ATTACHMENT C

2022

RED SEAL
Urban & Regional Planning

Revised Nov 2022, Planning Report – Allure Visitor Accommodation at:

– *"Riverside" 297 Primrose Sands Road, Primrose Sands, PID: 9584675 (CT: 181036/19, CT: 181036/20, and CT: 210947/1)*

For: Young-Mundy Property Trust

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Sorell Council
Development Application: Response to request for information - 297 Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

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Contents

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Red Seal Urban & Regional Planning
Preliminary Assessment

Project:	Visitor Accommodation
Location:	“Riverside” 297 Primrose Sands Road, Primrose Sands,
Certificate of Title:	CT: 181036/19, CT: 181036/20 and CT: 210947/1
Property ID:	9584675
Planning Authority:	Sorell Council
Planning Policy:	Sorell Interim Planning Scheme 2015
Date of Assessment:	June 2022

Summary

The proposal is to establish a high-quality rural retreat along the southern coastal side of the property, known as *Riverside*, 297 Primrose Sands Road, Primrose Sands. The visitor accommodation will consist of small cabins providing private retreats. The cabins are interspersed through the landscape and are semi self-contained; that is, accommodation consists of bedroom, bathroom facilities and indoor and outdoor living areas. Guest meals and other needs will be provided at the Lodge which will consist of a communal dining room and front-of-house facilities. The Lodge and other facilities will be for the exclusive use of guests and will not be available to the general public.

Under the *Sorell Interim Planning Scheme 2015* the subject property is zoned **Rural Resource** (Part D.26) and is subject to the following **overlay codes**:

- **Bushfire-Prone Areas Code** (E.1)
- **Landslide Code** (E.3)
- **Biodiversity Code** (E.10)
- **Waterway & Coastal Protection Code** (E.11)

The proposed development is also subject to the following **development codes**:

- **Road & Railway Assets Code** (E.5)
- **Parking & Access Code** (E.6)
- **Stormwater Management Code** (E.7)
- **Signs Code (**E.17)
- **On-site Wastewater Management Area Code** (E.23)

As the proposal is for short-term visitor accommodation, the definition of *Planning Directive No.6 – Exemption and Standards for Visitor Accommodation in Planning Schemes* is also applicable.

The development application relies on the Performance Criteria of the following clauses of the *Sorell Interim Planning Scheme 2015* (the Interim Planning Scheme):

- Part D – Zones, Section 26 – Rural Resource Zone:
  - **Clause 26.3.2 – Visitor Accommodation**
  - **Clause 26.3.3 – Discretionary Use**
  - **Clause 26.4.2 – Setback**
- Part E – Codes
  - **Clause E7.7.1 – Stormwater Drainage and Disposal**.

Following correspondence from Sorell Council dated 11 July 2022, pursuant to Section 54 of the *Land Use Planning and Approvals Act 1993* (The Act), the proposal has been revised to:

- provide updated and additional information on environment and vegetation;
- reduce the number of proposed cabins to ensure no impact on environmentally sensitive areas; and to
- confirm that no part of the proposed development will encroach on Crown Land

1 Introduction

Red Seal Urban & Regional Planning has been engaged on behalf of property owners Jacinta Young and Adrian Mundy, Trustees of the Young-Mundy Property Trust, to prepare a submission seeking approval pursuant to the provisions of Section 57 of the *Land Use Planning and Approvals Act 1993*, for the establishment of a luxury farm stay at *Riverside*, 297 Primrose Sands Road, Primrose Sands (PID: 9584675).

Map 1 – The property and development site 297 Primrose Sands Road, Primrose Sands is in the centre of the image outlined green. (Source LIST Map)

1.1 The Site

The property is a sheep grazing farm that covers more than 600 hectares. The proposed development area is limited to land on the southern side of the property overlooking Norfolk Bay and involving lots: CT: 181036/19, CT: 181036/20 and CT: 210947/1.

Figure 1.1a – "Riverside" 297 Primrose Sands Road, Primrose Sands (PID: 9584675) in blue outline. The specific area of the development is restricted to the section shaded blue. (Source LIST Map)

The property has frontage to Primrose Sands Road to the north and Fulham Road in the east. Road access is from Connellys Marsh Road, a council-owned and maintained road. The southern section, which is the land that involves the proposal, fronts the coastal Crown Land Reserve that runs between Susan Bay and Connellys Bay of Norfolk Bay, providing separation between the high watermark and the subject lots. Along the western boundary, the farmland adjoins the township of Primrose Sands with Connellys Marsh to the east.

A hill in the centre of the property is the western-most hill of the range known as Thornes Hills. The height of the hill is 193m according to topographical mapping, with the lowest point of the property below the 10m contour at the western end, adjacent to Primrose Sands.

Vegetation over the land is characterised by open grazing with woodland that is denser on the steeper slopes. Referencing TASVEG Live layer (LIST Map), the featured native vegetation type on the hillsides is (DGL) *Eucalyptus globulus* dry forest and woodland, a threatened native vegetation community under Schedule 3A, *Nature Conservation Act 2002*. However, it is noted that the development site does not consist of native vegetation, as it is mapped as agricultural land.

Land contained within Lot CT: 210947/1 is mapped with the Biodiversity Overlay, however the TasVeg layers (LIST Map) cite this area as being the vegetation type Agricultural Land (FAG). A site inspection has confirmed this is the case. While older aerial images show some tree cover, much of this was destroyed during the 2013 bushfires, and the understorey has always been grazing pasture. This is backed up by the map Figure 1.1b and the image at Figure 1.1b(i) below.

Figure 1.1b – The property in relation the TasVege layer – the yellow area is Agriculture Land (FAG), a strip of Eucalyptus globulus dry forest and woodland (DGL), will act as a buffer between the development and Primrose Sands. (Source LIST Map)

Figure 1.1b(i) - Lot CT: 210947/1 in blue outline. The image shows that the entire site is consistent with the grazing pasture on the adjoining lots and contains only native vegetation around the coastal strip. (Source LIST Map)

The *Land Capability Survey of Tasmania* mapping cites this land as predominately Class 5 and 6, which is marginal cropping ground and only suitable for grazing. A small area towards Carlton River in the north of the property is classified as Class 4(Figure 1.1c).

Whilst Class 4 is considered good quality land in the Southern Tasmania context, it is noted that this is only a couple of hectares within the property and located at the opposite end to the

proposed visitor accommodation. The property has Commonwealth-recognised drought affected or drought prone area status, which emphasises the restrictions on the agricultural uses and intensity that the land can support. Additionally, the proximity to residential areas means that the livestock are often bothered or attacked by domestic dogs.

Figure 1.1c – The property is predominately mapped as Class 5 (olive green shading) or 6 (blue shading), with Class 4 (green shading) at the opposite end of the property from the development site. (Source LIST Map)

Two Wedge-tailed Eagle nests have been recorded on the property. One of these is located on the escarpment or gully that is screened by the topography of the hills and is more than 800m from the proposed Lodge site. This nest is confirmed to be inhabited and was not approached during the site inspections.

The other listed nest can be seen from the southern paddocks (Figure 1.1d); however, it does not appear to be in use. At only 30-40cm in diameter, it appears to be of insufficient size to be an eagles' nest and may belong to a smaller bird of prey or alternatively a magpie or raven. It is noted that at the time of inspection, there was no evidence of occupation such as waste or dropped bone scatter at or near the base of the tree or in its general surrounds, even though visitation occurred during the breeding season for these birds.

Figure 1.1d – The orange square indicates the recorded eagle's nest site, however, on a closer inspection it is unlikely to be a nest of an eagle, nor does the nest appear to be in use. (Source LIST Map)

1.2 Certificate of Title

The certificate of title Volume 181036 Folio 19, Volume 181036 Folio 20 and Volume 210947 Folio 1.

No works are proposed within the Crown Land as part of this development proposal.

There are no covenants or similar restrictions on the Schedule of Easements associated with this Certificate of Title that limit the ability to operate a visitor accommodation business from the site.

1.3 Surrounding Area

In accordance with paragraph 26.1.1 – Zone Purpose Statements of the Interim Planning Scheme Part D, Section 26 – Rural Resource Zones are as follows:

26.1.1.1 - To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.

26.1.1.2 - To provide for other use or development that does not constrain or conflict with resource development uses.

26.1.1.3 - To provide for non-agricultural use or development, such as recreation, conservation, tourism and retailing, where it supports existing agriculture, aquaculture, forestry, mining and other primary industries.

26.1.1.4 - To allow for residential and other uses not necessary to support agriculture, aquaculture and other primary industries provided that such uses do not:

- *(a) fetter existing or potential rural resource use and development on other land;*
- *(b) add to the need to provide services or infrastructure or to upgrade existing infrastructure;*
- *(c) contribute to the incremental loss of productive rural resources.*

26.1.1.5 - To provide for protection of rural land so future resource development opportunities are not lost.

The Rural Resource zoning also applies to surrounding lots to the north and east. The Crown Land abutting the site and the Norfolk Bay waterfront to the south is zoned Environmental Management.

As shown in Figure 1.3a below, two residential areas are located at either end of the development site, both zoned Low-density Residential and Rural Living. These are the settlements of Connelly's Marsh to the east and Primrose Sands to the west.

The Rural Resource zoning of the site means that agriculture, aquaculture, forestry, mining and other primary industries, including resource processing, are all permitted activities within the zone.

The Copping Tip is approximately 5km to the north-east of the development site and is zoned Utilities. The tip cannot be seen or noticed from the property due to the eastern end of Thornes Hills range and Wykeholm Hill, which act as a screen.

Figure 1.3a – The image shows the subject property outlined in the centre immediately surrounded by Rural Resource zoned properties to the north and east, but also residential type zoned properties to the east and west of the actual development site. The foreshore to the south is zoned Environmental Management. Over 5km to the east, the yellow area is Utilities zone for the Copping Tip. (Source the LISTmap)

As shown in Figure 1.3a and Figure 1.3b, the Rural Resource Zone has been used as a blanket zone for any land outside of the township or settlement areas. The use of the Rural Resource zoning reflects the significance agricultural and primary industry activity plays within the region. Such importance is emphasised within the zone purpose statements (Part D.26-Clause 26.1).

Figure 1.3b – Closer image showing the subject property in relation to the surrounding lots zoned Rural Resource. (Source the LISTmap)

Surrounding non-residential properties are a mix of cleared open grazing land interspaced with thicker native vegetation, mainly surrounding the southern slopes or upper reaches of the hills (Figure 1.3c). The dominate agricultural use in the surrounding area is livestock grazing. Whilst some cropping may occur, this is more associated with pasture improvement or supplementing livestock grazing, rather than with a specific horticultural use.

There is a Private Timber Reserves (PTR) as defined in the *Forest Practices Act 1985* within 3km to the east of the development site. However, as shown at Figure 1.3d, there is grazing land, native vegetation and an established residential settlement between the property and the PTR.

According to the TasVege layer within the LIST Map the dominate vegetation type surrounding the property is that of Agriculture (FAG), which is clear in the aerial imagery (Figure 1.3c). Native vegetation that is mapped on surrounding properties and noted to the northwest is *Eucalyptus viminalis* grassy forest and woodland (DVG) on the opposite side of Primrose Sands Road. To the east of the property the area is *Eucalyptus pulchella* forest and woodland (DPU).

Figure 1.3c – The green area (top right corner of image) is Private Timber Reserves under the *Forest Practices Act 1985* and is just under 2.8km from the development site at the closest point. The TasVege Live layer has the surrounding vegetation is dominated by Agricultural land (FAG). (Source the LISTmap)

Although the region is mostly zoned Rural Resource, the latest Tasmanian Land Use (2019) spatial data set publicly available on the State LIST Map shows a mixture of land uses that are not principally resource development focused. Whilst the *Riverside* site is mapped "Rural residential without agriculture", its use has formally changed since the Planning Permit DA-100-2020, as the principle use on the site is animal breeding and grazing. However, as shown in Figure 1.3e, the mapping shows that the smaller lots clustered within the area are also mapped as "Rural residential without agriculture", interspersed with native vegetation.

Some farming or similar activities may occur on these properties, but the mapping indicates that agricultural use as defined by the Interim Planning Scheme is not the sole or primary activity carried out in the vicinity of the subject property. Land to the east of the site opposite the Inglis River has the land use "Grazing modified pastures," which is a resource development use.

The Land Use 2019 mapping seems to be correct, particularly when cross-referenced with the aerial photograph (Figure1.3f) in the LIST Map and in reviewing the "Land potentially suitable for agriculture" layer from the LIST Map (Figure 1.3g). The smaller lots off Snares Road are more consistent with a rural residential size, being between 6079m^2, 2.5ha, 3.1ha, 4.2ha, 9.3ha, with a larger lot being 14.3hec. Each of these is covered in native vegetation with most having a single dwelling established. Additionally, all these dwellings are clustered within approximately 400m to 500m of each other.

As these lots are small, contain a dwelling and are partially, if not completely, covered in native vegetation, the State project "Land potentially suitable for agriculture mapping" has this area marked as "Potentially constrained" (Figure 1.3g).

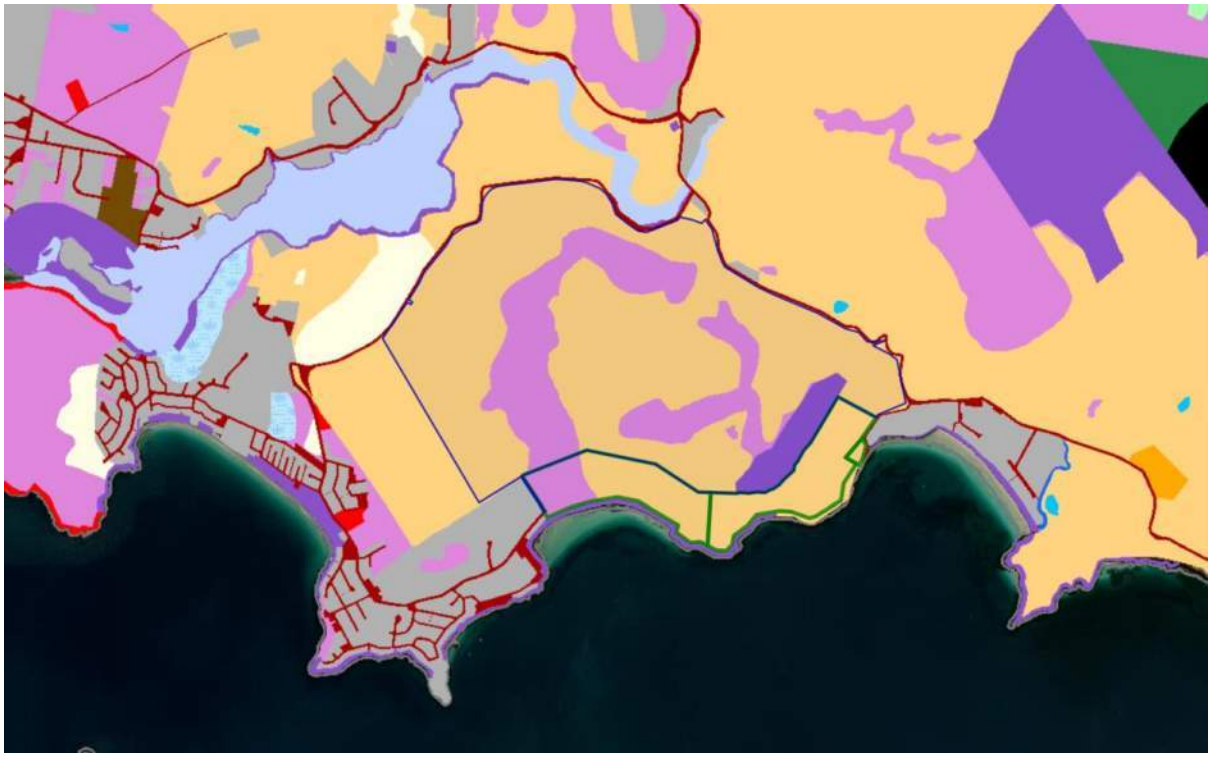


Figure 1.3d – The above image is an extract from the Tasmanian Land Use 2019 mapping within the LIST Map published 22 December 2020. The property is outlined in dark blue in the centre with the development site outlined in green fronting the coastal area. The colour grey Land Use Code is *5.4.3 Rural residential without agriculture*, pink Land Use Code *is 1.3.3 Residual native cover*, the yellow colour is Land Use Code is *3.2.0 Grazing modified pastures*. The dark purple areas are *1.1.5 Habitat/species management area* (Source the LIST Map)

The *Land Capability Survey of Tasmania* mapping classifies the *Riverside* land as predominately Class 5 and 6, which is essentially only marginal cropping ground suitable for grazing. A small area towards Carlton River in the north of the property is classified as Class 4 under the *Land Capability Survey of Tasmania* mapping, which is reflective of the surrounding area. This appears to be a typical feature of the surrounding land capability and is reflective of the agricultural use that is occurring, which is limited to livestock grazing.

2 The Proposal

The proposal seeks approval for use class Visitor Accommodation as defined in Table 8.2 of the Interim Planning Scheme, and associated development, to supplement the established resource development use that occurs on the property.

2.1 The Proposed Development

The proposal consists of thirty-two (32) individual accommodation units located in a line along the southern coastal boundary of the property. The design of the cabins is dependent on their location in the landscape, for the purpose of having minimal visual impact. All are designed for a maximum of two people.

Central to the development is the Lodge reception and dining facility, which will cater only for the guests of the visitor accommodation. This building is referred to as a "Lodge" as it provides all front-of-house services and a communal social/dining space. The Lodge and its facilities will not be available to the general public.

The Wellness Centre or "Enclave" building, to be used for massage therapy, yoga classes and similar, has been relocated to a position that is outside the gully and away from native vegetation.

The visitor accommodation is to work with the established sheep grazing that occurs on the remaining property. It is envisaged that guests will be able to experience an aspect of farming life whilst residing within a tranquil coastal rural setting.

2.2 Planning Policy

Unless specifically exempt, all works, development and use on land within Tasmania is subject to the *Land Use Planning and Approvals Act 1993* (the Act). The administration of the Act for this site is the *Sorell Interim Planning Scheme 2015*, which sets out several provisions through the category of use, zoning, codes, and specific area plans.

As the proposal involves visitor accommodation, the application is subject to the provisions of *Planning Directive No. 6 – Exemption and Standards for Visitor Accommodation in Planning Schemes* (PD6), which overrules aspects of the Interim Planning Scheme relating to visitor accommodation.

2.3 Category of Use Class

In accordance with Part B.8 – Clause 8.2.1, each proposed use or development must be placed into one of the use classes identified in Table 8.2 of the Interim Planning Scheme, which categorises the proposal as Visitor Accommodation. However, in accordance with Ministerial Directive, the definition listed under Clause 8.2.1 is suspended. The current definition is provided under *Planning Directive No. 6 – Exemption and Standards for Visitor Accommodation in Planning Schemes* (PD6).

Pursuant to PD6 – Clause 3.1 (a) the description f the Visitor Accommodation use class is:

> *"…use of land for providing short or medium term accommodation, for persons away from their normal place of residence, on a commercial basis or otherwise available to the general public at no cost. Examples include a backpacker hostel, bed and breakfast establishment, camping and caravan park, holiday cabin, holiday unit, motel, overnight camping area, residential hotel and serviced apartment."*

As the property is currently zoned Rural Resource, PD6 - Clause 3.1 (d) requires that the zone provisions and all relevant code standards within the Interim Planning Scheme are applicable to the assessment of this proposal.

It is noted that the Interim Planning Scheme adopts the following definition of "agricultural land" (Part B – Administration, Section 4 – Interpretation, Paragraph 4.1 – Planning Terms and Definitions):

> *"…all land that is in agricultural use, or has the potential for agricultural use, that has not been zoned or developed for another use or would not be unduly restricted for agricultural use by its size, shape and proximity to adjoining non-agricultural uses."*

The definition of "agricultural use" is:

> *"…means use of the land for propagating, cultivating or harvesting plants or for keeping and breeding of animals, excluding pets. It includes the handling, packing or storing of plant and animal produce for dispatch to processors. It includes controlled environment agriculture, intensive tree farming and plantation forestry."*

As the primary use of the *Riverside* property is livestock grazing, the land is technically "agricultural use".

3 Zone Requirements

In accordance Part D, Section 26 of the Interim Planning Scheme, *Riverside*, including the proposed development site, is zoned Rural Resource. The provisions of the Interim Planning Scheme relevant to the purpose, use and development of land within the Rural Resource Zone are addressed below.

3.1 Zone Purpose

The Zone Purpose Statements of the Interim Planning Scheme Part D, Section 26 – Rural Resource Zones are as follows:

26.1.1.1 - To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.

26.1.1.2 - To provide for other use or development that does not constrain or conflict with resource development uses.

26.1.1.3 - To provide for non-agricultural use or development, such as recreation, conservation, tourism and retailing, where it supports existing agriculture, aquaculture, forestry, mining and other primary industries.

26.1.1.4 -To allow for residential and other uses not necessary to support agriculture, aquaculture and other primary industries provided that such uses do not:

- *(a) fetter existing or potential rural resource use and development on other land;*
- *(b) add to the need to provide services or infrastructure or to upgrade existing infrastructure;*
- *(c) contribute to the incremental loss of productive rural resources.*

26.1.1.5 - To provide for protection of rural land so future resource development opportunities are not lost.

These Statements aim to encourage and facilitate primary industrial activity in the zone, whilst minimising the impact on environmental values.

In terms of assessing the subject Development Application as mandated under Part B – Administration, Paragraph 8.10 – Determining Applications, Visitor Accommodation activity may be approved for the proposed development site as a “discretionary use” pursuant to Clause 8.10.2, provided it demonstrates that it has had regard for, and is consistent with, the values outlined in the Zone Purpose Statements and any associated Local area Objective and Desired Future Character Statements.

There are no Local Area Objectives or any Desired Future Character Statements applicable to the Rural Resource Zone within the Interim Planning Scheme.

3.2 Zone Use Classification

In accordance with Part B, Table 8.2 of the Interim Planning Scheme, the current use class of the *Riverside* property and subject development site is Rural Resource, with the specific current use being “keeping and breeding of livestock”. The existing residential component is subservient to the current agricultural use.

It is not intended that the proposed Visitor Accommodation use of the property would override the current agricultural use of the property, nor would it be subservient. Instead, consistent with Interim Planning Scheme, Part B, Clause 8.2.5, the two uses would coexist on the same site in a complementary manner. That is, the existing agricultural use would be a key feature of and a point of difference for the accommodation experience, whilst the luxury farm stay activity would support the continued agricultural use of the property.

The use class Visitor Accommodation is categorised as a “discretionary” use class under the Rural Resource Zone Use Table 26.2. The proposed development should therefore be

assessed against the relevant use standards tabulated in Paragraph 26.3. An examination of the proposal against these standards is providing in the following paragraphs.

3.3 Zone Use Standards

As the property is zoned Rural Resource, PD6 - Clause 3.1 (d) requires that the relevant zone use and development standards of the *Sorell Interim Planning Scheme 2015* apply to the assessment of the proposal.

Clause 26.3.1 - Sensitive Use

As the proposed development does not fall under the definition of a "sensitive use" as defined at Clause 26.3.1 – A1 (i.e. "*A sensitive use is for a home based business or an extension or replacement of an existing dwelling or existing ancillary dwelling, or for home-based child care in accordance with a licence under the Child Care Act 2001.*"), this Clause does not apply.

Clause 26.3.2 - Visitor Accommodation

The objective of Clause 26.3.2 is to ensure that any visitor accommodation constructed within the Rural Resource Zone "is of a scale that accords with the rural character use of the area".

To this end, the Clause mandates that visitor accommodation must comply with all of the following Acceptable Solutions (26.3.2 – A1):

(a) is accommodated in existing buildings;
(b) provides for any parking and manoeuvring spaces required pursuant to the Parking and Access Code on-site;
(c) has a floor area of no more than 160m^2.

As the proposal will include new construction, the development will not meet sub-clauses 26.3.2(a) or 26.3.2(c). Pursuant to Clause 8.10.2, the proposal must therefore be assessed against the requirements of the Performance Criteria (26.3.2 – P1), which are that:

Visitor accommodation must satisfy all of the following:
(a) not adversely impact residential amenity and privacy of adjoining properties;
(b) provide for any parking and manoeuvring spaces required pursuant to the Parking and Access Code on-site;
(c) be of an intensity that respects the character of use of the area;
(d) not adversely impact the safety and efficiency of the local road network or disadvantage owners and users of private rights of way;
(e) be located on the property's poorer quality agricultural land or within the farm homestead buildings precinct;
(f) not fetter the rural resource use of the property or adjoining land.

Minimum separation between any of the proposed visitor accommodation units and a neighbouring residential dwelling is 87m, with a road and established native vegetation between. As a result, the privacy and amenity of adjoining properties will not be affected, ensuring compliance with sub-clause 26.3.2 -P1(a).

The proposed carparking and manoeuvring area, to be located adjacent to the Lodge, is consistent with the requirements of the Parking and Access Code, ensuring compliance with sub-clause 26.3.2 -P1(b).

The proposed development will provide a unique accommodation experience, with facilities reflecting the character of the area's sparse residential settlements and small farming communities. Consistent with the layout of the bordering townships, the development Master Plan places accommodation units along the foreshore, well-spaced to ensure peace and privacy for both guests and neighbouring residents. This means that there will be minimal intensity of development within the landscape, which—as demonstrated in the attached

photomontages—will have minimal adverse impact on the area. Therefore, the proposal is consistent with sub-clause 26.3.2 - P1(c).

Vehicle access is proposed via an existing entrance on Connellys Marsh Road, rather than from Primrose Sands Road, to ensure the least impact on residents. A detailed Traffic Impact Assessment undertaken by Hubble Traffic confirms that the development would have no adverse impact on the safety and efficiency of the local road network, thereby ensuring compliance with sub-clause 26.3.2 -P1(d).

The visitor accommodation is located at the opposite end of the property to the farmhouse, associated shearing sheds and the better-quality (Class 4) agricultural land. Historically, the site has been used for livestock grazing and is therefore considered agricultural land. As previously stated, most of the property is Class 5 or Class 6 land and is therefore only suitable for grazing. The proposed location of the accommodation units is not only on this lower-grade land, but its proximity to the shoreline means that it cannot be used for any alternate agricultural purpose due to the potential impact of sediment run-off into Susan Bay. The proposed development is therefore consistent with sub-clause 26.3.2 -P1(e) as it is located on the property's poorer quality agricultural land.

