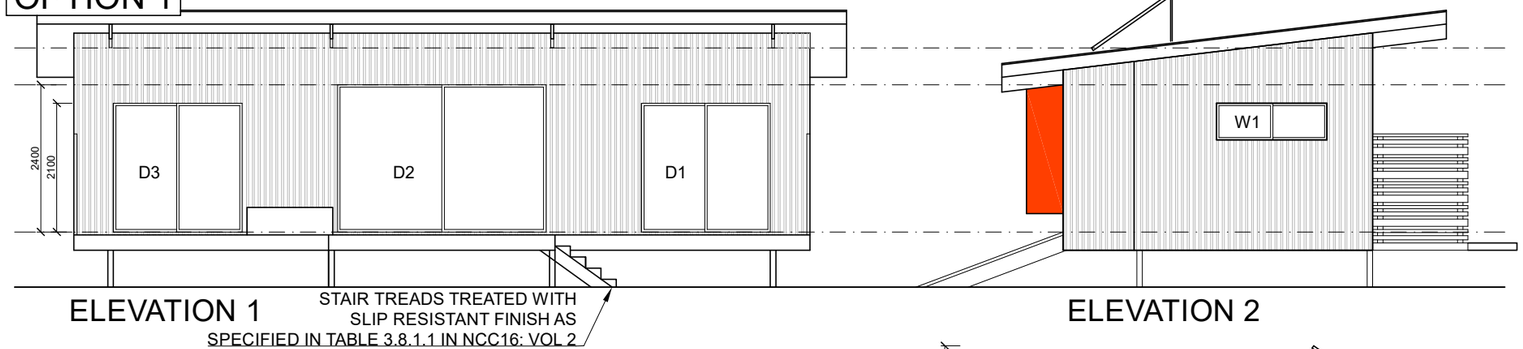
External Finishes Schedule

ROOF	Colorbond Monoclad roof sheet in 'Monument'
EAVES	FC painted finished
WALLS	FC cladding paint finished
WINDOWS	Powdercoated aluminum
DECKS	Timber, natural finish
SCREENS	Timber, natural finish

NOTES:

1. Refer to NorthBarker Bushfire Report & Hazard management plan dated 09/11/2018 for details of BAL rating. All construction details to AS3959-2009. Typical section SHK A-04 gives an overview of construction requirements.
2. All selected paint colours to be natural tones of less than 40% reflectivity.
3. Wood heater installed in compliance with NCC:Vol 2 Part 3.7.3.5
4. No perminant water in the propsoed bath on the deck of the shacks

