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## Application for Planning

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### *S.57 Land Use Planning and Approvals Act 1993*

The following application has been received:

Application No.: **DA2023255**

Location: **Harveys Road (CT131560/2), North Motton**

Proposal: **Residential - single dwelling**

Performance Criteria: **Discretionary uses; and access for  
new dwellings**

The application may be inspected at the Administration Centre, 19 King Edward Street, Ulverstone during Office hours and on the council's website: [www.centralcoast.tas.gov.au](http://www.centralcoast.tas.gov.au). Any person may make representation in relation to the applications (in accordance with S.57(5) of the Act) by writing to the General Manager, PO Box 220, Ulverstone 7315 or by email to [admin@centralcoast.tas.gov.au](mailto:admin@centralcoast.tas.gov.au) and quoting the Application No. *Any representations received by the Council are classed as public documents and will be made available to the public where applicable under the Local Government (Meeting Procedures) Regulations 2015.*

The representation must be made on or before **7 May 2024**

Date of Notification: **20 April 2024**

**CENTRAL COAST COUNCIL**

PO Box 220  
19 King Edward Street  
ULVERSTONE TASMANIA 7315  
Ph: (03) 6429 8900  
Email: [planning@centralcoast.tas.gov.au](mailto:planning@centralcoast.tas.gov.au)  
www: [centralcoast.tas.gov.au](http://centralcoast.tas.gov.au)



***Land Use Planning and Approvals Act 1993***  
***Tasmanian Planning Scheme – Central Coast***  
**PLANNING PERMIT APPLICATION**

**CENTRAL COAST COUNCIL  
LAND USE PLANNING**  
Received: 18/04/2024  
Application No: DA2023255  
Doc ID: 483361

*Office use only:*      *Zone:*      *Permit Pathway – NPR/Permitted/Discretionary*

**Use or Development Site:**

**Site Address**      Lot 2 Harveys Rd, North Motton TAS 7315

**Certificate of Title Reference**      131560/2

**Land Area**      187934 sqm      **Heritage Listed Property**      NO       YES

**Applicant(s)**

**First Name(s)**      Chloe      **Surname(s)**      Overton

**Company name (if applicable)**      Eclo Designs      **Contact No:**      0419387746

**Postal Address:**      4 Riverbend Drive Don TAS 7310

**Email address:**      admin@eclodesigns.com

Please tick box to receive correspondence and any relevant information regarding your application via email.

**Owner(s)** (note – if more than one owner, all names must be indicated)

**First Name(s)**      Mark & Kim      **Middle Names(s)**

**Surname(s)**      Phillips-Haines      **Company name (if applicable)**

**Postal Address:**      1 Walker Street Ulverstone TAS 7315

**PERMIT APPLICATION INFORMATION** (If insufficient space for proposed use and development, please attach separate documents)

"USE" is the purpose or manner for which land is utilised.

Proposed Use Dwelling

Use Class Office use only

"Development" is the works required to facilitate the proposed use of the land, including the construction or alteration or demolition of buildings and structures, signs, any change in ground level and the clearing of vegetation.

Proposed Development (please submit all documentation in PDF format to [planning@centralcoast.tas.gov.au](mailto:planning@centralcoast.tas.gov.au) separating A4 documents & forms from A3 documents).

Three horizontal lines for text input.

Value of the development – (to include all works on site such as outbuildings, sealed driveways and fencing)

\$ 4 5 0 , 0 0 0 Estimate/ Actual

Total floor area of the development 198.9 m²

**Declaration of Notice to Landowner**

**If land is NOT in the applicant's ownership**

I Chloe Overton, declare that the owner/each of the owners of the land has been notified of the intention to make this permit application under section 52(1) of the Land Use Planning and Approvals Act 1993.

Signature of Applicant [Handwritten Signature]

Date 20/9/2023

**If the application involves land within a Strata Corporation**

I Chloe Overton, declare that the owner/each of the owners of the body corporation has been notified of the intention to make this permit application.

Signature of Applicant

Date


**If the application involves land owned or administered by the CENTRAL COAST COUNCIL**

Central Coast Council consents to the making of this permit application.

General Managers Signature \_\_\_\_\_ Date \_\_\_\_\_

**If the permit application involves land owned or administered by the CROWN**


I, Jesse Walker, the Minister's delegate responsible for the land, consent to the making of this permit application.

  
 Delegate (Signature) \_\_\_\_\_ Date 12/04/2024

*NB: If the site includes land owned or administered by the Central Coast Council or by a State government agency, the consent in writing (a letter) from the Council or the Minister responsible for Crown land must be provided at the time of making the application - and this application form must be signed by the Council or the Minister responsible.*

**Applicants Declaration**

I/ we Chloe Overton \_\_\_\_\_  
 declare that the information I have given in this permit application to be true and correct to the best of my knowledge.

Signature of Applicant/s \_\_\_\_\_  \_\_\_\_\_ Date 20/9/2023 \_\_\_\_\_

<b>Office Use Only</b>	
Planning Permit Fee	\$ .....
Public Notice Fee	\$ .....
Permit Amendment / Extension Fee	\$ .....
No Permit Required Assessment Fee	\$ .....
<b>TOTAL</b>	<b>\$ .....</b>
Validity Date	



# Notice of Termination of Authority and Instrument of Delegation

## DELEGATION OF THE DIRECTOR-GENERAL OF LANDS' FUNCTIONS UNDER THE LAND USE PLANNING AND APPROVALS ACT 1993

I, JASON JACOBI, being and as the Director-General of Lands appointed under section 7 of the *Crown Lands Act 1976*, acting pursuant to section 23AA(5A) of the *Acts Interpretation Act 1931*, hereby give notice that the authority of the holders of the offices of Deputy Secretary (Parks and Wildlife Service) (position number 700451), General Manager (Park Operations and Business Services) (position number 708581), Director (Operations) (position number 708050), Manager (Property Services) (position number 707556), Unit Manager (Operations) (position number 702124) and Team Leader (Assessments) (position number 334958) to perform the functions conferred on the Director-General of Lands, as delegated on 13 December 2022 by Michael Pervan, then Director-General of Lands, is terminated with immediate effect.

Further, acting pursuant to section 52(IE) of the *Land Use Planning and Approvals Act 1993* ("the Act"), I hereby delegate the functions described (by reference to the relevant provision of the Act and generally) in Schedule I, to the persons respectively holding the offices of Deputy Secretary (Parks and Wildlife Service) (position number 700451), General Manager (Park Operations and Business Services) (position number 708581), Manager (Property Services) (position number 707556), Unit Manager (Operations) (position number 702124) and Team Leader (Assessments) (position number 334958) in accordance with the functions delegated to me by the Minister for Parks, being and as the Minister administering the *Crown Lands Act 1976*, by instrument dated 9 November 2023.


### SCHEDULE I

Provision	Description of Functions
Section 52(1B)	Signing, and providing written permission for, applications for permits in relation to Crown land.

Dated at HOBART this 28<sup>th</sup> day of November 2023



.....  
Jason Jacobi  
**DIRECTOR-GENERAL OF LANDS**

	<b>CENTRAL COAST COUNCIL LAND USE PLANNING</b>
Received:	16/04/2024
Application No:	DA2023255
Doc ID:	483175



Department of Natural Resources,  
and Environment Tasmania

GPO Box 44, Hobart, TAS 7001 Australia  
Ph 1300 TAS PARKS / 1300 827 727 Fax 03) 6223 8308  
www.parks.tas.gov.au

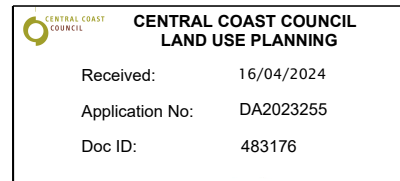


Enquiries: Tanya Simm  
Phone: 6165 4691  
Email: Tanya.Simm@parks.tas.gov.au  
Our ref: 23/7776

12 April 2024

Ms Chloe Overton  
Eclo Designs  
4 Riverbend Drive  
DON TAS 7310

E: [admin@eclo designs.com](mailto:admin@eclo designs.com)



Dear Ms Overton,

**LODGEMENT OF PLANNING APPLICATION  
CHLOE OVERTON, ECLO DESIGNS  
DWELLING  
HARVEYS RD, NORTH MOTTON**

This letter, issued pursuant to section 52(1B) of the *Land Use Planning and Approvals Act 1993* (LUPAA), is to confirm that the Crown consents to the making of the enclosed Planning Permit Application, insofar as the proposed development relates to Crown land managed by the Department of Natural Resources and Environment Tasmania.

Crown consent is only given to the lodgement of this application. Any variation will require further consent from the Crown.

It is Departmental policy that all fire buffer areas (Hazard Management Areas and Fuel Modified Areas) are maintained wholly within freehold title boundaries and not on neighbouring Crown or Reserved land. Additionally, it is not the Parks and Wildlife Service's practice for the Crown to enter into agreements under Part 5 of LUPAA in support of developments on private property.

The Department will continue to assess the application to licence the subject Crown land.

This letter does not constitute, nor imply, any approval to undertake works, or that any other approvals required under the *Crown Lands Act 1976* have been granted. If planning approval is given for the proposed development, the applicant will be required to obtain separate and distinct consent from the Crown before commencing any works on Crown land.

If you need more information regarding the above, please contact the officer nominated at the head of this correspondence.

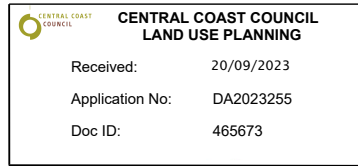
Yours sincerely,

Jesse Walker  
**Team Leader (Assessments)**

SEARCH OF TORRENS TITLE

VOLUME 131560	FOLIO 2
EDITION 8	DATE OF ISSUE 11-Mar-2020

SEARCH DATE : 11-Sep-2023  
SEARCH TIME : 03.58 PM



DESCRIPTION OF LAND

Parish of NORTH MOTTON, Land District of DEVON  
Lot 2 on Plan 131560  
Derivation : Part of Lot 17157,183A-2R-0P & Part of Lot 17116,  
22A-2R-27P gtd to George Lewis Elmer Purton.  
Prior CTs 120728/1 and 48356/4

SCHEDULE 1

M650703 & E210919 MARK ANTHONY PHILLIPS-HAINES and KIM LOUISE  
PHILLIPS-HAINES as tenants in common in equal shares  
Registered 11-Mar-2020 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

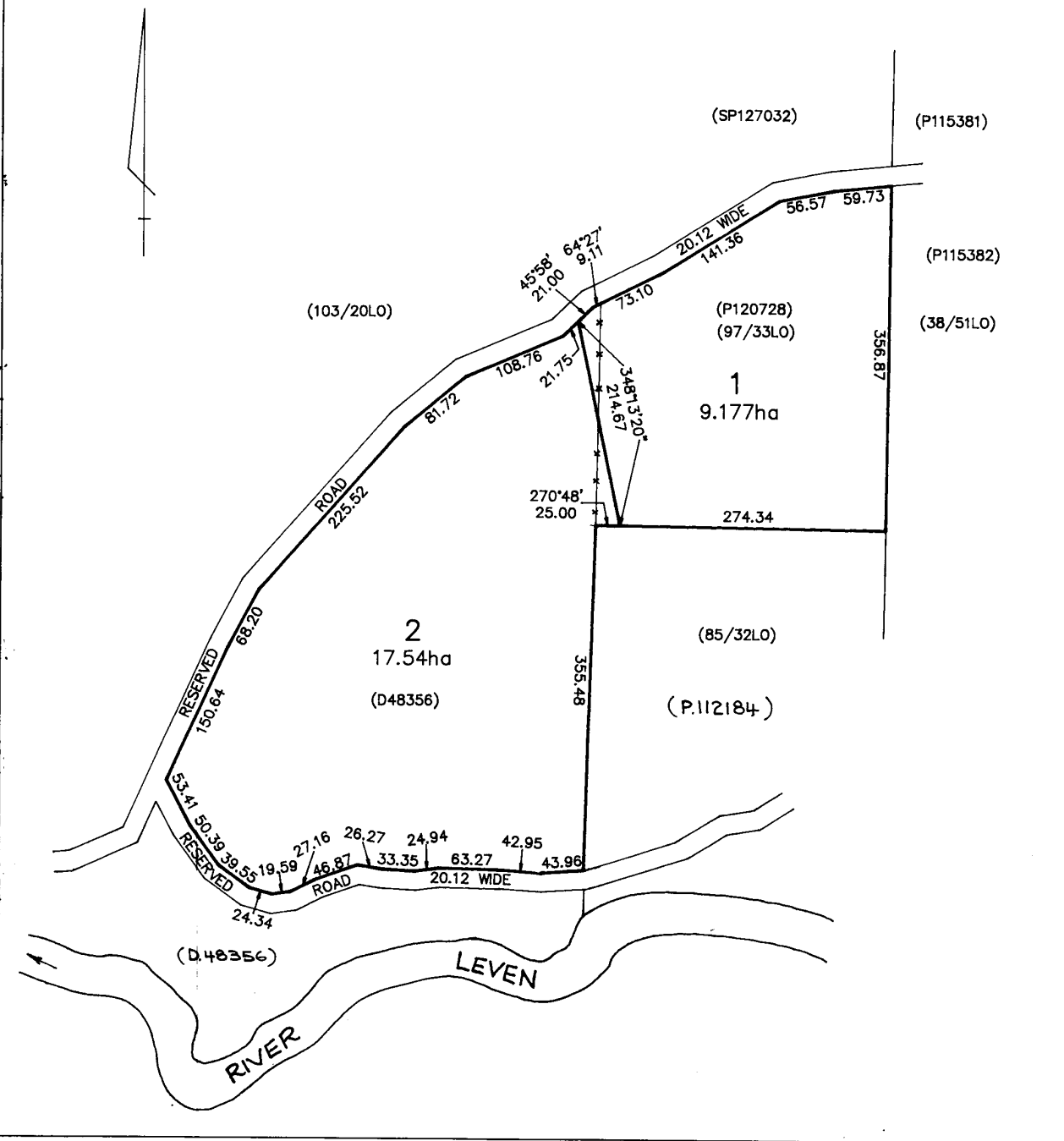
No unregistered dealings or other notations

<p>OWNER A.M. Jones B.C. Whaley</p> <p>FOLIO REFERENCE CT120728-1 CT 48356-4</p> <p>GRANTEE Part of Lot 17157, 183a 2r Op. and Whole of Lot 17116, 22a 2r 27p, both granted to George Lewis Elmer Purton</p>	<p><b>PLAN OF SURVEY</b></p> <p>BY SURVEYOR MR M.A.C. LESTER LESTER FRANKS &amp; CO PTY LTD</p> <p>LOCATION <b>LAND DISTRICT OF DEVON PARISH OF NORTH MOTTON</b></p> <p>SCALE 1: 4000 LENGTHS IN METRES</p>	<p>REGISTERED NUMBER <b>P 131560</b></p> <p>APPROVED <del>EFFECTIVE FROM</del> <b>26 FEB 1999</b></p> <p><i>M.A.C. Lester</i> Recorder of Titles</p>	
<p>MAPSHEET MUNICIPAL CODE No. 104 (4243)</p>	<p>LAST UPI No. 6300952, 6312801</p>	<p>LAST PLAN No. P120728, D48356</p>	<p>ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN</p>

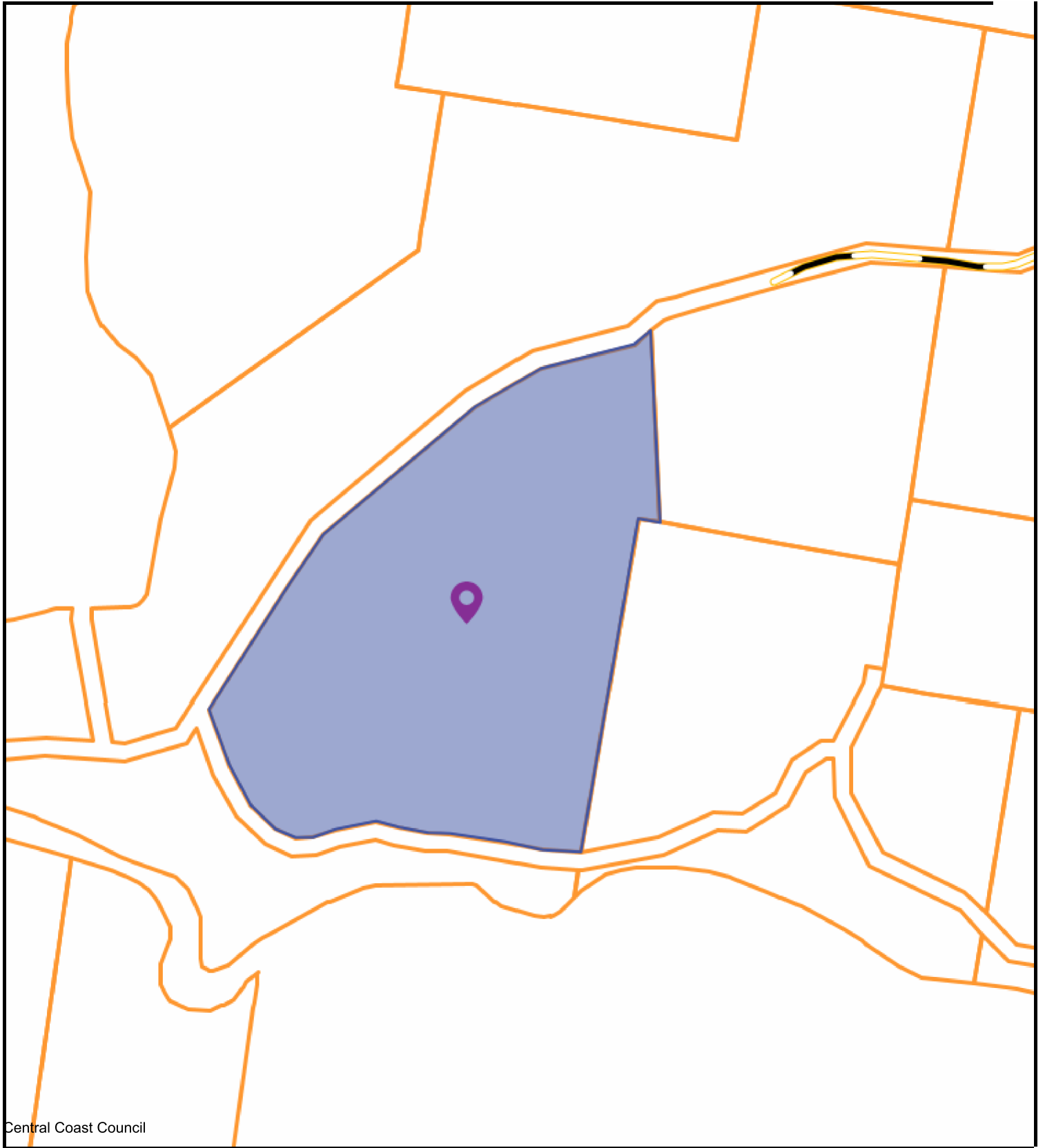
**CENTRAL COAST COUNCIL  
LAND USE PLANNING**

Received: 20/09/2023  
Application No: DA2023255  
Doc ID: 465672

LOT 1 IS COMPILED FROM CT120728-1 AND THIS SURVEY  
LOT 2 IS COMPILED FROM CT48356-1 AND THIS SURVEY



A-148



Central Coast Council



CENTRAL COAST COUNCIL  
 19 King Edward St  
 Ulverstone  
 TAS 7315  
 Telephone: 03 6429 8900  
 admin@centralcoast.tas.gov.au



18-Apr-2024

**HARVEYS ROAD (CT131560/2)**  
**NORTH MOTTON**  
**DA2023255**

**IMPORTANT**

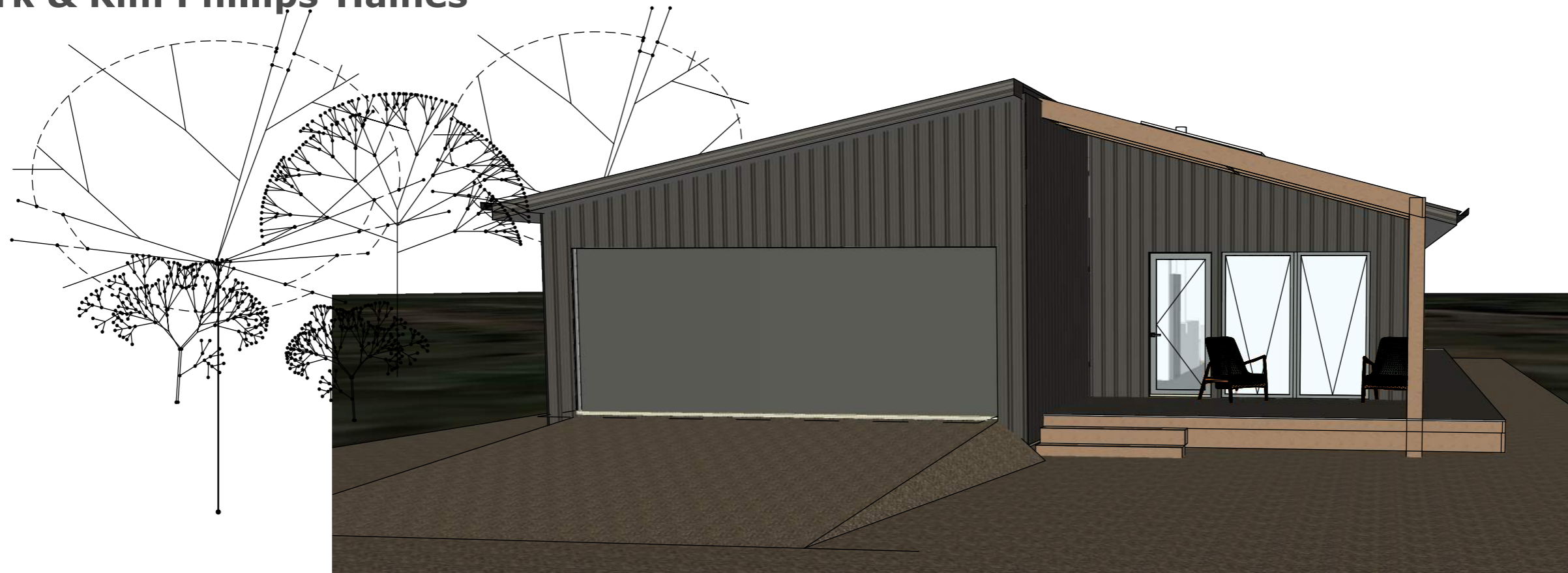
This map was produced on the GEOCENTRIC DATUM OF AUSTRALIA 1994 (GDA94), which has superseded the Australian Geographic Datum of 1984 (AGD66/84). Heights are referenced to the Australia Height Datum (AHD). For most practical purposes GDA94 coordinates, and satellite derived (GPS) coordinates based on the World Geodetic Datum 1984 (WGS84), are the same.

**Disclaimer**  
 This map is not a precise survey document  
 All care is taken in the preparation of this plan; however, Central Coast Council accepts no responsibility for any misprints, errors, omissions or inaccuracies. The information contained within this plan is for pictorial representation only. Do not scale. Accurate measurement should be undertaken by survey.  
 © The List 2023.  
 © Central Coast Council 2023.

**100 m**

Scale =  
**1:5881.680**

# Proposed Residence AT Harveys Road, North Motton, 7315 FOR Mark & Kim Phillips-Haines



eclo.designs@outlook.com  
0419387746

## SITE INFORMATION

LAND TITLE REFERENCE: **131560/2**  
 WIND CLASSIFICATION: **N3**  
 SOIL CLASSIFICATION: **P/A**  
 CLIMATE ZONE: **7**  
 BAL LEVEL: **TBC** TBC  
 ALPINE OR SUB-ALPINE AREA: **N/A**  
 CORROSION ENVIRONMENT: **N/A**  
 OTHER HAZARDS: **MEDIUM LANDSLIP**  
 PID: **1906437**  
 ZONING: **RURAL**

## AREA SCHEDULE

SITE AREA: **187934sqm**  
 GROUND FLOOR AREA: **198.9m2/21.4 SQ.**  
 DECK AREA: **33.3m2**

COVER PAGE	A00
SITE PLAN	A01
ENLARGED SITE PLAN	A02
ISOMETRIC VIEWS	A03
ISOMETRIC VIEWS	A04
FLOOR PLAN	A05
ELEVATION 1 & 2	A06
ELEVATION 3 & 4	A07
SETOUT PLAN	A08
ROOF PLAN	A09
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ELECTRICAL PLAN	A11
WINDOW & DOOR SCHEDULE	A12
WINDOW & DOOR NOTES	A13
ACCESS PLAN	A14

REV	DATE	DESCRIPTION

CLIENT  
**Mark & Kim Phillips-Haines**

PROJECT NO.  
**22030**

PROJECT NAME  
**Proposed Residence**

PROJECT ADDRESS  
**Harveys Road,  
North Motton, 7315**

DRAWN C.O. ACCREDITATION CC6669

DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Cover Page**

DOCUMENT PHASE  
Development Application

# A0C

**CENTRAL COAST COUNCIL**  
LAND USE PLANNING

Received: 20/09/2023  
 Application No: DA2023255  
 Doc ID: 465671



**CONTOURS AT 10m INTERVALS**

**SITE PLAN LEGEND & NOTES:**

**GENERAL NOTES:**  
 DURING CONSTRUCTION SOIL AND WATER IS TO BE APPROPRIATELY MANAGED. THIS INCLUDES THE PROVISION OF SILT FENCING, FILTER SCREENS OR DEDICATED SILT TRAPS TO PREVENT DISCHARGE OF GRAVEL, SOIL OR OTHER DEBRIS TO ANY EXISTING WATER COURSE OR ADJOINING PROPERTY DURING THE CONSTRUCTION PROCESS.