Sub-clause 26.3.2 -P1(f) requires that the visitor accommodation does "not fetter the rural resource use of the property or adjoining land". As previously noted, it is intended that the proposed visitor accommodation enterprise will work in conjunction with, and be complementary to, the property's existing agricultural use. The site has been chosen not only for its scenic beauty, but also due to the difficulty of maintaining profitable livestock grazing activities on the property. The proximity of the property to existing townships has exacerbated these difficulties due to repeated domestic dog attacks on livestock, which can be verified through Council records. Establishment of an agri-tourism venture at the site will provide an additional income stream for the property, which is needed to sustain the current livestock enterprise, and which cannot be achieved through alternate agricultural or horticultural means due to the relatively poor quality of the soils. The presence at the site of a permanent staff associated with the accommodation venture will also provide improved monitoring of the livestock, thereby guarding against future trespassing and dog attacks. In order to achieve income diversification and ensure the ongoing viability of the property, a relaxation of setback requirements is requested for all proposed accommodation units.

It should be noted that the property owner has previously commenced a subdivision in respect of the lots on which the accommodation cabins are to be located. However, extensive business planning and financial modelling shows that the proposed visitor accommodation has much greater potential to improve the economic viability of the property, with the potential to deliver significant social and economic benefits to the wider community. These benefits would include, but not be limited to, providing much-needed employment for local residents—including training opportunities for local youth; increased business opportunities for local growers, graziers, fishers and producers engaged to supply the guest dining facility; and increased income for other agri-businesses in the region from expenditure by high-value visitors with the Lodge that sources food from the farm and the region. As such, the proposal would provide a significant contribution to ensuring the viability of agricultural use of the site and the surrounding area and is therefore consistent with sub-clause (f). These and other benefits expected to arise from the project are further explored in the Integrated Impact Assessment.

Therefore, pursuant to Clause 8.10.2, having regard to the agricultural values of the site and surrounding area (see Section 1 of this report), the proposed visitor accommodation is consistent with the provisions of Clause 26.3.2 P1 and the purpose statements of the Rural Resource Zone.

Clause 26.3.3 - Discretionary Use

Visitor accommodation is listed as a "discretionary use" under Use Table 26.2 of the Interim Planning Scheme, therefore, the provisions of Table 26.3.3 – Discretionary Use is applicable. The aim of Clause 26.3.3 is to ensure that development within the Rural Resource Zone is consistent with agricultural and environmental values on the subject site and the surrounding area.

The provisions specify that:

P1 - A discretionary non-agricultural use must not conflict with or fetter agricultural use on the site or adjoining land having regard to all of the following:

(a) the characteristics of the proposed non-agricultural use;

(b) the characteristics of the existing or likely agricultural use;

(c) setback to site boundaries and separation distance between the proposed non-agricultural use and existing or likely agricultural use;

(d) any characteristics of the site and adjoining land that would buffer the proposed non-agricultural use from the adverse impacts on amenity from existing or likely agricultural use.

Having regard to likely agricultural activity within the area, as outlined within Section 1.3 of this report, the proposal will not fetter the agricultural values of the site or the surrounding area. Consideration has been given to the location of the accommodation units to maintain the agricultural land and it is intended that the proposal would effectively preserve and promote agricultural use by improving the viability of the *Riverside* property and providing additional income to local primary producers.

The relatively poor soil classification, steep site topography and inability to irrigate the land severely inhibit the property's capacity for agricultural diversification beyond livestock grazing. Therefore, the proposed visitor accommodation provides a means of maintaining the agricultural use of the property and is consistent with the provisions of Clause 26.3.3 as outlined below.

As outlined in the previous section of this report, the proposed cabins and associated facilities have been positioned to retain as much productive agricultural land as possible. The area surrounding the visitor accommodation will be fenced from general grazing, not only to provide privacy for guests and neighbouring properties, but also to provide a larger buffer of native vegetation for the coastal foreshore, as the accommodation cabins do not require the same extensive bushfire management buffer as a residential dwelling. This will assist in minimising sediment run-off from the paddocks and provide greater wildlife habitat corridors. Therefore, the character of the proposed visitor accommodation will in fact improve the environment of the property and increase the viability and sustainability of ongoing agricultural use.

Visitor accommodation is not classified as a sensitive use, but it is noted that use of the property for grazing is consistent with the Rural Resource zoning of the site. As the soil is not suitable for cropping or horticultural activities, and grazing at the site will not be hindered by the proposed development, , the proposal will not conflict with the surrounding agricultural use. The proposal is therefore compliant with sub-clauses 26.3.3-P1(a) and 26.3.3-P1(b).

As noted at Section 1.3 of this report, the setback distances from the development to established surrounding use classes are substantial. Therefore, the setback to site boundaries and the separation distance between the proposed non-agricultural use and existing or potential agricultural use of the property are unlikely to conflict, thereby ensuring compliance with sub-clause 26.3.3-P1(c).

The principal impact from agricultural activity will be associated with agricultural use occurring on the same property. The only agricultural use that can occur in this area is livestock grazing. No stockyards or laneways where livestock are concentrated and would generate a potential odour or noise issue are present within the area of the visitor accommodation. Some seasonal grouping does occur, evident with the pivot irrigation system, but this is located on the other side of Connellys Marsh. Therefore, given that the rural characteristics of the site and surrounding rural land would assist to buffer the proposed non-agricultural use from any adverse impacts on amenity from existing or likely agricultural use that surround the property, it is considered that the proposal complies with sub-clause (d).

Having regard to the agricultural values of the site and surrounding area (see Section 1 of this report) pursuant to Interim Planning Scheme Clause 8.10.2, the proposed visitor accommodation is consistent with the provisions of Clause 26.3.3 – Discretionary Use, Performance Criterion P1 and with Clause 26.1.1 - Zone Purpose Statements of the Rural Resource Zone.

3.4 Zone Development Standards for Buildings and Works

The Rural Resource Zone classification includes provisions governing the design and location of any building or works within the zone. These are detailed in the Interim Planning Scheme at Section 26.4 – Development Standards for Building Works An examination of the proposed development in relation to the Rural Resource Zone Development Standards is provided in the following paragraphs.

Clause 26.4.1 - Building Height

The Interim Planning Scheme defines Building Height as the highest point of the building above the natural ground level; that is, "*the vertical distance from natural ground level at any point to the uppermost part of a building directly above that point*".

As the proposed visitor accommodation is not a residential use under Clause 8.2 of the Interim Planning Scheme, the maximum permitted height for development under sub-clause 26.4.1 – Acceptable Solution - A1is 10m.

Elevation plans indicate that the maximum height of the proposed cabins will be between 3.6m (Type A cabins) and 5m (Type D cabins), depending on the specific location. These heights are well below the 10m allowed under the Acceptable Solution.

The Lodge's height is 11.6m above the natural ground level (Figure 3.4a) making it 1.6m higher than the 10m building height permitted under the Acceptable Solution.

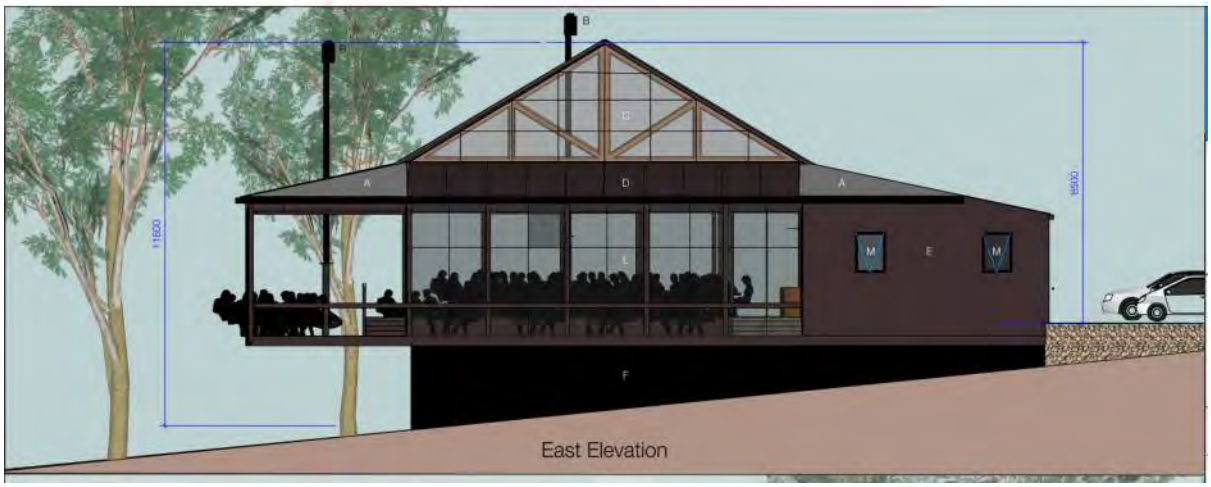


Figure 3.4a – Side elevation demonstrating that the tallest part of the lodge building height is 11.6m above natural ground level, as shown on Elevation Plans (Drawing No. ANB2 DA05)

Therefore, in accordance with Clause 8.10.2, the proposal must comply with Clause 26.4.1 - Performance Criteria P1, which states:

P1 - Building height must satisfy all of the following:

(a) be consistent with any Desired Future Character Statements provided for the area,

(b) be sufficient to prevent unreasonable adverse impacts on residential amenity on adjoining lots by overlooking and loss of privacy;

(c) if for a non-residential use, the height is necessary for that use.

As there are no Desired Future Character Statements for the Rural Resource Zone under the Interim Planning Scheme, sub-clause 26.4.1 – P1(a) is not applicable.

As the Lodge is more than 340m from the nearest residential dwelling (located to the east of the site), the distance is considered sufficient to avoid any unreasonable adverse impact generated by the proposed building in respect of overlooking and loss of privacy. The proposal is therefore consistent with sub-clause 26.4.1 – P1(b).

The design of the Lodge is based on a traditional farmhouse or shearing shed with high vaulted ceilings and a deep, covered veranda around the building. The purpose of this building is to serve as a central point for guest reception, administration and communal dining and socialising. The height of the building is proportionate to its structural and functional requirements and is therefore compliant with sub-clause 26.4.1 – P1(c).

Clause 26.4.2 - Setbacks

The Interim Planning Scheme defines setback as the distance from any lot boundary to a building on the lot (Part B, Section 4, Clause 4.1), unless otherwise specified. The following paragraphs address the proposed development in relation to the setback requirements for development and works within the Rural Resource Zone, which are stipulated at Clause 26.4.2, A1-A4.

A1 - Front

Building setback from the property frontage (i.e. the boundary that abuts a road) must be no less than 20m between the shortest points.

The setback to the boundary of the proposed development site from Connellys Marsh Road is 20m, which complies with the Acceptable Solution of this Clause.

A2 - Side and Rear

The Acceptable Solution requires a setback of 50m between buildings and the side and rear boundaries of the lot. The 50m setback will apply to the northern, western and a small part of the southern property boundaries. The minimum distance between the proposed visitor accommodation cabins and the boundary with Crown Land is 20m. Consequently, the Performance Criteria 26.4.2 – P2 apply.

According to the relevant Performance Criteria, the planning authority can approve a relaxation of the 50m setback requirement if the development meets the following sub-criteria:

P2 - Building setback from side and rear boundaries must maintain the character of the surrounding rural landscape, having regard to all of the following:

(a) the topography of the site;

(b) the size and shape of the site;

(c) the location of existing buildings on the site;

(d) the proposed colours and external materials of the building;

(e) visual impact on skylines and prominent ridgelines;
(f) impact on native vegetation.

The location has been chosen for the reasons already outlined in this report. Compliance with the 50m setback would require all the cabins to be located higher up the hillside. Such a location would situate the cabins on existing grazing pastures and would therefore impact on the agricultural use values of the site, contrary to the Purpose Statements of the Rural Resource Zone. Additionally, locating the development 50m from the boundary would place the development in a more prominent position, with consequent visual impacts on neighbours and views.

Photomontages have been prepared to demonstrate that the colours and proposed finishes of the cabins echo the tones of the rural landscape. By locating the development along the southern boundary, the development allows for the re-growth of native vegetation in the development area due to reduced livestock grazing. The revised site Master Plan and location of the cabins, Lodge and Wellness Centre means that no native vegetation will be removed because of the development (Figure 3.4b).

Figure 3.4b(i) – The eastern end of the development is pasture with minimal native vegetation. The cabins here are to be 50m from the water's edge.

Figure 3.4b(i) – The western end of the site. Note that the 20m setback is from the title boundary, which is inland from the foreshore.

It is reiterated that in order to achieve income diversification and ensure the ongoing viability of the property, a relaxation of setback requirements is requested for all proposed accommodation units. Such a relaxation maintains the maximum area of land for agricultural use which is consistent with the purpose of the zone (Clause 26.1.1). Additionally, the units are located in areas that do not require the removal of native vegetation, which is also consistent with the objectives of the zone.

Therefore, having regard to the agricultural values of the site and surrounding area (see Section 1 of this report) pursuant to Interim Planning Scheme Clause 8.10.2, the proposed visitor accommodation is consistent with the provisions of Clause 26.4.2-P2 and the Purpose Statements of the Rural Resource Zone.

A3a – Setback from Private Timber Reserve

The Acceptable Solution 26.4.2 – A3(a) requires sensitive use developments, including residential dwellings, to have a setback of 100m from any Private Timber Reserve (PTR). There is no PTR within 100m of the proposed development site; additionally, visitor accommodation is not considered to be a sensitive use under the Interim Planning Scheme (see Part B, Section 4, Clause 4.1).

A3b – Setback from Significant Agriculture Zone

There is no land within the surrounding area zoned Significant Agriculture; therefore, this provision does not apply to this site.

A4 – Setback from Environmental Management Zone

Acceptable Solution 26.4.2 – A4 refers to both buildings and works, stating:

> *A4 – Buildings and works must be setback from land zoned Environmental Management no less than: 100m*

The works site is within 100m of the Environmental Management Zone that applies to the Crown Land. As the setback from this boundary is 20m at its closest point, the provisions of Performance Criterion 26.4.2 – P4 below are applicable:

> *P4 – Buildings and works must be setback from land zoned Environmental Management to minimise unreasonable impact from development on environmental values, having regard to all of the following:*
> *(a) the size of the site:*
> *(b) the potential for the spread of weeds or soil pathogens;*
> *(c) the potential for contamination or sedimentation from water runoff;*
> *(d) any alternative for development.*

As previously stated, it is intended to site cabins and other buildings so as to minimise any impact on native vegetation It is intended that retention of native vegetation will not only enhance the visual appeal of the property, but will also assist in screening the development from view, enhancing privacy and amenity for both guests and neighbours. As the proposed cabin sites have traditionally been grazed by livestock much of the remnant native vegetation has been stunted. The development will give native vegetation within the development envelope the opportunity to flourish in the absence of livestock.

The selection of building locations was the result of a professional master-planning exercise, which took account of a combination of factors. The reduced setback from the Environmental Management Zone provides optimal siting for each cabin and also retains as much of the property's grazing land as possible. As outlined in relation to Acceptable Solution 26.4.2 – A2, relocating the cabins away from the coast and higher on the contour line would entail the loss of more grazing land and would result in a greater visual impact on the surrounding landscape. Consideration has also been given to the provisions of the Rural Resource Zone Purpose Statements (Clause 26.1.1) and the provisions of this clause in respect of the layout and design of the development. The development of small, well-spaced, stand-alone cabins means that the project's built elements will be discreetly positioned throughout the area and will not create a large or imposing footprint. The size has been determined to minimise adverse impact on both environmental and agricultural values consistent with sub-clauses 26.4.2 – A4(a) and 26.4.2 – A4(d).

In respect of sub-clauses 26.4.2 – A4(b) and 26.4.2 – A4(c), it is noted that the Provision 26.4.2 – P4 states "*Buildings and works must be setback from land zoned Environmental Management to minimise unreasonable impact"*. It does not state "no impact" as it is understood that even with appropriate measures in place during the construction phase, some impact may occur.

To minimise such impact, erosion and sediment control measures will be installed during the construction phase, consistent with LGAT and IPWEA Standard Drawings: Guidelines for Sediment Control TSD-SW28-v2. Specifically, a sediment fence will be installed across the contours of the site and managed for a maintenance period prior to and following major rain events. The fence will be made of appropriately installed and supported clean straw bales or sacking.

Designs and plans for the sediment fence and any other impact mitigation measures can be submitted for approval prior to commencement of construction, should these be required as a condition of any permit issues in accordance with Clause 8.11.3 of the Interim Planning Scheme.

The proposal is therefore consistent with the objective of Clause 26.4.2-P4.

Clause 26.4.3 - Design

The Rural Resource Zone contains several requirements intended to control the design impact of buildings and works within the zone. These relate to the location of buildings in relation to native vegetation, the extent of native vegetation removal, the size of structure and their visual impact on the rural landscape, and the extent of earthworks required for the development.

The proposal as it stands triggers the following provisions of Interim Planning Scheme Clause 26.4.3:

A1 – Location of Buildings and Works

The Acceptable Solution 26.4.3 -A1 states that the location of building and works within the Rural Resource Zone must comply with any of the following:

(a) be located within a building area, if provided on the title;
(b) be an addition or alteration to an existing building; or
(c) be located in an area that does not require the clearing of native vegetation and not on a skyline or ridgeline.

Sub-clauses 26.4.3 -A1(a) and 26.4.3 -A1(b) are not applicable.

As previously stated, the current use of the site is livestock grazing, which has minimised the native vegetation within the proposed development area. There are some regrowth native trees, but no real understorey.

The proposal intends to minimise, and for the most part remove, livestock grazing from around the accommodation cabins, which will allow the native vegetation understorey to re-establish. This will assist in screening the cabins and also contribute to the natural ambience and setting of the accommodation.

The development Master Plan has been amended to remove any cabins located within an area of native vegetation

As “Visitor Accommodation” is not a use class applicable to assessment under the Bushfire-Prone Areas Code (E.1), no vegetation clearance will be required in relation to the proposed structures.

No trees are proposed to be removed for the construction of the cabins. All works around established mature trees will be undertaken in accordance with *AS:4970-2009 – Protection of trees on development sites*.

Therefore, the proposed development complies with Clause 26.4.3 - A1(c) and also with Performance Criterion 26.4.3 - P1 in that it entails minimal vegetation management and will have minimal adverse environmental impact.

A2 – Colour

Acceptable Solution 26.4.3 - A2 requires that all exterior building surfaces have a light reflectance value no greater than 40%.

An extensive impact analysis has been undertaken, as shown with the photomontages and the Integrated Impact Assessment. The analysis demonstrates how the various colours and materials to be used in the development are consistent with the rural landscape, and in particular, with specific environments within the development site. This analysis has considered how the design, colouring and finishes of the proposed buildings will be consistent with the style of existing buildings both on-site and in the broader coastal context, and with the colours and textures of the surrounding natural environment. Therefore, the external

finishes blend into the rural landscape and are consistent with the provisions of the Performance Criterion.

A3 - Fill and Excavation

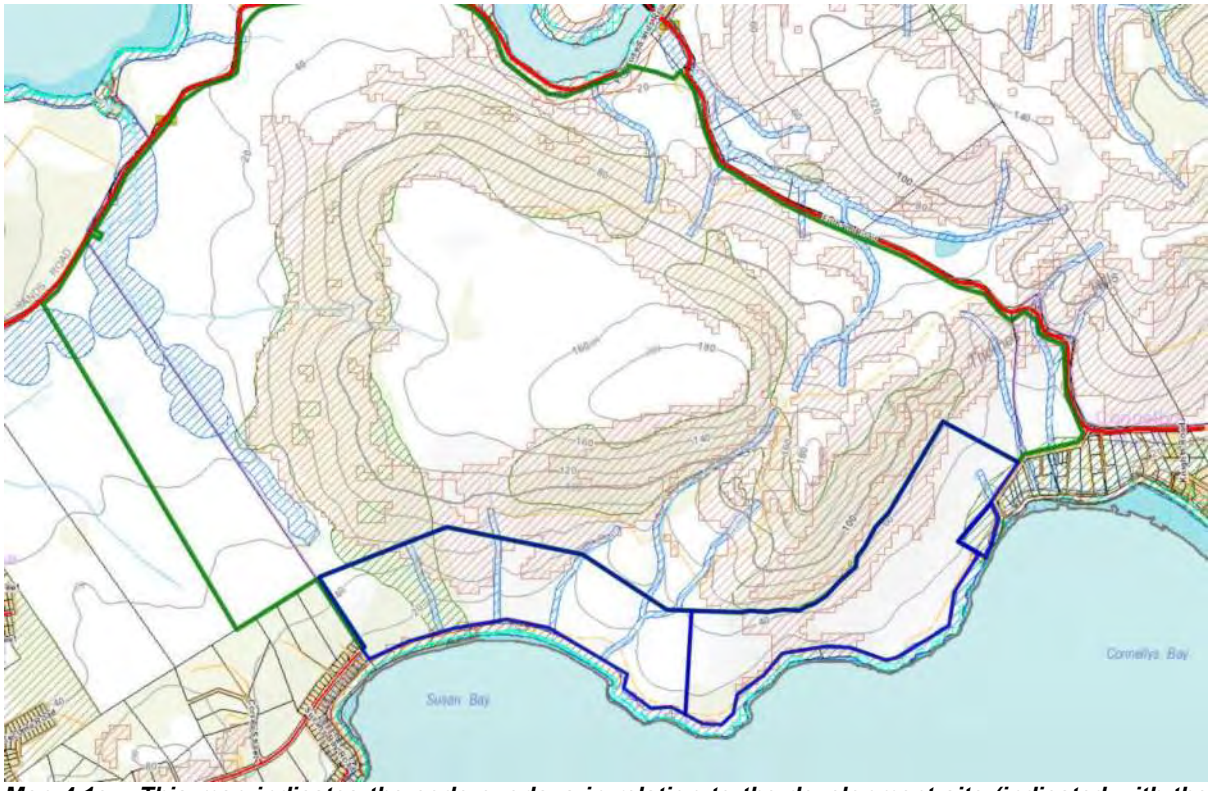
The proposed development will not entail fill or excavation other than minor works. This provision is therefore not applicable.

3.5 Zone Standards for Subdivision

These are not applicable to this proposal.

4 Code Requirements

Matters that transcend specific zones are addressed in the Interim Planning Scheme by means of a Code, in the form of either a development code (e.g. car parking), or a mapped overlay (e.g. significant native vegetation). Whilst there are several codes that apply to the *Riverside* property, the extent to which they apply to a specific development application will vary according to the final design and the intensity or type of use.



Map 4.1a – This map indicates the code overlays in relation to the development site (indicated with the blue flag). The green outline indicates the entire property. The brown hatch is the Landslide Hazard Area, which is mainly low hazard, but with areas of medium hazard. The blue hatched area indicates the 10m buffer required on both sides of a watercourse under the Waterway & Coastal Protection Code and the green hatch area is the Biodiversity Area. The map does not show the Bushfire Prone Area overlay, which covers the entire site. **(Source LIST Map)**

4.1 Code E.1 - Bushfire-Prone Areas Code

The property is subject to the Bushfire Prone Area mapping overlay. However, under Clauses E1.2.1 and E1.3 of the Code, assessment of the visitor accommodation buildings in terms of bushfire capability is not applicable. In this situation, the matter is a technical issue to be determined by the Building Surveyor at the time of Building Permit application, in accordance with the *Building Act 2016*, and therefore not relevant to the determination of the Planning Permit.

4.2 Code E.2 - Potentially Contaminated Land Code

Pursuant to Clause E2.2, this Code is not applicable to the proposed development.

4.3 Code E.3 - Landslide Code

As shown in Figure 4.1a above, both medium and low risk landslide hazard areas are mapped on the property. These relate principally to the steepness of the hill located in the centre of the property. A strip of Low-level Landslide Hazard Overlay occurs within the development site (Figure 4.3a).

Figure 4.3a - Low-Level Landslide Hazard Overlay applicable to the site. The proposed Wellness Centre was initially situated within this space, but has been relocated. (Source LIST Map)

Clause E3.2.1 of the Interim Planning Scheme Landslide Code applies to:

(a) *Development for buildings and works or subdivision on land within a Landslide Hazard Area;*
(b) *Use of land for vulnerable use or hazardous use within a Landslide Hazard Area.*

Under the definition of terms provided at Clause E3.3.1, visitor accommodation is listed as a vulnerable use. However, the application is not assessed against the ordinance of Clause E3.6.2 – Use Standards – Vulnerable Use, as it is exempt under Clause E3.4 -Use or Development Exempt from this Code, which states that:

The following use or development is exempt from this Code:
(c) buildings within a Low Landslide Hazard Area;

The buildings located within this area, do not require excavation or fill for their construction to an extent considered to constitute major works under the Code provisions. The Wellness Centre is no longer proposed to be constructed within this overlay.

It is noted that the exemption specifies “buildings” as opposed to the development or construction of buildings; therefore, both use and development of buildings within a Low Landslide Hazard Area are exempt from requiring determination under the provisions of the Landslide Code.

The rationale for this is that the proposal involves only the construction of a building and will be certified under the requirements of the Building Code of Australia as part of the structural assessment for the Building Permit issued under the provisions of the *Building Act 2016*. Visitor accommodation, whilst listed as vulnerable within the Code, is in this instance positioned on a site deemed only by a desktop analysis to have a Low Landslide Hazard Area risk rating.

Therefore, as the buildings associated with this application are within the Low Landslide Hazard Area, the application is exempt from the Landslide Code Clause E3.4(c).

4.4 Code E4
This Code is not in use in the Interim Planning Scheme.

4.5 Code E.5 - Road and Railway Assets Code
Although this code is a mandatory development code that does not list any applicable exemptions, the development does not involve any new vehicle crossing or a sensitive use within the proximity of a Category 1 or 2 Trunk Road. The proposal does involve an intensification of the access onto Connellys Marsh Road; therefore, the code is applicable, pursuant to Clause E5.2.1.

A traffic impact assessment has been undertaken by Peter Hubble of Hubble Traffic.

4.6 Code E.6 - Parking and Access Code
The Parking and Access Code is a mandatory development code that applies to all development and use applications lodged for planning approval. There are several provisions within the Code, but most are only applicable to commercial or larger-scale developments and not directly applicable to visitor accommodation on a rural site.

The clauses applicable to visitor accommodation are examined in the following paragraphs.

Clause E.6.6.1 Number of Car Parking Spaces
A revision of car parking arrangements has been undertaken in alignment with the reduction in number of proposed cabins. In accordance with the Acceptable Solution E.6.6.1 – A1 and Table E6.1, the property requires the following:

- *one (1) parking space per bedroom for hire or per unit for hire*.

A total of forty-nine (49) carparking spaces, including two access parking bays, are included in the proposal, which will provide sufficient parking spaces to comply with the Acceptable Solution. There is sufficient space for expansion of the car park if required in future.

It is noted the site will contain only one central parking location adjacent to the Lodge, with guests to walk or be driven to their cabins using small ‘golf carts’ by staff. This will not only reduce vehicle noise to surrounding areas, but will also create a safe and quiet pedestrian-friendly environment.

