



Little Dog Island House Extension

Planning Report

Megan Gledden

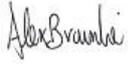
26 April 2022

GHD Pty Ltd | ABN 39 008 488 373

2 Salamanca Square,

Hobart, Tasmania 7000, Australia

T +61 3 6210 0600 | **F** +61 3 8732 7046 | **E** hbamail@ghd.com | **ghd.com**

Printed date	N/A26/04/2022 3:28:00 PM						
Last saved date	26 April 2022						
File name	https://projectsportal.ghd.com/sites/pp16_01/littledogislandhouse/ProjectDocs/12536086_REP_A - Planning Report.docx						
Author	David Cundall						
Project manager	Kylie Williams						
Client name	Megan Gledden						
Project name	Little Dog Island House Extension DA						
Document title	Little Dog Island House Extension Planning Report						
Revision version	Rev 01.3						
Project number	12536086						
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S1	1	David Cundall	Alex Brownlie		D.Rockliff		
S4	1	David Cundall	Alex Brownlie		D.Rockliff		6/10/21
S4	1.1	David Cundall	T.Reilly		D.Rockcliff		26/04/22

© GHD 2022

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

Contents

1.	Introduction	1
1.1	Purpose of this report	1
1.2	Scope and limitations	1
2.	Site assessment	2
3.	Development proposal	8
3.1	Introduction and landowner consent	8
3.2	Proposed dwelling extension	8
3.3	Site classification and wastewater system design	10
3.4	Aboriginal heritage and environmental features	10
4.	Visual Impact Assessment	12
4.1	VIA Criteria and Assessment	12
4.2	Landscape Setting	14
4.3	Conclusions of Visual Impact Assessment	15
5.	Planning assessment	18
5.1	Part 3 Development Applications, Permits and Exemptions	18
5.2	Part 5 Zones	19
5.3	Part 6 Use and Development Principles	20
5.4	Part 7 Special Area Provisions	24
5.4.1	7.2 Visually Sensitive Areas	24
5.4.2	Part 7.5 Shorelines, Water Bodies and Watercourses Areas	25
5.4.3	Schedule 7 Development in Bushfire Prone Areas	25
6.	Conclusion	26

Figure index

Figure 1	Location of subject site (topographic map)	2
Figure 2	Subject site (satellite image)	3
Figure 3	Eastern elevation of established dwelling and surrounding cleared land	4
Figure 4	Existing dwelling viewed from the water.	5
Figure 5	Aerial view of Little Dog Island house extension site (Courtesy: YouTube)	6
Figure 6	Subject site and Little Dog Island Game Reserve (thelist map services)	7
Figure 7	Extract from existing and Proposed Floor Plans	8
Figure 8	Extract from house extension elevation plans	9
Figure 9	Extract from Geoton report showing proposed septic system layout	10
Figure 10	6km radius of development area. Courtesy ListMAP.	14
Figure 11	View from water of Little Dog Island house extension site (Courtesy: YouTube)	15
Figure 12	Photograph of existing dwelling taken from the water	16
Figure 13	Photograph demonstrating the house extension footprint	17

Appendices

Appendix A	Certificate of Title
Appendix B	Dwelling Extension Drawings
Appendix C	Site Classification and On-Site Wastewater Disposal Assessment and Design
Appendix D	Unanticipated Discovery Plan

1. Introduction

1.1 Purpose of this report

The purpose of this planning report is to support an application for a house extension on Little Dog Island. The report provides a detailed overview of the proposal together with detailed written assessment against the relevant provisions of the Flinders Island Planning Scheme.

1.2 Scope and limitations

This report has been prepared by GHD for Megan Gledden and may only be used and relied on by Megan Gledden for the purpose agreed between GHD and Megan Gledden as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Megan Gledden arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

2. Site assessment

The subject site is located on Little Dog Island, approximately 4.7 km south-west of Lady Barron. The land is comprised in Certificate of Title Volume 226682 Folio 1, and is owned under Private Freehold tenure by James Doery, Megan Gledden, and Celia Beeton.



Figure 1 Location of subject site (topographic map)

The land rises with a gradient typically between 5.7% and 6.9% towards the centre of the island, to a peak height of approximately 30 m AHD. The site has a total area of 39 acres (15.782 ha) and consists primarily of native grassland (coastal grass and herbfield).

The site contains a 2 (two) bedroom dwelling setback 2.8m at the closest point to the northern property boundary. The dwelling features a loft, bathroom with WC, open plan living/dining/kitchen and covered verandah along the northern side of the dwelling.

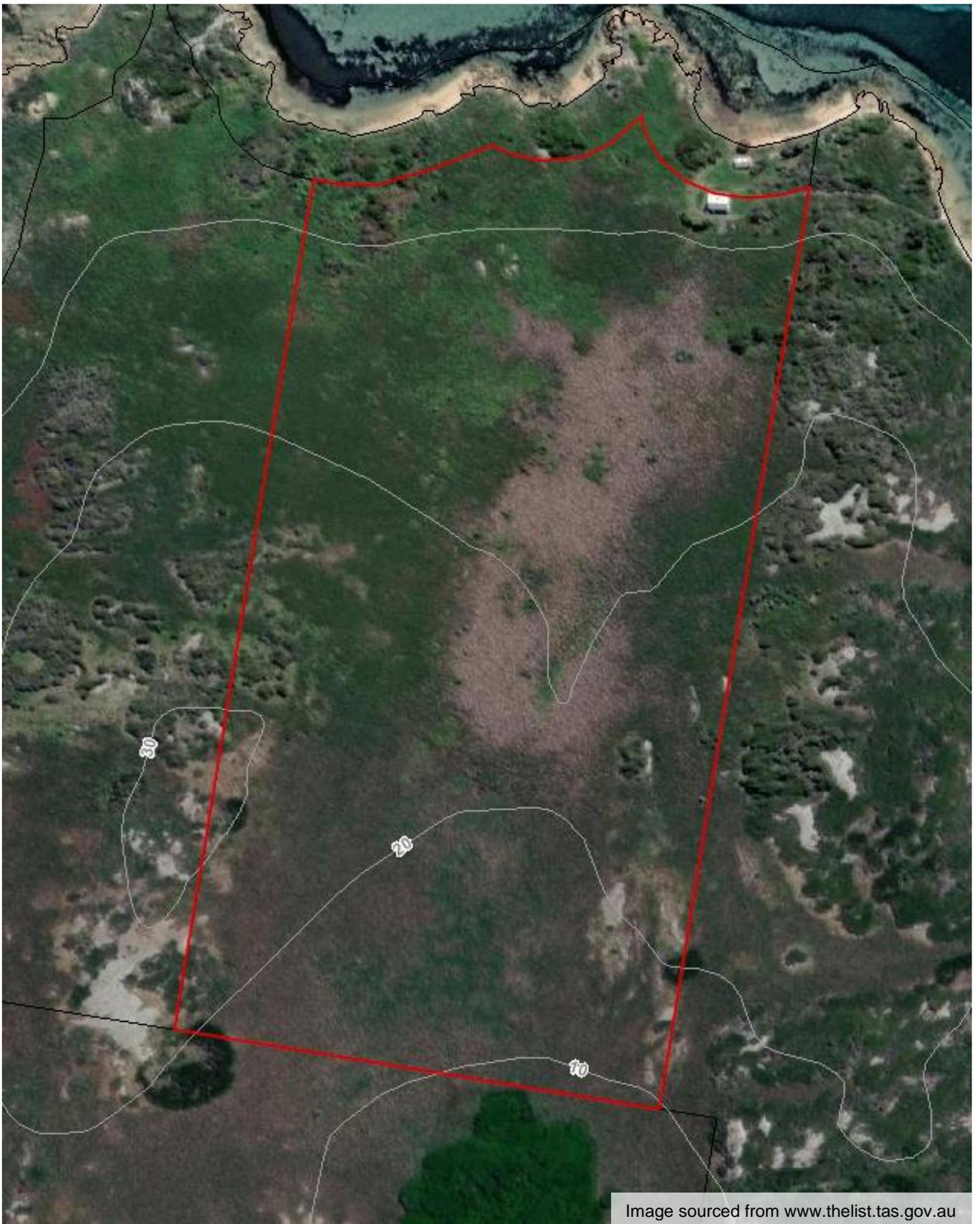


Figure 2 Subject site (satellite image)

The site has a total area of 39 acres (15.782 ha), which is dominated by native grassland (coastal grass and herbfield). The dwelling is located on the northern edge of the site on an area of land that was cleared at the time of its construction (in the 1970s). A Telstra communications tower is located approximately 10.5 m south-west of the dwelling, and an old shed previously associated with mutton birding, and leased by the current owners from the Crown is located approximately 18 m north of the dwelling (within Crown Land). There are no proposed works within the Crown owned land.

With the exception of two (2) sheds located on the adjoining Private Freehold lot south of the subject site, there are no other buildings on the island.

The current owners carefully manage the land and limit their overall impact on the land. The owners have an ongoing program of clearing coprosma and noxious plants and, where feasible, regeneration with native flora. They also work with Dr Sue Robinson on the eradication of feral cats and vermin on the island.



Figure 3 Eastern elevation of established dwelling and surrounding cleared land



Figure 4 *Exiting dwelling viewed from the water.*

The adjoining lots to the south and west of the subject site are Private Freehold, and the adjoining lot to the east of the site is Crown Land held by the Parks and Wildlife Service. That lot, and all land surrounding the Private Freehold Titles, forms part of the Little Dog Island Game Reserve established under the *Nature Conservation Act 2002*.



Figure 5 Aerial view of Little Dog Island house extension site (Courtesy: YouTube)

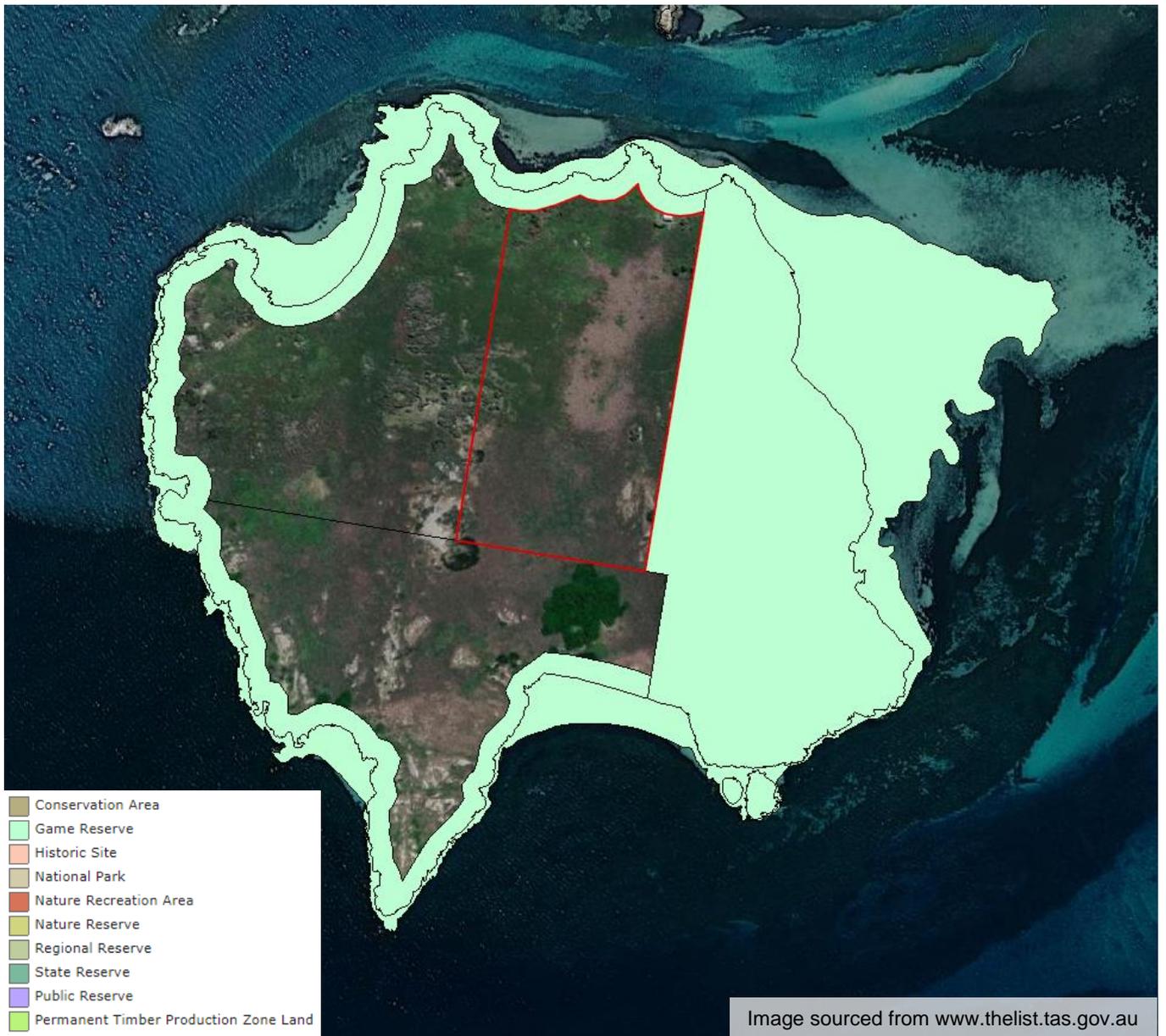


Figure 6 Subject site and Little Dog Island Game Reserve (thelist map services)

3. Development proposal

3.1 Introduction and landowner consent

The proposed development is for an extension to the existing dwelling and the installation of a new wastewater system. The development proponents are the property owners of the subject site, as identified in Section 2 of this report.

3.2 Proposed dwelling extension

The proposed development will modify and extend the existing dwelling to create 3 bedrooms instead of the current 2 bedrooms on the ground floor. Internal space will be reorganised to create a new storage area, a separate water closet, a renovated kitchen, and a new staircase accessing the first floor/loft. The veranda to the north of the dwelling will be lengthened to match the new dwelling extension. No additional floor space will be created on the first floor/loft.

The existing dwelling features a gross floor area of 99.3 m², which includes 70 m² on the ground floor and 29.3 m² on the first floor/loft. The proposed extension will increase the combined gross floor area to 124 m² through the addition of 24.7 m² to the ground floor. The proposed extension represents a total increase in gross floor area of 24.8%. Floor plans and a western elevation of the proposed extension are included in Appendix B.



