

Land Use Planning and Approvals Act 1993

APPLICATION NO.

DA2023/164

LOCATION OF AFFECTED AREA

90 BRAEVIEW DRIVE, OLD BEACH

DESCRIPTION OF DEVELOPMENT PROPOSAL

SECONDARY DWELLING

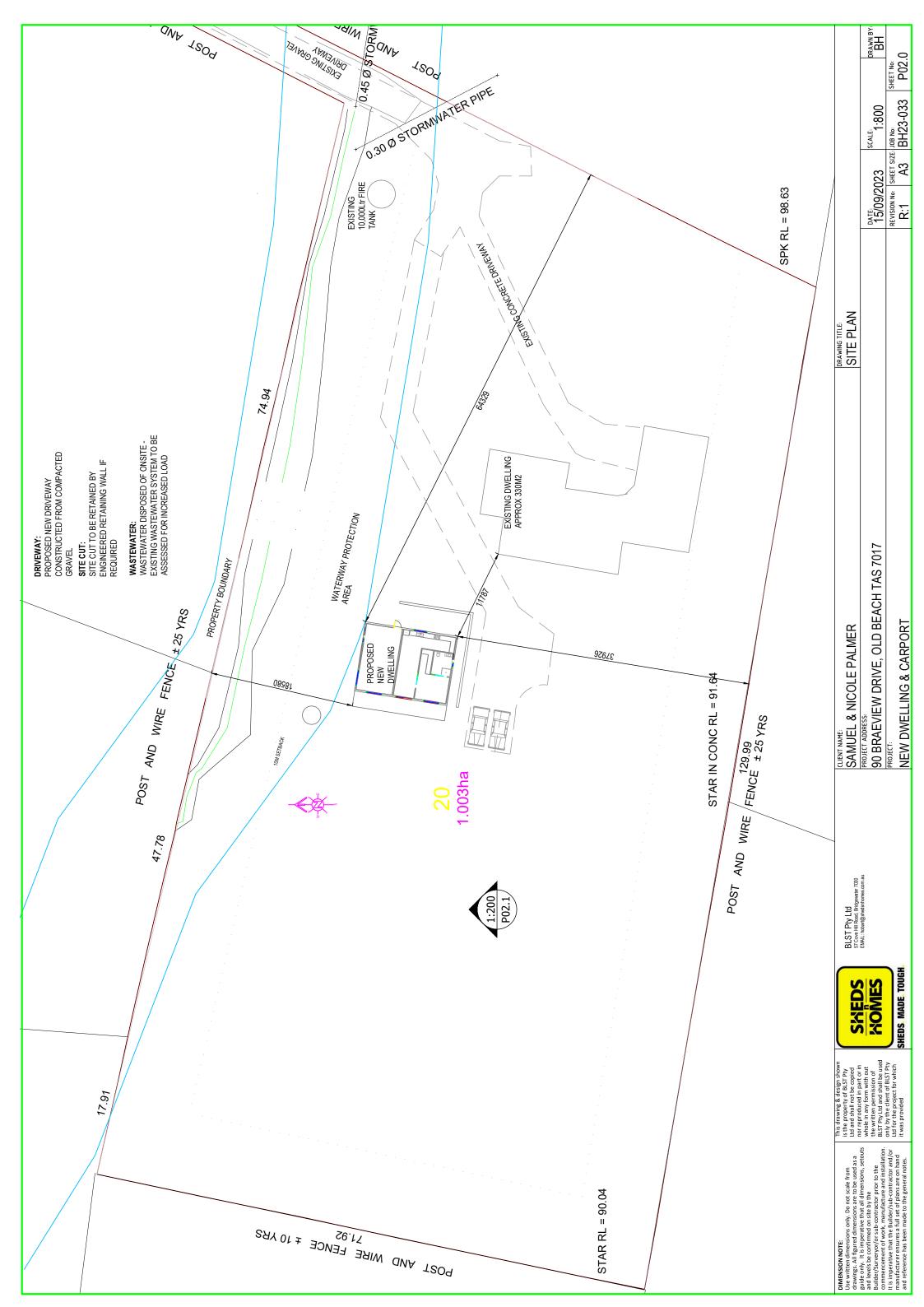
A COPY OF THE DEVELOPMENT APPLICATION MAY BE VIEWED AT www.brighton.tas.gov.au AND AT THE COUNCIL OFFICES, 1 TIVOLI ROAD, OLD BEACH, BETWEEN 8:15 A.M. AND 4:45 P.M., MONDAY TO FRIDAY OR VIA THE QR CODE BELOW. ANY PERSON MAY MAKE WRITTEN REPRESENTATIONS CONCERNING AN APPLICATION UNTIL 4:45 P.M. ON 07/02/2024. ADDRESSED TO THE GENERAL MANAGER AT 1 TIVOLI ROAD, OLD BEACH, 7017 OR BY EMAIL AT development@brighton.tas.gov.au.