Clause E6.7.2 - Design of Vehicular Access
The current access is consistent with the Local Government Association Tasmania (LGAT) Standard Drawing for a Rural Roads Property Access (Drawing TSD-RO3-v2) and is used already by a number of other parties associated with the agricultural use of the property.

Clause E6.7.3 - Vehicular Passing Areas Along an Access
The access route is 5m wide, which allows passing of vehicles and complies with the Acceptable Solution E6.7.3-A1.

Clause E6.7.6 - Surface Treatment of Parking Areas
No parking spaces or vehicle circulation roadways are located within 75m of a boundary of an existing residential use at a proximity that would detract from the amenity of neighbouring users or adjoining occupiers. Therefore, this provision is not applicable.

Clause E6.7.14 - Access to a Road
For the reasons outlined above, the access will need to be consistent with Rural Road Property Access Standards *TSD-R03-v2*

Code E.7 - Stormwater Management Code
The Stormwater Management Code is a mandatory development code that applies to all new impervious surfaces, including gravel driveways. It is a requirement of Clause E7.7.1 - A1 that stormwater be disposed of by gravity to public stormwater infrastructure. As this requirement cannot be met at this location, the application must comply with Performance Criterion E7.7.1 – P1, which states:

Stormwater from new impervious surfaces must be managed by any of the following:

a) *disposed of on-site with soakage devices having regard to the suitability of the site, the system design and water sensitive urban design principles*
b) *collected for re-use on the site;*
c) *disposed of to public stormwater infrastructure via a pump system which is designed, maintained and managed to minimise the risk of failure to the satisfaction of the Council.*

For the subject development, it is proposed that each building's stormwater will feed into water tanks for use on site, with the overflow discharging into the grazing pasture surrounding the sites.

Internal access routes will retain their gravel surface to allow for sheet runoff into the surrounding paddocks, which will prevent pooling and channelling of run-off.

Therefore, the development is consistent with the applicable Performance Criteria of the Stormwater Management Code.

4.7 Code E.8 - Electricity Transmission Infrastructure Protection Code
Pursuant to Clause E8.2, this Code is not applicable to the proposed development.

4.8 Code E.9 - Attenuation Code
Pursuant to Clause E9.2, this Code is not applicable to the proposed development.

4.9 Code E.10 - Biodiversity Code
Located at either end of the development site is a small strip of land subject to the Biodiversity Overlay. Clause E10.2.1 therefore applies to this development.

All land within Lot CT: 210947/1 is mapped to the Biodiversity Overlay, however the TasVeg Layers (LIST Map) cite this area as vegetation type Agricultural Land (FAG). A site inspection has confirmed the agricultural character of the lot, which is grazing land devoid of native vegetation. Older aerial images of the site show some tree cover; however, this was destroyed during the 2013 bushfires. The understorey has always been grazing pasture. These on-site observations are consistent with the vegetation map shown at Figure 1.1b of this report and with the images at Figure 1.1b(i).

Figure 4.10a – The hatched green area is the Biodiversity Overlay. Except for the area within the Lot CT: 210947/1 (blue outline) no works or development is to occur within this overlay. (Source LIST Map)

In accordance with Clause E10.4.1(n) the proposal is exempt from the provisions of the Biodiversity Code as it entails only the "*clearance and conversion or disturbance of previously cleared agricultural land"*. Whilst there are several mature trees in this vicinity, it is proposed that these trees are to remain in place and that only the areas historically grazed will be subject to the construction of cabins. After construction, the land will not be grazed on a regular basis.

In avoiding native vegetation as much as possible, the proposal also facilitates the capacity for revegetation of the area, strengthening the environmental values consistent with the objectives of the Code.

As cited earlier, concern has been raised by the claimed presence of a listed Wedge-tailed Eagle nest; however, a site inspection revealed that this nest is not that of a Wedge-tailed Eagle, nor is there any evidence that it is currently in use.

Therefore, whilst the property is subject to the Biodiversity Overlay, the development does not require a Natural Values Impact Assessment and the provisions of the Biodiversity Code are not applicable to the assessment of this application.

4.10 E.11 - Waterway and Coastal Protection Code

The property has several unnamed watercourses, for which a 10m buffer zone overlay is in place. No development will occur within the watercourse buffer areas, and no new stormwater discharge is proposed to directly enter a watercourse. The provisions of the Waterway and Coastal Protection Code are therefore not applicable to the assessment of this proposal.

4.11 E12

Code E12 is not in use in the Interim Planning Scheme.

4.12 E.13 - Historic Heritage Code

There are no formally recognised historic heritage values associated with this site, nor with the shed proposed for demolition. This Code is therefore not applicable to the proposal.

4.13 Scenic Landscape Code E14

Pursuant to Clause E14.2, this Code is not applicable to the proposed development

4.14 Inundation Prone Areas Code E.15
Pursuant to Clause E15.2, this Code is not applicable to the proposed development.

4.15 Coastal Erosion Hazard Code E.16
Pursuant to Clause E16.2, this Code is not applicable to the proposed development.

4.16 E.17 - Signs Code
No signage is proposed at this stage. Any signage will be subject to a separate development application unless subject to the exemption provisions of the Interim Planning Scheme in force at the time.

4.17 E.18 - Wind and Solar Energy Code
Pursuant to Clause E18.2, this Code is not applicable to the proposed development.

4.18 E.19 - Telecommunications Code
Pursuant to Clause E19.2, this Code is not applicable to the proposed development.

4.19 E.20 - Acid Sulphate Soils Code
Pursuant to Clause E20.2, this Code is not applicable to the proposed development.

4.20 E21 - Dispersive Soils Code
Pursuant to Clause E21.2, this Code is not applicable to the proposed development

4.21 Code E22
Code E22 is not in use in the Interim Planning Scheme.

4.22 On-site Wastewater Management Code E.23
A comprehensive wastewater assessment has been undertaken by a suitably qualified engineer and a Wastewater Management Plan has been developed. The proposed onsite wastewater management solution will entail establishment of a Wisconsin sand mound system for each accommodation cabin and the Lodge.

5 Specific Area Plans
There are no Specific Area Plans listed within the Sorell Interim Planning Scheme 2015 that are applicable to this location.

6 Conclusion

This application meets all requirements of the planning provisions and only relies on the following Performance Criteria:

- Clause 26.3.2 – Visitor Accommodation;
- Clause 26.3.3 – Discretionary Use;
- Clause 26.4.2 – Setback; and
- Clause E7.7.1 – Stormwater Drainage and Disposal.

Where the development has relied on the Performance Criteria, pursuant to Clause 8.10.2 of the Interim Planning Scheme, consideration has been given to the purpose of the Rural Resource Zone and the applicable Codes in relation to the objective and specific provisions of the Clause. It is reiterated that in order to achieve income diversification and ensure the ongoing viability of the property, a relaxation of setback requirements is requested for all proposed accommodation units.

As demonstrated by this Planning Submission, the proposed development for visitor accommodation overlooking Norfolk Bay will have minimal to no adverse impacts on neighbouring properties, respects and preserves the environmental values of the site, ensures the ongoing viability of agricultural activities on the property and surrounding area, and is consistent with the provisions of the *Sorell Interim Planning Scheme 2015*.

We therefore request that, after due consideration, this application be approved without delay.

TRAFFIC IMPACT ASSESSMENT

ALLURE VISITOR ACCOMMODATION AT NORFOLK BAY, CONNELLYS MARSH

Hubble Traffic

December 2022
Updated

Sorell Council
Development Application: Response to request for information - 297 Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

Disclaimer: This report has been prepared based on and in reliance upon the information provided to Hubble Traffic Consulting by the client and gathered by Hubble Traffic Consulting during the preparation of the report. Whilst all reasonable skill, care and diligence has been used in preparation of the report, Hubble Traffic Consulting take no responsibility for errors or omissions arising from misstatements by third parties.

This report has been prepared specifically for the exclusive use of the client named in the report and to the extent necessary, Hubble Traffic Consulting disclaim responsibility for any loss or damage occasioned by use of or reliance upon this report, or the date produced herein, by any third party.

Version	Date	Reason for Issue
Final	June 2020	Issued to client
Updated	December 2020	Number of cabins reduced from 50 to 32

Contents

1. Introduction

Jacinta Young (Developer and Owner) has engaged Hubble Traffic Consulting to prepare an independent Traffic Impact Assessment, to consider the traffic impacts for the construction of visitor accommodation cabins at Norfolk Bay.

The visitor accommodation facilities will overlook Norfolk Bay, with the development site located near Connellys Marsh, with the only site access from Connellys Marsh Road, which connects to Fulham Road.

This report has considered the amount of traffic this development is likely to generate and how the additional traffic movements will integrate into the surrounding road network.

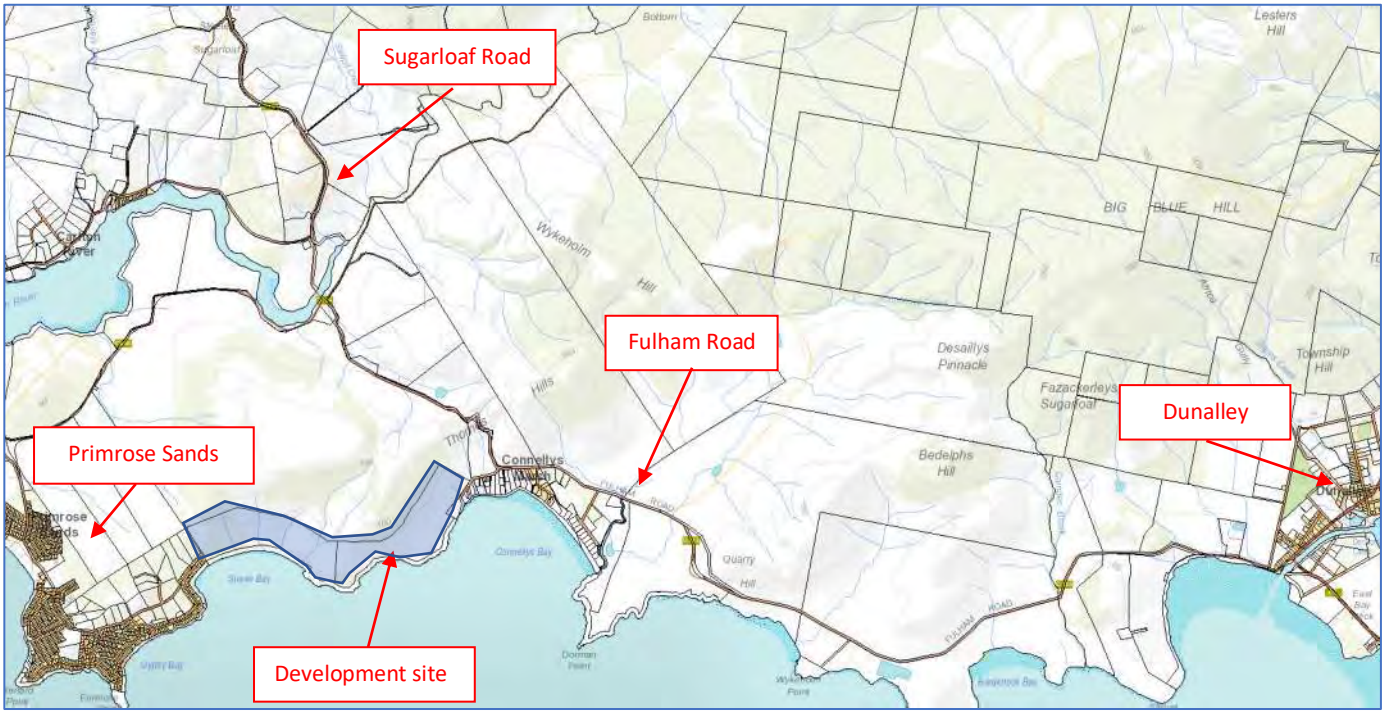
This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019. This assessment has referred to the following information and resources:

- Sorell Interim Planning Scheme (planning scheme)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards 2890
- AASHTO Guidelines for Geometric Design of Low-Volume Roads, second edition 2019
- Austroads series of Traffic Management and Road Design
    - Part 4: Intersection and crossings, General
    - Part 4a: Unsignalised and Signalised Intersections
    - Part 12: Traffic Impacts of Development
- Department of State Growth crash database
- Google Earth imagery

2. Site Description

The development site will occupy vacant land, with the property listed as 297 Primrose Sands in the LIST land information database. The developer has indicated that the development will gain vehicular access from Connellys Marsh Road, with the most direct route to the nearest State Road (Arthur Highway) via Fulham Road and Sugarloaf Road.

Diagram 2.0 – Site map of development site, surrounding roads and towns



3. Development proposal

The development is for visitor accommodation and includes a total of 32 standalone accommodation cabins that are supported with private facilities including a reception, lounge, and dining space, (the Lodge) massage centre. Each of the cabins will provide self-contained accommodation for two people.

The developer has indicated the development is likely to be built in stages, such as:

Table 3.0 – Development stages

Stage	Facilities	Number of accommodation cabins
One	The Lodge and 14 cabins	14
Two	Massage centre and 8 cabins	8
Three	10 cabins	10
Total accommodation cabins		**32**

The supporting facilities, which includes the Lodge comprising of reception, lounge and dining, and massage centre, will not be open to the public and only available to guests of the accommodation cabins, reducing the volume of traffic generated.

Diagram 3.0 – Map of the accommodation cabins and facilities

4. Trip generation by this development

A trip in this report is defined as a one-way vehicular movement from one point to another, excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

To determine the number of trips likely to be generated by this development, reference has been taken from the RTA Guide to Traffic Generating Developments (RTA Guide) section 3.4 Casual Accommodation, with Motel accommodation being the closest to this development type.

4.1 Expected trips generated by the accommodation cabins (guest trips)

The RTA guide indicates the daily vehicle trips for motel accommodation is three trips per day per room or unit.

The developer has indicated that a two or three night minimum accommodation booking will be required, and with the remoteness of the site, combined with all the on-site facilities, the expected number of vehicles generated by each cabin per day is expected to be less than three trips per day.

The cabins will be marketed as boutique accommodation for two people.

Based on the RTA Guide, a total of 32 accommodation cabins could generate 96 daily trips when operating at 100 percent capacity. As discussed earlier, this accommodation facility is unique, with guests not expected to generate intermediate trips and likely to stay on-site. Based on a minimum stay of two nights, the number of daily trips is reduced by 33 percent.

The RTA Guide indicates that the traffic generation from accommodation facilities can be designed based around the 85th percentile demand, which takes into consideration that accommodation facilities rarely operate at capacity.

Taking into consideration that a minimum stay of two to three nights is required; minimal intermediate trips due to on-site facilities; and occupancy demand operating at 85 percent, the average guest trips is estimated at 55 per day, or 1.7 trips per cabin.

4.2 Expected trips generated by staff

Staff employed at the Lodge and massage centre will generate daily trips, with operating hours for the Lodge expected to be from 7:00am to 10:00pm, with multiple shifts expected for staff to cover the span of hours. The massage centre is expected to operate between 10:00am to 4:00pm and could be staffed within a single shift.

Cabin cleaning staff are expected to operate between 10am and 2pm, which will generate daily vehicles arriving and leaving outside of their shift times.

The development will provide round-the clock guest services, with many of the staff working part-time and staggered hours to meet the demand. When fully operational, up to 22 staff may be

required to cover the 24-hour period. These staff are expected to travel to and from the site in private vehicles, generating 44 staff vehicle movements, that is spread throughout the day and not generating a rush-hour.

4.3 Expected trips generated by delivery vehicles

The Lodge will include gourmet produce from local suppliers, with an estimated average of two deliveries per day, generating up to four daily movements. A single unit delivery van of 6.4-metres-long, is the standard vehicle type likely to be used given the size of the development.

4.4 Total number of trips likely to be generated

The number of vehicle trips generated by the development will increase at the finalisation of each stage, with the development predicted to generate 103 daily trips on completion of all stages.

Table 4.4 – Estimation of trips generated by the development

Stage	Development type	Guest trips	Maximum staff number	Staff trips	Delivery trips	Stage total	Cumulative total
One	The Lodge, and 14 cabins	24	12	24	4	52	52
Two	Massage, and 8 cabins	14	5	10	0	24	76
Three	10 cabins	17	5	10	0	27	103
Total	**32 cabins**	**55**	**22**	**44**	**4**	**103**	**103**

For assessment purposes, it is important to acknowledge that staff will become accustomed to the road characteristics, as they will use the public road system on a regular basis and can be considered as familiar road users. While guests arriving by private motor vehicle will be considered as unfamiliar road users.

5. Existing traffic Conditions

Traffic accessing this development site can approach from two directions, from the western route using Arthur Highway (highway), Sugarloaf Road, Fulham Road, and Connellys Marsh Road, or from the eastern route using Arthur Highway to Dunalley, Fulham Road, and Connellys Marsh Road.

It is likely that most of the vehicle trips will use the western route, with this section evaluating this routes road standard.

5.1 Sugarloaf Road

Sugarloaf Road operates as a rural collector route within the surrounding road network, distributing traffic between regional areas including Primrose Sands, Connellys Marsh and Carlton River and the highway (State Road). The road has one traffic lane in each direction, with a sealed bitumen surface averaging six metres in width, narrow gravel shoulders, a winding alignment, and located in rolling terrain. Road delineation is provided with a marked centreline supplemented with retroreflective road studs, guide posts, and a variety of alignment warning signs, including curve warning signs and chevron alignment markers on tight horizontal curves. An 80 km/h speed limit applies with posted speed limit signs.

Sugarloaf Road is approximately 8.5 kilometres in length, extending in a southerly direction from the highway and finishing at the junction of Fulham and Primrose Sands Road.

Photograph 5.1 – Typical cross section of Sugarloaf Road

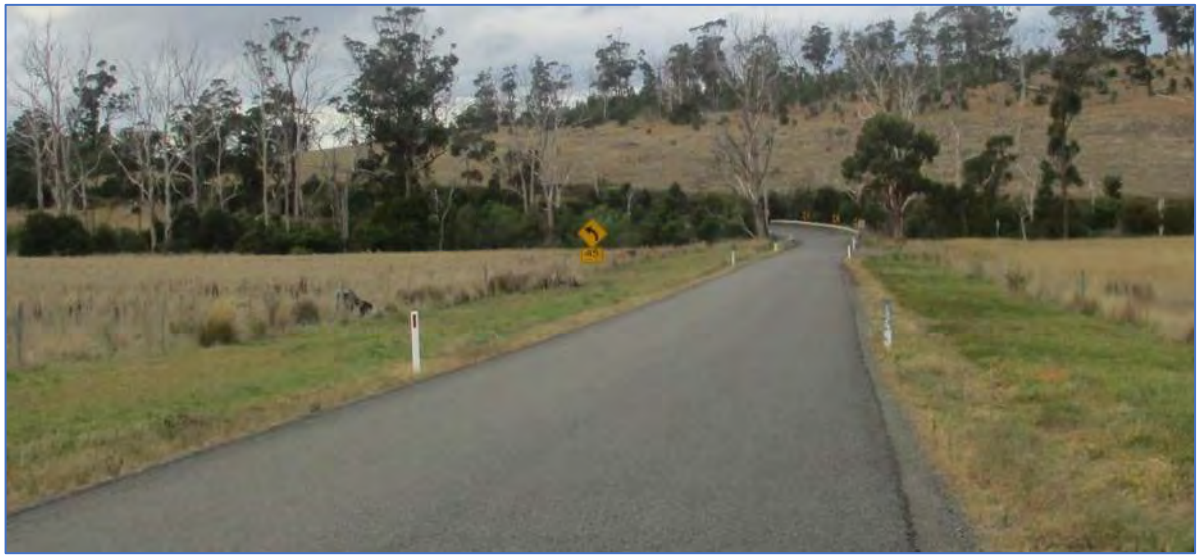
5.2 Fulham Road

Fulham Road extends in a west to east orientation between Sugarloaf Road and the highway at Dunalley, the road is bitumen sealed and six-metres-wide, delineated with guide posts and alignment warning signs.

The section between Sugarloaf Road and Connellys Marsh Road is 2.2 kilometres in length, the alignment is generally windy and located in rolling terrain, which creates vertical curves and crests.

Between Connellys Marsh Road and Dunalley, the road is generally straight and located on reasonably flat terrain, with the alignment conducive to higher travel speeds.

Photograph 5.2 – Fulham Road (between Connellys Marsh Road and Dunalley)



5.3 Connellys Marsh Road

Connellys Marsh Road is a rural access road, with a rural residential road standard, the road extends in a southerly direction for 440 metres off Fulham Road and terminates at the development property. According to the LIST land information database the road services approximately 19 rural residential properties, with most of the properties already developed.

Apart from the first 48 metres from Fulham Road which is sealed, the road surface is gravel (unpaved), with the width varying between 3.6 and 4.4 metres wide. While there is no posted speed limit, the level of roadside density would qualify for the urban default speed limit to apply by state regulation.

Forward sight distance between opposing vehicles is reasonable for most of the route (photograph 5.3A), except for one curve where roadside vegetation on the inside of the curve limits sight distance, on the apex of this curve the road width reduces to 3.6 metres due to a significant culvert underneath the road (photograph 5.3B).

Photograph 5.3A – Demonstrating sight distance to be adequate for opposing vehicles

Photograph 5.3B – Demonstrating the vegetation on the inside of curve limiting visibility

There are three significant culverts that run underneath the road surface, the first culvert consists of a concrete pipe located 185 metres south of Fulham Road, where the culvert narrows the road width to 4.4 metres wide.

Photograph 5.3C – Pipe culvert 185 metres south of Fulham Road

The second culvert is located 260 metres south of Fulham Road and is a concrete box culvert, with a drop that exceeds two metres, and situated on the apex of a horizontal curve, reducing the road width to 3.6 metres wide.

Photograph 5.3D – Box culvert 260 metres south of Fulham Road

The third culvert is located near the end of the public road, approximately 420 metres south of Fulham Road, and is a pipe culvert that reduces the road width to 3.8 metres. The severity of the culvert is hidden by roadside vegetation.

Photograph 5.3E – Pipe culvert located 420 metres south of Fulham Road

The road reservation (between fence lines) measured around 16 to 18 metres, indicating there is sufficient road reservation for the road to be made two-way. Along the western side there are large established trees adjacent to the road and should road widening be required; the eastern side would be preferable to limit the impact to established trees.

Power poles are located on the eastern side of the roadway, that are sufficiently separated from the road edge to allow for road widening without the poles being impacted.

Photograph 5.4F – Large trees on the western side adjacent to the road

5.4 Traffic movements at Fulham Road and Connellys Marsh Road junction

To understand the traffic movements generated by Connellys Marsh Road, a manual traffic survey was undertaken at the junction with Fulham Road, on Tuesday 10 May 2022, between 8:30am to 9:30am and 3:30pm to 5:00pm.

The surveys found that Connellys Marsh Road generated five vehicle trips in the one-hour morning period, and nine trips in the ninety-minute evening period.

Table 5.4A – Manual survey data for the morning period

	Fulham Road		Connellys Marsh Road			
Time	**Westbound**	**Eastbound**	**Left out**	**Right Out**	**Left In**	**Right In**
8:30-8:45am	10	9	0	0	0	0
8:45-9:00am	9	4	0	0	0	0
9:00-9:15am	7	3	1	1	0	0
9:15-9:30am	5	5	2	0	1	0
Total	**31**	**21**	**3**	**1**	**1**	**0**

Table 5.4B – Manual survey data for the evening period

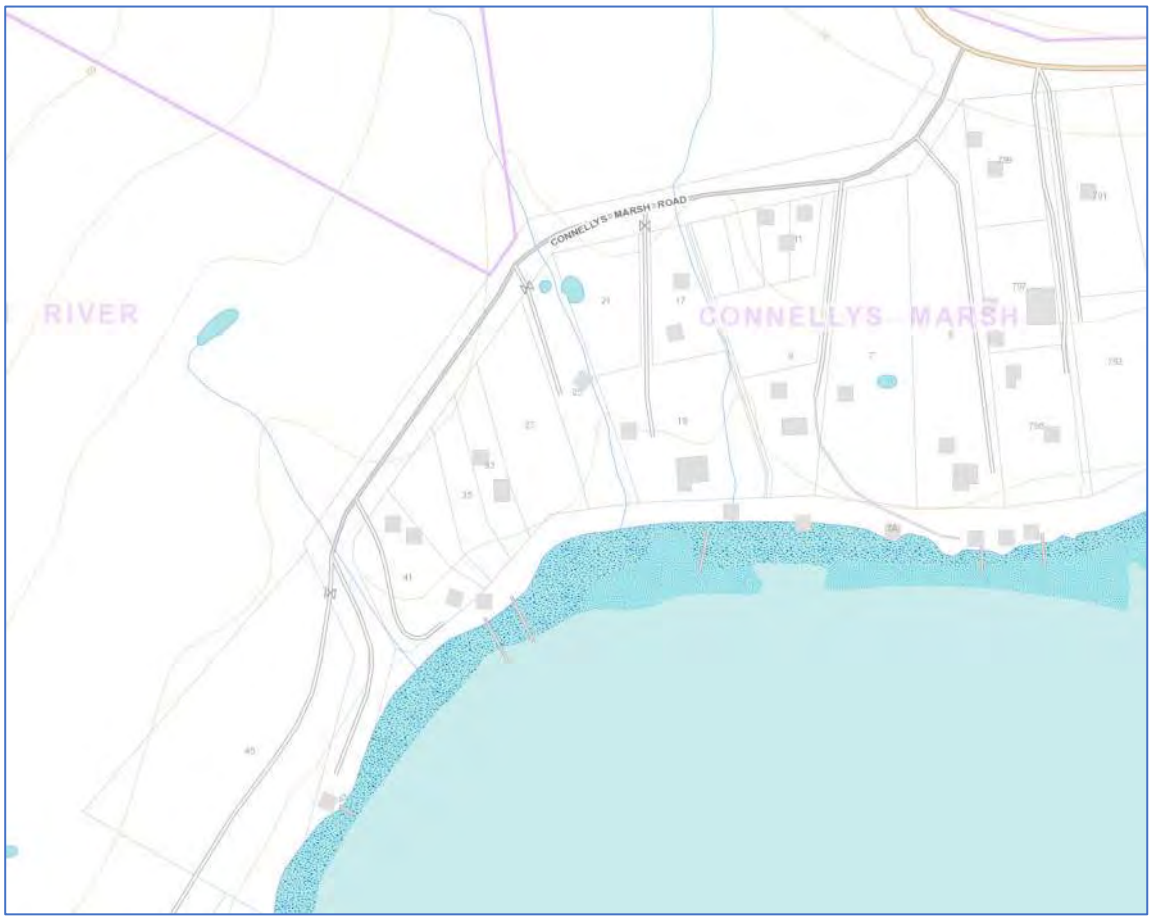
	Fulham Road		Connellys Marsh Road			
Time	**Westbound**	**Eastbound**	**Left out**	**Right Out**	**Left In**	**Right In**
3:30-3:45pm	21	7	0	0	0	0
3:45-4:00pm	14	8	1	1	1	0
4:00-4:15pm	19	4	0	0	0	0
4:15-4:30pm	10	6	1	0	1	0
4:30-4:45pm	10	7	1	0	1	0
4:45-5:00pm	9	10	0	0	0	2
Total	**80**	**42**	**3**	**1**	**3**	**2**

It is acceptable traffic engineering practise to use peak hour survey data to estimate daily vehicle trips, based on the peak hour representing ten percent of the daily trips. With the average evening peak hour generating six trips, the daily vehicles are estimated at 60 trips per day.