Figure 7 Extract from existing and Proposed Floor Plans

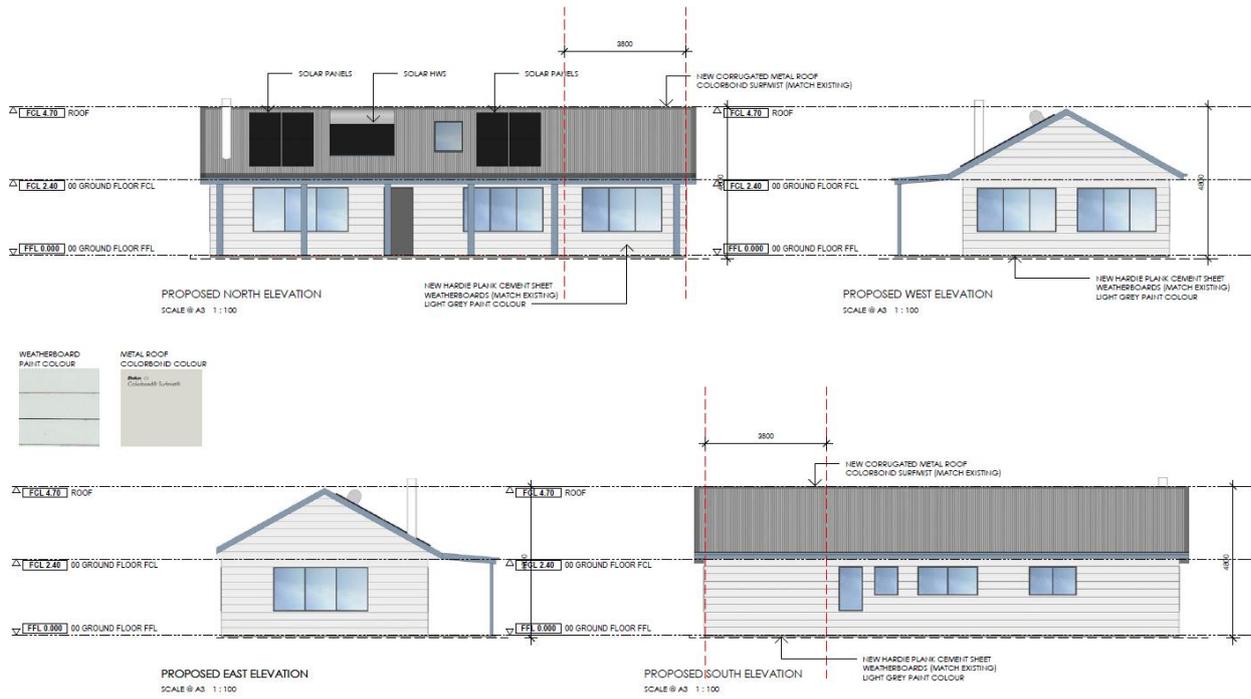


Figure 8 Extract from house extension elevation plans

3.3 Site classification and wastewater system design

A *Site Classification & On-site Wastewater Disposal Assessment and Design* was prepared by Geoton Pty Ltd and was issued to the proponent on the 26th of February 2021 (see Appendix D). The document provides an assessment of subsurface conditions at the site, an assessment of the surrounding topography, a determination of Wind Classification in accordance with Australian building standards, and a suitability assessment for on-site domestic wastewater disposal. The findings of the Geoton assessment have been used to inform the design of the proposed dwelling extension, and on-site wastewater system.

The on-site wastewater system will feature a septic tank with a minimum 3,000 L capacity, and a single discharge control trench with dimensions of 12 m (length), 1 m (width), and 0.8 m (depth). The site has sufficient area for a reserve trench if required.

The proposed location for the septic tank is approximately 1.5 m south-east of the dwelling. The discharge control trench will be located approximately 1.6 m and 3.8 m from the septic tank and dwelling respectively, and will have a setback of 5 m from the property frontage. The trench will be greater than 35 m from the beach north of the site, which is the nearest body of water.

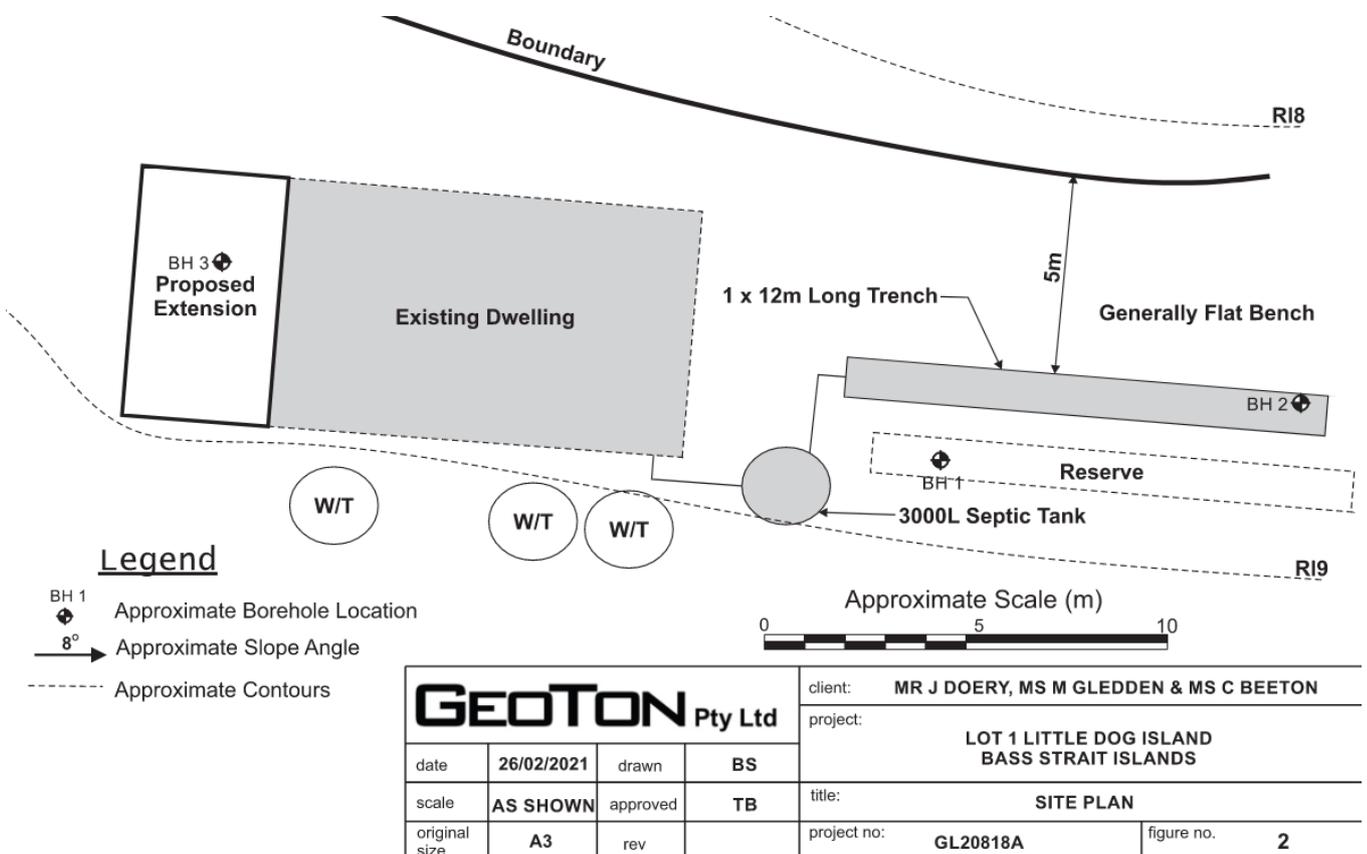


Figure 9 Extract from Geoton report showing proposed septic system layout

3.4 Aboriginal heritage and environmental features

A desktop review of the site (and proposed development) was conducted by Aboriginal Heritage Tasmania (AHT) on the 4th of August 2020, which included a search of the Aboriginal Heritage Register (AHR). AHT concluded that there are no Aboriginal heritage sites recorded within the proposed works area, noting however that Aboriginal artifacts have been recorded in the surrounding area, and that development should be guided by the AHT’s Unanticipated Discovery Plan, and that if at any time during works Aboriginal heritage is suspected, works cease immediately and AHT be contacted for advice. A copy of the AHT Unanticipated Discovery Plan and Stone Artifacts Fact Sheet is included in Appendix D.

A further desktop review was undertaken in December 2021 to determine any impact on the beach access to the property. AHT concluded that there is no impact on any sites of significance as a result of the proposal as no works are proposed for the access whatsoever.

The proposed extension and installation of a new septic system, including trenches, will utilise land that was cleared during the construction of the existing dwelling in the 1970s. As such, the proposed development will not require clearing of unmodified vegetation.

4. Visual Impact Assessment

The following part of this report provides a Visual Impact Assessment (VIA) in support of the Application. This assessment also assists in addressing Part 7.2 of the Planning Scheme.

The VIA addresses the potential landscape and visual impacts associated with the proposed dwelling extension. The Australian Institute of Landscape Architects has produced guidance notes for the preparation of landscape and visual assessment (2018). The guidance document recognises there is not a single standard methodology for the preparation of a VIA in Australia.

Tasmanian professionals continue to rely on work undertaken by the Forestry Commission of the 1990s as the method of assessing the impact of works and development within a natural landscape. Accordingly, this assessment will also employ the Tasmanian forestry method outlined in *A Manual for Forest Landscape Management* (Forest Practices Authority, republished 2006). The methodology has been accepted by the Tasmanian Parks and Wildlife Service (PWS) in assessing and determining the potential impact of walking huts on natural landscapes within PWS managed lands. This includes assessment of development within the Tasmanian Wilderness World Heritage Areas.

The proposed dwelling extension is relatable to development within a natural environment. This is reflected in Part 7.2 of the Flinders Island Planning Scheme. This Part of the scheme provides standards for the assessment of a proposed development within a mapped Visually Sensitive Area.

The objectives of the Visually Sensitive Area are:

- a. To retain the natural appearance of each Area
- b. To minimise the visual impact of Use or Development
- c. To retain and restore where possible the natural vegetation cover

The objectives of Part 7.2 of the Planning Scheme provide guidance for what may be considered an acceptable impact on the landscape within the context of Little Dog Island (and the Furneaux group). This is addressed in the assessment section of this report (for Part 7.2 of the Planning Scheme).

4.1 VIA Criteria and Assessment

A landscape is defined in the *Manual for Forest Landscape Management* (the Manual) as:

*[Land that] is described or seen in terms of its physiographic" and environmental characteristics.
Landscape varies according to these characteristics and according to the historical impact of man on it.
Landscape is a reflection of dynamic, natural and social systems.*

A landscape refers to the visual sense or look of the land. There are three (3) basic concepts that describe a person's visual reaction to a natural landscape. These are:

1. **Characteristic landscape** – Landscape has an identifiable visual character, which may be described in terms of the composition of any segment of the landscape viewed at one time.
2. **Landscape variety** – A landscape rich in natural visual variety tends to be more appealing than an unvarying landscape.
3. **Alterations** – It is desirable to preserve the visual character of a landscape; therefore introduced, culturally imposed alterations in the landscape should be designed to borrow from the visual character of the surrounding landscape.

As a general rule, the established character of a landscape should be retained as far as possible. The Flinders Island Council has recognised that the development area is within a visually sensitive area and that the landscape values of the area should be protected under the Planning Scheme.

There are four (4) elements that compete for visual dominance in a landscape. These are:

- Form
- Line
- Colour
- Texture

The Little Dog Island landscape (around the proposed development area) has all these elements, however, this is also dependent on the view point. This can be demonstrated in Figure 11 when the development area is viewed from the water. This view from the water is the only place a person would get a clear view of the development area. This is simply because the development area is on a remote island. The development area has:

- Line - distinguished by the ridge line, beach coastline and horizon.
- Form – distinguished when the island is viewed from afar and the various forms of the island when viewed from a closer vantage point.
- Colour – is dependent on where the development area and island is viewed (the observer position). The most logical viewpoint is from Lady Barron. The island is also visible from Flinders Island, and the island's light coloured beach, green vegetation, dark gully's and ridgelines would be distinguishable. But also heavily dependent on coastal weather conditions.
- Texture – again is dependent on where the development area is viewed. The texture from Flinders Island is dominated by the sky and water and the weather.

The landscape setting for the development area (and island) is heavily modified by the variable factors of:

- motion
- light
- atmospheric conditions
- season
- distance
- scale
- observer position
- time

Again, the development area is dependent on the observer position and time spent at this position. There is no single definable observer position for the development area. There is not a defined place whereby a person would typically spend extended periods of time looking at the view of the development area.

Assessment against each of the variable factors is provided:

- Motion – The human eye can detect motion at astonishing distance and could distinguish a development that causes movement (p28, the Manual). However, there are no such moving parts, equipment, signage or use that causes significant movement or activity proposed.
- Light – An observer position cannot be clearly defined. The way the light impacts the proposed extension is of no consequence.
- Season – The proposed development has little bearing on seasonal changes.
- Distance – the proposed development when viewed from Flinders Island would be a middle-ground view with an infinitesimal change to the scenery due to the proposed extension. The textual and form changes would be of no impact on the overall landscape.
- Observer point – there are numerous observer points relative to the development area. However, none are considered high use areas or areas whereby persons are spending prolonged periods of time. There are no designated viewing areas where an observer point would be clearly established.
- Scale – the scale of the proposed change is relative to the viewer's distance and all the other factors. The change to the dwelling when viewed from the water could be noticeable however it does not create an entirely new element in the landscape. It is simply a minor modification to an already minor element in the overall landscape.

- Time – If a viewer spends more than 5 minutes or more at any viewpoint then the dominate features of lines, forms, colours etc will be noticeable. However, there are no designated or likely view/vantage points whereby persons are likely to spend extended periods of time looking towards this single part of the island. It is more likely that persons will have glimpses of the development area in the ordinary course of transit i.e. boating in the area. Also, the change between the dwelling prior to the works and after the works is hardly noticeable given the proposal is to use the same/similar external cladding materials and building form. There are no moving parts or activities that are going to draw the viewer's attention towards this development area due to the proposed development.

4.2 Landscape Setting

The existing dwelling and shed is located below the ridgeline of the island when typically viewed from the water (at distance). A common observation point would be boating in Adelaide Bay (i.e at approximately 1.5km from the development area) or from Point Reid, Petrification Bay and parts of Cooma. From this perspective the dwelling would be noticeable in the landscape, however due to its relative size and scale (and the other variations outlined above) the viewer would only see a small dwelling shape against the green vegetation.

The nearest land mass of Great Dog Island is 1.6km away from the proposed development area. From this land mass the proposed extension would barely detectable.

The development area and Little Dog Island is visible from Flinders Island. However due to the variable factors outlined in Part 4.1 above, the resultant change to the landscape is infinitesimal. Per Figure 10, showing a 6km radius from the dwelling area, the view from Flinders Island towards the dwelling area ranges from middle ground to background whereby building form and changes are usually weak and changes are unimportant (p32, the Manual).

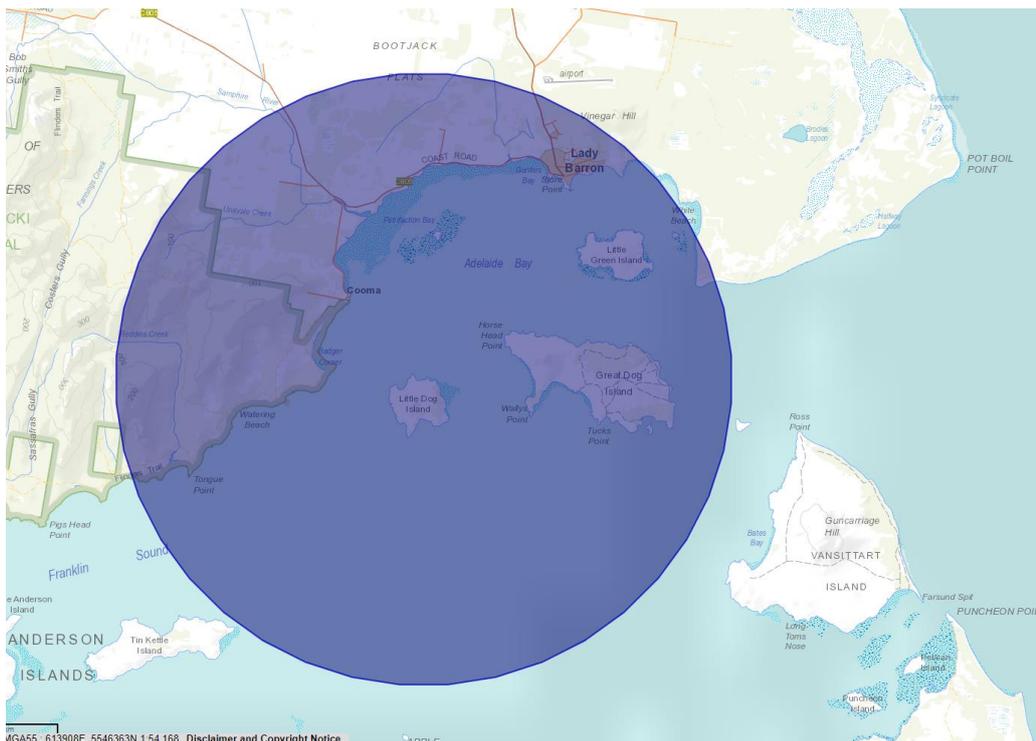


Figure 10 6km radius of development area. Courtesy ListMAP.

