

NOTICE OF PROPOSED DEVELOPMENT

Notice is hereby given that an application has been made for planning approval for the following development:

SITE: 77 Quarry Road, Forcett

PROPOSED DEVELOPMENT:

DWELLING

The relevant plans and documents can be inspected at the Council Offices at 47 Cole Street, Sorell during normal office hours, or the plans may be viewed on Council's website at www.sorell.tas.gov.au until Monday 5th May 2025.

Any person may make representation in relation to the proposal by letter or electronic mail (<u>sorell.council@sorell.tas.gov.au</u>) addressed to the General Manager. Representations must be received no later than **Monday 5th May 2025**.

APPLICANT: Rainbow Building Solutions

APPLICATION NO: DA 2025 / 71 1 DATE: 11 April 2025

Part B: Please note that Part B of this form is publicly exhibited.

Full description of Proposal:	Use:				
	Development:				
	Large or complex proposals s	hould be	e described	in a letter or planning report.	
Design and construction cost of proposal: \$					
Is all or some the work already constructed:			No: □ Yes: □		
Is all, or some the work already constructed: No: ☐ Yes: ☐			тсз. ш		
Location of proposed works:	Street address:				
Current Use of Site					
Current Owner/s:	Name(s)				
Is the Property of Register?	on the Tasmanian Heritage	No: □	Yes: □	If yes, please provide written advice from Heritage Tasmania	
Is the proposal than one stage?	o be carried out in more	No: □	Yes: □	If yes, please clearly describe in plans	
Have any potentially contaminating uses been undertaken on the site?		No: □	Yes: □	If yes, please complete the Additional Information for Non-Residential Use	
Is any vegetation proposed to be removed?		No: □	Yes: □	If yes, please ensure plans clearly show area to be impacted	V
Does the proposal involve land administered or owned by either the Crown or Council?		No: □	Yes: □	If yes, please complete the Council or Crown land section on page 3	
If a new or upgraded vehicular crossing is required from Council to the front boundary please complete the Vehicular Crossing (and Associated Works) application form https://www.sorell.tas.gov.au/services/engineering/					
				Sorell Council Development Application: 5.2025.71.1 - Development Application - 77 Quarry Road, Forcett.pdf Plans Reference: P1 Date Received: 19/03/2025	

Page **2** of **4**

Declarations and acknowledgements

- I/we confirm that the application does not contradict any easement, covenant or restriction specified in the Certificate of Title, Schedule of Easements or Part 5 Agreement for the land.
- I/we consent to Council employees or consultants entering the site and have arranged permission and/or access for Council's representatives to enter the land at any time during normal business hours.
- I/we authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation and have permission of the copyright owner for such copies.
- I/we declare that, in accordance with s52(1) of the Land Use Planning and Approvals Act 1993, that I have notified the owner(s) of the intention to make this application.
- I/we declare that the information in this application is true and correct.

Details of how the Council manages personal information and how you can request access or corrections to it is outlined in Council's Privacy Policy available on the Council website.

- I/we acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process, for display purposes during public exhibition, and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.
- Where the General Manager's consent is also required under s.14 of the *Urban Drainage Act 2013*, by making this application I/we also apply for that consent.

Applicant Signature:	Signature: Date:

Crown or General Manager Land Owner Consent

If the land that is the subject of this application is owned or administered by either the Crown or Sorell Council, the consent of the relevant Minister or the Council General Manager whichever is applicable, must be included here. This consent should be completed and signed by either the General Manager, the Minister, or a delegate (as specified in s52 (1D-1G) of the *Land Use Planning and Approvals Act 1993*).

Please note:

- If General Manager consent if required, please first complete the General Manager consent application form available on our website www.sorell.tas.gov.au
- If the application involves Crown land you will also need a letter of consent.
- Any consent is for the purposes of making this application only and is not consent to undertaken work or take any other action with respect to the proposed use or development.

1		being responsible for the	
administration of land at		Sorell Council	
declare that I have given permission for the making of this application for		Development Application: 5.2025.71.1 - Development Application - 77 Quarry Road, Forcett.pdf Plans Reference: P1 Date Received: 19/03/2025	
Signature of General Manager, Minister or Delegate:	Signature:	Date:	



GEOTECH 25-040

ROCK SOLID GEOTECHNICS PTY LTD

8/4/2025

Rainbow Building Solutions

Josh@rainbowbuilding.com.au

Peter Hofto 163 Orielton Road ORIELTON TAS 7172 0417 960 769

peter@rocksolidgeotechnics.com.au

RE: SITE ASSESSMENT - Dispersive Soils - 77 Quarry Road, Forcett

It is proposed to construct a new residence at 77 Quarry Road, Forcett (Figure 1).

The property is subject to the Dispersive Soils Code (SOR-S1.7.1 Development on dispersive soils – *Sorell Council - Statewide Planning Scheme*).