This data was collected outside of the peak tourist periods and summer peaks, and another method to estimate the peak season daily trips, is to calculate the number of trips based on the number of properties. Due to the location, rural residential properties generally generate an average of five trips per day, where 19 properties could generate up to 100 daily trips; based on the 85th percentile occupancy rate, the existing properties are predicted to generate 85 trips per day, with this number of trips used in this assessment.

Along Fulham Road, during the morning peak hour 52 vehicle trips were recorded, and in the evening peak hour there were 82 vehicle trips. Based on peak hour representing ten percent of the daily trips, it can be estimated that Fulham Road operates between 520 and 750 vehicle trips per day. Once again, this data was collected outside of the peak season, so the daily number of trips is expected to be much higher, estimated at 1,200 vehicle trips per day.

Diagram 5.4 – Extract from LIST databased showing the 19 properties



5.5 Connellys Marsh Road and Fulham Road junction

Connellys Marsh Road intersects Fulham Road at ninety degrees on the outside of a sweeping horizontal curve, with available sight distance for motorists leaving Connellys Marsh Road, limited by roadside vegetation within the road reserve along the opposite side of the junction.

Sight distance was measured on-site and recorded 120 metres to the left (towards Sugarloaf Road) and 157 metres to the right, with both measurements lower than the Safe Intersection Sight Distance (SISD) specified in the planning scheme.

Table E5.1 of the planning scheme recommends a SISD of 175 metres for an 80 km/h speed environment. An increase in the available sight distance is achievable through vegetation removal, or sight benching within the council road reserve.

Photograph 5.5A – Available sight distance to the left (120 metres)

Photograph 5.5B – Available sight distance to the right (157 metres)

5.6 Traffic safety along the route

The Department of State Growth maintains a database of reported road crashes. A check of this database found that no crashes have been reported along Connellys Marsh Road in the last ten years.

In the last ten years there has been five reported crashes on Fulham Road, at or near Connellys Marsh Road. The crashes relate to vehicles travelling along Fulham Road, with two failing to negotiate the curve, three involving side swipes or head-on collisions, which could be attributed to the vehicle also failing to negotiate the curve. The five crashes occurred between 2013 and 2022, and resulted in three minor injuries, and two property damages.

None of the crashes involved a vehicle leaving Connellys Marsh Road.

5.7 Operational performance of Connellys Marsh Road

Connellys Marsh Road is a short dead-end local access road, that has an unpaved road surface, with a two-way single lane that carries an estimated daily traffic flow of 85 vehicles, with the current users being familiar with the road characteristics.

During the busiest hour period, there might be eight vehicles using the road, and the likelihood of opposing vehicles meeting is likely to be low.

With no crashes reported along the road in the last five years, this indicates that local motorists are not experiencing any difficulty with the road alignment or characteristics, with the expected low operating speeds to be a significant contributor for this level of safety.

Based on the available information and site inspection, the road is considered to be fit-for-purpose for the current use.

6. Impact from traffic generated by this development

As determined in section 4 of this report, this development has the potential to generate up to 103 daily vehicle trips when fully completed.

It is common for accommodation facilities to generate trips before 10:00am as occupants leave, and after 2:00pm as new occupants arrive, which is likely to occur with this development, where directional traffic flows are generated, reducing the likelihood of opposing vehicle movements.

As discussed earlier, the property owners using Connellys Marsh Road can be considered as familiar road users, the staff of the new development will use the road on a regular basis, and they will also become familiar road users. While guests arriving by private motor vehicle will be considered as unfamiliar road users.

Road users that are familiar with the road characteristics will usually drive to the prevailing road and traffic conditions, understand the road limitations, and drive with due care for other road users. While unfamiliar road users may expect the current road characteristics that they just travelled along to continue and are more likely to require an improved road standard.

It is worth noting, that although the development is expected to generate an additional 103 daily trips, it is predicted that only 55 of these trips will be generated by guests, which will be unfamiliar with the road conditions along Connellys Marsh Road.

6.1 AASHTO Guidelines for Geometric Design of Low-Volume roads

Connellys Marsh Road is a low-volume unpaved local access road, with a two-way single traffic lane, which requires opposing vehicles to pull to the left to allow for passing. As discussed earlier the low traffic usage indicates the likelihood of opposing vehicles meeting is low.

While the road is considered fit-for-purpose for local users, who are familiar with the road characteristics, an increase in daily traffic flow generated by the development must be considered.

Reference has been taken from the American Association of State Highway and Transportation Officials (AASHTO) Guidelines for Geometric Design of Low-Volume Roads, second edition 2019. Normally, when referring to technical guides, Austroads Guidelines for Road Design would be used. However, there is not an Austroads guide for designing low-volume roads, and it is important to acknowledge that Austroads guidelines are largely based on AASHTO.

There are no specific guidelines that indicates the maximum traffic volume for which an unpaved surface is appropriate. Research found that roads in rural areas generally reach the threshold between 300 and 350 vehicles per day, at which paving the road surface would reduce the crash risk.

Separate research found that crash rates for unpaved roads were lower for a narrower roadway width, which is most likely due to the lower operating speed adopted by motorists who are driving to the prevailing road characteristics. Road improvements should be considered based on evidence of site-specific location, where motorists are experiencing difficulties.

Provision of roadside clear zones, flatter slopes or traffic barriers, is generally inconsistent with the economic decision to build and maintain an unpaved surface and is not generally needed for low-speed environments.

Two-way single lane roads can be appropriate where traffic volumes are extremely low, when traffic volumes exceed 100 vehicle movements per day, consideration for widening may be appropriate, and this consideration includes the type of vehicles and motorists using the road.

6.2 Additional traffic trips operating on Connellys Marsh Road

The development will generate additional traffic movements along Connellys Marsh Road, with the volume of traffic increasing as the development grows, where in the earlier stages the predicted traffic increase is relatively low, and steadily increases. Table 6.2 below demonstrates the increase in vehicle trips based on the development stages, as discussed earlier it also quantifies the number of familiar motorists and unfamiliar motorists, and the increase in unfamiliar motorists is critical when considering the need for road improvements.

As discussed earlier there are no specific criteria to determine when road improvements should be considered; the threshold of when an unpaved road should be paved is between 300 and 350 vehicles per day, and this threshold is not predicted to be reached with this development.

From a road safety perspective, after stage one this assessment predicts a 61 percent increase in the number of vehicle trips using the Connellys Marsh and Fulham Roads junction, due to higher operating speed along Fulham Road and the limited sight distance, this represents an elevated crash risk. Sight benching at this junction should be considered, which will improve safety for all road users travelling through the junction.

At the completion of stage two, the number of trips will nearly double, with the development predicted to generate an additional 76 trips, which includes 38 unfamiliar road users. This increase could warrant for the two-way single traffic lane to be widened to 5.5 metres wide. Widening could include extending the two pipes culvert, while the large box concrete culvert could remain, and be signed to operate as a single lane structure.

Table 6.2 – Predicted increase in trips along Connellys Marsh Road

Stage	Existing	Development trips		Familiar users	Unfamiliar users	Total trips	Percent increase in trips
		Staff - deliveries	Guest				
One	85	28	24	113	24	137	61%
Two	85	38	38	123	38	161	89%
Three	85	48	55	133	55	188	121%

6.3 Suggested road safety improvements

With Connellys Marsh Road extending off Fulham Road, all approaching motorists must turn at the junction, and this is an ideal location to signify to motorists that traffic and road conditions have changed, through the provision of a regulatory 40 km/h speed limit. The motorists turning from Fulham Road are in an elevated position, and can easily visualise the road standard ahead, with additional warning signs not considered necessary.

Along the route there is some vegetation that reduces sight distance between opposing motorists, which should be removed at project commencement. As indicated in section 6.2 above, sight distance improvements at Connellys and Fulham Roads junction represents the highest crash risk with intensifying traffic movements at this junction, and sight benching and vegetation removal within the road reserve should be done at an early stage.

Roadside vegetation removal and sight benching should improve visibility through the curve for Fulham Road motorists travelling through the junction, could be a suitable mitigation to address the current crash risk identified in section 5.6, where five crashes have occurred in the last ten years. With these improvements likely to improve safety for both the development user and also the general public, a cost sharing arrangement with council could be appropriate.

Widening of the existing unpaved surface to accommodate two-way traffic flow should be considered around stage two, where the large box concrete culvert could remain and be signed as a one-lane structure. This should include the provision of additional guide posts to define the road edge.

With the low operating speed along the road, the need for safety barriers is a low priority.

Table 6.3 – Suggested Road improvements

Project stage	Total increase in daily trips	Potential road improvements
One	52	Remove roadside vegetation along Connellys Marsh Road to improve sight forward sight distance. Implement one lane signage across one lane culverts. Sight distance improvements at the junction of Connellys Marsh and Fulham Roads.
Two	76	Widening of road width to 5.4 metres, with extension of the two pipe culverts to increase road width.
Three	103	None

6.4 Impact of additional traffic movements along Fulham Road

Within the surrounding road network both Fulham and Sugarloaf Roads operate as collector roads, distributing traffic between the regional areas and the State Road network. Recent route inspection found no notable traffic deficiencies along these routes.

The best way to evaluate the traffic impact on surrounding roads, is to use existing traffic flows to determine the level of service users are currently receiving, and whether the traffic increase will create a deterioration in service. The RTA Guide provides the level of service for rural roads based on the terrain, the percent of heavy vehicles, and two-way peak hour traffic flows.

For the purpose of this assessment, Fulham Road has a rolling terrain, with heavy vehicle content less than ten percent. The manual traffic survey captured peak hour traffic flows along Fulham Road in May, with this data adjusted by a 70 percent increase to represent a worst-case scenario for summer and the peak tourist periods. The development is expected to generate an additional 103 daily trips, based on ten percent operating in the peak periods, this represents 10 trips per hour.

Table 6.4 shows the existing adjusted peak hour two-way traffic flow, with the predicted peak hour traffic flow when the development is fully operational in the last two columns highlighted in green. Demonstrating that the additional traffic generated by the development is not expected to cause any deterioration in the level of service, as motorists will continue to operate at the highest level of traffic efficiency for a rural road, at level of service LOS B.

Table 6.4 – Level of service for Fulham Road

	Existing two-way flows		**Predicted two-way flow at completion of development**	
Two-way traffic flow	Morning peak hour	Evening peak Hour	**Morning peak**	**Evening Peak**
Existing traffic	88	139	**98**	**149**
Level of service	B	B	**B**	**B**

Extract 6.4 from RTA Guide for level of service on rural roads

Table 4.5
peak hour flow on two-lane rural roads (veh/hr)
(Design speed of 100km/hr)

Terrain	Level of Service	Percent of Heavy Vehicles			
		0	5	10	15
Level	B	630	590	560	530
	C	1030	970	920	870
	D	1630	1550	1480	1410
	E	2630	2500	2390	2290
Rolling	B	500	420	360	310
	C	920	760	650	570
	D	1370	1140	970	700
	E	2420	2000	1720	1510
Mountainous	B	340	230	180	150
	C	600	410	320	260
	D	1050	680	500	400
	E	2160	1400	1040	820

6.5 Junction of Connellys Marsh Road and Fulham Road

As discussed earlier, the available sight distance at the junction is limited by roadside vegetation and consideration should be given to its removal, and sight benching if required.

6.6 Impact of amenity to existing properties along Connellys Marsh Road

Any new development can be concerning to local residents, it can be difficult to argue that a traffic increase is reasonable. The RTA Guide has considered this matter, and provided an environmental performance standard, which can be used to evaluate the likely impact on amenity.

With the properties along the road being residential in nature, the RTA Guide can also be used to assess the likely impact to the existing residential properties along the road. The environmental capacity standard for a local street is less than 200 vehicle movements per hour (two-way traffic flow). As demonstrated in the table below, during the busiest hour the two-way traffic flow is predicted to increase from 8 to 10 vehicles per hour, which is well below the acceptable standard, and not expected to cause any adverse residential impact from a traffic flow perspective.

Table 6.6 – Comparison of two-way traffic flow (busiest hour) between existing and with development

Existing traffic flow	Additional traffic from development	Predicted total flow when development is completed
8	10	18

Diagram 6.6 – Extract from the RTA Guide

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

7. Development layout and connection to public road network

The developer has advised that a car park will be created adjacent to the Lodge, where all vehicles will be parked, and cars will not be moving around the site. Guests will leave their cars and transport to their accommodation cabin by a golf buggy or similar mobility device, on designated pathways suitable to accommodate pedestrians and the buggies. Guests will have access to mountain bikes and powered bikes to move around the site, with buggies used by the cleaning and maintenance staff, and transport guests who choose not to walk or use a bike.

7.1 Number of on-site car parking

Planning scheme requirement

The planning scheme specifies the parking requirements, with visitor accommodation being the use type, table E6.1 specifies one parking space per unit, one space for each manager's dwelling, and 50 percent of the relevant requirement for any ancillary use.

The 32 standalone cabins require 32 parking spaces, plus one space for the manager.

Functional parking requirement

The development will operate other facilities exclusively for guests, including the Lodge and massage centre, and while these facilities will not require additional parking spaces for customer use, additional parking spaces will be required for staff parking. With the developer estimating a total of 22 staff operating at various times during the day and week, and based on a worst case scenario that 60 percent of the staff are on site at any one time, the staff could generate a parking demand of 14 spaces.

A functional parking demand found 46 on-site parking spaces, is expected to meet the reasonable demand generated by the development, as shown in table 7.1.

Table 7.1 – Functional demand for parking spaces

Type of use	Number	Discount	Number spaces
Guest	32 cabins		32
Staff	22 daily	40%	14
Total			**46**

In addition to the above parking spaces, two accessible parking spaces and a dedicated loading bay for deliveries will be provided.

7.2 Development site access

The development 10is located at the end of Connellys Marsh Road, where there is an existing farm accesses to the development site, as shown in the photograph below. This access will be repurposed to create a suitable access to accommodate two-way traffic movements.

Photograph 7.2 – Existing access to the development site

The access to the development site is located at the end of the public road, and vehicles will only approach the access from one direction, with photograph 7.2A showing the available sight distance to approaching vehicles.

Photograph 7.1A – Available sight distance

7.3 Paving of the unpaved road surface along Connellys Marsh Road

There are no specific criteria to indicate when an unpaved road surface should be paved, AASHTO guidelines indicates the threshold is between 300 to 350 vehicles per day, when a safety benefit may be realised. The total number of daily vehicle movements along Connellys Marsh Road (both existing and new) is not expected to reach this threshold.

It is acknowledged that an increase in daily traffic flow could increase the amount of dust generated during dry periods, which could cause an adverse impact to residential amenity of existing properties.

There are measures that can assist with minimising dust from traffic use, these include dust-retarding products that can be spread onto the unpaved surface prior to dry periods.

7.4 Active transport mode

Both staff and guests are not expected to use active transport methods, due to the rural location and lack of existing transport facilities (no footpaths or dedicated bicycle facilities).

There are no formed pedestrian facilities existing along Connellys Marsh Road

7.5 Width of access driveway to the restaurant/reception car park

The only new roadway within the development site for public use will be between the Lodge car park and the end of Connellys Marsh Road. This new road will be an unpaved all weather access track four metres wide to preserve the rural landscape, with passing bays (6 metre wide and 8 metre long) provided at regular intervals based on available sight distance.

The Australian Standard 2890.1:2004 (the Standard) section 3.2, provides advice and guidance on the width of an access driveway, and indicates a driveway servicing less than 100 parking spaces, the width can be between 3 and 5.5 metres. The Standard provide clarity around when the access width should be made wider to accommodate two traffic lanes, and is based on the number of vehicle movement in any peak hour exceeding 30. Section 3.2.2 reads; '*as a guide, 30 or more movements in a peak hour (in and out combined) would usually require provision for two vehicles to pass on the driveway, ie a minimum width of 5.5 metres.'*

The predicted number of vehicle movements per peak hour (combined) is estimated at 10, well below the threshold the Standard indicates when the driveway should be 5.5 metres wide. The probability of opposing vehicles meeting on the driveway is low, and suitable passing opportunities will be provided through passing bays located at either end, including along the driveway. The distance between the passing bays will be based on the alignment of the driveway and available sight distance between the passing bays.

7.6 Access to cabins for emergency service vehicles

It is important that emergency service vehicles can access all the cabins and facilities. With the only formal internal road network extending from the end of Connellys Marsh Road to the reception/restaurant, the developer advise informal access corridors (four metres wide) will be formed within the site to enable emergency service vehicles to access each of the cabins.

8. Planning scheme

8.1 E5.0 Road and railway access code

E5.5.1 Existing Road accesses and junctions

The development will utilise an existing property access from the end of Connellys Marsh Road and is predicted to generate an increase in traffic flow that exceeds the criteria to meet the acceptable solution and must be assessed against the performance criteria P3.

Performance criteria	**Assessment**
To ensure that the safety of road and rail infrastructure is not reduced by the creation of new accesses and junctions or increased use of existing accesses and junctions.	
a) The increase in traffic caused by the use;	The property is currently undeveloped, with the development predicted to generate 103 vehicle movements daily, when completed and fully operational. Based on ten percent of the daily vehicles operating in the busiest peak hour, the development has the potential to generate additional ten movements per hour.
b) The nature of the traffic generated by the use;	The development is for visitor accommodation, with light vehicles less than 5.5 metres in length expected to be the primary vehicle type generated by the development, as well as small delivery vans (6.4 metres in length) with these types of vehicles having good manoeuvrability and compatible with existing traffic using the surrounding local road network.
c) The nature and efficiency of the access or the junction;	The development property is located at the end of Connellys Marsh Road and will repurposed an existing farm access to provide access between the public road system and development site. Motorists entering and leaving the development site will have adequate Safe Intersection Sight Distance for a vehicle to enter and leave in a safe and efficient manner without adversely impacting other users.
d) The nature and category of the road;	Connellys Marsh Road is a local access road managed by the Sorell Council and has an unpaved road surface and two-way single lane. The road allows for no through traffic, is 440 metres in length, and serves approximately 19 rural residential or shack properties.
e) The speed limit and traffic flow of the road;	The absence of any speed limit and the residential nature of the roadside development indicates the urban default 50 km/h speed limit would operate by state regulation. This assessment estimates that at peak summer and tourist periods, the current 19 properties could generate 85 daily vehicle movements along the road, with eight movements during any one-hour period. The additional traffic generated by the development is predicted to increase the number of daily vehicle movements from 85 to 188 vehicles per day, or 19 vehicles during the busiest hour, or on average one vehicle movement every three minutes. This assessment recommends the two-way single traffic lane is widen at stage two of the development to maintain traffic efficiency.

f) Any alternative access to a road;	Access to Connellys Marsh Road is considered the most appropriate access point.
g) The need for use;	New development generates employment and stimulates the economy.
h) Any traffic impact assessment; and	An independent traffic assessment expects the development can operate safely and efficiently, with some targeted road improvements that should be scheduled to occur at various development stages, aligned with increase in traffic movements. These improvements include vegetation clearing and implementation of a 40 km/h speed limit along Connellys Marsh Road; sight improvements at the Connellys Marsh Road and Fulham Road junction; widening of the unpaved surface along Connellys Marsh Road to facilitate two-way traffic movements, in conjunction with a signed one-lane structure.
i) Any written advice received from the road authority.	Aware of none.

E5.6.4 Sight distance at accesses, junction, and level crossing

The available sight line at the repurposed property access will exceed the planning scheme requirements for Safe Intersection Sight Distance, so vehicles can enter and leave in a safe and efficient manner.

8.2 E6.0 Parking and Access Code

E6.6.1 Number of parking spaces

The development will provide 46 on-site parking spaces for guests and staff, plus two accessible parking spaces, and this number of parking spaces meets the acceptable solution under the planning scheme and is expected to meet the reasonable parking demand.

E6.6.2 Number of accessible parking spaces

Two accessible parking spaces will be provided.

E6.6.3 Number of motorcycle spaces

The development will provide three dedicated motorcycle parking spaces to meet the acceptable solution under the planning scheme.

E6.6.4 Number and type of bicycle parking spaces

Table 6.2 of the planning scheme specifies for visitor accommodation the following bicycle facilities are required.

Use type	Staff or employee	Visitor or guest
Requirements	One for each 40 accommodation units	One for each 30 accommodation units
Number of spaces	0.8	1.01

8.3 Development standards

Development standards		Comment
6.7.1	number of vehicular access;	The new development will repurpose an existing farm access and this will be the primary access to the development site.
6.7.2	design of vehicular access;	The access will provide for two-way traffic movements, and accommodate a medium rigid vehicle, providing a safe and efficient means for vehicles to enter and leave the site.
6.7.3	vehicular passing areas along an access;	The internal driveway will be four metres wide two-way single lane with an all-weather unpaved surface, supported with passing bays located at either end, including along the driveway to provide for passing opportunities.
6.7.4	On-site turning;	Turning facilities will be provided within the development site to enable all vehicles to enter and leave in a forward-driving direction.
6.7.5	Layout of parking areas;	The on-site car parking spaces will be designed to comply with the Australian Standards 2890, and there will be sufficient manoeuvring area for easy access into and out of the car parking spaces.
6.7.6	Surface treatment of parking areas;	The internal roadway and car parking area will be an unpaved surface to match with the surrounding landscape. The gradient of the car parking spaces will be less than five percent to be compliant with AS 2890.1:2004, but a sufficient gradient to ensure the surface water drains efficiently.
6.7.7	Lighting of parking areas;	Lighting of the development site is expected to meet the acceptable solution, but limited as much as practicable to ensure minimal impact on native animals.
6.7.8	Landscaping of parking areas;	Natural landscaping will be maintained.
6.7.9	Design of Motorcycle parking areas;	Designed to meet the appropriate standard.
6.7.10	Design of Bicycle Parking facilities;	Each cabin will contain bike parking facilities.
6.7.11	Bicycle end of trip facilities;	Not applicable for visitor accommodation.
6.7.12	Siting of car parking;	The parking spaces are well set-back from the road frontage and will not create an adverse visual impact.

Development standards	Comment
6.7.13 Facilities for commercial vehicles;	The internal access has been designed to allow access for an 8.8 metre medium rigid vehicle, suitable for small delivery van and emergency service vehicles.
6.7.14 Access to road.	The access will be safe and provide users with an efficient way to enter and leave the development site.

9. Conclusion

The Allure development is expected to provide guests with a unique accommodation experience, with guests expected to remain within the development site throughout their minimum two-night stay, reducing the number of intermediate traffic movements.

The accommodation cabins will be supported with associated facilities, including the Lodge and massage centre which will only be accessible by on-site guests, so these facilities will not generate a public demand.

The number of vehicle movements generated by this development is expected to be low, with the surrounding local road network expected to absorb the increase in traffic movements without causing adverse impact to other road users. The greatest traffic impact will occur on Connellys Marsh Road and this assessment has suggested some targeted infrastructure improvements should occur, at various development stages to maintain the level of safety and traffic efficiency. These include sight improvements, lower posted speed limit, widening of the road surface, additional guide posts to delineate the road edge and signing one-lane structures. Any infrastructure improvements will improve safety for all road users and not just the development users.

From available research, the existing unpaved road surface of Connellys Marsh Road is expected to be fit-for-purpose, to cater for the traffic volume on completion of all stages of the development. It is recognised the traffic increase may generate additional unwanted dust to existing residential properties, dust suppressing efforts may be required.

The development will provide a sufficient number of on-site parking facilities to meet the reasonable demand, including accessible parking spaces, motorcycle parking spaces and a dedicated loading bay.

The internal access roadway between the end of the public road system and the car park, will be designed and constructed to minimise adverse impact to the landscape, will be an all-weather unpaved surface, two-way single lane four metres wide, supported with passing bays to provide passing opportunities.

The access to the development will use an existing farm access, have appropriate sight distance to facilitate safe and efficient vehicle movements, and have a sufficient turning area within the development car park to enable all vehicles to enter and leave the site in a forward-driving direction.

This Traffic Impact Assessment found no reason for this development not to proceed.

Proposed

Existing

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Drawing

No.: ANB1 DA05
Date: 6 NOV 2022

Allure Norfolk Bay

Photomontage

The Site from Connellys Marsh Beach

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

Proposed

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No.: ANB1 DA08
Date: 6 NOV 2022

Allure Norfolk Bay

Photomontage

Eastern Foreshore

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

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Drawing

No.: ANB1 DA09a
Date: 6 June 2022

Allure Norfolk Bay

Photomontage

View of the Eastern foreshore, looking NW

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

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Drawing

No.: ANB1 DA09b
Date: 6 June 2022

Allure Norfolk Bay

Photomontage

View of the Eastern foreshore, looking NW

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

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No.: ANB1 DA10a
Date: 6 June 2022

Allure Norfolk Bay

Photomontage

Aerial view of the Susan Bay foreshore, looking East

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

Proposed

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Drawing

No.: ANB1 DA10b
Date: 6 June 2022

Allure Norfolk Bay

Photomontage

Aerial view of the Susan Bay foreshore, looking East

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

Proposed

Existing

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Drawing

No.: ANB1 DA11
Date: 6 June 2022

Allure Norfolk Bay

Photomontage

View of the eastern foreshore, looking North .

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

Proposed

Existing

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Drawing

No.: ANB1 DA12
Date: 6 June 2022

Allure Norfolk Bay

Photomontage

View from the mid-foreshore, looking NW

Sorell Council

Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

ALLURE

NORFOLK BAY | TASMANIA

Integrated Impact Assessment

Sorell Council
Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

January 2023 (V.2)

Table of Contents

1 Introduction

Allure Norfolk Bay is proposed to be one of three new Allure tourist destinations catering for high-value visitors to Tasmania's spectacular and largely untapped South East.

The first of these, located at the entry to the Cape Raoul walking trail, received development approval in 2021 and is now ready for construction. The third is Allure Maingon Bay, which has spectacular views onto Tasman Island and Cape Pillar and is intended to accommodate family gatherings and other small groups of up to 12.

Allure Norfolk Bay is intended to provide high quality visitor accommodation at a location overlooking magnificent Norfolk Bay and within 40 minutes of Hobart International Airport. It would meet an identified need for additional tourist infrastructure in the area and reinforce the image of the Tasmania's South East as a high-quality tourist and recreation destination.