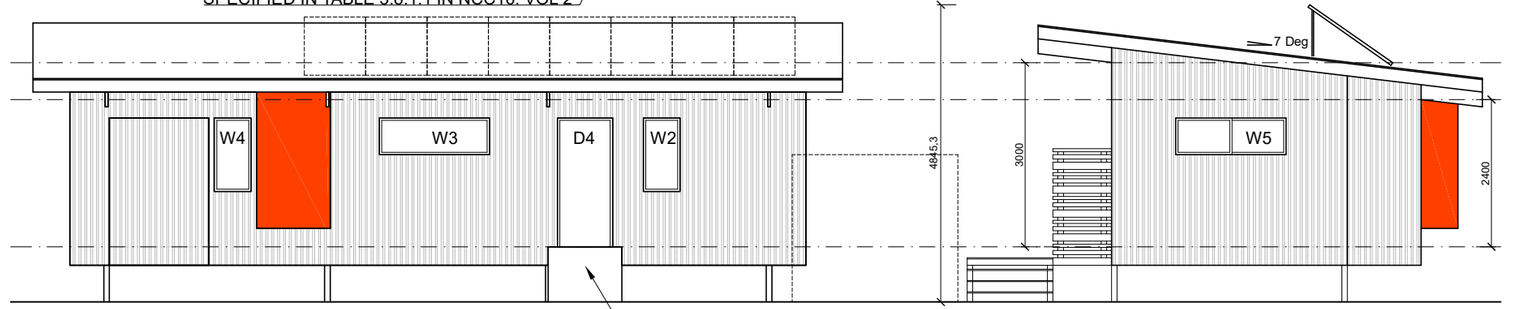
OPTION 1



ELEVATION 1

STAIR TREADS TREATED WITH SLIP RESISTANT FINISH AS SPECIFIED IN TABLE 3.8.1.1 IN NCC16: VOL 2

ELEVATION 2

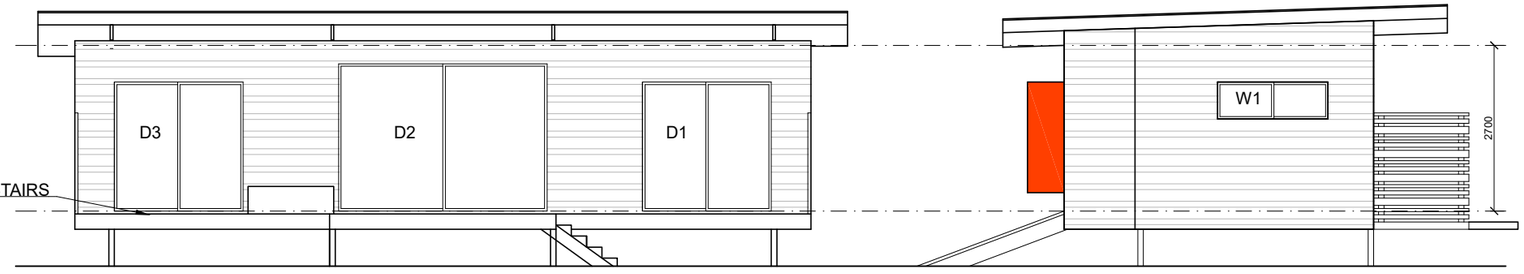


ELEVATION 3

RAMP MAX GRADE 1:8
SURFACE TO BE TREATED WITH
SLIP RESISTANT FINISH AS SPECIFIED
IN TABLE 3.8.1.1 IN NCC16: VOL 2

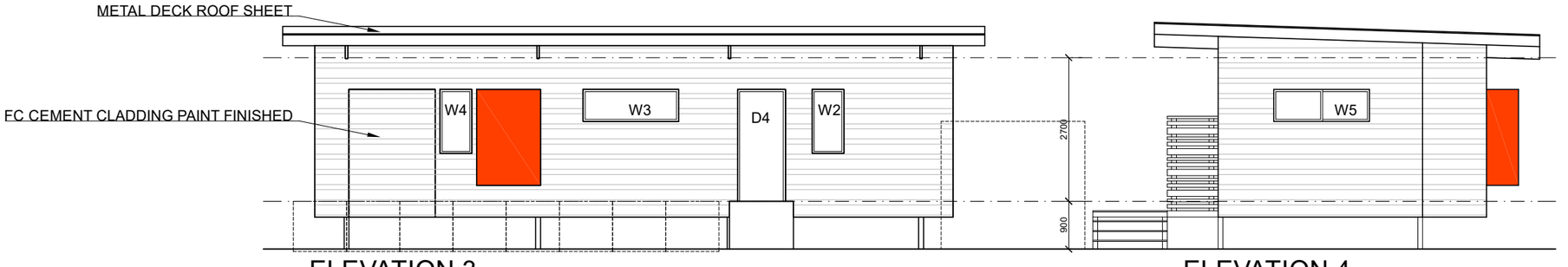
ELEVATION 4

OPTION 2



ELEVATION 1

ELEVATION 2



ELEVATION 3

ELEVATION 4

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
3	GRR	13/09/2018	UA CABIN SKETCH PLAN		
2	GRR	23/08/2018	ISSUED FOR CERTIFICATE OF LIEKLY COMPLIANCE		
1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		

REVISIONS

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SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
SKETCH DESIGN