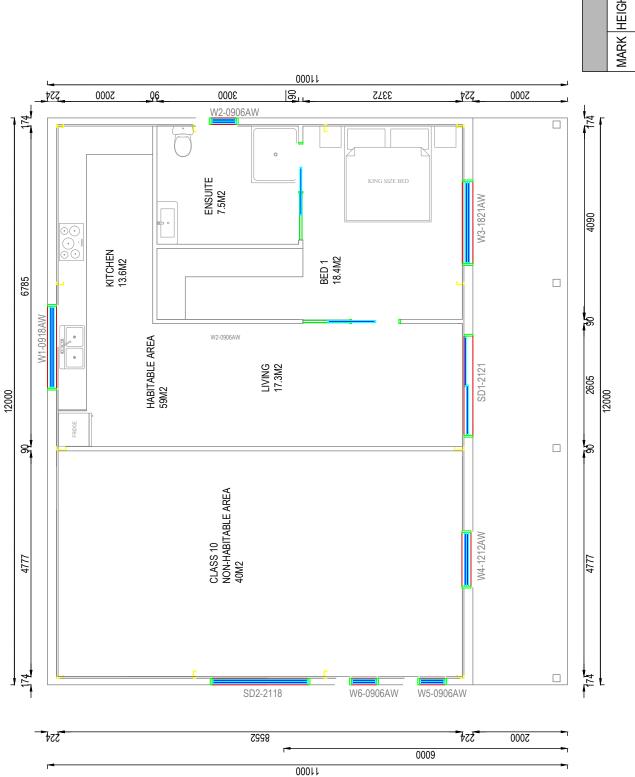
REPRESENTATIONS SHOULD INCLUDE A DAYTIME TELEPHONE NUMBER TO ALLOW COUNCIL OFFICERS TO DISCUSS, IF NECESSARY, ANY MATTERS RAISED.

DAVID ALLINGHAM Acting General Manager









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SHEDS, MADE, TOUGH

CLIENT NAME:
SAMUEL & NICOLE PALMER
PROJECT ADDRESS:
90 BRAEVIEW DRIVE, OLD BEACH TAS 7017
PROJECT:

NEW DWELLING & CARPORT

DRAWN BY: BH

SCALE:

DRAWING TITLE: FLOORPLAN

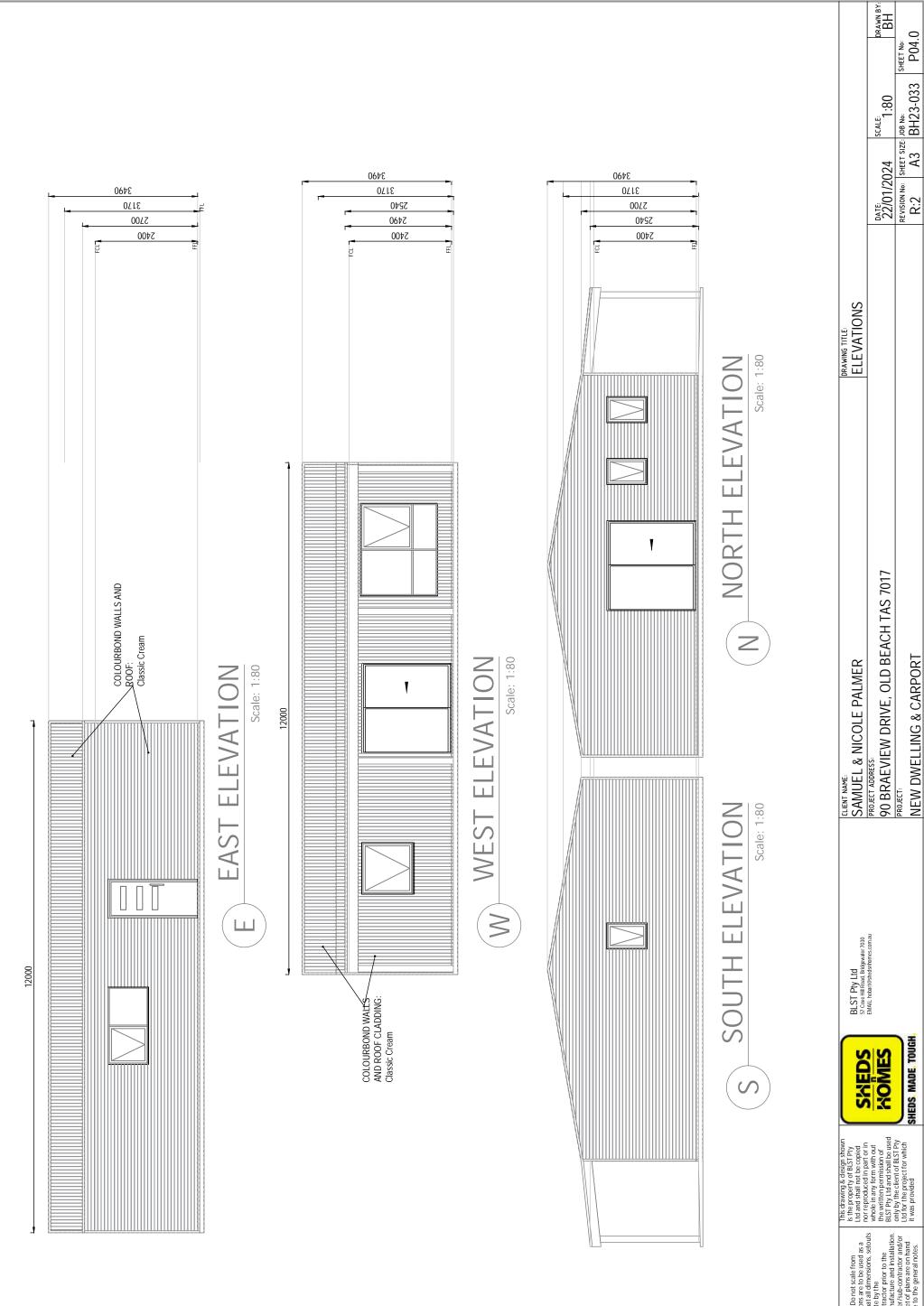
SHEET No: **P03.0**

E: JOB No: BH23-033

| DATE | S | 15/09/2023 | S | REVISION NO: | SHEET SIZE: | J | R:1 | A3 | E |

BLST Pty Ltd 57 Cove Hill Road, Bridgewater 7030 EMAIL: hobart@shedsrhomes.com.au SHEDS HOMES

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SHEDS MADE TOUGH.

NEW DWELLING & CARPORT

DISPERSIVE SOIL ASSESSMENT 90 Braeview Drive Old Beach November 2023



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Introduction

Client: Nicole Palmer

Date of inspection: 01/11/2023

Location: 90 Braeview Drive, Old Beach (CT 162272/20)

Land description: Approx. 1.009 ha, rural residential lot

Building type: Proposed secondary dwelling.

Investigation: Geoprobe 540UD - Direct Push

Inspected by: M. Campbell

Background information

Map: Mineral Resources Tasmania, 1:25 000

Rock type: Triassic sediments

Soil depth: ~1.00m

Planning overlays: Bushfire-prone Area, Waterway and Coastal Protection

Area, Dispersive Soil Specific Area Plan.

Local meteorology: Annual rainfall approx. 600 mm

Local services: Mains water with onsite waste water.

Site conditions

Slope and aspect: 4-6° undulating NW facing slope

Site drainage: Moderately well drained

Vegetation: Grass & Weeds

Weather conditions: Fine, approx. 2 mm rainfall received in preceding 7 days.

Ground surface: Clayey silt disturbed surface

Investigation

A test hole was completed to identify the distribution of, and variation in soil materials on the site. A representative test hole was chosen for classification of soil and underlying geological properties. Site and published geological information was integrated to complete a detailed soil dispersion assessment with reference to the DPIWE dispersive soil technical manual.

Profile Summaries

BH 1 Depth (m)	USCS	Description	
0.00-0.30	ML	Clayey SILT trace gravel: dark brown-grey, slightly moist, soft.	
0.30-0.70	CI	Silty CLAY: medium plasticity, yellow-brown, slightly moist, stiff.	
0.70-1.00	GW	Sandy GRAVEL: yellow-grey-brown, dry, very dense, refusal on assumed rock.	

Soil Profile Notes

The soil on site has formed from Triassic sediments. The subsoil was tested for dispersion using the Emerson Test and was found to be slightly dispersive Class 2(2) -obvious milkiness, <50% of the aggregate affected.

Dispersive Soil Assessment

The dispersive soil assessment of the property takes into account the proposed construction area, and wastewater land application area.