The site occupies a small portion of a 2.66ha and two 40ha lots that are part of the 690ha sheep property *Riverside*, for which it would provide a supplementary source of income, thereby making the farm more viable.

It would incorporate a central reception/communal Lodge and ultimately 32 cabins of various types, delivered in four stages. The cabins would all be sited in a narrow band along the site's 2.7km waterfront, where they would have a minimal impact on the farm's operations.

Visitors would arrive by vehicle on Connelly's Marsh Road, which connects to Fulham Road. It should be noted that there is a possible alternative access point from Primrose Sands Road. Guests would proceed to the Lodge building near the road entrance, which would house reception and a restaurant. Guest cars would remain in the car park and guests would be chauffeured to their cabins by electric buggy along a traditional gravel road running the full length of the foreshore.

The cabins would be shielded from the road behind by a mixture of landscaping and fences, providing completely private access to the foreshore and views over Norfolk Bay. The accommodation is designed to service a wide range of preferences, from luxurious cabins to boat house-style options. In addition to the central Lodge, there would also be a massage and sauna centre for indulgent experiences.

All the buildings have an exterior of charred vertical boarding or dark grey metal cladding, reminiscent of the creosoted beach shacks typical of Tasmania's East Coast. The landscaping would be recognisably rural Tasmanian, comprising gravel roads, Casuarinas and Blackwoods, post-and-wire fences, dams and creeks. It would be rural chic—unpretentious luxury in an authentic farm context.

In summary, this proposal would add much needed tourist amenities to the South East, with simple but elegant rural buildings. It will have minimal impact on the farm, the setting and the environment, while providing visitors with unique, high-quality experiences.

2 Community Impacts

2.1 Socio-economic Impact

Tasmania's South East represents approximately 17% of the State's total population. Pre COVID-19 the region had the State's lowest employment rate at 66.3%, the State's highest unemployment rate at 7.7%, and the State's highest youth unemployment of 21.5%. In 2020, the South East recorded Tasmania's highest rate of job losses due to the impacts of COVD-19, at 15.1%.

In recent decades, the South East has transitioned from popular beach shack communities to recognition of its value as a centre of world class attractions. The opening of the iconic Three Capes Walk in December 2015 constituted a particular drawcard for visitors to the area and was a significant driver of Tasmania's ongoing tourism boom, which in 2016 saw a 70% increase in overnight bush-walks state-wide.

Allure Norfolk Bay aspires not only to enchant its guests, but also to be a regenerative and transformative force—environmentally, socially and economically—for the region and for Tasmania. This proposal for development of high-

quality visitor accommodation and amenities, will meet an identified need for additional tourism infrastructure in the area.

In the year immediately preceding the COVID-19 pandemic, Australia's biggest tourism growth area was farm-gate/agritourism visits, which saw a 13% increase. This statistic reflects the market's increasing demand for authenticity and a feeling of connectedness to its destinations. To revitalise its critical tourism economy, Tasmania needs innovative, nature-based tourism and agritourism enterprises to meet current voids in the market, to increase the economic viability of agricultural properties and rural communities, to create mutually beneficial partnership opportunities, and increase regional tourism visitation, length of stay and local spending; all of which will contribute to the region's socio-economic diversification, growth and stability.

This proposal commits $20 million of private investment to the region with the creation of approximately 160 jobs during the construction phase and up to 22 ongoing positions on completion of all stages. Direct and ongoing employment would include cleaning, spa, activities, administrative, services and hospitality staff. It is estimated that the value of this employment and visitor spend could provide a recurrent contribution in excess of $11 million per annum to the regional economy.

Allure Norfolk Bay intends to use locally produced food and beverages wherever possible, both in its on-site food offerings and for take-home purchase. This will provide increased employment and business opportunities through partnerships with a diverse range of local producers, artisans and service-providers.

Located near the entry to the Tasman Peninsula, Allure Norfolk Bay would provide the ideal base from which to explore the South-East, from Port Arthur to Marion Bay. It will be a new luxury tourism destination that is estimated to provide an extra 11,648 visitor nights for the region.

Allure Norfolk Bay would be the second of three luxury, distinctive resorts in Tasmania's magnificent and relatively undiscovered South-East, which will further consolidate the reputation of the region's reputation for high-quality tourism and leisure.

2.2 Visual Impact

All Allure Norfolk Bay buildings would be located along the site's 2.7km foreshore of the site, with the exception of the Lodge and the Enclave, which would have a minimum set back 120m. The average distance from Connellys Marsh would be 862m, and 1115m from Primrose Sands. Specific distances are shown in Table 1.

Proximity (metres)			Nearest	Furthest	Average	Screen
Neighbouring Buildings	A	Primrose Sands	787	1088	938	
	B		688	1009	849	
	C		799	1133	1932	
	D		490	993	742	X
Averages			691	1056	1115	
Neighbouring Buildings	A	Connelly's Marsh	87	428	515	
	B		383	705	500	
	C		811	1231	1021	
	D		1283	1542	1413	
Averages			641	977	862	

Table 1: Proximity of nearest dwellings to Allure Norfolk Bay structures

In instances where the distance between a dwelling and an Allure cabin would be less than 300m, the latter would be screened by planting of quick-growing local tree species. It is estimated it would take approximately three to five years' growth to block Allure completely from view.

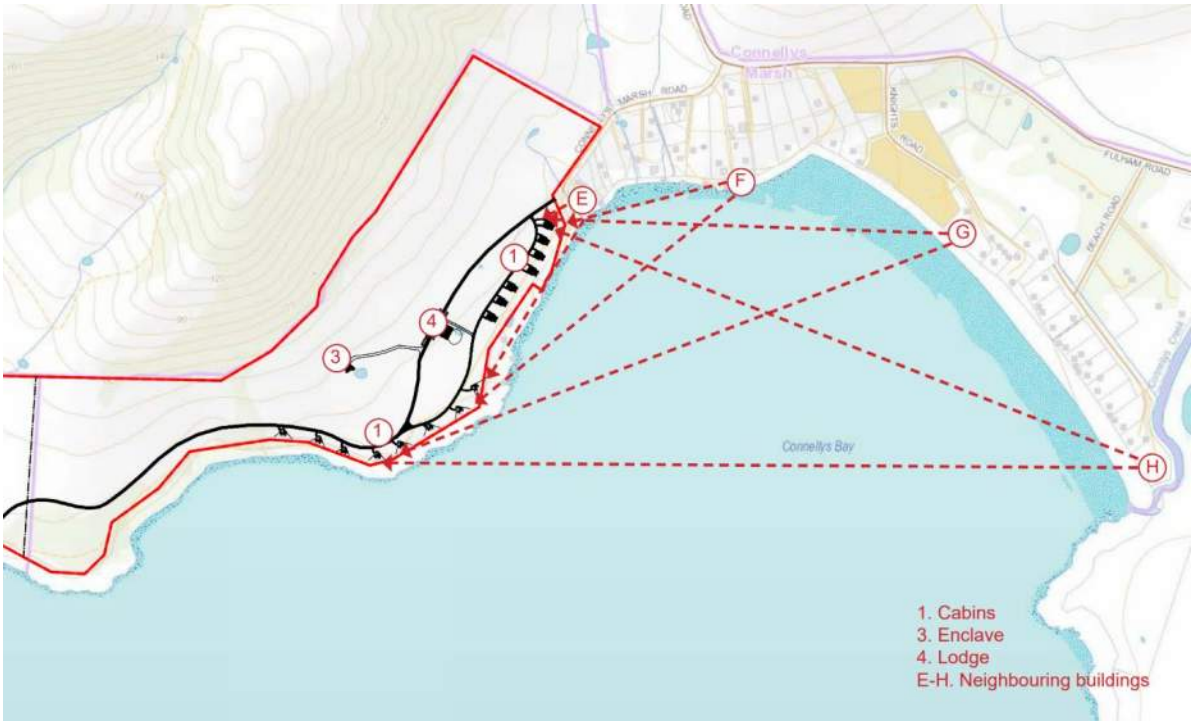


Image 1: View aspects to Allure Norfolk Bay from Connellys Marsh dwellings

The nearest houses face southwards, away from the site. Those further away, behind the beach, have a more south-westerly aspect, which would include the site, but at a distance of one to two kilometres. Image 2 below illustrates that at this distance, the proposed buildings would be barely visible.

Image 2: The proposed development from Connellys Marsh Beach

At the Primrose Sands end of the property, the nearest houses face southeast, away from the site. Further around, the shore bends back toward the beach, giving the houses a more north-easterly aspect, but at an average distance of about a kilometre. At this distance and orientation, the proposed Allure buildings would have minimal visual impact as they would be screened by the existing vegetation, as shown in Image 3.

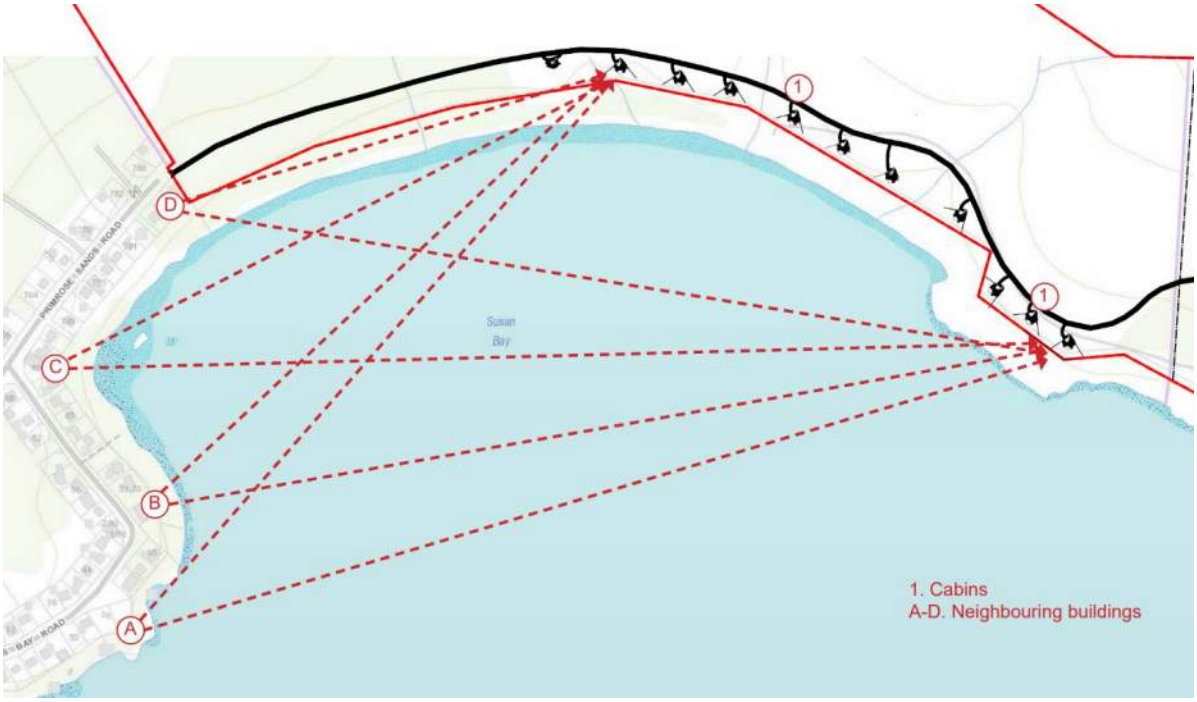


Image 3: View aspects to Allure Norfolk Bay from Primrose Sands dwellings

Image 4: View of proposed development from Susan's Bay Beach

Boats en route to the Dunalley Canal would pass the site at a distance of three kilometres, from which distance there would effectively be no visible presence of the development, as show in Images 5 and 6.

Image 5: View from a boat approaching Dunalley Canal

Image 6: Route from the Frederick Henry Bay to the Dunalley Canal (dotted line)

Apart from the cases shown above, the proposed development would not be visible from any public vantage points.

2.3 Impacts on Neighbours/Adjacent Land Use Areas

There are private residential neighbours to the east and the west of the site, with the remainder of the proponent's property 'Riverside' to the North and a 30m Crown Land Reserve to the south, between the property and Norfolk Bay.

2.3.1 Riverside

This proposal has been carefully designed to minimise impact on the proponent's sheep farming activities at *Riverside*, of which the site is a small part. The proposed development is restricted to the foreshore—an area not currently used for farming activities. The small amount of grazing area lost (less than 1% of the total), is offset by the income that the proposal would provide to its operations, ensuring the current questionable viability of the farming enterprise.

2.3.2 Connellys Marsh

The closest structure on the property's eastern side is a boatshed at the end of Connellys Marsh Road, within the road reserve. As this structure can't legally be occupied, it does not constitute a sensitive use.

As shown in Table 2, the nearest inhabited property to the east is 41 Connellys Marsh Road. The house would be approximately 87m from the nearest proposed building. However, as this house and its near neighbours are orientated southwards towards Norfolk Bay, they face away from the site.

To ensure absolute privacy for all parties, it is planned to establish a screen of *Allocasuarina littoralis* or a similar native species along the eastern border which, when established, would completely screen all the proposed buildings from the near neighbours within four to six years. This screen and the distance separations would also provide noise attenuation.

The only potential impact identified is in the Traffic Impact Assessment (see Appendix 7.2), which states that road usage at the peak of project construction may temporarily generate some additional dust along Connellys Marsh Road. The report recommends that, should this occur, dust suppression measures may be required.

Image 7: Allure Norfolk Bay eastern border, showing location of nearest neighbour (F)

2.3.3 Primrose Sands

It is proposed that principal access to Allure Norfolk Bay would be from the eastern end of the site, creating minimal impact on the neighbours to the west. A gate would be installed at the end of Primrose Sands Road, for the exclusive purpose of emergency vehicle access. At the western end of the proposed development site, there is approximately 810m between the westernmost Allure cabin and the nearest house (769 Primrose Sands Road). There is an existing strip of bush, which will conceal all proposed Allure buildings from view.

Image 8: Allure Norfolk Bay western border, showing location of nearest neighbours (adjacent to D)

2.3.4 Crown Reserve

The only impact on the foreshore reserve that could be identified is the potential for ground water contamination, however this risk has been comprehensively addressed by the Summary Wastewater and Stormwater Management Plan located at Appendix 7.3.

A summary of potential impacts on neighbours and associated mitigation measures is provided in Table 2.

The Traffic Impact Assessment Report (see Appendix 7.2) acknowledges that when the project is at its full capacity, it could cause some additional dust generation along Connellys Marsh Road. Should this occur, dust suppressing measures, as recommended in the report, would be implemented.

Neighbour	Owner	Direction	Distance[1]	Use	Impacts	Mitigations
Riverside	Proponent	North	N/A	Sheep farm	None	None required
45 Connellys Marsh Rd	Private	East	Approx 69m	Boat shed	None	Non-sensitive use
41 Connellys Marsh Rd	Private	East	Approx 87m	Residence	- Visual - Noise - Traffic	- Proposed tree screen, some existing native bush screening - Approx 90m separation - Targeted infrastructure improvements
35 Connellys Marsh Rd	Private	East	Approx 130m	Residence	- Visual - Noise - Traffic	- Proposed tree screen[4] - Approx 130m separation - Targeted infrastructure improvements[3]
25 Connellys Marsh Rd	Private	East	Approx 187m	Residence	- Visual - Noise - Traffic	- Proposed tree screen[4] - Approx 190m separation - Targeted infrastructure improvements[3]
769 Primrose Sands Rd	Private	West	Approx. 810m	Residence	- Visual - Noise - Traffic	- Approx. 810m separation, existing native bush screening - Emergency vehicle access only[3]
786 Primrose Sands Rd	Private	West	Approx. 830m	Residence	- Visual - Noise - Traffic	- Approx. 830m separation, existing native bush screening - Emergency vehicle access only[3]
Foreshore Reserve	DPIPWE	South	N/A	Recreation	Water Pollution	Summary Wastewater and Stormwater Management Plan[2]

1. distance between existing and proposed structures
2. see Appendix 7.3 – Summary Wastewater and Stormwater Management Plan
3. see Appendix 7.2– Traffic Impact Assessment Report
4. see Images 7 and 8

Table 2: Summary of potential impacts on neighbours/adjacent land use areas and associated mitigation measures

2.4 Impact on Services Infrastructure.

There is sufficient capacity available in the relevant services to ensure that the proposal will not have any adverse impacts on local infrastructure.

2.4.1. Energy

Electrical power to Allure Norfolk Bay is provided via a connection entering the site at the eastern end. TasNetworks was given the opportunity to review the draft Development Application, and on 15 July 2022 provided email advice "…that the development is not likely to adversely affect TasNetwork's operations".

Energy for hot water, heating and cooking will be provided via natural gas. Each cabin will have its own small gas tank, with a larger tank for the Lodge.

2.4.2 Communications

The development site has almost full mobile telephone coverage and an existing telephone landline cable crosses the property from Connellys Marsh to Primrose Sands Road. It is also proposed to provide satellite broadband service.

2.4.3 Water

Potable water will be provided to the site from the existing *Riverside* property bore, via a header tank located on the hill behind the development.

Stormwater run-off from building rooves will be collected in the individual tank associated with each building and recycled for non-potable uses such as toilet flushing and irrigation. Run-off from the carpark and Lodge hardstand area will be channelled into a dam in front of the Lodge building. Overflow will discharge into the surrounding grazing pastures. Internal access routes will retain their gravel surface to allow for sheet runoff into the surrounding paddocks, which will prevent pooling and channelling of run-off.

Wastewater from accommodation and ancillary buildings will be managed onsite by means of a Wisconsin sand mound treatment system, with each building having an individual mound of appropriate size.

Further details of the stormwater and wastewater management are provided in the Summary Wastewater and Stormwater Management Plan at Appendix 7.3

Further information on the proposed use and management of water at Allure Norfolk Bay are provided at Section 4.5 of this document.

2.5 Traffic and Transport Impacts

A detailed assessment of potential traffic impacts associated with the proposed development has been undertaken by Hubble Traffic. The detailed Traffic Impact Assessment report is located at Appendix 7.2.

In summary, the Traffic Impact Assessment found "no reason for this development not to proceed", noting that:

- the number of vehicle movements generated by the development is expected to be low;
- the existing unpaved road surface of Connellys Marsh Road is expected to be suitable to cater for the traffic volume on completion of all stages of the development, with any additional dust impact to be mitigated as required;
- the development includes on-site parking in sufficient quantity and of an appropriate design to satisfy all relevant legislation and codes;
- includes amenities adequate to ensure the safety and convenience of pedestrians.

The internal access roadway between the end of the public road system and the car park will be designed and constructed to minimise adverse impact to the landscape, will be an all-weather unpaved surface, two-way single lane four metres wide, supported with passing bays to provide passing opportunities.

The access to the development will use an existing farm access, have appropriate sight distance to facilitate safe and efficient vehicle movements, and have a sufficient turning area within the development car park to enable all vehicles to enter and leave in a forward-driving direction.

2.6 Impact on Aboriginal Heritage

A comprehensive archaeological field survey of the development area was carried out on 22 September by a qualified archaeologist and an Aboriginal Heritage Officer (AHO).

2.6.1 Survey Findings

Four Aboriginal heritage sites had previously been identified within the study area. None of the four registered sites were able to be relocated during the current survey, noting that:

- three were recorded more than 40 years ago when accurate hand-held GPS devices were not available; and
- artefacts may have shifted or become obscured from view by natural means.

The summary of survey findings concludes, inter alia, that:

- there is a low likelihood of other cultural heritage sites occurring in the study area;
- any cultural deposits are likely to have been subject to 'moderate disturbance' due to land clearing and farming activities, to a depth of around 30cm;
- quarrying/stone-working activities are unlikely due to the predominant rock types (dolerite and quartz), neither of which are suitable for stone tool manufacture;
- the absence of middens on the shoreline is unusual for the region, suggesting that Susan's Bay was not a preferred site for the local Aboriginal people, perhaps due to wind exposure or the presence of better-resourced and more sheltered sites nearby).

The Statement of Cultural/Social Significant provided by Aboriginal Heritage Officer Rocky Sainty states, inter alia, that it is not believed that the proposed development will impact negatively on any other traditional cultural resources (i.e. flora, fauna, aquaculture or other environmental resources).

The final Aboriginal Heritage Assessment Report will be circulated to a select range of Aboriginal organisations in the South East for consultation.

2.6.2 Impact Mitigation

It should be noted that the Aboriginal heritage survey was undertaken in September 2022. Since receipt of the draft report, the following significant changes have been made to the development Master Plan:

- the number of proposed accommodation cabins has been reduced from 50 to 32;
- site locations have been mapped onto the development Master Plan;
- cabins in proximity to identified sites have been relocated to prevent any impact.

A detailed Cultural Heritage Management Plan is included at Section 11 of the Aboriginal Heritage Assessment Report. The developer will comply with these recommendations, including:

- erecting barriers/fencing around sites during construction activities;
- ensuring that all contractors/sub-contractors working on site are aware of site locations and associated sensitivities;
- ensuring that all contractors and sub-contractors are provided with a copy of the Unanticipated Discovery Plan and are aware of their related obligations;
- notifying relevant authorities and seeking appropriate permits if and as required.

Allure Norfolk Bay intends to celebrate and show-case the palawa heritage of the region in artworks and displays, through landscaping and through incorporation of guest activities focused on indigenous culture and delivered by indigenous providers.

2.7 Summary of Community Impacts

The proposed Allure Norfolk Bay development would have no significant adverse impacts on the local community, with the few potential minor impacts being easily mitigable. The project does, however, have the potential to deliver significant beneficial impacts for the municipality in terms of job creation, business growth and reputational enhancement, whilst preserving the area's unique character.

A summary of impacts and outcomes/mitigations is provided in Table 3.

Potential Impact	Potential Outcome/Proposed Mitigation
Social Impact	• Significant contribution to growth of general tourism and niche markets, delivering to the region an estimated 11,648 additional visitor nights per annum • Ripple-effect of economic growth and prosperity through partnerships with local businesses, including tours and attractions operators, food and beverage producers, artisans and crafts people, service providers, retailers, etc • Enhancement of the South East's image as a high-quality tourism destination
Economic Impact	• Projected annual turnover of up to $11M • Up-front investment of $20M • Creation of around 160 jobs in construction and associated trades during development phase • Creation of up to 22 direct, new and ongoing positions on completion of all development stages • Creation of new employment and career opportunities for local youth • Increased business partnership opportunities
Visual Impact	• All building designed to be sympathetic to character of the existing rural and coastal landscape • Site design takes account of sightlines and distances from neighbouring properties and vantage points
Impacts on Neighbours/ Adjacent Land Use Areas	• Strategic use of tree planting to minimise visual impact on near neighbours • Minimum separations of 87m should ensure no other impacts
Impact on Services Infrastructure	• No adverse impacts identified • On-site provision and management of water-related services
Traffic and Transport Impacts	• Impacts assessed to be minimal • If required, road dust during construction phase to be mitigated by water spraying or similar
Aboriginal Heritage Impact	• Detailed archaeological survey conducted and resultant report distributed for Aboriginal consultation • Management plans developed for existing Indigenous heritage sites and for any unanticipated discoveries • Indigenous Statement of Significance completed and notes that it is not believed that the proposed development will impact negatively on cultural resources • local palawa heritage to be celebrated in Allure facilities and activities

Table 3: Summary of community impacts

3 Impacts on Visitors

According to recent data from the Tourism Industry Council Tasmania, the State's tourism market is:

- primarily domestic, with a strong focus on Victoria and the eastern states;
- comprised of couples and groups, rather than families;
- comprised of a majority (59.5%) of visitors aged 45+ years;
- comprised of around 50% holiday-makers; and
- comprised largely (70%) of repeat visitors.

Customers are particularly seeking authentic experiences in a relaxing, 'clean and green' environment, with farm-stay and agritourism being one of Australia's the fastest-growing tourism sectors. With the lifting of travel restrictions, Tourism Tasmania reports that consumers are also seeking destinations that offer a variety of experiences and accommodation types.

3.1 Accommodation

Allure will meet the consumer requirements by offering four styles of accommodation, each designed to harmonise and integrate with their natural setting.

In addition to the existing 'Glamtainer' container cabin (Type B cabin) overlooking Susan Bay, two unique styles of accommodation have been designed to offer a diversity of experiences that take advantage of the varying locational opportunities the site offers:

- Type A cabins are strung along the property foreshore, from the white sand beach of Susan Bay, to the rocky foreshore at the Connellys Marsh end, with an average separation of 60m, giving them complete privacy;
- Type D cabins perch in pairs on an escarpment above the existing boathouse, jetty and boat shed and will have a maritime character and outlook.

Proposed locations are shown in Image 9.

Image 9: Proposed location of buildings, Allure Norfolk Bay

A summary of quantity and size of each cabin type proposed to be delivered on completion of all project stages is provided in Table 4.

Cabin Type	Number	Percentage
Standard Cabin (Type A)	18	55
Glamtainer (Type B, pr-existing)	1	3
Boat House (Type D)	14	42
TOTAL	**33 (32 new + 1 pre-existing)**	**100**

Table 4: Allure Norfolk Bay cabin types and quantities

3.1.1 Standard Cabin (Type A)

Luxury made to look simple; these two-person cabins will be private from the road, but completely open to the vista of Norfolk Bay and its foreshore. Cabins will be spaced at least 60m apart, allowing visitors to feel as though they have their own stretch of coastline.

Oriented southwards, each cabin's highlight windows will flood the interior with sun from the northeast and northwest. All building materials will be local and evocative of the classic Tasmanian coastal 'Shack'.