4.3 Conclusions of Visual Impact Assessment

The development area is slightly recessed into the slopes of the island. A small stand of vegetation at the rear of the dwelling also provides a backdrop to the proposed extension when viewed from the water.

The proposal, in consideration of best practice guidelines for the assessment of development in a natural landscape would be, in the Author's opinion, barely noticeable. Therefore, impacts on visual landscape values would be insignificant and well within reasonable expectations.



Figure 11 View from water of Little Dog Island house extension site (Courtesy: YouTube)



Figure 12 *Photograph of existing dwelling taken from the water*



Figure 13 *Photograph demonstrating the house extension footprint*

5. Planning assessment

5.1 Part 3 Development Applications, Permits and Exemptions

3.8 Applications for Planning Permit

3.8 Applications for Planning Permit

Where a use or development requires the granting of a Planning Permit under the provisions of this Scheme, an application shall be lodged with Council and shall contain such information as is necessary for Council to determine compliance with the Scheme, and shall include, where applicable, the following:

1. the name and address of the applicant, the location of the land and its postal address, a copy of the title to the land, the name and postal address of the owner.
2. the use or development of the land at the date of application;
3. the intended use or development of the land;
4. a plan or plans drawn to scale showing:
 - (a) the relationship of the land to lot boundaries, levels or contours, title boundaries and roads;
 - (b) rights of way, easements and covenants affecting the land;
 - (c) existing buildings and works;
 - (d) site preparation; including details of buildings and works to be demolished, areas to be cut and filled, existing vegetation and trees to be removed and other land clearing;
 - (e) new buildings and works and alterations to existing buildings and works; including floor plans, elevations, dimensions, relative site levels, provisions for drainage and the purpose of rooms, other enclosed spaces and structures;
 - (f) existing and proposed vehicular access points to roads from the land, the sight distances available to and from the proposed point(s) of access together with an estimate of the speed of passing traffic, and the areas set aside and other provisions made for vehicular passage, manoeuvring and parking;
 - (g) landscaping; including details of site beautification, tree planting and screening;
 - (h) the materials proposed for construction purposes, and the colour of such materials on all exterior surfaces;
 - (i) signs; including details of dimensions, wording, logos, colours, illumination, supporting structures, and positions on buildings and works and the methods of fixing thereto;
 - (j) floodlighting and other exterior lighting including the location and direction of light sources and the strength of illumination.

Comment

The submitted application meets the requirements of Part 3.8 together with the requirements of Section 51, and 52 of the Land Use Planning and Approvals Act 1993 (the Act).

3.18 Right to Continue Existing Uses or Maintain Existing Buildings and Structures

3.18.1 The right to continue or maintain existing lawful Use or Development shall be in accordance with Section 20(3) of the Land use Planning and Approvals Act 1993.

Comment

The associated works to the existing building are regarded as compliant with part 3.18.1

3.18.2 Notwithstanding any other provisions of this Scheme, the Council may, at its discretion and subject to Clause 3.5, permit a once only application for the extension of an existing building for the purposes of an existing Non-Conforming Use. Such an extension, however, must not exceed 25% of the existing gross floor area of a building existing at the date of taking effect of this Amendment (i.e. the 25th day of March 2003).

Comment

The existing dwelling is categorised as a Residential House. This is a prohibited use under 5.10.5 Table of Use or Development for the Environment Management and Recreation Zone. The proposed extension to the gross floor area is a 24.8% increase and therefore under the 25% allowable under the Clause 3.18.2.

5.2 Part 5 Zones

5.10 Environment Management and Recreation Zone

5.10.1 Zone Intent

The Intent of the Environmental Management and Recreation zone is to provide for the sustainable management of the natural and physical resources found on Crown lands and other lands whilst providing opportunities for public recreation at suitable sites. This intent recognises that on Crown lands that are leased, various use rights have been established and may continue with appropriate management under the terms and conditions of those leases. The Environmental Management and Recreation zone also contains places of special importance for the conservation of species and for their cultural heritage value; the intention is that those places be identified, documented and protected from inappropriate Use or Development.

Comment

The application is for the extension of an existing non-conforming use under Clause 3.18.2. Regardless, the proposal has very limited impact on the island and is sensitive to the environmental values recognised by the zone. The proposal takes a “much as necessary” not a “much as possible” approach.

5.10.2 Desired Zone Character and Zone Guidelines

The zone should be characterised by:

Landforms, landscapes, places, places and habitats in which natural processes, native vegetation, indigenous fauna and items of cultural heritage are protected from inappropriate Use or Development;

- (a) Management goals that identify and protect the environmental values and heritage values of particular sites, including (but not limited to) scenic amenity, water quality, water quantity, soil structure, biodiversity, evidence of human occupation and historic use, the presence of rare or endangered species and the absence of exotic species, diseases and weeds;*
- (b) The provision on public land of recreational facilities in a manner which minimises impacts upon identified environmental and heritage values;*
- (c) The restrained and careful application of management practices such as the clearing, burning or grazing of vegetation, the use of herbicides or pesticides, or the construction of tracks and firebreaks and then only after adequate investigation and where it can be demonstrated that such practices are in support of management goals;*
- (d) The careful siting and design of Buildings, Structures, Works and Landscaped Space in order to minimise adverse impacts on the identified values of the locality.*

Comment

The proposal is for a minor extension to an existing dwelling and the upgrade/replacement of the onsite waste water system. The proposed works are limited to the existing development area (already disturbed) and do not require the clearance of undisturbed vegetation. The proposal should achieve a minimal impact on the surrounding natural values.

5.10.3 Subdivision Standards

There will be no further subdivision within the zone except in accordance with Clause 4.5 or to allow a lot of which the purpose is to give effect to the intended use or development of the land in accordance with a permit granted by Council.

Comment

The Clause does not apply as the proposal does not include subdivision.

5.10.4 Development Standards

There are no minimum height or setback requirements except those necessary to meet the zone intent.

Comment

The proposal is limited to the extension of the existing dwelling only. This maintains the same roof height and the 24.8% increase to the gross floor area.

The proposed building works will not cause a reduction in the existing setback from the northern boundary.

5.10.5 Table of Use or Development**Comment**

The residential use class has a prohibited classification in the Zone. The proposal however is for an extension to an existing non-conforming use in accordance with Clause 3.18.2.

5.3 Part 6 Use and Development Principles**6.0 Use and development shall be consistent with the following principles:****6.1 Use**

- (a) Use or development shall not unreasonably impact on any existing or intended use or development of neighbouring land.
- (b) Subdivision of land shall be carried out in accordance with the subdivision provisions for the zone within which the land is located or where that is not appropriate in accordance with:
- (i) the requirements of the intended use, and
 - (ii) the Zone Intent, or alternatively by
 - (iii) an approved Development Plan that has been adopted by Council and inserted as a provision in the Scheme.
- (c) Residential Zones shall be protected from encroachment by incompatible use or development.
- (d) Rural Industrial operations shall be appropriately located and designed to avoid any detrimental effects on neighbouring land use or development, particularly in respect of atmospheric emissions, solid waste disposal and water pollution, soil erosion, noise or visual quality.
- (e) Mining and quarrying operations shall be located and carried out in a form which does not conflict with surrounding land use or development, scenic values and the environment.

Comment

- a. The proposal does not intensify or unreasonably impact on the adjoining lands. The area to the north of the site as an area leased by the owner(s) of the land. The proposed extension and onsite waste water system will be located entirely on the development site. The proposed dwelling extension does not reduce the setback distance from the northern boundary.
- b. Not applicable. The proposal is not for the subdivision of the land.
- c. Not applicable. There are no residential zones in the vicinity of the proposal.
- d. Not applicable.
- e. Not applicable.

The proposal is compliant with Part 6.1 principles.

6.2 Character

- (a) Use and development shall adequately respect the character of, and future intentions for the area in which it is to be located.
- (b) Subdivision layout, particularly roads, shall take adequate account of land contours and the need to avoid visual scarring.
- (c) Use or development (including public facilities and services) should adequately respect the surrounding streetscape and neighbouring use or development, particularly in relation to scale, setbacks, form (including roof shape), landscaping, materials, colours and fencing.
- (d) Landscaping of use or development shall be of a type, form, variety(s) and character which is suited to the intention of the zone, the area and the nature of the use or development.
- (e) Where trees are an important element in the character of an area they should be retained.
- (f) Signs shall be consistent in type, scale and location, with the intention of the zone, the streetscape and the building or structure on which they are positioned or to which they otherwise relate.
- (g) Forestry use or development, particularly plantations, shall be appropriately sited and planned to protect the visual quality and character of the countryside generally, and from important viewing locations in particular.

Comment

- a. The development is limited only to that allowable under Clause 3.18.2 and will have no ongoing impact on the adjoining lands.
- b. Not applicable. The proposal is not for the subdivision of the land.
- c. The proposal is minor in nature. The building works are limited to an extension of the existing dwelling using the same height, form and scale. The materials and colours will match the existing building.
- d. No further landscaping is proposed.
- e. Not applicable. No trees will be removed.

6.0 Use and development shall be consistent with the following principles:

- f. Not applicable.
- g. Not applicable.

The proposal is compliant with Part 6.2 Character.

6.3 Amenity

(a) Adequate public open space shall be provided in areas of new subdivision, to meet the recreational and open space requirements of the community generally and particularly the new owners of the lots created by subdivision.

(b) Use or development shall accord all existing and/or future occupiers with adequate and reasonable levels of amenity, especially in relation to privacy, sunlight, aspect, views and noise disturbance.

(c) Dwellings shall provide an adequate amount and appropriate type of private open space, to meet the expected lifestyle requirements of occupants. Such private open space shall provide adequate privacy, be exposed to reasonable levels of sunshine and directly accessible from the dwelling to which it belongs.

Comment

- a. Not applicable.
- b. Current and future occupants will likely enjoy a high degree of privacy due to the dwelling's remote location. The surrounding lands are sea and land managed by Parks and Wildlife. The titles to the west and south are a considerable distance from the dwelling (at approximately 236m and 532m in distance). The proposed extension and internal works allow sunlight owing to the northerly aspect and lack of buildings or land form in the surrounding landscape.
- c. There is sufficient private open spacing owing to the large size of the title.

The proposal is compliant with Part 6.3 Amenity.

6.4 Environment

(a) Use or development shall not be allowed to detrimentally affect the environment. All areas, and sensitive ecological and/or visual areas in particular, shall be developed in a manner and to an extent which is consistent with the protection of the values of the area.

(b) Use or Development and land management practices shall be directed towards achieving environmental sustainability, biodiversity and ecological balance, and avoiding environmental damage such as soil erosion, coastal dune erosion, loss of important animal and plant species and increases in vermin populations.

(c) Use or Development shall not be located in areas of unacceptable risk (eg. from fire, flood or landslip). In situations where risk may exist, use and development shall be appropriately sited and designed to provide an acceptable level of protection and safety for future users. In particular:

(i) Lands subject to flood risk are those subject to a greater than one in a 100 year flood interval (1% probability), and land, the natural surface level of which is below 3 metres Australian Height Datum (AHD); and

(ii) Land which comprises soils of known or suspected instability, has a slope greater than 1 in 4, or is filled or reclaimed land, are deemed to constitute an unstable land hazard; and

(iii) Use and development in bushfire prone areas will comply with the provisions of Schedule 7 Development in Bushfire Prone Areas or some other provisions acceptable to Council and the Tasmania Fire Service.

(d) Potentially incompatible Uses or Developments shall be adequately and appropriately located, sited and designed to avoid conflict. Level 2 activities or sources of pollution shall be sited in accordance with the following:

(i) Use or Development for a use of land that is a Level 2 activity under the provisions of the Environment Management and Pollution Control Act 1994 shall not be allowed within the lesser distance from a residential zone than that recommended by the Director of Environmental Management.

(ii) Use or Development of land that is not a Level 2 activity, but which Council nonetheless considers will or has the potential for environmental harm, shall not be allowed within a lesser distance from a residential zone than that determined by Council after taking into account the advice from the Director of Environmental Management.

(iii) A dwelling unit shall not be erected within a lesser distance of any established Level 2 activity or other use of land which Council considers a source of pollution, than that determined by Council taking into account the advice from the Director of Environmental Management.

(e) Activities involving extensive site works, such as quarrying, shall be suitably sited, screened, and rehabilitated where appropriate, to protect the ecological and visual qualities of the area.

(f) Use or development shall be of a suitable form and siting to avoid any adverse impact on any watercourse and vice versa. Use or development (including the siting of effluent disposal systems) shall be setback a minimum of 40 metres, or such distance as is required, from a watercourse to avoid degradation of water quality.

(g) Use of land in the vicinity of those watercourses identified in Schedule 3 shall provide Riparian Reserves in an appropriate location and form.

Comment

- a. The development area, including the onsite waste water system, is regarded to be 'only as much as necessary and not as much as possible' approach to development. The development footprint is limited to the existing disturbed

6.0 Use and development shall be consistent with the following principles:

- area on the site i.e. the grass/lawn area immediately adjacent to the dwelling. The existing waste water system is a basic tank that will be removed.
- b. The building and plumbing works are based on a recent site classification, geotechnical and on-site wastewater disposal assessment report. This determines the design for the building and plumbing to ensure limited impact on the land and ensure the stability and function of the works. The development area is flat and will require minimal excavation works for the footings, tanks and associated trenches. The site area will be rehabilitated (grassed) after completion of the works. This will reduce erosion and exposure of sands and soils to winds.
 - c. The following responses are provided to the sub-criteria:
 - i. The land is not mapped as a flood risk area.
 - ii. The development area is not on a greater than 1 in 4 slope. The building and works are designed in accordance with the soil testing.
 - iii. The development is in a bushfire prone area and is considered against the provisions of Schedule 7 of the Planning Scheme.
 - d. The standard relates to activities with potential to cause environmental harm. The standard is not considered applicable.
 - e. The standard relates to extensive site works such as quarrying. The standard is not considered applicable.
 - f. The proposed onsite waste water system is located over 40m from the high tide mark but is located in the Shoreline Waterbody area and will be assessed in accordance the provisions of Schedule 3. The onsite wastewater system will also require a permit in accordance with the *Building Act 2016* and be assessed by Council's Environmental Health Officer. The system is designed so that effluent is entirely treated within the boundary of the land without impact on the watercourse. The design is provided in the report *Site Classification and On-Site Wastewater Disposal Assessment and Design* prepared by Geoton Pty Ltd dated 26th February 2021 (Appendix E)
 - g. Not Applicable. The adjoining reserve to the north is effectively a riparian reserve managed by Parks and Wildlife.
- The proposal is compliant with Part 6.4 Environment.

6.5 Heritage

- (a) Use or Development shall be undertaken in areas and in a manner which conserves items, sites, areas and customs of historic and cultural value.*
- (b) Any Use or Development carried out on or in the vicinity of an item, site, area, feature or customary activity (including Aboriginal sites and shipwrecks) or conservation value, shall adequately respect its historic and cultural integrity.*
- (c) The protection and conservation of items, sites, areas, features and customary activities of historic and cultural importance applies to those previously identified and listed in the Scheme, and those which subsequently become known to Council.*
- (d) Where an item, site, area, feature or customary activity has or may have historic or cultural importance, Council may require a Statement of Cultural Significance to be prepared.*
- (e) Use or development shall be carried out in accordance with the principles and practices of the Burra Charter.*
- (f) Use or Development involving any historic building or group of buildings shall adequately respect the design and construction elements of the building(s) and particularly the relationship of spaces, orientation, form, mass, scale, fenestration, detailing, style, materials and colour.*
- (g) Areas of identified conservation value, including National Parks and Nature Reserves, shall be protected from inappropriate use or development and detrimental land management practices including land clearance, within such areas and adjacent areas outside them.*

Comment

- a. The development area is not listed as a heritage place under the Planning Scheme or on the Tasmanian Heritage Register under the *Historic Cultural Heritage Act 1995*. The dwelling and surrounding grassed area is a simple shack that was constructed in the 1970s.
- b. The proposed works will be undertaken in accordance with best practice. An *Unanticipated Discovery Plan* will be implemented in the event any sites of Aboriginal Heritage Significance are discovered during the works. This is considered unlikely as Aboriginal Heritage Tasmania have already provided comment to the effect that there are no Aboriginal heritage sites recorded within the proposed works area. A similar approach will be undertaken with regard to the discovery of any other items of cultural significance that are uncovered during the works.
- c. Per above.
- d. Per above. A Statement of Cultural Significance can be prepared in the event that items or sites are uncovered during the works. It is anticipated that Council, should a permit be granted, would apply a condition to this effect.
- e. Per above.
- f. The buildings and site area are not recognised formally as a place of historical significance.
- g. The removal of the existing onsite wastewater system further reduces the impact that human habitation *may* have on the surrounding lands. The proposal is considered an improvement with regard to this standard.

