



DEVELOPMENT APPLICATION

PDPLANPMTD-2026/060374

PROPOSAL: Secondary Residence (Single Dwelling)

LOCATION: 553 Dorans Road, Sandford

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 18/05/2026

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 18/05/2026. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 18/05/2026.

To enable Council to contact you if necessary, would you please also include a day time contact number in any correspondence you may forward.

Any personal information submitted is covered by Council's privacy policy, available at www.ccc.tas.gov.au or at the Council offices.

Planning Application

Use this form to obtain planning approval for the use and development of land, including change of use, subdividing land into smaller lots, lot consolidation, or signage.

Please refer to the Planning Application checklist on the following pages to determine what documentation must be submitted with your application.

Proposal: **Secondary Dwelling**

Location: **553 Dorans Rd Sandford**

Personal Information Removed



exemptions may apply which may save you time on your proposal.

If you had pre-application discussions with City of Clarence, please provide planner's name:

Memory Hatendi

Current use of site: **Residential**

Does the proposal involve land administered or owned by the Crown or Council? Yes No

Declaration

- I have read the Certificate of Title and Schedule of Easements for the land and am satisfied that this application is not prevented by any restrictions, easements or covenants.
- I authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation. I agree to arrange for the permission of the copyright owner of any part of this application to be obtained. I have arranged permission for Council's representatives to enter the land to assess this application
- I declare that, in accordance with Section 52 of the Land Use Planning and Approvals Act 1993, that I have notified the owner of the intention to make this application. Where the subject property is owned or controlled by Council or the Crown, their signed consent is attached.
- I declare that the information in this declaration is true and correct.

Acknowledgement

- I acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process; for display purposes during public consultation; and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.

Personal Information Removed



Planning Application checklist

Mandatory Documents

This information is required for the application to be valid. We are unable to proceed with an application without these documents.

- Details of the location of the proposed use or development.
- A copy of the current Certificate of Title, Sealed Plan, Plan or Diagram and Schedule of Easements and other restrictions for each parcel of land on which the use or development is proposed.
- Full description of the proposed use or development.
- Description of the proposed operation. May include where appropriate: staff/student/customer numbers; operating hours; truck movements; and loading/unloading requirements; waste generation and disposal; equipment used; pollution, including noise, fumes, smoke or vibration and mitigation/management measures.
- Declaration the owner has been notified if the applicant is not the owner.
- Crown or Council consent (if publically-owned land).
- Any reports, plans or other information required by the relevant zone or code.
- Fees prescribed by the City of Clarence.

Application fees (please phone 03 6217 9550 to determine what fees apply). An invoice will be emailed upon lodgement.

Additional Documents

In addition to the mandatory information required above, Council may, to enable it to consider an application, request further information it considers necessary to ensure that the proposed use or development will comply with any relevant standards and purpose statements in the zone, codes or specific area plan, applicable to the use or development.

- Site analysis and site plan, including where relevant:
 - Existing and proposed use(s) on site.
 - Boundaries and dimensions of the site.
 - Topography, including contours showing AHD levels and major site features.
 - Natural drainage lines, watercourses and wetlands on or adjacent to the site.
 - Soil type.
 - Vegetation types and distribution, and trees and vegetation to be removed.
 - Location and capacity of any existing services or easements on/to the site.
 - Existing pedestrian and vehicle access to the site.
 - Location of existing and proposed buildings on the site.
 - Location of existing adjoining properties, adjacent buildings and their uses.
 - Any natural hazards that may affect use or development on the site.
 - Proposed roads, driveways, car parking areas and footpaths within the site.
 - Any proposed open space, communal space, or facilities on the site.
-



- Main utility service connection points and easements.
 - Proposed subdivision lot boundaries.
- Where it is proposed to erect buildings, detailed plans with dimensions at a scale of 1:100 or 1:200 showing:
- Internal layout of each building on the site.
 - Private open space for each dwelling.
 - External storage spaces.
 - Car parking space location and layout.
 - Major elevations of every building to be erected.
 - Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites.
 - Relationship of the elevations to natural ground level, showing any proposed cut or fill.
 - Materials and colours to be used on rooves and external walls.
- Where it is proposed to erect buildings, a plan of the proposed landscaping showing:
- Planting concepts.
 - Paving materials and drainage treatments and lighting for vehicle areas and footpaths.
 - Plantings proposed for screening from adjacent sites or public places.
- Any additional reports, plans or other information required by the relevant zone or code.
-

This list is not comprehensive for all possible situations. If you require further information about what may be required as part of your application documentation, please contact City of Clarence Planning team on (03) 6217 9550.



SEARCH OF TORRENS TITLE

VOLUME 125972	FOLIO 11
EDITION 7	DATE OF ISSUE 24-Mar-2026

SEARCH DATE : 31-Mar-2026
SEARCH TIME : 06.17 am

DESCRIPTION OF LAND

City of CLARENCE
Lot 11 on Plan [125972](#)
Derivation : Part of 100 acres. Granted to Elizabeth Rice.
Derived from A16792

SCHEDULE 1

[C437551](#) TRANSFER to BERENICE DEIGN DUNSTON Registered
14-Apr-2003 at 12.01 pm

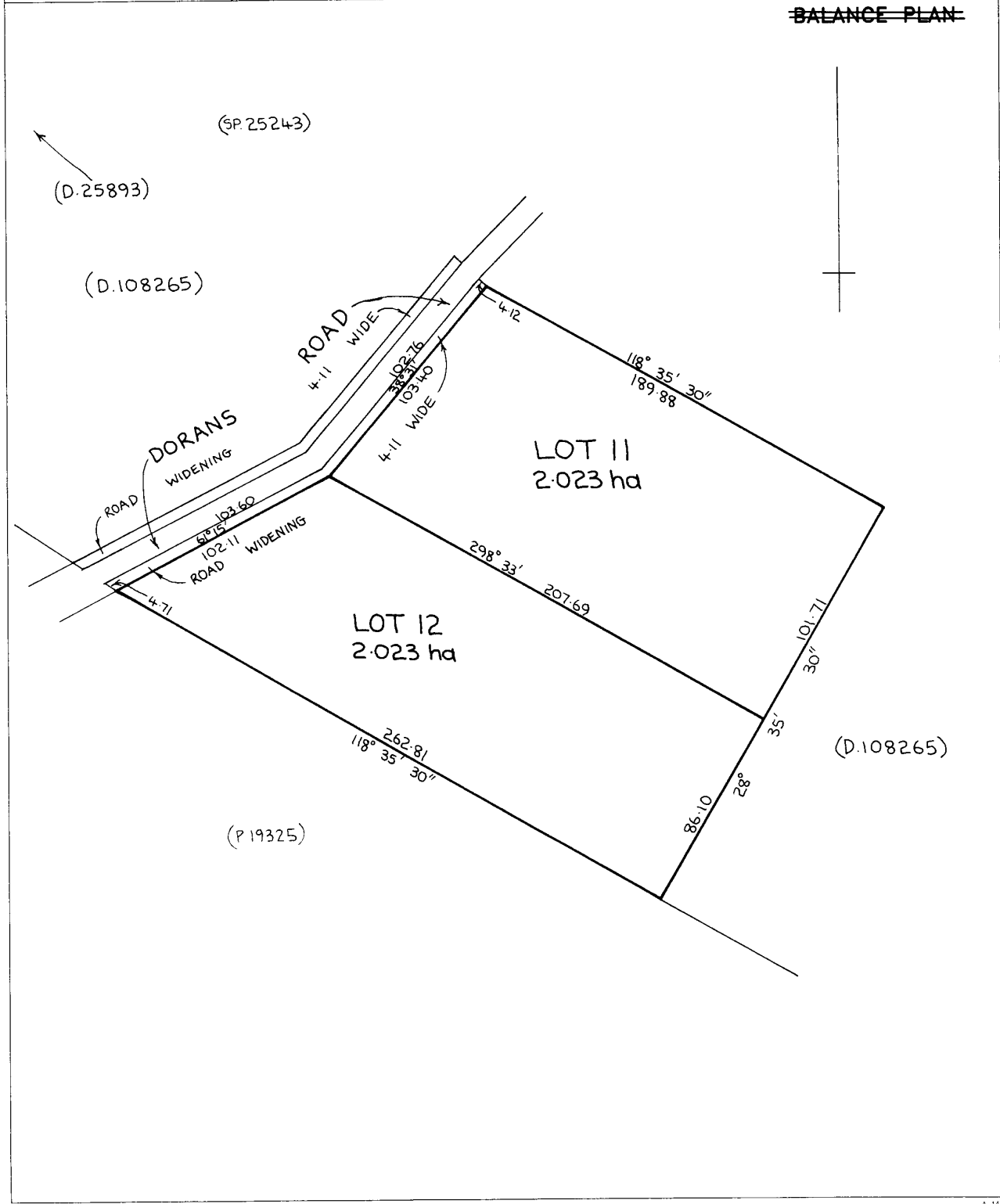
SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER		<p align="center">PLAN OF TITLE</p> <p>LOCATION CITY OF CLARENCE</p> <p>FIRST SURVEY PLAN No. (78 / 52 DO)</p> <p>COMPILED BY L T O</p> <p>SCALE 1: 1500 LENGTHS IN METRES</p>		REGISTERED NUMBER
FOLIO REFERENCE A.16792				<p align="center">P125972</p>
GRANTEE PART OF 100 ACRES, GRANTED TO RICE E. LIZABETH				APPROVED - 3 OCT 1996
				<p align="center">Recorder of Titles</p>
MAPSHEET MUNICIPAL CODE No. 107	LAST UPI No 1400581 1400582	LAST PLAN No. (D.108265)	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	



A-143 DB

Life & Remainder

SEARCH OF TORRENS TITLE

VOLUME 142053	FOLIO 1
EDITION 1	DATE OF ISSUE 08-Oct-2008

SEARCH DATE : 23-Apr-2026

SEARCH TIME : 09.31 am

DESCRIPTION OF LAND

City of CLARENCE
 Lot 1 on Plan 142053
 Derivation : Part of 100 Acres Gtd to E Rice
 Prior CT 108265/1

SCHEDULE 1

C695384 HELEN BEVERLY RUTH CHISHOLM-SMITH of an estate of freehold for her life, NONIE MARILYN MIDGLEY and ELIZABETH ANNE LYNETTE OLDING of an estate in fee simple in remainder expectant upon the determination of the life estate of Helen Beverly Ruth Chisholm-Smith as tenants in common in equal shares Registered 21-July-2006 at noon

SCHEDULE 2

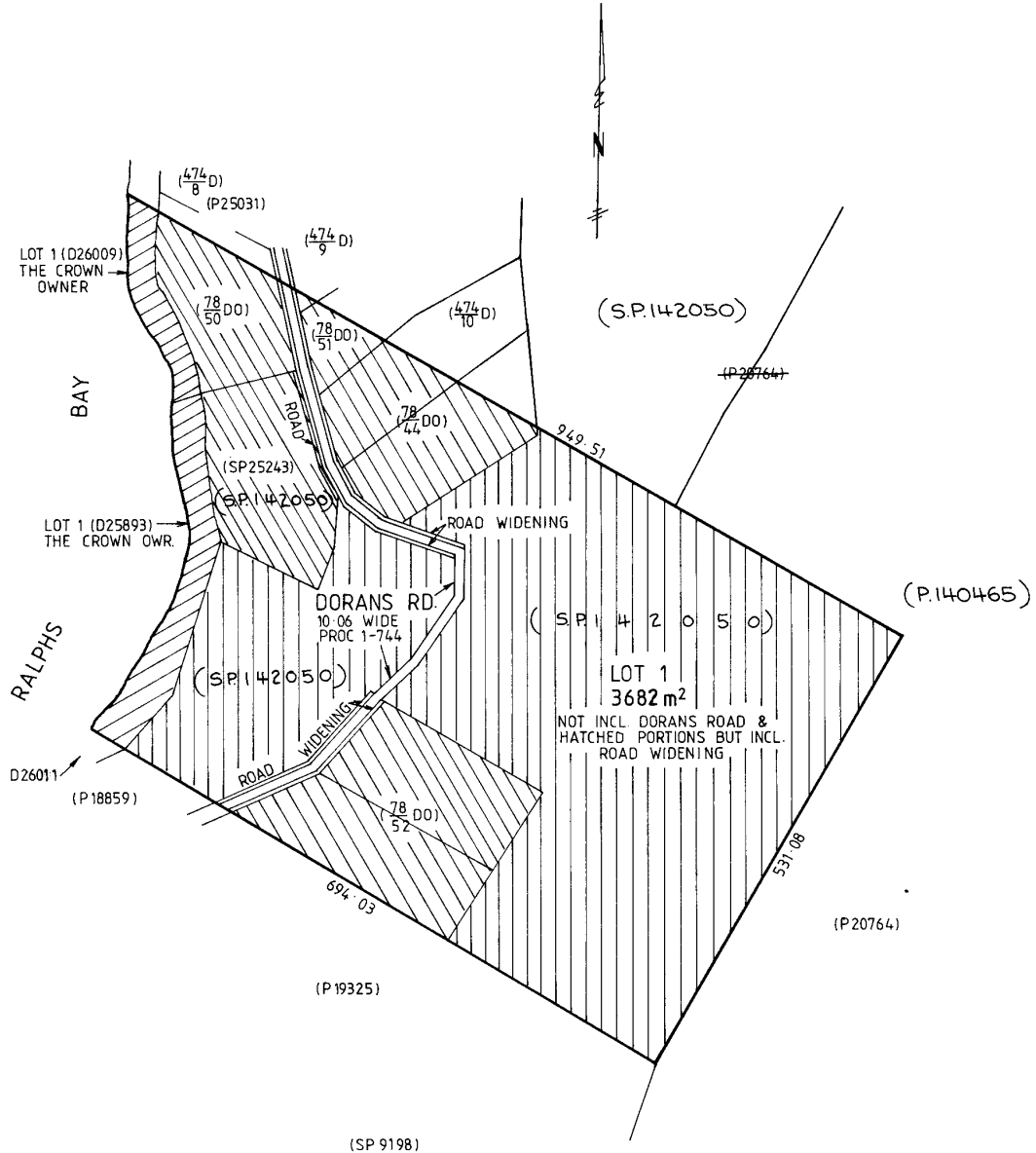
Reservations and conditions in the Crown Grant if any
 C695380 AGREEMENT pursuant to Section 71 of the Land Use Planning and Approvals Act 1993 Registered 21-July-2006 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER H. B. R. CHISHOLM ETC. FOLIO REFERENCE CT. 108265-1 GRANTEE PART OF 100 0 0 GTD TO ELIZABETH RICE		PLAN OF TITLE LOCATION CITY OF CLARENCE FIRST SURVEY PLAN No. COMPILED BY Craig B. Rogerson SCALE 1: 5000 LENGTHS IN METRES		REGISTERED NUMBER P142053 APPROVED - 8 OCT 2008 <i>Alice Kawa</i> Recorder of Titles
MAPSHEET MUNICIPAL CODE No.(107) 5224-25	LAST UPI No. 1407692	LAST PLAN No. D.108265	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	

BALANCE PLAN



Barrie Valentina
 AUTHORISED SURVEYOR
 AND TOWN PLANNER
 183 MACQUARIE ST
 HOBART
CORPORATE SECRETARY
CLARENCE CITY COUNCIL 98008



LOCATION PLAN

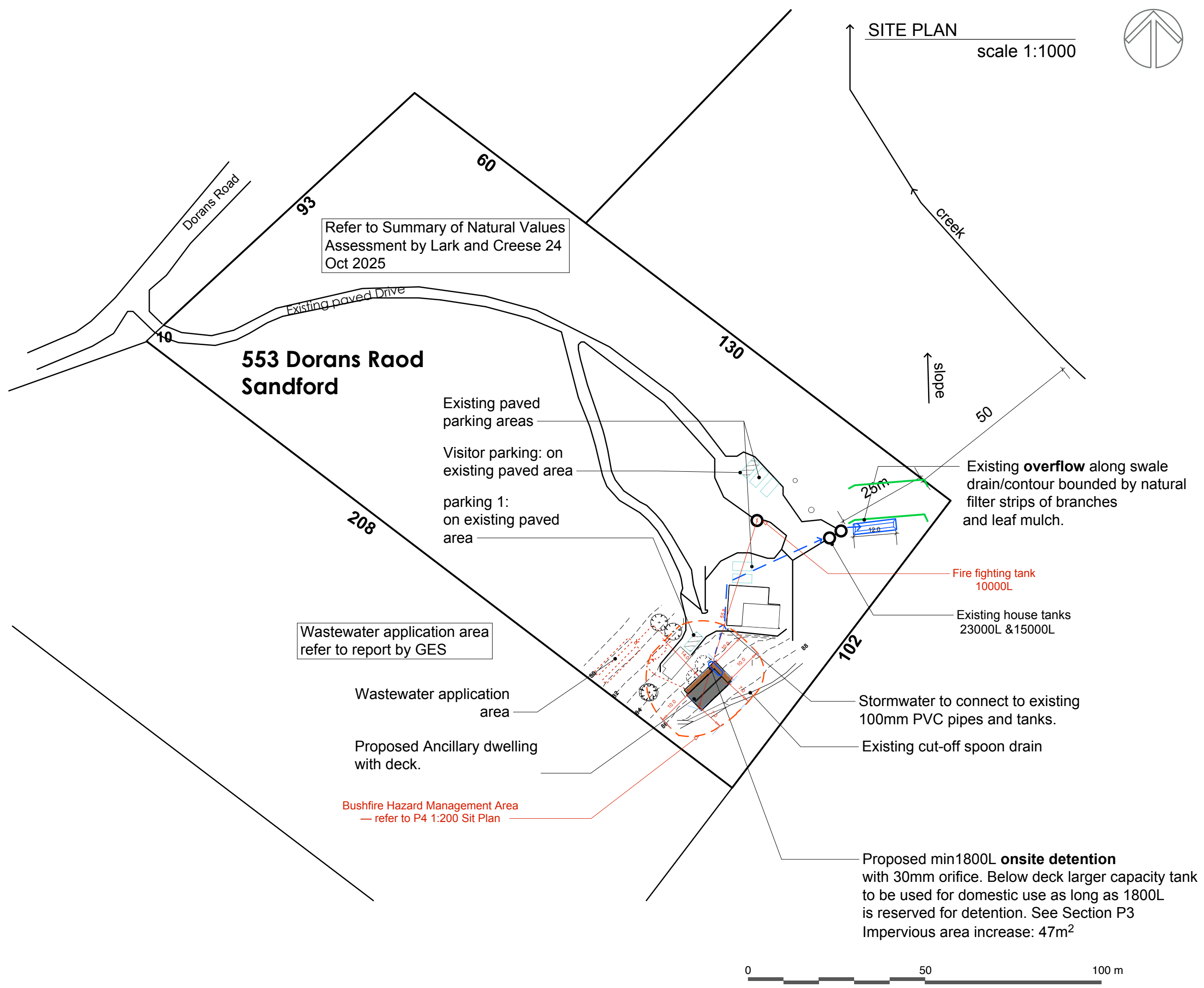
LIST map not to scale

TITLE REFERENCE #	125972/11
FLOOR AREA	
EXISTING FLOOR AREA	195
PROPOSED FLOOR AREA	48.8
DECK area	33
SITE CLASSIFICATION	
DESIGN WIND SPEED	N3
SOIL CLASSIFICATION	
CLIMATE ZONE	7
BUSHFIRE ATTACK LEVEL	29