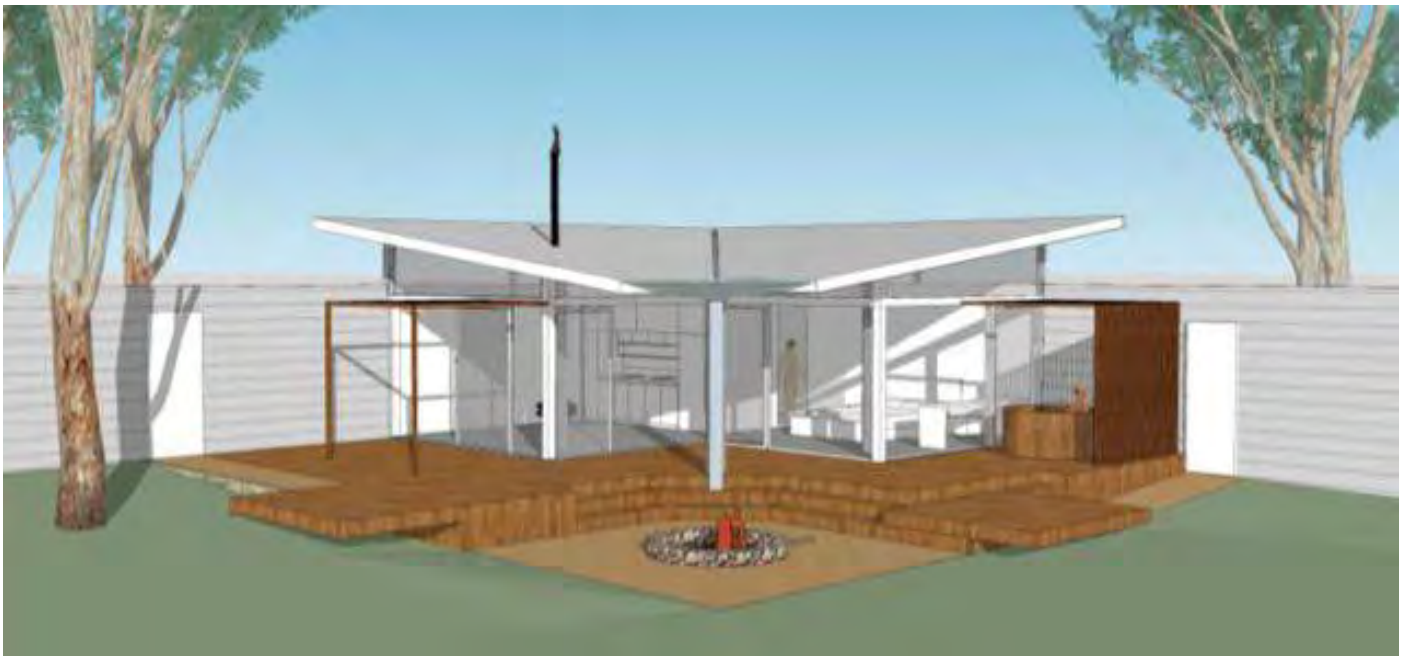


Image 10: Water-facing view of Type A cabin

Image 11: Public/roadside view of Type A cabin

Image 12: Type A cabin floor plan

Image 13: View of Type A cabins from the water

3.1.3 Existing Glamtainer Structure (Type B cabin)

There is only one Type B cabin, which is the existing container cabin overlooking Susan Bay. This two-person cabin offers uninterrupted water views and a private deck. Development of this cabin was approved by Council in March 2020. Whilst not included in this application, it is intended that the existing cabin would be operationally integrated into the broader Allure Norfolk Bay development.

3.1.2 Boat House (Type D cabin)

In keeping with the maritime context, these cabins would evoke the characteristic holiday "Shacks" that hug the nooks and crannies of the southeast coast, with simple gable roofs and exposed timber trusses. With their outlook focused on the sea, these cabins would be constructed in pairs along the property's escarpment, with a party wall of two layers of joinery between them for acoustic privacy. The other side of each cabin would be open, with a mud-room entry, providing a place to store bikes, kayaks or wetsuits.

Image 18: Southern view of Boat Houses (Type D cabins)

Image 19: View of Boat Houses (Type D cabins) from the water, with existing boat sheds in the foreground

Image 20: Boat House (Type D cabin) floor plan

3.2 Visitor Amenities

Visitor amenities would be clustered around the property entrance at the eastern end, to prevent associated activities from impacting on the peace and privacy of the accommodation. Reception and guest dining functions would be co-located in the Lodge, adjacent to the carpark.

The massage and sauna centre would be located to the west of the Lodge.

3.2.1 The Lodge (reception and dining)

Image 21: Lodge floor plan

Image 22: View of Lodge from foreshore

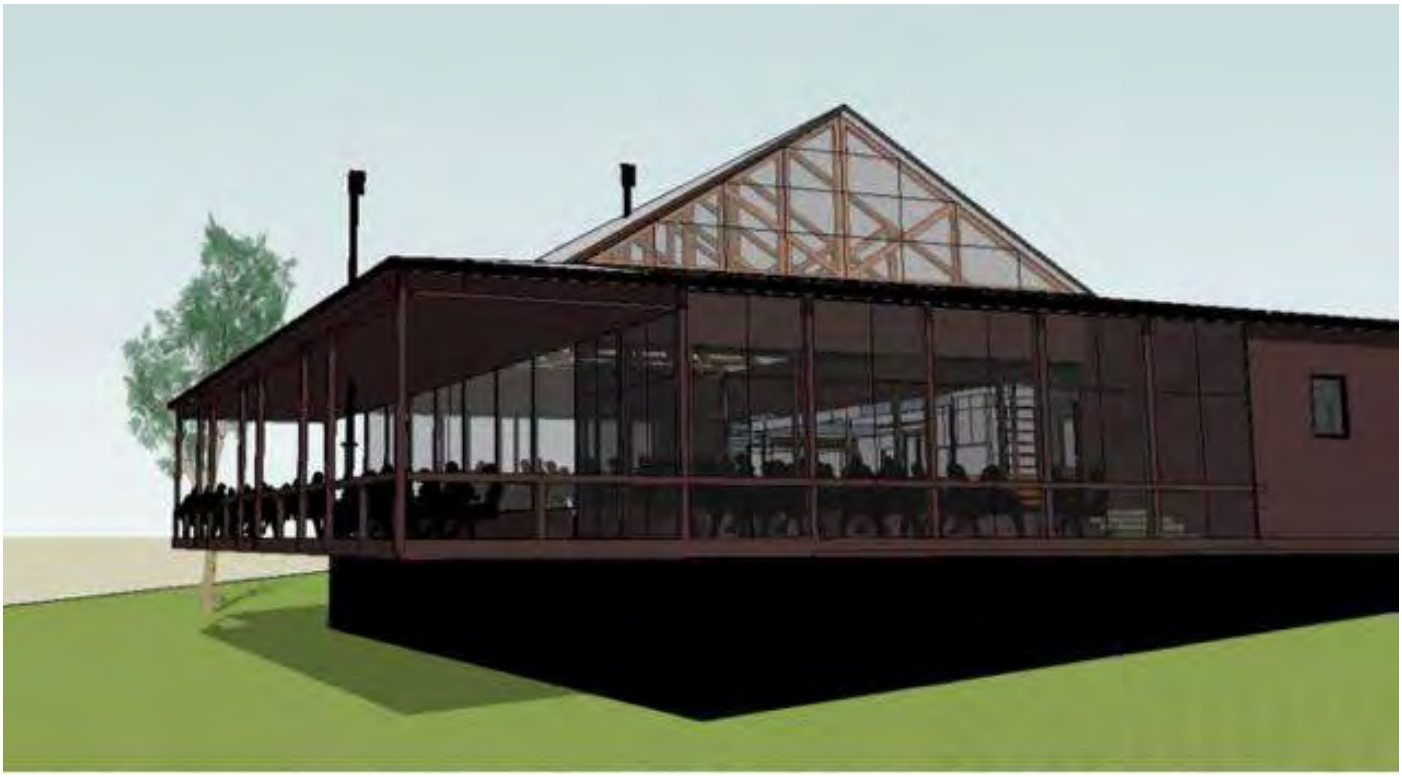


Image 23: View of Lodge from the east

3.2.2 Massage and Sauna Centre (Enclave)

For the enjoyment of Allure guests, it is also proposed to create a massage and sauna centre overlooking Norfolk Bay. The centre will incorporate a meditation garden and sauna.

Image 24: View of massage and sauna centre from the south

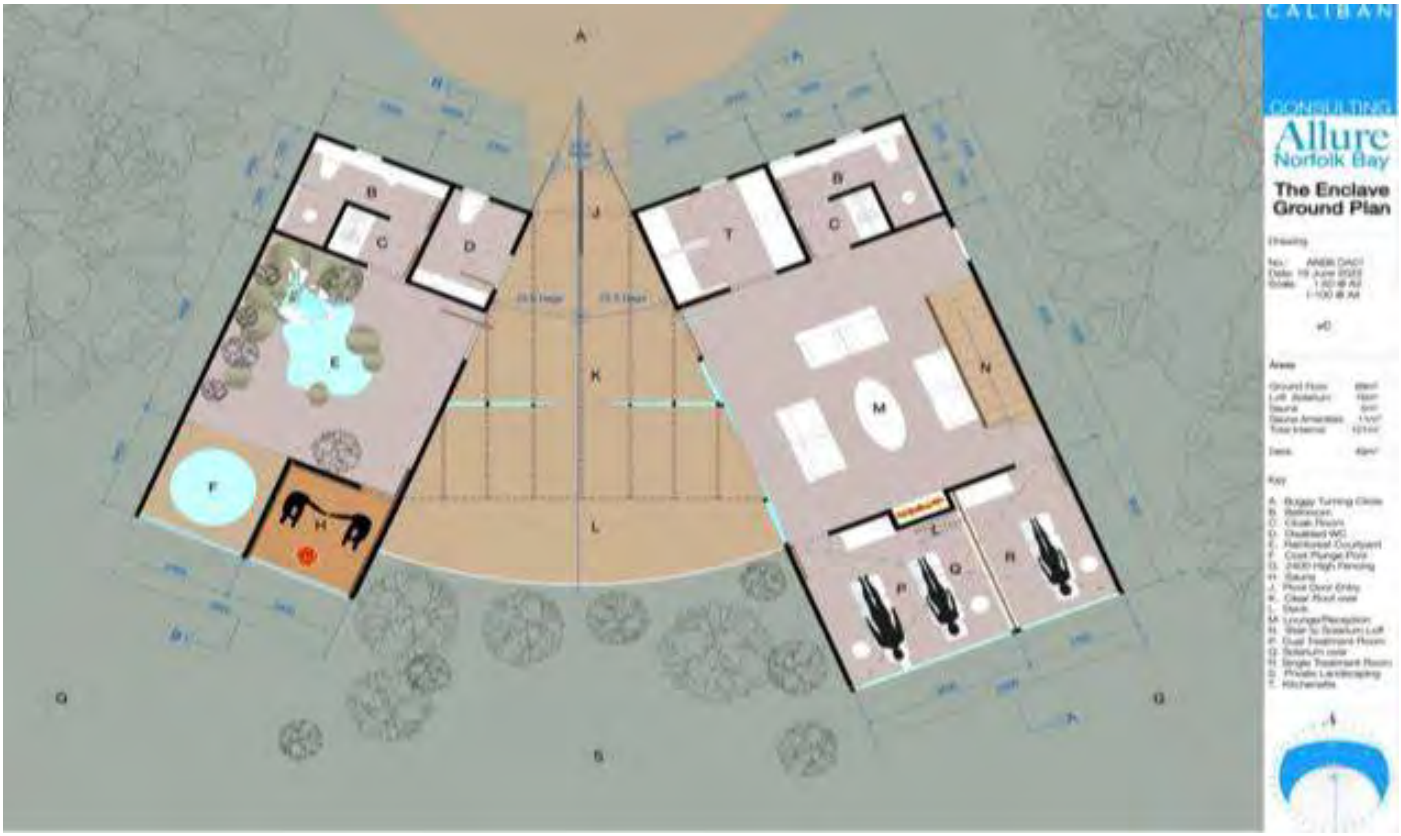


Image 25: Massage and sauna centre floor plan

Image 26: View of massage and sauna centre from the east, showing private rooms with solarium

3.3 Accessibility

All built facilities at Allure Norfolk Bay have been designed to be fully accessible. All cabins can be accessed at grade, with no steps and all toilets and showers are all compliant with AS 112. To assist movement around the property, it is proposed to provide specialized vehicles (such as carts or e-bikes) for guests with reduced mobility.

3.4 Landscaping

The site is currently the nexus between rolling rural farmland and Norfolk Bay. The landscaping strategy would embrace both contexts, adopting the delightfully informal character that is part of the southeast Tasmanian experience and offering visitors the chance to experience the local native flora. Proposed screen plantings, for example, would likely be Casuarinas, Blackwoods or Eucalypts, which are typical of the dual contexts and which are traditionally used as windbreaks in the region.

3.5 Internal Car Circulation

The internal access roadway between the end of the public road system and the car park, will be designed and constructed to minimise adverse impact to the landscape, will be an all-weather unpaved surface, two-way single lane four metres wide, supported with passing bays to provide passing opportunities.

3.7. Pedestrian Circulation

Because most of the visitors are coming to Allure Norfolk Bay to enjoy the unique environment, the main circulation around the site is designed to be by means other than cars. Guests will leave their cars and transported to their accommodation cabin by a golf buggy or similar mobility device, on designated pathways suitable to accommodate pedestrians and the buggies.

3.8 Bush Fire Risk

The main fire threat to the property is from the north, through the bushland on the hills behind the site. A lower risk is posed by grass fires potentially crossing the pasture to the northwest.

To address these potential threats, the following measures are proposed:

- all buildings on the site meet a Bushfire Attack Level (BAL) of 19, including establishment of Asset Protection Zones of 24m
- the following water sources are provided for firefighting:
    - 10KL rainwater tanks with electric pumps for all cabins and massage centre;
    - 40KL rainwater tank with electric pump for Lodge;
    - 100KL dam adjacent to the Lodge;
    - 100KL dam in the paddock to the west of the Lodge;
- development of a Bush Fire Management Plan, which includes:
    - establishment of the Lodge as the property's evacuation centre in the event of fire;
    - staff training in correct procedures to follow when a threat arises;
    - installation of firefighting equipment in the shed outside the Lodge; and
    - displaying Bush Fire Evacuation Procedure notices prominently in all cabins.

Image 27: Allure Norfolk Bay central headland

Image 28: Allure Norfolk Bay Master Plan, East

Image 29: Allure Norfolk Bay Master Plan, West

4 Environmental Impacts

4.1 Waste Management

It is proposed to equip each cabin with three bins for organic, inorganic and recyclable waste and to manage each type as follows:

Type of Waste	Method of Disposal
Organic, Collected Daily	- Taken to the service yard of the restaurant to be used for compost.
Inorganic, Collected after each stay	- Taken to the service yard, where it is stored for collection
Re-cyclable, Collected after each stay	- Taken to the service yard, where it is stored for collection

Table 6: Waste management measures

All waste, other than Organic, would be collected from the service yard of the Lodge. Organic waste will be composted on the property using a suitable method, with little to no impact on guests or local residents.

4.2 Energy Efficiency

Allure Norfolk Bay would strive to minimise carbon outputs in its operation by the following means:

Device	Cabins	Restaurant
Cooling	Cross Ventilation with Air Conditioning	Cross Ventilation
Heating	Heat Pumps	Open Fire and Heat Pumps
Natural Lighting	Northern Clerestory	Northern Clerestory
Artificial Lighting	LED Lightings	LED Lightings
Exterior Lighting	PV Powered LEDs	PV Powered LEDs
Hot Water	Instantaneous Gas	Instantaneous Gas
Cooktops	Electric Hotplates	Gas Hotplates
Transport	Walking/ Cycling/Electric Carts	Walking/Cycling/Electric Carts

Table 7: Energy efficiency measures

4.3 Geological Impact

Geological impacts are described in the Planners Report attached to this application.

4.3.1 Footings

It is proposed to used mega-anchors as footings, as these have minimal impact on the terrain.

4.3.2 Excavation

Cutting and filling would be minimised in all cases to less than 0.5m.

4.4 Materials

The choice of building materials has many implications for the environment, such as:

- transport distance and the energy consumed in getting it to the site
- durability of the material and hence the time before it has to be replaced
- appropriateness of the material to the application in terms of performance
- impact of use of the material on its source environment

All these factors have been considered in the selection of materials, shown in Table 8.

External Materials			
Material	Application	Positive	Negative
Hardwood	- Vertical Boards	- Fire Resistance - Blends into Setting - Durability - Locally sourced	- Higher Cost
Dark Grey Sheeting	- Exterior Cladding	- Fire Resistance - Blends into Setting - Durability	- Non-local source
Solarspan Panels	- Skillion Roofs	- High Insulation value	- Captured Energy - Non-local source
Aluminium	- Thermal-gapped, Double Glazed Door and Window frames	- Insulation - Low maintenance - Durability - Recyclable	- Captured energy - Non-local source
WPC Decking	- Decks and Steps	- Durable - Porous (in Gaps) - Low Maintenance - Recycled	- Non-local source
Crushed Gravel	- Roads & Paths	- Serviceability - Ease of Repair - Locally sourced - Porous	- Upkeep
Internal Materials			
Material	Application	Positive	Negative
Tas Oak Boards	- Floors	- Warmth to touch - Durability - Recyclable	- Higher Cost
Timber Slats	- Ceilings	- Acoustic Absorption	
Ceramic Tiles	- Wet Areas	- Durability - Ease of cleaning	- Non-local source
Softwood	- Framing	- Locally sourced - Low Cap. Energy	

Table 8: Proposed construction materials

4.5 Water Usage and Management

4.5.1 Wastewater

The appended On-Site Disposal of Wastewater Report proposes that each cabin and the massage centre will have its own Wisconsin Mound System, which will be located at least 40m from high tide level. Where needed, a pump system will be used pumping back to the Wisconsin Mound System. The Lodge will have its own fit-for-purpose individually designed mound system and a minimum 1,000l grease arrestor for kitchen waste. All will be developed in full compliance with relevant codes. (See Appendix 7.3 for Summary Wastewater and Stormwater Management Plan).

4.5.2 Potable Water

All buildings would be supplied with water from a 100KL header tank located at the highest point on the southeast corner of the site. The source of the supply to this tank is still under investigation, but one possible source could be a bore from the proponent's adjacent farm, the suitability of which will be assessed.

4.5.3 Stormwater

The restaurant roof would fill a 40KL Tank, which would be used to flush the toilets and irrigate the surrounding landscape and is part of the Bush Fire Management Plan.

The villa roofs would each drain to their own 10KL RW Tank, which would be used to flush the toilet and is part of the Bush Fire Management Plan.

There are two existing, approximately 100KL, dams on the site. One is adjacent to the restaurant site, which is proposed only for use as back-up under the Bush Fire Management Plan. The other sits within the sheep grazing land, but would also be used as for bushfire control.

4.6 Fauna and Flora Impact

As minimal vegetation is to be disturbed by this proposal, there would be no impact on the flora. Internal roads would be sign-posted to alert drivers to the presence of native fauna, particularly at night.

Potential Impact	Proposed Impact
Waste Management	- Comprehensive Waste Management to minimise landfill - Use of organic waste to produce compost - Centralised point of collection, with independent access
Material Usage	- Materials would be carefully selected to be sustainable - Local materials would be used wherever possible
Energy Efficiency	- State of the art energy efficient heating, cooling & lighting
Geological Impact	- Mega-Footings used to minimise impact on the site - Excavation to be minimised
Water Usage & Management	- Extensive water management systems are proposed to minimise per capita usage and maximise its retention and use for the landscape.
Flora and Fauna Impacts	- It is not proposed to disturb any of the existing vegetation - Care would be taken to minimise impact on the indigenous fauna

Table 9: Summary of environmental impacts

5 Conclusion

Allure Norfolk Bay is one of three luxury resorts proposed by the proponents for Tasmania's magnificent, and relatively undiscovered, South East, which will further consolidate its reputation as an attractive destination for high-value visitors.

Situated within 40 minutes of Hobart International Airport and overlooking magnificent Norfolk Bay, it is the ideal base from which to explore the region. This is a proposal to provide visitor accommodation in a location that has been identified by the Tasmanian Government as one in which investment in innovative tourism development is critically necessary.

The above impact assessment has established that this proposal would have many positive impacts on the region and virtually no adverse ones. It is therefore respectfully submitted that this proposal should be approved in the community's interest.

Image 30: View of Allure Norfolk Bay foreshore

6 Compliance Table

6.1 Planning Scheme Provisions

	Requirement	Proposed	✔
26.3.2	Visitor Accommodation		
P1(a)	Not adversely affect residential amenity or privacy	Nearest house is 80m from the nearest proposed building, which is not visible from it, due to existing trees.	Yes
P1(b)	Provide all required parking on site	Refer Traffic Impact Assessment: Parking meets Code requirement	Yes
P1(c)	Intensity should reflect context	1.6Ha/Cabin proposed, which is a rural density.	Yes
P1(d)	Not adversely affect traffic	Refer Traffic Impact Assessment: Impact on Roads minimal	Yes
P1(e)	Not fetter existing rural uses	Proposal would reduce the useable farm pasture by < 5% and is all along the unused foreshore and income generated would ensure the ongoing viability of the farm	Yes
39.2	Zoning - Rural Resource	Visitor Accommodation	Yes
39.3.1	Discretionary uses not to dominate	All Discretionary uses are minor – restaurant and wellness centre	Yes
39.3.2	Non-Res uses not to affect residents	Non-residential uses are all > 375m from the nearest house	Yes
39.4.1	Residential < 8.5m; Other< 10.0m	All structures are within limits	Yes
39.4.2	A1 - 20m from frontage	All buildings are ≥ 20m from the boundaries to road frontages & adjoining properties.	Yes
39.4.3	A1 - Roofed ≤ 30% of Dev. Area	Total Roofed area <1% of Development Area	Yes
	A2 - Colours to blend or match exist.	External colours are dark timber and dark grey roofs	Yes
	A3 - Depth of excavation ≤ 2m	All excavation ≤ 1m	Yes
39.4.4	A1 - Subdivision only for O.S.	No subdivision proposed	Yes

7 Appendices

7.1 Architectural Drawings

Site Plans

ANB1 DA01 Master Plan
ANB1 DA02 Master Plan West
ANB1 DA03 Master Plan East
ANB1 DA04 Master Plan Eastern Foreshore

Photomontages

ANB1 DA05 From Connellys Marsh Beach
ANB1 DA08 Eastern Foreshore from SW
ANB1 DA09(a) Amenities
ANB1 DA09(b) Amenities
ANB1 DA10(a) Susan Bay Foreshore
ANB1 DA10(b) Susan Bay Foreshore
ANB1 DA11 Eastern Foreshore from South
ANB1 DA12 Type A Cabins from the SW

The Lodge

ANB2 DA01 The Lodge Site Plan
ANB2 DA02 Ground Plan
ANB2 DA03 Sections
ANB2 DA04 N & S Elevations
ANB2 DA05 E & W Elevations
ANB2 DA06 Views 1
ANB2 DA08 Views2

Cabin Type A

ANB3 DA00 Typical Site Plan
ANB3 DA01 Ground Plan
ANB3 DA02 SE & SW Elevations
ANB3 DA03 NE & NW Elevations
ANB3 DA04 Sections
ANB3 DA05 Exterior Images

Cabin Type D

ANB5 DA01 Ground Plan
ANB5 DA02 Sections
ANB5 DA03 E&W Elevations
ANB5 DA04 N&S Elevations
ANB5 DA05 Exterior Images

The Enclave

ANB6 DA01 Ground Plan
ANB6 DA02 Mezzanine Plan
ANB6 DA03 E&W Elevations
ANB6 DA04 N&S Elevations
ANB6 DA05 Sections
ANB6 DA06 Views

7.2 Planning Report

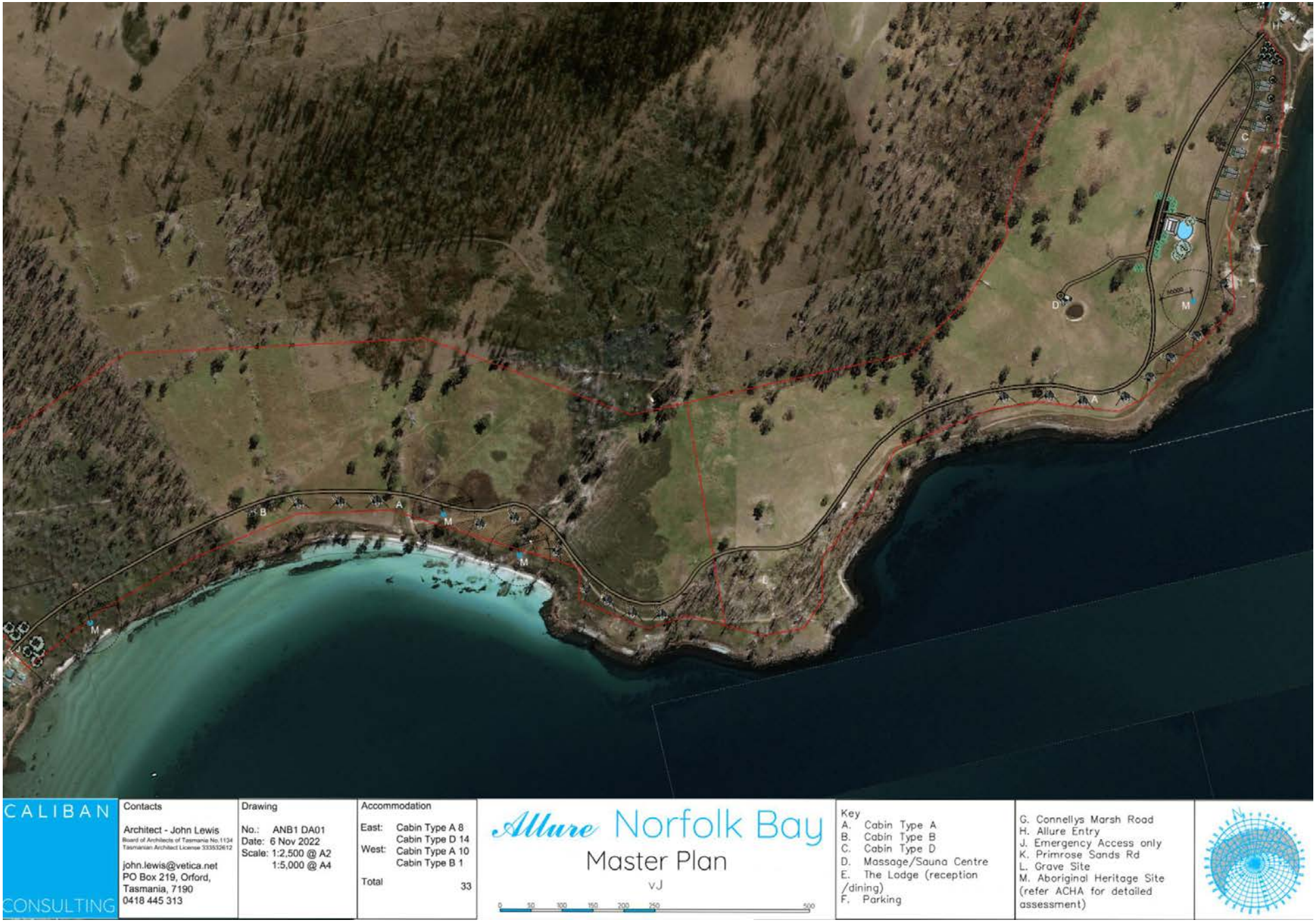
7.3 Traffic Impact Assessment

7.4 Summary Wastewater and Stormwater Management Plan

7.5 Certificates of Title

7.6 Site Surveys

7.7 Aboriginal Heritage Assessment Report



Current development Master Plan showing locations of proposed buildings and known Aboriginal heritage sites (identified by blue dots marked 'M')

ALLURE

NORFOLK BAY | TASMANIA

Site and Soil Report, On-site Wastewater Management Plan & Stormwater Management Plan

January 2023 (V.2)

Sorell Council
Development Application: Response to request for information - 297
Primrose sands road, primrose Sands
Plans Reference: P3
Date Received: 2/02/2023

1. Overview

Allure Tasmania is a new, wholly Tasmanian-owned luxury lodges brand that will provide indulgent getaways at three unique locations in Tasmania's magnificent and relatively undiscovered South East.