6.0 Use and development shall be consistent with the following principles:

The proposal is compliant with Part 6.5 Heritage.

6.6 Access and Parking

- (a) All new lots must be provided with satisfactory pedestrian and vehicular access to a public street.
- (b) All Use or Development shall provide satisfactory pedestrian and vehicular access which is suited to the volume and needs of future users.
- (c) Buildings and spaces intended for public access shall provide for satisfactory use and access by the disabled; the requirements of the Building Regulations in relation to AS1428.1-1988 shall be met.
- (d) Road widths shall be appropriate to the road function, expected traffic type and volume, and future subdivision potential of the subject and surrounding land.
- (e) Footpaths shall normally be required in areas of new subdivision except where low vehicle traffic volumes are anticipated, in which case a footpath one side only or no footpath may be appropriate.
- (f) Road intersections shall be kept to a minimum with the use of existing roads, service roads and/or shared driveways being encouraged where appropriate.
- (g) Intersections of roads, footpaths and foot crossings and driveways shall provide adequate safety for all users and shall satisfy the relevant requirements of Schedule 4.
- (h) New Use or Development shall provide a suitably constructed driveway of a width to provide for the safe ingress and egress of the anticipated volume of traffic associated with the Use or Development.
- (i) New Use or Development shall provide adequate car parking to provide for the demand it generates and shall be capable of being safely accessed.
- (j) On site turning shall be provided for development involving significant traffic volumes, heavy vehicle types and/or on roads which carry significant amounts of traffic.
- (k) New Use or Development in Bushfire Prone Areas will require access that complies with the provisions of Schedule 7, Development in Bushfire Prone Areas.

Comment

- a. Not applicable.
- b. The pedestrian access to the site is not changed by the proposal.
- c. Not applicable.
- d. Not applicable.
- e. Not applicable.
- f. Not applicable.
- g. Not applicable.
- h. Not applicable.
- i. Not applicable.
- j. Not applicable.
- k. The proposal will be assessed against the standards of Schedule 7.

The standards of part 6.6 Access and Parking are largely not applicable. The proposal is therefore compliant with Part 6.6 Access and Parking.

6.7 Services

- (a) Use or Development shall be provided with adequate and appropriate services which are suited to the lifestyle requirements of people, the nature of the location, and the ability of the community to provide.
- (b) Lot size and arrangement shall be adequate and appropriate to ensure an acceptable level of servicing, particularly in relation to waste disposal.
- (c) In areas not serviced with water use or development shall provide adequate water supply and effluent disposal systems. Each dwelling shall provide a potable water storage facility (minimum capacity of 40kl) to provide for the anticipated number of occupants, and a wastewater disposal system approved by the Council's Environmental Health Officer
- (d) Use or Development in the bushfire prone areas will provide fire protection features and water supplies which comply with Schedule 7.
- (e) Use or Development shall be appropriately sited, designed and constructed to avoid conflict with service mains (including telephone, power, sewer, water and irrigation channels/pipelines). Buildings shall not be erected over any service main or within any easement providing for same whether utilised or not.
- (f) Servicing systems shall use adequate and appropriate design methods and materials to ensure an acceptable life span and allow for adequate maintenance requirements.
- (g) Use or Development shall optimise efficiency in the use of energy and resources. In particular, land should be subdivided on a generally sequential basis (ie. one area is substantially developed before the next is subdivided), common trenching should be used for different services where appropriate, and solar access maximised.

6.0 Use and development shall be consistent with the following principles:**Comment**

- a. The additional bedroom has necessitated the upgrade and relocation of the onsite wastewater system. The upgrade needed for the additional daily flows is a convenient opportunity to replace the existing rudimentary shack system. The existing water tanks should be adequate for the use and further tanks may be added if required. Power and telecommunications continue to be supplied as part of the overall "off-grid system".
- b. Not applicable.
- c. This is an "off-grid" system. Water is supplied via the existing tanks. Septic is disposed onsite and is designed for the number of bedrooms and subject to approval by Council's Environmental Health Officer.
- d. The standards of Schedule 7 are assessed in this report.
- e. There are no service mains in the vicinity of the works.
- f. All works must be compliant with the National Construction Code and Plumbing Code of Australia and will in effect satisfy the requirements of this standard.
- g. Not applicable.

The proposal is compliant with Part 6.7 Services.

6.8 Social Interest

1. Use or Development should demonstrate how it suits the community interest.
2. Use or Development shall have adequate and appropriate types and levels of access to social facilities and services (eg. shops, government agencies, telecommunication, health services and educational facilities).

Comment

A minor residential extension is considered to have an insignificant impact on the community interest or provision of social facilities and services.

5.4 Part 7 Special Area Provisions

The development area is within the following Special Areas as defined by the Planning Scheme map overlays.

5.4.1 7.2 Visually Sensitive Areas

The development area is within the part 7.2 Visually Sensitive Area. The objectives of the Visually Sensitive Area are:

- a. To retain the natural appearance of each Area
- b. To minimise the visual impact of Use or Development
- c. To retain and restore where possible the natural vegetation cover

The proposal is assessed against the standards of Part 7.2.4 as follows:

In considering an application for Use or Development within the Visually Sensitive Areas and whether to impose conditions Council shall consider the following matters:

- (a) The objectives listed in Clause 7.2.2**
- (b) The siting, orientation, setbacks, bulk, form, height, scale and external finishes of buildings and structures.**
- (c) The visual impact of buildings, clearing, excavation, access, construction, fences, firebreaks or the deposition of fill.**
- (d) The adequacy of proposed landscaping and whether any special works or practices are required to protect the scenic values of the site.**
- (e) Whether development is proposed to be located on skylines or ridgelines.**

Comment

- a. The proposal is for a minor dwelling extension which is built in the same form, style and materials as the existing dwelling. All works are within existing disturbed/developed area of the land. The minor nature of the extension minimises, as far as practicable, overall impact. The extent of the extension is clearly demonstrated in Figure 13.
- b. This has been previously assessed. The dwelling extension location and onsite wastewater system occupies the disturbed/developed area around the existing dwelling.
- c. Vegetation clearance is limited to the disturbed area. Bulk excavation works are not required. There are no fencing or access requirements. Any material removed for the trenches, footings and septic tank will be used to assist in the rehabilitation of the development site and can be re-used within the development area (i.e. existing disturbed area).

In considering an application for Use or Development within the Visually Sensitive Areas and whether to impose conditions Council shall consider the following matters:

- (a) The objectives listed in Clause 7.2.2**
- (b) The siting, orientation, setbacks, bulk, form, height, scale and external finishes of buildings and structures.**
- (c) The visual impact of buildings, clearing, excavation, access, construction, fences, firebreaks or the deposition of fill.**
- (d) The adequacy of proposed landscaping and whether any special works or practices are required to protect the scenic values of the site.**
- (e) Whether development is proposed to be located on skylines or ridgelines.**

d. There is no landscaping proposed other than the re-grassing of the developed area.

e. The development is not on a skyline or ridgeline. Figure 12 demonstrates the bulk of the dwelling is below the ridgeline on a previously levelled area when viewed from the water.

The Visual Impact Assessment within this report concludes that the proposed extension is a barely noticeable change to the landscape. Therefore, impacts on visual landscape values would be insignificant and well with reasonable expectations.

The proposal is compliant with Part 7.2.4.

5.4.2 Part 7.5 Shorelines, Water Bodies and Watercourses Areas

The development area is within Part 7.5 Shorelines, Water Bodies and Watercourses.

The proposal is assessed against the standards of Part 7.5.4 as follows:

In considering an application for Use or Development in Shorelines, Water Bodies and Watercourses and whether to impose Conditions Council shall consider the following matters:

- (a) The siting, orientation, setbacks, bulk, form, height, scale, materials and external finishes of buildings and structures;**
- (b) The impact upon water quality, foreshore or streamside vegetation and wildlife habitat of building, clearing, excavation, effluent disposal, access construction, fences, firebreaks or the deposition of fill;**
- (c) Whether land should be acquired by Council, as a condition of subdivision or otherwise, to protect the items listed in Schedule 3.**
- (d) Whether additional fencing or any other special works or practices are required to protect the items listed in Schedule 3;**
- (e) The design, content and location of signage and interpretative displays.**

Comment

- a. The building and onsite wastewater system are located as far back from the watercourse as practicable without disturbance to land beyond the currently disturbed/developed area (and to allow fall to the septic tank).
- b. The wastewater system has been designed and certified as suitable by Geoton Pty Ltd. The practitioner that designed the system, Tony Barriera is licenced to prepare a design that is considered likely compliant with the standards of the National Plumbing Code and Australian standard for On-Site domestic-wastewater management. This should in effect ensure no impact on the water quality. The site is flat and will be rehabilitated to avoid erosion. A basic soil and water management plan will be implemented during construction works to avoid sediment run-off or site erosion.
- c. Not applicable.
- d. Not applicable.
- e. Not applicable.

The proposal is compliant with Part 7.5.4.

5.4.3 Schedule 7 Development in Bushfire Prone Areas

The development area is within a bushfire prone area; and although the scheme provides a set of standards the standards only apply to subdivision of land.

The building works will require a Bushfire Attack Level assessment (BAL) prior to the detailed design for a building permit being undertaken. The remoteness and unique nature of the site will likely require a performance based solution under the National Construction Code and at the discretion of a qualified Building Surveyor.

6. Conclusion

This report has assessed a proposal to extend a small dwelling on the remote Little Dog Island on land described by Certificate of Title Volume 226682 Folio 1, and owned under Private Freehold tenure by James Doery, Megan Gledden, and Celia Beeton.

The proposal is found to be compliant with the standards of the *Flinders Island Planning Scheme*.

Appendices

Appendix A

Certificate of Title

ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1469
TASMANIA
REAL PROPERTY ACT, 1862, as amended
NOTE--REGISTERED FOR OFFICE
CONVENIENCE TO REPLACE



CERTIFICATE OF TITLE

Register Book
Vol. Fol.

2934 44

Cert. of Title Vol. 388. Fol. 72.

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

Whitkinson

Recorder of Titles.



DESCRIPTION OF LAND

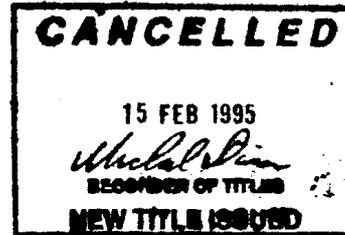
LAND DISTRICT OF DOG ISLAND
THIRTY NINE ACRES on the Plan hereon

FIRST SCHEDULE (continued overleaf)

DEVONEY NORTON BROWN of Cape Barron Island, Labourer.

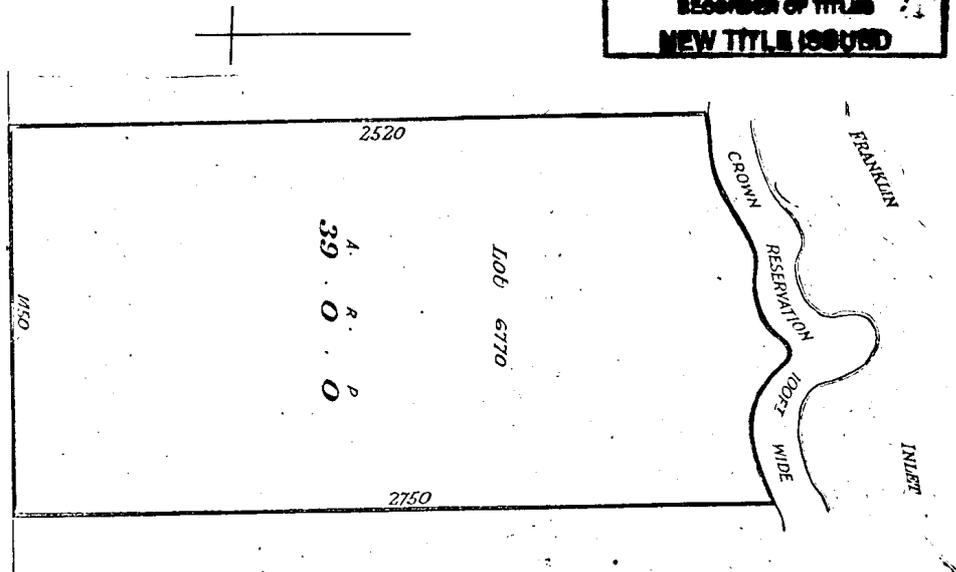
SECOND SCHEDULE (continued overleaf)

NIL.



Lot 1 of this plan consists of all the land comprised in the above-mentioned cancelled folio of the Register.

REGISTERED NUMBER
226682



Whole of Lot 6770 - Gtd. to J. Holt - Meas. in Links.

FIRST Edition. Registered 2 FEB 1971

Derived from C.T. Vol. 388, Fol. 72. Transfer A315971 C.A. Diprose.

SEARCH OF TORRENS TITLE

VOLUME 226682	FOLIO 1
EDITION 3	DATE OF ISSUE 28-Nov-2000

SEARCH DATE : 30-Sep-2020

SEARCH TIME : 10.19 AM

DESCRIPTION OF LAND

Parish of DOG ISLAND, Land District of FLINDERS
 Lot 1 on Plan 226682
 Derivation : Whole of Lot 6770 Gtd to J Holt
 Prior CT 2934/44

SCHEDULE 1

A405917, C263318 & C263319 TRANSFER to JAMES CLIFFORD GOWAR
 DOERY, MEGAN MARGARET GOWAR GLEDDEN and CELIA
 KATHLEEN BEETON as tenants in common in equal shares
 Registered 28-Nov-2000 at 12.01 PM