Potential for dispersive soils

The site has been identified as an area subject to a tunnel erosion hazard according to 'Dispersive Soils and Their Management: Technical Reference Manual'. This is due to the soils present on site that developed from Triassic sediments that contain considerable fine sand/silt content and low to medium plasticity clays. Triassic sediments in the local area known to produce soils with an excess of sodium on the soil exchange complex, which can cause soil dispersion. Under some circumstances the presence of dispersive soils can also lead to significant erosion, and in particular tunnel erosion. Based upon field survey of the property, no visible tunnel or gully erosion was identified. Hoerver, a soil sampling program was undertaken to identify the presence of dispersive soils in the proposed development areas.

Soil sampling and testing

Two samples were taken at the site for assessment of dispersion. An Emerson (1968) Dispersion test was conducted to determine if these samples were dispersive.

The results showed that the soils on site are **slightly dispersive** in the construction area **(Class 2 (2))**. All construction on site should refer to the DPIWE management of dispersive soils publication.

It is recommended that construction be planned and executed in accordance with recommendations for dispersive soils. In particular, it is recommended that the dispersive soils not to be utilised as structural fill in the proposed construction areas. Careful water management is also required to ensure water does not pond on the soil surface and excess water is excluded from bare exposed soil soils as well as the natural drainage depression.

Based upon the test results there is a moderate risk of soil dispersion and significant erosion on the site, and as such a number of specific recommendations have been made in the following sections.

Management Recommendations

A number of site and soil management measures are recommended for development on the site.

The proposed site cut/fill and driveway areas must be managed by:

- Applying a geofrabric, jute mesh or similar material to the exposed batters of any cutting on site and revegetating the slope
- Applying a surface layer of at least 50mm of suitable crushed rock/gravel to the driveway surface (and any proposed house pad), with adequate compaction to ensure a relatively impervious surface to maintain site surface stability

 Vegetation on any fill batters must be established and maintained, if any bare area of soil on the batter develops then it must be top-dressed with suitable topsoil and additional vegetation planted

The risk or erosion and tunnel erosion associated with construction must be minimised by:

- Any new water, power, or other service trenches within the property must ensure recommendations for dispersive soils are followed:
 - Where possible trenches to be placed shallow in topsoil and mounded over to achieve the required cover depth
 - If buried the trench must be backfilled in layers of no more than
 200mm with clay with 5% by weight gypsum added (the clay must be sufficiently moist to allow good compaction)
 - The trench must be finished with at least 150mm depth of nondispersive suitable topsoil and finished to a level at least 75mm above natural ground to allow for possible settlement
- Vegetation cover must be maintained wherever possible on the property
- It is recommended foundations for the proposed dwelling be placed onto underlying rock in accordance with the structural engineers recommendations. Excavated fill from the construction area is not recommended for reuse on site in landscaping unless it is appropriately treated with gypsum, compacted, and capped with topsoil with natural soil and gypsum.
- All wastewater should utilise either surface disposal, or where absorption trenches are used they must be treated with 1Kg/m² of gypsum and well covered with good topsoil
- All stormwater runoff from the dwelling and shed to be directed to water tanks
 for site reuse as possible, with water tank overflow dissipated via surface
 spreaders and not into subsurface absorption drains (unless the drains are
 adequately treated with gypsum and lined)
- Drainage of the proposed site cut must not employ conventional rock drain construction, it must adhere to recommendations for dispersive soils (unless founded entirely in rock)
- All excavation works on site should be monitored for signs of soil dispersion and remedial action taken as required – in particular any excavated fill from

the construction area is not recommended for reuse on site in landscaping unless it is appropriately treated with gypsum, compacted, and capped with topsoil.

Conclusions

There is a low risk associated with dispersive soils and potential erosion on the site provided all the management recommendations are followed. All exposed soils on cut/fill batters must be covered with topsoil and seeded with well suited pasture species to avoid rainwater, runoff, surface water flows from intercepting exposed subsoils. Wastewater absorption areas must be constructed during dry weather, treated with gypsum, only placed to shallow depths, and be covered over as quickly as possible.

A number of site management recommendations have been made in this report and further information can also be found in the publication "Dispersive soils and their management – Technical manual" (DPIWE Tas 2009)

It is recommended that during construction that GES be notified of any major variation to the soil conditions as predicted in this report.

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

Appendix 1– Soil test results

Laboratory Test Results

Sample Submitted By: M. Campbell

Date Submitted: 01/11/2023

Sample Identification: 2 samples – 90 Braeview Drive, Old Beach

Soil to be tested: Emerson soil dispersion test

Result:

Sample	Texture	Emerson class	Description
Sample 1 Shed	clay	Class 2 (2)	Some dispersion <50% affected
Sample 2 Shed	clay	Class 2 (2)	Some dispersion <50% affected

Notes: Some dispersion with obvious milkiness affecting less than 50% of the aggregate.

Sample Tested by: J Cumming

02/11/2023