DEVELOPEMENT APPLICATION
ANCILLARY DWELLING

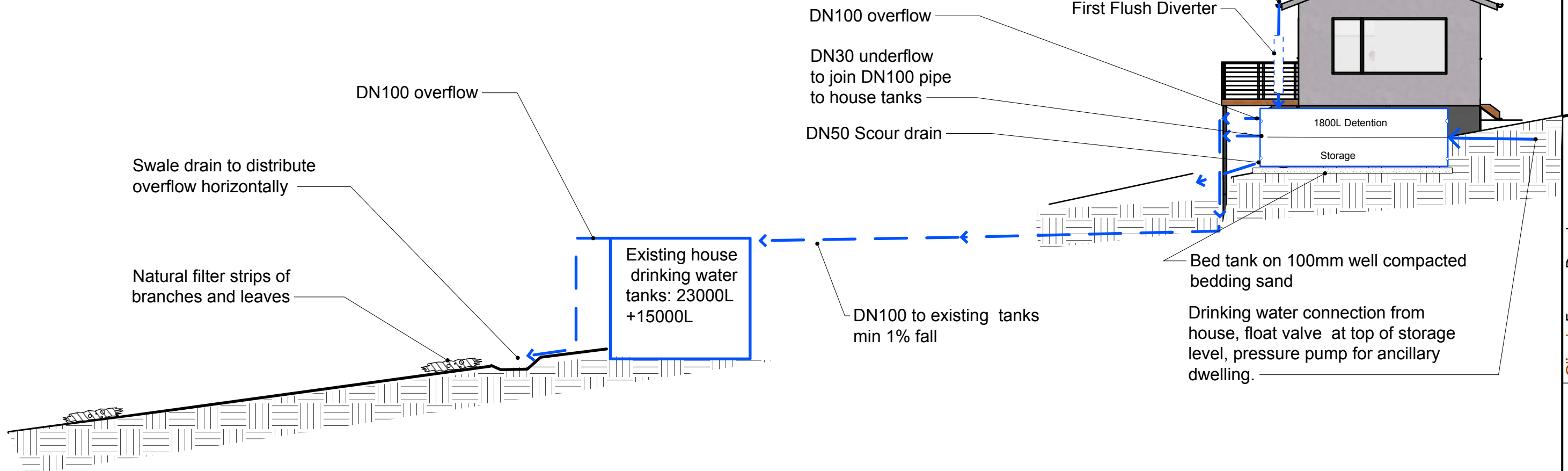
Client: Emma Dunston

Page #	Page Name
1	Cover Page
2	SITE PLAN - 1:1000
3	Long section Storm Water
4	SITE PLAN - 1:200
5	FLOOR PLAN
6	Elevations SW NE
7	Elevations SE NW



SCHEMATIC SECTION
- Ancillary Dwelling to surface dispersion

NTS



Additional Impervious surface :
47m2 *

DA
3
of
7

Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

Long section Storm Water



Natural filter strips of branches and leaves

Maintenance schedule:

Gutter guards to roof gutters: hose out fine debris annually. Clean first flush diverters ever 3 months
Scour tank every 3 years.
Maintain natural filter strips every 12 months and after rain.
Swale drain: remove debris after rain

* Stormwater- Management Procedure, Clarence City Council 31 August 2021

SITE PLAN

scale 1:200



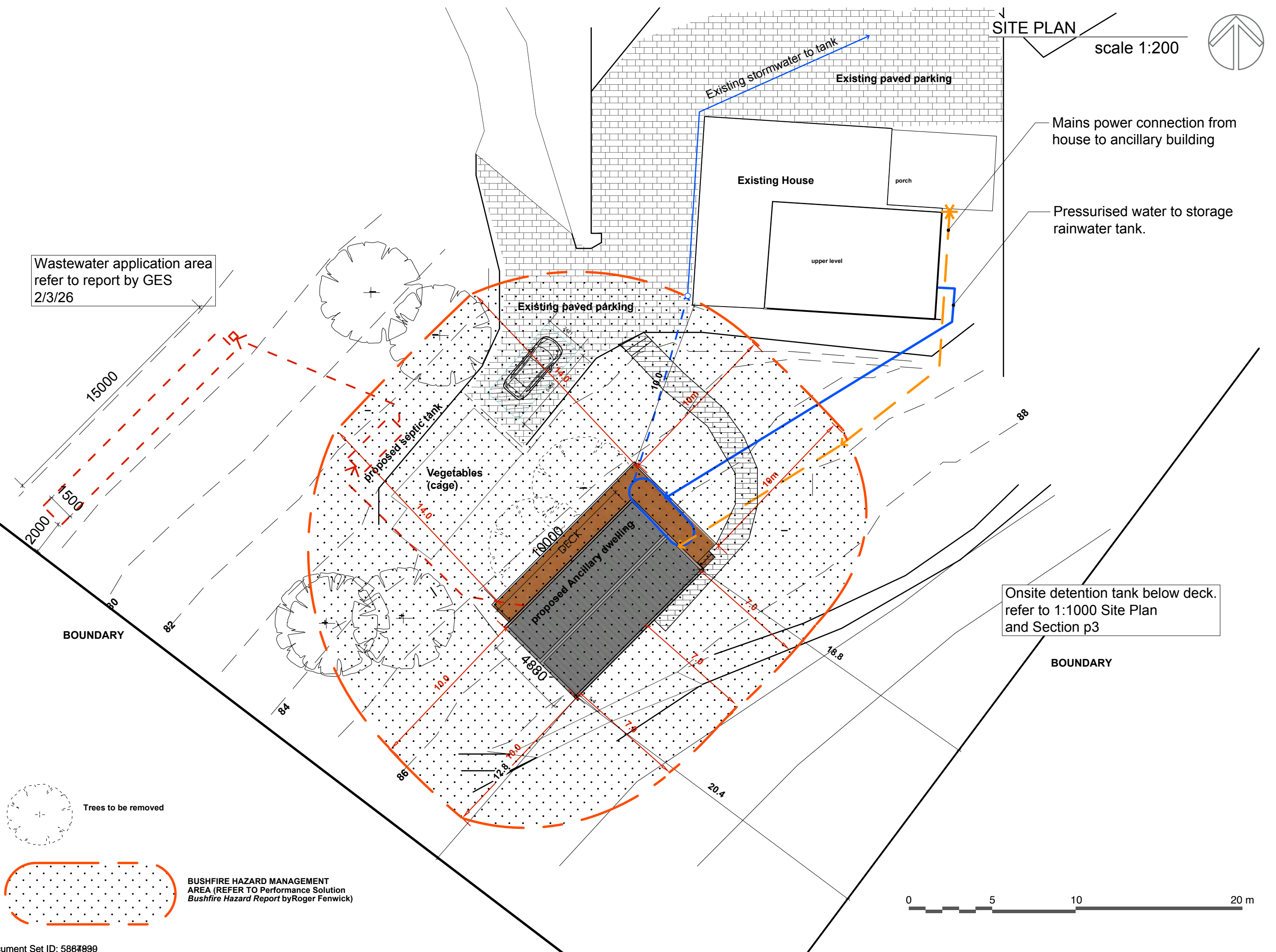
DA
4
of
7

Wastewater application area refer to report by GES 2/3/26

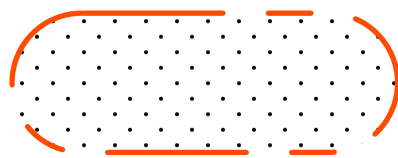
Mains power connection from house to ancillary building

Pressurised water to storage rainwater tank.

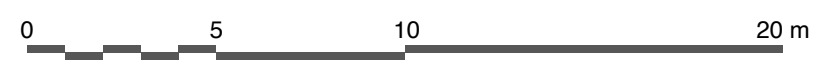
Onsite detention tank below deck. refer to 1:1000 Site Plan and Section p3



Trees to be removed



BUSHFIRE HAZARD MANAGEMENT AREA (REFER TO Performance Solution Bushfire Hazard Report by Roger Fenwick)

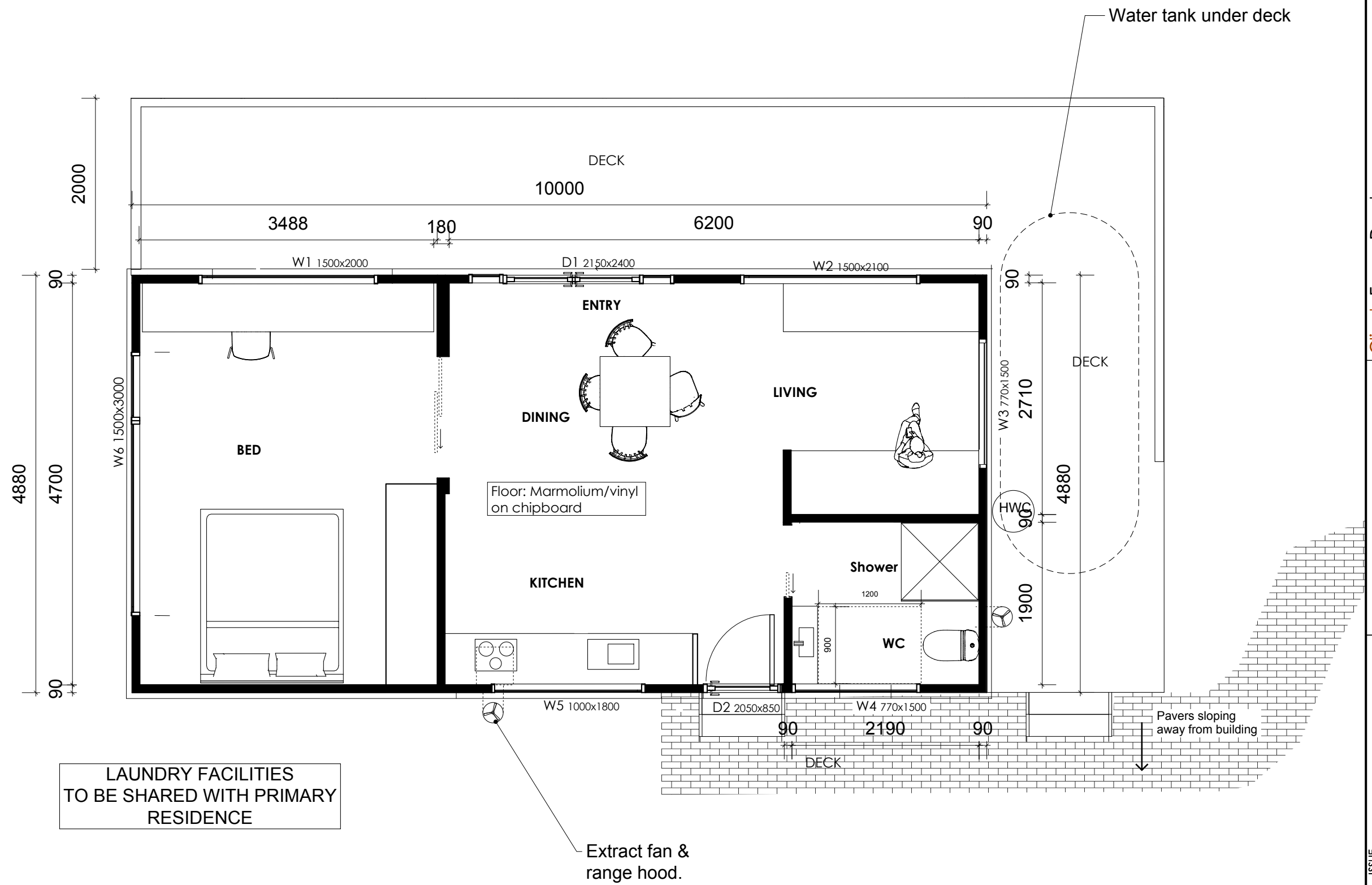


Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

SITE PLAN - 1:200

DATE 8/12/2025 to GES
9 Feb 2026 DA application



LAUNDRY FACILITIES
TO BE SHARED WITH PRIMARY
RESIDENCE

Extract fan &
range hood.

Water tank under deck

Windows = height x width



Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

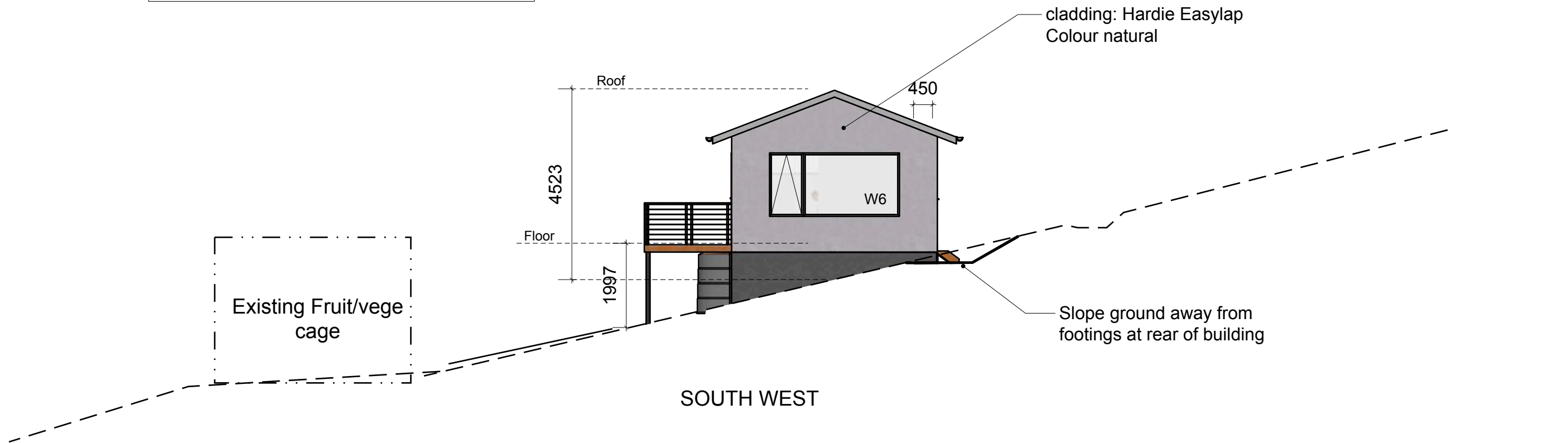
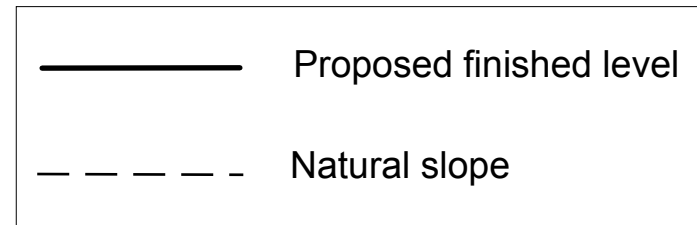
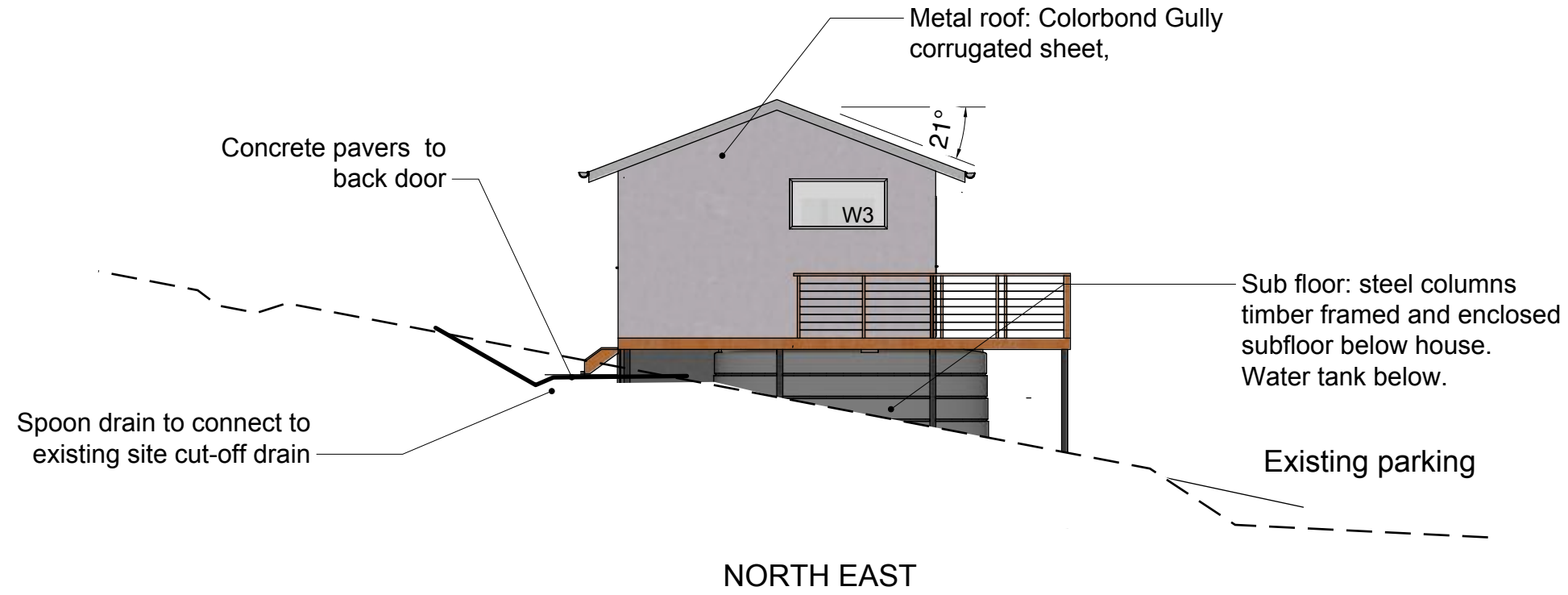
FLOOR PLAN