SCHEDULE 2

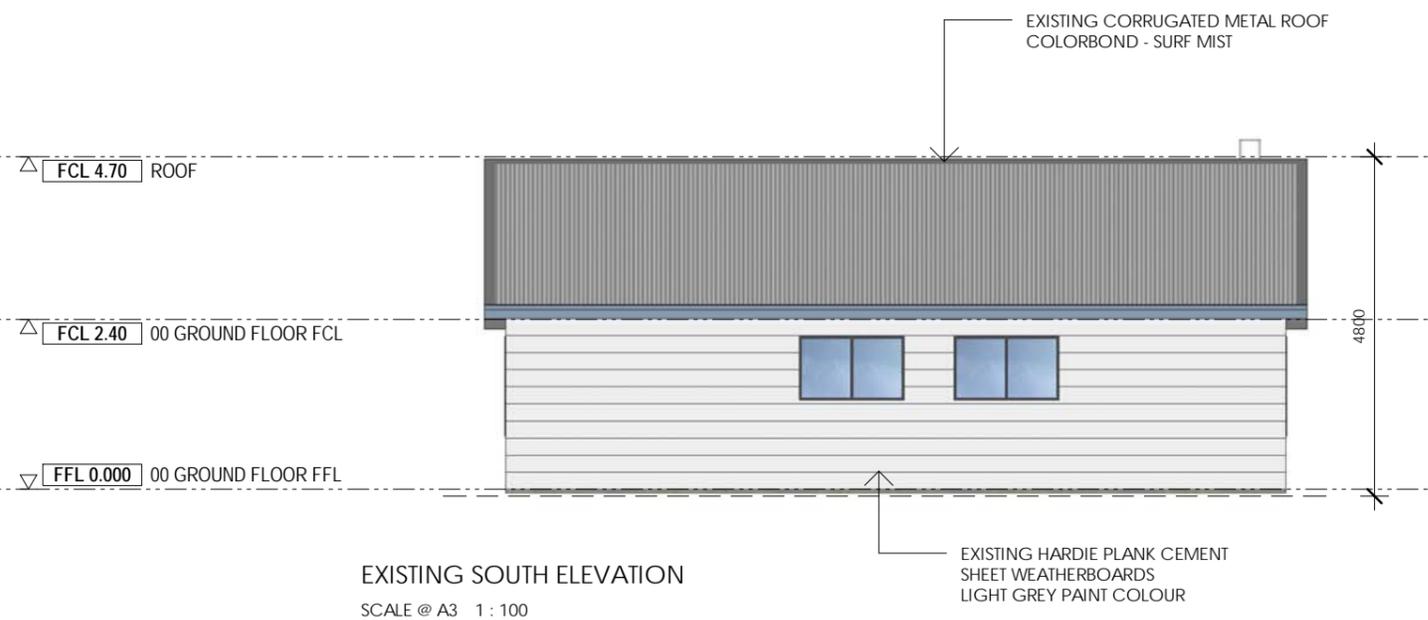
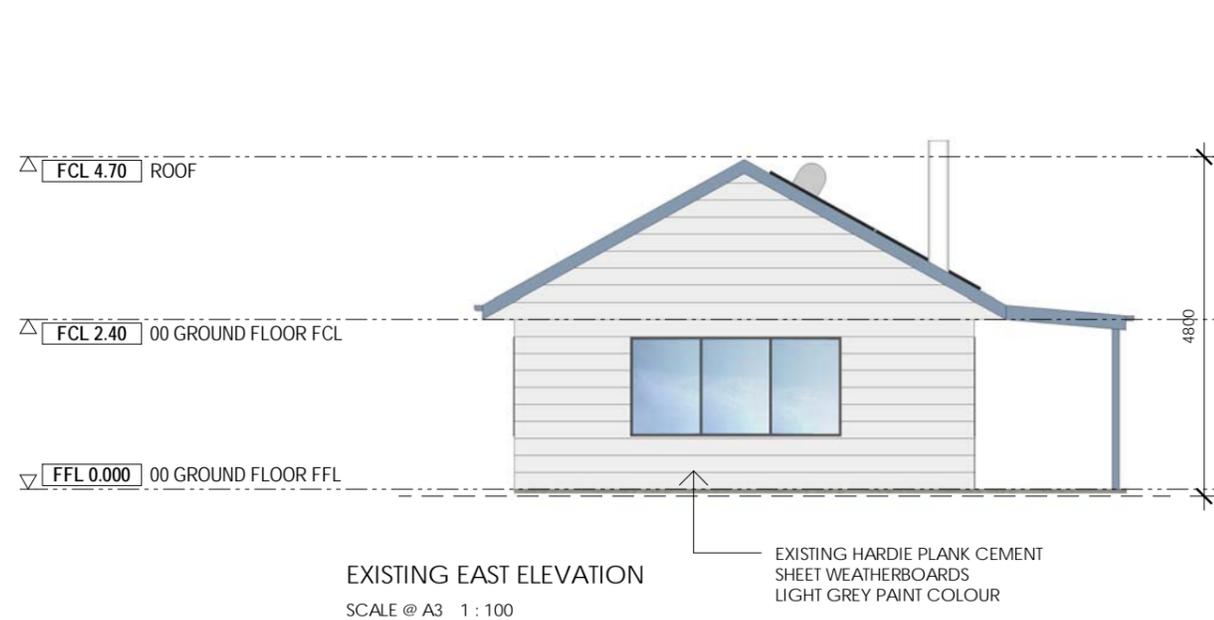
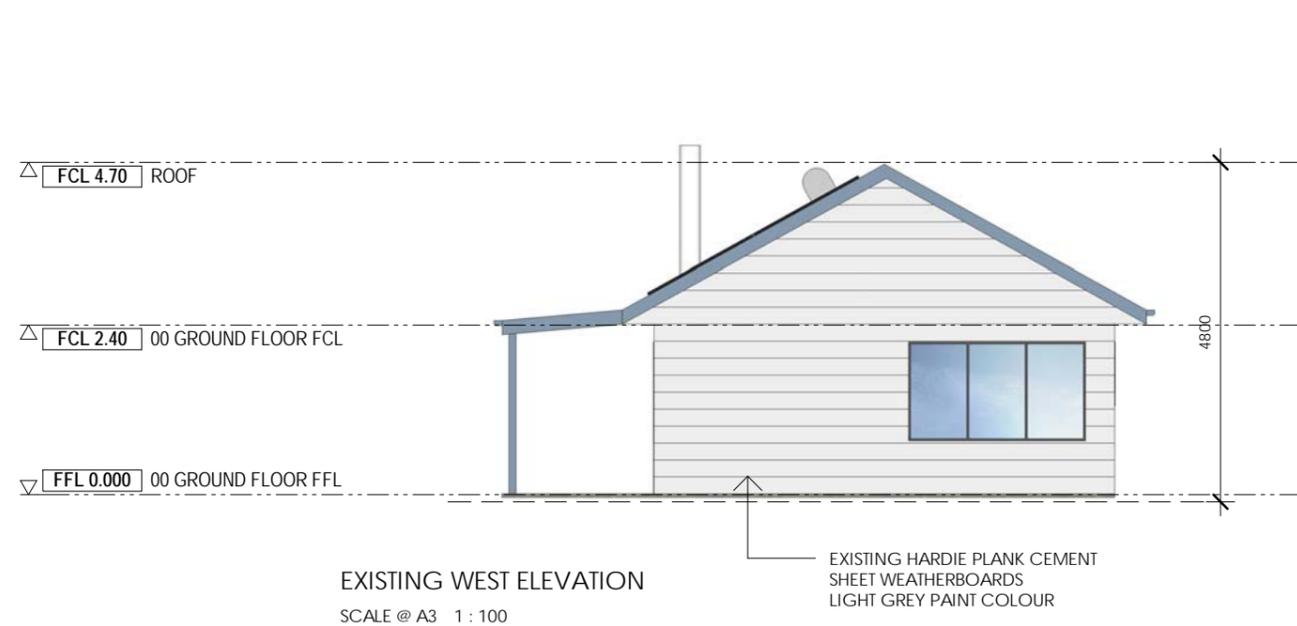
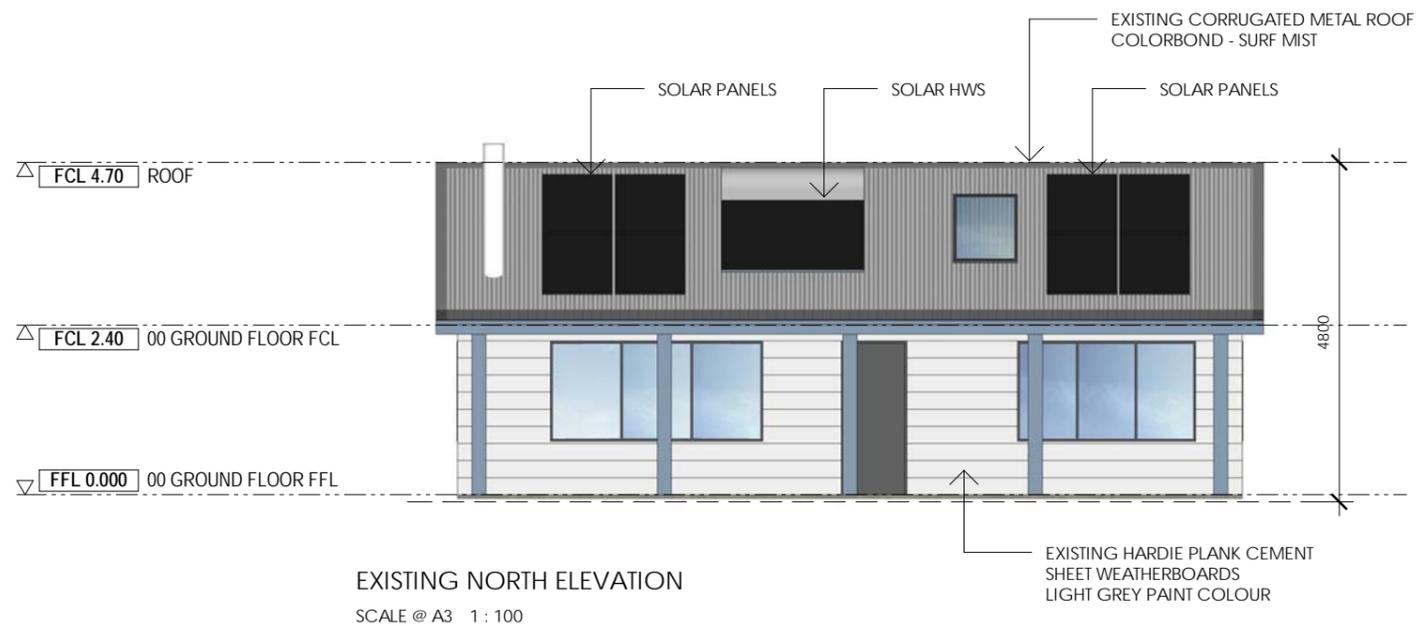
Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Appendix B

Dwelling Extension Drawings and Visual Impact Assessment Model



REV	DATE	DESCRIPTION

PROJECT #
LDI

DATE
22/03/2022

SCALE
1 : 100

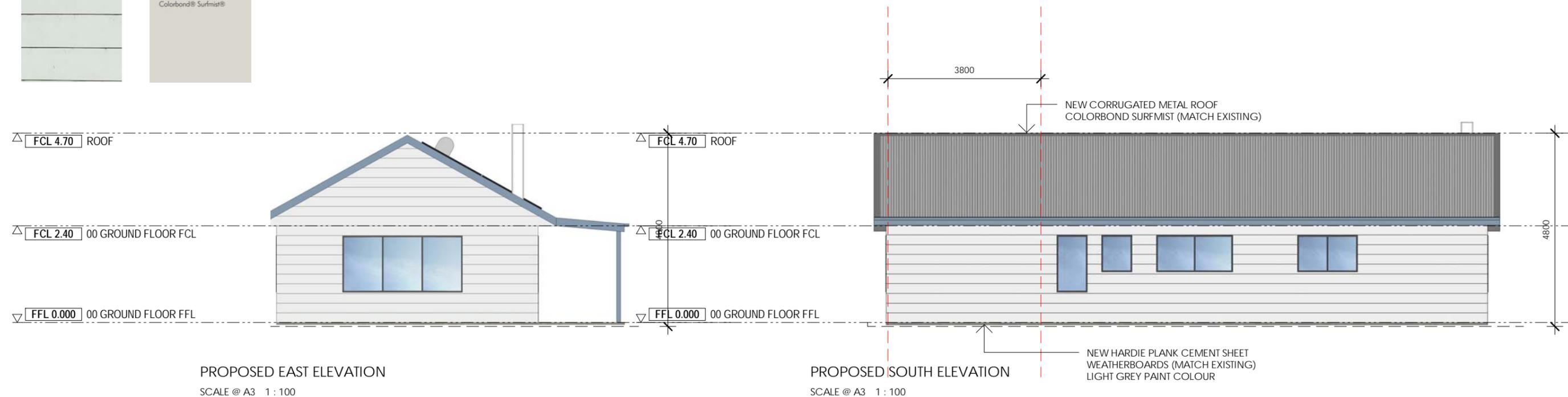
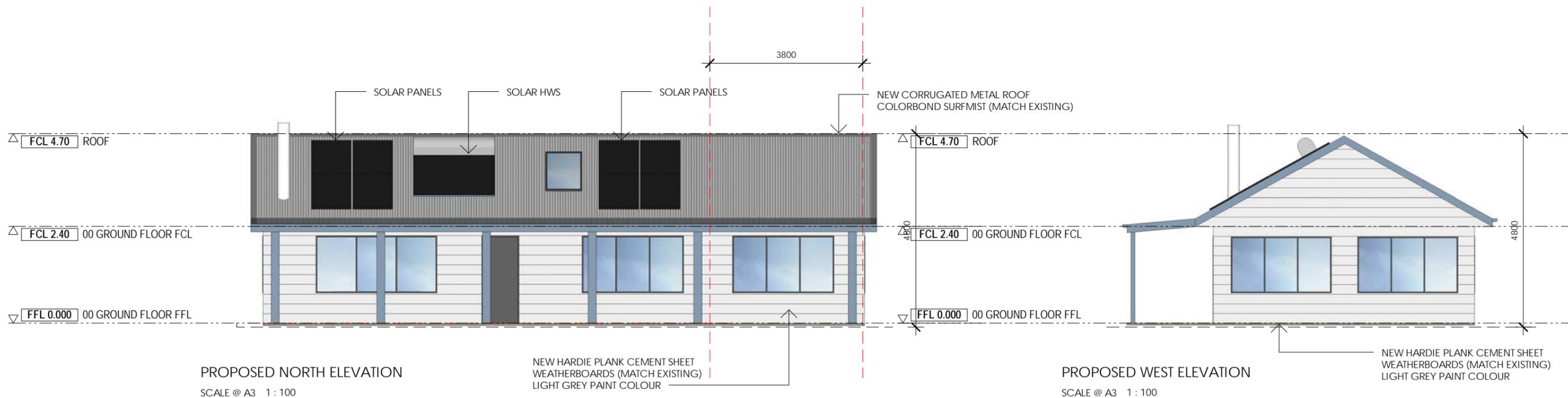
PROJECT
LITTLE DOG ISLAND HOUSE
DOERY, GLEDDEN & BEETON

STATUS

DRAWING TITLE
EXISTING ELEVATIONS

DRAWING NUMBER
005

REVISION



REV	DATE	DESCRIPTION

PROJECT #
LDI

DATE
22/03/2022



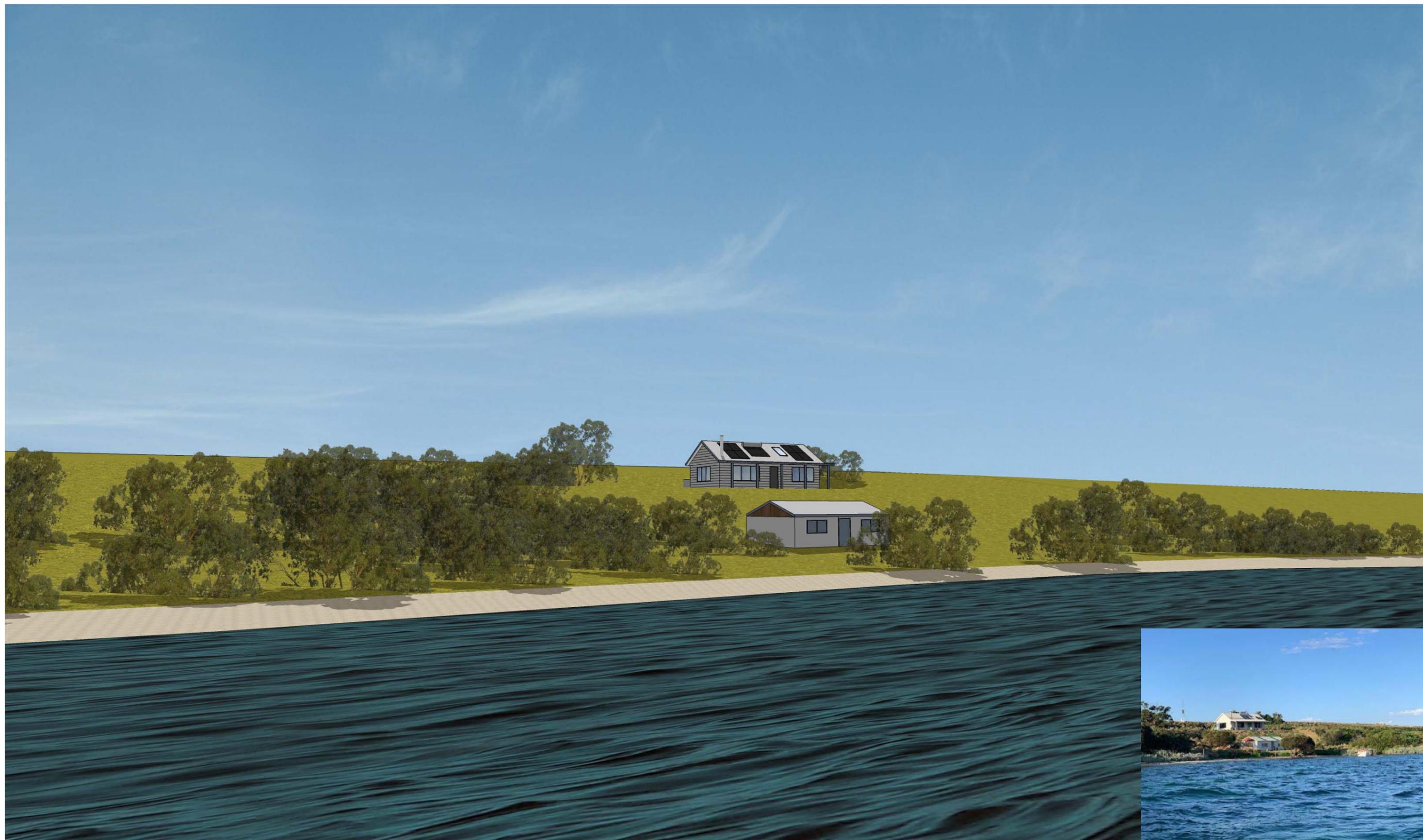
PROJECT
LITTLE DOG ISLAND HOUSE
DOERY, GLEDDEN & BEETON