SCALE 1:100

CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SHK A-03

REV REV 5

SHEET

SHEET No

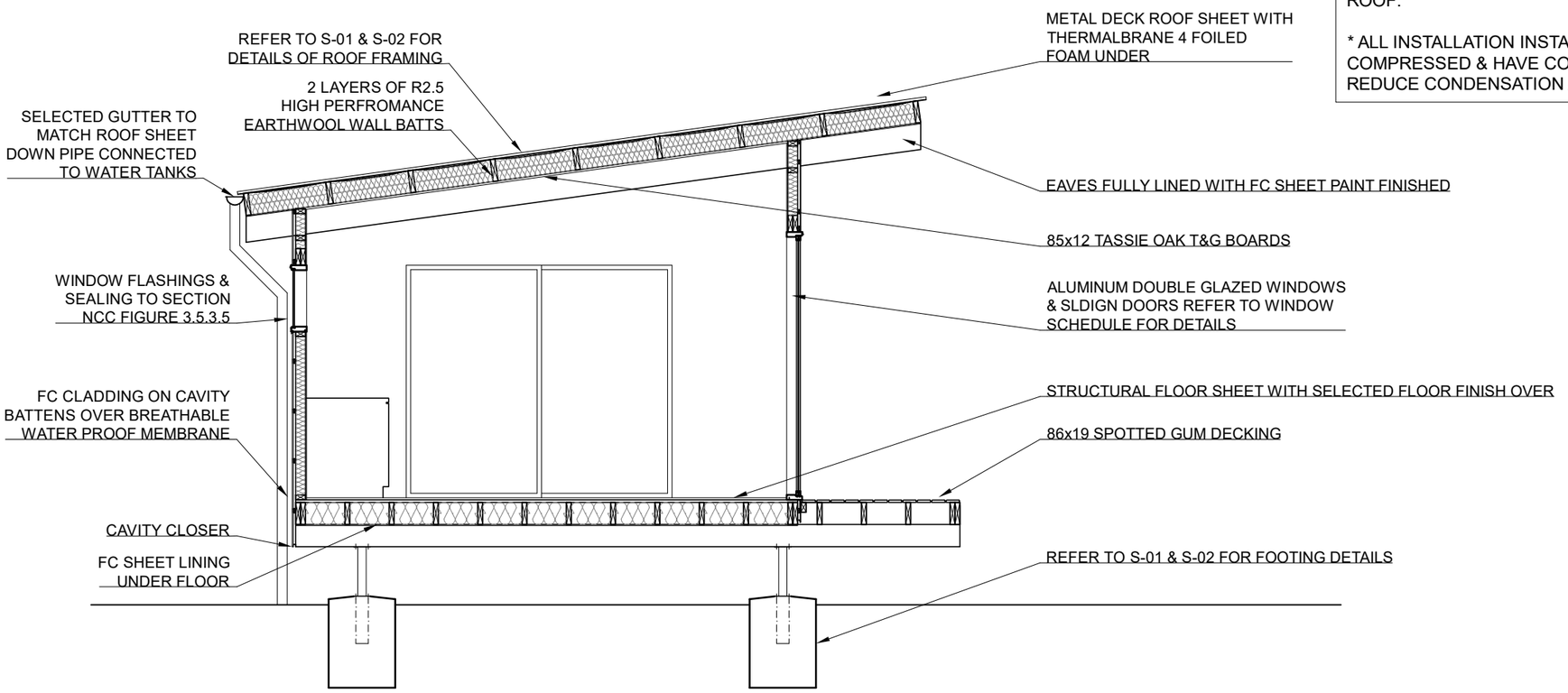
BAL 12.5 CONSTRUCTION STANDARDS

1. EXTERNAL CLADDING TO BE NONCOMBUSTIBLE FIBRE-CEMENT OF A MINIMUM OF 6mm IN THICKNESS WHEN LESS THAN 400mm FROM NATURAL GROUND LEVEL.
2. ALL JOINTS IN EXTERNAL SURFACE MATERIAL SHALL BE COVERED, SEALED, OVERLAPPED, BACKED OR BUTT-JOINTED TO PREVENT GAPS GREATER THAN 3mm.
3. VENTS, WEEPHOLES, ROOF PENETRATIONS, IN EXTERNAL CLADDING SHALL BE SCREENED WITH A MESH THAT HAS A MAXIMUM APERTURE OF 2mm, MADE OF CORROSION-RESISTANT STEEL, BRONZE OR ALUMINUM, EXCEPT WHERE THE OPENING APERTURE IS LESS THAN 3mm.
4. ALL OPENING LIGHTS TO BE FITTED WITH SCREENS FOR WINDOWS & DOORS SHALL HAVE A MESH OR PERFORATED SHEET WITH A MAXIMUM APERTURE OF 2mm, MADE OF CORROSION-RESISTANT STEEL, BRONZE OR ALUMINUM.
5. SLIDING DOORS & WINDOW FRAMES ARE TO BE OF METAL & TO COMPLY WITH ALL ASPECTS OF SECTION 5.5.2 & 5.5.4 OF AS3959.
6. ALL OTHER DOORS TO COMPLY WITH SECTION 5.5.3 OF AS3959
7. ROOF SHEET SHALL BE FULLY SARKED OVER THE ROOF STRUCTURE (EXCEPTING BATTENS) & MUST EXTEND INTO THE GUTTERS & VALLEYS. HAVE ANY GAPS GREATER THAN 3mm SEALED AT THE FASCIA OR WALL LINE, VALLEYS, HIPS & RIDGES WITH NONCOMBUSTIBLE MATERIAL THAT ADHERES TO SECTION 5.6.3 OF AS3959.
8. ROOF LIGHTS, ROOF VENTILATORS OR VENT PIPES SHALL BE FITTED WITH EMBER GUARDS WITH A MAXIMUM APERTURE OF 2mm MADE OF CORROSION-RESISTANT STEEL, BRONZE OR ALUMINUM.
9. DECKING, STAIR TREADS & THE TRAFFICBLE SURFACES OF RAMPS AND LANDINGS LESS THAN 300mm FROM GLAZED ELEMENTS THAT ARE LESS THAN 400mm FROM GROUND SHALL BE NON-COMPUSTABLE.
10. EVAPORATIVE COOLING UNITS SHALL COMPLY WITH SECTION 5.6.5 (f) OF AS3959.
11. WATER & GAS LINES ABOVE GROUND TO BE METAL
12. ALL ASPECTS OF SECTION 5 CONSTRUCTION FOR BUSHFIRE LEVEL 12.5 OF AS3959 MUST BE ADHERED TO.