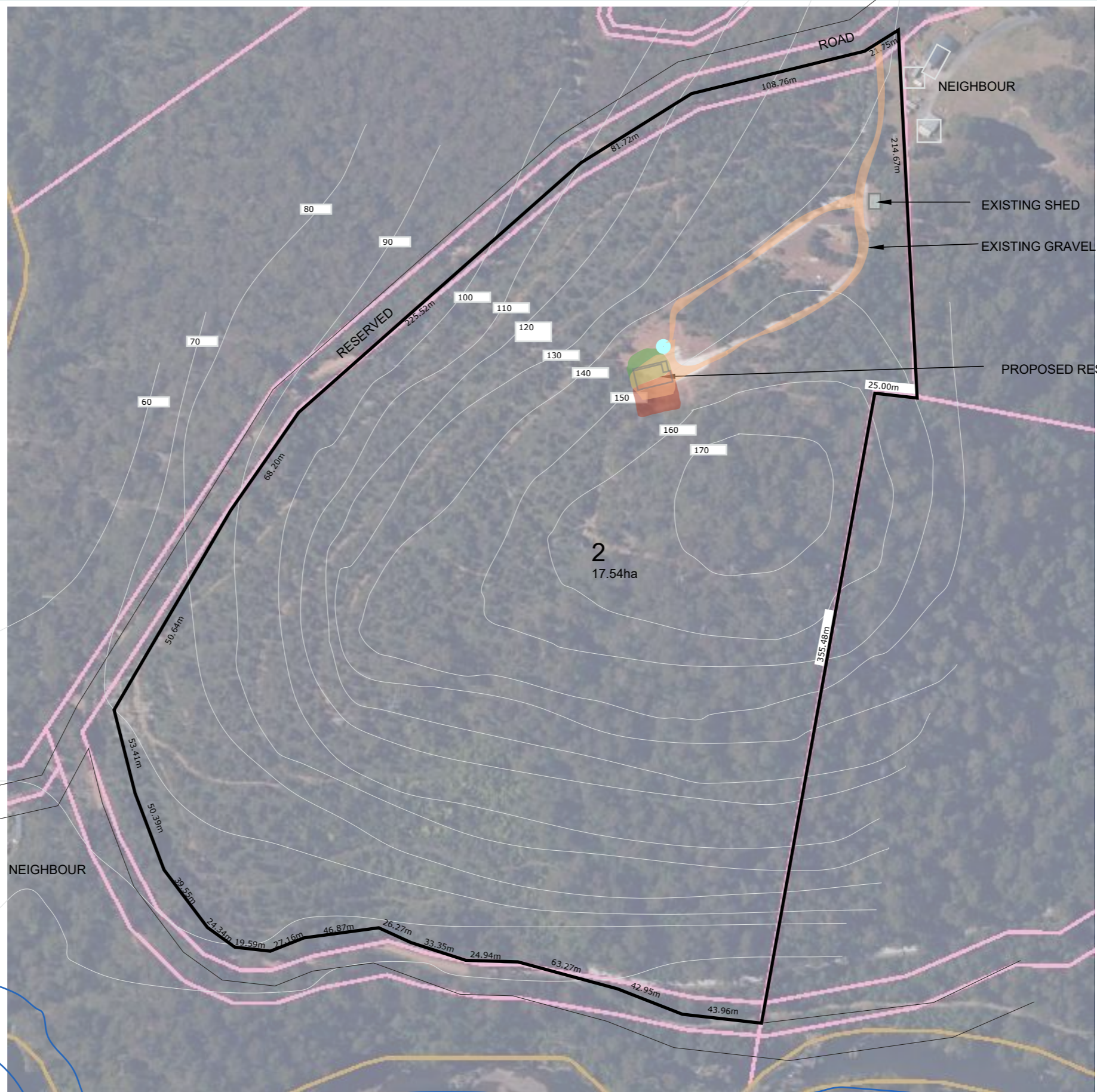
**EXCAVATION:**  
 ALLOW FOR BULK EXCAVATION WHERE REQUIRED AND ALL EXCAVATION, FILLING, BACK FILLING AND CONSOLIDATION REQUIRED FOR THE FOOTINGS AND SLAB, RETAIN ALL ACCESS AND SERVICES INDICATED. MAKE GOOD.

**SETTING OUT:**  
 THE CLIENT IS RESPONSIBLE FOR VERIFYING THE BOUNDARY PEGS ARE IN THE CORRECT LOCATION, MARKED AND CLEARLY VISIBLE FOR THE BUILDER. THE BUILDER SHALL ACCURATELY SET-OUT THE WORKS AND VERIFY ALL DIMENSIONS AND LEVELS BEFORE COMMENCING ANY WORKS. AND SHALL MAKE GOOD AT HIS OWN EXPENSE ANY ERRORS ARISING FROM INACCURACIES OF THE SETOUT.

**PROTECTION WORK:**  
 (SECTION 121 OF THE BUILDING ACT) IF EXCAVATION IS TO A LEVEL BELOW THAT OF THE ADJOINING OWNER'S FOOTINGS, ALONG THE TITLE BOUNDARY OR WITHIN 3 METRES OF A BUILDING BELONGING TO AN ADJOINING OWNER, THE BUILDER MUST (AS A MINIMUM) PROVIDE AND MAINTAIN A GUARD TO SUPERVISE THE EXCAVATION. ADJOINING OWNER TO BE NOTIFIED USING FORM 6 (BUILDING AND PROTECTION WORK NOTICE) BY THE BUILDING SURVEYOR.

**SITE SERVICES:**

NO SERVICES AVAILABLE FOR THE SITE



**DESIGNS**

eclo.designs@outlook.com  
 0419387746

REV	DATE	DESCRIPTION

**CLIENT**  
 Mark & Kim Phillips-Haines  
 PROJECT NO.  
 22030

**PROJECT NAME**  
 Proposed Residence

**PROJECT ADDRESS**  
 Harveys Road,  
 North Motton, 7315

**DRAWN**  
 C.O

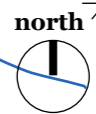
**ACCREDITATION**  
 CC6669

**DOCUMENT DATE**  
 15/11/2022

**PAPER SIZE**  
 A3

**DRAWING TITLE**  
 Site Plan

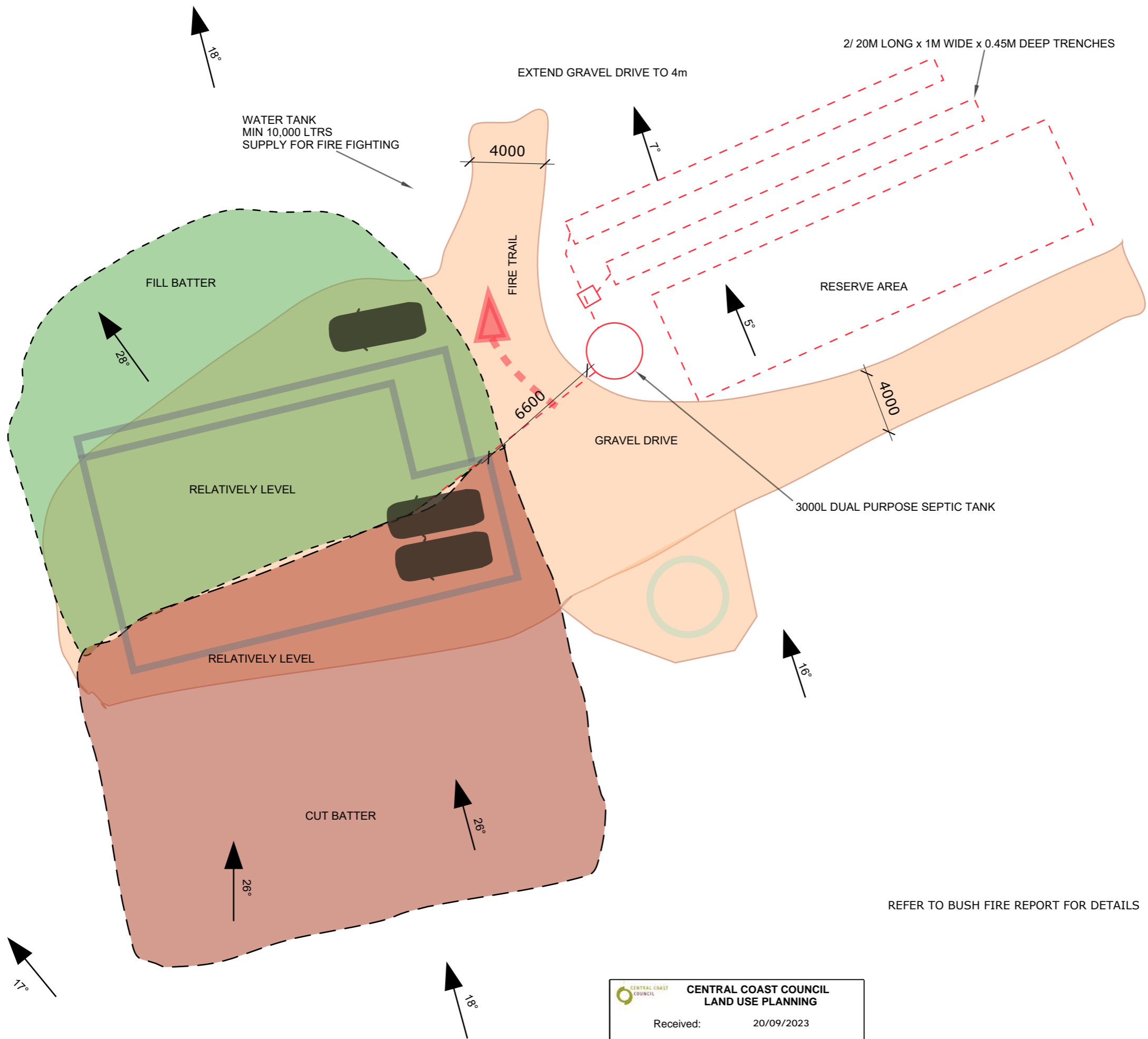
**DOCUMENT PHASE**  
 Development Application



Site Plan  
 Scale: 1 : 2500

**A01**





WATER TANK  
MIN 10,000 LTRS  
SUPPLY FOR FIRE FIGHTING

EXTEND GRAVEL DRIVE TO 4m

2/ 20M LONG x 1M WIDE x 0.45M DEEP TRENCHES

FILL BATTER

FIRE TRAIL

RESERVE AREA

RELATIVELY LEVEL

GRAVEL DRIVE

3000L DUAL PURPOSE SEPTIC TANK

RELATIVELY LEVEL

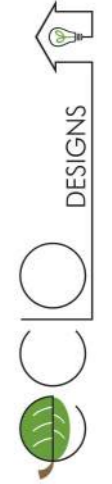
CUT BATTER

REFER TO BUSH FIRE REPORT FOR DETAILS

**CENTRAL COAST COUNCIL**  
LAND USE PLANNING

Received: 20/09/2023  
Application No: DA2023255  
Doc ID: 465671

Enlarged Site plan  
Scale: 1 : 200



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0419387746

REV	DATE	DESCRIPTION

CLIENT  
**Mark & Kim Phillips-Haines**  
PROJECT NO.  
**22030**

PROJECT NAME  
**Proposed Residence**

PROJECT ADDRESS  
**Harveys Road,  
North Motton, 7315**

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DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Enlarged Site plan**

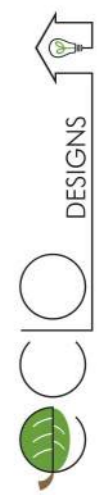
DOCUMENT PHASE  
Development Application

**A02**



**CENTRAL COAST COUNCIL**  
**LAND USE PLANNING**

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 Application No: DA2023255  
 Doc ID: 465671



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 0419387746



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 PROJECT NO.  
**22030**

PROJECT NAME  
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 PROJECT ADDRESS  
**Harveys Road, North Motton, 7315**

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DOCUMENT DATE 15/11/2022	PAPER SIZE A3

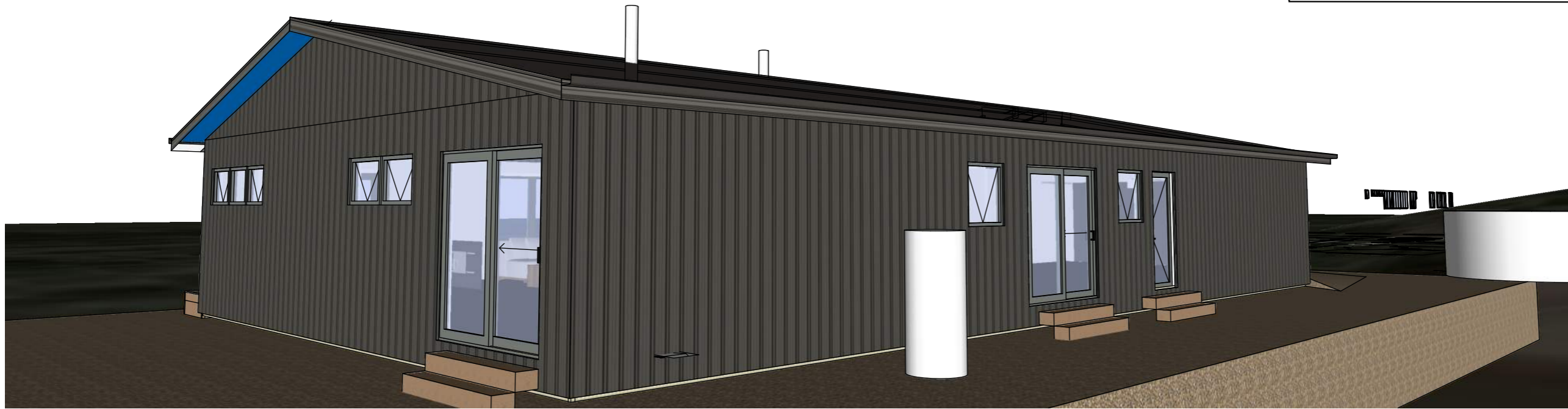
DRAWING TITLE  
**Isometric views**

DOCUMENT PHASE  
 Development Application

Isometric views  
 Scale: 1 : 100

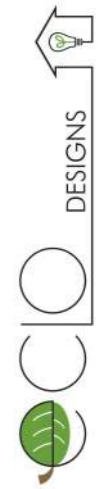
**A03**





**CENTRAL COAST COUNCIL**  
**LAND USE PLANNING**

Received: 20/09/2023  
 Application No: DA2023255  
 Doc ID: 465671



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CLIENT  
**Mark & Kim Phillips-Haines**  
 PROJECT NO.  
**22030**

PROJECT NAME  
**Proposed Residence**  
 PROJECT ADDRESS  
**Harveys Road, North Motton, 7315**

DRAWN C.O ACCREDITATION CC6669  
 DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Isometric views**

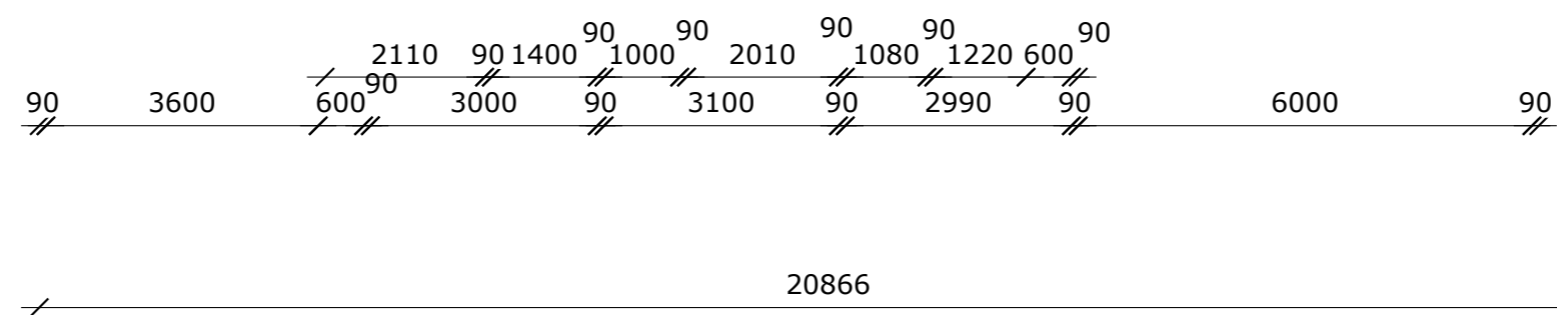
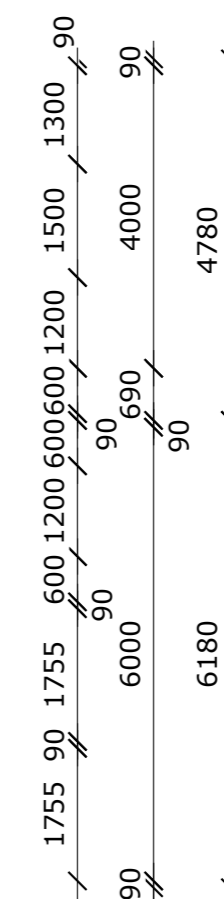
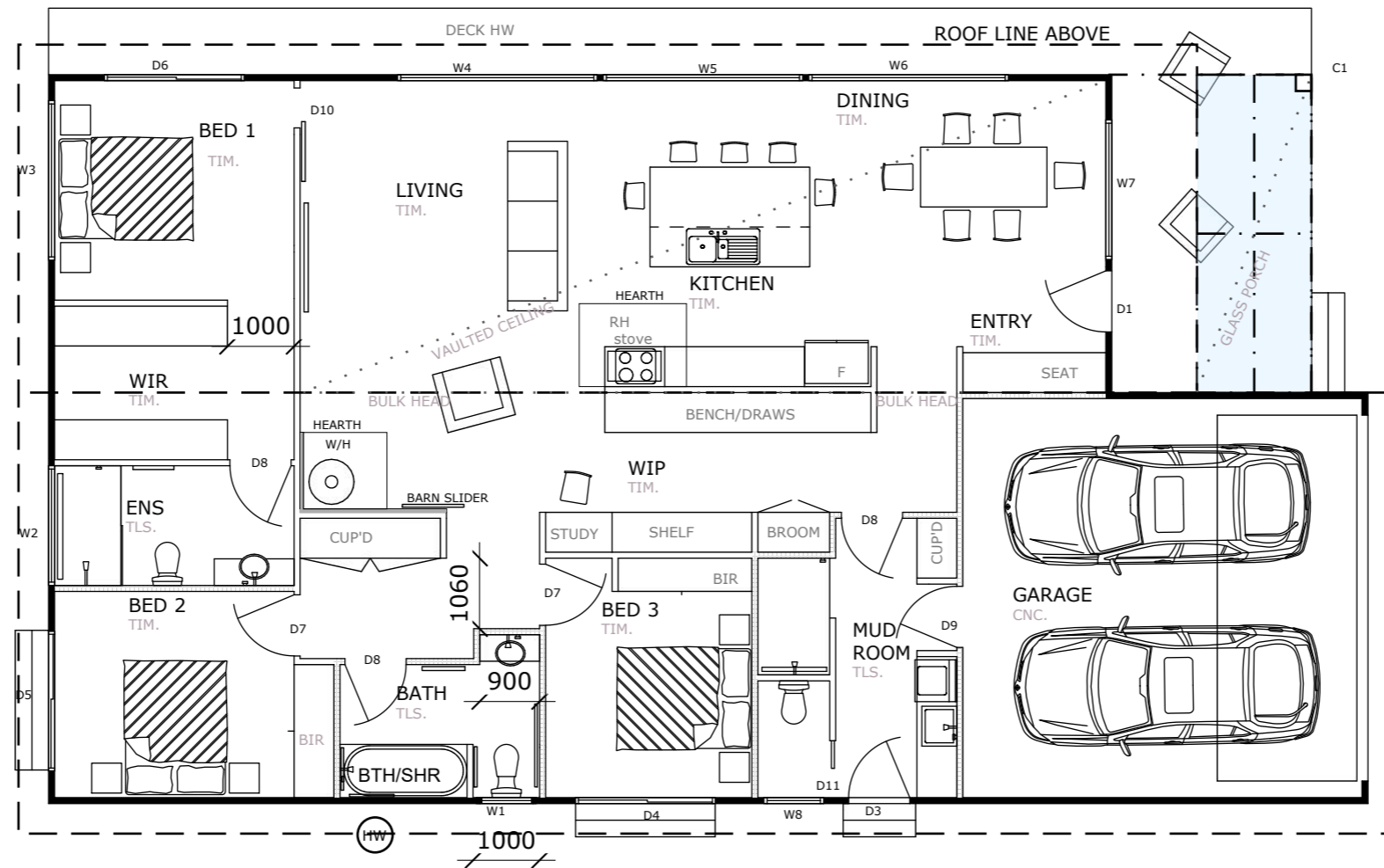
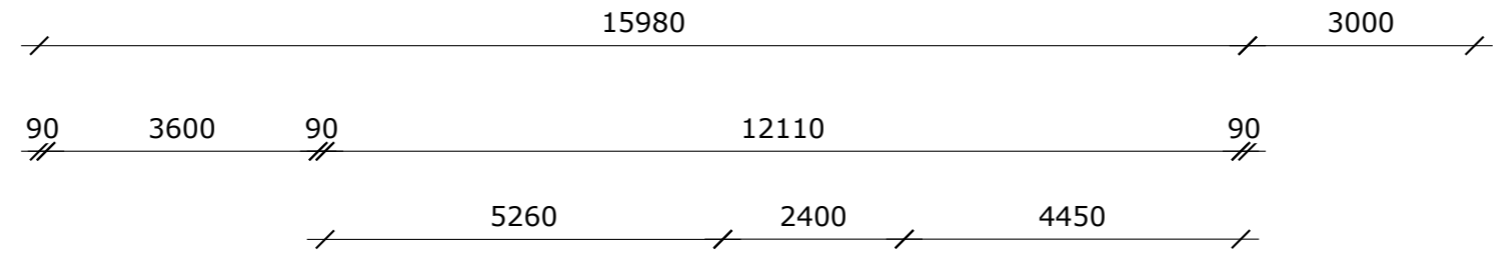
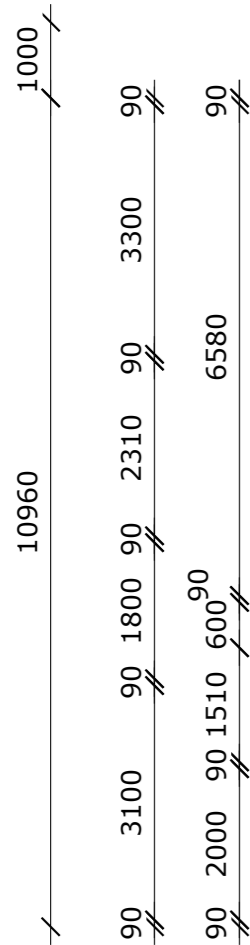
DOCUMENT PHASE  
 Development Application

**A04**

**FLOOR PLAN LEGEND:**

- W## WINDOW MARKER
- D## DOOR MARKER
- HW HOTWATER CYLINDER
- WO WALL OVEN
- DW DISH WASHER
- F FRIDGE
- STOVE WOODFIRED STOVE (WITH HOTWATER JACKET)
- WM WASHING MACHINE
- PAN PANTRY
- WIR WALK IN ROBE
- BIR BUILT IN ROBE
- W/H WOOD HEATER
- HEATER (WITHOUT DOOR AIR KIT AND INSULATED FLUE KIT)
- HEARTH ZLAZE PREMIUM HEARTH

- LOAD BEARING WALL 90 STUD WORK
- R2.5 INSULATED WALL



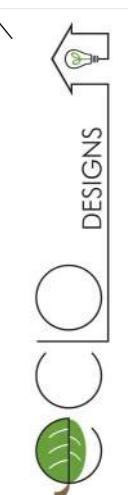
**CENTRAL COAST COUNCIL**  
LAND USE PLANNING

Received: 20/09/2023  
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 Doc ID: 465671

**POSTS & COLUMNS:**

- C1:** 200SQ. HW TIMBER POST TO ENGINEERS SPECIFICATIONS

NOTE- DIMENSIONS ARE TO STUDWORK ONLY NOT INCLUDING CLADDING AND CAVITY



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0419387746

REV	DATE	DESCRIPTION

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**Mark & Kim Phillips-Haines**  
PROJECT NO.  
**22030**

PROJECT NAME  
**Proposed Residence**  
PROJECT ADDRESS  
**Harveys Road, North Motton, 7315**

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DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Floor Plan**

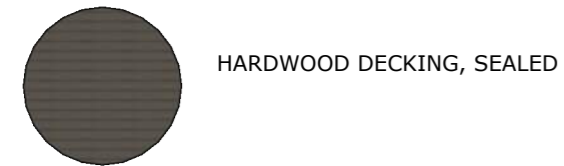
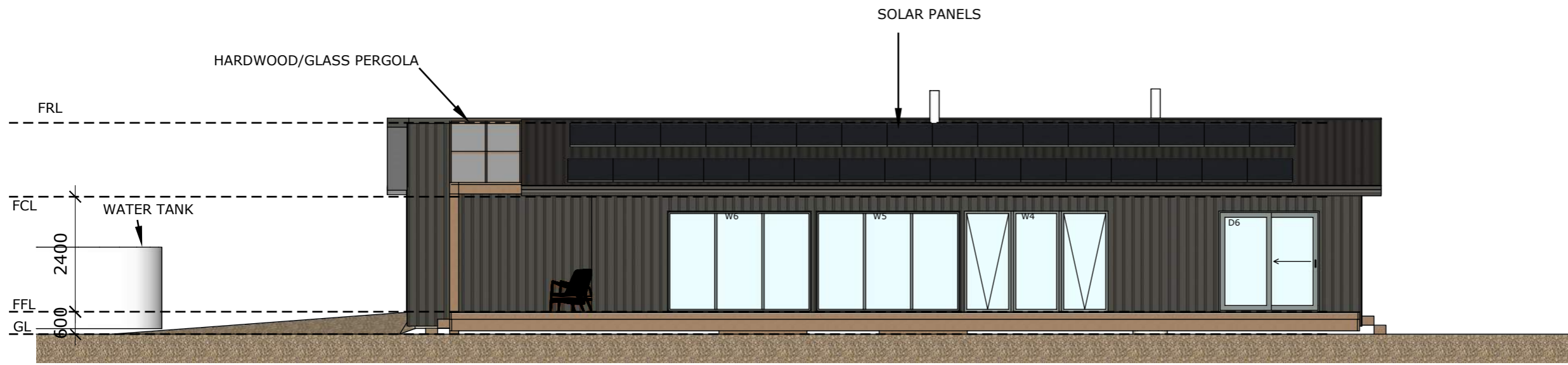
DOCUMENT PHASE  
Development Application