STATUS

DRAWING TITLE
PROPOSED ELEVATIONS

DRAWING NUMBER
006

REVISION



EXISTING - RENDER VIEW

EXISTING - PHOTO

REV DATE

DESCRIPTION

PROJECT #
LDI

DATE
22/03/2022

SCALE

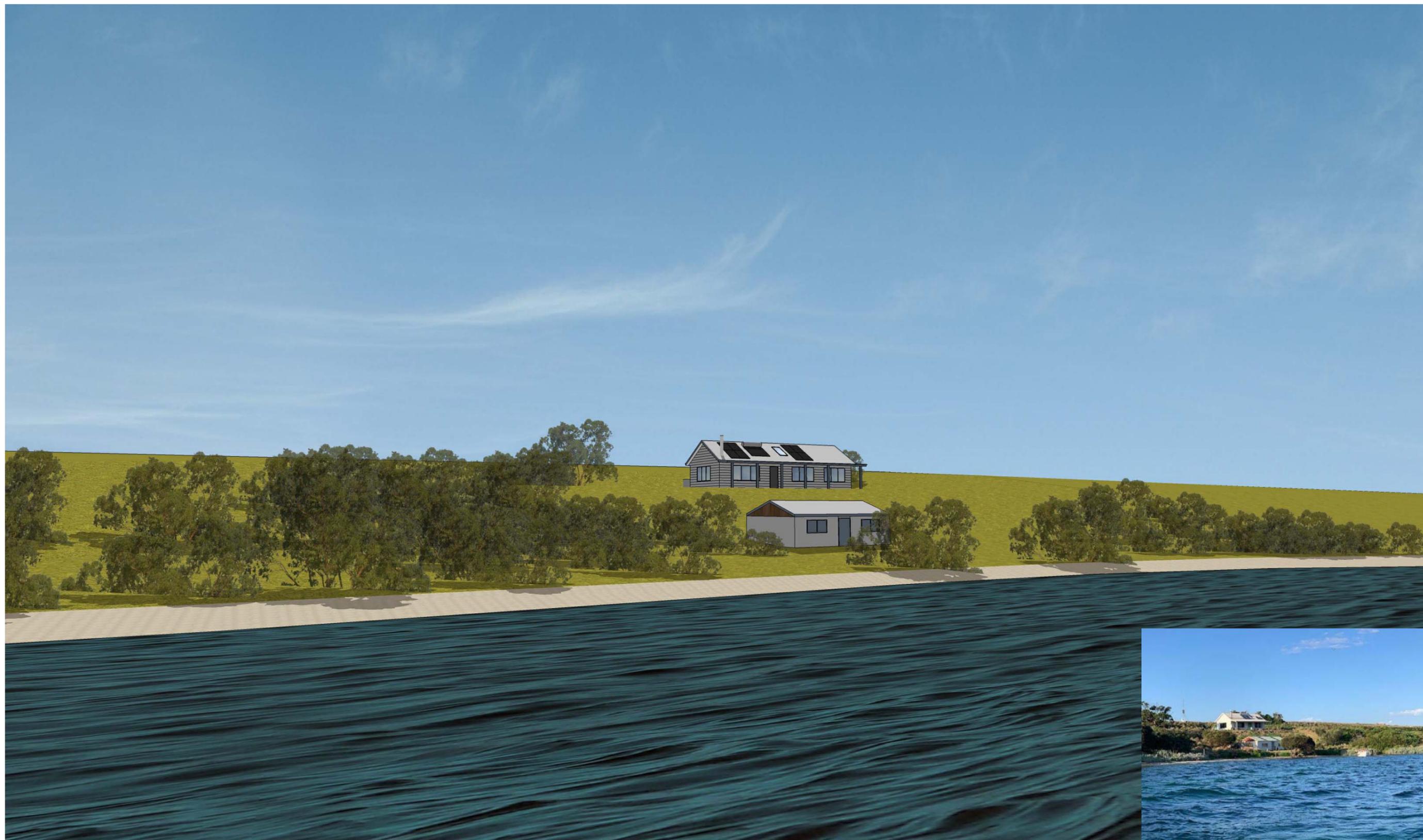
@A3



PROJECT
**LITTLE DOG ISLAND HOUSE
DOERY, GLEDDEN & BEETON**
STATUS

DRAWING TITLE
RENDER VIEW - EXISTING

DRAWING NUMBER REVISION
007



PROPOSED - RENDER VIEW

EXISTING - PHOTO

REV DATE

DESCRIPTION

PROJECT #
LDI

DATE
22/03/2022

SCALE

@A3



PROJECT
**LITTLE DOG ISLAND HOUSE
DOERY, GLEDDEN & BEETON**
STATUS

DRAWING TITLE
RENDER VIEW - PROPOSED

DRAWING NUMBER REVISION
008

Appendix C

Site Classification and On-Site Wastewater Disposal Assessment and Design

GEOTON Pty Ltd
Geotechnical Consultants

Geoton Pty Ltd ABN 81 129 764 629
PO Box 522 Prospect TAS 7250
Unit 24, 16-18 Goodman Court
Invermay TAS 7248
Tel (+61) (3) 6326 5001
www.geoton.com.au

26 February 2021

Reference No. GL20818Ab

Mr J Doery, Ms M Gledden & Ms C Beeton
C/- 48 Power Street
HAWTHORN VIC 3122

Dear Sir & Madams

RE: Site Classification & On-site Wastewater Disposal Assessment and Design
Lot 1 Little Dog Island, Bass Strait Islands

We have pleasure in submitting herein our report detailing the results of the geotechnical investigation conducted at the above site.

Should you require clarification of any aspect of this report, please contact Brett Street or the undersigned on 03 6326 5001.

For and on behalf of

Geoton Pty Ltd



Tony Barriera

Director

1 INTRODUCTION

A limited scope investigation has been conducted for Mr J Doery, Ms M Gledden & Ms C Beeton at the site of a proposed residential extension at Lot 1 Little Dog Island, Bass Strait Islands.

The investigation has been conducted to assess the following:

- The general subsurface conditions at the site and consequently assign a Site Classification in accordance with AS 2870 – 2011 “Residential Slabs and Footings”;
- The surrounding topography and provide a Wind Classification in accordance with AS 4055 – 2012 “Wind Loads for Housing”; and
- The suitability of the site for disposal of domestic wastewater and the design of an on-site wastewater disposal system in accordance with AS/NZS 1547:2012 “On-site domestic wastewater management”.

A site survey dated 16 November 2020 was provided. We understand the existing dwelling is proposed to be renovated including a small extension to the west. Due to the proposed development the existing on-site wastewater disposal system is proposed to be upgraded. The existing dwelling is 3 bedrooms with the extension expanding the living area and not increasing the hydraulic loading of the dwelling.

2 FIELD INVESTIGATION

The field investigation was conducted on 2 December 2020 and involved the drilling of 3 boreholes by a hand auger to the auger refusal/investigated depths of 0.4m to 1.8m.

Dynamic Cone Penetration (DCP) tests were conducted in the natural granular soils encountered in the investigation. The permeability of the site was also tested using a Constant Head Permeameter.

The results of the field tests are shown on the borehole logs.

The logs of the boreholes are included in Appendix A and their locations are shown on Figure 1 attached.

3 SITE CONDITIONS

The site is approximately 16ha and is located within the middle portion of Little Dog Island. The existing dwelling is located within the northern portion of the site situated within the sand dunes approximately 2.3m from the northern site boundary. The proposed extension is to be located on the western side of the existing dwelling. The proposed on-site wastewater disposal area is to be located to the east of the dwelling.

Photographs of the site are attached as Plate 1 and 2.

The Mineral Resources Tasmania (MRT) Digital Geological Atlas, 1:250,000 Series, shows the site to be located on Devonian Period granite.

Site Classification & On-site Wastewater Disposal Assessment and Design

Examination of the LIST Landslide Planning Map indicates that the site is not within a mapped landslide hazard band.

The investigation indicated that the soil profile was generally uniform across the site. The boreholes generally encountered sand to the auger refusal/investigated depths of 0.4m to 1.8m.

The boreholes did not encounter any signs of seepage over the investigated depths.

Full details of soil conditions encountered are presented on the borehole logs.

4 SITE CLASSIFICATION

After allowing due consideration of the site geology, drainage and soil conditions, the site has been classified as follows:

CLASS S (AS 2870)

Foundation designs in accordance with this classification are to be subject to the overriding conditions of Section 5 below.

This Classification is applicable only for ground conditions encountered at the time of this investigation. If cut or fill earthworks are carried out, then the Site Classification will need to be re-assessed, and possibly changed.

5 FOUNDATIONS

Particular attention should be paid to the design of footings as required by AS 2870 – 2011.

In addition to normal founding requirements arising from the above classification, particular conditions at this site dictate that the founding medium for the footings would be as follows:

SAND (SW) – fine to medium grained, grey, medium dense encountered below 0.5m from the existing ground surface.

An allowable bearing pressure of **100kPa** is available for edge beams, strips, pads and piers founded as above, provided the site is prepared as follows:

- Earthworks should be carried out in accordance with AS3798-2007, Guidelines on earthworks for commercial and residential development;
- All topsoil should be removed from the building footprint;
- The natural sand foundation should be proof rolled prior to slab on ground construction; and
- All sands disturbed in the base of footing excavations should be compacted.

The site classification presented assumes that the current natural drainage and infiltration conditions at the site will not be markedly affected by the proposed site development work. Care should therefore be taken to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal

Site Classification & On-site Wastewater Disposal Assessment and Design

soil moisture equilibria do not develop as a result of service trench construction or tree root action.

Attention is drawn to Appendix B of AS 2870 and CSIRO Building Technical File BTF18 “Foundation Maintenance and Footing Performance: A Homeowner’s Guide” as a guide to maintenance requirements for the proposed structure.

Although the borehole data provides an indication of subsurface conditions at the site, variations in soil conditions may occur in areas of the site not specifically covered by the field investigation. The base of all footing or beam excavations should therefore be inspected to ensure that the founding medium meets the requirements referenced herein with respect to type and strength of founding material.

The boreholes were backfilled shortly after being drilled and not allowing time for groundwater seepage flows to develop. Groundwater seepages or higher groundwater levels can occur during and/or after a prolonged period of wet weather or a heavy rainfall event.

6 WIND CLASSIFICATION

After allowing due consideration of the region, terrain, shielding and topography, the site has been classified as follows:

WIND CLASSIFICATION N3 (AS 4055)

REGION	TERRAIN CATEGORY	SHIELDING	TOPOGRAPHY
A	TC1.5	NS	T1

7 EFFLUENT DISPOSAL

The AS/NZS 1547:2012 and the *Building Act 2016: Director’s Guidelines for On-site Wastewater Management Systems* provide guidelines for typical wastewater flow allowances under a range of circumstances. The documents recommend a typical wastewater flow of 120 litres/person/day for households on tank water supply. As the dwelling is 3 bedrooms, a population equivalent of 5 persons is appropriate with the daily flow being 600L/day.

7.1 Permeability of Soil and Soil Category

The soil has been classified as follows:

- Texture – Sand (Table E1 from AS1547-2012);
- Structure – Massive (Table E4 from AS/NZS1547-2012); and
- Category – 1 (Table E1 from AS/NZS1547:2012).

For structures (massive) category 1 soils the indicative permeability from AS/NZS 1547 Table 5.1 is >3.0m/day.

Site Classification & On-site Wastewater Disposal Assessment and Design

- Adopted permeability – 3.0m/day.

7.2 Disposal and Treatment Method

This site assessment indicates that the site is suitable for the disposal of domestic effluent by way of a septic tank, which is required to have a minimum capacity of **3000L**, and a Discharge Control Trench.

The soil within the proposed effluent disposal area is assessed as having sufficient depth, however, if the standard trench depth and design is adopted, the high permeability of Category 1 soils may lead to unacceptable wastewater travel distances and possible groundwater pollution. This is due to there not being an adequate attenuation period for the breakdown of pathogens within the treated effluent. As such, a modified Discharge Control Trench is required and is to be constructed as per Figure 3.

In addition, to minimise the risk, it is a requirement that the effluent is dose-loaded, e.g. by siphon, tilt bucket or pump, from the primary treatment unit.

7.3 Design Loading Rate

From Table L1 (AS1547-2012) for Category 1 soils the adopted design loading rate for primary treated effluent has been set at a rate of 50mm/day.

7.4 Discharge Control Trench

Guidelines for the design of the Discharge Control Trench is outlined in AS/NZS 1547:2012 Appendix L. The method of determining the dimensions for the trenches is outlined in AS/NZS 1547:2012 Section L4 and is as follows:

$$L = \frac{Q}{\text{DLR} \times W}$$

Where L = Length in metres

Q = Design daily flow in L/day

DLR = Design Loading Rate in mm/day

W = Trench width in metres (set at 1.0m)

As the DLR value has been set at 50mm/day and the design daily flow (Q) has been set at 600L/day, when the parameters are inserted in the above equation the trench dimensions required are as follows:

- Trench required = 1
- Trench length = 12m
- Trench width = 1.0m
- Trench depth = 0.8m

This would give a disposal area of approximately 12m².

There is adequate secondary (reserve) area of 12m² if required.

Site Classification & On-site Wastewater Disposal Assessment and Design

The trench is to be located in the area shown on the site plan.

The trench is to be constructed as per the cross sections located on Figure 3 attached.

The risk management process is an inherent part of the on-site wastewater disposal design. The on-site wastewater disposal system has been designed by considering the site characteristics and with risk identification in accordance with AS1547:2012. The risk reduction measures are detailed in the report and form the basis of the system selection and design.

7.5 Setbacks

The minimum separation distance between the disposal area and downslope features is based on Appendix R from AS/NZS 1547:2012 "Recommended Setback Distances for Land Application Systems". As per Table R1 from AS/NZS 1547:2012 the minimum setback requirements are as follows:

- 35.0m from downslope sensitive features such as watercourses;
- 2.0m from cross-slope buildings;
- 5.0m from downslope boundaries;
- 1.5m from groundwater; and
- 1.5m from up-slope or cross-slope boundaries.

7.6 Wastewater Recommendations

It is recommended that the following actions are undertaken in looking after your system:

- Septic tanks **must be** pumped out every 3 to 5 years or more frequently depending on usage;
- Minimise domestic water use;
- Minimise the use of non-biodegradable detergents;
- Minimise the use of detergents containing phosphorous (eg calgon and similar);
- Avoid discharging polluting chemicals into wastewater systems; and
- Monitor quality of groundwater.