DATE 8/12/2025 to GES
9 Feb 2026 DA application

ELEVATIONS

scale 1:100

DA
6
of
7



Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

Elevations SW NE

DATE 8/12/2025 to GES
9 Feb 2026 DA application

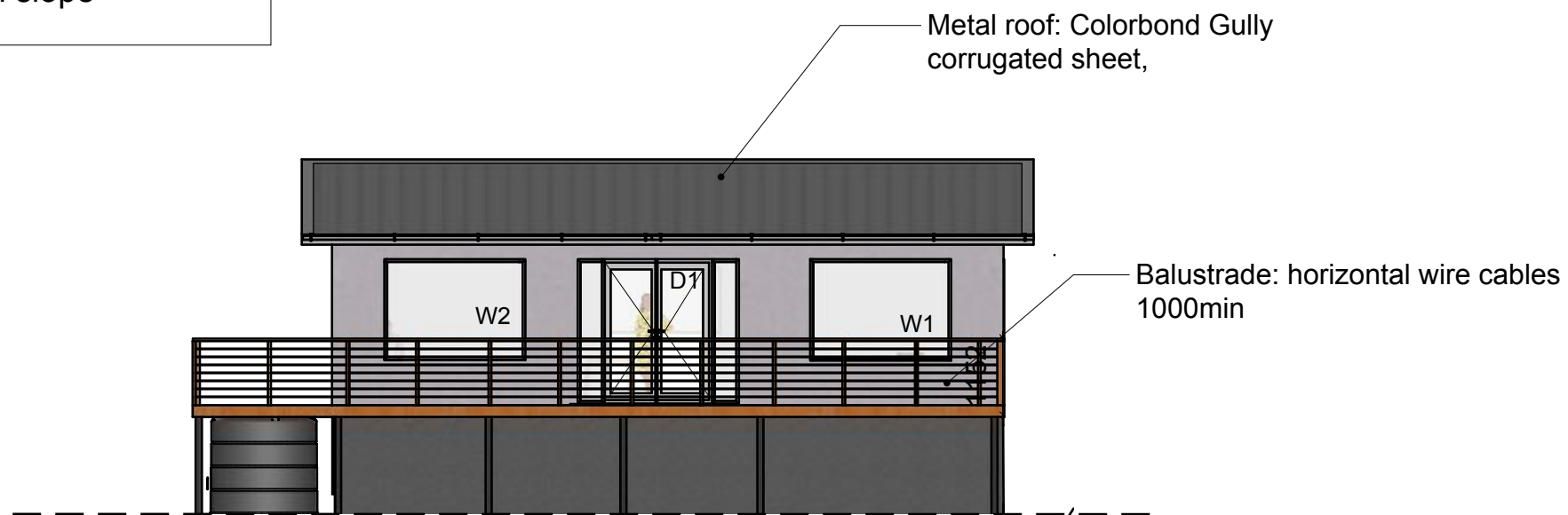
ISSUE

————— Proposed finished level
 - - - - - Natural slope

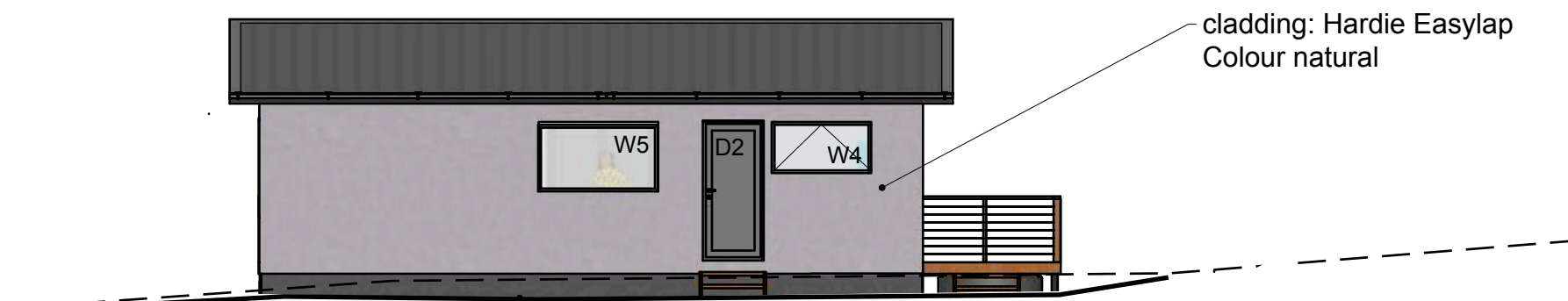
ELEVATIONS

scale 1:100

DA
 7
 of
 7



NORTH WEST



Minimum clearance : floor framing to finished ground level to be 150mm

SOUTH EAST

Client Emma Dunston
 553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

Elevations SE NW

DATE 8/12/2025 to GES 9 Feb 2026 DA application

ISSUE

GEO-ENVIRONMENTAL ASSESSMENT

553 Dorans Road

Sandford

March 2026



GEO-ENVIRONMENTAL

S O L U T I O N S

Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.

Investigation Details

Client:	Emma Dunston & Axel von Krusenstierna
Site Address:	553 Dorans Road, Sandford
Date of Inspection:	16/01/2026
Proposed Works:	New house
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

Site Details

Certificate of Title (CT):	125972/11
Title Area:	Approx. 2.023 ha
Applicable Planning Overlays:	Bushfire-prone areas, Landslip Hazard, Priority Vegetation , Airport obstacle limitation area
Slope & Aspect:	11° NW facing slope
Vegetation:	Bush

Background Information

Geology Map:	MRT
Geological Unit:	Permian Sediments
Climate:	Annual rainfall 550mm
Water Connection:	Tank
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	AS2870:2011, AS1726:2017, AS1547:2012 & AS4055:2021

Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below.

Soil Profile Summary

BH 1 Depth (m)	BH 2 Depth (m)	BH 3 Depth (m)	USCS	Description
0.00-0.60	0.00-0.50	0.00-0.60	SM	SILTY SAND: grey, pale brown, dry, dense, gravels
0.60-0.80	0.50-0.70	0.60-1.20	GW	SANDY GRAVEL: pale brown, light grey, dry, very dense, gravels, refusal on assumed rock

Site Notes

The soil onsite has formed from Permian sediments and consist of silty sands and gravels.

Site Classification

The site has been assessed and classified in accordance with AS2870:2011 “Residential Slabs and Footings”.

The site has been classified as:

Class S

y_s range: **0-20mm**

Notes: This is a slightly reactive site.

Wind Loading Classification

According to “AS4055:2021 - Wind Loads for Housing” the house site is classified below:

Wind Classification:	N3
Region:	A
Terrain Category:	2.0
Shielding Classification:	PS
Topographic Classification:	T2
Wind Classification:	N3
Design Wind Gust Speed – m/s ($V_{h,u}$):	50

Wastewater Classification & Recommendations

According to AS1547:2012 the soil within the proposed wastewater area consists of **LOAM (Category 3)**. The existing dwelling is currently serviced by a split wastewater system with separate blackwater and greywater absorption. At the time of inspection this system showed no visible failure. The proposed ancillary dwelling will be located on the opposing side of the main dwelling to the current wastewater system and will create problems connecting the proposed new fixtures particularly as it is a split system (separate blackwater and greywater sewer lines will be required). The most practical solution is to leave the existing system for the main dwelling and install a separate wastewater system for the ancillary and. A dual-purpose septic tank is proposed with an absorption area sized to accommodate the expected wastewater load. A Design Loading Rate (DLR) of 12L/m²/day has therefore been assigned for primary treated wastewater.

The proposed one-bedroom ancillary will have a maximum calculated wastewater load of 240L/day. This is based on a tank water supply and a maximum occupancy of 2 people (120L/person/day).

Using the DLR of 15L/m²/day, an absorption area of at least 20m² will be required. It is proposed to install this as one 15m x 1.5m x 0.45m absorption trench connected to a dual-purpose septic tank (min 3000L) with outlet filter.

A cut-off drain will be required upslope of the application area. A 100% reserve area will also need to be set aside and kept free from development for any future wastewater requirements. There is sufficient space available onsite to accommodate the required reserve due to the large property size (approx. 2ha). Therefore, a formal reserve area has not been assigned.

The following setback distances are consistent with the Directors Guidelines for On-site Wastewater Management:

Upslope or level buildings:	3m
Downslope buildings:	6m
Upslope or level boundaries:	1.5m
Downslope boundaries:	22m
Downslope surface water:	100m

Further detail is outlined in the attached table.

Construction Notes & Recommendations

The site has been classified as **Class S** - Slightly reactive site, which may experience only slight ground movement from moisture changes.

It is recommended the foundations be placed on the underlying bedrock to minimise the potential for significant foundation movement.

All earthworks on site must comply with AS3798:2007, and I further recommend that consideration be given to drainage and sediment control on site during and after construction. Care should also be taken to ensure there is adequate drainage in the construction area to avoid the potential for weak bearing and foundation settlement associated with excessive soil moisture.

I also recommend that during construction that I and/or the design engineer be notified of any major variation to the foundation conditions as predicted in this report.



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

Director

GES Pty Ltd

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report

Site assessment for on-site waste water disposal

Assessment for	Emma Dunston & Axel von Krusenstierna	Assess. Date	19-Feb-26
		Ref. No.	
Assessed site(s)	553 Dorans Rd Sandford	Site(s) inspected	16-Jan-26
Local authority	Clarence	Assessed by	John Paul Cumming

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

Wastewater Characteristics

Wastewater volume (L/day) used for this assessment = 240 (using the 'No. of bedrooms in a dwelling' method)
 Septic tank wastewater volume (L/day) = 80
 Sullage volume (L/day) = 160
 Total nitrogen (kg/year) generated by wastewater = 0.9
 Total phosphorus (kg/year) generated by wastewater = 0.4

Climatic assumptions for site

(Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	41	36	36	45	36	29	46	47	40	48	44	56
Adopted rainfall (R, mm)	41	36	36	45	36	29	46	47	40	48	44	56
Retained rain (Rr, mm)	33	29	29	36	29	23	37	38	32	38	35	45
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	97	81	62	27	13	6	-5	4	31	46	70	81
Annual evapotranspiration less retained rain (mm) =											514	

Soil characteristics

Texture = Loam Category = 3 Thick. (m) = 1.2
 Adopted permeability (m/day) = 1.5 Adopted LTAR (L/sq m/day) = 12 Min depth (m) to water = 5

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site: All wastewater will be disposed of on the site
 The preferred method of on-site primary treatment: In dual purpose septic tank(s)
 The preferred method of on-site secondary treatment: In-ground
 The preferred type of in-ground secondary treatment: Trench(es)
 The preferred type of above-ground secondary treatment: None
 Site modifications or specific designs: Not needed

Suggested dimensions for on-site secondary treatment system

Total length (m) = 13
 Width (m) = 1.5
 Depth (m) = 0.45
 Total disposal area (sq m) required = 20
 comprising a Primary Area (sq m) of: 20
 and a Secondary (backup) Area (sq m) of:

Sufficient area is available on site

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

Comments

The assigned DLR for the category 3 soil present is 15L/m²/day. The proposed 1-bed ancillary requires an absorption area of at least 20m². The system should have the capacity to cope with extreme climatic and loading events.

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

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

Assessment for Emma Dunston & Axel von Krusenstierna	Assess. Date	19-Feb-26
	Ref. No.	
Assessed site(s) 553 Dorans Rd Sandford	Site(s) inspected	16-Jan-26
Local authority Clarence	Assessed by	John Paul Cumming

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

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
	Expected design area	sq m	5,000	V. high	Very low		
	Density of disposal systems	/sq km	10	Mod.	Very low		
	Slope angle	degrees	11	High	Moderate		
	Slope form	Straight simple		High	Low		
	Surface drainage	Mod. good		High	Low		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces NE or NW		V. high	Low		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	240	High	Very low	Moderate	
	SAR of septic tank effluent		1.0	High	Low		
	SAR of sullage		1.6	High	Low		
	Soil thickness	m	1.2	V. high	Very low		
	Depth to bedrock	m	1.2	V. high	Moderate		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		5.5	High	Low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	8	V. high	Very low		
A	Adopted permeability	m/day	1.5	Mod.	High		
	Long Term Accept. Rate	L/day/sq m	12	High	Very low	Moderate	

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

Comments

The site has the capability to accept onsite wastewater

GES Pty Ltd
Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

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

Assessment for Emma Dunston & Axel von Krusenstierna

Assess. Date

19-Feb-26

Ref. No.

Assessed site(s) 553 Dorans Rd Sandford

Site(s) inspected

16-Jan-26

Local authority Clarence

Assessed by

John Paul Cumming

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

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
A	Cation exchange capacity	mmol/100g	45	High	High	Moderate	Other factors lessen impact
	Phos. adsorp. capacity	kg/cub m	0.5	High	High		
	Annual rainfall excess	mm	-514	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	1.3	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	2	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
	Dist. to nearest surface water	m	150	V. high	Moderate		
	Dist. to nearest other feature	m	100	V. high	Low		
	Risk of slope instability	Low		V. high	Low		
	Distance to landslip	m	100	V. high	Moderate		

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

Comments

Explanatory Notes

1 Scope of Works

The methods of description and classification of soils used in this report are based largely on Australian Standard 1726 – Geotechnical Site Investigations (AS1726:2017), with reference to Australian Standard 1289 – Methods for testing soils for engineering purposes (AS1289), for eventual Site Classification according to Australian Standard 2870 (AS2870:2011) – Residential Slabs and Footings and Australian Standard 1547 (AS1547:2012) On-site domestic wastewater management.

1.1 Site Classification AS2870:2011

Site classification with reference to the above Australian Standards are based on site reactivity.

Class	Foundation Conditions	Characteristic Surface Movement
A	Most sand and rock sites with little or no ground movement from moisture changes.	0mm
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.	0 – 20mm
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes.	20 – 40mm
H-1	Highly reactive clay sites, which may experience high ground movement from moisture changes.	40 – 60mm
H-2	Highly reactive clay sites, which may experience very high ground movement from moisture changes.	60 – 75mm
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes.	>75mm

*Note: Soils where foundation performance may be significantly affected by factors other than reactive soil movement are classified as **Class P**.*

A site is classified as **Class P** when:

- The bearing capacity of the soil profile in the foundation zone is generally less than 100kpa
- If excessive foundation settlement may occur due to loading on the foundation.
- The site contains uncontrolled fill greater than 0.8m in depth for sandy sites and 0.4m in depth for other soil materials.
- The site is subject to mine subsistence, landslip, collapse activity or coastal erosion.
- The site is underlain by highly dispersive soils with significant potential for erosion
- If the site is subject to abnormal moisture conditions which can affect foundation performance

1.2 Soil Characterisation

This information explains the terms of phrase used within the soil description area of the report.

It includes terminology for cohesive and non-cohesive soils and includes information on how the Unified Soil Classification Scheme (USCS) codes are determined.

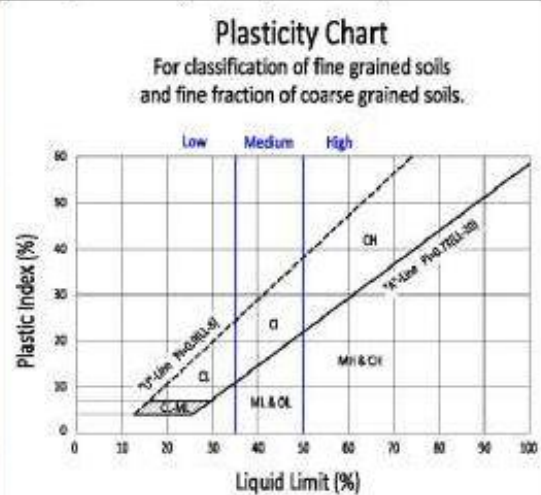
NON COHSIVE – SAND & GRAVEL		
Consistency Description	Field Test	Dynamic Cone Penetrometer blows/100 mm
Very loose (VL)	Easily penetrated with 13 mm reinforcing rod pushed by hand.	0 - 1
Loose (L)	Easily penetrated with 13 mm reinforcing rod pushed by hand. Can be excavated with a spade; 50 mm wooden peg can be easily driven.	1 - 3
Medium dense (MD)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, - hard shovelling.	3 - 8
Dense (D)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, requires pick for excavation: 50 mm wooden peg hard to drive.	8 - 15
Very dense (VD)	Penetrated only 25 - 50 mm with 13 mm reinforcing rod driven with 2 kg hammer.	>15

COHESIVE - SILT & CLAY		
Consistency Description	Field Test	Indicative undrained shear strength kPa
Very soft	Easily penetrated >40 mm by thumb. Exudes between thumb and fingers when squeezed in hand.	<12
Soft	Easily penetrated 10 mm by thumb. Moulded by light finger pressure	>12 and <25
Firm	Impression by thumb with moderate effort. Moulded by strong finger pressure	>25 and <50
Stiff	Slight impression by thumb cannot be moulded with finger.	>50 and <100
Very Stiff	Very tough. Readily indented by thumbnail.	>100 and <200
Hard	Brittle. Indented with difficulty by thumbnail.	>200

1.3 USCS Material Descriptions

Soils for engineering purposes are the unconsolidated materials above bedrock, they can be residual, alluvial, colluvial or aeolian in origin.

Major Divisions		Particle size mm	USCS Group Symbol	Typical Names	Laboratory Classification					
COARSE GRAINED SOILS (more than half of material less than 63 mm & larger than 0.075 mm)	BOULDERS	200			% < 0.075 mm (2)	Plasticity of fine fraction	$C_u = \frac{D_{60}}{D_{10}}$	$C_c = \frac{(D_{30})^2}{(D_{10})(D_{60})}$	NOTES	
	COBBLES	63								
	GRAVELS (more than half of coarse fraction is larger than 2.36 mm)	coarse	20	GW	Well graded gravels and gravel-sand mixtures, little or no fines	0-5	—	>4	Between 1 and 3	(1) Identify fines by the method given for fine-grained soils.
		medium	6	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines, uniform gravels	0-5	—	Fails to comply with above		
		fine	2.36	GM	Silty gravels, gravel-sand-silt mixtures (1)	12-50	Below 'A' line or PI<4	—	—	
				GC	Clayey gravels, gravel-sand-clay mixtures (1)	12-50	Above 'A' line and PI>7	—	—	
	SANDS (more than half of coarse fraction is smaller than 2.36 mm)	coarse	0.6	SW	Well graded sands and gravelly sands, little or no fines	0-5	—	>6	Between 1 and 3	(2) Borderline classifications occur when the percentage of fines (fraction smaller than 0.075 mm size) is greater than 5% and less than 12%. Borderline classifications require the use of SP-SM, GW-GC.
		medium	0.2	SP	Poorly graded sands and gravelly sands, little or no fines	0-5	—	Fails to comply with above		
		fine	0.075	SM	Silty sands, sand silt mixtures (1)	12-50	Below 'A' line or PI<4	—	—	
				SC	Clayey sands, sand-clay mixtures (1)	12-50	Above 'A' line and PI>7	—	—	
	FINE GRAINED SOILS (more than half of material less than 63 mm is smaller than 0.075 mm)	SILTS & CLAYS (Liquid Limit ≤50%)		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Use the gradation curve of material passing 63 mm for classification of fractions according to the criteria given in 'Major Divisions'				
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays					
			OL	Organic silts and clays of low plasticity						
SILTS & CLAYS (Liquid Limit >50%)			MH	Inorganic silts, mic-aceous or diato-maceous fine sands or silts, elastic silts						
			CH	Inorganic clays of high plasticity, fat clays						
			OH	Organic silts and clays of high plasticity						
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils						



Grain size analysis is performed by two processes depending on particle size. Sand silt and clay particles are assessed using a standardised hydrometer test, and coarse sand and larger is assessed through sieving by USCS certified sieves. For more detail see the following section.