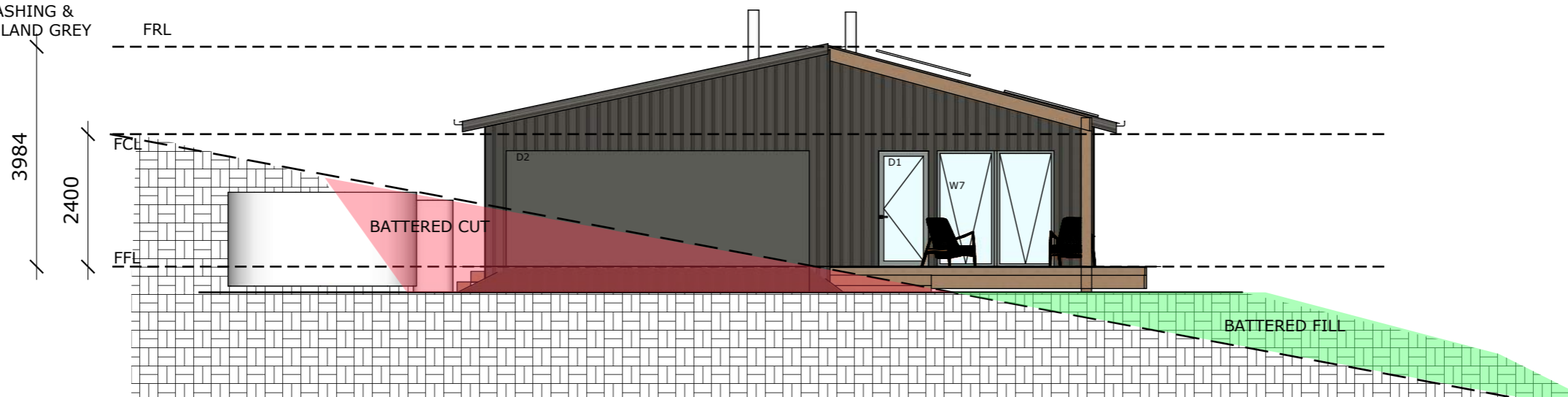
Floor Plan  
Scale: 1 : 100

**A05**

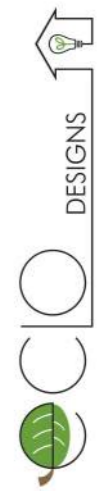




1 North Elevation  
Scale: 1 : 100



2 East Elevation  
Scale: 1 : 100



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0419387746

REV	DATE	DESCRIPTION

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**Mark & Kim Phillips-Haines**

PROJECT NO.  
**22030**

PROJECT NAME  
**Proposed Residence**

PROJECT ADDRESS  
**Harveys Road,  
North Motton, 7315**

DRAWN C.O. ACCREDITATION CC6669

DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Elevations 1 & 2**

DOCUMENT PHASE  
Development Application

**CENTRAL COAST COUNCIL**  
LAND USE PLANNING

Received: 20/09/2023  
Application No: DA2023255  
Doc ID: 465671

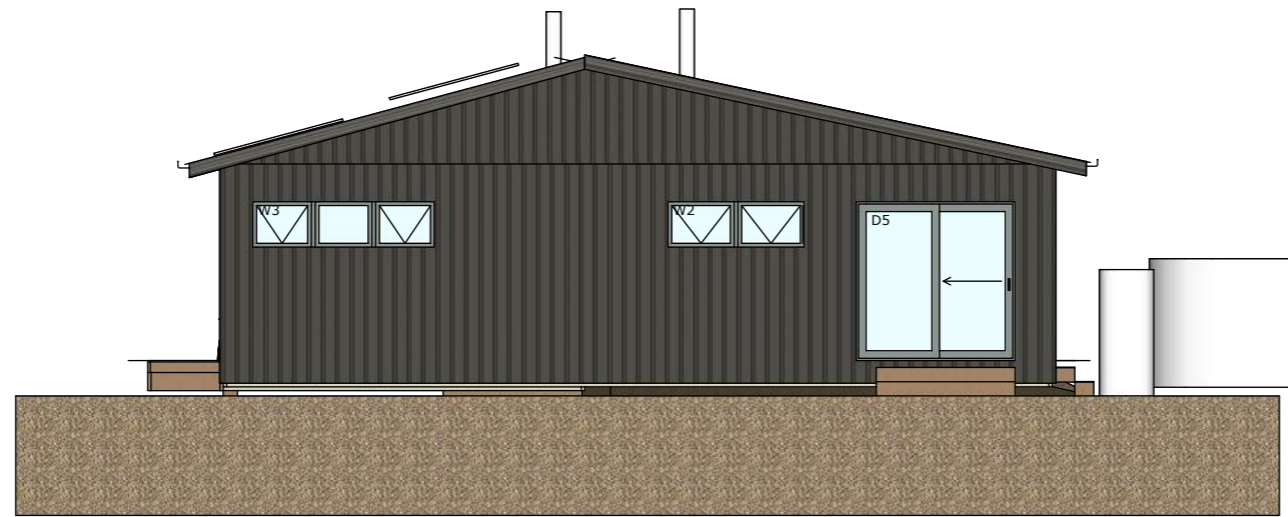
**A0€**



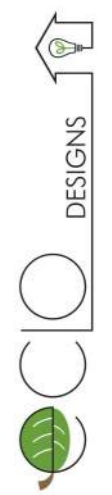
HOTWATER CLYINDER

-  TRIMDEK CLADDING IN WOODLAND GREY
-  HARDWOOD DECKING, SEALED
-  COLORBOND FLASHING & TRIMS IN WOODLAND GREY

3 South Elevation  
Scale: 1 : 100



4 West Elevation  
Scale: 1 : 100



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CLIENT  
**Mark & Kim Phillips-Haines**

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DRAWING TITLE  
**Elevations 3 & 4**

DOCUMENT PHASE  
Development Application

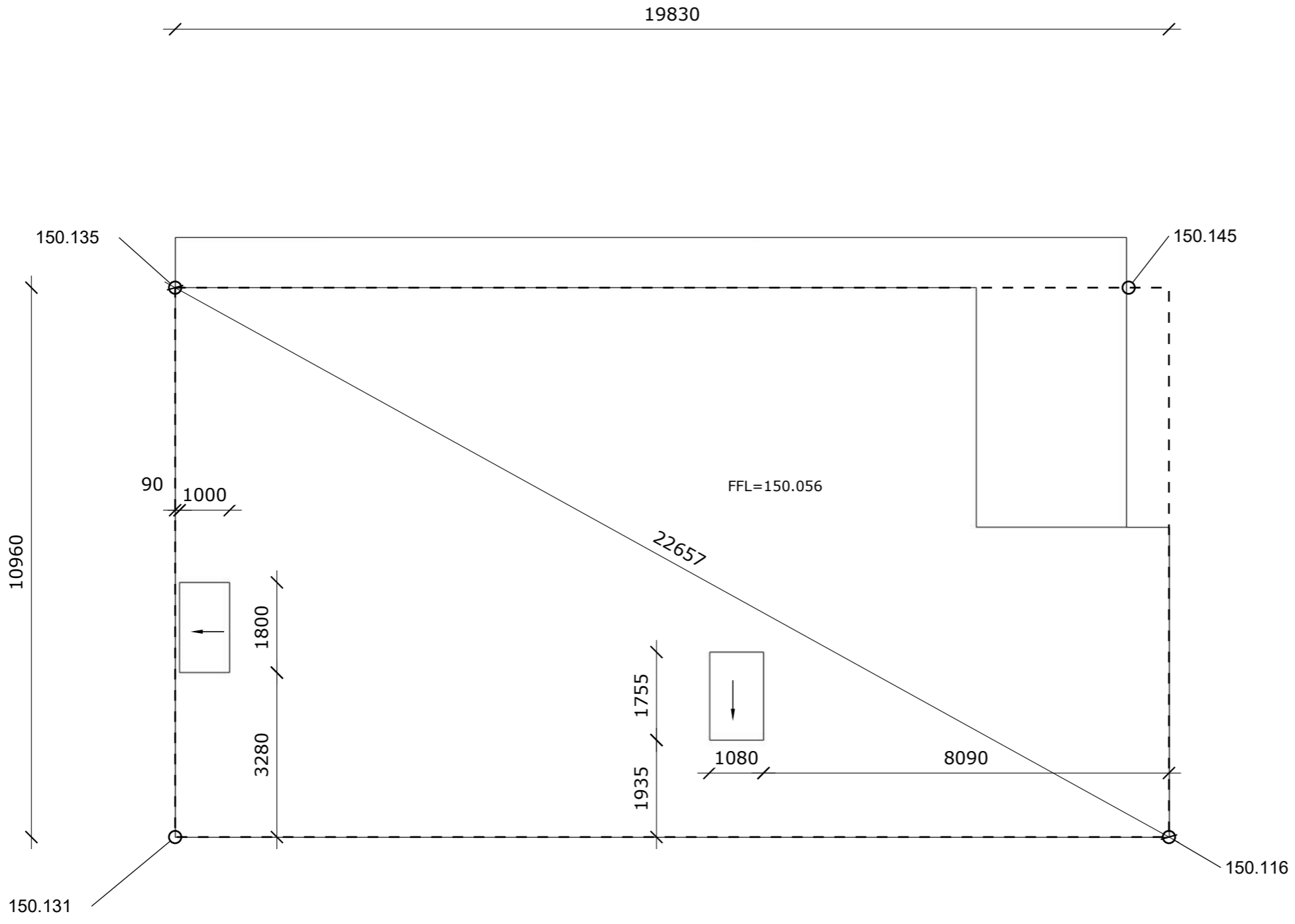
**A07**

**CENTRAL COAST COUNCIL**  
LAND USE PLANNING

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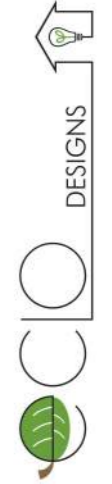
**STEPLESS SHOWER:**

REBATE SHOWER BASES TO ENSURE APPROPRIATE FALL IS ACHIEVED 1:50. STAINLESS STEEL GRATE DRAIN RL -20 BELOW FLOOR LEVEL. (REFER TO A17 FOR WATER PROOFING DETAILS)

**CENTRAL COAST COUNCIL**  
LAND USE PLANNING

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Setout Plan  
Scale: 1 : 200



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DOCUMENT DATE 15/11/2022	PAPER SIZE A3

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**Setout Plan**

DOCUMENT PHASE  
Development Application

**A03**

**ROOF PLAN NOTES:**

GUTTERS AND DOWNPIPES TO AS3500. MAXIMUM CENTRES FOR DOWNPIPES TO BE 12M.

**ROOF STRUCTURE:**

CUSTOM ORB ROOFING IN WOODLAND GREY & PERMIABLE WRAP TIMBER TRUSSES TO MANUFACTURES SPECIFICATIONS

EAVES VENTS WITH ALUMINUM MESH BACKING AT INTERVALS AS SHOWN (2500mm MAX. CENTRES).  
EV - EAVES VENT (200x400)

**ROOF PLUMBING:**

GENERIC QUAD 150 HIGH FRONT GUTTER IN WOODLAND GREY AND FASCIA

COLORBOND WOODLAND GREY CAPPINGS AND FLASHINGS

D.P. 100 x 50 UPVC SQUARE DOWNPIPES

**NOTES:**

WRAP MUST COMPLY WITH AS/NZS 4200 PARTS 1 AND 2.

DOWNPIPES MUST NOT SERVE MORE THAN 12M OF GUTTER LENGTH FOR EACH DOWNPIPE.

ROOF CLADDING TO COMPLY WITH AS 1562.1.

ROOF DRAINAGE MUST COMPLY WITH:  
- PLUMBING CODE OF AUSTRALIA PART D1  
- AS/NZS 3500.3  
- BCA VOLUME 2 PARTS 3.1.2 AND 3.5.2.  
(DEEMED TO SATISFY PROVISIONS)

 HYSPAN RAFTERS VAULTED CEILING

**VENTILATION:**

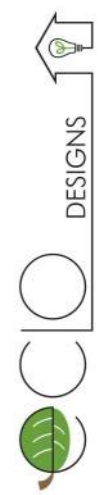
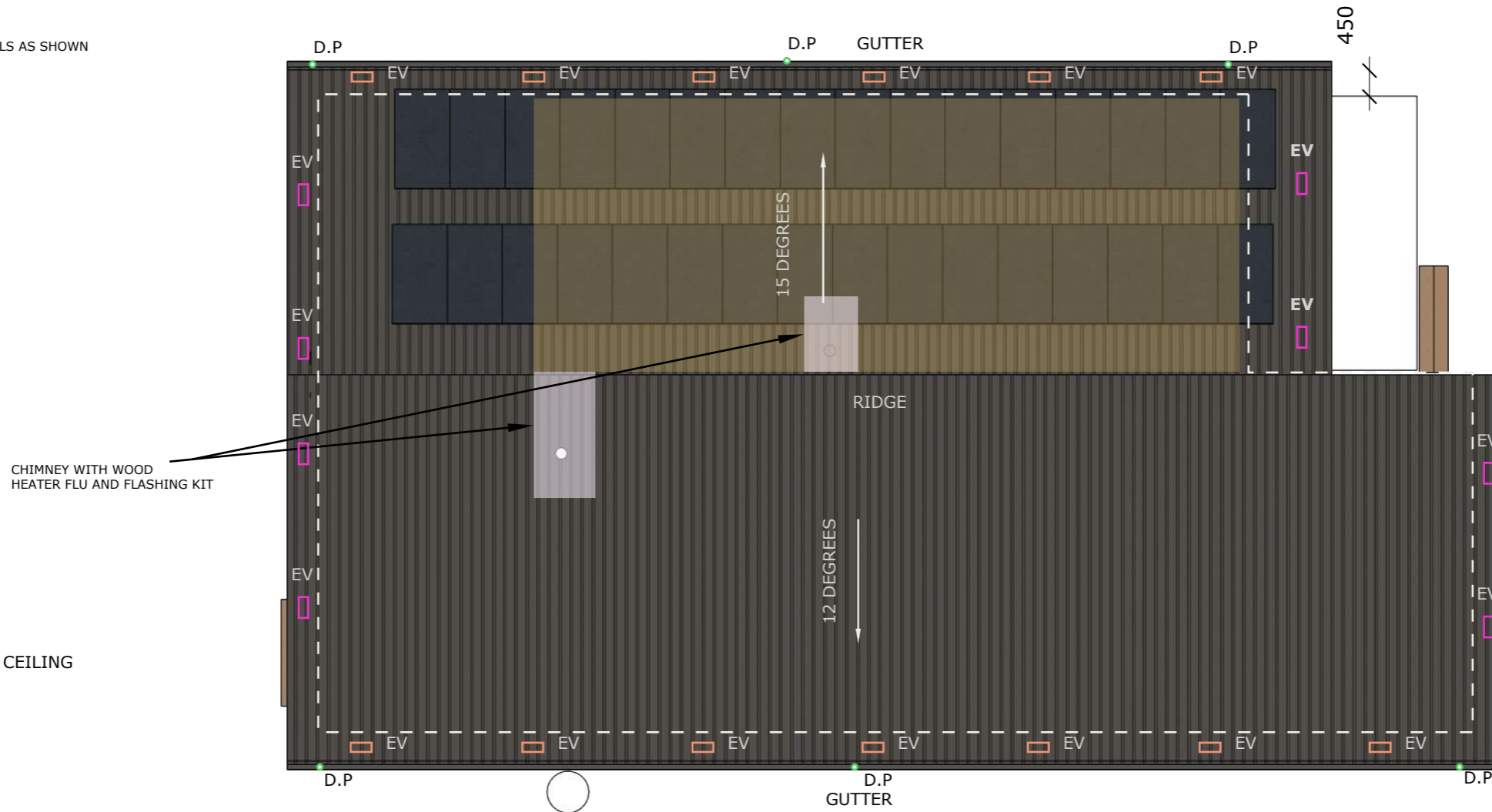
AS PER CBOS CONDENSATION GUIDELINES:

CEILING AREA/150 <16°

200m2/150= 1.33m2

75% SUPPLY =1m2

25% EXHAUST=0.33m2



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DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Roof Plan**

DOCUMENT PHASE  
Development Application

**CENTRAL COAST COUNCIL LAND USE PLANNING**

Received: 20/09/2023  
Application No: DA2023255  
Doc ID: 465671

Roof Plan  
Scale: 1 : 100



**A09**



**LEGEND & NOTES**

- Stormwater line (100mm UPVC)
- Sewer line (100mm UPVC)
- Water line (100mm UPVC)

Install inspection openings at major bends for stormwater and all low points of downpipes.

All plumbing & drainage to be in accordance with local Council requirements.

Provide surface drain to back of bulk excavation to drain levelled pad prior to commencing footing excavation.

**Services**

The heated water system must be designed and installed with Part B2 of NCC Volume Three - Plumbing Code of Australia.

Thermal insulation for heated water piping must:  
 a) be protected against the effects of weather and sunlight; and  
 b) be able to withstand the temperatures within the piping; and  
 c) use thermal insulation in accordance with AS/NZS 4859.1

Heated water piping that is not within a conditioned space must be thermally insulated as follows:

**1. Internal piping**

- a) All flow and return internal piping that is -
  - i) within an unventilated wall space
  - ii) within an internal floor between storeys; or
  - iii) between ceiling insulation and a ceiling

*Must have a minimum R-Value of 0.2 (ie 9mm of closed cell polymer insulation)*

**2. Piping located within a ventilated wall space, an enclosed building subfloor or a roof space**

- a) All flow and return piping
- b) Cold water supply piping and Relief valve piping within 500mm of the connection to central water heating system

*Must have a minimum R-Value of 0.45 (ie 19mm of closed cell polymer insulation)*

**3. Piping located outside the building or in an unenclosed building sub-floor or roof space**

- a) All flow and return piping
- b) Cold water supply piping and Relief valve piping within 500mm of the connection to central water heating system

*Must have a minimum R-Value of 0.6 (ie 25mm of closed cell polymer insulation)*

Piping within an insulated timber framed wall, such as that passing through a wall stud, is considered to comply with the above insulation requirements.

Depth covers to AS3500.2

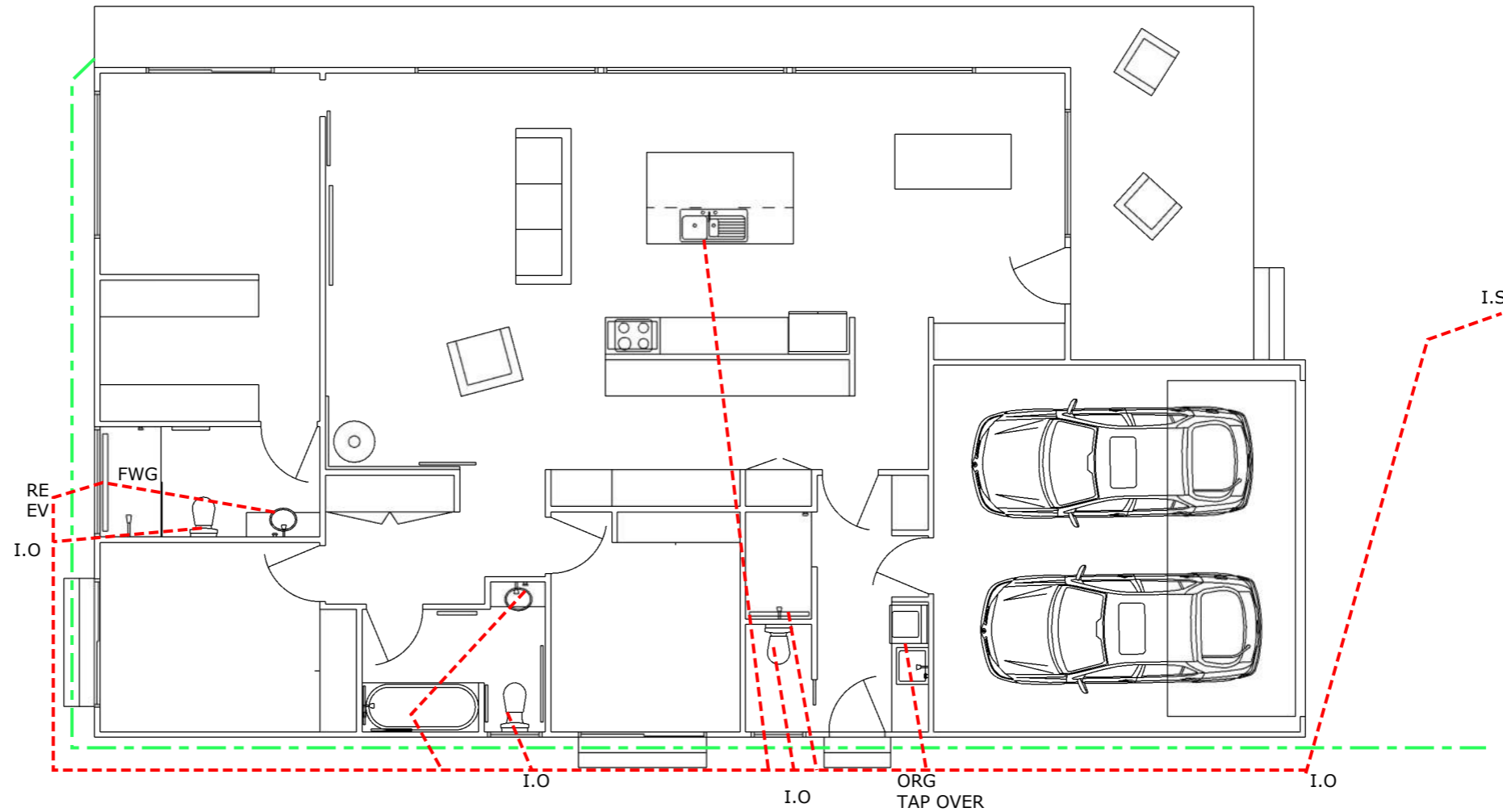
Vehicular traffic area	500mm
all other locations	300mm

**CENTRAL COAST COUNCIL  
LAND USE PLANNING**

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DESIGNS

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**LEGEND:**

- AAV - AIR ADMITTANCE VALVE
- I.O - INSPECTION SHAFT OPENING
- ORG - OVERFLOW RELIEF GULLY
- DP - DOWN PIPE
- I.S - INSPECTION SHAFT
- FC - FLEXIBLE CONNECTOR
- FWG - FLOOR WASTE GULLY (NO SMALLER THAN DN40 UNTRAPPED)

ORG rim to be minimum 150mm below lowest sanitary fitting.

ORG rim to be minimum 75mm above outside gl.

(TPRV FROM HWC CONNECTED INTO STORMWATER)

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ACCREDITATION CC6669  
PAPER SIZE A3

DRAWING TITLE  
**Internal plumbing plan**

DOCUMENT PHASE  
Development Application



















Internal plumbing plan  
Scale: 1 : 100

**A1C**



**LEGEND**

-  COMBINATION LIGHT, FAN, HEAT LAMP UNIT (4 LAMP)
-  SMOKE ALARM (TO BE INTERCONNECTED IF MORE THAN ONE)
-  EXHAUST FAN ONLY (WITH INSECT SCREEN)
-  SURFACE MOUNTED LIGHT
-  DOWN LIGHT RECESSED
-  LED LIGHT STRIP SINGLE
-  HANGING PENDANT LIGHT
-  SWITCH, SINGLE
-  SWITCH, MULTI
-  MULTI PURPOSE POWER POINT
-  TELEPHONE OUTLET
-  ETHERNET OUTLET
-  TELEVISION OUTLET
-  CEILING FAN
-  INSPECTION MAN HOLE
-  METER BOX
- RH** RANGE HOOD

**LIGHT SCHEDULE**

- B** 11W ILLUMINATION POWER LOAD
- D.L** 12W ILLUMINATION POWER LOAD
- F.L** 28W ILLUMINATION POWER LOAD
- IXL** 15W ILLUMINATION POWER LOAD  
(HEAT LAMPS NOT INCLUDED IN CALCULATION)

**NOTES:**

ALL FANS TO BE FITTED WITH BACK DRAUGHT DAMPERS/SHUTTERS DUCTED TO OUTSIDE

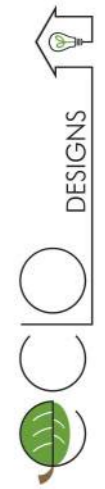
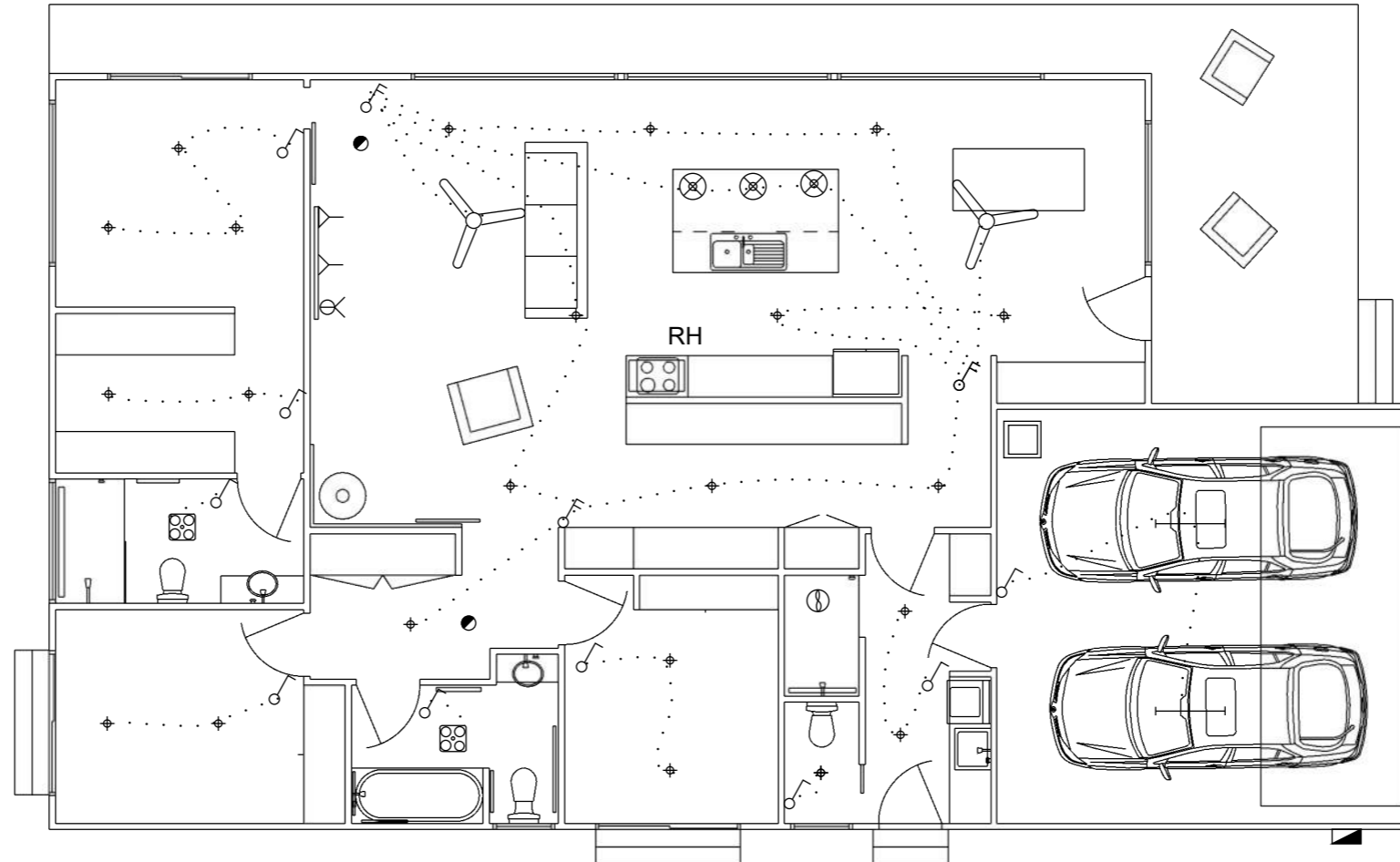
EXTERNAL SENSOR CONTROLLED BY A DAY LIGHT SENSOR OR HAVE AN AVERAGE LIGHT SOURCE EFFICENCY NO LESS THAN 40 LUMENS/W

SMOKE ALARM TO AS 3786 AND NCC.  
HARD WIRED WITH BATTERY BACK UP, INTERLINKED

THIS LIGHTING SCHEDULE CORRESPONDS WITH THE NCC LIGHTING CALCULATOR.