Site Classification & On-site Wastewater Disposal Assessment and Design

References:

AS 2870 - 2011 Residential Slabs and Footings Construction

AS 4055 - 2012 Wind Loads for Housing

AS/NZS 1547- 2012 On-site domestic-wastewater management

Building Act 2016: Director's Guidelines for On-site Wastewater Management Systems

Attachments:

Limitations of report

Figure 1: Locality Plan

Figure 2: Site Plan

Figure 3: Discharge Control Trench

Site Photographs

Appendix A – Borehole Logs & Explanation Sheets

Appendix B – Certificate forms

Geotechnical Consultants - Limitations of report

These notes have been prepared to assist in the interpretation and understanding of the limitations of this report.

Project specific criteria

The report has been developed on the basis of unique project specific requirements as understood by Geoton and applies only to the site investigated. Project criteria are typically identified in the Client brief and the associated proposal prepared by Geoton and may include risk factors arising from limitations on scope imposed by the Client. The report should not be used without further consultation if significant changes to the project occur. No responsibility for problems that might occur due to changed factors will be accepted without consultation.

Subsurface variations with time

Because a report is based on conditions which existed at the time of subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. In the event of significant delays in the commencement of a project, further advice should be sought.

Interpretation of factual data

Site assessment identifies actual subsurface conditions only at those points where samples are taken and at the time they are taken. All available data is interpreted by professionals to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, as it is virtually impossible to provide a definitive subsurface profile which includes all the possible variabilities inherent in soil and rock masses.

Report Recommendations

The report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete and therefore the report recommendations can only be regarded as preliminary. Where variations in conditions are encountered, further advice should be sought.

Specific purposes

This report should not be applied to any project other than that originally specified at the time the report was issued.

Interpretation by others

Geoton will not be responsible for interpretations of site data or the report findings by others involved in the design and construction process. Where any confusion exists, clarification should be sought from Geoton.

Report integrity

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way.

Geoenvironmental issues

This report does not cover issues of site contamination unless specifically required to do so by the client. In the absence of such a request, Geoton take no responsibility for such issues.



GEOTON Pty Ltd				client: MR J DOERY, MS M GLEDDEN & MS C BEETON	
				project: LOT 1 LITTLE DOG ISLAND BASS STRAIT ISLANDS	
date	26/02/2021	drawn	BS	title: LOCALITY PLAN	
scale	AS SHOWN	approved	TB	project no: GL20818A	figure no. 1
original size	A3	rev			



NOTES

PLUMBING CONNECTIONS TO BE CARRIED OUT IN ACCORDANCE WITH PLUMBING CODES AND REGULATIONS

VENTS, OVERFLOW RELIEF GULLY AND INSPECTION OPENINGS TO BE PROVIDED AS PER THE PLUMBING CODES AND REGULATIONS

BED TO BE SET BACK:

- 35m FROM DOWNHILL SENSITIVE FEATURES SUCH AS WATER COURSES;
- 5m FROM DOWNSLOPE BOUNDARIES;
- 1.5m UPHILL AND LATERALLY FROM PROPERTY BOUNDARIES AND ;
- 2.0M UPHILL AND LATERALLY FROM BUILDINGS.

Beach

RI6

Existing Shed

RI7

Boundary

RI8

BH 3
Proposed Extension

Existing Dwelling

1 x 12m Long Trench

5m

Generally Flat Bench

BH 2

Reserve

BH 1

3000L Septic Tank

W/T

W/T

W/T

RI9

Legend

BH 1



Approximate Borehole Location

8°



Approximate Slope Angle



Approximate Contours

Approximate Scale (m)



GEOTON Pty Ltd

client: **MR J DOERY, MS M GLEDDEN & MS C BEETON**

project: **LOT 1 LITTLE DOG ISLAND
BASS STRAIT ISLANDS**

date: **26/02/2021** drawn: **BS**

title: **SITE PLAN**

scale: **AS SHOWN** approved: **TB**

original size: **A3** rev:

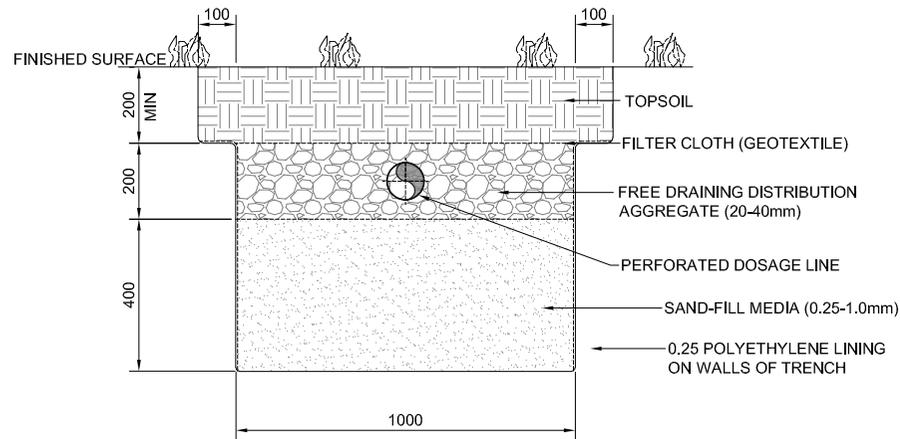
project no: **GL20818A**

figure no. **2**

GEOTON PTY LTD
GEOTECHNICAL CONSULTANTS

- GEOTECHNICAL INVESTIGATIONS
- SITE CLASSIFICATION
- WASTEWATER ASSESSMENT
- ROADWORKS
- LANDSLIDE RISK ASSESSMENT
- DAMS
- ENVIRONMENTAL ASSESSMENT
- FOUNDATION INVESTIGATION

PO Box 522 Prospect Vale TAS 7250
 Unit 24, 16-18 Goodman Court
 Invermay, TAS
 T- (03) 6326 5001
www.geoton.com.au



DISCHARGE CONTROL TRENCH

SCALE 1:20

FIGURE:	3
DATE:	23/02/2021
REVISION:	A
SCALE:	@ A4
DRAWN:	B.STREET
DESIGNED:	T.BARRIERA
APPROVED:	T.BARRIERA

SCALE





PLATE 1 - View of the proposed extension location looking south



PLATE 2 - View of the proposed onsite wastewater disposal area looking northeast

GEOTON Pty Ltd				client: MR J DOERY, MS M GLEDDEN & MS C BEETON		
				project: LOT 1 LITTLE DOG ISLAND BASS STRAIT ISLANDS		
title: PHOTOGRAPH						
date:	02/12/2020	original size	A4	project no:	GL20818A	figure no. PLATES 1 & 2

Appendix A

Borehole Logs

Geotechnical Consultants

PO Box 522 Prospect TAS 7250

Unit 24, 16-18 Goodman Court, Invermay TAS

Tel (03) 6326 5001

Borehole no. BH1

Sheet no. 1 of 1

Job no. GL20818A

Client :		Mr James Doery, Ms Megan Gledden & Ms Celia Beeton					Date :		03/12/20		
Project :		Site Classification & On-site Wastewater Assessment and Design					Logged By :		BS		
Location :		Lot 1, Little Dog Island, Bass Strait Islands									
Drill model :		Hand Auger		Easting:		Slope: 90°		RL Surface :			
Hole diameter :		55mm		Northing:		Bearing: -		Datum :			
Method	Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log	Classification Symbol	Material Description	Moisture condition	Consistency density index	Structure, additional observations
HA	N				0.25		SW	SAND - fine to medium grained, black, trace organics	M	MD	
					0.50			Borehole BH1 refusal @ 0.4m on inferred rock			
					0.75						
					1.00						
					1.25						
					1.50						
					1.75						
					2.00						
					2.25						

Geotechnical Consultants

PO Box 522 Prospect TAS 7250

Unit 24, 16-18 Goodman Court, Invermay TAS

Tel (03) 6326 5001

Borehole no. BH2

Sheet no. 1 of 1

Job no. GL20818A

Client :		Mr James Doery, Ms Megan Gledden & Ms Celia Beeton					Date :		03/12/20	
Project :		Site Classification & On-site Wastewater Assessment and Design					Logged By :		BS	
Location :		Lot 1, Little Dog Island, Bass Strait Islands								
Drill model :		Hand Auger		Easting:		Slope: 90°		RL Surface :		
Hole diameter :		55mm		Northing:		Bearing: -		Datum :		
Method	Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
HA	N				0.25	SW	SAND - fine to medium grained, black, trace organics	M	MD	
							Becoming black/brown, no organics			
					0.50					
					0.75					
					1.00					
					1.25		Becoming light brown			
					2.00		Borehole BH2 terminated @ 1.8m			
					2.25					

Geotechnical Consultants

PO Box 522 Prospect TAS 7250

Unit 24, 16-18 Goodman Court, Invermay TAS

Tel (03) 6326 5001

Borehole no. BH3

Sheet no. 1 of 1

Job no. GL20818A

Client :		Mr James Doery, Ms Megan Gledden & Ms Celia Beeton					Date :		03/12/20					
Project :		Site Classification & On-site Wastewater Assessment and Design					Logged By :		BS					
Location :		Lot 1, Little Dog Island, Bass Strait Islands												
Drill model :		Hand Auger		Easting:		Slope: 90°		RL Surface :						
Hole diameter :		55mm		Northing:		Bearing: -		Datum :						
Method	Support	Penetration	Water	DCP (Blows/100mm)	Depth (m)	Graphic log	Classification Symbol	Material Description	Moisture condition	Consistency density index	Structure, additional observations			
HA	N			0	0.25		SP	SAND - fine grained, black, organics	M	L				
				1										
				2										
				2										
				2										
				2	0.50		SW	SAND - fine to medium grained, grey	M	MD/D				
				8+										
					0.75									
	1.00													
	1.25													
	1.50													
	1.75													
	2.00													
	2.25													

Investigation Log Explanation Sheet

METHOD – BOREHOLE

TERM	Description
AS	Auger Screwing*
AD	Auger Drilling*
RR	Roller / Tricone
W	Washbore
CT	Cable Tool
HA	Hand Auger
DT	Diatube
B	Blank Bit
V	V Bit
T	TC Bit

* Bit shown by suffix e.g. ADT

METHOD – EXCAVATION

TERM	Description
N	Natural exposure
X	Existing excavation
H	Backhoe bucket
B	Bulldozer blade
R	Ripper
E	Excavator

SUPPORT

TERM	Description
M	Mud
N	Nil
C	Casing
S	Shoring

PENETRATION

1	2	3	4	
				No resistance ranging to Refusal

WATER

Symbol	Description
	Water inflow
	Water outflow
	17/3/08 water on date shown

NOTES, SAMPLES, TESTS

TERM	Description
U ₅₀	Undisturbed sample 50 mm diameter
U ₆₃	Undisturbed sample 63 mm diameter
D	Disturbed sample
N	Standard Penetration Test (SPT)
N*	SPT – sample recovered
N _c	SPT with solid cone
V	Vane Shear
PP	Pocket Penetrometer
P	Pressurimeter
B _s	Bulk sample
E	Environmental Sample
R	Refusal
DCP	Dynamic Cone Penetrometer (blows/100mm)
PL	Plastic Limit
LL	Liquid Limit
LS	Linear Shrinkage

CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION

Based on AS 1726:2017

MOISTURE

TERM	Description
D	Dry
M	Moist
W	Wet

CONSISTENCY/DENSITY INDEX

TERM	Description
VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fr	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	Very dense

Soil Description Explanation Sheet (1 of 2)

DEFINITION

In engineering terms, soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material can be remoulded or disintegrated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

CLASSIFICATION SYMBOL AND SOIL NAME

Soils are described in accordance with the AS 1726: 2017 as shown in the table on Sheet 2.

PARTICLE SIZE DEFINITIONS

NAME	SUBDIVISION	SIZE (mm)
BOULDERS		>200
COBBLES		63 to 200
GRAVEL	Coarse	19 to 63
	Medium	6.7 to 19
	Fine	2.36 to 6.7
SAND	Coarse	0.6 to 2.36
	Medium	0.21 to 0.6
	Fine	0.075 to 0.21
SILT		0.002 to 0.075
CLAY		<0.002

MOISTURE CONDITION

Coarse Grained Soils

Dry Non-cohesive and free running.

Moist Soil feels cool, darkened in colour. Soil tends to stick together.

Wet As for moist but with free water forming when handling.

Fine Grained Soils

Moist, dry of Plastic Limited – $w < PL$

Hard and friable or powdery.

Moist, near Plastic Limit – $w \approx PL$

Soils can be moulded at a moisture content approximately equal to the plastic limit.

Moist, wet of Plastic Limit – $w > PL$

Soils usually weakened and free water forms on hands when handling.

Wet, near Liquid Limit - $w \approx LL$

Wet, wet of Liquid Limit - $w > LL$

CONSISTENCY TERMS FOR COHESIVE SOILS

TERM	UNDRAINED STRENGTH s_u (kPa)	FIELD GUIDE
Very Soft	≤ 12	Exudes between the fingers when squeezed in hand
Soft	12 to 25	Can be moulded by light finger pressure
Firm	25 to 50	Can be moulded by strong finger pressure
Stiff	50 to 100	Cannot be moulded by fingers
Very Stiff	100 to 200	Can be indented by thumb nail
Hard	>200	Can be indented with difficulty by thumb nail
Friable	–	Can be easily crumbled or broken into small pieces by hand

RELATIVE DENSITY OF NON-COHESIVE SOILS

TERM	DENSITY INDEX (%)
Very Loose	≤ 15
Loose	15 to 35
Medium Dense	35 to 65
Dense	65 to 85
Very Dense	> 85

DESCRIPTIVE TERMS FOR ACCESSORY SOIL COMPONENTS

DESIGNATION OF COMPONENT	IN COARSE GRAINED SOILS		IN FINE GRAINED SOILS	TERM
	% Fines	% Accessory coarse fraction	% Sand/gravel	
Minor	≤ 5	≤ 15	≤ 15	Trace
	$>5, \leq 12$	$>15, \leq 30$	$>15, \leq 30$	With
Secondary	>12	>30	>30	Prefix

SOIL STRUCTURE

ZONING		CEMENTING	
Layer	Continuous across the exposure or sample.	Weakly cemented	Easily disaggregated by hand in air or water.
Lens	Discontinuous layer of different material, with lenticular shape.		
Pocket	An irregular inclusion of different material.	Moderately cemented	Effort is required to disaggregate the soil by hand in air or water.

GEOLOGICAL ORIGIN

WEATHERED IN PLACE SOILS

Extremely weathered material	Structure and/or fabric of parent rock material retained and visible.
Residual soil	Structure and/or fabric of parent rock material not retained and visible.

TRANSPORTED SOILS

Aeolian soil	Carried and deposited by wind.
Alluvial soil	Deposited by streams and rivers.
Colluvial soil	Soil and rock debris transported downslope by gravity.
Estuarine soil	Deposited in coastal estuaries, and including sediments carried by inflowing rivers and streams, and tidal currents.
Fill	Man-made deposit. Fill may be significantly more variable between tested locations than naturally occurring soils.
Lacustrine soil	Deposited in freshwater lakes.
Marine soil	Deposited in a marine environment.