INSULATION SCHEDULE

UNDER FLOOR:	R4 BATTS
WALLS:	HIGH PERFORMANCE BATTS = R2.5
	CLADDING INSTALLED ON CAVITY BATTEN WITH VENTILATED CLOSER
CEILINGS:	R5 (2 x R2.5 EARTHWOOL HIGH PERFORMANCE WALL BATTS)
ROOF:	THERMALBRANE 4 DOUBLE SIDED REFLECTIVE/ BREATHABLE FOAM

* ALL INSTALLATION INSTALLED TO NCC: VOL2 3.12.1.1: ENSURE CLOSE FITTING, NOT COMPRESSED & HAVE COMPLETE COVERAGE. THE ROOFCAVITY SHALL BE VENTILATED TO REDUCE CONDENSATION AS RECOMMENDED BY THE ABCB CONDENSATION HANDBOOK 2014



TYPICAL SECTION

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
3	GRR	13/09/2018	UA CABIN SKETCH PLAN		
2	GRR	23/08/2018	ISSUED FOR CERTIFICATE OF LIEKLY COMPLIANCE		
1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		

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SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
SKETCH DESIGN

SCALE 1:50

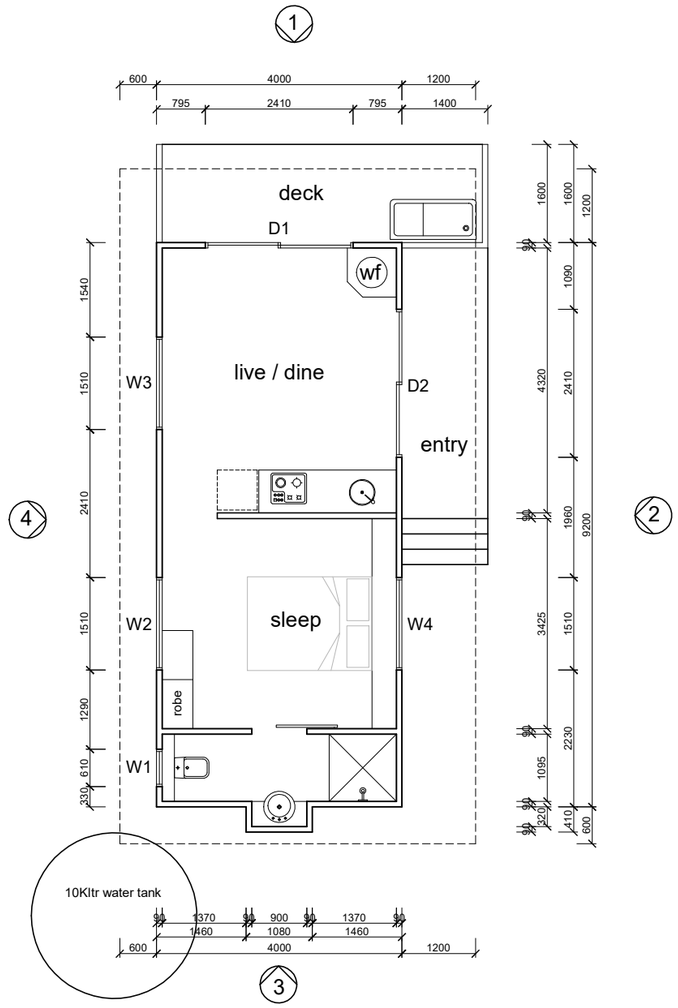
CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SHK A-04