DOWNLIGHTS NOT RECOMMENDED DUE TO AIR LEAKAGE AND LOSS OF INSULATION, IF DOWN LIGHTS ARE USED SPECIFY LED 645ETREW4R

**NOTE:**  
OFF GRID POWER SUPPLY BY BATTERY BANK AS REQUIRED, BACK UP GENERATOR



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DOCUMENT DATE 15/11/2022	PAPER SIZE A3

DRAWING TITLE  
**Electrical Plan**

DOCUMENT PHASE  
Development Application

**CENTRAL COAST COUNCIL**  
**LAND USE PLANNING**

Received: 20/09/2023

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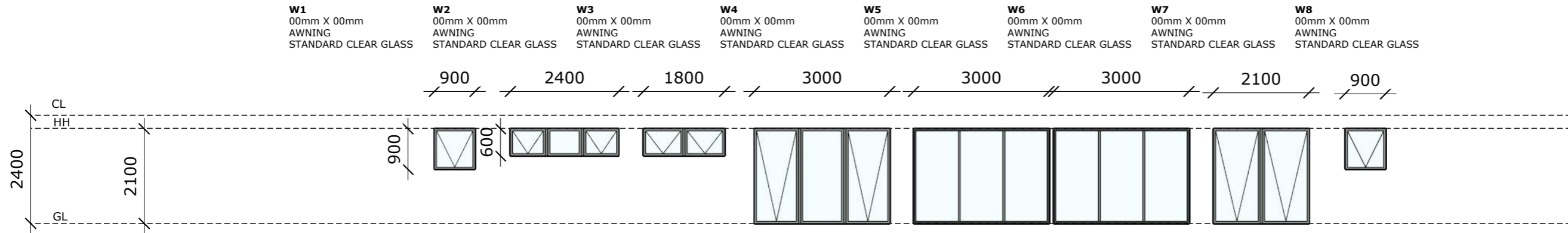
**Electrical Plan**  
Scale: 1 : 100



**A11**

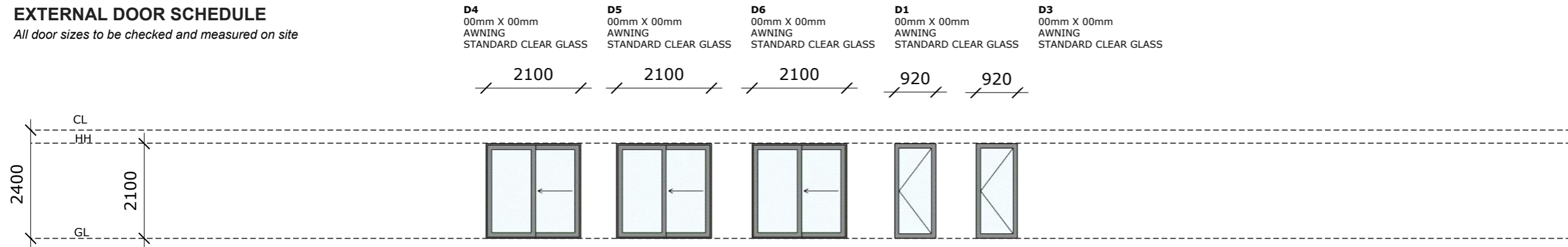
**WINDOW SCHEDULE**

All door sizes to be checked and measured on site



**EXTERNAL DOOR SCHEDULE**

All door sizes to be checked and measured on site



**INTERNAL DOOR SCHEDULE**

All door sizes to be checked and measured on site

DOOR #	TYPE	HEAD HEIGHT	TOTAL DIMENSIONS	HARDWARE	INTERIOR ARCHITRAVE
D7	INTERNAL SWING DOOR	2100mm	2100mm x 920mm	LEVER HANDLE	67 x 18 PRE-PRIMED ARCHITRAVE PAINT FINISH
D8	INTERNAL SWING DOOR	2100mm	2100mm x 920mm	LEVER HANDLE WITH LOCK	67 x 18 PRE-PRIMED ARCHITRAVE PAINT FINISH
D9	INTERNAL SWING DOOR	2100mm	2100mm x 920mm	LEVER HANDLE & DRAFT SEAL	67 x 18 PRE-PRIMED ARCHITRAVE PAINT FINISH
D10	BARN SLIDING DOOR	2100mm	2100mm x 920mm	TOP TRACK RAIL	67 x 18 PRE-PRIMED ARCHITRAVE PAINT FINISH
D11	INTERNAL CAVITY SLIDER DOOR	2100mm	2100mm x 920mm	SIDE HANDLE	67 x 18 PRE-PRIMED ARCHITRAVE PAINT FINISH

Window and glazed door type and performance:  
 ALUMINIUM THERMALLY BROKEN  
 DOUBLE GLAZED  
 U VALUE- TBC  
 SHGC- TBC  
 COLOR TBC  
 as per the star rating default windows.  
 to be matched against WER values for window manufactures

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**Window & Door Schedule**

DOCUMENT PHASE  
 Development Application

## NATURAL LIGHT & VENTILATION

PART 3.8.4 LIGHT:  
 MINIMUM 10% OF THE FLOOR AREA OF A HABITABLE ROOM REQUIRED (NATURAL LIGHT)  
 PART 3.8.5 VENTILATION:  
 MINIMUM 5% OF THE FLOOR AREA OF A HABITABLE ROOM REQUIRED  
 (AN EXHAUST FAN MAY BE USED FOR A SANITARY COMPARTMENT, LAUNDRY OR BATHROOM PROVIDE  
 CONTAMINATED AIR DISCHARGES DIRECTLY TO THE OUTSIDE OF THE BUILDING BBY WAYS OF DUCTS)

FLYSCREENS TO BE FITTED TO ALL OPENABLE WINDOWS AND DOORS.  
 REFER TO ENERGY ASSESSMENT FOR GLAZING U-VALUE AND SHGC REQUIREMENTS

SHOWER SCREENS 1800H SEMI-FRAMELESS SHOWER SCREENS TO COMPLY WITH BCA TABLE 3.6.5. & AS1288.

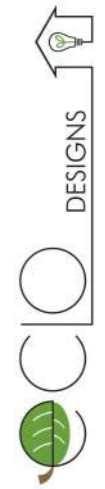
MINIMUM 4MM THICK GRADE A TOUGHENED SAFETY GLASS, LABELLED TO COMPLY WITH INDUSTRY STANDARDS.

**OPAQUE BANDS**  
 WHERE GLAZED DOORS OR SIDE PANELS ARE CAPABLE OF BEING MISTAKEN FOR A DOORWAY OR OPENING, THE GLASS MUST BE MARKED TO MAKE IT READILY VISIBLE AS FOLLOWS:  
 - MARKING IN THE FORM OF AN OPAQUE BAND NOT LESS THAN 20MM IN HEIGHT;  
 - THE UPPER EDGE IS NOT LESS THAN 700MM ABOVE THE FLOOR;  
 - THE LOWER EDGE IS NOT MORE THAN 1200MM ABOVE THE FLOOR.

**FLASHINGS TO WALL OPENINGS**  
 ALL OPENINGS MUST BE ADEQUATELY FLASHED USING MATERIALS THAT COMPLY WITH AS/NZS 2904.  
 REFER TO SECTIONS FOR WINDOW HEAD AND SILL DETAILS. FLASHING TO BE INSTALLED WITH GLAZING MANUFACTURER'S SPECIFICATIONS FOR BRICK VENEER CONSTRUCTION.

**PROTECTION OF OPENABLE WINDOWS.**  
 A WINDOW OPENING MUST BE PROVIDED WITH PROTECTION, IF THE FLOOR BELOW THE WINDOW IN A BEDROOM IS 2M OR MORE ABOVE THE SURFACE BENEATH.  
 PROTECT THE WINDOWS (IDENTIFIED IN THE TABLE BESIDE) BY ONE OF THE FOLLOWING METHODS:  
 a) A DEVICE CAPABLE OF RESTRICTING THE WINDOW OPENING; OR  
 b) A SCREEN WITH SECURE FITTINGS.  
 THE DEVICE OR SCREEN MUST:  
 a) NOT PERMIT A 125MM SPHERE TO PASS THROUGH THE WINDOW OPENING OR SCREEN; AND  
 b) RESIST AN OUTWARD HORIZONTAL ACTION OF 250N AGAINST THE WINDOW RESTRAINED BY A DEVICE; OR  
 SCREEN PROTECTING THE OPENING; AND  
 c) HAVE A CHILD RESISTANT RELEASE MECHANISM IF THE SCREEN OR DEVICE IS ABLE TO BE REMOVED, UNLOCKED OR OVERRIDDEN.

**ALL GLAZED WINDOW & DOOR ASSEMBLIES IN EXTERNAL WALLS TO COMPLY WITH AS 2047. ALL OTHER GLASS TO COMPLY WITH AS 1288.**



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**Window & Door notes**

DOCUMENT PHASE  
 Development Application

<b>CENTRAL COAST COUNCIL</b> <b>LAND USE PLANNING</b>	Received:	20/09/2023
	Application No:	DA2023255
	Doc ID:	465671

# A13

**KITCHEN**

THE KITCHEN SPACE SHOULD BE DESIGNED TO SUPPORT EASE OF MOVEMENT AND ADAPTATION WITH: AT LEAST 1200MM CLEARANCE IN FRONT OF FIXED BENCHES AND APPLIANCES (EXCLUDING HANDLES); AND SLIP RESISTANT FLOORING. FLOOR FINISHES SHOULD EXTEND UNDER KITCHEN CABINETRY TO ENABLE CUPBOARDS TO BE REMOVED WITHOUT AFFECTING THE FLOORING. WHERE FIXTURES CANNOT BE EASILY REMOVED (EG. OVENS WHICH ARE BUILT IN) THE FLOOR FINISHES SHOULD NOT BE CONTINUED. IF RELYING ON ADVICE FROM A THIRD PARTY, ASSESSORS ARE ADVISED TO PROVIDE A NOTE IN THE NOTES COLUMN OF THE ASSESSMENT.

**BEDROOM**

A BEDROOM SHOULD BE AT LEAST 10M2 CLEARANCE EXCLUSIVE OF WARDROBES; SKIRTINGS AND WALL LINING AND PROVIDES A MINIMUM PATH OF TRAVEL OF 1000MM ON THE REMAINING SIDE OF THE BED. (QUEEN SIZE ASSUMED) (GOLD LEVEL LHA)

**TOILETS**

SHOULD HAVE MINIMUM CLEAR WIDTH OF 900MM BETWEEN THE WALLS OF THE BATHROOM IF LOCATED IN A SEPARATE ROOM WITH A MINIMUM 1200MM CLEAR CIRCULATION SPACE FORWARD OF THE TOILET PAN EXCLUSIVE OF THE SWING OF THE DOOR.

THE TOILET PAN SHOULD BE LOCATED IN THE CORNER OF THE ROOM (IF THE TOILET IS LOCATED IN A COMBINED TOILET / BATHROOM) TO ENABLE INSTALLATION OF GRABRAILS AT A FUTURE DATE. (REFER TO REINFORCEMENT)

THE TOILET SEAT POSITIONED BETWEEN 450MM - 460MM FROM THE NEAREST WALL AS MEASURED FROM THE CENTRE LINE OF THE TOILET WITH 600MM MINIMUM CLEARANCE FORWARD OF THE CISTERN MEASURED FROM THE FRONT OF THE CISTERN TO THE FRONT OF THE TOILET SEAT. OR 800MM (+/-10MM) CLEARANCE IF THE CISTERN IS RECESSED; AND A HEIGHT FOR THE SEAT OF BETWEEN 460MM-480MM ABOVE THE FINISHED FLOOR LEVEL

in wall cistern toilet

**SHOWERS**

BATHROOM, WITH SLIP RESISTANT (AS3740-3.6) FLOORING, HOBLESS SHOWER RECESS WITH THE TOILET AND SHOWER LOCATED IN THE CORNER OF THE ROOM (IF THE TOILET IS LOCATED IN A COMBINED TOILET / BATHROOM) TO ENABLE INSTALLATION OF GRABRAILS AT A FUTURE DATE. (REFER TO REINFORCEMENT)

SHOWERS SHOULD BE A MINIMUM DIMENSIONS OF AT LEAST 1160MM (WIDTH) X 1100MM (LENGTH). A LEVEL TRANSITION AND THRESHOLD (MAXIMUM VERTICAL TOLERANCE OF 5MM BETWEEN ABUTTING SURFACES IS ALLOWABLE PROVIDED THE LIP IS ROUNDED OR BEVELLED); AND AT LEAST 1600MM(WIDTH) X 1400MM (LENGTH) FORWARD OF THE SHOWER RECESS FOR CIRCULATION

**REINFORCEMENT OF BATHROOM & TOILET WALLS**

EXCEPT FOR WALLS CONSTRUCTED OF SOLID MASONRY OR CONCRETE, THE WALLS AROUND THE SHOWER, BATH (IF PROVIDED) AND TOILET SHOULD BE REINFORCED TO PROVIDE A FIXING SURFACE FOR THE SAFE INSTALLATION OF GRABRAILS. (SEE FIGURE AT END OF DOCUMENT FOR DETAILS)

**WINDOW SILLS**

WINDOW SILLS ON THE GROUND (OR ENTRY) LEVEL IN LIVING AREAS AND BEDROOM SPACES SHOULD BE POSITIONED NO HIGHER THAN 1000MM ABOVE THE FINISHED FLOOR LEVEL. WINDOW CONTROLS SHOULD BE ABLE TO BE EASY TO OPERATE WITH ONE HAND AND LOCATED WITHIN EASY REACH FROM EITHER A SEATED OR STANDING POSITION.

**FAMILY/LIVING ROOM SPACE**

FREE SPACE MINIMUM 2250MM IN DIAMETER, TO ENABLE EASE OF MOVEMENT CLEAR OF FURNITURE.

**SWITCHES AND POWER POINT**

LIGHT SWITCHES SHOULD BE POSITIONED IN A CONSISTENT LOCATION BETWEEN 900MM - 1100MM ABOVE THE FINISHED FLOOR LEVEL AND HORIZONTALLY ALIGNED WITH THE DOOR HANDLE AT THE ENTRANCE TO A ROOM; NOT LOWER THAN 300MM ABOVE THE FINISHED FLOOR LEVEL. LIGHT AND POWER POINT SWITCHES SHOULD BE ROCKER ACTION, TOGGLE OR PUSH PAD IN DESIGN WITH A RECOMMENDED WIDTH OF 35MM

**FLOORING**

ALL FLOOR COVERINGS SHOULD BE FIRM, EVEN AND SLIP RESISTANT; AND FEATURE A LEVEL TRANSITION BETWEEN ABUTTING SURFACES (A MAXIMUM VERTICAL TOLERANCE OF 5MM BETWEEN ABUTTING SURFACES IS ALLOWABLE PROVIDED THE LIP IS ROUNDED OR BEVELLED).

**DWELLING ENTRANCE**

A LEVEL STEP FREE TRANSITION AT THRESHOLD WITH A MAX VERTICAL TOLERANCE OF 5mm BETWEEN ABUTTING SURFACES IF LIP IS ROUNDED OR BEVELLED. WITH A LANDING AREA MIN OF 1500 x 1500mm & MIN DOOR CLEARANCE OF 900.

**WEATHER PROTECTION AND THRESHOLDS**

ALLOW WEATHERPROOFING THRESHOLDS OF UP TO APPROX. 50MM. WITH GENTLY SLOPING PORCHES TO LIMIT THE POSSIBILITY OF WATER ENTERING THE DWELLING. (MAX 1 IN 8 SLOPE) AND PROVIDE A ROOF COVER OVER THE LANDING

**DOOR AND TAP HARDWARE**

DOORWAYS SHOULD FEATURE DOOR HARDWARE INSTALLED AT BETWEEN 900MM - 1100MM ABOVE THE FINISHED FLOOR. EITHER LEVER OR D-PULL STYLE DOOR HARDWARE; AND BASINS, SINKS AND TUBS SHOULD FEATURE LEVER OR CAPSTAN STYLE TAP HARDWARE WITH A CENTRAL SPOUT. THE HANDLE CLEARANCES FOR D-PULL STYLE DOOR HARDWARE SHOULD BE THE SAME AS AS1428.1 2009. AS 1428.1 2009

**INTERNAL DOORS & CORRIDORS**

SHOULD HAVE MINIMUM CLEAR OPENING WIDTH OF 900MM AND A MINIMUM CORRIDOR/PASSAGEWAY WIDTH OF 1200MM. (TO NEAREST INCLUDING SKIRTINGS)

**ACCESS PATH**

A CONTINUOUS STEP-FREE PATHWAY FROM THE FRONT BOUNDARY OF THE PROPERTY TO AN ENTRY DOOR TO THE DWELLING WITH A MINIMUM CLEAR PATHWAY WIDTH OF 1100MM WITH 1200MM,

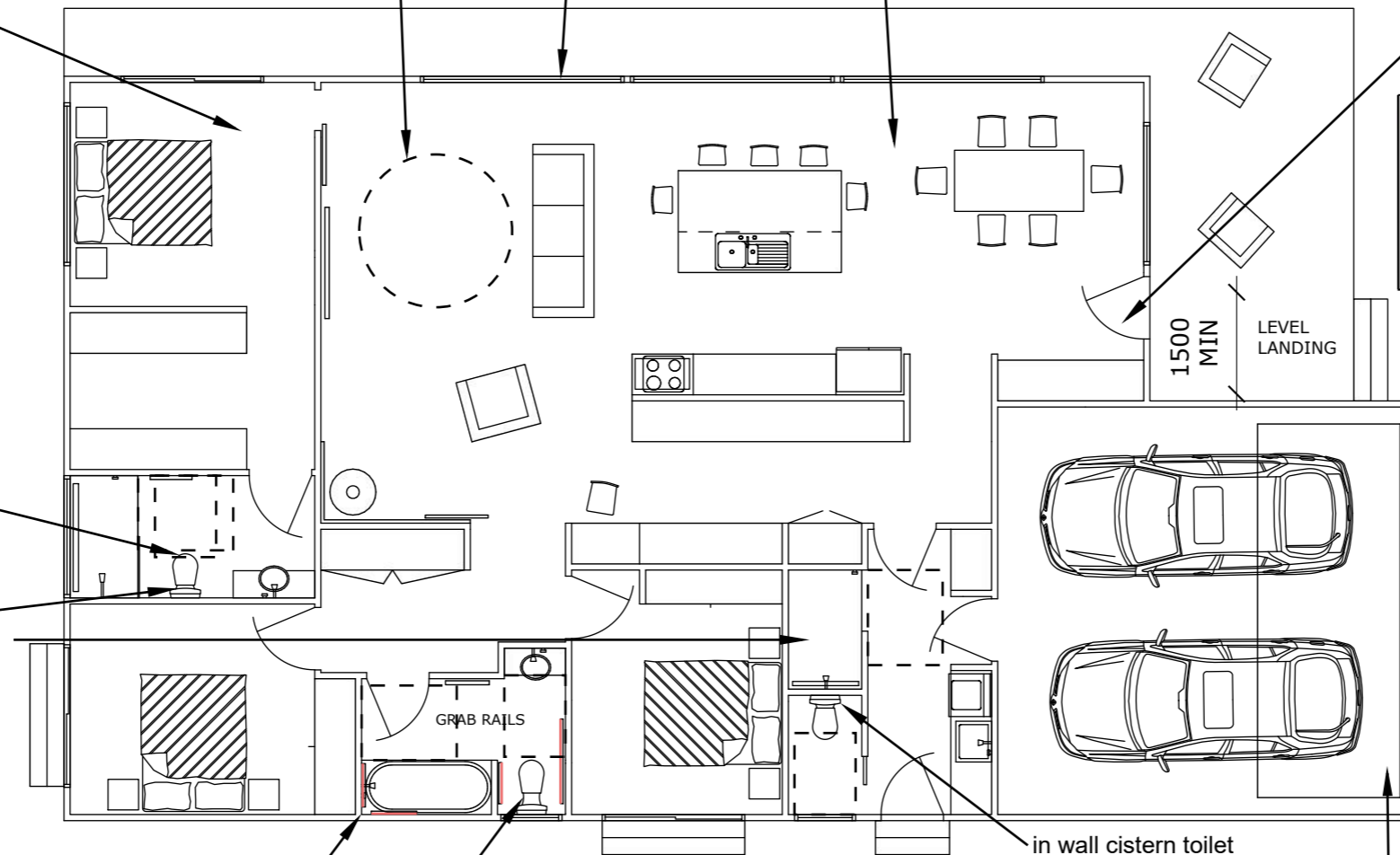
**RAMPS**

RAMPS SHOULD HAVE LANDINGS PROVIDED AT NO GREATER THAN 9M FOR A 1:14 RAMP AND NO GREATER THAN 15M FOR RAMPS STEEPER THAN 1:20. LANDINGS SHOULD BE NO LESS THAN 1200MM IN LENGTH.

**CAR PARK ACCESS**

WHERE A CAR PARKING SPACE IS RELIED UPON AS THE SAFE AND CONTINUOUS PATHWAY TO THE DWELLING ENTRANCE, THE SPACE SHOULD INCORPORATE AN EVEN, FIRM AND SLIP RESISTANT SURFACE WITH A MINIMUM DIMENSIONS OF AT LEAST 3800MM (WIDTH) X 6000MM (LENGTH); AND; AND A LEVEL SURFACE (1:40 MAXIMUM GRADIENT, 1:33 MAXIMUM GRADIENT FOR BITUMEN).

A VERTICAL CLEARANCE OVER THE PARKING SPACE OF AT LEAST 2500MM; AND A COVERED PARKING SPACE TO ENSURE PROTECTION FROM THE WEATHER.



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CLIENT  
**Mark & Kim Phillips-Haines**  
 PROJECT NO.  
**22030**

PROJECT NAME  
**Proposed Residence**  
 PROJECT ADDRESS  
**Harveys Road, North Motton, 7315**

DRAWN C.O ACCREDITATION CC6669  
 DOCUMENT DATE 15/11/2022 PAPER SIZE A3

DRAWING TITLE  
**Access Plan**

DOCUMENT PHASE  
**Development Application**

**A14**



# Bushfire Hazard Report




Image 1 – Source: Listmap

## **AUTHOR DETAILS:**

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Accreditation Details: BFP – 158 (Scope 1, 2, 3B & 3C)  
Report Date: 29 March 2024  
Report Reference: 24037-B

## **PROPERTY DETAILS:**

Location: Harveys Road, North Motton  
Applicant: Mark and Kim Phillips-Haines  
Proposal: Single Dwelling  
Zoning: Rural  
Title Reference: CT: 131560/2  
PID: 1906437

 CENTRAL COAST COUNCIL	<b>CENTRAL COAST COUNCIL LAND USE PLANNING</b>
Received:	16/04/2024
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Author – Jayne Newman BHP-158

## 1. Scope of Assessors Accreditation

*Jayne Newman (BFP- 158) is accredited by the Chief Office of the Tasmanian Fire Service under Section 60B of the Fire Service Act 1979 for the following scope of works:*

- 1. Certify a Bushfire Hazard Management Plan for the purpose of the Building Act 2016.*
- 2. Certify an Exemption from a Bushfire Hazard management Plan for the purposes of the Building Act 2016 or the Land Use and Approvals Act 1993.*
- 3B. Certify a Bushfire Hazard management Plan meets the Acceptable Solutions for small subdivisions (10 lots or less) for the purposes of the Land Use Planning and Approvals Act 1993.*
- 3C. Certify a Bushfire Hazard Management Plan meets the Acceptable Solutions for large subdivisions (less than 10 lots) for the purposes of the Land Use Planning and Approvals Act 1993.*

## 2. Disclaimer

*This document has been prepared for the sole use of the client and for a specific purpose, as expressly stated in the document. Planning 4 Bushfire undertakes no duty nor accepts any responsibility to any third party not being the intended recipient of this document. The information contained in this document has been carefully compiled based on the clients' requirements and Planning 4 Bushfire experience, having regard to the assumptions that Planning 4 Bushfire can reasonably be expected to make in accordance with sound professional principles. Planning 4 Bushfire may also have relied on information provided by the client and/or other external parties to prepare this document, some of which may not have been verified. Subject to the above conditions, Planning 4 Bushfire recommends that this document should only be transmitted, reproduced or disseminate in its entirety.*

*Bushfires in Tasmania are an unpredictable natural phenomenon and preparing a Bushfire Hazard Management Plan increases your chances of defending your property and assist in the protection the people who frequent it. The Fire Hazard Management Plan in no way guarantees immunity from bushfire in or around your property or the effects thereof.*

*Any measures implemented based on the advice from Planning 4 Bushfire, is offered as potential methods of reducing your properties risk of fire damage only and is not to be relied upon as a total solution. It in no way guarantees that any or all buildings on site will survive the effects of a bushfire nor does it guarantee the safety and security of any individuals who frequent the property.*

*In the event that any advice or other services rendered by Planning 4 Bushfire constitutes a supply of service to a consumer under the Trade Practices Act 1974 (as amended), then Planning 4 Bushfire's liability for any breach of any conditions or warranties implied under the Act shall not be excluded but will be limited to the cost of having the advice or services supplied again.*

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### 3. Executive Summary

*This report together with the appendices have been prepared to provide advice relative to the Building Act 2016 AS 3959-2018 and the Directors Determination – Bushfire Hazard Areas (v1.1). The report findings dictate a BAL Level of 19 for the single dwelling, which is an acceptable level of risk.*

### 4. Introduction

*This report has been prepared on behalf of the client to provide a bushfire hazard management assessment for the proposed single dwelling.*

*The site is zoned Rural with all surrounding land also zoned Rural which then adjoins Environmental Management further south and west.*

*This report has been prepared with assessment against the requirements detailed within Directors Determination – Bushfire Hazard Areas (v1.1). and identifies the bushfire attack level and any bushfire hazard management areas in accordance with Australian Standard AS 3959-2018.*

### 5. Site Description

<i>Proposal</i>	<i>Single Dwelling</i>
<i>NCC Building Class</i>	<i>1A</i>
<i>Address</i>	<i>Harveys Road, North Motton</i>
<i>Certificate of Title</i>	<i>CT: 131560/2</i>
<i>Land area</i>	<i>17.54ha</i>
<i>Zoning</i>	<i>Rural</i>
<i>Current Land Use</i>	<i>Existing rural sheds</i>

*The site is 17.54ha in size containing some small sheds on the entrance to the property.*

### 6. Proposed Development

*The proposal relates to a new single dwelling comprising of three bedrooms, bathroom, mud room, double garage and open plan kitchen, living and dining room adjoining a northern and eastern facing deck. The dwelling will be clad in a trimdek with colorbond roofing. The dwelling is sited approximately 100 metres from the closest boundary to the north. The proposed height is a maximum of 3.984 metres being cut into the embankment.*



## 7. Bushfire Hazard Assessment

### 7.1 Surrounding Lot Analysis (photos taken 12 March 2024).



Image 3 – North: Forest vegetation. This area has previously been cleared, being at regrowth stage.