Focussing on quality, distinctiveness, inclusiveness and sustainability, Allure's three boutique developments in the South East will offer guests extraordinary and accessible adventures for mind, body and spirit, including gourmet local produce; wellness experiences; land and water-based safaris of the properties and surrounds; and the chance to explore and learn with local experts, makers and storytellers.

2. Site Description

2.1 Property Description

The Allure Norfolk Bay site is located on the property known as *Riverside*, at 297 Primrose Sands Road, Primrose Sands (Property ID 9584675). The property has frontage to Primrose Sands Road to the north and Fulham Road in the east. Road access is from Connellys Marsh Road, which is owned and maintained by the Sorell Council. The southern section, which includes the proposed development site, fronts the coastal Crown Land Reserve that runs between Susan Bay and Connellys Bay (parts of Norfolk Bay), providing separation between the high watermark and the proposed development lots. Along the western boundary, the farmland adjoins the township of Primrose Sands, and to the east, the township of Connellys Marsh.

The 600-hectare property is comprised of farmland and natural bushland, which is regenerating following devastation by bushfire in January 2013. Vegetation is characterised by open grazing with woodland that is denser on the steeper slopes. Referencing TASVEG Live layer (LIST Map), the featured native vegetation type on the hillsides is (DGL) *Eucalyptus globulus* dry forest and woodland, a threatened native vegetation community under Schedule 3A of the *Nature Conservation Act 2002*. The proposed development site consists of agricultural land and does not include threatened species.

The property is currently a working farm grazing superfine merino sheep, however the site topography, poor soil quality and inability to irrigate the land limit any agricultural diversification that could enhance the financial viability of the property. The proposed visitor development would improve commercial viability and ensure the ongoing sustainability of current grazing activities.

2.2 Development Site

The proposed development is limited to approximately 10 hectares on the southern boundary of the property, overlooking Norfolk Bay and including the following lots:

- CT: 181036/19;
- CT: 181036/20; and
- CT: 210947/1.

Image 1: "Riverside", 297 Primrose Sands Road, Primrose Sands (PID: 9584675) in blue outline. The area of the proposed development is restricted to the section shaded blue. (Source LIST Map)

3. The Development

Occupying less than two percent of the farm and bushland property, but providing much-needed diversification and supplementary income, built facilities will include:

- a central reception/restaurant building, which will be exclusive for guests only and not open to the public;
- sauna and massage centre, again exclusive to guests only; and
- 33 luxury king-bed villas with maximum 2 person occupancy (1 existing + 32 new under this proposed development).

4. Planning Requirements

4.1 Wastewater Management

The relevant requirements for onsite wastewater management are mandated under the *Sorell Interim Planning Scheme 2015* (SIPS 2015) Code E23.

Part E23.1.1 of the Scheme states that: "The purpose of this provision is to ensure that development or use requiring onsite wastewater management will have access to sufficient land area necessary for the satisfactory and sustainable onsite treatment of that wastewater."

As this development entails construction of facilities for commercial accommodation, applicable section of the Code is E23.2: "wastewater similar to domestic wastewater from non-residential use, other than wastewater from industrial or manufacturing processes".

This report addresses application requirements under Code E23.5 of the Scheme, which mandate that:

> "In addition to any other application requirements, the planning authority may require the applicant to provide any of the following information if considered necessary to determine compliance with all applicable standards:
>
> a. a site and soil evaluation;
> b. certification from a structural engineer that the risk of effluent reducing the bearing capacity of a building's foundations is acceptably low;
> c. certification from a structural engineer for the design of a barrier that ensures that the risk of effluent reducing the bearing capacity of a building's foundation is acceptably low."

Details of the Site and Soil Evaluation are provided at Section 5 of this report, while measures proposed to meet the requirements of Code E.23 are described in Section 6.

4.2 Stormwater Management

The relevant requirements for stormwater management are mandated under SIPS 2015 Code E7.

The Stormwater Management Code is a mandatory development code that applies to all new impervious surfaces, including gravel driveways. The purpose of the Code is "to ensure that stormwater disposal is managed in a way that furthers the objectives of the State Stormwater Strategy" (SIPS 2015, E7.1.1) and applies to any development requiring stormwater management (SIPS 2015, E7.1.2).

It is a requirement of Clause E7.7.1 - A1 that stormwater be disposed of by gravity to public stormwater infrastructure. As this requirement cannot be met at this location, the application must comply with Performance Criterion E7.7.1 – P1, which states:

> *Stormwater from new impervious surfaces must be managed by any of the following:*
>
> *a) disposed of on-site with soakage devices having regard to the suitability of the site, the system design and water sensitive urban design principles*
> *b) collected for re-use on the site;*
> *c) disposed of to public stormwater infrastructure via a pump system which is designed, maintained and managed to minimise the risk of failure to the satisfaction of the Council.*

Measures proposed to meet the requirements of Code E7 are described at Section 7 of this report.

5. Site and Soil Evaluation

A comprehensive site and soil evaluation was undertaken at the proposed site of Allure Norfolk Bay, with on-site geomorphological survey and drilling of soil core samples carried out on 20th April 2022 and 26th May 2022.

Bore holes were drilled to a target depth of 2.3m, where not otherwise prevented by underlying geology. Core samples were taken from the proposed site of each of the accommodation units, the reception/dining building and the sauna/massage centre. Samples were subject of expert analysis and a detailed soil profile was produced from each sample.

Principal survey results relevant to determination of compliance with AS/NZS 1547-2012 and SIPS 2015 are summarised in the following table.

It should be noted that, based on these results:

- all nominated building sites have sufficient land area for the satisfactory and sustainable onsite treatment of that wastewater;
- no sites require additional soil testing (Emerson);
- no sites require upslope surface or subsurface drainage; and
- the proposed wastewater disposal method will not impact site stability and therefore requires no expert geological advice.

Detailed site survey (including topographical, hydrological and vegetation data), and soil profile results are provided at Attachment A to this Appendix (Survey Results 2022).

NB: It should be noted that the report summarised at Attachment was provided by Joe Mamic & Associates P/L in June 2022. While the survey results per se remain valid, the maps included in the report may show project elements belonging to an earlier version of the site Master Plan, which have since been removed.

Table 1: Site and Soil Evaluation – Summary of Relevant Findings

Proposed Structure	Bore Hole/s ID	Bore Hole Depth (m)*	Soil Category (per AS/NZS 1547-2012)	Soil Permeability (m/day)	Design Load Rating (mm/day)	Impact on Site Stability	Groundwater Depth (m below surface)	Additional Drainage Requirement	Reserve Area	Recommended Wastewater Solution
Reception/ Restaurant	BH08 BH09	1.8 2.0	5	0.4	8.0	Nil	Not encountered Not encountered	Nil	Sufficient	Wisconsin Mound (28x7m) + 1,000l grease arrestor
Massage/ Sauna Centre	BH18	0.7 (dolerite)	5	0.42	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x5m)
Cabin A4	BH48	1.2	4	0.4	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A5	BH47	1.6	3	0.6	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A6	BH46	1.3	3	0.7	24.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A7	BH45	2.3	4	0.43	8.0	Nil	1.3	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A8	BH45	2.3	4	0.42	8.0	Nil	1.3	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A9	BH42	1.6	5	0.35	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A10	BH41	1.7	3	0.7	24.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A11	BH40	1.5	4	0.42	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A12	BH39	1.5	5	0.35	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A13	BH27	0.5 (dolerite)	5	0.32	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A17	BH15	0.7 (dolerite)	5	0.32	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A18	BH14	0.6 (dolerite)	5	0.32	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)

Proposed Structure	Bore Hole/s ID	Bore Hole Depth (m)*	Soil Category (per AS/NZS 1547-2012)	Soil Permeability (m/day)	Design Load Rating (mm/day)	Impact on Site Stability	Groundwater Depth (m below surface)	Additional Drainage Requirement	Reserve Area	Recommended Wastewater Solution
Cabin A19	BH13	0.5 (dolerite)	6	0.28	5.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A20	BH12	1.8	5	0.42	8.0	Nil	*[estimated 1.2]*	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A21	BH11	0.8 (sandstone)	6	0.23	5.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A22	BH10	0.8 (dolerite)	5	0.43	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A23	BH16	0.3 (dolerite)	5	0.3	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabin A24	BH16	0.3 (dolerite)	5	0.3	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (8x8m)
Cabins D1 & D2	BH07	1.8	5	0.31	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)
Cabins D3 & D4	BH06	1.1	5	0.32	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)
Cabins D5 & D6	BH05	2.1	5	0.32	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)
Cabins D7 & D8	BH04	1.2	5	0.3	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)
Cabins D9 & D10	BH03	1.3	5	0.3	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)
Cabins D11 & D12	BH02	2.0	5	0.3	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)
Cabins D13 & D14	BH01	2.0	5	0.3	8.0	Nil	Not encountered	Nil	Sufficient	Wisconsin Mound (11x7m)

*NB: underlying geological barrier is described where bore depth is less than 1m

6. On-site Wastewater Management

A bespoke wastewater management solution for each proposed building has been developed by Joe Mamic & Associates P/L, Consulting Engineers and Building Surveyors. As the full report is some 800 pages in length and contains construction application details, only relevant excerpts have been appended to this report.

Based on the findings of the site and soil evaluation, the engineers determined that:

- the optimal wastewater management solution for each proposed building would be a Wisconsin Mound System of a size appropriate to the nature of the construction;
- mound systems for accommodation units located along the shoreline will be situated a minimum of 40m from the high tide level and will also require a pump;
- the proposed Lodge building would require a 1,000 litre minimum grease trap to appropriately manage kitchen waste;
- none of the proposed constructions are Certifiable Works in accordance with the guidelines for TasWater CCW Assessments.

Each Wisconsin Mound has been designed according to specific site conditions (such as soil permeability, topography, geology) and projected usage load. Plans provided by the engineer also include detailed instructions for construction and installation, and advice from a qualified nursery operator on plants suitable for aerobic wastewater treatment systems. A copy of the planting advice is located at Attachment B.

7. On-site Stormwater Management

Water supply to all proposed constructions will be provided by rainwater tanks, necessitating measures for the management of tank overflow.

Run-off from building rooves will be channelled into tanks and utilised for toilet flushing, irrigation and other non-potable functions. Any overflow from tanks will discharge into the surrounding grazing pasture.

Hardstand at the development will be minimal and confined to the area surrounding the Lodge reception/dining hall, as shown on Plan ANB2 DA01 – The Lodge Site Plan (see Image 2 over). This area includes a carpark with 49 spaces (including two access parking bays), plus a dedicated loading bay for deliveries. All parking facilities will be designed to comply with AS 2890.1:2004, with a gradient of less than five percent, but sufficient to ensure the surface water drains efficiently. Run-off from the dining hall and carpark will be discharged to the waterhole feature at the front of the building.

Internal access routes will retain their gravel surface to allow for sheet runoff into the surrounding paddocks, which will prevent pooling and channelling of runoff.

The proposed development is therefore consistent with the applicable Performance Criteria of the Stormwater Management Code (SIPS E7).

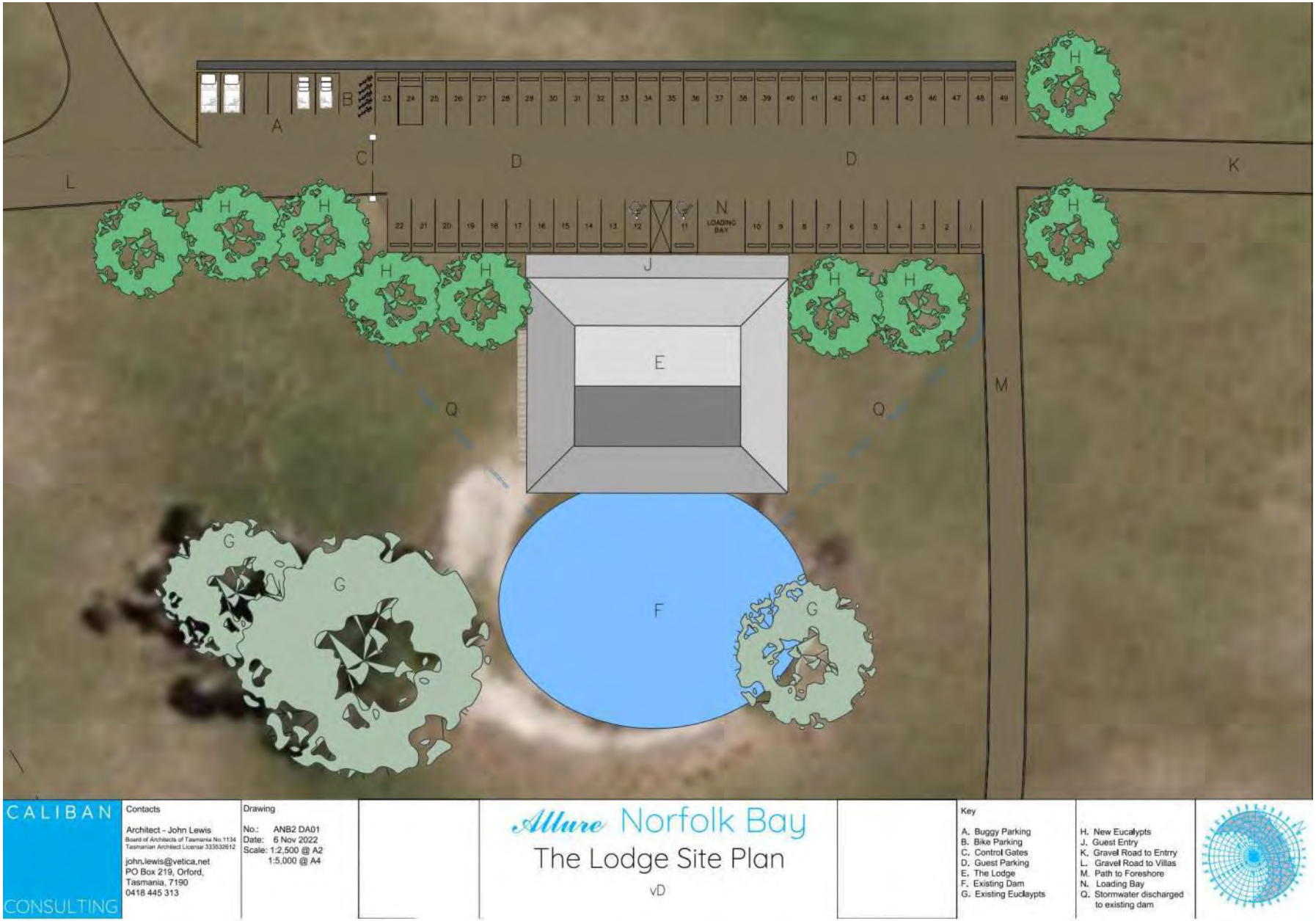


Image 2: Plan of Lodge building and carpark (Plan ANB2 DA01) with stormwater discharge channels and waterhole shown at items Q and F respectively

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14 June 2022

Introduction Summary - Proposed Accommodation - Allure Norfolk Bay

All Accommodation Units will be services by their own Wisconsin Mound System.

The mound system will need to be at least 40m away from high tide level. Some of the accommodation units Type A are the only ones that will need to have a pump system due to their closer location to the shore, closer than 40m all others are located well away.

The Restaurant is for 50 persons and the mound system has been designed for accordingly, only requirement is that a 1000l min grease arrestor will be required for the kitchen waste.

Yours faithfully

J Mamic Civil & Service Hydraulics Engineer

ALIBAN

CONSULTING

Master Plan, East

(2 of 2)

vC

29 February 2012

Allure Norfolk Bay

0 50 100 150 200 250 500

metres

ALIBAN

ONSULTING

Master Plan, West

(1 of 2)

VC

24 February 2020

Allure Norfolk Bay

0 100 150 200 250 500

meters

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is massage/sauna centre. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.4m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a Wisconsin mound off bassel area 28 X 7 (196 m^2)

Restaurant is to have a grease arrestor o 1000l capacity eg Viking or equivalent.

GEOTECHNICAL • HYDRAULICS • BRIDGES

JOE MAMIC & ASSOCIATES P/L

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: No

1,...2,...3,...4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.4m/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? N/A

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

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ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH08
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: Silty SAND trace roots (SM), dark brown, well sorted, fine grained sand	medium dense	dry		0.0				
0.2	TOPSOIL: CLAY with sand (CH), dark brown, high plasticity	very stiff	dry						
0.4	CLAY trace sand (CH), medium brown, high plasticity	very stiff	moist		0.5	FP U50	120		
1.1	Clayey SAND with silt (SC), pale yellow, well sorted, medium grained sand, residual	dense	moist		1.0				
	End of Borehole at 1.5m depth. Direct Push Sampler refusal on Extremely Weathered SANDSTONE				1.5				

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3, Averaging is applied.

Enviro-Tech Consultants
162 Macquarie Street, Hobart - Phone: 0362 249 197 Email: office@envirotechtas.com.au

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CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH09
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 207 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSISTENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	DCP blows/100mm 0 5 10 15 20
0	TOPSOIL: Silty SAND trace roots (SM), dark brown, well sorted, fine grained sand	medium dense	slightly moist		0.0			6.0	
0.1	TOPSOIL: CLAY with sand (CH), dark brown, high plasticity	very stiff	slightly moist					6.0	
								8.0	
								9.0	
0.4	CLAY trace sand (CH), medium brown, high plasticity	firm to very stiff	moist		0.5	PP U50	70	8.0	
								6.0	
								5.0	
								2.0	
					1.0			3.0	
								3.0	
								2.0	
1.2	Sandy CLAY (CH), medium yellowbrown, well sorted, high plasticity, medium grained sand, residual	very stiff to hard	moist			PP U50	115	4.0	
								5.0	
								11.0	
1.4	Clayey SAND with silt (SC), pale yellow, well sorted, medium grained sand, residual	dense	moist		1.5			8.0	
								10.0	
								REF	
	End of Borehole at 2m depth. Direct Push Sampler refusal on Extremely Weathered SANDSTONE				2.0				

GROUNDWATER: Not Encountered

TESTING: Penetrometer AS 1289.6.3.2

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

The Enclave

MAY 2022

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is massage/sauna centre. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th. The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 4Lm /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound off basset area 845m

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench^{TM} site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

1,...2,...3,...4,...**5**,...6

Modified Emerson Test Required: **No**

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

d 42/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

3 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 121 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH16
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.3				
0.1	CLAY trace sand (CH), medium olive/brown, high plasticity	very s/ff	dry		0.5				
	End of Borehole at 0.7m depth. Direct Push Sampler refusal on DOLERITE								

GROUNDWATER: Not Encountered
TESTING:

PAGE 1 of 1

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-1

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9^0. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of [illegible] /day.

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a [illegible] mound of [illegible] area 8x8 m

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: **No**

1,..2,..3,..4,..**5**,..6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0.8m/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(use local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion. The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH-S1
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSISTENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	DCP blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace roots (SW), medium grey, well sorted, fine to medium grained sand	very loose	moist		0.0			1.0	
0.1		loose to medium dense	moist		0.5			2.0	
	SAND (SP), pale grey, poorly sorted, fine to medium grained sand							2.0	
1		medium dense to dense	wet		1.0			2.0	
								2.0	
								2.0	
								3.0	
								4.0	
								5.0	
								3.0	
								3.0	
								7.0	
								7.0	
								3.0	
					1.5			5.0	
1.8								5.0	
	Sandy CLAY (CI), medium grey mottled brown, well sorted, medium plasticity medium grained sand	stiff to hard	moist			PP J50	75	5.0 6.0	
					2.0			7.0	
								10.0	
								12.0	
								REF	
	End of Borehole at 2.3m depth. Borehole Ended At Target Depth								

GROUNDWATER: Encountered at 1 m Below Ground Surface

TESTING: Penetrometer: AS 1289.6.3.2

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A -2

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 2-3m /day:.

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 318

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required **No**

1,...2,...3,...4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.55/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

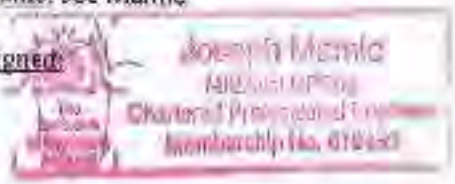
Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

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Phone: 62 314422

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Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH49
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	DCP blows/100mm 0 5 10 15 20
0	TOPSOIL - SAND trace roots (SW), medium grey, well sorted, fine to medium grained sand	very loose	slightly moist		0.0			1.0	
								1.0	
0.2	SAND (SP), pale grey, poorly sorted, fine to medium grained sand	loose to medium dense	slightly moist		0.5			2.0	
								2.0	
								2.0	
								2.0	
								2.0	
								3.0	
								7.0	
								4.0	
								5.0	
1		medium dense	wet		1.0			3.0	
								3.0	
1.2	Sandy CLAY (CI), medium brown, medium plasticity, fine to medium grained sand	very stiff	moist					6.0	
1.3	SAND (SP), pale grey, poorly sorted, fine to medium grained sand	dense to very dense	wet					12.0	
								17.0	
1.5	CLAY with sand (CI), medium brown, medium plasticity	very stiff to hard	moist		1.5			13.0	
								7.0	
								6.0	
1.8	Sandy GRAVEL (GP), medium yellowbrown, poorly sorted, fine to medium grained sand, gravel 65%, coarse grained, angular	medium dense	moist					7.0	
								7.0	
	End of borehole at 2m depth. Direct Push Sampler refusal on SANDSTONE COBBLE				2.0			10.0	
								10.0	
								REF	

GROUNDWATER: Encountered at 1 m Below Ground Surface

PAGE 1 of 1

TESTING: Penetrometer: AS 1289.6.3.2

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-3

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands..

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.54m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 8X8

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PO BOX [illegible] NORTH HOBART TAS [illegible]

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: No

1,...2,...3,...4,...**5**,...6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.54 /day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(includs relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan.

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH50
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND with roots (SW), medium grey, well sorted, fine to medium grained sand	very loose	moist		0.0				
0.2	SAND (SP), medium grey, poorly sorted, fine to medium grained sand	loose to medium dense	moist						
0.5	SAND (SW), pale grey, well sorted, fine to medium grained sand	medium dense	moist		0.5				
					1.0				
1.3	SAND (SW), dark brown, well sorted, fine to medium grained sand, fericrete cementing	medium dense to dense	moist						
1.5	SAND (SP), pale grey, poorly sorted, fine to medium grained sand	medium dense to dense	moist		1.5				
1.7	SAND (SW), dark brown, well sorted, fine to medium grained sand, fericrete cementing	medium dense to dense	moist						
1.9	SAND (SW), medium grey, well sorted, fine to medium grained sand	medium dense to dense	moist		2.0				
	End of Borehole at 2.3m depth. Direct Push Sampler refusal on SAND (SW)								

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type H-4

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9^0. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.4m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a Wisconsin mound of basal area 8x8 m with

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547:2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547:2012)

Modified Emerson Test Required: No

1,...2,...3,...**4**,...5,...6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

3 **m/day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

35 **mm/week** (5 mm/day)

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle/medium**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural pareel of land** Forestry? **N/A**

.....

Site Exposure

Aspect. **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) – **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH48
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY/ CONSISTENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL. SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	SAND (SP), white, poorly sorted, fine grained sand	medium dense	dry						
0.3	Silty Sandy CLAY (CH), medium brown, well sorted, high plasticity, medium grained sand	very stiff	slightly moist		0.5	PP U50	125		
0.8	SAND trace silt/clay (SW-SM), medium yellow/brown, well sorted, medium grained sand	dense	moist		1.0				
	End of Borehole at 1.2m depth. Direct Push Sampler refusal on SANDSTONE								

GROUNDWATER:
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-5

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th. The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.4m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a Wisconsin mound of basal area 81.8m²

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment in determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench^{TM} site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547 2012) Modified Emerson Test Required: No

1,...2,...**3**,...4,...5,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0·6m **/day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
56 **mm/week** / 8mm / day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone.
Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage ..... 2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed** lot.

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) ~ **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech
CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH47
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL - SAND (SW), medium brown, well sorted, fine grained sand	very loose	dry		0.0				
0.1	SAND (SP), white, poorly sorted, fine grained sand	medium dense	dry		0.5				
0.9	Sandy CLAY (CH), medium grey/brown, well sorted, high plasticity, fine to medium grained sand	stiff	moist		1.0	PP U50	80		
1.5	GRAVEL with sand (GW), medium yellow/brown, well sorted, gravel 75%, coarse grained, angular	dense	moist		1.5				
	End of Borehole at 1.6m depth Direct Push Sampler refusal on SANDSTONE								

GROUNDWATER: Not Encountered

TESTING:

D-stance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.1m /day.

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a Wisconsin mound of total area 81.8m min

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PO BOX 143 NORTH HOBART TAS 7002

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required No

1,...2,...**3**,...4,...5,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan.)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.7m/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
24 mm/day

NOTE The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) – **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions.
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH46
DATE TESTED: 20/04/2022
LOGGED BY: K Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND (SW), medium brown, well sorted, fine grained sand	very loose	dry		0.0				
0.1	SAND (SP), white, poorly sorted, fine grained sand	loose	dry						
0.5	Sandy CLAY (CH), medium grey/brown, well sorted, high plasticity, fine to medium grained sand	stiff	moist		0.5	PP U50	90		
1	SAND trace gravel (SW), medium yellow/brown, well sorted, fine to medium grained sand, gravel 15%, coarse grained, angular	dense to very dense	moist		1.0				
	End of Borehole at 1.3m depth. Direct Push Sampler refusal on SANDSTONE								

GROUNDWATER: Not Encountered

TESTING:

Distance traveled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-7

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 1-4m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a Wisconsin mound of basal area 8x8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: **No**

1,...2,...3,...**4**,...5,...6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0.25 /day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
  Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) – **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site ; it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH45
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	DCP blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace roots (SP), dark grey, poorly sorted, fine grained sand	very loose	slightly moist		0.0			1.0	
0.1	SAND (SW), pale grey, well sorted, fine grained sand	loose	dry					2.0	
0.3	SAND (SW), white, well sorted, Fine grained sand	medium dense	dry					2.0	
					0.5			3.0	
0.5	CLAY with sand (CH), medium orange mottled brown, high plasticity	firm to very stiff	dry					5.0	
								2.0	
								3.0	
								2.0	
								2.0	
								3.0	
					1.0	PP	100	3.0	
						U50		4.0	
								8.0	
1.3								33.0	
								17.0	
					1.5			15.0	
								REF	
	SAND with clay (SP-SC), pale brown, poorly sorted, medium grained sand	dense to very dense	wet						
					2.0				
	End of Borehole at 2.3m depth Borehole Ended At Target Depth								

GROUNDWATER: Encountered at 1.3 m Below Ground Surface

TESTING: Penetrometer: AS 1289.6.3.2

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-8

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9^0. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.42m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547:2012 was undertaken.