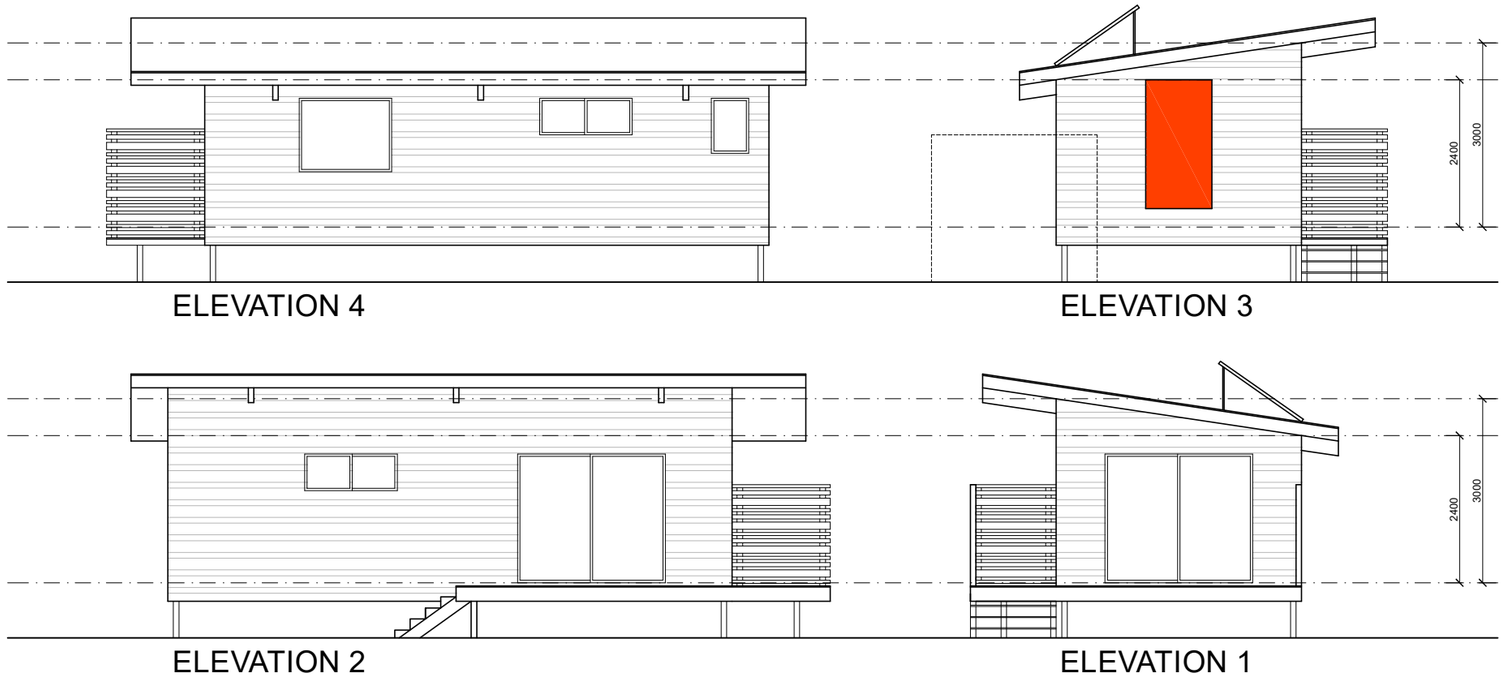
REV REV 5

SHEET

SHEET No



SHACK 3: FLOOR PLAN



External Finishes Schedule

ROOF	Colorbond Monoclad roof sheet in 'Monument'
EAVES	FC painted finished
WALLS	FC cladding paint finished
WINDOWS	Powdercoated aluminum
DECKS	Timber, natural finish
SCREENS	Timber, natural finish

NOTES:

1. Refer to NorthBarker Bushfire Report & Hazard management plan dated 09/11/2018 for details of BAL rating. All construction details to AS3959-2009. Typical section SHK A-04 gives an overview of construction requirements.
2. All selected paint colours to be natural tones of less than 40% reflectivity.
3. Wood heater installed in compliance with NCC:Vol 2 Part 3.7.3.5
4. No perminant water in the propsoed bath on the deck of the shacks

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
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1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		

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TRIABUNNA
SKETCH DESIGN

SCALE 1:100

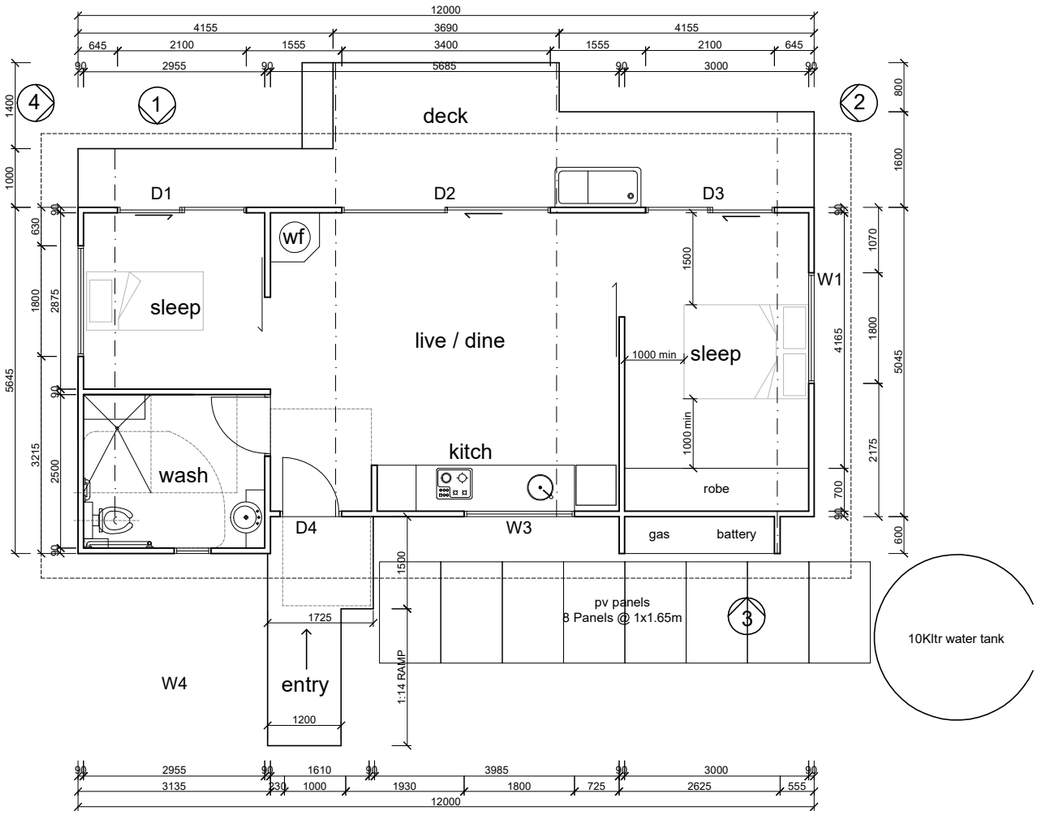
CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SHK A-07