Image 4 – East: – Cleared land then forest vegetation.





Image 5 – South: Forest vegetation.



Image 6 – West: Forest vegetation.



## 7.2 Vegetation Classification



Image 7: Source Listmap - TasVeg 4.0

The layer covering the development site is a mix of (WOB) Wet eucalyptus obliqua forest (shown in green) and (FAG) agricultural land, which is not regrown into modified land, being regrowth Forst.

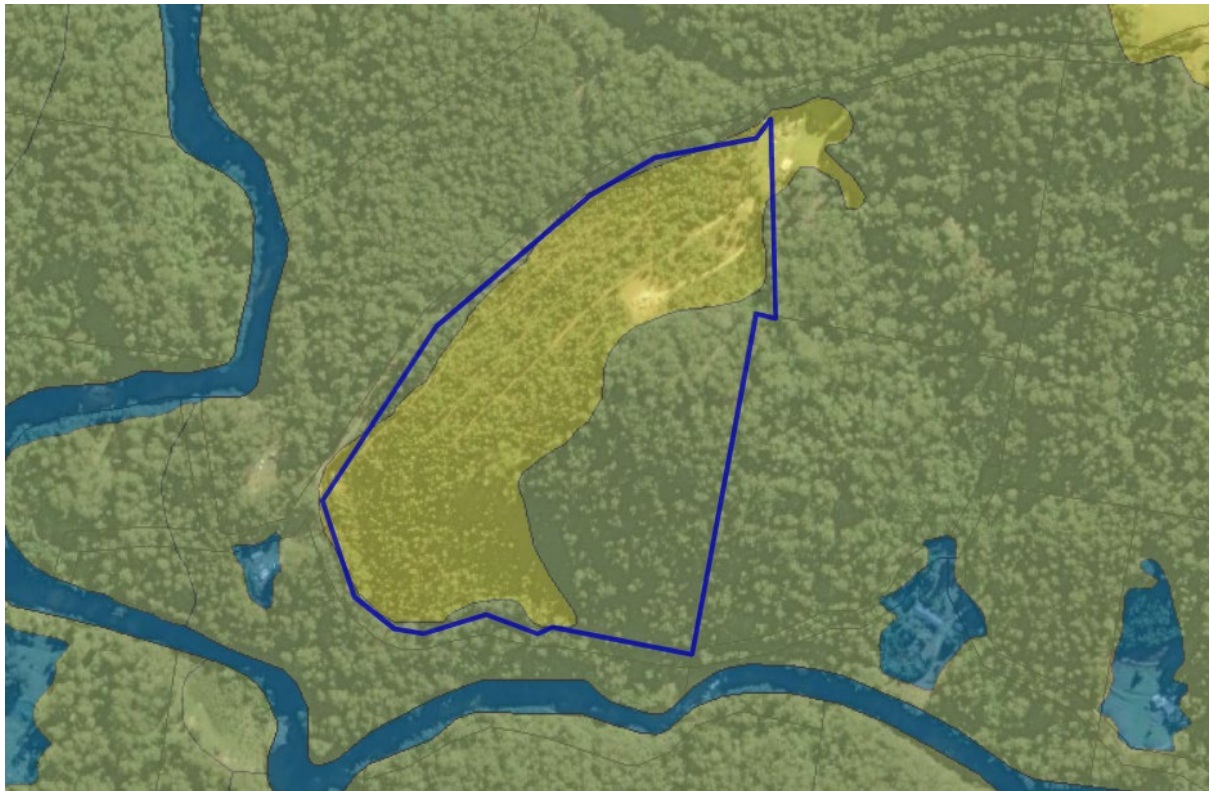


Image 8: Source Listmap - TasVeg 4.0 Fire Attributes

Land shown in yellow has a medium to high flammability and low sensitivity, while land shown in green has a medium to high flammability and high sensitivity.

**Fire Danger Index**

FDI 50 ✓

**Assessment of vegetation located within 100m of the site**

Vegetation Classification	North North-East <input checked="" type="checkbox"/> <input type="checkbox"/>	South South-West <input checked="" type="checkbox"/> <input type="checkbox"/>	East South-East <input checked="" type="checkbox"/> <input type="checkbox"/>	West North-West <input checked="" type="checkbox"/> <input type="checkbox"/>
Group A Forest	✓ 51m min	✓ 23m min	✓ 23m min East 34m North/East	✓ 51m min
Exclusions (where applicable)	(a)(b)(c)(d)(e)(f)	(a)(b)(c)(d)(e)(f)	(a)(b)(c)(d)(e)(f)	(a)(b)(c)(d)(e)(f)
Distances to classified vegetation	A clearance of 51 metres minimum is required and must be maintained as a HMA.	A clearance of 23 metres minimum is required and must be maintained as a HMA.	A clearance of 23 metres minimum to the East and 34 metres minimum to the North/East is required and must be maintained as a HMA.	A clearance of 51 metres minimum is required and must be maintained as a HMA.

**Effective Slope**

Effective slope	Upslope			
Slope under the classified vegetation	Upslope/0° <input type="checkbox"/>	Upslope/0° <input type="checkbox"/>	Upslope 0° <input checked="" type="checkbox"/>	Upslope 0° <input type="checkbox"/>
	Downslope			
	>0 to 5° <input type="checkbox"/>	>0 to 5° <input checked="" type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input checked="" type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input checked="" type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input checked="" type="checkbox"/>
BAL value	19	19	19	19

A lidar was undertaken to determine slope due to potentially exceeding 20 degrees to the north. This came back with a slope of 19.9 degrees, therefore suitable for assessment under the deemed to satisfy provisions. It is also noted that previous clearing and track construction in this area has reduced the slope from that identified on the lidar. The owner also intends on providing fill in this area to further reduce the slope during clearance. This will provide greater reduction in slope in a northerly direction.

**The applicable Bushfire Attack Level is: BAL – 19**

## 8 Bushfire Protection Measures

### 8.1 Structure

The proposed single dwelling is to be constructed to a BAL 19 standard as per AS 3959-2018 Section 6.

### 8.2 Access

Element B - The access length to the proposed dwelling exceeds 30 metres therefore following applies.

The following design and construction requirements apply to property access;

- (a) All-weather construction;
- (b) Load capacity of at least 20 tonnes, including for bridges and culverts;
- (c) Minimum carriageway width of 4 metres;
- (d) Minimum vertical clearance of 4 metres;
- (e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
- (f) Cross falls of less than 3o (1:20 or 5%);
- (g) Dips less than 7o (1:8 or 12.5%);
- (h) Curves with a minimum inner radius of 10 metres;
- (i) Maximum gradient of 15o (1:3.5 or 28%) for sealed roads, and 10o (1:5.5 or 18%) for unsealed roads; and
- (j) Terminate with a turning area for fire appliance provided by one or the following;
  - (i) A turning circle with a minimum outer radius of 10 metres;
  - (ii) A property access encircling the building; or
  - (iii) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.

Element C – Property access length is 200 metres or greater, therefore the following design and construction requirements apply.

- (a) The Requirements for B above; and
- (b) Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres.

### 8.3 Water Supply

A static water supply is required and must comply with the following.

Element A - The following requirements apply:

- (a) The building area to be protected must be located within 90 metres of the firefighting water point of a static water supply; and
- (b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.

Element B - A static water supply;

- (a) May have a remotely located offtake connected to the static water supply;
- (b) May be a supply for combined use (fire fighting and other uses) but the specific minimum quantity of fire fighting water must be available at all times;
- (c) Must be a minimum of 10,000 per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems;
- (d) Must be metal, concrete or lagged by non-combustible materials if above ground; and
- (e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2018, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by;
  - (i) Metal;
  - (ii) Non-combustible material; or
  - (iii) Fibre-cement a minimum of 6mm thickness."

Element C - Fittings and pipework associated with a firefighting water point for a static water supply must:

- (a) Have a minimum nominal internal diameter of 50mm;
- (b) Be fitted with a valve with a minimum nominal internal diameter of 50mm;
- (c) Be metal or lagged by non-combustible materials if above ground;
- (d) Where buried, have a minimum depth of 300mm;
- (e) Provide a DIN or NEN standard forged Storz 65mm coupling fitting with a suction washer for connection to firefighting equipment;
- (f) Ensure the coupling is accessible and available for connection at all times;
- (g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220mm length);
- (h) Ensure underground tanks have either an opening at the top of not less than 250mm diameter or a coupling compliant with this Table; and
- (i) Where a remote offtake is installed, ensure the offtake is in a position that is:
  - (i) Visible;
  - (ii) Accessible to allow connection by firefighting equipment;
  - (iii) At a working height of 450-600mm above ground level; and
  - (iv) Protected from possible damage, including damage by vehicles.

Element D - The firefighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:

- (a) comply with water tank signage requirements within AS 2304:2019; or
- (b) comply with the TFS Water Supply Signage Guideline.

Element E - Hardstand

A hardstand area for fire appliances must be provided:

- (a) No more than three metres from the firefighting water point, measured as a hose land (including the minimum water level in dams, swimming pools and the like);
- (b) No closer than six metres from the building area to be protected;
- (c) With a minimum width of three metres constructed to the same standard as the carriageway; and
- (d) Connected to the property access by a carriageway equivalent to the standard of the property access.

**Note:**

1. **If for some reason the fire fighting tank is to be located in an alternate location, it must still comply with the requirements of Table 3B of the Directors Determination taking into consideration Table 2, to still comply with the requirements of this report.**

#### 8.4 Hazard Management Area

The Hazard Management Area as depicted on the plan, is to be implemented and must be maintained to a low threat vegetation standard having grass managed to a height of less than 100mm for the life of the building prior to the issuance of an occupancy certificate.

- Additional recommendations are made to achieve and maintain a minimal fuel level as follows:
  - a. Keep gutters and roof spaces free from debris.
  - b. Locate paths, paved areas and driveways near the dwelling.
  - c. Do not store fire wood within 6 metres of buildings.
  - d. Do not use pine bark or flammable garden mulch against building facades or specifically, windows located within 400mm of the ground.
  - f. If trees are planted within the bushfire hazard management area, consider using low flammable trees and shrubs as outlined within Fire Resisting Garden Plans for urban fringe and rural areas available online via [www.fire.tas.gov.au](http://www.fire.tas.gov.au).



## 8. Statutory Compliance

Deemed to Satisfy requirement	Compliance
Table 1 Construction	<i>Construction requirements are to be to a BAL-19 standard in accordance with AS 3959-2018 and the Directors Determination – Bushfire Hazard Areas v 1.1.</i>
Table 2 Requirements for Property Access	<i>The access shown within the BHMP can achieve compliance with Table 2. The existing access will need to be upgraded to provide a horizontal and vertical clearance of 4 metres together with an additional 0.5 metre clearance either side of the carriageway and a hardstand area shown next to the fire fighting water supply. The road provides for an entry and exit but will still require a passing bay as shown.</i>
Table 3B Requirements for Static Water Supply	<i>A static water supply of 10,000 litres is required as shown on the Hazard Management Plan. The water supply provides a direct offtake next to the driveway hardstand area.</i>
Table 4 Requirements for Hazard Management Area	<i>The Bushfire Hazard Management Plan dictates a Hazard Management area providing for the minimum area to be maintained to achieve a BAL 19, compliant with Table 2.6 of AS 3959-2018.</i>
Table 5 Requirements for Emergency Planning	<i>Not applicable</i>

## 9. Conclusion

*This assessment provides a BAL of 19 for Harveys Road, North Motton. To comply with this report, the single dwelling must be constructed in accordance with Building Standards dictated by AS 3959-2018.*

*This report dictates requirements for construction, hazard management areas, access (including passing bays) and water supply, which must be implemented/installed prior to the issuance of an occupancy certificate and maintained for the life of the building.*

*Subject to implementing the Bushfire Hazard Management Report, the proposed single dwelling will comply with deemed to satisfy Tables 1, 2, 3B and 4 of the Directors Determination – Bushfire Hazard Areas (v1.1).*

## 10. Appendix

- a) *Eclo Designs - Project Number 22030*
- b) *Bushfire Hazard Management Plan*
- c) *Assessable Item (Form 55)*



**CONTOURS AT 10m INTERVALS**

**SITE PLAN LEGEND & NOTES:**

**GENERAL NOTES:**  
 DURING CONSTRUCTION SOIL AND WATER IS TO BE APPROPRIATELY MANAGED. THIS INCLUDES THE PROVISION OF SILT FENCING, FILTER SCREENS OR DEDICATED SILT TRAPS TO PREVENT DISCHARGE OF GRAVEL, SOIL OR OTHER DEBRIS TO ANY EXISTING WATER COURSE OR ADJOINING PROPERTY DURING THE CONSTRUCTION PROCESS.

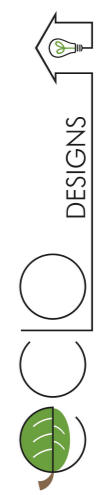
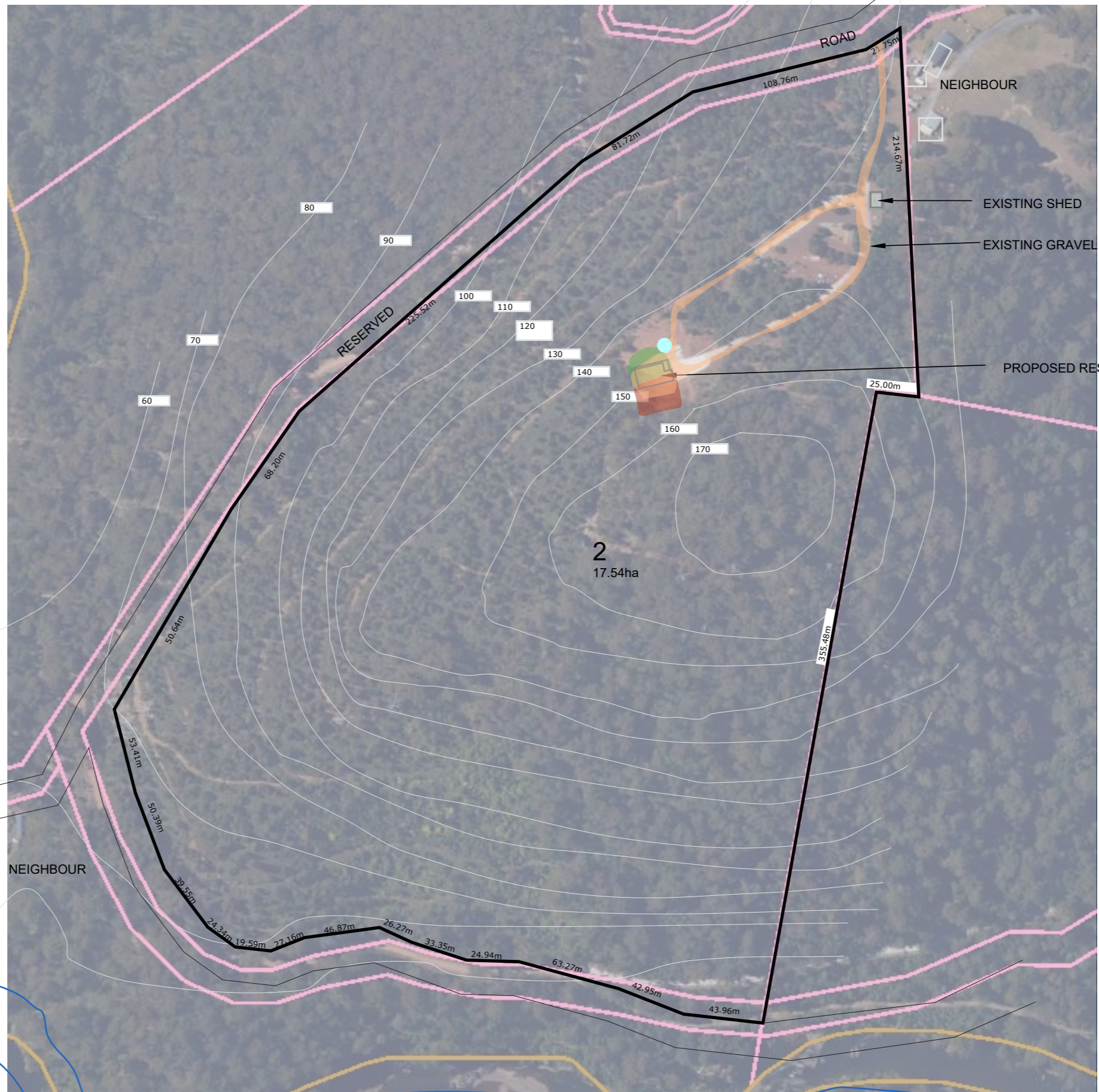
**EXCAVATION:**  
 ALLOW FOR BULK EXCAVATION WHERE REQUIRED AND ALL EXCAVATION, FILLING, BACK FILLING AND CONSOLIDATION REQUIRED FOR THE FOOTINGS AND SLAB, RETAIN ALL ACCESS AND SERVICES INDICATED. MAKE GOOD.

**SETTING OUT:**  
 THE CLIENT IS RESPONSIBLE FOR VERIFYING THE BOUNDARY PEGS ARE IN THE CORRECT LOCATION, MARKED AND CLEARLY VISIBLE FOR THE BUILDER. THE BUILDER SHALL ACCURATELY SET-OUT THE WORKS AND VERIFY ALL DIMENSIONS AND LEVELS BEFORE COMMENCING ANY WORKS. AND SHALL MAKE GOOD AT HIS OWN EXPENSE ANY ERRORS ARISING FROM INACCURACIES OF THE SETOUT.

**PROTECTION WORK:**  
 (SECTION 121 OF THE BUILDING ACT) IF EXCAVATION IS TO A LEVEL BELOW THAT OF THE ADJOINING OWNER'S FOOTINGS, ALONG THE TITLE BOUNDARY OR WITHIN 3 METRES OF A BUILDING BELONGING TO AN ADJOINING OWNER, THE BUILDER MUST (AS A MINIMUM) PROVIDE AND MAINTAIN A GUARD TO SUPERVISE THE EXCAVATION. ADJOINING OWNER TO BE NOTIFIED USING FORM 6 (BUILDING AND PROTECTION WORK NOTICE) BY THE BUILDING SURVEYOR.

**SITE SERVICES:**

NO SERVICES AVAILABLE FOR THE SITE



eclo.designs@outlook.com  
 0419387746

REV	DATE	DESCRIPTION

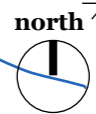
CLIENT  
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DRAWING TITLE  
**Site Plan**

DOCUMENT PHASE  
 Development Application



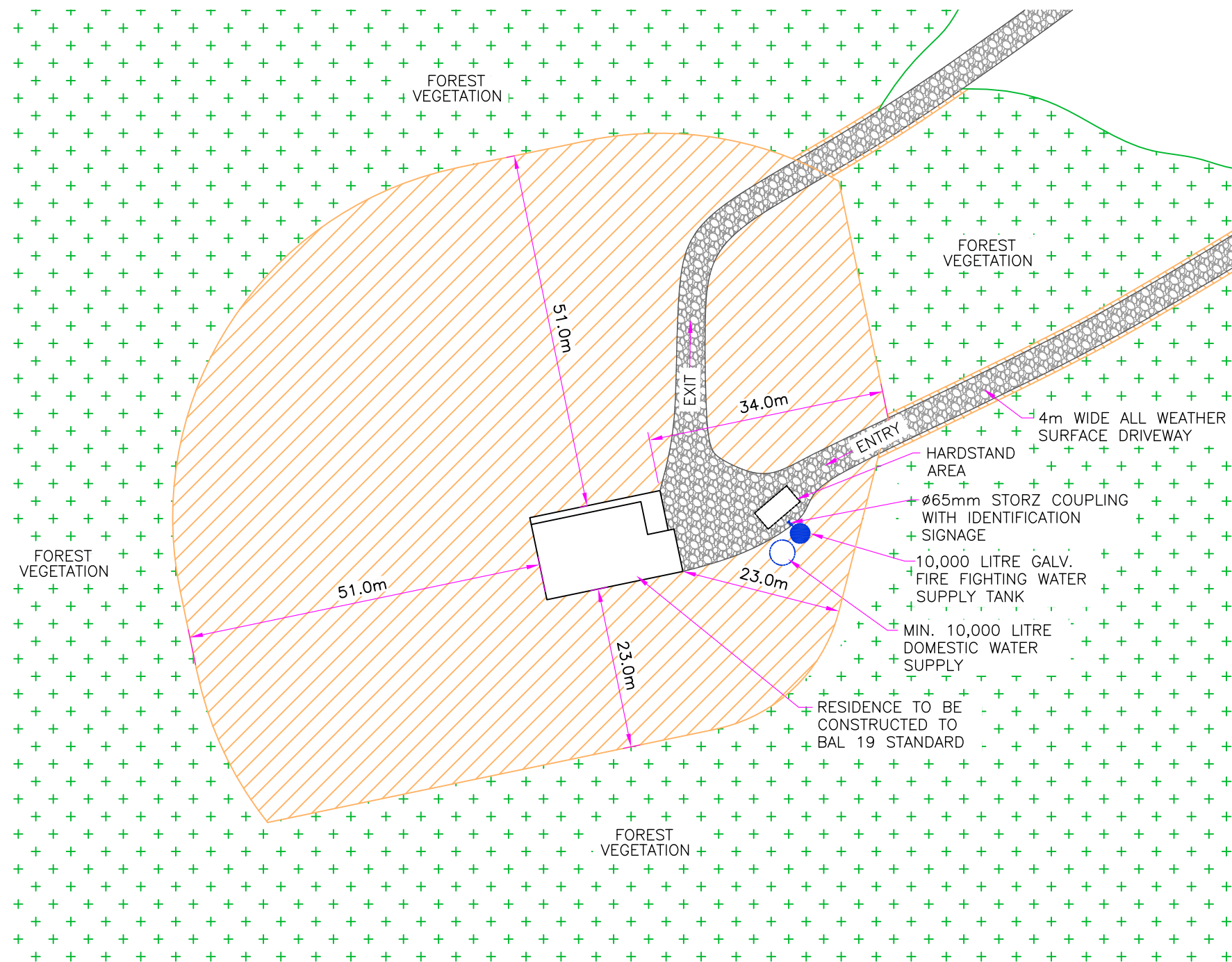
Site Plan  
 Scale: 1 : 2500

**A01**





ASSESSED BY JAYNE NEWMAN BFP-158  
(SCOPE 1, 2, 3B & 3C)



APPENDIX B  
BUSHFIRE HAZARD MANAGEMENT PLAN  
SCALE 1 : 750 (A3)

BAL 19


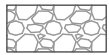

25 March 2024

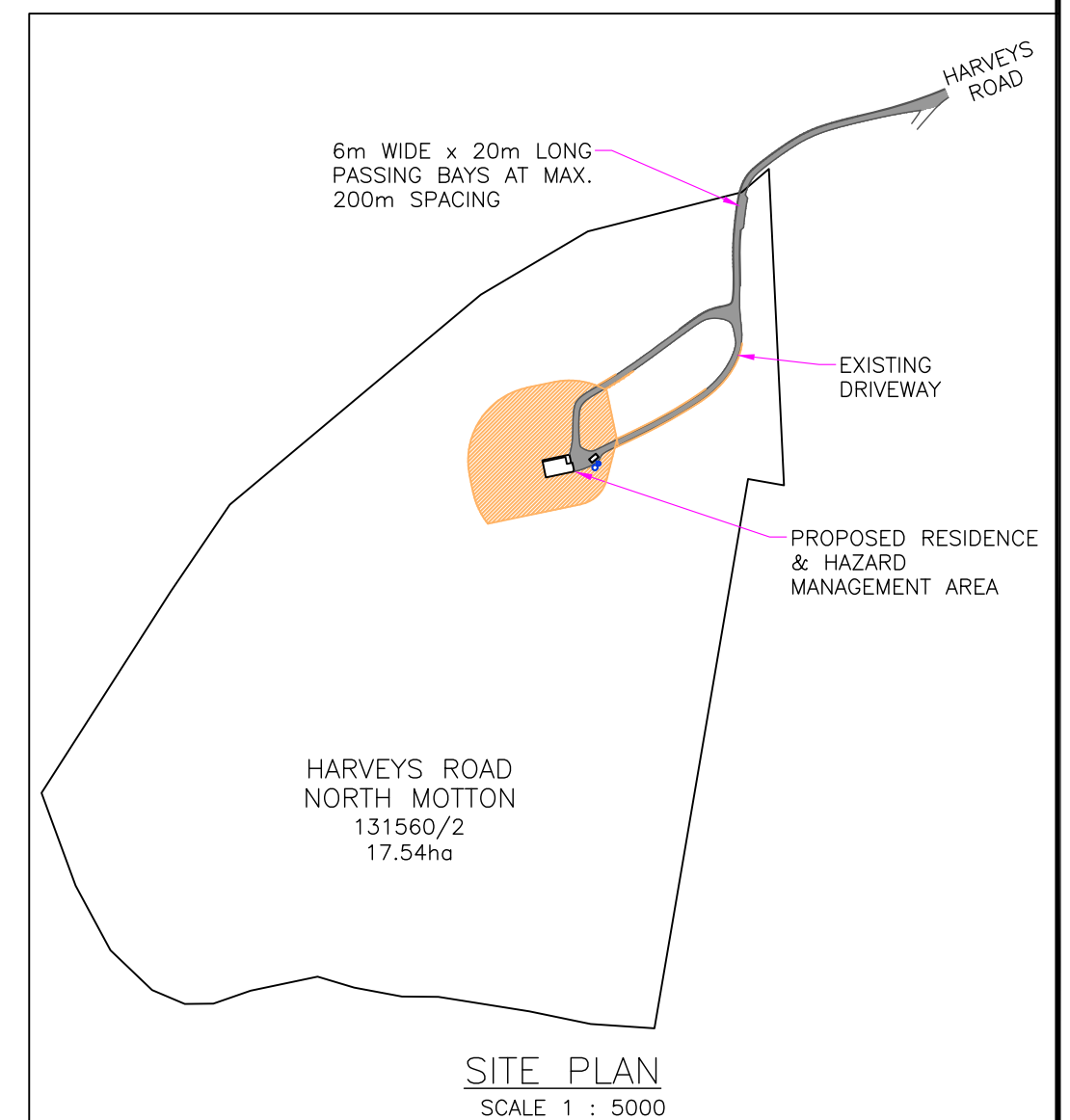
BUSHFIRE HAZARD MANAGEMENT PLAN (REF:24037-B) FOR HARVEYS ROAD NORTH MOTTON, PID:1906437 (C.T. 131560/2) TO BE READ IN CONJUNCTION WITH THE BUSHFIRE HAZARD REPORT FOR THIS PROPERTY

THE BHMP HAS BEEN DESIGNED TO COMPLY WITH DIRECTORS DETERMINATION REQUIREMENTS FOR BUILDING IN BUSHFIRE HAZARD AREAS (v1.1) AS REQUIRED UNDER BUILDING REGULATIONS 2016

CONSTRUCTION MUST BE TO A MINIMUM STANDARD BAL-19 UNDER AS3959-2018. ASSESSED BY JAYNE NEWMAN BFP-158

LEGEND:

-  - HAZARD MANAGEMENT AREA
-  - ALL WEATHER DRIVEWAY SURFACE
-  - FOREST VEGETATION



SITE PLAN  
SCALE 1 : 5000

# 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 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 –

Relevant  
calculations:

Bushfire Hazard Report – Harveys Road, North Motton (Jayne Newman Planning 4 Bushfire, 29 March 2024).