Soil Classification	Particle Size
Clay	Less than 0.002mm
Silt	0.002 – 0.06mm
Fine/Medium Sand	0.06 – 2.0mm
Coarse Sand	2.0mm – 4.75mm
Gravel	4.75mm – 60.00mm

1.4 Bearing Capacities and DCP testing.

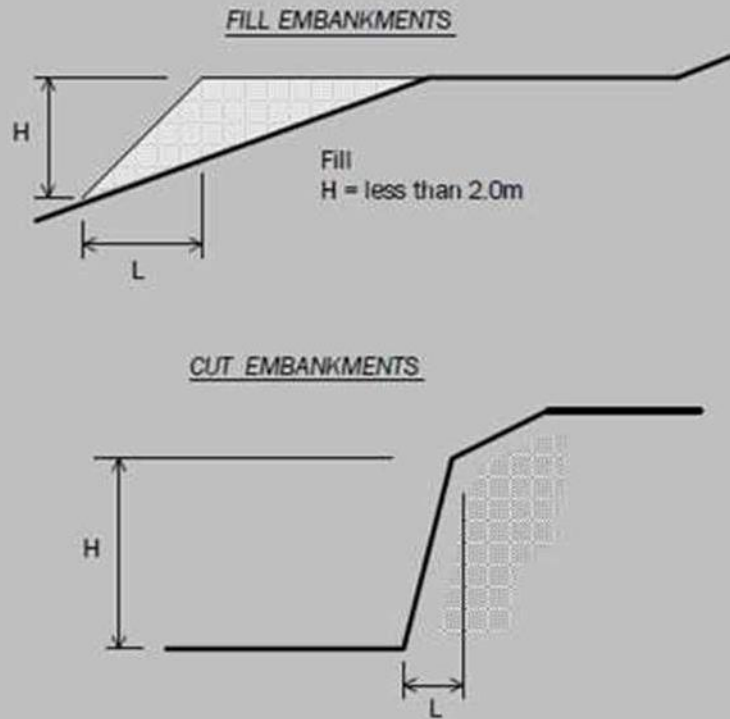
DCP and PSP weighted penetrometer tests – Dynamic Cone Penetrometer (DCP) and Perth Sand Penetrometer (PSP) tests are carried out by driving a rod into the ground with a falling weight hammer and measuring the blows for successive 100mm increments of penetration. Normally, there is a depth limitation of 1.2m but this may be extended in certain conditions by the use of extension rods. The methods for the two tests are quite similar.

- Dynamic Cone Penetrometer – a 16mm rod with a 20mm diameter cone end is driven with a 9kg hammer dropping 510mm (AS 1289, Test 6.3.2).
- Perth Sand Penetrometer – a 16mm diameter flat-ended rod is driven with a 9kg hammer, dropping 600mm (AS 1289 Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.

Site Anomalies – During construction GES will need to be notified of any major variation to the foundation conditions as predicted in this report.

1.5 Batter Angles for Embankments (Guide Only)

Note : Retaining walls or other form of soil retaining methods must be adopted where the slope ratio is greater than that indicated in the table below :-



MATERIAL TYPE (refer soils report)		EMBANKMENT SLOPES (Height : Length)	
		Compacted Fill	Cutting
Stable Rock (A*)		2 : 3	6 : 1
Sand (A*)		1 : 2	2 : 3
Silt (P*)		1 : 4	1 : 4
Clay	Firm Clay	1 : 2	1 : 1
	Soft Clay	Not Suitable	2 : 3
Soft Soils (P*)		Not Suitable	Not Suitable

Glossary of Terms

Bearing Capacity – Maximum bearing pressure that can be sustained by the foundation from the proposed footing system under service loads which should avoid failure or excessive settlement.

Clay – (Mineral particles less than 0.002mm in diameter). Fine grained cohesive soil with plastic properties when wet. Also includes sandy clays, silty clays, and gravelly clays.

Dynamic Cone Penetrometer (DCP) – Field equipment used to determine underlying soil strength and therefore bearing capacity (kPa) by measuring the penetration of the device into the soil after each hammer blow.

Dispersive soil – A soil that has the ability to pass rapidly into suspension in water.

Footing – Construction which transfers the load from the building to the foundation.

Foundation – Ground which supports the building

Landslip – Foundation condition on a sloping site where downhill foundation movement or failure is a design consideration.

Qualified Engineer – A professional engineer with academic qualifications in geotechnical or structural engineering who also has extensive experience in the design of the footing systems for houses or similar structures.

Reactive Site – Site consisting of clay soil which swells on wetting and shrinks on drying by an amount that can damage buildings on light strip footings or unstiffened slabs. Includes sites classified as S, M, H-1, H-2 & E in accordance with AS2870-2011.

Sand – (Mineral particles greater than 0.02mm in diameter). Granular non-cohesive, non-plastic soil that may contain fines including silt or clay up to 15%.

Services – Means all underground services to the site including but not limited to power, telephone, sewerage, water & storm water.

Silt – (Mineral particles 0.002 – 0.02mm in diameter). Fine grained non-cohesive soil, non-plastic when wet. Often confers a silky smoothness of field texture, regularly includes clay and sand to form clayey silts, sandy silts and gravelly silts.

Site – The site title, as denoted by address, lot number, or Certificate of Title (CT) number, or Property Identification Number (PID).

Surface Movement (Ys) – Design movement (mm) at the surface of a reactive site caused by moisture changes.

Disclaimer

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

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

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

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

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

Acceptable Solutions	Performance Criteria	Compliance
<p>A1</p> <p>Horizontal separation distance from a building to a land application area must comply with one of the following:</p> <ul style="list-style-type: none"> a) be no less than 6m; or b) be no less than: <ul style="list-style-type: none"> (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. 	<p>P1</p> <ul style="list-style-type: none"> a) The land application area is located so that <ul style="list-style-type: none"> (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation 	<p>Complies with A1 (b) (i)</p> <p>Land application area will be located with a minimum separation distance of 3m from an upslope or level building.</p>
<p>A2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b)</p> <ul style="list-style-type: none"> (a) be no less than 100m; or (b) be no less than the following: <ul style="list-style-type: none"> (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water. 	<p>P2</p> <p>Horizontal separation distance from downslope surface water to a land application area must comply with all of the following:</p> <ul style="list-style-type: none"> 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. 	<p>Complies with A2 (a)</p> <p>Land application area located > 100m from downslope surface water</p>

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

<p>A5</p> <p>Vertical separation distance between groundwater and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.6m if secondary treated effluent</p>	<p>P5</p> <p>Vertical separation distance between groundwater and a land application area must comply with the following:</p> <p>(a) Setback must be consistent with AS/NZS 1547 Appendix R; and</p> <p>(b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable</p>	<p>Complies with A5 (a)</p> <p>No groundwater encountered</p>
<p>A6</p> <p>Vertical separation distance between a limiting layer and a land application area must be no less than:</p> <p>(a) 1.5m if primary treated effluent; or</p> <p>(b) 0.5m if secondary treated effluent</p>	<p>P6</p> <p>Vertical setback must be consistent with AS/NZS1547 Appendix R.</p>	<p>Complies with P6</p> <p>Vertical separation of 0.6m is consistent with AS1547 Appendix R</p>
<p>A7</p> <p>nil</p>	<p>P7</p> <p>A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties</p>	<p>Complies</p>

AS1547:2012 – Loading Certificate – Septic System Design

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

Site Address: 553 Dorans Rd, Sandford – Ancillary dwelling

System Capacity: 240/day

Summary of Design Criteria

DLR: 12L/m²/day.

Absorption area: 20m²

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

Water saving features fitted: Standard fixtures

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

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

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

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

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the absorption area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Septic tank de-sludging must also be monitored to prevent excessive sludge and scum accumulation. Monitoring and regulation by the property owner required to ensure compliance.

Other operational considerations: Owners/occupiers must be aware of the operational requirements and limitations of the system, including the following; the absorption area must not be subject to traffic by vehicles or heavy stock and should be fenced if required. The absorption area must be kept with adequate grass cover to assist in evapotranspiration of treated effluent in the absorption trenches. The septic tank must be desludged at least every 3 years, and any other infrastructure such as septic tank outlet filters must also be cleaned regularly (approx. every 6 months depending upon usage). Foreign materials such as rubbish and solid waste must be kept out of the system.

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: Owner /Agent
 Address
 Suburb/postcode

Qualified person details:

Qualified person:
Address: Phone No:
 Fax No:
Licence No: Email address:

Qualifications and Insurance details: (description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

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

Details of work:

Address: Lot No:
 Certificate of title No:

The assessable item related to this certificate: (description of the assessable item being certified)
Assessable item includes –
- a material;
- a design
- a form of construction
- a document
- testing of a component, building system or plumbing system
- an inspection, or assessment, performed

Certificate details:

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

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

building work, plumbing work or plumbing installation or demolition work

or

a building, temporary structure or plumbing installation:

In issuing this certificate the following matters are relevant –

Documents:	The attached soil report for the address detailed above in 'details of work'
Relevant calculations:	Reference the above report.
References:	AS2870:2011 residential slabs and footings AS1726:2017 Geotechnical site investigations CSIRO Building technology file – 18.

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

Site Classification consistent with AS2870-2011.

Scope and/or Limitations

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

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

Qualified person:

Signed:

Certificate No:

Date:

J12552

02/03/2026



A handwritten signature in black ink, appearing to read 'John Paul Cumming', written over a light grey background.

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form **35**

To: Owner name
 Address
 Suburb/postcode

Designer details:

Name: Category:
 Business name: Phone No:
 Business address:
 Fax No:
 Licence No: Email address:

Details of the proposed work:

Owner/Applicant Designer's project reference No.
Address: Lot No:

Type of work: Building work Plumbing work (X all applicable)

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

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

Certificate Type:	Certificate	Responsible Practitioner
	<input type="checkbox"/> Building design	Architect or Building Designer
	<input type="checkbox"/> Structural design	Engineer or Civil Designer
	<input type="checkbox"/> Fire Safety design	Fire Engineer
	<input type="checkbox"/> Civil design	Civil Engineer or Civil Designer
	<input checked="" type="checkbox"/> Hydraulic design	Building Services Designer
	<input type="checkbox"/> Fire service design	Building Services Designer
	<input type="checkbox"/> Electrical design	Building Services Designer
	<input type="checkbox"/> Mechanical design	Building Service Designer
	<input type="checkbox"/> Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
	<input type="checkbox"/> Other (specify)	

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

Other details:

Design documents provided:

The following documents are provided with this Certificate –
 Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Mar-26
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Mar-26
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Mar-26

Standards, codes or guidelines relied on in design process:	
AS1547:2012 On-site domestic wastewater management.	
AS3500 (Parts 0-5)-2013 Plumbing and drainage set.	

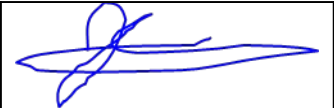
Any other relevant documentation:	
Geo-Environmental Assessment - 553 Dorans Road Sandford - Mar-26	
Geo-Environmental Assessment - 553 Dorans Road Sandford - Mar-26	

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

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

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

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		02/03/2026
Licence No:	CC774A		

Assessment of Certifiable Works: (TasWater)

Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.
If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.
TasWater must then be contacted to determine if the proposed works are Certifiable Works.

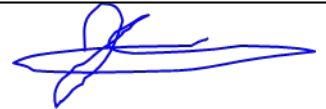
I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:

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

Certification:

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

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

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	John-Paul Cumming		02/03/2026



SITE PLAN

scale 1:200



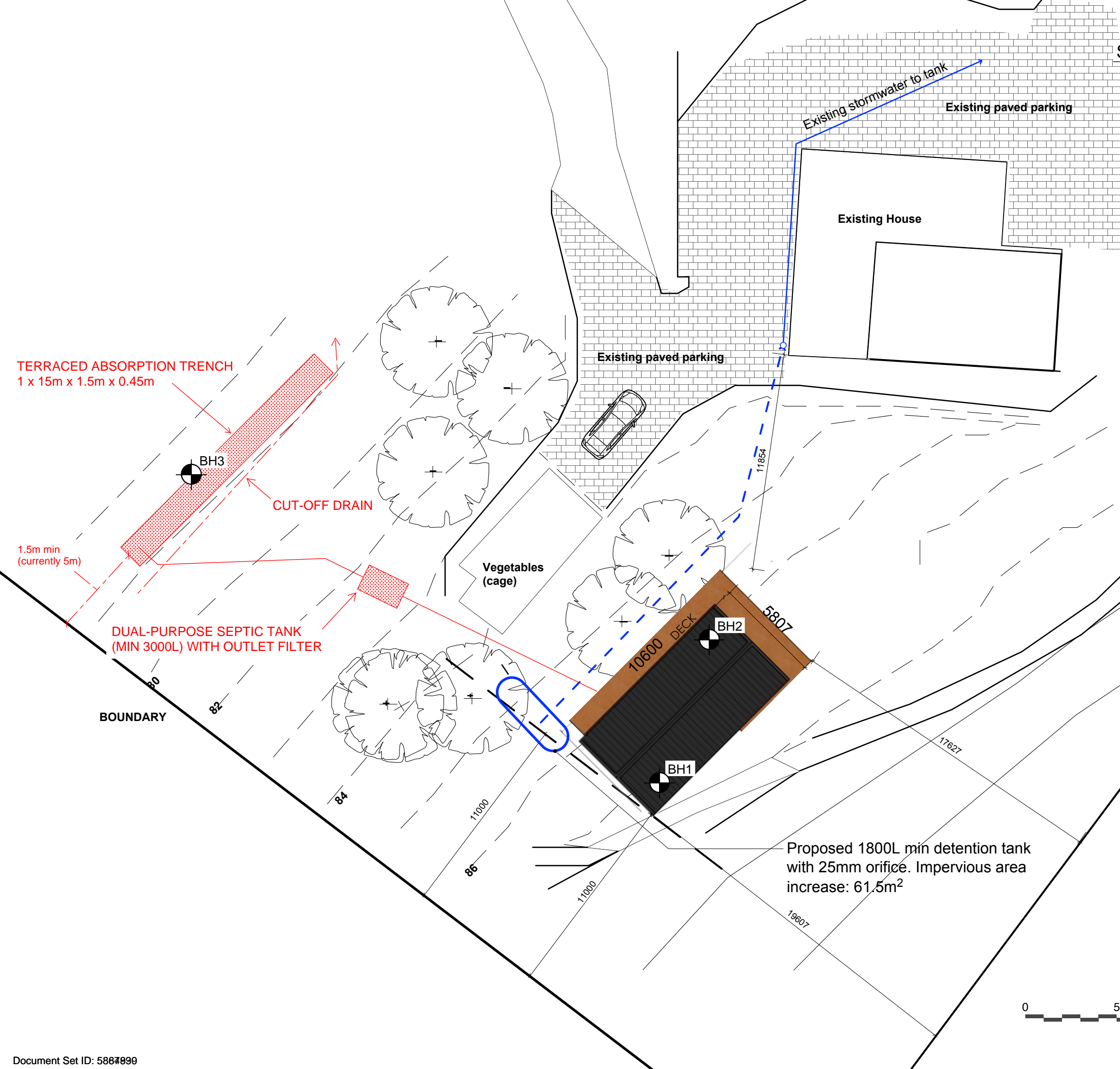
DA
3
of
5

Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

SITE PLAN - 1:200

DATE 8/12/2025 to GES
ISSUE



Wastewater system:
Existing onsite wastewater infrastructure to remain for main dwelling. Proposed ancillary to have separate septic tank and absorption area.

Wastewater management for Ancillary dwelling

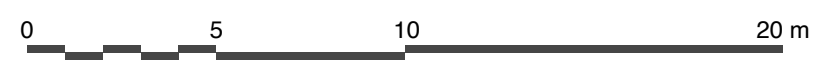
- Dual-purpose septic tank (min 3000L) with outlet filter
- Cut-off drain
- Terraced Absorption Trench 1 x 15m x 1.5m x 0.45
- Min 3m from upslope buildings
- Min 1.5m from upslope or level boundaries
- Min 22m from downslope boundary
- Min 100m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-
Hydraulic
CCC774A

GES
GEO-ENVIRONMENTAL
SOLUTIONS
29 Kirksway Place Battery Point
TJ 62231839 E| office@geosolutions.net.au

[Signature]
2/3/2026



Design notes:

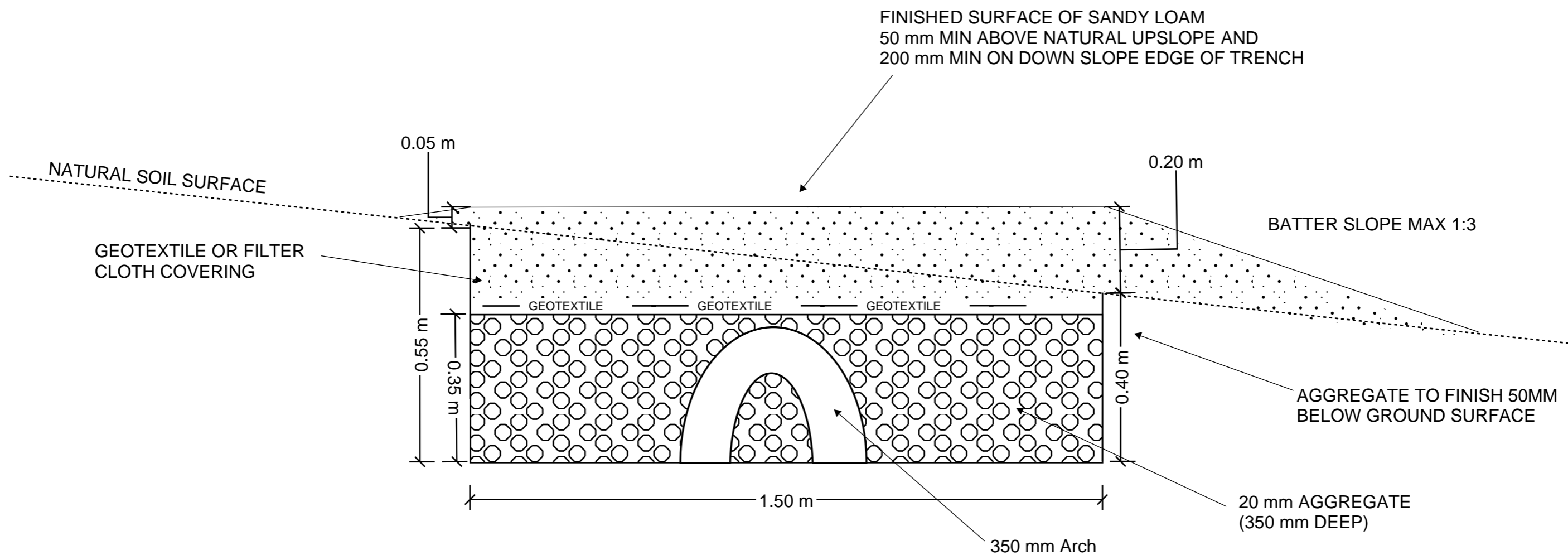
1. Absorption trench dimensions of up to 20m long by 0.45m deep by 1.5m wide
– total storage volume calculated at average 35% porosity.
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 350mm Arch should be placed in the centre of trench
4. Geotextile or filter cloth to be placed over the distribution arch to prevent clogging
5. Construction on slopes up to 20% to allow trench depth range 650mm upslope edge to 450mm on down slope edge
6. Dispersive soils gypsum to be incorporated into the base of the trench at a rate of 1kg/m²
7. All works on site to comply with AS3500 and Tasmanian Plumbing code.