REV REV 5

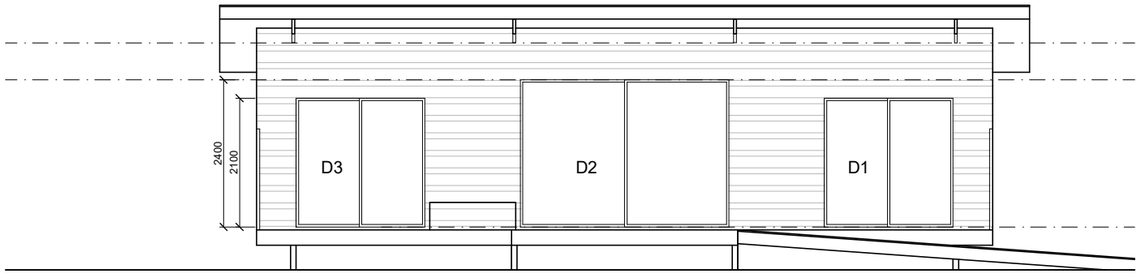
SHEET

SHEET No

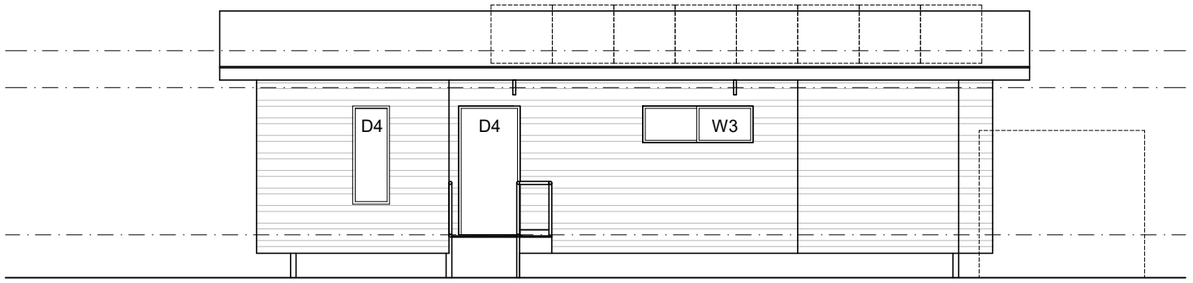


UA SHACK 4: FLOOR PLAN

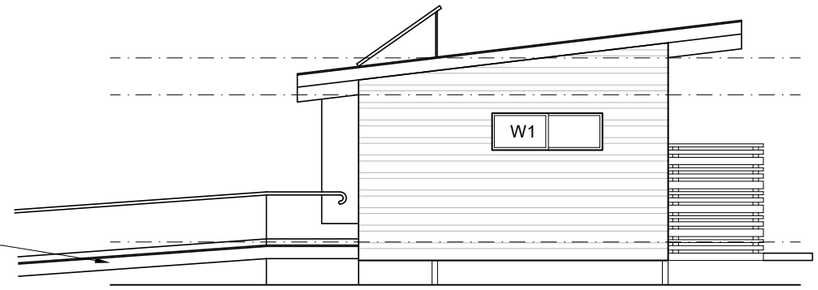
5



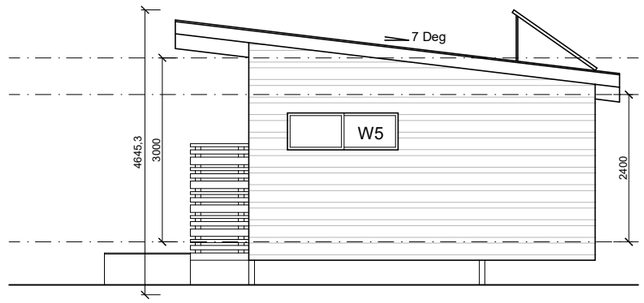
ELEVATION 1



ELEVATION 3



ELEVATION 2



ELEVATION 4

RAMP MAX GRADE 1:8 FOR A LENGTH OF 1.5m
OTHERWISE 1:14 FOR UP TO 9m
HANDRAILS & KERBS AS REQURIED BY AS1428.1 -2009
SURFACE TO BE TREATED WITH
SLIP RESISTANT FINISH AS SPECIFIED
IN TABLE 3.8.1.1 IN NCC16: VOL 2