Soil Description Explanation Sheet (2 of 2)

SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 63 mm and basing fractions on estimated mass)				GROUP SYMBOL	PRIMARY NAME	
COARSE GRAINED SOIL More than 65% of soil excluding oversize fraction is larger than 0.075 mm	GRAVEL More than half of coarse fraction is larger than 2.36 mm	CLEAN GRAVEL (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes	GW	GRAVEL	
			Predominantly one size or a range of sizes with some intermediate sizes missing	GP	GRAVEL	
		GRAVEL WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML and MH below)	GM	Silty GRAVEL	
			Plastic fines (for identification procedures see CL, CI and CH below)	GC	Clayey GRAVEL	
	SAND More than half of coarse fraction is smaller than 2.36 mm	CLEAN SAND (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate sizes	SW	SAND	
			Predominantly one size or a range of sizes with some intermediate sizes missing	SP	SAND	
		SAND WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML and MH below)	SM	Silty SAND	
			Plastic fines (for identification procedures see CL, CI and CH below)	SC	Clayey SAND	
FINE GRAINED SOIL More than 35% of soil excluding oversize fraction is smaller than 0.075 mm	IDENTIFICATION PROCEDURES ON FRACTIONS <0.075 mm					
		DRY STRENGTH	DILATANCY	TOUGHNESS		
	SILT & CLAY (low to medium plasticity, LL ≤ 50)	None to Low	Slow to Rapid	Low	ML	SILT
		Medium to High	None to Slow	Medium	CL, CI	CLAY
		Low to Medium	Slow	Low	OL	ORGANIC SILT
	SILT & CLAY (high plasticity, LL > 50)	Low to Medium	None to Slow	Low to Medium	MH	SILT
		High to Very High	None	High	CH	CLAY
		Medium to High	None to Very Slow	Low to Medium	OH	ORGANIC CLAY
	Highly Organic Soil	Readily identified by colour, odour, spongy feel and frequently by fibrous texture.			Pt	PEAT

• LL – Liquid Limit.

COMMON DEFECTS IN SOILS

TERM	DEFINITION	DIAGRAM	TERM	DEFINITION	DIAGRAM
PARTING	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (e.g. bedding). May be open or closed.		SOFTENED ZONE	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere.	
FISSURE	A surface or crack across which the soil has little or no tensile strength, but which is not parallel or sub parallel to layering. May be open or closed. May include desiccation cracks.		TUBE	Tubular cavity. May occur singly or as one of a large number of separate or inter-connected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter.	
SHEARED SEAM	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting fissures which divide the mass into lenticular or wedge-shaped blocks.		TUBE CAST	An infilled tube. The infill may be uncemented or weakly cemented soil or have rock properties.	
SHEARED SURFACE	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect.		INFILLED SEAM	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open defects.	

Appendix B

Certificate Forms

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM**Section 321**

To:	Mr J Doery, Ms M Gledden & Ms C Beeton	Owner /Agent	Form 55
	C/- 48 Power Street	Address	
	Hawthorn Vic	3122	

Qualified person details:

Qualified person:	Tony Barriera - Geoton Pty. Ltd.		
Address:	PO Box 522	Phone No:	03 6326 5001
	Prospect Tas	7250	Fax No:
Licence No:	CC6220 P	Email address:	tbarriera@geoton.com.au
Qualifications and Insurance details:	Tony Barriera – BEng, MSc CPEng, NER – IEAust 471929 Civil, Geotechnical Certain Underwriters at Lloyd's- ENG 19 000330		
	<i>(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)</i>		
Speciality area of expertise:	Geotechnical Engineering		<i>(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)</i>

Details of work:

Address:	Lot 1 Little Dog Island	Lot No:	1
	Bass Strait Islands Tas	7255	Certificate of title No: 226682/1
The assessable item related to this certificate:	Classification of foundation conditions according to AS2870 - 2011		<i>(description of the assessable item being certified)</i> Assessable item includes – <ul style="list-style-type: none"> - 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 Site Classification – AS2870	<i>(description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)</i>
-------------------	---	---

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:	Geoton Pty Ltd, Report Reference No. GL20818Ab, dated 26/02/2021
Relevant calculations:	Refer to report
References:	AS 2870 – 2011 Residential Slabs and Footings Construction AS 4055 – 2012 Wind Loads for Housing CSIRO Building Technical File 18

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

Site Classification in accordance to AS2870 - 2011
Wind Loading in accordance to AS 4055 - 2012
Findings and recommendations of report

Scope and/or Limitations

The classification applies to the site as investigated at the time and does not account for any future alteration to foundation conditions resulting from earthworks, drainage condition changes or site maintenance variations.

I certify the matters described in this certificate.

	<i>Signed:</i>	<i>Certificate No:</i>	<i>Date:</i>
Qualified person:		GL20818Ab	26/02/2021

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

To:	Mr J Doery, Ms M Gledden & Ms C Beeton	Owner name	Form 35
	C/- 48 Power Street	Address	
	Hawthorn Vic	3122	

Designer details:

Name:	Tony Barriera	Category:	Civil Engineer Hydraulic - Domestic
Business name:	Geoton Pty Ltd	Phone No:	03 6326 5001
Business address:	P O Box 522		
	Prospect TAS	7250	Fax No:
Licence No:	IEAust 471929, CC6220 P	Email address:	tbarriera@geoton.com.au

Details of the proposed work:

Owner/Applicant	Mr J Doery, Ms M Gledden & Ms C Beeton	Designer's project reference No.	GL20818Ab
Address:	Lot 1 Little Dog Island	Lot No:	226682/1
	Bass Strait Islands Tas	7255	
Type of work:	Building work <input type="checkbox"/>	Plumbing work <input checked="" type="checkbox"/>	(X all applicable)

Description of work:

New building on-site wastewater management system	(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
	<input type="checkbox"/> Building design	Architect or Building Designer
	<input type="checkbox"/> Structural design	Engineer or Civil Designer
	<input type="checkbox"/> Fire Safety design	Fire Engineer
	<input type="checkbox"/> Civil design	Civil Engineer or Civil Designer
	<input checked="" type="checkbox"/> Hydraulic design	Building Services Designer
	<input type="checkbox"/> Fire service design	Building Services Designer
	<input type="checkbox"/> Electrical design	Building Services Designer
	<input type="checkbox"/> Mechanical design	Building Service Designer
	<input type="checkbox"/> Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
	<input type="checkbox"/> Other (specify)	
Deemed-to-Satisfy: <input checked="" type="checkbox"/>	Performance Solution: <input type="checkbox"/> (X the appropriate box)	

Other details:

All design documents provided in Report GL20818Ab, dated 26/02/2021**Design documents provided:**

The following documents are provided with this Certificate –

Document description:

Drawing numbers:	Prepared by:	Date:
Schedules:	Prepared by:	Date:
Specifications:	Prepared by:	Date:
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by:	Date:

Standards, codes or guidelines relied on in design process:

All design documents are contained within report
AS/NZS1547:2012 On-site domestic-wastewater management

Any other relevant documentation:**Attribution as designer:**

I Tony Barriera of Geoton Pty Ltd 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.

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	Tony Barriera		26/02/2021
Licence No:	CC6220P		

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:

- The works will not increase the demand for water supplied by TasWater
- 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
- The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- The works will not damage or interfere with TasWater's works
- The works will not adversely affect TasWater's operations
- The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- I have checked the LISTMap to confirm the location of TasWater infrastructure
- 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 Tony Barriera of Geoton Pty Ltd 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

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	Tony Barriera		26/02/2021

LOADING CERTIFICATE

To:	Mr J Doery, Ms M Gledden & Ms C Beeton	Owner /Agent	Certificate Ref: AS/NZS 1547:2012 Section 7.4.2
	C/- 48 Power Street	Address	
	Hawthorn Vic	Suburb/postcode	
		3122	

Details of work:

Address:	Lot 1 Little Dog Island	Lot No:	1
	Bass Strait Islands Tas	Certificate of title No:	226682/1
	7255		
The work related to this certificate:	On-site domestic-wastewater management	<i>(description of the work or part work being certified)</i>	

Certificate details:

In issuing this certificate the following matters are relevant –

Documents:	Report GL20818Ab dated 26/02/2021 Figure 1 – Locality Plan Figure 2 – Site Plan Figure 3 – Typical Trench Section
Relevant calculations:	Contained in the above
References:	AS/NZS1547:2012 On-site domestic-wastewater management

Substance of Certificate:

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

Wastewater Characteristics

Population equivalent used for this assessment = 5 (3 bedroom)
 Wastewater volume (L/day) used for this assessment = 600 (120 Litres per person)
 Approximate blackwater volume (L/day) = 240
 Approximate greywater volume (L/day) = 360

Soil Characteristics/Design Criteria

Texture (Table E4 from AS/NZS 1547) = Sand
 Soil category (Table E1 from AS/NZS 1547) = 1
 Soil structure (Table E4 from AS/NZS 1547) = Massive
 Indicative permeability (Table 5.1 from AS/NZS 1547) = >3.0m/day
 Adopted permeability = 3.0m/day
 Adopted Design Loading Rate = 50mm/day
 Soil thickness for disposal = >1.8m
 Minimum depth (m) to water = >1.8m

Dimensions for On-Site Treatment System

Disposal and treatment methods = Septic Tank and Discharge Control Trench

Site modification and specific design = N/A

Primary disposal area required = 12m²

Reserve disposal area required = 12m²

Location and use of Reserve area = Reserve area located to the south of the proposed wastewater disposal area.

Is there sufficient area available on site for disposal (including reserve) = Yes

Notes

The purpose of the reserve area is to allow for future extension of the land application system to allow a factor of safety against unforeseen malfunction or failure, perhaps following increased household occupancy or inadvertent misuse of the system.

The land application area may be reduced to account for flow reductions by water-saving devices, provided the organic loading rate is not higher than it would have been without the flow reduction.

Allowable Variation from Design Flow

Based on a septic tank capacity of 3,000L and wastewater design volume of 600L/day the allowable variation from design flow (peak loading events) would be an additional 400L/day (Total flow of 1,000L/day as per table J1 of AS/NZS 1547:2012).

System Limitations**Consequences of overloading the system:**

Overloading the system can result in failure of the septic tank and land application system. This is a serious health and environmental hazard and can lead to any one or more of the following:

- Spread of infectious disease;
- Breeding of mosquitoes and attraction of flies and rodents;
- Nuisance and unpleasantness;
- Pollution of waterways;
- Contamination of bores, wells and groundwater; and
- alteration to local ecology.

Consequences of under loading the system and or lack of operation:

Under loading the system or lack of operation may result in the bacteria to stop working and system failure.

Consequences of changes in loading due to varying wastewater characteristics:

The system has been designed for domestic onsite wastewater disposal, and as such effluent will be domestic and is not expected to change significantly. Significant changes in loading of the system can result in system failure.

Consequences of lack of operation maintenance, and monitoring attention of the system:

Lack of operation maintenance and monitoring attention of the system can result in failure of the septic tank and land application system. The operational and maintenance requirements are detailed below.

Operation Requirements

Refer to Section T5.2.1 of AS/NZS 1547:2012 for additional requirements.

For on-site system to work well the following is required:

- Reduce sludge building up through scraping all dishes to remove fats/grease; don't use a food waste disposal unit; and don't put sanitary napkins into the system.

- To keep bacteria working in the septic tank use biodegradable soaps; use a low phosphorous detergent; don't use powerful bleaches and disinfectants; and don't put chemicals or paint down the drain.
- Conservation of water will reduce the volume of effluent requiring disposal to the land application area, make it last longer and improve its performance.

Maintenance Requirements

Refer to Section T5.2.2 of AS/NZS 1547:2012 for additional requirements.

Maintenance of the system should include the following:

- Septic tanks must be inspected at least annually and pumped out regularly once the scum and sludge occupy two thirds of the tank volume. Typically a septic tank must be pumped out every 3 to 5 years or more frequently depending on usage.
- Grease traps must be inspected at least quarterly and cleaned out regularly.
- Deep rooting trees or shrubs should not be grown over absorption trenches/beds or pipes.
- Surface water diversion drains should be maintained upslope of and around the land application area and kept clean to reduce seepage of rainwater into the trenches.
- Maintain disposal area by maintaining plants and mowing grass to ensure that plants/grasses take up nutrients with maximum efficiency.
- Check disposal area for blockages such as wet spots and uneven grass colour.

I certify the matters described in this certificate.

	<i>Signed:</i>	<i>Date:</i>	<i>Certificate No.</i>
Certifier:		26/02/2021	GL20818Ab

Appendix D

Unanticipated Discovery Plan

Unanticipated Discovery Plan

Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania

For the management of unanticipated discoveries of Aboriginal relics in accordance with the *Aboriginal Heritage Act 1975* and the *Coroners Act 1995*. The Unanticipated Discovery Plan is in two sections.

Discovery of Aboriginal Relics other than Skeletal Material

Step 1:

Any person who believes they have uncovered Aboriginal relics should notify all employees or contractors working in the immediate area that all earth disturbance works must cease immediately.

Step 2:

A temporary 'no-go' or buffer zone of at least 10m x 10m should be implemented to protect the suspected Aboriginal relics, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected Aboriginal relics have been assessed by a consulting archaeologist, Aboriginal Heritage Officer or Aboriginal Heritage Tasmania staff member.

Step 3:

Contact Aboriginal Heritage Tasmania on **1300 487 045** as soon as possible and inform them of the discovery. Documentation of the find should be emailed to **aboriginal@heritage.tas.gov.au** as soon as possible. Aboriginal Heritage Tasmania will then provide further advice in accordance with the *Aboriginal Heritage Act 1975*.

Discovery of Skeletal Material

Step 1:

Call the Police immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene.

Step 2:

Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:

A temporary 'no-go' or buffer zone of at least 50m x 50m should be implemented to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been assessed by the Police and/or Coroner.

Step 4:

If it is suspected that the skeletal material is Aboriginal, Aboriginal Heritage Tasmania should be notified.

Step 5:

Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995*.

Stone Artefact Scatters

A stone artefact is any stone or rock fractured or modified by Aboriginal people to produce cutting, scraping or grinding implements. Stone artefacts are indicative of past Aboriginal living spaces, trade and movement throughout Tasmania. Aboriginal people used hornfels, chalcedony, spongelite, quartzite, chert and silcrete depending on stone quality and availability. Stone artefacts are typically recorded as being 'isolated' (single stone artefact) or as an 'artefact scatter' (multiple stone artefacts).

Shell Middens

Middens are distinct concentrations of discarded shell that have accumulated as a result of past Aboriginal camping and food processing activities. These sites are usually found near waterways and coastal areas, and range in size from large mounds to small scatters. Tasmanian Aboriginal middens commonly contain fragments of mature edible shellfish such as abalone, oyster, mussel, warrener and limpet, however they can also contain stone tools, animal bone and charcoal.

Rockshelters

An occupied rockshelter is a cave or overhang that contains evidence of past Aboriginal use and occupation, such as stone tools, middens and hearths, and in some cases, rock markings. Rockshelters are usually found in geological formations that are naturally prone to weathering, such as limestone, dolerite and sandstone

Quarries

An Aboriginal quarry is a place where stone or ochre has been extracted from a natural source by Aboriginal people. Quarries can be recognised by evidence of human manipulation such as battering of an outcrop, stone fracturing debris or ochre pits left behind from processing the raw material. Stone and ochre quarries can vary in terms of size, quality and the frequency of use.

Rock Marking

Rock marking is the term used in Tasmania to define markings on rocks which are the result of Aboriginal practices. Rock markings come in two forms; engraving and painting. Engravings are made by removing the surface of a rock through pecking, abrading or grinding, whilst paintings are made by adding pigment or ochre to the surface of a rock.

Burials

Aboriginal burial sites are highly sensitive and may be found in a variety of places, including sand dunes, shell middens and rock shelters. Despite few records of pre-contact practices, cremation appears to have been more common than burial. Family members carried bones or ashes of recently deceased relatives. The Aboriginal community has fought long campaigns for the return of the remains of ancestral Aboriginal people.

Further information on Aboriginal Heritage is available from:

Aboriginal Heritage Tasmania
 Natural and Cultural Heritage Division
 Department of Primary Industries, Parks, Water and Environment
 GPO Box 44 Hobart TAS 7001
 Telephone: **1300 487 045**
 Email: **aboriginal@heritage.tas.gov.au**
 Web: **www.aboriginalheritage.tas.gov.au**

This publication may be of assistance to you but the State of Tasmania and its employees do not accept responsibility for the accuracy, completeness, or relevance to the user's purpose, of the information and therefore disclaims all liability for any error, loss or other consequence which may arise from relying on any information in this publication.