GEO-ENVIRONMENTAL

SOLUTIONS

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



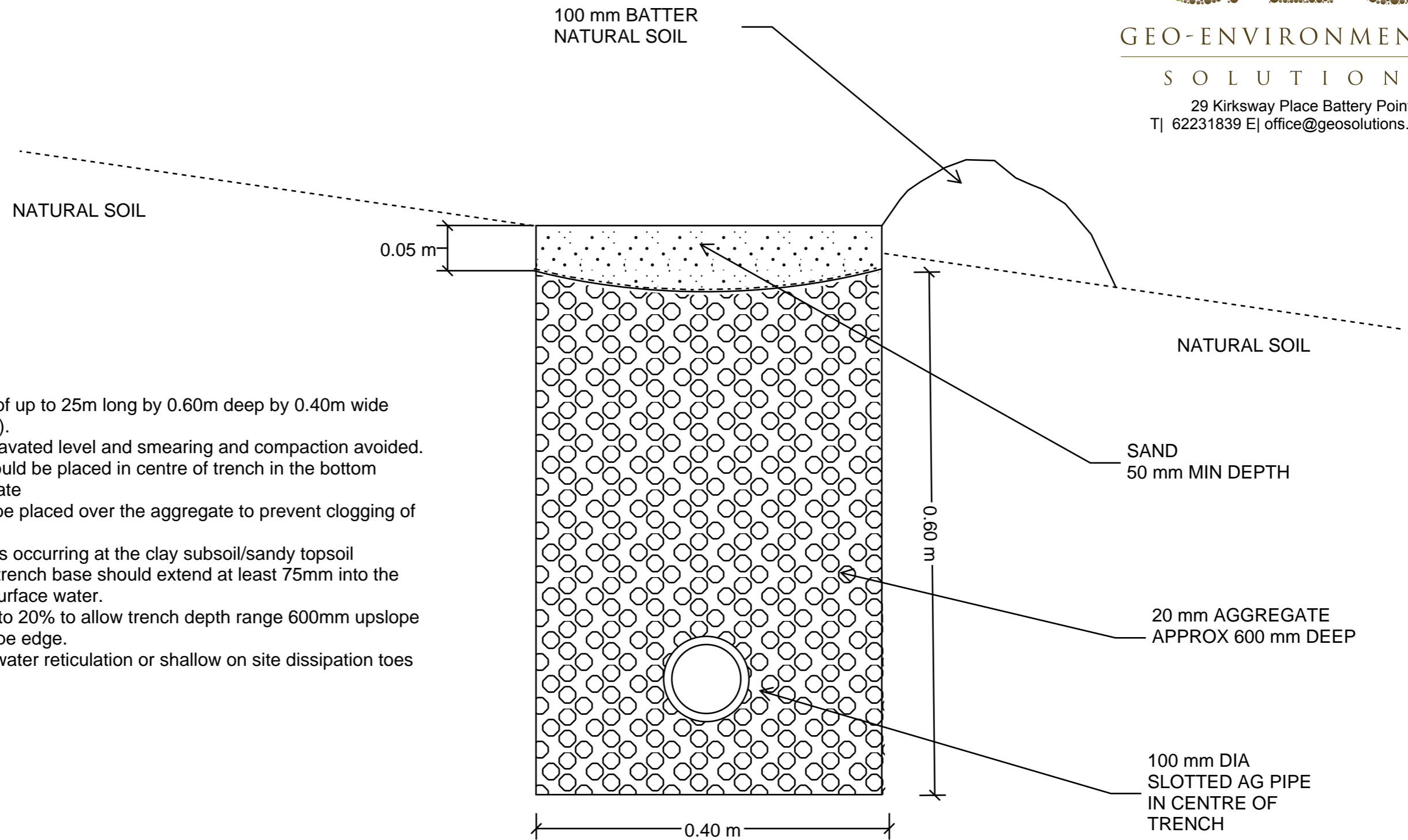
Do not scale from these drawings.
Dimensions to take precedence
over scale.

Geo-Environmental Solutions

Date: May 2020

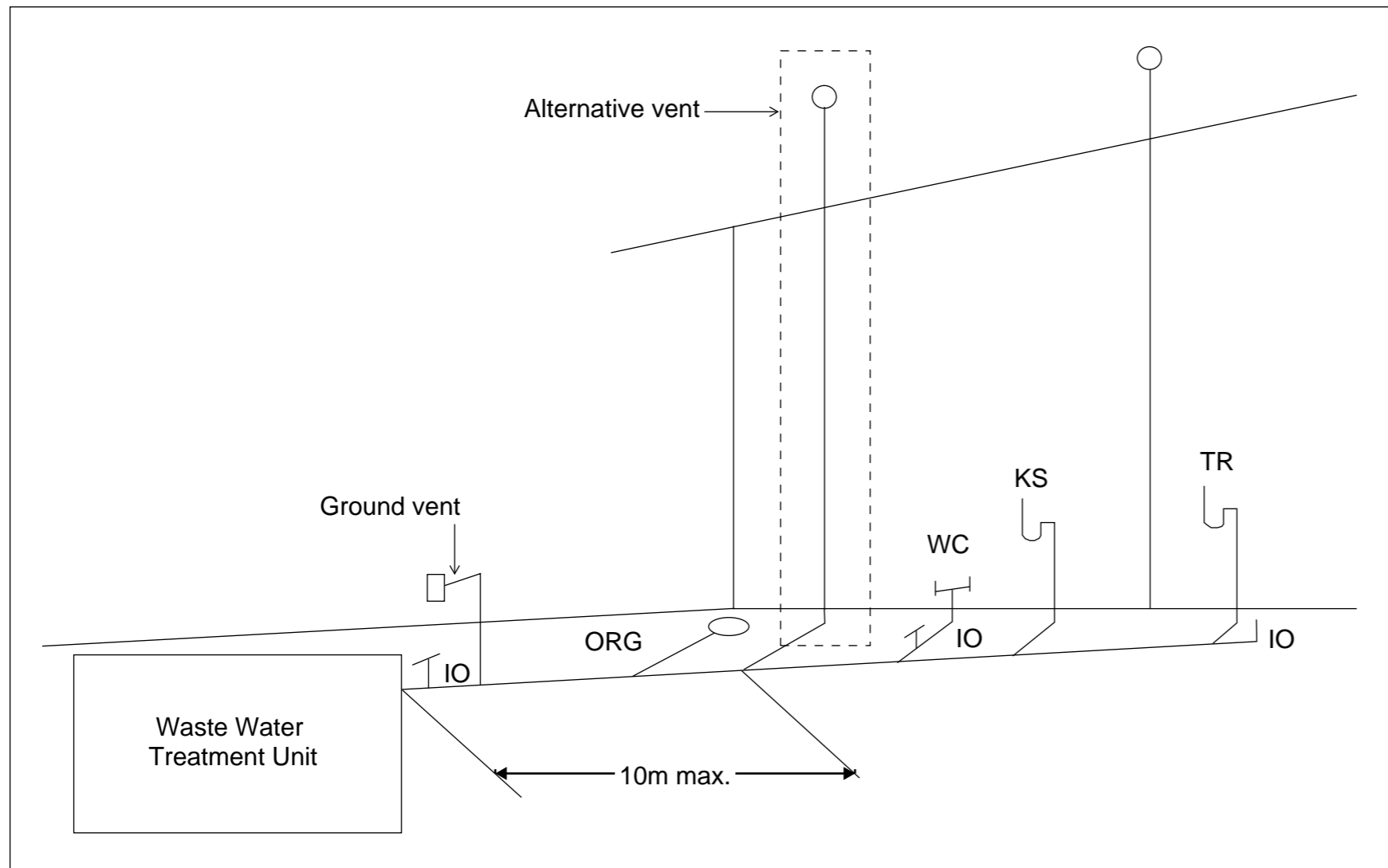
Terraced Absorption Trench Detail

Sheet 1 of 1



Design notes:

1. Cut-off trench dimensions of up to 25m long by 0.60m deep by 0.40m wide (depths and widths minimum).
2. Base of trenches to be excavated level and smearing and compaction avoided.
3. 100mm slotted ag-pipe should be placed in centre of trench in the bottom 100mm of the 20mm aggregate
4. Geotextile or filter cloth to be placed over the aggregate to prevent clogging of the pipes and aggregate
5. If shallow subsurface flow is occurring at the clay subsoil/sandy topsoil boundary (duplex soils), the trench base should extend at least 75mm into the subsoil clay to capture sub-surface water.
6. Construction on slopes up to 20% to allow trench depth range 600mm upslope edge to 400mm on down slope edge.
7. Trench discharge to stormwater reticulation or shallow on site dissipation toes across the contour.



Tas Figure C2D6 Alternative Venting Arrangements

Vents must terminate in accordance with AS/NZS 3500.2

Alternative venting to be used by extending a vent to terminate as if an upstream vent, with the vent connection between the last sanitary fixture or sanitary appliance and the on-site wastewater management system. Use of a ground vent is not recommended

Inspection openings must be located at the inlet to an on-site wastewater management system treatment unit and the point of connection to the land application system and must terminate as close as practicable to the underside of an approved inspection opening cover installed at the finished surface level

Access openings providing access for desludging or maintenance of on-site wastewater management system treatment units must terminate at or above finished surface level

Bushfire Hazard Report

**553 Dorans Road
Sandford**

Performance Solution

Tasmanian Planning Scheme

Property ID 1745047 Title Reference 125972/11

New construction

E Dunston

March 2026

Roger Fenwick Bush Fire Consultant
PO Box 86B Kettering Tasmania 7155
roger@bushfire-consultant.com.au
0411 609 906
Accreditation No. BFP - 162

2511TOR.SAN.DOR1.0

Table of Contents

Executive summary.....	3
Purpose.....	4
Methodology	4
Proposal.....	4
General site description	4
Vegetation	4
Topography	5
Fire history	5
Bushfire Context	5
Site slopes.....	5
Site vegetation.....	6
Performance-Based Analysis.....	6
Objective	6
Relevant stakeholders.....	6
Agreed input data	6
DtS departures and relevant Performance Requirements	6
Assessment Methods	6
Acceptance Criteria	7
Documentation and evidence to be provided	7
BAL ratings	7
Access.....	7
Water.....	7
Environmental & other constraints	7
Assessment	7
Hazard Management Area	7
Construction specification	8
Property access.....	8
Water supply	8
Conclusion	8
Summary of requirements.....	8
Initial checklist.....	8
Annual checklist.....	8
Annexure A Curriculum vitae	9
Annexure B Bushfire Hazard Management Plan	10
Annexure C Management specifications	12
Annexure D Form 55 Certificate	14
Annexure E Site plans	16

Executive summary

I am an Accredited person permitted to assess bushfire hazards and to define Hazard Management Areas and to prepare appropriate plans for their ongoing management. A summary of my *curriculum vitae* is Annexure A.

This report concerns proposed construction of a granny flat (secondary dwelling) in a bushfire-prone area within a Tasmanian Planning Scheme area, assessed under the provisions of the *Director's Determination Bushfire Hazard Areas v 1.2*.

Vegetation on adjacent land one side of the lot is in too close proximity to the proposed house site as assessed by Deemed to Satisfy criteria, and must be evaluated by Method 2 of *Australian Standard 3959 – Construction of buildings in bushfire-prone areas 2018*. This necessitates a Performance Solution.

Roger Fenwick BFP 162 Scope 1, 2, 3A, 3B



General view upslope to proposed house site.

Purpose

I have been engaged to undertake a Bushfire Hazard Report as required by the provisions of the *Director's Determination Bushfire Hazard Areas v 1.2* (DDBHA) for construction of a secondary dwelling located at 553 Dorans Rd, Sandford known as Property ID 1745047, Title Reference 125972/11.

Vegetation on adjoining land beside the proposed house site is within the Deemed to Satisfy setback distance specified in AS 3959 *Construction of buildings in bushfire-prone areas 2018* (AS 3959). That necessitates the application of Method 2 (M2) in the Standard as part of a Performance Solution..

Methodology

The assessment protocol relies on definitions and specifications in the Australian Standard *Construction of buildings in bushfire-prone area 2018* (AS 3959) or *Nash Standard – Steel Framed Construction in Bushfire Areas*, vegetation classification by Specht 1970, and in particular, State variations defined in the DDBHA. Those variations specify additional requirements for access, water supply, and a Hazard Management Area (HMA) plan.

For defined vegetation classes, litter and other flammable vegetation component standard values have been determined. These, slope values and standard weather conditions are used to calculate bushfire behaviour, including rate of forward spread, radiant heat output and flame height. When considered in conjunction with the distance between the edge of the fire and the point of measurement (eg the wall of a house), they show the intensity of the fire exposure.

Those combined values are expressed as a Bushfire Attack Level (BAL) plus a number which expresses the radiant heat output in kilowatts per square metre (kWm⁻²). The BAL rating determines the required construction standard. As the setback distance increases, the BAL rating decreases.

The approach requires a Performance Solution assessment using M2 as outlined in the Standard. That in turn required approval of a prior Performance-Based Design Brief (PBDB), defining how compliance with specified fire safety outcomes will be achieved.

Proposal

Plans showing the site and proposed development are attached at Annexure E. The application will be to build a BAL-29 specification structure in a BAL-29 sized HMA.

General site description

This 20230m² site is located on a broad NW aligned ridge off Beauvais Hill down to Ralphs Bay. The site is substantially timbered with clearing only for the access road, an existing house, and an enclosed vegetable garden area.

Vegetation

Trees covering the bulk of the property are primarily *E tenuiramis* (Silver peppermint) forming a dry low open forest. This type has been described by Dr Marsden-Smedley¹ and in SE Tasmania carries an average surface and near-surface fuel load of 11 tha⁻¹. To this must be added 1tha⁻¹ for bark and 10tha⁻¹ for canopy, giving w & W values of 12.& 22 for use in M2.

¹ Marsden-Smedley, Anderson & Pyrke, Fuels in dry Tasmanian forests, Fire 2022, 5, 103 MDPI Table 4

Topography

The site slopes down to the NW at 12°, is slightly upslope to the NE and SW, and upslope at 7° to the SE.



Views from house site downslope to NW, and across slope to general west.

Fire history

The LIST records no bushfire over the site.

Bushfire Context

A bushfire prone area is defined as land so mapped, or land within 100m of bushfire prone vegetation equal to or exceeding 1 hectare in area. Bushfire prone vegetation includes areas of grasses and shrubs other than defined exceptions such as maintained lawns, gardens, some horticultural land and the like.

The slope used in Deemed to Satisfy (DtS) bushfire assessments based on the Tables in AS 3959 is the gradient beneath unmanaged vegetation able to support fire movement towards structures. It varies from Upslope and Level (both defined as 0°) to groups of Downslope in 5° increments, maxing out at 20°. Downslope means that fire is travelling uphill when moving towards the structure. Specific slope values can be applied, by Method 2 as specified in AS 3959. When dealing with slopes exceeding 20°, Method 2 has to be applied.

Setbacks are defined as the plan view (horizontal) distance between the edge of unmanaged vegetation and the nearest part of a structure subject to the assessment. This means to the nearest wall, or if there is no wall, to the nearest supporting post or column of a carport, deck, veranda, landing, stairs or ramps. Eaves and overhangs, tanks, chimneys, unroofed pergolas and sun blinds are excluded.

For planning purposes, it is assumed that the McArthur Forest Fire Danger Index (FDI) is 50. This defined FDI may not cover the worst case exposure at a site, and even strict adherence to the mandatory and other recommended specifications will not guarantee that structures will not be ignited by bushfire.

Site slopes

With respect to fire behaviour, the significant exposures in the immediate vicinity of the house site are downslope at 12° to the NW, marginally downslope on both sides, and upslope at 7° to the SE.

Site vegetation

All of the tree-based vegetation type is eucalypt forest dominated by *E tenuiramis* (Silver peppermint). This is nominally Forest as described in AS 3959, but can be assessed according to data published by Dr Marsden-Smedley (*ibid*).

Performance-Based Analysis

Objective

The intention is to ensure that adequate setback distances from fire in nearby unmanaged vegetation are provided so as to reduce the likelihood of ignition to an acceptable level, and ensure a tolerable risk to occupants and firefighters.

Table 2.6 in AS 3959 provides specifications for recognised vegetation types and slope classes, showing the combinations of setback distance and construction level generally regarded as providing acceptable levels of fire resistance. The Standard also specifies the methodology (M2) by which site-specific calculations can be made, mirroring that used to generate the Tables shown in the DtS section of the Standard.

The approved PBDB protocol requires that the relevant stakeholders agree on the required outcome and the means by which proposed solutions will be assessed.

Relevant stakeholders

The relevant stakeholders in this case include the property owner, the architect (Torquil Canning), the building surveyor (BS Tas), the Tasmania Fire Service and the bushfire practitioner. All have accepted the Performance Based Design Brief for this assessment.