External Finishes Schedule

ROOF	Colorbond Monoclad roof sheet in 'Monument'
EAVES	FC painted finished
WALLS	FC cladding paint finished
WINDOWS	Powdercoated aluminum
DECKS	Timber, natural finish
SCREENS	Timber, natural finish

NOTES:

1. Refer to NorthBarker Bushfire Report & Hazard management plan dated 09/11/2018 for details of BAL rating. All construction details to AS3959-2009. Typical section SHK A-04 gives an overview of construction requirements.
2. All selected paint colours to be natural tones of less than 40% reflectivity.
3. Wood heater installed in compliance with NCC:Vol 2 Part 3.7.3.5
4. No perminant water in the propsoed bath on the deck of the shacks

UA ACCESS NOTES:

1. CONTINUOUS ACCESSIBLE PATH OF TRAVEL SHALL NOT INCLUDE A STEP, STAIRWAY, OR OTHER IMPEDIMENT.
2. MINIMUM OVER HEAD HEIGHT SHALL BE 2M OR 1.98m AT DOOR WAYS.
3. 1m MINIMUM WIDTH WITH NO OBSTRUCTIONS.
4. DOOR HANDLES TO BE LESS THAN 0.9m AFFL.
5. HEIGHT TOLLERANCES FOR ABUTING SURFACES SHALL HAVE TOLERANCES OF A MINIMUM STANDARD OF FIGURE 6 & OR 7.
6. ENTRY RAMP MAX LENGTH 1.5m AT 1:8 GRADIENT. IF THE RAMP IS TO BE LONGER THEN THE GRADIENT MUST BE 1:14 IF THE PATHWAY TO THE ENTRY IS OF A GRADIENT SHAWOWER THAN 1:33 THEN IT DOES NOT NEED A HANDRAIL AS LOGN AS IT MEETS ALL CONDITIONS OF PART 10.2 OF AS1428.1

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
3	GRR	13/09/2018	UA CABIN SKETCH PLAN		
2	GRR	23/08/2018	ISSUED FOR CERTIFICATE OF LIEKLY COMPLIANCE		
1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		

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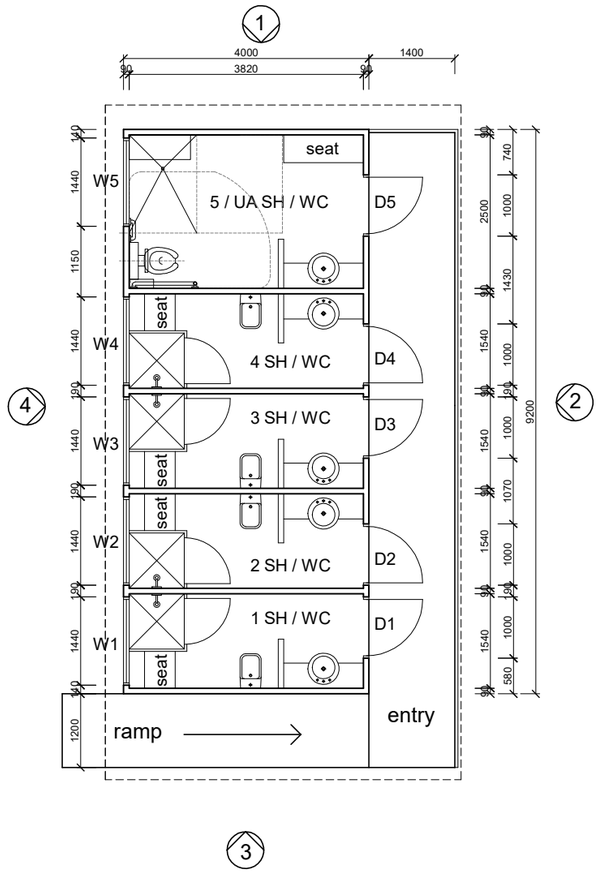
FREESTONE POINT ROAD
TRIABUNNA
SKETCH DESIGN

SCALE 1:100
CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE
DRAWING No SHK A-08
REV REV 5
SHEET
SHEET No