CONCLUSION

We recommend the use of a Wisconsin mound of basal area 8x8

[illegible] & ASSOCIATES P/L
CONSULTING ENGINEERS AND
BUILDING SURVEYORS
[illegible]

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547:2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required No

1,...2,...3,...4,...5,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.4Z/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation. **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) ~ **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH45
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm
0	TOPSOIL: SAND trace roots (SP), dark grey, poorly sorted, fine grained sand	very loose	slightly moist		0.0			1.0
0.1	SAND (SW), pale grey, well sorted, fine grained sand	loose	dry					2.0
0.3	SAND (SW), white, well sorted, fine grained sand	medium dense	dry					2.0
								3.0
								5.0
0.5	CLAY with sand (CH), medium orange mottled brown, high plasticity	firm to very stiff	dry		0.5			2.0
								3.0
								2.0
								2.0
								3.0
					1.0	PP	100	3.0
						U50		4.0
								8.0
1.3	SAND with clay (SP-SC), pale brown, poorly sorted, medium grained sand	dense to very dense	wet					10.0
								17.0
					1.5			15.0
								REF
					2.0			
	End of Borehole at 2.3m depth Borehole Ended At Target Depth							

DCP blows/100mm: 0 5 10 15 20

GROUNDWATER: Encountered at 1.3 m Below Ground Surface

TESTING: Penetrometer AS 1289.6.3.2

Distance travelled per blow is later measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-9

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of ~35 m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wastewater mound of treated area 348

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,.. 2,.. 3,.. 4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0·35/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech
CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommocation
EASTING:
NORTHING:

HOLE ID NO.: BH42
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSISTENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace roots (SW), medium grey, well sorted, fine grained sand	very loose	slightly moist		0.0				
0.1	SAND (SP), pale grey, poorly sorted, fine grained sand	medium dense	dry						
0.4	CLAY trace sand (CH), dark brown, high plasticity	very stiff	slightly moist		0.5				
0.6	CLAY with sand (CI), medium brown, high plasticity	firm	moist		1.0	PP U50	40		
1.2	Clayey SAND trace silt (SC), medium orange mottled brown, well sorted, fine to medium grained sand	medium dense	moist						
1.5	SAND trace silt/clay (SW-SM), pale brown, well sorted, medium grained sand	dense	moist		1.5				
	End of Borehole at 1.6m depth. Direct Push Sampler refusal on SAND trace silt/clay (SW-SM)								

GROUNDWATER: Not Encountered

TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

Enviro-Tech Consultants
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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A – 10

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.7 m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a [illegible] bed area 8*6

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench^{TM} site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: No

1,...2,...**3**,...4,...5,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.7/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
2.4 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan.

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) – **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- [ ] Public Supply
- [X] Rainwater Tanks
- [ ] Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) Fine.

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH41
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSISTENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace roots (SW), medium grey, well sorted, fine grained sand	very loose	slightly moist		0.0				
0.2	SAND (SP), white, poorly sorted, fine grained sand	medium dense	dry						
0.5	SAND trace roots (SW), medium brown, well sorted, fine to medium grained sand	medium dense	dry		0.5				
0.6	Clayey SAND with silt (CH), medium olive, well sorted, high plasticity, fine to medium grained sand	dense	moist		1.0				
1.2	SAND trace clay (SW), pale yellow/brown well sorted, medium grained sand	dense	moist		1.5				
	End of Borehole at 1.7m depth. Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin | Type A – II

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 1-4m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 8x8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench$^{2.0}$ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

1...2...3...**4**...5...6

Modified Emerson Test Required: **No**

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0·42 /day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic. Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% – 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) – **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH40
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)
0	TOPSOIL SAND trace (SW), medium grey well sorted, fine grained sand	very loose	slightly moist		0.0
0.2	SAND (SP), white, poorly sorted, fine grained sand	medium dense	dry		0.5
0.6	CLAY trace sand (CH), medium green mottled brown, high plasticity	stiff	moist		1.0
1.3	GRAVEL with sand, with clay (GW-GC), medium yellow/brown, well sorted, gravel 65%, fine grained, angular	dense	moist		1.5
	End of Borehole at 1.5m depth. Direct Push Sampler refusal on Distinctly Weathered SANDSTONE				

TEST SAMPLES | Cu (kPa) | BLOWS/100mm | blows/100mm (0 5 10 15 20)

GROUNDWATER: Not Encountered

TESTING:
Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type | A-12

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th. The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.75m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547:2012 was undertaken.

CONCLUSION

We recommend the use of a wastewater mound of basal area 88

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: **No**

1,...2,...3,...4,...**5**,...6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0.35m/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

7 mm/day

NOTE. The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) Fine.

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

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ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH39
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace roots (SW), medium grey, well sorted, medium grained sand	very loose	dry		0.0				
0.1	SAND (SW), pale grey, well sorted, fine to medium grained sand, aeolian sheet sand	medium dense	dry						
0.4	CLAY trace sand (CH), dark brown, high plasticity	stiff	slightly moist						
0.5	CLAY trace sand (CH), medium olive, high plasticity	stiff	moist		0.5	PP USC	70		
1	SILT trace sand (ML), medium yellow/brown, low plasticity	very stiff	moist		1.0				
	End of Borehole at 1.5m depth. Direct Push Sampler refusal on Extremely Weathered SANDSTONE				1.5				

GROUNDWATER: Not Encountered

TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-16

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands..

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.5m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 81.3

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench^{HS} site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,..2,..3,..4,..**5**,..6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0·5 /day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classication
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH16
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, wel sorted, fine grained sand	very loose	dry		0.0				
0.2	MIXTURE OF SOIL & 20% COBBLES: Clayey Gravelly SAND trace silt (SC), medium brown, well sorted, fine to medium grained sand, gravel 35%, medium grained, sub-angular; 20% DOLERITE cobbles, residual	dense	dry						
	End of Borehole at 0.3m depth.								
	Direct Push Sampler refusal on Distrctly Weathered DOLERITE								

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-17

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.34m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 8x8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,...2,...3,...4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0·32/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 mm/day

NOTE The accompanying engineering log describes the soil profile encountered at: Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH15
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	CLAY trace sand (CH), medium brown, high plasticity, residual	very stiff	slightly moist		0.5				
	End of Borehole at 0.7m depth. Direct Push Sampler refusal on Distinctly Weathered DOLERITE								

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A-18

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.3m /day.

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 8 x 8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1…2…3,…4,…**5**,…6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.32**/day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 **mm/**day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Triassic: Micaceous quartz sandstone, felspathic sandstone and micaceous mudstone. Dominant clays: Yellow/grey sand overlying yellow sandy clay.

Soil properties (typical):
Liquid Limit ..... 35% – 51%
Plasticity Index ..... 21% – 40%
Linear Shrinkage .....2% - 11%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **gentle.**

Drainage lines / water courses: **As per google photo plan**
Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) – **1. 2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH14
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	CLAY with sand (CH), medium brown, high plasticity, residual	very stiff	dry						
0.5	GRAVEL with sand, trace clay (GW), medium yellow/brown, well sorted, gravel 65%, fine grained, angular, residual	dense	dry		0.5				
	End of Borehole at 0.5m depth. Direct Push Sampler refusal on Distinctly Weathered DOLERITE								

GROUNDWATER: Not Encountered

TESTING:
Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

cabin Type A – 19

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 028m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a subsoil wound of passed over

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: **No**

1...2...3...4...5...**6**

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.28/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system)
5 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site, it is fairly consistent

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech
CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH13
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	CLAY trace sand (CH), medium brown, high plasticity, residual	stiff	slightly moist						
					0.5				
	End of borehole at 0.5m depth Direct Push Sampler refusal on Distinctly Weathered DOLERITE								

GROUNDWATER: Not Encountered

TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type | A – 20

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 1.12m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 8 x 8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench^{2M} site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: **No**

1,..2, 3,..4, ..**5**,...6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0.42 /day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommocation
EASTING:
NORTHING:

HOLE ID NO.: BH12
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	DCP blows/100mm 0 5 10 15 20
0	TOPSOIL - SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0			1.0	
0.1	SAND (SP), pale grey, poorly sorted, fine to medium grained sand, aeolian sheet sand	very loose	dry					4.0	
0.3	Sandy CLAY (CH), medium grey/brown, well sorted, high plasticity, fine to medium grained sand, lacustrine	stiff to hard	moist		0.5			5.0	
								12.0	
								20.0	
								30.0	
								REF	
					1.0	PP	100		
						U50			
1.6	SAND with clay (SW-SC), pale brown, well sorted, fine to medium grained sand, lacustrine	medium dense	moist		1.5				
	End of Borehole at 1.6m depth. Direct Push Sampler refusal on SAND with clay (SW-SC)								

GROUNDWATER:

TESTING: Penetrometer AS 1289.6.3.2

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type A —21

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands,.

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9º. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of-23m /day .

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound off basal area 8x8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,..2,..3,..4,..5,..**6** If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.25/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
5 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/l

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech
CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH11
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, med-Lrn grained sand	very loose	dry		0.0				
0.1	CLAY trace sand (CH), medium olive/brown, high plasticity, residual	firm	moist		0.8				
	End of Borehole at 0.8m depth. Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type | A-22

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is a one-bedroom dwelling. There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.4m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 8X8

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Councils information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

Modified Emerson Test Required: **No**

1,..2,...3,...4,...**5**,...6

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0.3/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 mm/day

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan.

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed: 

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH10
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	MIXTURE OF SOIL & 20% COBBLES: CLAY trace sand (CH), medium olive/green, high plasticity, 20% DOLERITE cobbles; residual	firm	slightly moist		0.5				
0.7	GRAVEL with sand, trace clay (GW), pale brown, well sorted, gravel 75%, fine grained, angular; residual	medium dense	slightly moist						
	End of Borehole at 0.8m depth Direct Push Sampler refusal on Distinctly Weathered DOLERITE								

GROUNDWATER: Not Encountered
TESTING:

Distance traveled per blow is later measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type D - 1 and 2

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.5m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a [illegible] model 11m X 7m

JOE MAMIC & ASSOCIATES

CONSULTING ENGINEERS AND
BUILDING SURVEYORS

... ELIZABETH ST NORTH HOBART

PO BOX ... NORTH HOBART TAS

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,..2,..3,..4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
[illegible] **/day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 **mm/week**

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) Fine.

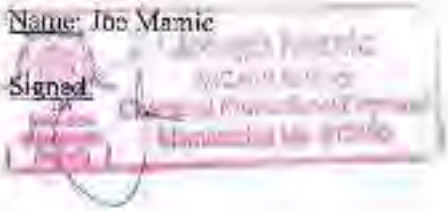
Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:



Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH07
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY/ CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW) medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	SAND trace silt (SW), pale grey, well sorted, fine grained sand	loose	dry						
0.3	CLAY trace sand (CH), medium brown, high plasticity	firm	slightly moist		0.5				
0.7	SAND with silt, trace clay (SW), pale yellow, well sorted, fine to medium grained sand, residual	medium dense	moist		1.0				
					1.5				
	End of Borehole at 1.8m depth Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered

TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type D – 3 and 4

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of0.32m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of size 11 X 7 m

JOE MANSO & ASSOCIATES P/L
CONSULTING ENGINEERS AND BUILDING SURVEYORS
PH [illegible]
FAX [illegible]
[illegible]
[illegible] ELIZABETH ST NORTH HOBART
PO BOX [illegible] NORTH HOBART TAS [illegible]

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,...2,...3,...4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.72 **/day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
7 **mm/week**

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% - 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site, it is fairly consistent

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech
CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH06
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.2	SAND trace silt (SW), pale grey, well sorted, fine grained sand	loose	dry						
0.3	CLAY trace sand (CH), medium orange/yellow, high plasticity	firm	slightly moist		0.5				
1	SAND with silt, trace clay (SM), pale yellow, well sorted, fine to medium grained sand, residual	medium dense	moist		1.0				
	End of Borehole at 1.1m depth. Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 5. Averaging is applied.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type D - 5 and 6

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.7m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wastewater absorption area 113.7m²

JOE MARLI & ASSOCIATES P/L
CONSULTING ENGINEERS AND
GEOLOGIC SURVEYORS

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012)

1,..2,..3,..4,...**5**,...6

Modified Emerson Test Required: **No**

If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)

0.32 m/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 **mm/week**

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays - Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit 50% 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH05
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium brown, well sorted, fine grained sand	very loose	dry		0.0				
0.2	SAND trace silt (SW), pale grey, well sorted, fine grained sand	loose	dry						
0.4	CLAY with sand (CH), medium brown, high plasticity	firm	slightly moist		0.5	PP	65		
1	SAND with clay, trace silt (SC), pale yellow/brown, well sorted, fine to medium grained sand, residual	medium dense	moist		1.0				
					1.5				
					2.0				
	End of Borehole at 2.1m depth. Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered

TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied

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Office: GROUND LEVEL, 42 ELIZABETH ST NORTH HOBART
PO BOX 143 NORTH HOBART TAS 7002

ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

Cabin Type D - 7 and 8

MAY 2022

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.5cm /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547:2012 was undertaken.

CONCLUSION

We recommend the use of a [illegible]

JOE MAVIC & ASSOCIATES P/L
CONSULTING ENGINEERS AND
BUILDING SURVEYORS
NORTH HOBART
PO BOX 1A0 NORTH HOBART TAS 7002

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required- **No**

1,..2,..3,..4,..**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0-30 m/**day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)

8 **mm/week**

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? N/A

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) Fine.

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro·tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH04
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.1	SAND trace silt (SW), pale grey, well sorted, fine grained sand	loose	dry						
0.2	CLAY with sand (CH), medium orange/brown, high plasticity	firm	slightly moist		0.5				
1	Gravelly SAND (SW), pale yellow, well sorted, fine to medium grained sand, residual	medium dense	moist		1.0				
	End of Borehole at 1.2m depth Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered

TESTING:

Distance traveled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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Office: GROUND LEVEL, 421 ELIZABETH ST NORTH HOBART
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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

Cabin Type D - 9 and 10

MAY 2022

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands..

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0.3m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound 87m basal area

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[illegible] GROUND LEVEL 43 ELIZABETH ST NORTH HOBART
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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1...2...3...4...**5**...6 If Yes, Emerson Class No.

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0·[illegible]/**day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 **mm/week**

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

.....

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:

Company: Joe Mamic & Associates P/L

Address: 421 Elizabeth St, Hobart

Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS

enviro-tech
CONSULTANTS

ASSESSMENT: Site Classication
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH03
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/ 100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	dry		0.0				
0.2	SAND trace silt (SW), pale grey, well sorted, fine grained sand	loose	dry						
0.4	CLAY with sand (CH), medium orange/brown, high plasticity	firm	slighlly moist		0.5				
0.9	SAND trace gravel, trace clay (SW), pale yellow, well sorted, fine to medium grained sand, residual	medium dense	moist		0.9				
	End of Borehole at 1.3m depth Direct Push Sampler refusal on Distinctly Weathered SANDSTONE								

GROUNDWATER: Not Encountered

TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

Enviro-Tech Consultants
162 Macquarie Street, Hobart - Phone: 0362 249 197 Email: office@envirotechtas.com.au

Acceptable Solutions	Performance Criteria
A1 Horizontal separation distance from a building to a land application area must comply with one of the following: (a) be no less than 6m; or (b) be no less than: (i) 3m from an upslope building or level building; (ii) if primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) if secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.	P1 a) The land application area is located so that: (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low; and (ii) it contains a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seepage out of that excavation.
A2 Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b): (a) 50 m or more; or (b) be no less than the following: (i) if primary treated effluent 15m plus 7m for every degree of average gradient on downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 7m for every degree of average gradient on down slope surface water.	P2 Horizontal separation distance from downslope surface water or a land application area must comply with all of the following: a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.
A3 Horizontal separation distance from a property boundary to a land application area must comply with either of the following: (a) be no less than 40m from a property boundary; or (b) be no less than: (i) 1.5m from an upslope or level property boundary; and (ii) if primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or (iii) if secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.	P3 Horizontal separation distance from a property boundary to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.

Acceptable Solutions	Performance Criteria
A4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of pollutant, whether up or down gradient.	P4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable.
A5 Vertical separation distance between groundwater and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.6m if secondary treated effluent.	P5 Vertical separation distance between groundwater and a land application area must comply with the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable.
A6 Vertical separation distance between a limiting layer and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.5m if secondary treated effluent.	P6 Vertical setback must be consistent with AS/NZS1547 Appendix R.

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type D - 11 and 12

INTRODUCTION

The repon investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands..

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of0·3m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547.2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of basal area 118.7m

MAMIC & ASSOCIATES P/L
CONSULTING ENGINEERS AND
BUILDING SURVEYORS
ELIZABETH ST NORTH HOBART
NORTH HOBART TAS

SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1,...2,...3,...4,...**5**,...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.30 **/day**

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 **mm/week**

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% – 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses: **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan:

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
  Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- ☐ Public Supply
- ☒ Rainwater Tanks
- ☐ Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

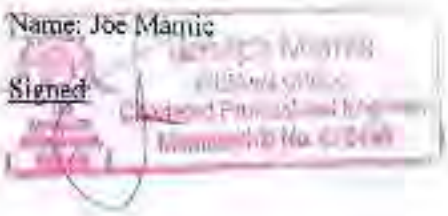
Conclusion: The site is suitable for either an AWTS or mound system.

.....

Site Evaluator:

Name: Joe Mamic

Signed:



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Phone: 62 314422

Fax: 62 319277

Email: office@mamic.com.au

Qualifications: BE MASc MIABS.

enviro·tech
CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH02
DATE TESTED: 20/04/2022
LOGGED BY: K. Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	moist		0.0				
0.1	SAND trace silt (SW), medium brown, well sorted, fine to medium grained sand	loose	moist						
0.2	CLAY trace sand (CH), medium brown, high plasticity	stiff	moist		0.5	PP U50	100		
1.1	CLAY with sand (CH), medium grey mottled brown, high plasticity	firm	moist		1.0	PP U50	65		
1.5	Sandy CLAY (CH), medium grey, well sorted, high plasticity, medium grained sand	firm	moist		1.5				
1.7	SAND with clay (SW-SC), medium grey, well sorted, medium grained sand	medium dense	moist						
	End of Borehole at 2m depth. Direct Push Sampler refusal on SAND with clay (SW-SC)				2.0				

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied

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ON SITE WASTE DISPOSAL REPORT

FOR Jacinta Young

AT NORFOLK BAY

MAY 2022

Cabin Type D – 13 and 14

INTRODUCTION

The report investigates the suitability of trench for onsite effluent disposal for proposed buildings at Norfolk Bay, Primrose Sands.,

The proposed building is 2 one-bedroom dwellings.There are no sewage services in the whole area and neighbouring houses rely on onsite waste disposal systems.

SITE INSPECTION

The site was inspected on 20th April 2022. Test holes were drilled with drill rig.

SURFACE CONDITIONS

The site has grass covering with trees in areas and has a medium slope of 9°. There was no water ponding observed on the site, and the site has an unlikely probability of saturation during heavier rain periods.

SOIL PROFILE

The soil profile has been determined from the test holes dug on 20th . The soil profile consists of:

See attached bore log

PERMEABILITY MEASUREMENTS

The permeability of this soil was test estimated to be of 0·3 m /day..

GROUNDWATER

The groundwater table was not struck in the bore holes which were dug to varying depths from 0.5 to 2.0m below natural surface level.

DESIGN

Manual design in accordance with AS/NZ 1547 2012 was undertaken.

CONCLUSION

We recommend the use of a wisconsin mound of bed area 118.7m

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SITE AND SOIL EVALUATION REPORT

Site and soil evaluation reports must be submitted with all applications for on-site wastewater management systems. Evaluation reports must be completed by: soil scientists, Engineering geologists, engineers or environmental health officers. Site evaluators should use their professional judgment to determine if issues outlined in the site evaluation report are relevant or if additional information is required.

For further information on site evaluation please consult AS/NZS 1547-2012 on-site domestic wastewater management.

Using the Trench™ site assessment program instead of using this form, also meets Council's information and design requirements in respect of addressing the performance requirements of the Tasmanian Plumbing Code.

SITE INFORMATION

Location: NORFOLK BAY, TASMANIA.

Owner: J Young

Site Plan: See attached

Soil Category:
(as stated in AS/NZS 1547-2012) Modified Emerson Test Required: **No**

1...2...3...4...**5**...6 If Yes, Emerson Class No

Soil Profile:
(Attach a soil profile and description of the soil in the test pits.
Location of pits as nominated on the site plan)

Measured or Estimated Soil Permeability (m/d) (constant head permeability method)
0.5?/day

Design Loading Rate (mm/d)
(This is a recommendation to the designer advising how many litres of effluent should be applied to the soil for every square metre of absorption trench or other land application system.)
8 mm/week

NOTE: The accompanying engineering log describes the soil profile encountered at Norfolk Bay, Tasmania.

Geology: Jurassic – Dolerite, fine to medium grained, hard, often strongly jointed. Dominant clays – Brown clay, medium to high plasticity.

Soil properties (typical):
Liquid Limit ..... 50% - 80%
Plasticity Index ..... 27% – 50%
Linear Shrinkage ..... 14% – 23%
(see local geological map)

Topography *(include relevant information on the site plan)*

Slope: **Gentle**

Drainage lines / water courses. **As per google photo plan**

Vegetation: **Grassed lot.**

Indicate the location of any of the following features on site plan.

- Waterways or drainage lines
- Embankments (on this lot or on surrounding land)
- Buildings
- Wells or bores

Site History (Land use) **large rural parcel of land** Forestry? **N/A**

Site Exposure

Aspect: **Land**

Pre-dominant wind direction: **Northwest to Southwest**

Environmental Issues

Location of sensitive vegetation, high water table, swamps, waterways etc. **As per google photo plan**
(Nominate on the site plan)

Site Stability

Will on-site wastewater disposal affect site stability? **NO**

Is geological advice required? **NO**

Drainage/Groundwater

Depth to the seasonal groundwater (m) **1.2m**
(including perched water table)

Are surface or sub-surface drains required upslope of the land application area? **NO**
(Nominate location of drains on the site plan)

Primary and Reserve Land Application Area The suitable land application area does not vary much over the whole site , it is fairly consistent.

Water Supply *Please tick appropriate*

- [ ] Public Supply
- [X] Rainwater Tanks
- [ ] Bore, Well or Dam

Date of Site Evaluation: 26 May 2022

Weather conditions:
(on the day of evaluation and during the last week) **Fine.**

Conclusion: The site is suitable for either an AWTS or mound system.

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Site Evaluator:

Name: Joe Mamic

Signed:

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Qualifications: BE MASc MIABS

Appendix B Borehole Log

enviro-tech CONSULTANTS

ASSESSMENT: Site Classification
STRUCTURE: Visitor Accommodation
EASTING:
NORTHING:

HOLE ID NO.: BH01
DATE TESTED: 20/04/2022
LOGGED BY: K Taylor
ELEVATION:

LOCATION: 297 Primrose Sands Road - Primrose Sands
CLIENT: Jacinta Young

EQUIPMENT: Direct Push Core Sampler
RELATIVE NATURAL SURFACE (RL): 0

DEPTH (m)	DESCRIPTION	DENSITY CONSIS-TENCY	MOISTURE	GRAPHIC	DEPTH (m)	TEST SAMPLES	Cu (kPa)	BLOWS/100mm	blows/100mm 0 5 10 15 20
0	TOPSOIL: SAND trace silt (SW), medium grey, well sorted, fine grained sand	very loose	moist		0.0				
0.1	SAND trace silt (SW), medium brown, well sorted, fine to medium grained sand	loose	moist						
0.3	CLAY with sand (CH), medium grey, high plasticity	very stiff	moist						
0.5	Sandy CLAY (CH), medium brown mottled orange, high plasticity	firm	moist		0.5				
0.7	Sandy CLAY (CH), medium brown, well sorted, high plasticity, medium grained sand	firm	moist		1.0				
1.2	Clayey SAND (SC), medium grey, well sorted, medium grained sand	medium dense	moist		1.5				
	End of borehole at 2m depth Direct Push Sampler refusal on Clayey SAND (SC)				2.0				

GROUNDWATER: Not Encountered
TESTING:

Distance travelled per blow is laser measured and converted back to blows per 100mm for more accurate representation where blows per 100mm are less than 3. Averaging is applied.

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Plants Suitable for Aerobic Waste Water Treatment Systems

This list has been compiled by a suitably qualified nursery operator and reflects their experience over a number of years working with these systems. This list is by no means exclusive but may serve as a planting guide.

Generally plants that are suitable for this type of system should have a shallow root system, be capable of processing moisture throughout the year and be tolerant of a high nutrient loading. You should consult with your local nursery regarding other suitable plants that may suit your particular location and personal requirements.

Conifers:

These are NOT suitable as a general rule, they need a drier environment, exceptions seem to be from the Juniperus genus. For example:

Juniperus conferta
Juniperus x media variants
Juniperus sabina

Perennials:

Such as Hosta, Hellebores, Delphinium and Foxgloves are NOT suitable as they have a dormant period during which they cannot process moisture. If you wish to use them they must form only a small percentage of the total planting.

Deciduous:

Such as roses, fruit trees, flowering cherry and maples are NOT suitable for the same reason as perennials; they do not process moisture during their dormant phase.

Grevilleas, Proteas, Leucadendrons:

These plants cannot process the Phosphorus content of the waste water. Some of the faster growing and broader leaf grevilleas seem to handle the drier areas of the beds. For example:

Grevillea 'Forest Rambler'
Grevillia 'Copper Rocket'
Grevillia 'Bronze Rambler'
Grevillia arenaria

Natives:

Most natives will perform well planted in the irrigation area of a waste treatment system, including:

Acacias except *Acacia iteaphylla*.
Callistemon except Callistemon 'Little John'
Melaleuca species
Boronia with the exception of *B. megastigma*
Brachyscome species
Felicia species
Westringia species
Correa species
Eriostemon species especially the larger growing ones
Dodonea species
Myoporum species
Dietes species especially *D. bicolor* and *D. grandiflora*
Eucalyptus species but mainly the ornamental ones
Leptospermum species
Banksia, some success

Exotics:

Including the following species:

Pittosporum, especially in the drier areas of the beds
Cistus
Coleonema
Acmena (Lillypilly)
Agapanthus (please note that these are classified as Coastal Weeds)
Ceanothus
Hebe, all varieties are very good with the exception of Hebe' Emerald Green'
Coprosma
Pelargonium hybrids in the drier areas of the bed
Penstemon
Abelia
Buxus
Calluna
Salvia species except *S. uliginosa*