Agreed input data

The slopes to be used are as measured by me on site, and include one aspect with a 12° downslope, two sides with a 3° downslope and the rear with a 7° upslope.

The nearby Forest vegetation type was assessed by inspection, and by reference to the TASVEG Live mapping on The LIST. The published dominant type is *E tenuiramis* (Silver peppermint), confirmed by observation, with w & W values of 12 & 22.

DtS departures and relevant Performance Requirements

The applicable requirements are provided in the *Director's Determination Bushfire Hazard Areas v 1.2* (DDBHA).

DtS provision	DtS compliance	Relevant performance requirement
2.2(3) Design & Construction	Will comply with DtS	NCC H7P5 Design and construction to reduce risk of ignition from design bushfire
2.2(4)(a) Property Access	Will comply with DtS	-
2.2(4)(b) Water supply	Will comply with DtS	-
2.2(4)(c) Hazard Management Area	Will not comply with DtS in AS 3959 Table 2.6 & DDBHA Table 4	The setbacks required to correspond to an appropriate Design and Construction specification

Assessment Methods

In accordance with A2G2(1)(a) the Performance Solution demonstrates compliance with the Performance Requirements.

The relevant NCC Assessment Method under A2G2(2)(b)(ii) involves:

- Other Verification Method, being Method 2 in the Standard.

Acceptance Criteria

The proposed Acceptance Criteria are that

- Construction standards, and
- Siting (the extent of the Hazard Management Area)

provide an acceptable standard of safety for occupants and firefighters. Acceptable standard will be satisfied by meeting BAL-29 specifications for both the construction standard and siting (the size of the HMA).

Documentation and evidence to be provided

- The following documentation will be provided to the building surveyor:
 - Bushfire hazard management plan;
 - Bushfire hazard report that includes:
 - DtS assessment, where possible;
 - Method 2 assessment, where necessary.
- Design documentation demonstrating compliance with the design BAL (to be provided by the designer).

BAL ratings

The combined assessment defines the extent of the HMA necessary to permit, and require, construction to BAL-29.

Access

Direct property access is from Dorans Road, a locally 6.5m wide sealed road. The access is about 190m long to the open turning area at the existing water supply point in a non-reticulated area and in that respect complies with the provisions of DDBHA Table 2 C.

The access gradient does not exceed 10° but does have a pair of sealed wheel-tracks. The width does not fully comply with the nominal 4m width specification, but the side clearances exceed the 0.5 requirements. As an existing access, it satisfies Performance Requirement 2.3.2 (2).

Water

As no reticulated water supply exists, DDBHA Table 3B applies. The existing plastic water tank will be shielded to the extent needed to meet Table 3B (B) and will have not less than 10kl reserved for fire fighting.

Environmental & other constraints

Priority vegetation, Landslip, Airport obstacle and Waterway & coastal protection overlays cover parts of the site. Limited clearing for house construction and creation of the HMA will require some tree removal, which has been minimised by use of M2 calculations rather than reliance on the DtS data in Table 2.6. The proposed works do not affect the Waterway & Coastal protection overlay area.

Assessment

Hazard Management Area

BAL-29 Setbacks in metres

Direction	Slope	DtS	M2
NW	-12°	30m	14m
Sides, E & W	-3°	19m	10m
Rear	+7°	16m	7m

The Method 2 calculations applied show that beside the vegetation type present on all sides the proposed setbacks give a radiant heat flux of less than 29kWm^{-2} , and the calculated flame lengths are all less than the radiant heat flux setbacks.

The limiting BAL-29 exposure is to Forest, all around the structure. All proposed construction will be to not less than BAL-29.

The HMA to the specifications in DDBHA Table 4 is shown on the plan at Annexure B. Within the area outlined only paved areas, managed lawn or garden, occasional garden shrubs and scattered trees to the management regime shown at Annexure C are permitted.

Construction specification

All works need to be built to BAL-29 specifications, as indicated on the plans.

In addition to the specifications within AS 3959, I recommend that non-combustible leaf guard be fitted to every roof gutter.

Property access

The existing driveway is adequate, and suitable hardstanding and a turning area are provided at the water supply point.

Water supply

A plastic tank with not less than 10kl capacity reserved for fire fighting is located within a stone enclosure with an outlet not closer than 6m from the house and within 90m of the furthest part of the house. Signage and the fittings prescribed in Annexure C are provided. This will meet the requirements of DDBHA Table 3B.

Conclusion

The hazard separation distances to be achieved **and maintained** in accordance with the plan for the Hazard Management Area, combined with construction to the recommended specifications, will result in what I regard as an acceptably protected structure against the anticipated exposure to bushfire attack. Under bushfire weather conditions that exceed the design criteria, the probable survival of structures is less likely.

This report complies with the provisions of NCC Clause A2G2(4)(d) and BHAN 07

Summary of requirements

Initial checklist

1. Complete all new construction to BAL-29 specifications in s3 & s7 of AS 3959-2018.
2. Create the Hazard Management Area as prescribed in Annexure C, to the dimensions shown in Annexure B.

Annual checklist

1. Maintain the Hazard Management Area as prescribed in Annexure C, to the dimensions shown in Annexure B.
2. Ensure that the water supply tank is full and all fittings are in working order.

Annexure A Curriculum vitae

Qualifications	<p>Graduate Certificate in Bushfire Protection, UWS, 2013</p> <p>Bachelor of Science (Forestry), ANU, 1969</p>
Work Experience	<p>Self-employed consultant – 1988 to present</p> <p>ACT Bush Fire Council</p> <p>Chief Fire Control Officer – 1986 to 1987</p> <p>Secretary – 1985</p> <p>Chief Fire Control Officer -1976 to 1978</p> <p>Deputy Chief Fire Control Officer – 1972 to 1975</p> <p>Assistant to Chief Fire Control Officer - 1970 to 1971</p> <p>CSIRO</p> <p>Senior Research Scientist, Project Aquarius 1982 to 1984</p> <p>Chemonics Industries USA 1979 to 1981</p> <p>Field Service Representative, chemical fire retardants</p>
Project Experience	<ul style="list-style-type: none"> • Responsible for all aspects of staff administration, finance, bush fire safety planning, fire management, training, and fire control operations in the ACT. • Attended approximately 2000 wildfires, experimental fires and controlled burns. • Attended to an additional approximately 1000 wildfires. • Personally prepared approximately 3000 compliance reports to accompany Development Applications for subdivisions, Special Purpose structures, houses, industrial buildings and Defence complexes. • Prepared assessments for 31 schools in the Nation-Building Program for the Dept of Education, Employment & Workplace Relations. • Gave evidence in the Land & Environment Court on contested DA matters. • Prepared Vegetation Management Plans for large (primarily Defence) estates throughout Australia. • Prepared training plans and the Bushfire Response Action Plan for Puckapunyal Base, Dept of Defence. • Provided studies of bush fire behaviour to assist planning and risk management by plantation insurance companies, Councils and other land management agencies. • As an Expert Witness, investigated, reported on and gave evidence in 47 matters involving fire causation and fire management activities, mainly in connection with civil litigation. • As Senior Research Officer, assisted in the experiment design and data analysis and responsible for all field operations for Project Aquarius, the major study of large aircraft assisted bush fire control by CSIRO Division of Forestry Research. • As a field representative for Chemonics Industries in the USA, maintained and oversaw the operation of all of the US Forest Service air tanker bases in Washington & Oregon, and introduced the use of fire retardants by ground application for fire management in the western states. • Lectured in bush fire behaviour and control principles at the ANU and the Canberra College of Advanced Education (now University of Canberra). • Wrote the bush fire training module for the ACT Fire Brigade. • Prepared the first urban-rural interface bush fire protection planning guidelines in the ACT for the National Capital Development Commission.

Annexure B Bushfire Hazard Management Plan

BUSHFIRE HAZARD MANAGEMENT PLAN

553 Dorans Road, Sandford

Property ID 1745047 Title 125972/11

Report 2511TOR.SAN.DOR1.0

Roger Fenwick BFP 162 Scope 1, 2, 3A, 3B

19 March 2026

The Hazard Management Area covers the area outlined in green

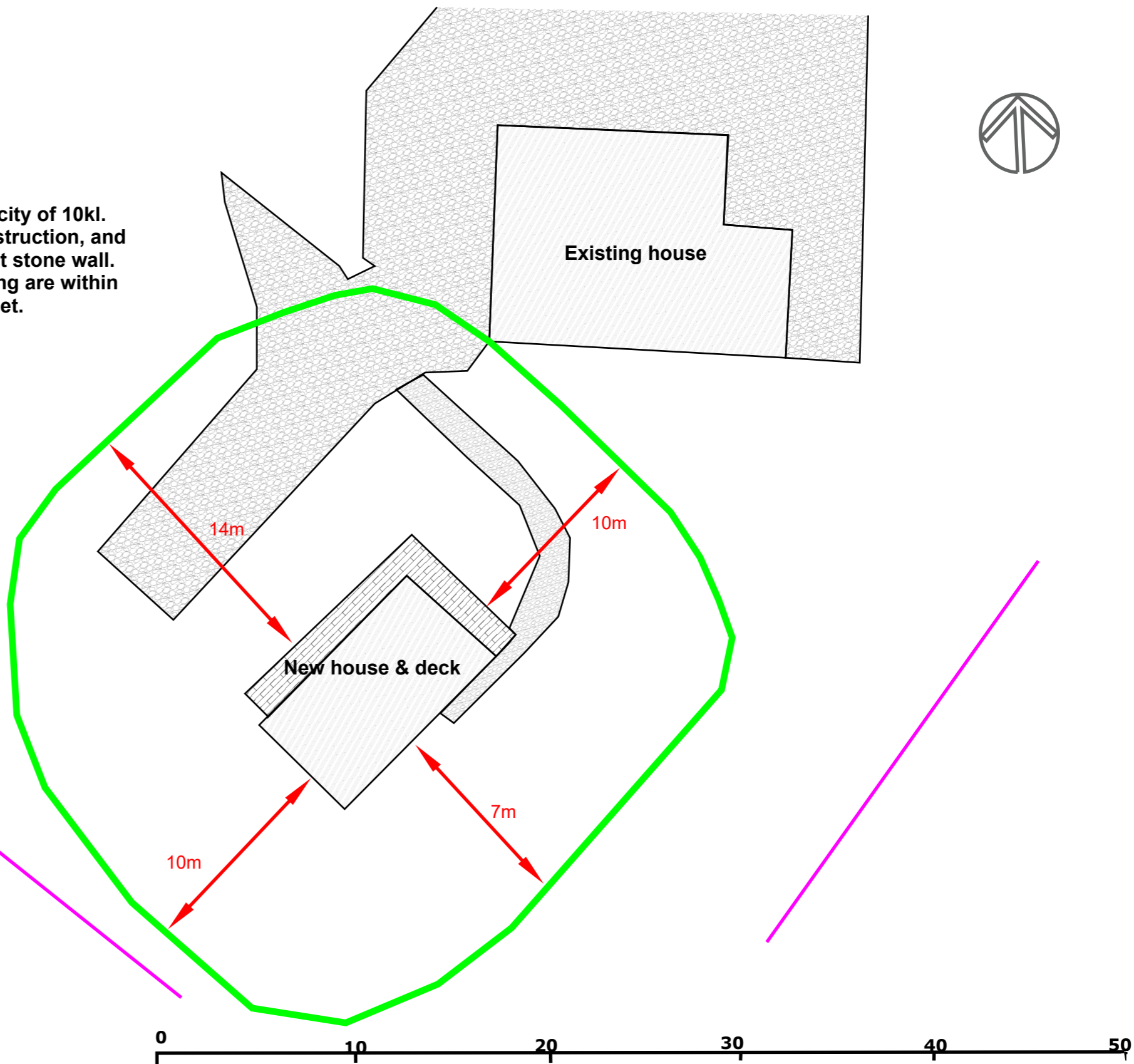
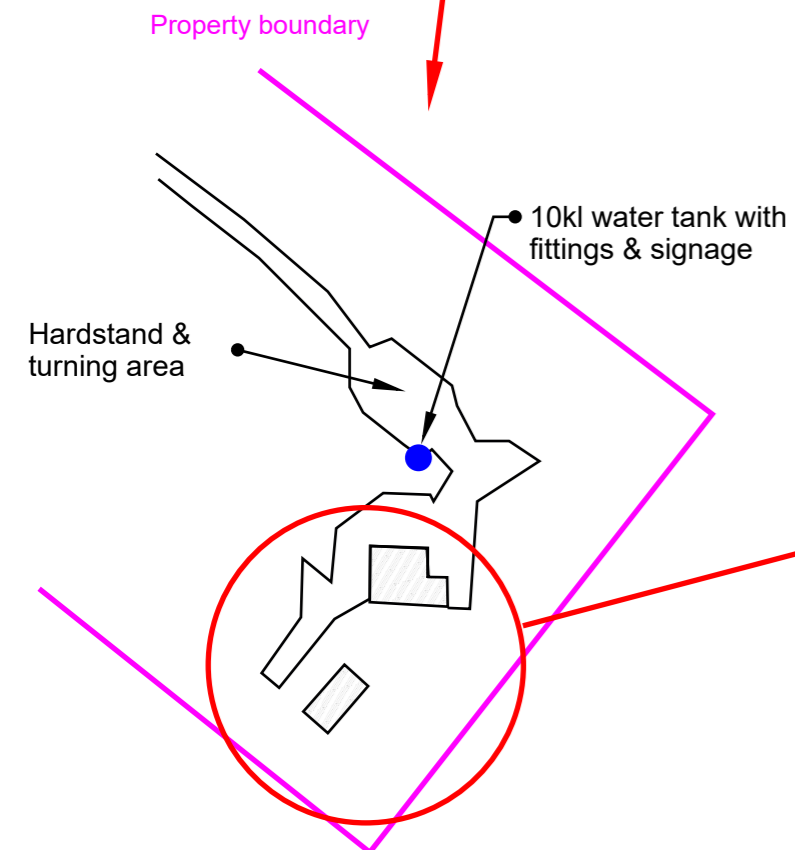
Within the HMA maintain sparse, low height ground cover & leaf litter or paths with only isolated trees and scattered shrubs at least 2m from walls & 5m from windows. Do not store exposed combustible rubbish or firewood within the HMA.

Construction is to BAL-29 specifications.

Refer to the Report for full construction and HMA management specifications.



The water tank has a capacity of 10kl. It is plastic/fibreglass construction, and surrounded by a full height stone wall. All parts of the new dwelling are within 90m by hoseslay of the outlet.



The scale bar is inexact. Rely on plans and indicated dimensions only

Annexure C Management specifications

Hazard Management Areas

The intent is to maintain the Hazard Management Area in a condition that will not allow the development or passage of fire able to ignite structures through radiant heat or flame contact. In addition, providing protection against ember attack is highly desirable. Much of the aim is to limit the intensity of the approaching fire to a level which can be absorbed without damage by the passive protection measures included in the house construction. The materials used have been chosen to (probably) not be ignited (eg walls) or be sufficiently heat-affected to break (eg windows) during the passage of the fire. It is assumed that nobody will necessarily be present during the passage of the fire, so that the structure will hopefully survive by itself. Heat from the head of the approaching fire will probably be at its peak for around 5 minutes, but embers, smoke and uncomfortably high heat will continue for around an hour or so. Attendance by suitably clothed, trained, fit and able-bodied people with appropriate equipment immediately after passage of the fire increases the likelihood of the structure surviving, particularly if small local patches have ignited.

Fire must be kept far enough away to limit the radiant heat which will threaten both structures and anyone (homeowners, fire-fighters) in the path of the fire. Basically, fire spreads rapidly in surface litter and low grassy growth, and develops tall flames in the shrub layer. That makes things difficult for fire-fighters trying to work the fire edge. With enough heat generated by vigorous fire in the shrubs and sapling (understorey) layers, the fire flame height will increase, and involve the crowns of the overstorey trees. Flames also run up the bark of many fibrous-barked eucalypt species, adding to the overall heat output but primarily creating showers of embers

Limiting fire behaviour is achieved by separating the various vegetation components both vertically and horizontally. Less surface litter will result in a slightly slower-moving fire, putting out less heat and therefore slower to ignite the shrub layer. Partial removal of the shrub layer significantly reduces the low-level flame height, making it easier for fire-fighters to work near the fire edge, and becoming less likely to ignite the sapling layer. Keeping the shrub and sapling layer fire intensity low means that fire is unlikely to move into the canopy of the overstorey. That is a crown fire, and is completely uncontrollable by any means.

Limiting ember production is best achieved by not having rough-barked species nearby, or by removing the loose outer bark layer before fire gets near. That can be done by intentionally (with appropriate permissions, after taking proper precautions, and under experienced supervision, and **not** during the fire season!) setting fire to the bark and having it run up the stem. That will leave a blackened stem for maybe 4 -5 years, but should dramatically reduce ember production for 15-20 years, depending on the species.

Protecting against ember attack relies largely on proper construction material selection and design that will not trap embers or the litter on which they may land and ignite. Properly screened openings are essential, but good plant selection and layout can create an ember shield, to deflect or trap embers approaching the house. Remember that embers will also accumulate in the sheltered side, in the eddy zone behind the house. Anywhere leaves accumulate, so will embers.

It is essential to keep even low creeping flames from contacting walls of the house. Maintain a path at least 30cm wide completely clear of all flammable material immediately between the garden/ lawn area – a concrete or gravel path, bare soil, whatever – and the house.

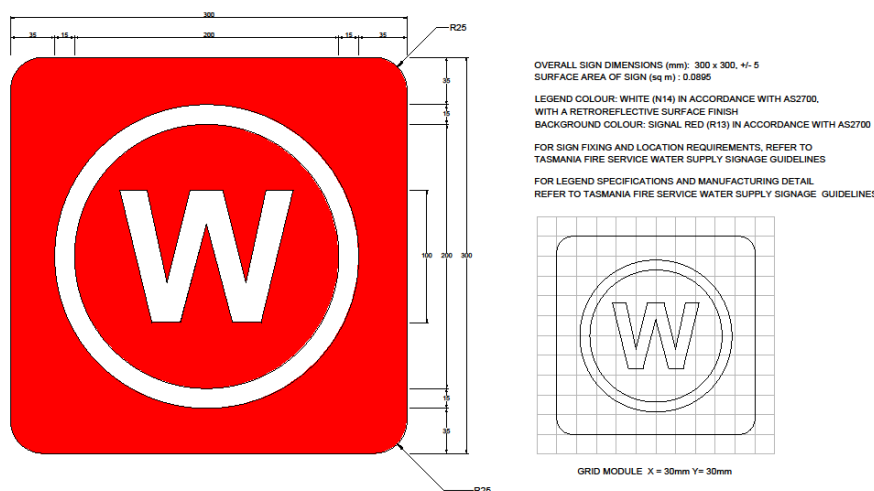
The HMA is to be kept in a substantially cleared condition, with a minimum of flammable material and plants.