Bushfire Hazard Management Plan – Harveys Road, North Motton – 25 March 2024.

Eclo Designs – Site Plan – Project no 22030 – dated 15.11.2022

References:

Australian Standard 3959-2018 Construction of buildings in bushfire-prone areas

Director's Determination – Bushfire Hazard Areas (v1.1)

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

The bushfire hazard management plan prescribes requirements for construction, access, water supply and hazard management areas. All requirements must be implemented prior to the issuance of an occupancy permit.

The proposed single dwelling must be designed and constructed to a minimum standard of BAL-19, under AS 3959-2018.

Subject to implementation of the bushfire hazard management plan the proposed Class 1a building will comply with the Deemed-to-Satisfy Provisions of the *Director's Determination – Bushfire Hazard Areas*.

*Scope and/or Limitations*

1. The effectiveness of the measures and recommendations made in the abovementioned documentation are dependent on their implementation and maintenance for the life of the subject building.
2. The assessed Bushfire Attack Level is correct at the time of certification. No liability can be accepted for the actions of other parties that compromise the effectiveness of the recommended hazard management area or construction standards.
3. Whilst implementation of the bushfire hazard management plan will enhance the likelihood of the building work surviving a bushfire, no guarantee is made that the building will survive every bushfire event.

**I certify the matters described in this certificate.**

Qualified person:

Signed:



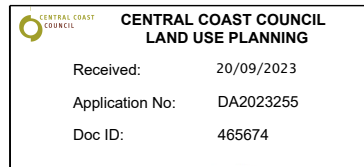
Certificate No:

BFP-158

Date:

29/03/2024





**LANDSLIDE RISK ASSESSMENT,  
SITE CLASSIFICATION & ONSITE  
WASTEWATER ASSESSMENT AND  
DESIGN**

Mr Mark & Mrs Kim Phillips-Haines

Harveys Road, North Motton

GL20322Ab  
28 August 2020

28 August 2020

Reference No. GL20322Ab

Mr Mark & Mrs Kim Phillips-Haines  
1 Walker Street  
Ulverstone TAS 7315

Dear Sir and Madam

**RE: Landslide Risk Assessment, Site Classification & Onsite Wastewater Assessment  
and Design  
Harveys Road, North Motton**

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

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

For and on behalf of Geoton Pty Ltd



**Tony Barrieria**

Director

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## **Limitations of Report**

### **Tables**

Table 1: Summary of Laboratory Test Results

Table 2: Summary of Estimated Pre-existing Landslide Hazard

Table 3: Summary of Consequences for Different Landslide Scenarios

Table 4: Summary of Assessed Landslide Risks to Property (AGS 2007c)

Table 5: Landslide Risk to Life for Person Most at Risk

### **Figures**

Figure 1: Site Plan

Figure WW-02 – Typical Trench Section

Site Photographs

### **Appendices**

Appendix A – Test Pit Logs & Explanation Sheets

Appendix B – Qualitative Terminology for Use in Assessing Risk to Property

Appendix C – Some Guidelines for Hillside Construction

Appendix D - Certificate Forms

## **1 INTRODUCTION**

A limited scope investigation has been conducted for Mr Mark and Mrs Kim Phillips-Haines at the site of a proposed residential development at Harveys Road, North Motton (TR 131560/2).

A review of the Land Information System Tasmania (LIST) website indicates that portions of the site are mapped within medium landslide hazard bands, i.e. areas of doubtful stability. As such, a landslide risk assessment is required to satisfy the ground hazard code requirements for the Interim Planning Scheme.

The investigation has been conducted to provide the following:

- A landslide risk assessment;
- Recommendations and good hillside practices to maintain or possibly lower the landslide risks;
- An assessment of the general subsurface conditions at the site and consequently assign a Site Classification in accordance with AS 2870 – 2011 “Residential Slabs and Footings”;
- A review of the topographical setting and provide a Wind Classification in accordance with AS 4055 – 2012 “Wind Loads for Housing”; and
- The suitability of the site for disposal of domestic wastewater and the design of an on-site wastewater disposal system in accordance with AS/NZS 1547:2012 “On-site domestic wastewater management”.

A basic layout plan showing the location of the proposed dwelling was provided, unreferenced. We understand the proposed dwelling will be a single storey three bedroom dwelling.

## **2 BACKGROUND**

### **2.1 Geology**

The MRT Digital Geological Atlas, 1:25,000 Series, indicates that the site is located on Cambrian Period basalt, with this being generally confirmed by the field data.

### **2.2 Landslide Hazards**

Examination of the LIST Landslide Planning Map – Hazard Bands, indicates that the slopes downslope to the northwest of the proposed development area are mapped within a medium landslide hazard band. The proposed development area (including the wastewater disposal area) is mapped within a low landslide hazard band.

A search of the Mineral Resourced Tasmania (MRT) database revealed that there are no known mapped landslides within the area.

## **3 FIELD INVESTIGATION**

The field investigation was conducted on 24 July 2020 and involved the excavation of 6 test pits with a 4 tonne excavator to depths of 0.4m to 2.2m.

In situ vane shear strength and pocket penetrometer tests were conducted in the clay layers encountered in the investigation, with samples of these soils being obtained for subsequent laboratory testing.

The results of the field and laboratory tests are shown on the test pit logs, whilst the laboratory tests are also summarised in Table 1 within Section 4.3 below.

The logs of the test pits are included in Appendix A with their locations shown in Figure 1 attached.

## **4 SITE CONDITIONS**

### **4.1 Site Description**

The site is an 18.6ha undeveloped lot that is currently predominantly native bush with only minor cleared areas. The proposed development area is located within the top third section of a predominantly northwest facing hill slope with an average slope of 18°.

The proposed dwelling location has been modified by past cut to fill earthworks to create a relatively level building platform (see Plate 1 & Figure 1). Highly weathered rock was identified within the south western portion of the cut platform.

The cut batter above the proposed dwelling is approximately 3m high with a uniform slope of 26°. The cut batter was in a good condition and typically consisted of clayey silt soils overlying extremely weathered material and highly weathered rock.

The fill batter below the proposed dwelling to the north has a slope of approximately 28°. The majority of the proposed dwelling is located in the area of cut (see Figure 1).

The slopes above and below the proposed dwelling are typically subdued smooth convex slopes and do not show any obvious signs of any recent significant landslide activity. Furthermore, scattered in situ rocky outcrops were identified on the surrounding slopes (see Plate 2).

The proposed wastewater disposal field is located to the northeast of the dwelling on a gentle slope of approximately 5° towards the north. The proposed wastewater disposal area currently has a ground surface of shrubs and small trees (see Plate 3).

No springs or seeps were observed in close proximity to the proposed building envelope or the proposed wastewater disposal field. Also, no springs or seeps were observed upslope or downslope of the proposed building envelope.

### **4.2 Subsurface Conditions**

The test pits for the proposed dwelling varied across the site. Test Pit TP1 located within the south western portion of the proposed dwelling location (within the area of cut) encountered highly weathered rock (basalt) to the excavator refusal depth of 0.4m. Test Pit TP2 located within the south eastern portion of the of the proposed dwelling location (within the area of cut) encountered natural clayey silt to depths of 1.0m, overlying extremely weathered material to depths of 1.25m, underlain by highly weathered rock to the refusal depths of 2.2m. Test Pits TP3 and TP4 located within the northern portion of the proposed dwelling location (within the area of fill) encountered uncontrolled fill depths of 0.5m and 0.6m, overlying natural clayey silt



to depths of 1.10m and 1.05m, overlying extremely weathered material to depths of 1.25m and 1.50m, underlain by highly weathered rock to the refusal depths of 1.4m and 1.8m.

The test pits for the proposed wastewater disposal field (Test Pits TP5 and TP6) encountered clayey silt topsoil to depths of 0.15m, overlying residual clayey silt to the investigated depths of 1.5m. A photograph of Test Pit TP5 is provided as Plate 4.

The test pits did not encounter any sign of seepage over the investigated depths.

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

### 4.3 Laboratory Testing

The laboratory test results are summarised in Table 1 below:

**Table 1: Summary of Laboratory Test Results**

Sample Identification	TP3 – 0.7m to 0.9m
Liquid Limit (%)	58
Plastic Limit (%)	33
Plastic Index (%)	25
Linear Shrinkage (%)	14.0
Classification	MH
Soil Category	Clayey Silt

The clayey silt soil sample returned a Liquid Limit of 58%, which indicates that the clayey silt soils possess a moderate to high shrink/swell potential.

Published correlations between Plastic Index and angle of internal friction indicated that the laboratory tested soils would have peak angle of internal friction value of approximately 28° to 33°.

## 5 GEOLOGICAL MODEL

From a review of available reports, geological maps and information collected during the investigation a general geological model of the site has been inferred. Generally, the site comprises basalt-derived residual clayey silt soils, underlain by Cambrian Period basalt.

Groundwater was not encountered in the investigation.

## 6 LANDSLIDE RISK ASSESSMENT

Due to the site being partially mapped within medium landslide hazard bands, a site-specific landslide risk assessment has been carried out.

Based on the geological and geomorphological settings of the site, the following possible landslide scenarios are identified for the site.

- Deep-seated/large-scale landslide occurs on Cambrian Period basalt affecting the proposed development; and
- Shallow/small-scale landslide occurs on Cambrian Period residual basalt soils affecting the proposed development.

The qualitative likelihood, consequence and risk terms used in this report for risk to property are given in Appendix B. The risk terms are defined by a matrix that brings together different combinations of likelihood and consequence. Risk matrices help to communicate the results of risk assessment, rank risks, set priorities and develop transparent approaches to decision making. The notes attached to the tables and terms and the comments on response to risk in Appendix B are intended to help explain the risk assessment and management process.

In light of the findings of this investigation (topography, slope angles, stiff soils, shallow insitu rock and no seepages), the likelihood of small-scale failures occurring on the site affecting a proposed residential development at this site is considered UNLIKELY, whilst a larger scale failure occurring is considered RARE.

Accordingly, the likelihoods estimated for the possible landslide scenarios are summarised in Table 2 as follows.

**Table 2: Summary of Estimated Pre-existing Landslide Hazard**

Possible Landslide Scenarios	Indicative Annual Probability (pa)	Indicative Recurrence Interval (yrs)	Descriptor (AGS 2007c)
Deep-seated/large-scale landslide occurs on Cambrian Period basalt affecting the proposed development	10 <sup>-5</sup>	100,000	Rare
Shallow/small-scale landslide occurs on Cambrian Period residual basalt soils affecting the proposed development	10 <sup>-4</sup>	10,000	Unlikely

## 6.1 Incremental Landslide Hazards

The alterations to the site as a result of the proposed development can generally be classified into two categories:

- Disturbance to the site due to the proposed development; and
- Introduction of additional water into the ground affecting the groundwater regime.

It is considered that the proposed development would not adversely impact on the site and immediate surrounds nor significantly increase the pre-existing landslide hazard, provided that the development adheres to the principles of good hillside practice and the recommendations provided below.

The site will collect rainwater from within the site to be used domestically, and as such, only limited water will be introduced into the ground at the site and excess stormwater discharged appropriately as per our recommendation below.

## 6.2 Landslide Consequences

The proposed development is the element at risk for this assessment.

The landslide consequences for different scenarios are summarised in Table 3 as follows.

**Table 3: Summary of Consequences for Different Landslide Scenarios**

Possible Landslide Scenarios	Assessed Landslide Consequences	Descriptor (AGS 2007c)
Deep-seated/large-scale landslide occurs on Cambrian Period basalt affecting the proposed development	The landslide may significantly displace the footing system of the proposed development causing major damage	Major
Shallow/small-scale landslide occurs on Cambrian Period residual basalt soils affecting the proposed development	The landslide may displace the footing system of the proposed development causing medium damage	Medium

## 6.3 Landslide Risk to Property

Based on the outcomes of the landslide hazard and landslide consequence assessments detailed above. The assessed landslide risks to property are summarised in Table 4 as follows.

**Table 4: Summary of Assessed Landslide Risks to Property (AGS 2007c)**

Possible Landslide Scenarios	Assessed Landslide Hazards	Assessed Landslide Consequences	Qualitative Landslide Risk to Property
Deep-seated/large-scale landslide occurs on Cambrian Period basalt affecting the proposed development	Rare	Major	Low
Shallow/small-scale landslide occurs on Cambrian Period residual basalt soils affecting the proposed development	Unlikely	Medium	Low

The **acceptable** qualitative risk to property criteria suggested by AGS is **LOW**, given that the element at risk is a proposed low-rise residential development located on an existing slope.

## 6.4 Landslide Risk to Life

The person most at risk is considered to be a resident living in the proposed development.



The landslide risk to life for the identified person most at risk is calculated in Table 5 as follows.

**Table 5: Landslide Risk to Life for Person Most at Risk**

Possible Landslide Scenarios	Adopted Annual Landslide Probability, P(H)	Spatial Probability of Landslide Impacting Buildings at Risk, P(S:H)	Temporal Spatial Probability of Person Most at Risk at Buildings at Risk, P(T:S)	Vulnerability of Person Most at Risk, V(D:T)	Risk to Life, R(LoL)
Deep-seated/large-scale landslide occurs on Cambrian Period basalt affecting the proposed development	$10^{-5}$	1.0 (Spatial Probability has been considered in the landslide hazards)	0.67 (16hrs/day)	0.5 (Building suffers major damage, but is unlikely to collapse, may cause injury, but death is unlikely)	$3.4 \times 10^{-6}$
Shallow/small-scale landslide occurs on Cambrian Period residual basalt soils affecting the proposed development	$10^{-4}$			0.05 (Building suffers medium damage, but is highly unlikely to collapse, may cause injury, but death is highly unlikely)	$3.4 \times 10^{-6}$
<b>Total: <math>6.8 \times 10^{-6}</math></b>					

The tolerable risk to life criteria for the person most at risk suggested by AGS is  $10^{-5}$ , given that the development is a new development located on an existing slope. Acceptable risks are usually considered to be one order of magnitude lower than the tolerable risks, which in this case is  $10^{-6}$ .

Therefore, subject to compliance with the recommendations within Section 7 of this report, the corresponding quantitatively risk posed by landslide to life by the proposed development is assessed as TOLERABLE.

## 7 DISCUSSION AND RECOMMENDATIONS

Based on the findings of the investigation and the above landslide risk appraisal, we consider that the proposed development would not adversely impact on the site and immediate surroundings nor significantly increase its current assessed landslide risk, provided the development adheres to the principles of good hillside practice, and the recommendations below. An information sheet entitled “Some Guidelines for Hillside Construction” adapted from the Journal of the Australian Geomechanics Society, Volume 42, Number 1, dated March 2007, is presented in Appendix C.

Therefore, provided the development of the site is in accordance with good hillside practices and the recommendations within our report, we consider that a tolerable level of risk can be achieved for the development of the site in accordance with section E6.6.2 (Development on land exposed to a natural hazard) of the Hazard Management Code of the Interim Planning Scheme 2013.

An Engineering Certificate addressing the Hazard Management Code is provided in Appendix D.

We recommend that:

- The proposed dwelling is to be founded on highly weathered rock or better (see Section 9 below);
- Additional cuts and fills may be battered at slope angles no steeper than 1 vertical to 3 horizontal (1V:3H) or alternatively these should be retained;
- Additional cuts and fills greater than 1.5m in height should be reviewed by a qualified geotechnical engineer;
- All retaining walls greater than 1m in height shall be designed by a suitably qualified structural engineer;
- Adequate subsurface and surface drainage should be provided behind all retaining walls;
- A cut-off drain is required to be installed above the existing cut batter face to limit surface flows discharging over the cut batter face. We consider that the existing track located above the cut batter face can be regraded to act as the cut-off drain;
- Collected stormwater may be disposed to the area downslope and to the northeast of the proposed onsite wastewater disposal area, or alternatively to a natural drainage depression or watercourse, as appropriate; and
- All on-site wastewater is required to be disposed of in the area shown on Figure 1.

## 8 SITE CLASSIFICATION

Because the site is within a potential landslide risk area and has fill to depths greater than 0.4m, the site has been classified as:

### **CLASS P (AS 2870)**

However, if footings are founded through the fill to found uniformly on the highly weathered or better rock, footings may be proportioned to a **CLASS A**.

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

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

## 9 FOUNDATIONS

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

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

**BEDROCK (BASALT) – highly weathered or better**  
**encountered below 0.0m to 1.5m from the existing ground surface**

An allowable bearing pressure of **200kPa** is available for edge beams, strips, pads and bored piers founded as above.

Where the footings are founded on rock and deeper weathered zones are encountered, the clay should be removed and replaced with fine crushed rock or lean-mix concrete to ensure the lightly reinforced footings do not span an appreciable distance between rock outcrops.

The site classification presented assumes that the current natural drainage and infiltration conditions at the site will not be markedly affected by the proposed site development work. Care should therefore be taken to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal soil moisture equilibria do not develop as a result of service trench construction or tree root action.

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

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

## 10 WIND CLASSIFICATION

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

### WIND CLASSIFICATION N3 (AS 4055)

REGION	TERRAIN CATEGORY	SHIELDING	TOPOGRAPHY
A	TC3	NS	T4

## 11 ADDITIONAL WORK

As the site is partially within a medium landslide risk band, Council may require that the plans of the proposed development be reviewed by a qualified geotechnical practitioner to ensure that the proposed plans are in keeping with the general recommendations of the report.

In addition, it may be a requirement of the building permit that Geoton carry out site inspections during the earthworks and foundations excavation; and at the end of construction to provide a final geotechnical certificate.

## 12 EFFLUENT DISPOSAL

The AS/NZS 1547:2012 provides a guide to typical wastewater flow allowances under a range of circumstances. The standard recommends a typical wastewater flow of 120L/person/day for

households on tank water. As the proposed development is to be a dwelling with three bedrooms, a population equivalent of 5 has been adopted. As such, the wastewater daily flow will be **600L/day**.

## 12.1 Permeability of Soil and Soil Category

The soil has been classified as follows:

- Texture – Clayey Silt/Loam (Table E1 from AS1547-2012);
- Structure – Moderately Structured (Table E4 from AS/NZS1547-2012); and
- Category – 4 (Table E1 from AS/NZS1547:2012).

The permeability ( $K_{sat}$ ) at the site was measured at 0.6m/day. For moderately structured Category 4 soils the indicative permeability from AS/NZS1547 Table 5.1 is 0.5-1.5m/day. Therefore, the permeability is within the range for moderately structured Category 4 soils.

- Adopted Permeability – 0.6m/day.

## 12.2 Disposal and Treatment Method

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

The soils within the proposed effluent disposal area are assessed as having sufficient depth and clay content to provide an adequate attenuation period for the breakdown of pathogens within the treated effluent.

## 12.3 Design Loading Rate

The adopted design loading rate for the absorption trenches has been set at 15mm/day as outlined in AS/NZS 1547:2012 Table L1.

## 12.4 Absorption Trench System

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

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

Where L = Length in metres

Q = Design daily flow in L/day

DLR = Design Loading Rate in mm/day

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

As the DLR value has been set at 15mm/day and the design daily flow (Q) has been set at 600L/day, when the parameters are inserted in the above equation the trench dimensions required are as follows:



- Trench length = 40m (**2 x 20m trenches**)
- Trench width = 1.0m
- Trench depth = 0.45m

The trenches are to be installed along the contours and below each other.

The disposal field for the above scenario would need to be a minimum of 24m long and 9m wide, due to the following conditions:

- A 2m buffer is required around the outside of the disposal field; and
- A downslope separation of 3m (minimum) must be left between trenches.

This would give a disposal area of approximately 216m<sup>2</sup>. These dimensions may be modified to suit the client's needs provided that the total length remains and the spacing between and around the trenches are adhered to.

It is noted that AS/NZS 1547:2012 recommends that trench lengths be limited to about 20m, however a longer trench is possible provided the installer can guarantee a level base over the proposed length.

There is adequate reserve area of 216m<sup>2</sup> if required.

**The trenches are to be located in the area shown on the site plan.** A distribution box is to be installed to ensure even distribution of effluent to the two trenches.

The trenches are to be constructed as per the cross sections located on Figure WW-02 attached. Additional design details for the disposal field are as follows:

- A cut-off drain is required to be installed around the system to limit surface run off impacting on the distribution area. We consider the existing driveway can be utilised to act as the cut-off drain.

## 12.5 Setbacks

The minimum separation distance between the disposal area and downslope features is based on Appendix R from AS/NZS 1547:2012 "Recommended Setback Distances for Land Application Systems". As per Table R1 from AS/NZS 1547:2012 a setback of 100m is required from downslope watercourse and sensitive features, a setback of 30m is required from downslope property boundaries and a setback of 3m is required for buildings and property boundaries located cross-slope or up-slope.

## 12.6 Wastewater Recommendations

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

- Minimise domestic water use;
- Minimise the use of non-biodegradable detergents;
- Minimise the use of detergents containing phosphorous (e.g. Calgon or similar);
- Avoid discharging polluting chemicals into wastewater systems; and
- Monitor quality of groundwater.

**References:**

Australian Geomechanics Society (2007) – Practice note guidelines for landslide risk management 2007, Australian Geomechanics Journal, Vol 42, No. 1

AS 1726 - 2017 Geotechnical Site Investigation

AS 2870 - 2011 Residential Slabs and Footings

AS 4055 - 2012 Wind Loads for Housing

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

## **Geotechnical Consultants - Limitations of report**

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

### **Project specific criteria**

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

### **Subsurface variations with time**

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

### **Interpretation of factual data**

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

### **Report Recommendations**

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

### **Specific purposes**

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

### **Interpretation by others**

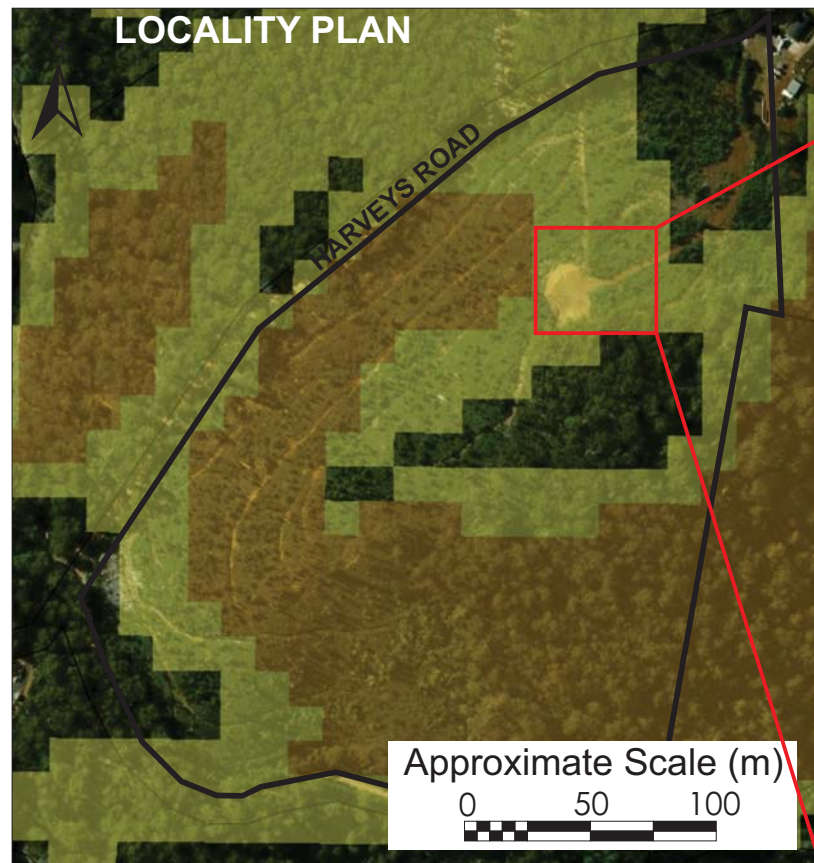
Geoton will not be responsible for interpretations of site data or the report findings by others involved in the design and construction process. Where any confusion exists, clarification should be sought from Geoton.