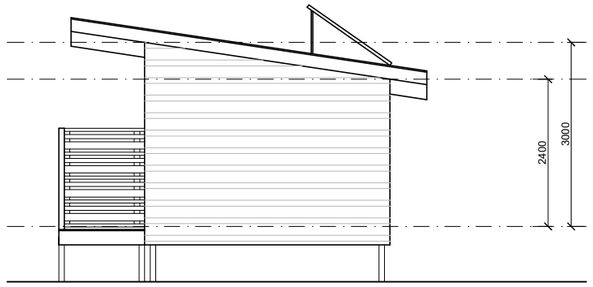


External Finishes Schedule

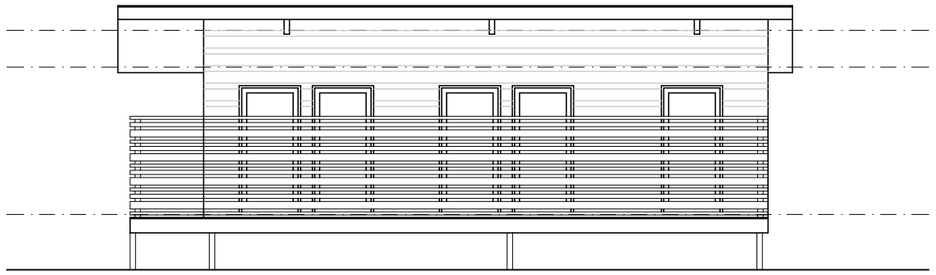
ROOF	Colorbond Monoclad roof sheet in 'Monument'
EAVES	FC painted finished
WALLS	FC cladding paint finished
WINDOWS	Powdercoated aluminum
DECKS	Timber, natural finish
SCREENS	Timber, natural finish

NOTES:

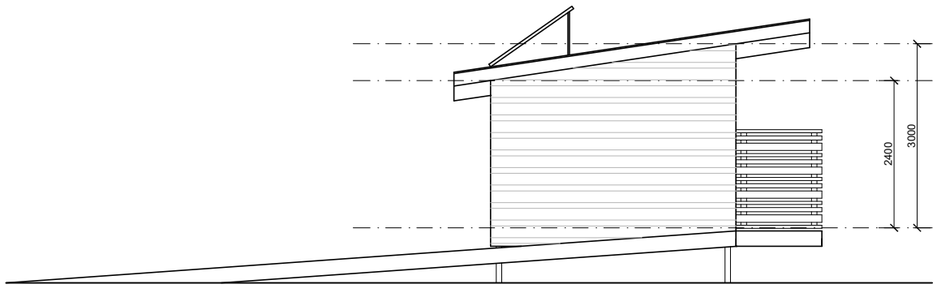
1. Refer to NorthBarker Bushfire Report & Hazard management plan dated 09/11/2018 for details of BAL rating. All construction details to AS3959-2009. Typical section SHK A-04 gives an overview of construction requirements.
2. All selected paint colours to be natural tones of less than 40% reflectivity.



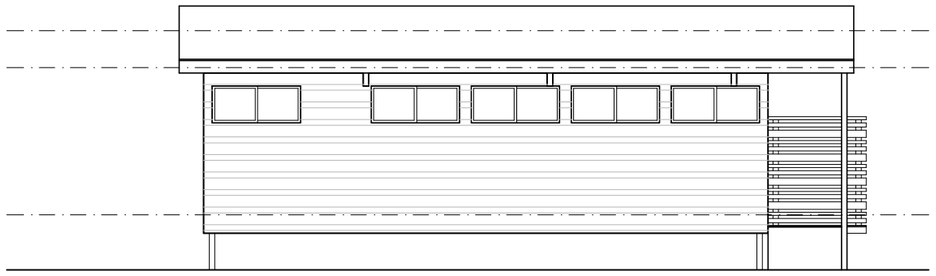
ELEVATION 1



ELEVATION 2



ELEVATION 3

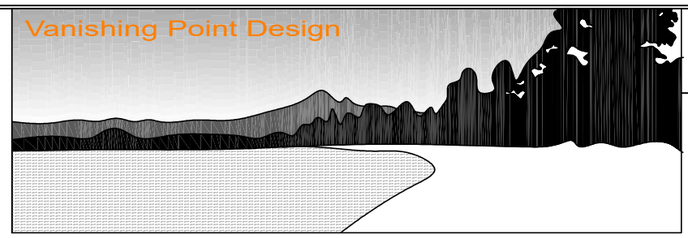


ELEVATION 4

Glamping Ammenities: FLOOR PLAN

REVISIONS

REV	BY	DATE	DESCRIPTION	CKD	APP
5	GRR	12/11/2018	ISSUED FOR STAGE 2 CABIN DA		
4	GRR	05/10/2018	CABIN TYPE 4 SKETCH PLAN		
3	GRR	13/09/2018	UA CABIN SKETCH PLAN		
2	GRR	23/08/2018	ISSUED FOR CERTIFICATE OF LIEKLY COMPLIANCE		
1	GRR	22/08/2018	GSBC REQUEST FOR FURTHER INFORMATION		
0	GRR	01/06/2018	ISSUED FOR CONSTRUCTION		
E	GRR	20/04/2018	ISSUED FOR DEVELOPMENT APPROVAL		
D	GRR	14/01/2017	ISSUED FOR DISCUSSION		



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SPRING BAY MILL
FREESTONE POINT ROAD
TRIABUNNA
SKETCH DESIGN

SCALE 1:100

CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT
DIMENSIONS OVERRULE SCALE

DRAWING No SHK A-09

REV REV 5

SHEET SHEET No