Within the HMA, mown lawn and only occasional scattered low-flammability ornamental shrubs, garden plants and the like, plus the mature trees indicated for retention should be allowed.

- Immediately beside the house there must be a strip not less than 30cm wide which is kept bare of any combustible material.
- Grass must be kept mown to not more than 50mm in height, and should be kept watered and green within 5m of a wall.

- Shrubs should not be located within 2m of a wall, or within 5m of a window.
- Avoid using combustible mulch within 5m of a window and within 2m of a wall – use pebbles instead in these settings.
- Trees are to be kept well-spaced, with about one crown diameter between canopy crowns, and one shrub (or shrub cluster to 5m diameter) between shrubs or shrub clusters. (If trees have a 7m diameter canopy, there should be 7m between their canopies, ie 14m between trunks. Similarly, a 2m diameter cluster of shrubs should not be within 2m of other shrubs).
- Favour smooth-barked over rough-barked trees, and low-flammability species.
- Prune all tree branches to a height of 2m.
- Shrubs should not be located directly under trees.
- Don't have open woodpiles or locate rubbish heaps within the HMA.

Water tank signage meeting the requirements of AS 2304-2011 or as per the design below, is required. The sign must be within 1m of the location of the outlet, at least 400mm above ground level, located to be visible from an approaching vehicle, and not obstruct access to the outlet.



All above-ground components must be metal, or lagged with non-combustible material. Buried components must be not less than 300mm deep.

The (not less than 50mm bore) outlet and ball or gate valve must be

- on the water storage tank, or
- beside an approved remote takeoff point located in a protected position, 450-600mm above ground and supplied by a pipe not less than 50mm internal diameter, so that all parts of the building are within 90m of the outlet.

Water takeoff points must be fitted with a Storz 65mm coupling and suction washer, plus a blank cap on a chain at least 220mm long. They must not be within a parking area, and must be accessible from a hardstanding area located within 3m of the take-off point and not closer than 6m to the building.

The hardstanding area must be at least 3m in width, and connected to the general access driveway, and be constructed so that when occupied by a tanker, the tanker will not obstruct the passage of other vehicles. A tanker must have direct access from the hardstanding to a turning area.

Annexure D Form 55 Certificate

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

To: Owner /Agent
 Address
 Suburb/postcode

Form **55****Qualified person details:**

Qualified person:
 Address: Phone No:
 Fax No:
 Licence No: Email address:

Qualifications and Insurance details:
(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

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

Details of work:

Address: Lot No:
 Certificate of title No:
 The assessable item related to this certificate:
(description of the assessable item being certified)
 Assessable item includes –
 - a material;
 - a design
 - a form of construction
 - a document
 - testing of a component, building system or plumbing system
 - an inspection, or assessment, performed

Certificate details:

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

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

building work, plumbing work or plumbing installation or demolition work

OR

a building, temporary structure or plumbing installation

In issuing this certificate the following matters are relevant –

Documents:	Bushfire Hazard Assessment Report dated March 2026 including Bushfire Hazard Management Plan dated March 2026 AS 3959-2018 <i>Construction of buildings in bushfire-prone areas</i> Plans by Torquil Canning
Relevant calculations:	Method 2 calculations appended to Report
References:	N/A

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

A bushfire assessment and management plan for proposed new construction, in accordance with BAL-29 construction standard of AS 3959-2018.

Approval of Performance Solution components requires a Form 47 from the TFS.

Scope and/or Limitations

A Bushfire Hazard Assessment was commissioned by the owner to identify the potential bushfire risk and BAL rating, and to recommend appropriate compliance and protection measures.

Limitations: The proposed measures comply with the guidelines. Full compliance with the requirements in this report and/or AS 3959-2018 does not guarantee survival of structures or persons.

I certify the matters described in this certificate.

Signed:



Certificate No:

2511TOR.SAN.DOR1.0

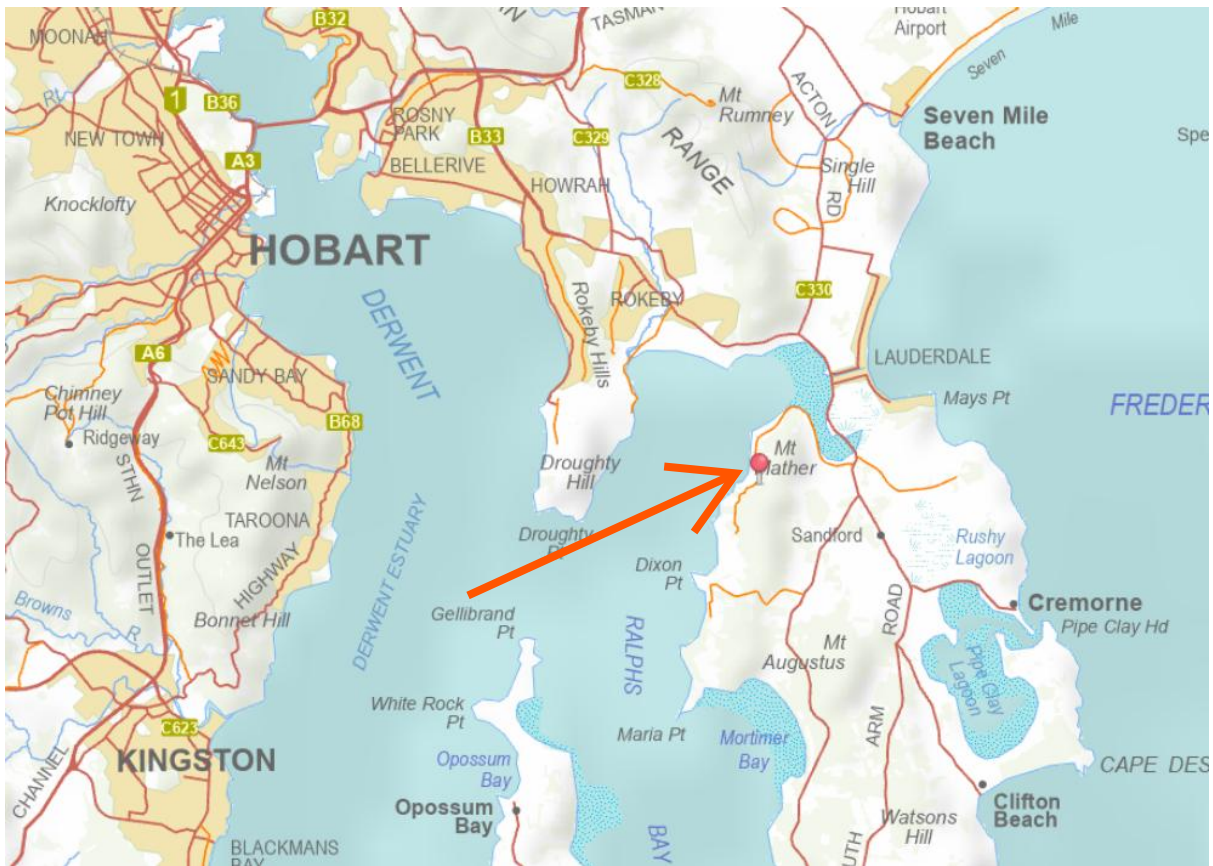
Date:

19 March 2026

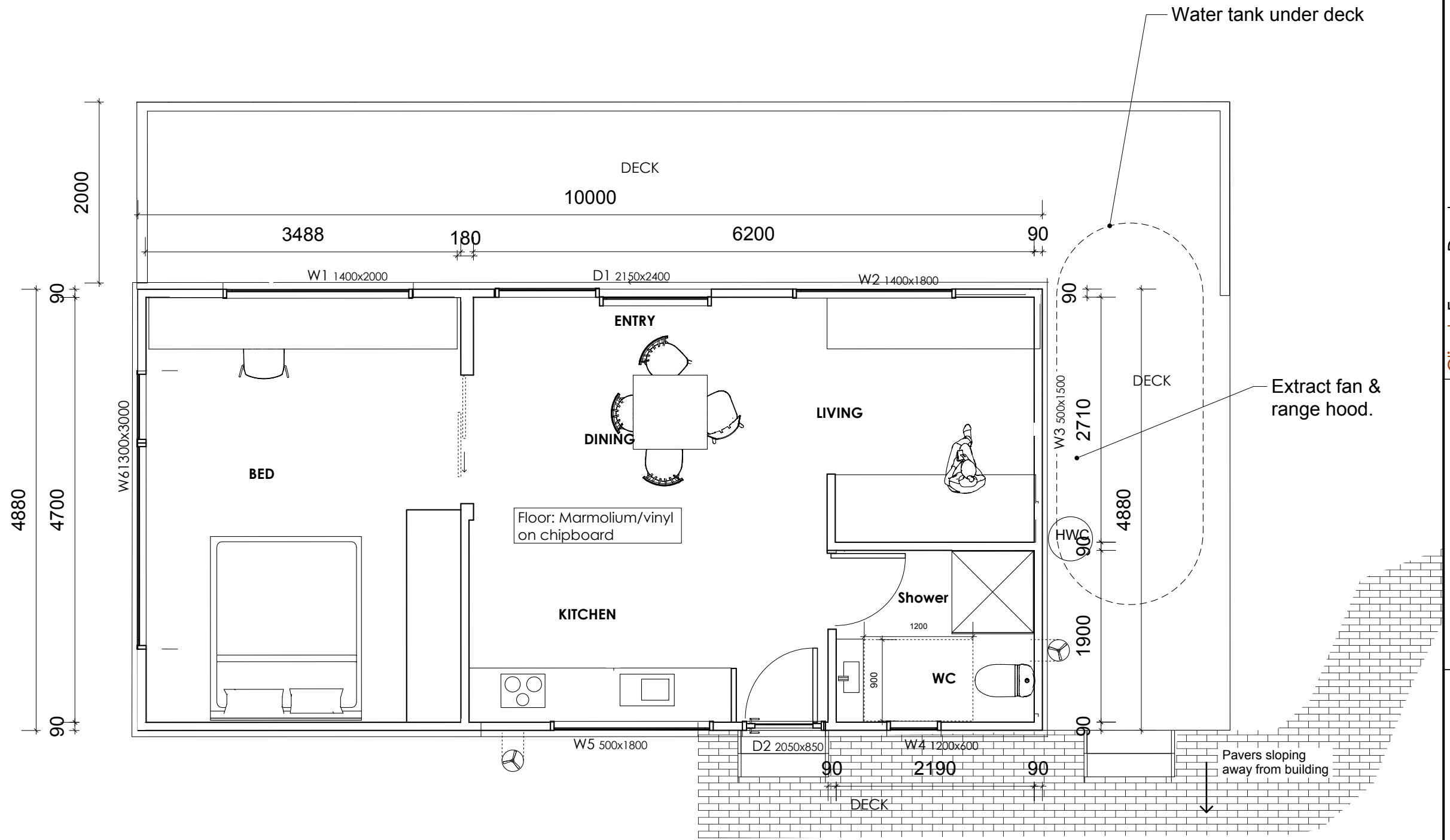
Qualified person

2511TOR.SAN.DOR1.0

Annexure E Site plans



TORSAN 553 Dorans Road, Sandford Lislocsite



Windows = height x width



Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

FLOOR PLAN

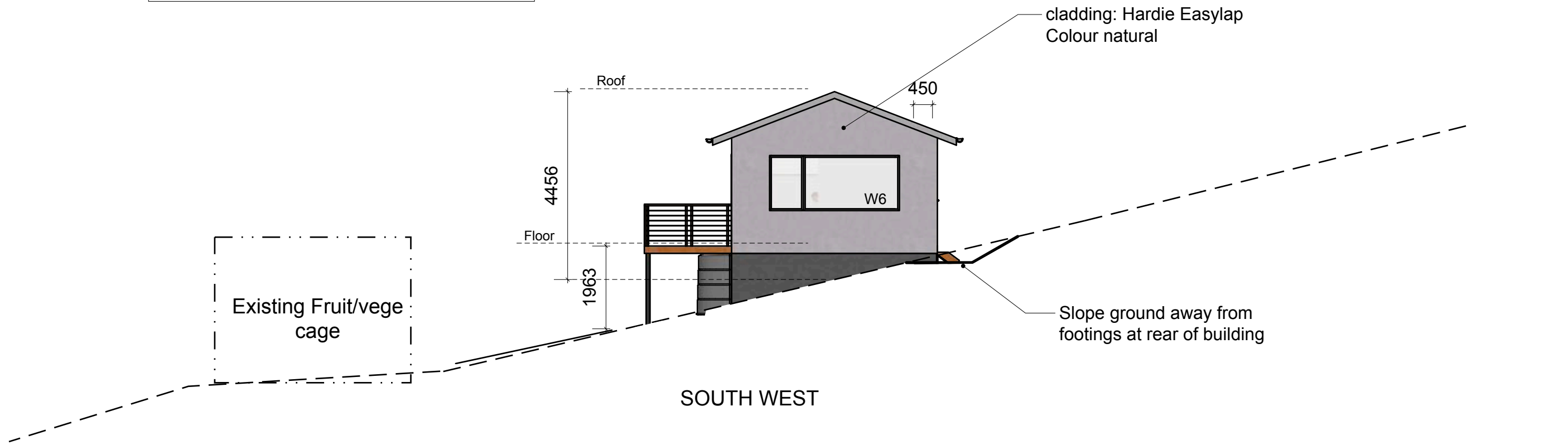
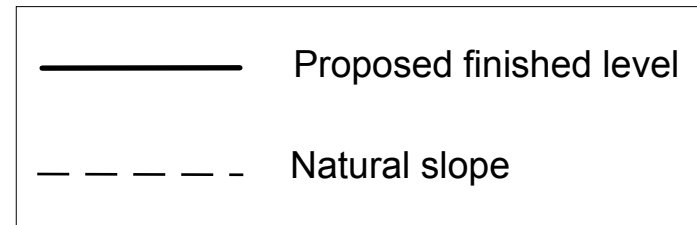
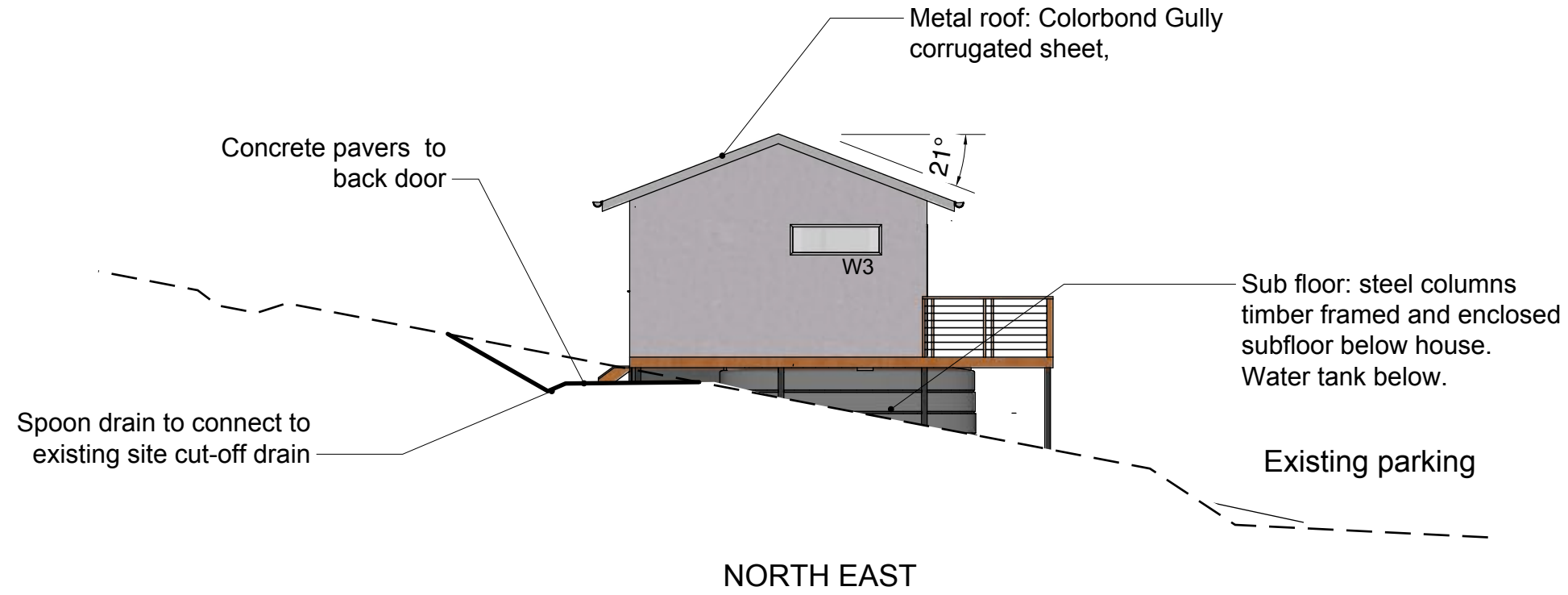
DATE 8/12/2025 to GES
9 Feb 2026 DA application