### **Report integrity**

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

### **Geoenvironmental issues**

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



**Legend**

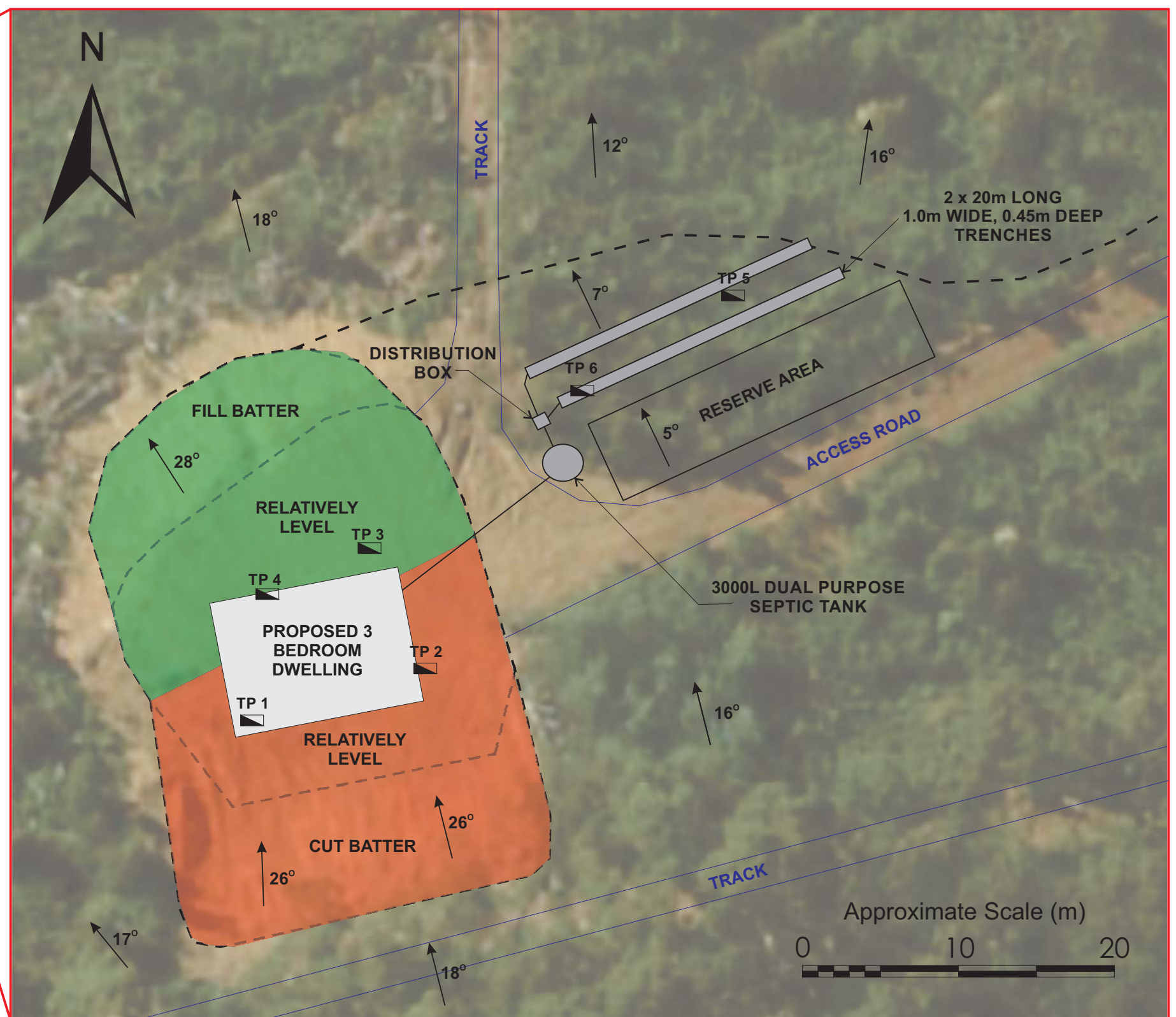
- TP 1 Approximate Test Pit Location
- 5° Approximate Slope Angle
- Approximate Change in Slope
- Medium Landslide Hazard Band
- Low Landslide Hazard Band
- Proposed Dwelling
- Approximate area of fill
- Approximate area of cut

**NOTES**

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

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

ABSORPTION TRENCHES ARE TO BE SET BACK 100m FROM DOWNHILL SENSITIVE FEATURES SUCH AS WATER COURSES, 30m FROM DOWNHILL PROPERTY BOUNDARIES AND 3m UPHILL AND LATERALLY FROM BUILDINGS AND PROPERTY BOUNDARIES

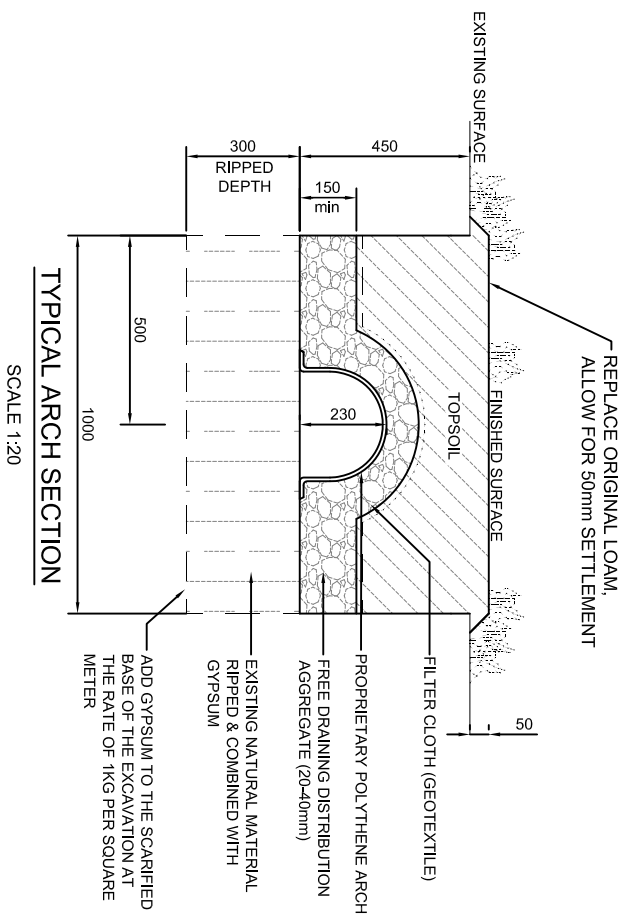


<b>GEOTON</b> Pty Ltd				client: <b>MR MARK PHILLIPS HAINES</b>	
				project: <b>HARVEYS ROAD NORTH MOTTON</b>	
date	<b>28/08/2020</b>	drawn	<b>MS</b>	title: <b>SITE PLAN</b>	
scale	<b>As Shown</b>	approved	<b>TB</b>	project no:	<b>GL20322A</b>
original size	<b>A3</b>	rev		figure no.	<b>1</b>



**NOTES:**

DO NOT COMPACT THE TRENCH AREA OR EXPOSE TO TRAFFIC. THE TRENCH FLOOR SHOULD BE LEVEL, EVENLY RAKED AND HAVE NO LOW SPOTS



TYPICAL ARCH SECTION

SCALE 1:20

**GEOTON PTY LTD**  
**GEOTECHNICAL CONSULTANTS**

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

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FIGURE:	WW-16
DATE:	21/01/20
REVISION:	A
SCALE:	@ A4
DRAWN:	B.STREET
DESIGNED:	T.BARRIERA
APPROVED:	T.BARRIERA

**SCALE**



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**PLATE 1 - Looking southwest at the proposed building envelope and the cut batter above the site**



**PLATE 2 - Looking east at insitu rock outcrops located below the proposed dwelling**

<b>GEOTON</b> Pty Ltd				client: <b>MR MARK PHILLIPS HAINES</b>	
				project: <b>HARVEY ROAD NORTH MOTTON</b>	
title: <b>PHOTOGRAPH</b>					
date: <b>24/07/2020</b>	original size	<b>A4</b>	project no: <b>GL20322A</b>	figure no. <b>PLATES 1 &amp; 2</b>	





**PLATE 3 - Looking northeast at the proposed wastewater disposal field**



**PLATE 4 - Test Pit TP5 (located within the proposed wastewater field)**

<b>GEOTON</b> Pty Ltd				client: <b>MR MARK PHILLIPS HAINES</b>	
				project: <b>HARVEY ROAD NORTH MOTTON</b>	
title: <b>PHOTOGRAPH</b>					
date: <b>24/07/2020</b>	original size: <b>A4</b>	project no: <b>GL20322A</b>	figure no. <b>PLATES 3 &amp; 4</b>		

# Appendix A

## Excavation Logs

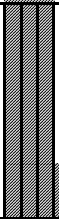


Geotechnical Engineers  
 PO Box 522 Prospect TAS 7250  
 Unit 24, 16-18 Goodman Court, Invermay Tas  
 Tel (03) 6326 5001

Test Pit no. TP1  
 Sheet no. 1 of 1  
 Job no. GL20322A

Client : Mr Mark Phillip Haines Date : 24/7/20  
 Project : Geotechnical Investigation Logged By : MS  
 Location : Harveys Road, North Motton

Excavator: 4 Tonne Bucket: 0.6m Easting: RL Surface :  
 Length: 1.5m Northing: Datum :

Method	Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
E	N				0.25		BEDROCK (Basalt) - Highly Weathered, low strength, fine grained, light brown	D/M	VD	
					0.50		Test Pit TP1 terminated at 0.4m Excavator refusal on moderately weathered rock (basalt)			
					0.75					
					1.00					
					1.25					
					1.50					
					1.75					
					2.00					
					2.25					
					2.50					

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Test Pit no. TP2  
 Sheet no. 1 of 1  
 Job no. GL20322A

Client : Mr Mark Phillip Haines						Date : 24/7/20			
Project : Geotechnical Investigation						Logged By : MS			
Location : Harveys Road, North Motton									
Excavator: 4 Tonne			Bucket: 0.6m		Easting:		RL Surface :		
			Length: 1.5m		Northing:		Datum :		
Method Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
E N	[Hatched Area]			0.25	ML/MH	Clayey SILT - medium/high plasticity, light brown/cream, with gravel (highly weathered basalt)  With a weak rock fabric	M	VSt	V-110kPa
				0.50					
				0.75					
				1.00		EXTREMELY WEATHERED MATERIAL - Clayey SILT soil properties, low plasticity, light brown & black, with sand/gravel, distinct rock fabric	M	D	V-refusal
				1.25					
				1.50		BEDROCK (Basalt) - Highly Weathered, low strength, fine grained, light brown	D/M	VD	pp>400kPa
1.75									
2.00									
2.25		Test Pit TP2 terminated at 2.2m Excavator refusal on moderately weathered rock (basalt)							
2.50									

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Test Pit no. TP3  
 Sheet no. 1 of 1  
 Job no. GL20322A

Client : Mr Mark Phillip Haines							Date : 24/7/20			
Project : Geotechnical Investigation							Logged By : MS			
Location : Harveys Road, North Motton										
Excavator: 4 Tonne			Bucket: 0.6m		Easting:		RL Surface :			
			Length: 1.5m		Northing:		Datum :			
Method Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations	
E Z	[Hatched pattern]	[Vertical line]	D	0.25		FILL - Mixture of Clayey SILT & Silty CLAY medium/high plasticity, brown, yellow and light brown, with a trace of organics	M	F	FILL	
				0.50						
				0.75	ML/MH	Clayey SILT - medium/high plasticity, light orange/cream, with gravel (highly weathered basalt)	M	VSt	NATURAL Liquid Limit = 58% Plastic Limit = 33% Plasticity Index = 25% Linear Shrinkage = 14%	
				1.00						
				1.25		EXTREMELY WEATHERED MATERIAL - Clayey SILT soil properties, low plasticity, light brown & black, with sand/gravel, distinct rock fabric	M	D	V-refusal pp>400kPa	
				1.50						
				1.75		BEDROCK (Basalt) - Highly Weathered, low strength, fine grained, light brown	D/M	VD		
				2.00		Test Pit TP3 terminated at 1.8m Excavator refusal on moderately weathered rock (basalt)				
				2.25						
				2.50						

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Test Pit no. TP4  
 Sheet no. 1 of 1  
 Job no. GL20322A

Client : Mr Mark Phillip Haines							Date : 24/7/20		
Project : Geotechnical Investigation							Logged By : MS		
Location : Harveys Road, North Motton									
Excavator: 4 Tonne			Bucket: 0.6m		Easting:		RL Surface :		
			Length: 1.5m		Northing:		Datum :		
Method Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
E N				0.25		FILL - Mixture of Clayey SILT & Silty CLAY medium/high plasticity, brown, yellow and light brown, with a trace of organics	M	F	FILL
				0.50		Clayey SILT - medium/high plasticity, light orange, with gravel (highly weathered basalt)	M	VSt	NATURAL
				0.75					
				1.00		Weak rock fabric			
				1.25		EXTREMELY WEATHERED MATERIAL - Clayey SILT soil properties, low plasticity, light brown & black, with sand/gravel, distinct rock fabric	M	D	
		BEDROCK (Basalt) - Highly Weathered, low strength, fine grained, light brown	D/M	VD					
				1.50		Test Pit TP4 terminated at 1.4m Excavator refusal on moderately weathered rock (basalt)			
				1.75					
				2.00					
				2.25					
				2.50					



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Test Pit no. TP5  
 Sheet no. 1 of 1  
 Job no. GL20322A

Client : Mr Mark Phillip Haines						Date : 24/7/20			
Project : Geotechnical Investigation						Logged By : MS			
Location : Harveys Road, North Motton									
Excavator: 4 Tonne			Bucket: 0.6m		Easting:		RL Surface :		
			Length: 1.5m		Northing:		Datum :		
Method Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
					ML	TOPSOIL - Clayey SILT, low plasticity, brown, trace organic matter	M	F	
				0.25	ML/MH	Clayey SILT - medium/high plasticity, red/brown	M	St	
				0.50					
				0.75					
				1.00					
				1.25					
				1.50					
						Test Pit TP5 terminated at 1.5m			
				1.75					
				2.00					
				2.25					
				2.50					

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Test Pit no. TP6  
 Sheet no. 1 of 1  
 Job no. GL20322A

Client : Mr Mark Phillip Haines							Date : 24/7/20		
Project : Geotechnical Investigation							Logged By : MS		
Location : Harveys Road, North Motton									
Excavator: 4 Tonne			Bucket: 0.6m		Easting:		RL Surface :		
			Length: 1.5m		Northing:		Datum :		
Method Support	Penetration	Water	Notes Samples Tests	Depth (m)	Graphic log Classification Symbol	Material Description	Moisture condition	Consistency density, index	Structure, additional observations
E N					ML	TOPSOIL - Clayey SILT, low plasticity, brown, trace organic matter	M	F	
				0.25	ML/MH	Clayey SILT - medium/high plasticity, red/brown, trace cobbles	M	St	
				0.50					
				0.75					
				1.00					
				1.25					
				1.50					
				1.75					
				2.00					
				2.25					
2.50									
Test Pit TP6 terminated at 1.5m									

## Investigation Log Explanation Sheet

### Method – Borehole

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

\* Bit shown by suffix e.g. ADT

### Method – Excavation

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




### Support

TERM	Description
M	Mud
N	Nil
C	Casing
S	Shoring

### Penetration

1	2	3	4	
				No resistance ranging to refusal

### Water

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

### Notes, samples, tests

TERM	Description
U <sub>50</sub>	Undisturbed sample 50 mm diameter
U <sub>63</sub>	Undisturbed sample 63 mm diameter
D	Disturbed sample
N	Standard Penetration Test (SPT)
N*	SPT – sample recovered
N <sub>c</sub>	SPT with solid cone
V	Vane Shear
PP	Pocket Penetrometer
P	Pressumeter
B <sub>s</sub>	Bulk sample
E	Environmental Sample
R	Refusal
DCP	Dynamic Cone Penetrometer (blows/100mm)

### Classification symbols and soil description

Based on unified classification system

### Moisture

TERM	Description
D	Dry
M	Moist
W	Wet
W <sub>P</sub>	Plastic Limit
W <sub>L</sub>	Liquid Limit

### Consistency/Density index

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

## Soil Description Explanation Sheet(1of 2)

### DEFINITION:

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

### CLASSIFICATION SYMBOL & SOIL NAME

Soils are described in accordance with the Unified Classification System (UCS) as shown in the table on Sheet 2.

### PARTICLE SIZE DESCRIPTIVE TERMS

NAME	SUBDIVISION	SIZE
Boulders		>200 mm
Cobbles		63 mm to 200 mm
Gravel	coarse	20 mm to 63 mm
	medium	6 mm to 20 mm
	fine	2.36 mm to 6 mm
Sand	coarse	600 µm to 2.36 mm
	medium	200 µm to 600 µm
	Fine	75 µm to 200 µm

### MOISTURE CONDITION

**Dry** Looks and feels dry. Cohesive and cemented soils are hard, friable or powdery. Uncemented granular soils run freely through hands.

**Moist** Soil feels cool and darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.

**Wet** As for moist but with free water forming on hands when handled.

### CONSISTENCY OF COHESIVE SOILS

TERM	UNDRAINED STRENGTH $s_u$ (kPa)	FIELD GUIDE
Very Soft	<12	A finger can be pushed well into the soil with little effort.
Soft	12 - 25	A finger can be pushed into the soil to about 25mm depth.
Firm	25 - 50	The soil can be indented about 5mm with the thumb, but not penetrated.
Stiff	50 - 100	The surface of the soil can be indented with the thumb, but not penetrated.
Very Stiff	100 - 200	The surface of the soil can be marked, but not indented with thumb pressure.
Hard	>200	The surface of the soil can be marked only with the thumbnail.
Friable	-	Crumbles or powders when scraped by thumbnail.

### DENSITY OF GRANULAR SOILS

TERM	DENSITY INDEX (%)
Very loose	Less than 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	Greater than 85

### MINOR COMPONENTS

TERM	ASSESSMENT GUIDE	PROPORTION OF MINOR COMPONENT IN:
Trace of	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary component.	Coarse grained soils: <5%
		Fine grained soils: <15%
With some	Presence easily detected by feel or eye, soil properties little different to general properties of primary component.	Coarse grained soils: 5 - 12%
		Fine grained soils: 15 - 30%

### SOIL STRUCTURE

ZONING		CEMENTING	
Layers	Continuous across exposure or sample.	Weakly cemented	Easily broken up by hand in air or water.
Lenses	Discontinuous layers of lenticular shape.	Moderately cemented	Effort is required to break up the soil by hand in air or water.
Pockets	Irregular inclusions of different material.		

### GEOLOGICAL ORIGIN

#### WEATHERED IN PLACE SOILS

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

#### TRANSPORTED SOILS

Aeolian soil	Deposited by wind.
Alluvial soil	Deposited by streams and rivers.
Colluvial soil	Deposited on slopes (transported downslope by gravity).
Fill	Man made deposit. Fill may be significantly more variable between tested locations than naturally occurring soils
Lacustrine soil	Deposited by lakes.
Marine soil	Deposited in ocean basins, bays, beaches and estuaries.



## Soil Description Explanation Sheet (2 of 2)

### SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 60 mm and basing fractions on estimated mass)				USC	PRIMARY NAME	
COARSE GRAINED SOILS More than 50% of materials less than 63 mm is larger than 0.075 mm	GRAVELS More than half of coarse fraction is larger than 2.0 mm	CLEAN GRAVELS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes.	GW	GRAVEL	
			Predominantly one size or a range of sizes with more intermediate sizes missing.	GP	GRAVEL	
		GRAVELS WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below)	GM	SILTY GRAVEL	
			Plastic fines (for identification procedures see CL below)	GC	CLAYEY GRAVEL	
	SANDS More than half of coarse fraction is smaller than 2.0 mm	CLEAN SANDS (Little or no fines)	Wide range in grain sizes and substantial amounts of all intermediate sizes missing	SW	SAND	
			Predominantly one size or a range of sizes with some intermediate sizes missing.	SP	SAND	
		SANDS WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below).	SM	SILTY SAND	
			Plastic fines (for identification procedures see CL below).	SC	CLAYEY SAND	
FINE GRAINED SOILS More than 50% of Material less than 63 mm is smaller than 0.075 mm	IDENTIFICATION PROCEDURES ON FRACTIONS <0.2 mm.					
	SILTS & CLAYS Liquid limit less than 50	<b>DRY STRENGTH</b>	<b>DILATANCY</b>	<b>TOUGHNESS</b>		
		None to Low	Quick to slow	None	ML	SILT
		Medium to High	None	Medium	CL	CLAY
	SILTS & CLAYS Liquid limit greater than 50	Low to medium	Slow to very slow	Low	OL	ORGANIC SILT
		Low to medium	Slow to very slow	Low to medium	MH	SILT
		High	None	High	CH	CLAY
		Medium to High	None	Low to medium	OH	ORGANIC CLAY
	HIGHLY ORGANIC SOILS	Readily identified by colour, odour, spongy feel and frequently by fibrous texture.			Pt	PEAT

• Low plasticity – Liquid Limit WL less than 35%. • Medium plasticity – WL between 35% and 50%.

### COMMON DEFECTS IN SOIL

TERM	DEFINITION	DIAGRAM
PARTING	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (eg bedding). May be open or closed.	
JOINT	A surface or crack across which the soil has little or no tensile strength but which is not parallel or sub parallel to layering. May be open or closed. The term 'fissure' may be used for irregular joints <0.2 m in length.	
SHEARED ZONE	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting joints which divide the mass into lenticular or wedge shaped blocks.	
SHEARED SURFACE	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect.	

TERM	DEFINITION	DIAGRAM
SOFTENED ZONE	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere.	
TUBE	Tubular cavity. May occur singly or as one of a large number of separate or inter-connected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter	
TUBE CAST	Roughly cylindrical elongated body of soil different from the soil mass in which it occurs. In some cases the soil which makes up the tube cast is cemented.	
INFILLED SEAM	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open joints.	

## Rock Description Explanation Sheet (1 of 2)

The descriptive terms used by Geoton are given below. They are broadly consistent with Australian Standard AS1726-1993.						
<b>DEFINITIONS:</b>	Rock substance, defect mass are defined as follows:					
<b>Rock Substance</b>	In engineering terms rock substance is any naturally occurring aggregate of minerals and organic material which cannot be disintegrated or remoulded by hand in air or water. Other material is described using soil descriptive terms. Effectively homogenous material, may be isotropic or anisotropic.					
<b>Defect</b>	Discontinuity or break in the continuity of a substance or substances.					
<b>Mass</b>	Any body of material which is not effectively homogeneous. It can consist of two or more substances without defects, or one or more substances with one or more defects.					
<b>SUBSTANCE DESCRIPTIVE TERMS:</b>			<b>ROCK SUBSTANCE STRENGTH TERMS</b>			
<b>ROCK NAME</b>	Simple rock names are used rather than precise geological classification		<b>Term</b>	<b>Abbreviation</b>	<b>Point Load Index, Is50 (MPa)</b>	<b>Field Guide</b>
<b>PARTICLE SIZE</b>	Grain size terms for sandstone are:		<b>Very Low</b>	<b>VL</b>	Less than 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with a knife; pieces up to 30mm thick can be broken by finger pressure.
Coarse grained	Mainly 0.6mm to 2mm					
Medium grained	Mainly 0.2mm to 0.6mm					
Fine grained	Mainly 0.06mm(just visible) to 0.2mm					
<b>FABRIC</b>	Terms for layering of penetrative fabric (eg, bedding, cleavage etc.) are:		<b>Low</b>	<b>L</b>	0.1 to 0.3	10 Easily scored with a knife; indentations 1mm to 3mm show with firm bows of a pick point; has a dull sound under hammer. Pieces of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Massive	No layering or penetrative fabric					
Indistinct	Layering or fabric just visible. Little effect on properties					
Distinct	Layering or fabric is easily visible. Rock breaks more easily parallel to layering of fabric					
<b>CLASSIFICATION OF WEATHERING PRODUCTS</b>						
<b>Term</b>	<b>Abbreviation</b>	<b>Definition</b>	<b>Medium</b>	<b>M</b>	0.3 to 1.0	Readily scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
<b>Residual Soil</b>	<b>RS</b>	Soil derived from the weathering of rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.				
<b>Extremely Weathered Material</b>	<b>XW</b>	Material is weathered to such an extent that it has soil properties, ie, it either disintegrates or can be remoulded in water. Original rock fabric still visible.	<b>High</b>	<b>H</b>	1 to 3	A piece of core 150mm long by 50mm can not be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
<b>Highly Weathered Rock</b>	<b>HW</b>	Rock strength is changed by weathering. The whole of the rock substance is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Some minerals are decomposed to clay minerals. Porosity may be increased by leaching or may be decreased due to the deposition of minerals in pores.	<b>Very High</b>	<b>VH</b>	3 to 10	
<b>Moderately Weathered Rock</b>	<b>MW</b>	The whole of the rock substance is discoloured, usually by iron staining or bleaching, to the extent that the colour of the fresh rock is no longer recognisable.	<b>Extremely High</b>	<b>EH</b>	More than 10	Specimen requires many blows with geological pick to break; rock rings under hammer.
<b>Slightly Weathered Rock</b>	<b>SW</b>	Rock substance affected by weathering to the extent that partial staining or partial discolouration of the rock substance (usually by limonite) has taken place. The colour and texture of the fresh rock is recognisable; strength properties are essentially those of the fresh rock substance.				
<b>Fresh Rock</b>	<b>FR</b>	Rock substance unaffected by weathering				
<b>Notes on Weathering:</b>						
1. AS1726 suggests the term "Distinctly Weathered" (DW) to cover the range of substance weathering conditions between XW and SW. For projects where it is not practical to delineate between HW and MW or it is judged that there is no advantage in making such a distinction. DW may be used with the definition given in AS1726.						
2. Where physical and chemical changes were caused by hot gasses and liquids associated with igneous rocks, the term "altered" may be substituted for "weathering" to give the abbreviations XA, HA, MA, SA and DA.						
<b>Notes on Rock Substance Strength:</b>						
1. In anisotropic rocks the field guide to strength applies to the strength perpendicular to the anisotropy. High strength anisotropic rocks may break readily parallel to the planar anisotropy.						
2. The term "extremely low" is not used as a rock substance strength term. While the term is used in AS1726-1993, the field guide therein makes it clear that materials in that strength range are soils in engineering terms.						
3. The unconfined compressive strength for isotropic rocks (and anisotropic rocks which fall across the planar anisotropy) is typically 10 to 25 times the point load index (Is50). The ratio may vary for different rock types. Lower strength rocks often have lower ratios than higher strength rocks.						