ISSUE

ELEVATIONS

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6
of
7

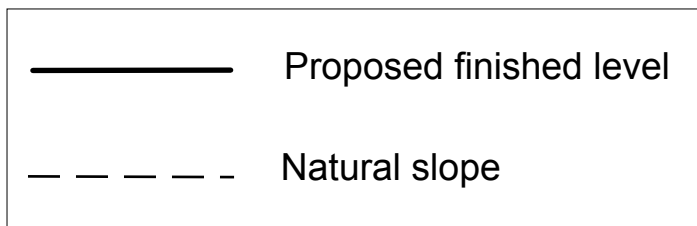


Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

Elevations SW NE

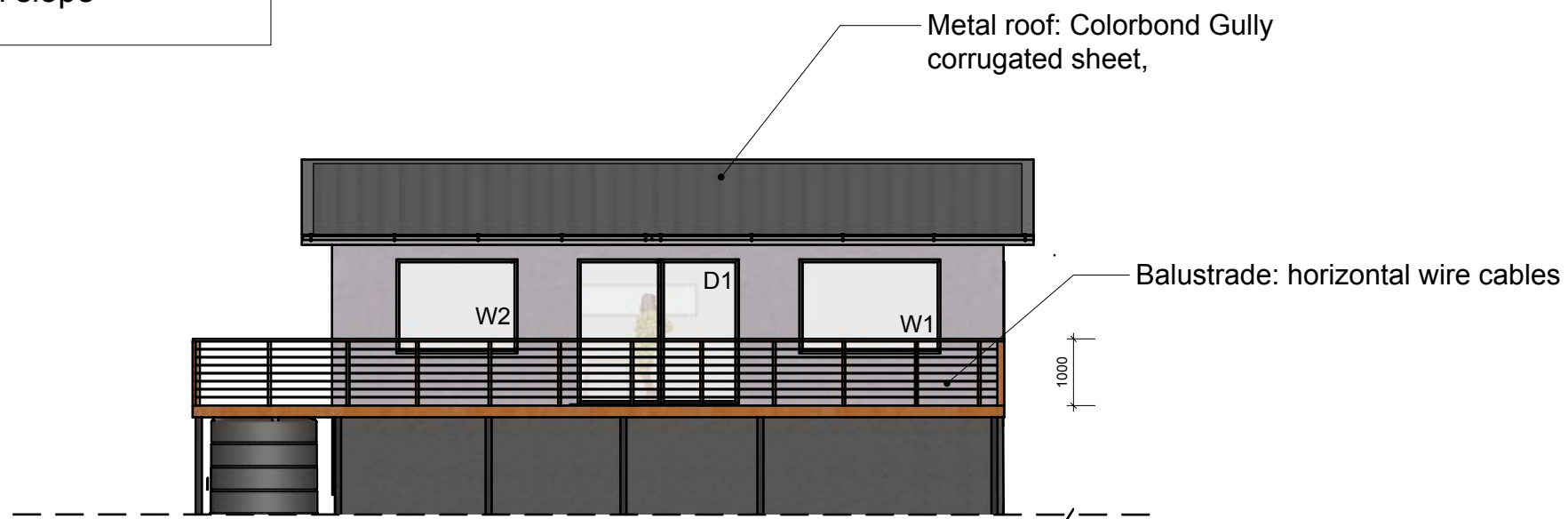
DATE 8/12/2025 to GES
9 Feb 2026 DA application



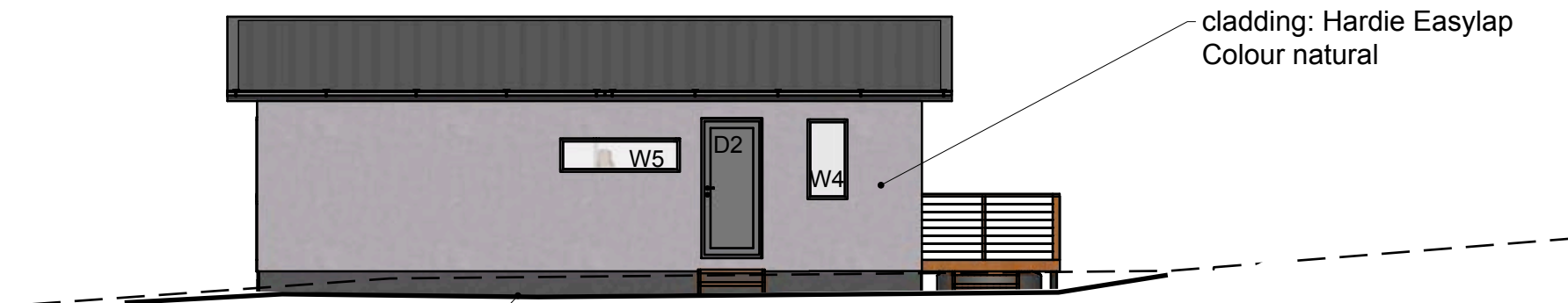
ELEVATIONS

scale 1:100

DA
7
of
7



NORTH WEST



Minimum clearance : floor framing to finished ground level to be 150mm

SOUTH EAST

Client Emma Dunston
553 Dorans Road Sandford

Torquil Canning/torquilocanning@me.com/0478616663

Elevations SE NW

DATE 8/12/2025 to GES 9 Feb 2026 DA application

AS 3959 Method 2 calculations							
Address	553 Dorans Rd, Sandford						
PID	1745047	Title ref	125972/11				
	Inputs	derived figures	outputs				
FDI	50	w	ros (kph)				
Vegetation	D	12	0.7				
Veg Slope				degrees	12	Forest	F
HMA slope	0.13962634		F length	degrees	8	Dry Tasmanian Forest	D
HMA width	14	R slope	13.4	Elevation receiver	2	Rainforest	R
		1.6	13.4			Woodland	W
Flame width	100	W	0.0			Low heath	L
		22	0.0			Heath	H
			0.0			Grass	G
			0.0			forest wetland	fw
			0.0			tussock moorland	tm
			0.0				
		R (slope)	F length	Intensity (kWm ⁻¹)		Radiation	28.28 kWm ⁻²
Forest & Woodland		1.65	13.35	18731			
Shrub, Heath, Scrub		1.65	4.9	8184	temp (1090, 1200)	1090	
Grass		1.65	5.2	18731			
flame angle	60						
The variable inputs to this spreadsheet appear in the yellow-highlighted boxes.							
The derived values w and W are as they appear in AS 3959, apart from individually allocated figures for D vegetation types, taken from Marsden-Smedley <i>et al.</i> , Fuel in Tasmanian Dry Eucalypt Forests, Fire 2022, 5, 103. Table 4							
The usual output is Radiation in kWm ⁻² but the program can be forced to find input values matching a desired outcome.							
Simulations of the shielding effect of fences are made by manually adjusting the F length value							
If that has been done, the two F length columns will show mis-matching numbers for the vegetation type							

AS 3959 Method 2 calculations							
Address	553 Dorans Rd, Sandford						
PID	1745047		Title ref	125972/11			
	Inputs	derived figures	outputs				
FDI	50	w	ros (kph)				
Vegetation	D	12	0.7				
Veg Slope				degrees	-7 Forest	F	
HMA slope	-0.087266463		F length	degrees	-5 Dry Tasmanian Forest	D	
HMA width	7	R slope	5.5		Rainforest	R	
		0.4	5.5	Elevation receiver	2 Woodland	W	
Flame width	100	W	0.0		Low heath	L	Shrubland
		22	0.0		Heath	H	Scrub
			0.0		Grass	G	
			0.0		forest wetland	fw	
			0.0		tussock moorland	tm	
			0.0				
		R (slope)	F length	Intensity (kWm ⁻¹)	Radiation	26.45	kWm ⁻²
Forest & Woodland		0.44	5.53	5049			
Shrub, Heath, Scrub		0.44	4.9	8184	temp (1090, 1200)	1090	
Grass		0.44	2.7	5049			
flame angle	60						
The variable inputs to this spreadsheet appear in the yellow-highlighted boxes.							
The derived values w and W are as they appear in AS 3959, apart from individually allocated figures for D vegetation types, taken from Marsden-Smedley <i>et al.</i> , Fuel in Tasmanian Dry Eucalypt Forests, Fire 2022, 5, 103. Table 4							
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If that has been done, the two F length columns will show mis-matching numbers for the vegetation type							

AS 3959 Method 2 calculations							
Address	553 Dorans Rd, Sandford						
PID	1745047	Title ref	125972/11				
	Inputs	derived figures	outputs				
FDI	50	w	ros (kph)				
Vegetation	D	12	0.7				
Veg Slope			degrees		3	Forest	F
HMA slope	0		F length		0	Dry Tasmanian Forest	D
HMA width	10	R slope	8.4			Rainforest	R
		0.9	8.4		Elevation receiver	2	Woodland
Flame width	100	W	0.0			Low heath	L
		22	0.0			Heath	H
			0.0			Grass	G
			0.0			forest wetland	fw
			0.0			tussock moorland	tm
			0.0				
		R (slope)	F length		Intensity (kWm ⁻¹)	Radiation	26.48 kWm ⁻²
Forest & Woodland		0.89	8.40		10066		
Shrub, Heath, Scrub		0.89	4.9		8184	temp (1090, 1200)	1090
Grass		0.89	3.8		10066		
flame angle	60						
The variable inputs to this spreadsheet appear in the yellow-highlighted boxes.							
The derived values w and W are as they appear in AS 3959, apart from individually allocated figures for D vegetation types, taken from Marsden-Smedley <i>et al.</i> , Fuel in Tasmanian Dry Eucalypt Forests, Fire 2022, 5, 103. Table 4							
The usual output is Radiation in kWm ⁻² but the program can be forced to find input values matching a desired outcome.							
Simulations of the shielding effect of fences are made by manually adjusting the F length value							
If that has been done, the two F length columns will show mis-matching numbers for the vegetation type							

SUMMARY OF NATURAL VALUES ASSESSMENT



553 DORANS ROAD, SANDFORD

LARK & CREESE Pty & Ltd

24th October 2025

Table of contents

1. Introduction and Scope 3

 Scope..... 3

 Study site description..... 3

 Potential threatened flora habitat values..... 4

 Vegetation types and distribution 4

 Potential threatened fauna habitat values 4

 Weeds 5

 Conclusions..... 5

2. Appendix B: Disclaimer. 6

 Limitations 6

Citation

This report can be cited as: *Lark & Creese (2025). Summary of Natural Values Assessment - 553 Dorans Road, Sandford, Tasmania 31092_53199_01. Report by Lark & Creese Pty & Ltd for E. Dunston, 24th October 2025.*

1. Introduction and Scope

E. Dunston has engaged Lark and Creese Pty Ltd to report on the natural values within the property 553 Dorans Road, Sandford (Certificate Title #125972/11, Property Identification #7495368). The assessment specifically addresses the possible impacts on natural values that may result from proposed works associated with the construction of an access and ancillary unit / dwelling, including likely impacts associated with implementing the bushfire hazard management recommendations to assist local, State and Commonwealth agencies during the assessment and approval process. The study site was assessed by Doug Summers (Author) on 13th October 2025.



Figure 1 – Locality image of study site, 553 Dorans Road, Sandford (C.T. 125972/11, PID 7495368).

Scope

The survey specifically focuses on:

- Potential threatened flora and fauna habitat values including species of conservation significance within the development footprint and implications regarding the *Tasmanian Threatened Species Protection Act 1995* and the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999*,
- Vegetation types within the study site including descriptions on the distribution, condition composition and conservation significance of vegetation types and conservation status under Local, State and Commonwealth policy and legislation,
- Impact on surrounding vegetation communities and natural values, and
- Demonstrate the site has capacity to accommodate proposed development / works.

Study site description

The 2.31ha property within the Clarence Municipality is zoned as Landscape Conservation under the Tasmanian Statewide Planning Scheme. Native vegetation occupies approximately half of the allotment with the remaining land consisting of open grassed areas. Existing development limited to the south-eastern corner of the allotment consisting of the access, a dwelling, established gardens and hardstand areas. At the time of assessment, existing development within the allotment consists of well-formed access via Dorans Road (Centre coordinates E:538125, N:5246345, GDA94, MGA55).

Potential threatened flora habitat values

- No threatened plant species listed under Tasmania's *Threatened Species Protection Act 1995* (TSPA), or the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* have previously been recorded on site, or at the time of survey.
- *Eucalyptus risdonii* listed as rare under Tasmania's *Threatened Species Protection Act 1995* has previously been recorded within 500m to the north-east in 2020 but was not recorded at time of survey.
- Previous land use and vegetation management practices have altered vegetation structure and reduced suitability for potential habitat for other threatened flora previously recorded within 5km of the site.
- Bushfire hazard management assessment and report recommend a bushfire attack level (BAL) 29 construction standard. Draft site plans indicate the associated bushfire hazard management area would require the clearance and conversion of approx. 2400m² of DTO vegetation. future development within the proposed site is unlikely to result in a significant loss of potential habitat values for these species.
- No further assessment or permit under Section 51 of Tasmania's *Threatened Species Protection Act 1995*. No formal referral to the Commonwealth's Department of Environment under *Significant Impact Guidelines*.

Vegetation types and distribution

- Previous land use and current vegetation management practices have modified vegetation surrounding the proposed development site. At the time of assessment, vegetation structure and species composition of native vegetation within the study site is consistent with TASVEG 4.0 dry *Eucalyptus tenuiramis* woodland on sediments (DTO). DTO is listed as Threatened vegetation communities under Schedule 3A of Tasmania's *Nature Conservation Act 2002*.
- The vegetation is within Clarence Council's Natural Assets Code as classified as high priority vegetation. Assessment indicates the proposal's BAL-29 bushfire hazard management area will result in the clearance and conversion of approx. 2400m² of DTO vegetation. Given the proposal footprint does not exceed 1ha, it is not anticipated further assessment or referral is required under Tasmania's *Nature Conservation Act 2002* or the *Land Use Planning and Approvals Act 1993*.
- Providing development is limited to the proposed site and where possible within existing disturbance, it is not expected future development will result in a substantial fragmentation of the community or result in a significant threat the persistence of the DTO community that occupies the study site and the western slopes of Beauvais Hill to the east.

Potential threatened fauna habitat values

- The Natural Values Atlas database indicates the threatened Eastern-barred bandicoot has previously been recorded within 500m of the site. Assessment indicates proposed development within DTO vegetation is unlikely to impact potential foraging or refuge habitat for this species. Post construction pressure such as domestic pets can potentially cause further disturbance or displacement for these species and non-threatened species. No further assessment or referral is required under Tasmania's *Threatened Species Protection Act 1995* or the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.
- The Natural Values Atlas database indicates the threatened Masked owl has previously been recorded within 1km to the south-east. A survey for potential nesting habitat (eucalypts >70cm dbh) found only one dead tree of suitable size. Assessment found the proposal will not result in loss of potential nesting habitat or likely to disturb breeding activity for this species. No further assessment or referral required under Tasmania's *Threatened Species Protection Act 1995* or the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

- The proposed development site is within documented Swift Parrot Important Breeding Areas (SPIBA). No potential foraging habitat (*Eucalyptus globulus* & *E. ovata*) was recorded within DTO vegetation. Nil to low nesting habitat values present. Proposal will not impact potential foraging or nesting habitat values. Unlikely further assessment required under Tasmania's *Threatened Species Protection Act 1995* or the Commonwealth's Department of Environment under Significant Impact Guidelines.
- The Natural Values Atlas indicates two eagle nests have previously been recorded in 2023 approx. 700m to the south-east, but states nest occupancy and productivity had not been determined. Site assessment indicates vegetation within the study site represents a Nil likelihood of suitable nesting habitat for the Tasmanian Wedge-tailed eagle and White-bellied sea eagle or Grey Goshawk. Given the proposed development location is not within line of site, it is not anticipated the proposal will require additional assessment to determine the potential level of disturbance to breeding or nesting activity associated with these nests. Not expected a referral or further assessment is required under Tasmania's *Threatened Species Protection Act 1995* or the *Commonwealth's Environment Protection and Biodiversity Conservation Act 1999*.
- The study site represents potential habitat for the Eastern Quoll but considered only marginal territory for the Tasmanian Devil and Spotted-tailed Quoll. Assessment indicates the proposal will not impact high priority refuge habitat values with impacts limited to disturbance only. Post construction pressure such as domestic pets and feral cats can potentially cause further disturbance or displacement. No further assessment is required under Tasmania's *Threatened Species Protection Act 1995* or formal referral is required to the Commonwealth's Department of Environment under Significant Impact Guidelines.

Weeds

- No introduced plant species listed as Declared or Weeds of National Significance were recorded within the study site. No additional management prescriptions required under the Tasmanian *Weed Management Act 1995* or *Biosecurity Act 2019*.

Conclusions

Providing the future development is consistent with the proposed plans, site assessment indicates the works and implementation of the recommended bushfire management prescriptions will not adversely impact existing natural values or threatened native vegetation communities. Significant Impact Guidelines issued by the Commonwealth Dept of the Environment to determine if referral to the department is required, indicates the proposal will not:

- Significantly impact native vegetation or a native vegetation community,
- Directly impact potential threatened species habitat,
- Lead to a long-term decrease in the size of populations, reduce area of occupancy of a significant population, fragment an existing population or destroy habitat critical to the survival of species,
- Disrupt the breeding cycle of an important population,
- Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline,
- Result in invasive species that are harmful to a threatened species becoming established in the threatened species habitat.

Therefore, it is unlikely future development at the proposed scale will result in "significant impacts" as described in the EPBC Act. No further assessment or referral is required under Tasmania's *Threatened Species Protection Act 1995* or Commonwealth's *Environmental Protection Biodiversity Conservation Act 1999*.

2. Appendix B: Disclaimer.

Limitations

Given the proposed access and works / development footprint appear limited to the area identified, it was considered a full assessment of the natural values within the entire allotment was considered unnecessary. Assessment focused on the areas identified by designers/proponents. Site assessment was undertaken 13th October 2025. Every effort was made to sample the range of habitats within the study site. Many plant species have seasonal growth and flowering, patchy distribution. During the flora and fauna survey it is possible some species were missed, particularly grass species, and not recorded at time of survey. Whilst every effort was made to survey the range of habitat to overlap likelihood occurrence. Optimum survey times are usually spring to summer, however their potential for occurrence is discussed. The survey was also limited to vascular plant species and did not include mosses, lichens and fungi. Surveys for threatened fauna were limited to the likelihood of species the study site represented potential range habitat and the identification of tracks, scats and other signs.

Although the Author (*Douglas Summers*) has used all due care in providing information made available in this feasibility assessment report, to the extent permitted by law, the Author otherwise excludes all warranties of any kind, either expressed or implied. This disclaimer is governed by the law in force in the State of Tasmania, Australia.

General Report Assumptions:

- Any legal description provided to the Author is assumed to be correct. Any titles and ownerships to any property are assumed to be correct. No responsibility is assumed for matters outside the consultant's control,
- The Author assumes that any property or project is not in violation of any applicable codes, ordinances, statutes or other local, state or federal government regulations,
- The Author shall take care to obtain all information from reliable sources. All data shall be verified insofar as possible; however,
- the Author can neither guarantee nor be responsible for the accuracy of the information provided by others not directly under the Author's control,
- The Author shall be not required to give testimony or to attend court by reason of the report unless subsequent contractual arrangements are made, including payment of an additional fee for such services,
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- The report and any values expressed therein represent the opinion of The Author and The Author's fee is in no way conditional upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported,
- Sketches, diagrams, graphs and photographs used in the report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural drawings, reports or surveys,
- Unless expressed otherwise:
 - Information contained in the report will cover those items that were outlined in the project brief or that were examined during the assessment and reflect the condition of those items at the time of inspection; and

- The inspection is limited to visual examination of accessible components without dissection, excavation or probing unless otherwise stipulated.
- There is no warranty or guarantee, expressed or implied by The Author., that the problems or deficiencies of the plants or site in question may not arise in the future,
- All instructions (verbal or written) that define the scope of the report have been included in the report and all documents and other materials that The Author has been instructed to consider or to take into account in preparing the report have been included or listed within the report,
- To The Author's knowledge all facts, matter and all assumptions upon which the report proceeds have been stated within the body of the report and all opinion contained within the report will be fully researched and referenced and any such opinion not duly researched is based upon the writers experience and observations.

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