## Rock Description Explanation Sheet (2 of 2)

COMMON DEFECTS IN ROCK MASSES		Diagram	Map Symbol	Graphic Log (Note 1)	DEFECT SHAPE	TERMS
<b>Term</b>	<b>Definition</b>					
<b>Parting</b>	A surface or crack across which the rock has little or no tensile strength. Parallel or sub parallel to layering (eg bedding) or a planar anisotropy in the rock substance (eg cleavage). May be open or closed.				<b>Planar</b>	The defect does not vary in orientation.
<b>Joint</b>	A surface or crack across which the rock has little or no tensile strength, but which is not parallel to layering or planar anisotropy in the rock substance. May be open or closed.				<b>Curved</b> <b>Undulating</b> <b>Stepped</b> <b>Irregular</b>	The defect has a gradual change in orientation. The defect has a wavy surface. The defect has one or more well defined steps. The defect has many sharp changes of orientation.
<b>Sheared Zone (Note 3)</b>	Zone of rock substance with roughly parallel near planar, curved or undulating boundaries cut by closely spaced joints, sheared surfaces or other defects. Some of the defects are usually curved and intersect to divide the mass into lenticular or wedge shaped blocks.				<b>Note:</b>	The assessment of defect shape is partly influenced by the scale of the observation.
<b>Sheared Surface (Note 3)</b>	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.				<b>ROUGHNESS TERMS</b>	
<b>Crushed Seam (Note 3)</b>	Seam with roughly parallel almost planar boundaries, composed of disoriented, usually angular fragments of the host rock substance which may be more weathered than the host rock. The seam has soil properties.				<b>Slickensided</b> <b>Polished</b> <b>Smooth</b> <b>Rough</b> <b>Very Rough</b>	Grooved or striated surface, usually polished. Shiny smooth surface. Smooth to touch. Few or no surface irregularities. Many small surface irregularities (amplitude generally less than 1mm). Feels like fine to coarse sand paper. Many large surface irregularities (amplitude generally more than 1mm). Feels like, or coarser than very coarse sand paper.
<b>Infilled Seam</b>	Seam of soil substance usually with distinct roughly parallel boundaries formed by the migration of the soil into an open cavity or joint, infilled seams less than 1mm thick may be described as a veneer coating on the joint surface.				<b>COATING TERMS</b>	
<b>Extremely Weathered Seam</b>	Seam of soil substance, often with gradational boundaries. Formed by weathering of the rock substance in place.				<b>Clean</b> <b>Stained</b> <b>Veneer</b> <b>Coating</b>	No visible coating. No visible coating but surfaces are discoloured. A visible coating of soil or mineral, too thin to measure; may be patchy. A visible coating up to 1mm thick. Thicker soil material is usually described using appropriate defect terms (eg, infilled seam). Thicker rock strength material is usually described as a vein.
<b>Notes on Defects:</b>					<b>BLOCK SHAPE TERMS</b>	
1. Usually borehole logs show the true dip of defects and face sketches and sections the apparent dip.					<b>Blocky</b>	Approximately equidimensional.
2. Partings and joints are not usually shown on the graphic log unless considered significant.					<b>Tabular</b>	Thickness much less than length or width.
3. Sheared zones, sheared surfaces and crushed seams are faults in geological terms.					<b>Columnar</b>	Height much greater than cross section.

# Appendix B

**Qualitative Terminology for Use in Assessing Risk to Property**



## QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY

### QUALITATIVE MEASURES OF LIKELIHOOD

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10 <sup>-1</sup>	5x10 <sup>-2</sup>	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10 <sup>-2</sup>		100 years		The event will probably occur under adverse conditions over the design life.	LIKELY	B
10 <sup>-3</sup>	5x10 <sup>-3</sup>	1000 years	200 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10 <sup>-4</sup>	5x10 <sup>-4</sup>	10,000 years	2000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10 <sup>-5</sup>	5x10 <sup>-5</sup>	100,000 years	20,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10 <sup>-6</sup>	5x10 <sup>-6</sup>	1,000,000 years	200,000 years	The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

**Note:** (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

### QUALITATIVE MEASURES OF CONSEQUENCES TO PROPERTY

Approximate Cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%		Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	40%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	10%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%	1%	Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

- Notes:**
- (2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.
  - (3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilization works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.
  - (4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not *vice versa*

## QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY (CONTINUED)

### QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
<b>A – ALMOST CERTAIN</b>	10 <sup>-1</sup>	VH	VH	VH	H	M or L (5)
<b>B - LIKELY</b>	10 <sup>-2</sup>	VH	VH	H	M	L
<b>C - POSSIBLE</b>	10 <sup>-3</sup>	VH	H	M	M	VL
<b>D - UNLIKELY</b>	10 <sup>-4</sup>	H	M	L	L	VL
<b>E - RARE</b>	10 <sup>-5</sup>	M	L	L	VL	VL
<b>F - BARELY CREDIBLE</b>	10 <sup>-6</sup>	L	VL	VL	VL	VL

- Notes:**
- (5) For Cell A5, may be subdivided such that a consequence of less than 0.1% is Low Risk.
  - (6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

### RISK LEVEL IMPLICATIONS

Risk Level		Example Implications (7)
<b>VH</b>	<b>VERY HIGH RISK</b>	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
<b>H</b>	<b>HIGH RISK</b>	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
<b>M</b>	<b>MODERATE RISK</b>	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
<b>L</b>	<b>LOW RISK</b>	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
<b>VL</b>	<b>VERY LOW RISK</b>	Acceptable. Manage by normal slope maintenance procedures.

- Note:**
- (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide

# Appendix C

## **Some Guidelines for Hillside Construction**

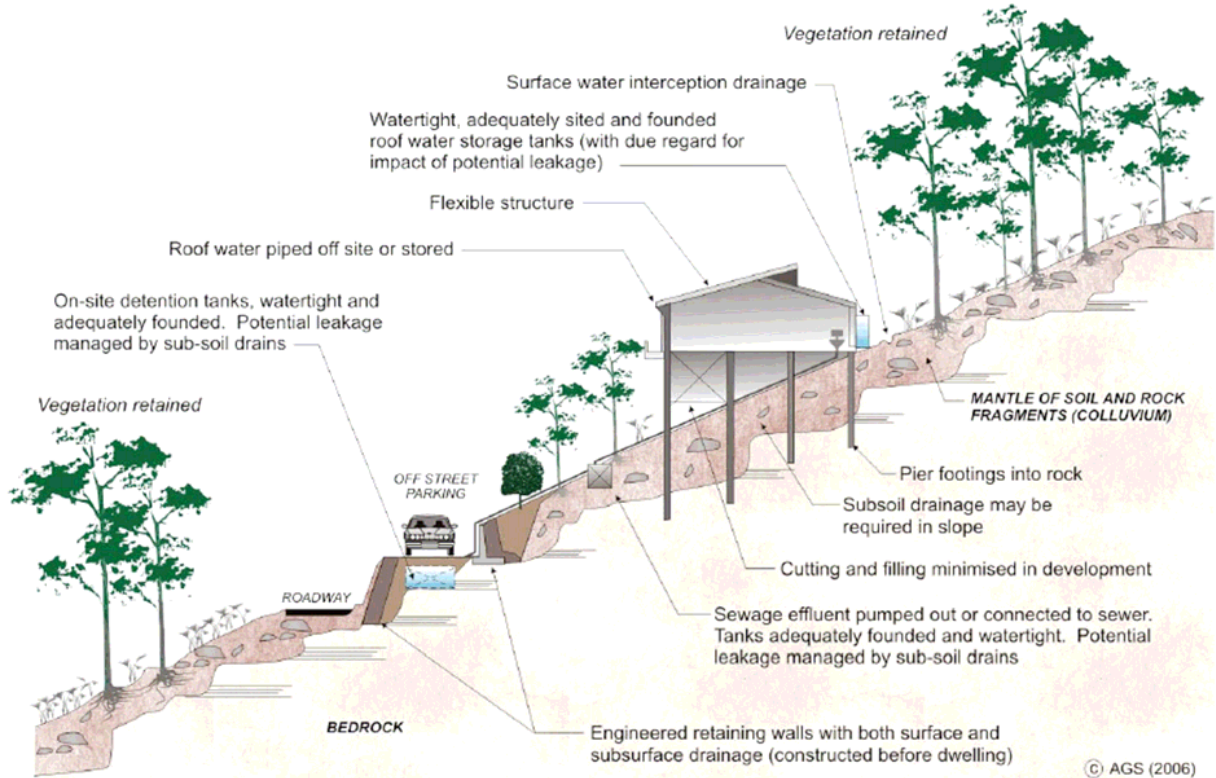
# PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

## APPENDIX - SOME GUIDELINES FOR HILLSIDE CONSTRUCTION

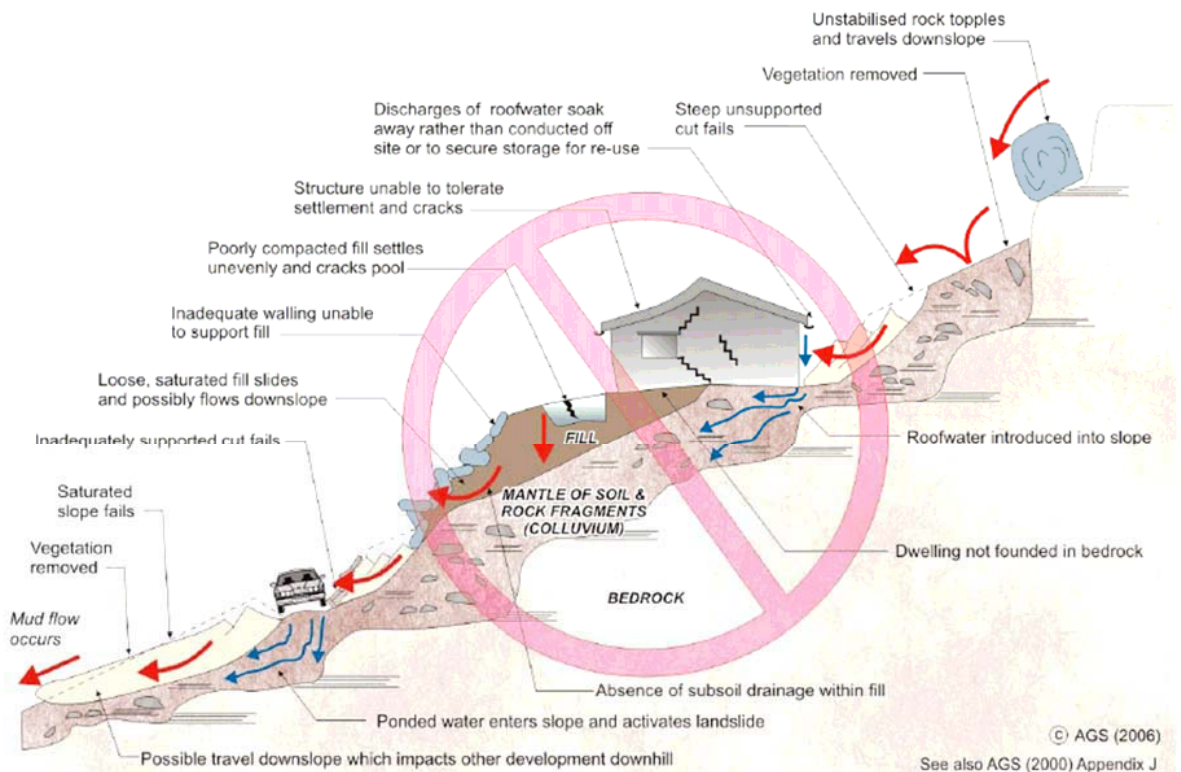
	<b>GOOD ENGINEERING PRACTICE</b>	<b>POOR ENGINEERING PRACTICE</b>
<b>ADVICE</b>		
GEOTECHNICAL ASSESSMENT	Obtain advice from a qualified, experienced geotechnical practitioner at early stage of planning and before site works.	Prepare detailed plan and start site works before geotechnical advice.
<b>PLANNING</b>		
SITE PLANNING	Having obtained geotechnical advice, plan the development with the risk arising from the identified hazards and consequences in mind.	Plan development without regard for the Risk.
<b>DESIGN AND CONSTRUCTION</b>		
HOUSE DESIGN	Use flexible structures which incorporate properly designed brickwork, timber or steel frames, timber or panel cladding. Consider use of split levels. Use decks for recreational areas where appropriate.	Floor plans which require extensive cutting and filling. Movement intolerant structures.
SITE CLEARING	Retain natural vegetation wherever practicable.	Indiscriminately clear the site.
EARTHWORKS	Retain natural contours wherever possible.	Indiscriminatory bulk earthworks.
CUTS	Minimise depth. Support with engineered retaining walls or batter to appropriate slope. Provide drainage measures and erosion control.	Large scale cuts and benching. Unsupported cuts. Ignore drainage requirements
FILLS	Minimise height. Strip vegetation and topsoil and key into natural slopes prior to filling. Use clean fill materials and compact to engineering standards. Batter to appropriate slope or support with engineered retaining wall. Provide surface drainage and appropriate subsurface drainage.	Loose or poorly compacted fill, which if it fails, may flow a considerable distance including onto property below. Block natural drainage lines. Fill over existing vegetation and topsoil. Include stumps, trees, vegetation, topsoil, boulders, building rubble etc in fill.
ROCK OUTCROPS & BOULDERS	Remove or stabilise boulders which may have unacceptable risk. Support rock faces where necessary.	Disturb or undercut detached blocks or boulders.
RETAINING WALLS	Found on rock where practicable. Provide subsurface drainage within wall backfill and surface drainage on slope above. Construct wall as soon as possible after cut/fill operation.	Construct a structurally inadequate wall such as sandstone flagging, brick or unreinforced blockwork. Lack of subsurface drains and weepholes.
FOOTINGS	Found within rock where practicable. Use rows of piers or strip footings oriented up and down slope. Design for lateral creep pressures if necessary. Backfill footing excavations to exclude ingress of surface water.	Found on topsoil, loose fill, detached boulders or undercut cliffs.
SWIMMING POOLS	Engineer designed. Support on piers to rock where practicable. Provide with under-drainage and gravity drain outlet where practicable. Design for high soil pressures which may develop on uphill side whilst there may be little or no lateral support on downhill side.	
DRAINAGE	Provide at tops of cut and fill slopes. Discharge to street drainage or natural water courses. Provide general falls to prevent blockage by siltation and incorporate silt traps. Line to minimise infiltration and make flexible where possible. Special structures to dissipate energy at changes of slope and/or direction.	Discharge at top of fills and cuts. Allow water to pond on bench areas.
SURFACE		
SUBSURFACE	Provide filter around subsurface drain. Provide drain behind retaining walls. Use flexible pipelines with access for maintenance. Prevent inflow of surface water.	Discharge roof runoff into absorption trenches.
SEPTIC & SULLAGE	Usually requires pump-out or mains sewer systems; absorption trenches may be possible in some areas if risk is acceptable. Storage tanks should be water-tight and adequately founded.	Discharge sullage directly onto and into slopes. Use absorption trenches without consideration of landslide risk.
EROSION CONTROL & LANDSCAPING	Control erosion as this may lead to instability. Revegetate cleared area.	Failure to observe earthworks and drainage recommendations when landscaping.
<b>DRAWINGS AND SITE VISITS DURING CONSTRUCTION</b>		
DRAWINGS	Building Application drawings should be viewed by geotechnical consultant	
SITE VISITS	Site Visits by consultant may be appropriate during construction/	
<b>INSPECTION AND MAINTENANCE BY OWNER</b>		
OWNER'S RESPONSIBILITY	Clean drainage systems; repair broken joints in drains and leaks in supply pipes. Where structural distress is evident see advice. If seepage observed, determine causes or seek advice on consequences.	



## EXAMPLES OF **GOOD** HILLSIDE PRACTICE



## EXAMPLES OF **POOR** HILLSIDE PRACTICE



# Appendix D

## **Certificate Forms**

## Engineering Certificate

To:  Owner /Agent

Address

Suburb/postcode

### Certifier details:

From:

Address:

Phone No:

Fax No:

Accreditation No:

Email address:

*(if applicable)*

Or qualifications  
and Insurance  
details:

*(description from Column 4 of the Director  
of Building Control's determination)*

Speciality area of  
expertise:

*(description from Column 5 of the Director  
of Building Control's determination)*

### Details of work:

Address:

Lot No:

Certificate of title No:

The work  
related to this  
certificate:

*(description of the work or part work being  
certified)*

### Certificate details:

Certificate type:

*(description from Column 2 of the Director  
of Building Control's determination)*

In issuing this certificate the following matters are relevant –

Documents:

Relevant  
calculations:

References:

*Substance of Certificate:*

Findings and recommendations of report (Report Reference No. GL20322Ab).

From the Interim Planning Scheme 2013 the site is partially mapped within a Medium landslide hazard band. As such, a landslide risk assessment is required to determine if the level of risk from exposure to the landslide hazard is to be tolerable for the type, form, scale and duration of the development.

The landslide risk assessment was conducted in accordance with Australian Geomechanics Society (AGS) – Practice Note Guidelines for Landslide Risk Management, 2007. Our report concluded that the qualitative landslide risk for the site is at worst a LOW risk provided the development of the site is in accordance with the recommendations within our report. In our experience, regulating authorities allow developments to proceed with VERY LOW to LOW risk.

Therefore, provided the development of the site is in accordance with the recommendations within our report, then we consider that a tolerable level of risk can be achieved for the development of the site in accordance with section E6.6.2 (Development on land exposed to a natural hazard) of the Hazard Management Code of the Interim Planning Scheme 2013. That is, the level of likely risk from exposure to the natural hazard (landslide) is considered to be tolerable for the proposed residential development.

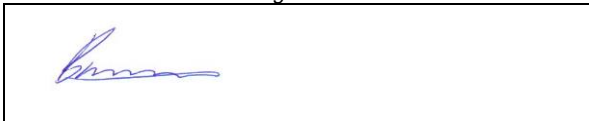
*Scope or Limitations*

The report provides a qualitative landslide risk assessment which identifies the landslide risks at the site and provides recommendations to maintain, improve and possibly reduce the risk of landslides so as not cause or contribute to the risk of landslides on the site and lands in the locality.

The site is within an area of inherent doubtful slope stability and landslides are a natural ongoing geological process. There will be always some level of landslide risk within an area of inherent doubtful slope stability. The recommendations of the report are provided to maintain, improve and possibly reduce the risk of landslides on the site and lands in the locality.

The recommendations for the design of the proposed works are in accordance with prevailing geological conditions described in the report for the site, assessed landslide risks and recommended good hillside practices.

**I certify the matters described in this certificate.**

	<i>Signed:</i>	<i>Date:</i>	<i>Certificate No.</i>
Certifier:		28/08/2020	GL20322Ab

# 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 item, at any stage, as part of - (tick one)

building work, plumbing work or plumbing installation or demolition work:

or

a building, temporary structure or plumbing installation:



In issuing this certificate the following matters are relevant –

Documents:

Geoton Pty Ltd, Report Reference No. GL20322Ab,  
dated 28/08/2020

Relevant  
calculations:

Refer to report

References:

AS 2870 – 2011 Residential Slabs and Footings Construction  
AS 4055 – 2012 Wind Loads for Housing  
CSIRO Building Technical File 18

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

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

*Scope and/or Limitations*

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

**I certify the matters described in this certificate.**

Qualified person:

*Signed:*



*Certificate No:*

GL20322Ab

*Date:*

28/08/2020

## LOADING CERTIFICATE

To:	<b>Mr Mark &amp; Mrs Kim Phillips-Haines</b>	Owner /Agent	Certificate Ref: AS/NZS 1547:2012 Section 7.4.2
	<b>1 Walker Street</b>	Address	
	<b>Ulverstone Tas</b>	Suburb/postcode	
			<b>7315</b>

### Details of work:

Address:	<b>Harveys Road</b>	Lot No:	<b>2</b>
	<b>North Motton Tas</b>	Certificate of title No:	<b>131560/2</b>
	<b>7315</b>		
The work related to this certificate:	<b>On-site domestic-wastewater management</b>	<i>(description of the work or part work being certified)</i>	

### Certificate details:

In issuing this certificate the following matters are relevant –

Documents:	Report GL20322Ab dated 28/08/2020 Figure 1 - Site Plan Figure WW-02 - Absorption Trench Section
Relevant calculations:	Contained in the above
References:	AS/NZS1547:2012 On-site domestic-wastewater management

### Substance of Certificate:

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

#### **Wastewater Characteristics**

<i>Population equivalent used for this assessment</i>	= 5 (3 Bedrooms)
<i>Wastewater volume (L/day) used for this assessment</i>	= 600 (120 Litres per person)
<i>Approximate blackwater volume (L/day)</i>	= 250
<i>Approximate greywater volume (L/day)</i>	= 350

#### **Soil Characteristics/Design Criteria**

<i>Texture (Table E4 from AS/NZS 1547)</i>	= Clay Loam
<i>Soil category (Table E1 from AS/NZS 1547)</i>	= 4
<i>Soil structure (Table E4 from AS/NZS 1547)</i>	= Moderately Structured
<i>Indicative permeability (Table 5.1 from AS/NZS 1547)</i>	= 0.5m/day – 1.5m/day
<i>Adopted permeability</i>	= 0.6m/day
<i>Adopted Design Loading Rate</i>	= 15mm/day
<i>Soil thickness for disposal</i>	= >1.5m
<i>Minimum depth (m) to water</i>	= >1.5m

### **Dimensions for On-Site Treatment System**

<i>Disposal and treatment methods</i>	= Septic tank minimum capacity 3000L
<i>Site modification and specific design</i>	= N/A
<i>Trench Length</i>	= 40m (2 x 20m trenches)
<i>Trench Width</i>	= 1.0m
<i>Trench Depth</i>	= 0.45m
<i>Primary disposal area required</i>	= 216m <sup>2</sup>
<i>Reserve disposal area required</i>	= 216m <sup>2</sup>
<i>Location and use of Reserve area</i>	= Reserve area located to the north of the proposed wastewater disposal area.
<i>Is there sufficient area available on site for disposal (including reserve)</i>	= Yes

### **Notes**

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

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

### **Allowable Variation from Design Flow**

Based on a septic tank capacity of 3000L and wastewater design volume of 600L/day the allowable variation from design flow (peak loading events) would be an additional 400L/day (Total flow of 1000L/day as per table J1 of AS/NZS 1547:2012).

### **System Limitations**

*Consequences of overloading the system:*

Overloading the system can result in failure of the septic tank and land application system. This is a serious health and environmental hazard and can lead to any one or more of the following: Spread of infectious disease; Breeding of mosquitoes and attraction of flies and rodents; Nuisance and unpleasantness; Pollution of waterways; Contamination of bores, wells and groundwater; and alteration to local ecology.

*Consequences of under loading the system:*

Under loading the system may result in the bacteria to stop working and system failure.

### **Operation Requirements**

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

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

- Reduce sludge building up through scraping all dishes to remove fats/grease; don't use a food waste disposal unit; and don't put sanitary napkins into the system.
- To keep bacteria working in the septic tank use biodegradable soaps; use a low phosphorous detergent; don't use powerful bleaches and disinfectants; and don't put chemicals or paint down the drain.
- Conservation of water will reduce the volume of effluent requiring disposal to the land application area, make it last longer and improve its performance.

### **Maintenance Requirements**

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


Maintenance of the system should include the following:

- Septic tanks must be inspected at least annually and pumped out regularly once

the scum and sludge occupy two thirds of the tank volume. Typically a septic tank must be pumped out at least every 3 to 5 years or more frequently depending on usage.

- Grease traps must be inspected at least quarterly and cleaned out regularly.
- Deep rooting trees or shrubs should not be grown over absorption trenches or pipes.
- Surface water diversion drains should be maintained upslope of and around the land application area and kept clean to reduce seepage of rainwater into the trenches.
- Maintain disposal area by maintaining plants and mowing grass to ensure that plants/grasses take up nutrients with maximum efficiency.
- Check disposal area for blockages such as wet spots and uneven grass colour.

**I certify the matters described in this certificate.**

	<i>Signed:</i>	<i>Date:</i>	<i>Certificate No.</i>
Certifier:		28/08/2020	GL20322Ab

# 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:  
**All design documents provided in Report GL20322Ab, dated 28/08/2020**

## Design documents provided:



The following documents are provided with this Certificate –

*Document description:*

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

<b>Standards, codes or guidelines relied on in design process:</b>	
All design documents are contained within report AS/NZS1547:2012 On-site domestic-wastewater management	

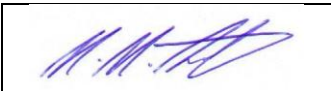
<b>Any other relevant documentation:</b>	

<b>Attribution as designer:</b>	
---------------------------------	--

I Matthew Street of Geoton Pty Ltd am responsible for the design of that part of the work as described in this certificate;

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

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

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	Matthew Street		28/08/2020
Licence No:	CC6221N		

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

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: [www.taswater.com.au](http://www.taswater.com.au)

	<i>Name: (print)</i>	<i>Signed</i>	<i>Date</i>
Designer:	Matthew Street		28/08/2020