Dispersive Soils Code: Objective;

- That buildings and works with the potential to disturb dispersive soil are appropriately located or managed:
 - a) To minimise the potential to cause erosion; and
 - b) To reduce risk to property and the environment to an acceptable level.
- Performance Criteria P1 Buildings and works must be designed, sited and constructed to minimise the risks associated with dispersive soil to property and the environment, having regard to:
 - the dispersive potential of soils in the vicinity of proposed buildings, driveways, services and the development area generally;
 - (b) the potential of the development to affect or be affected by erosion, including gully and tunnel erosion;
 - (c) the dispersive potential of soils in the vicinity of water drainage lines, infiltration areas / trenches, water storages, ponds, dams and disposal areas;
 - (d) the level or risk and potential consequence for the property and the environment from potential erosion, including gully and tunnel erosion;
 - (e) management measures that would reduce risk to an acceptable level.
 - (f) The advice contained in a dispersive soil management plan.

SITE ASSESSMENT

A site visit was completed on Monday 7 April, 2025. This included the augering of two test holes to recover samples for dispersive soils analysis (4WD mounted SAMPLA25 mechanical auger with 100mm solid flight augers). The locations of the holes are marked on Figure 1.

The proposed residence will be sited on the central, northern portion of the block. A shed has already been constructed, along with a formed and surfaced driveway, and onsite wastewater system. The site for the proposed residence slopes at approximately 5-6 degrees to the south. A dam exists on the central, southern portion of the site. The dam has been in place for a significant period and shows no signs of erosion or instability. There is no evidence of any erosion on or around the site.

The profiles encountered in the Test Holes consisted of;

0.00 - 0.20m	SAND: fine grained, greyish brown, rootlets - TOPSOIL
0.20 - 0.60m	SAND: fine grained, grey, dry
0.60 – 1.65m	sandy CLAY: medium plasticity, dark olive brown, 30-35& fine to medium grained sand, trace silt, slightly moist
1.65m+	Holes terminated at required depths – 1.65m

Plate 1 - Test Hole #1 - looking to the northwest.



Plate 2 - Test Hole #2 - looking to the south.



Samples were obtained from the two test holes at various depths to assess the site for dispersive soils.

The Department of Primary Industries and Water publication *Dispersive Soils and their Management: Technical Reference Manual (2009)* specifies sampling and analysis techniques for the determination and classification of dispersive soils.

The samples were taken from the site and tested for dispersiveness in accordance with the Department of Primary Industries and Water publication *Dispersive Soils and their Management: Technical Reference Manual (2009)*.

- The samples were air-dried.
- All samples were placed in jars containing distilled water.
- Samples were left without disturbance for 1 hour.
- Samples were observed and compared with Figure 4 (Field test for aggregate dispersion Dispersive Soils and their Management: Technical Reference Manual (2009).

From Figure 4, all clay samples were classified as slightly dispersive.

DISCUSSION OF RESULTS

The risk of erosion developing due to development on this site is not significant.

The site is underlain by non-dispersive clay topsoils over slightly dispersive clay subsoils.

Although the (slightly) dispersive subsoils that exist over the site can be vulnerable to erosion when exposed, or when water is permitted to concentrate, the proposed development will not leave the clay subsoils exposed. However, erosion could develop if stormwater overflow is not adequately controlled.

The Department of Primary Industries and Water publication *Dispersive Soils and their Management: Technical Reference Manual (2009)* 4.0 (Appendix 1) – "Approaches for minimising erosion risk in dispersive soils" suggests measures to reduce the risk of erosion:

- Identifying and avoiding disturbance to areas with dispersive subsoils.
- Minimising excavation of dispersive soils.
- Not allowing water to pond on the soil surface, or exposed subsoils.
- Keeping sodic sub-soils buried under topsoil.
- Maintaining vegetation cover (where possible).

Specific to this site the following measures are suggested to reduce the risk of erosion during construction and development works:

- Where possible do not unnecessarily remove or disturb topsoil.
- When construction has been completed ensure that dispersive subsoils are covered with an adequate layer of topsoil, or geotextile fabric, and revegetated where possible.
- Ensure that drains excavated in (or through) dispersive soils are revegetated.
- Ensure that stormwater overflow is adequately controlled in engineer designed trenches.

Performance Criteria P1 – Buildings and works must be designed, sited and constructed to minimise the risks associated with dispersive soil to property and the environment, having regard to:

- (a) the dispersive potential of soils in the vicinity of proposed buildings, driveways, services and the development area generally;
 - Clay subsoils (at depth) are slightly dispersive over the site.
- (b) the potential of the development to affect or be affected by erosion, including gully and tunnel erosion; Low potential for this project to initiate gully or tunnel erosion. The dispersive horizons are under a protective, non-dispersive sand horizon. Despite this, management of the site should be considerate of The Department of Primary Industries and Water publication *Dispersive Soils and their Management: Technical Reference Manual* (2009) 4.0 (Appendix 1) – "Approaches for minimising erosion risk in dispersive soils"

(c) the dispersive potential of soils in the vicinity of water drainage lines, infiltration areas / trenches, water storages, ponds, dams and disposal areas;

A dam exists on the central, southern portion of the site. The dam has been in place for a significant period and shows no signs of erosion or instability. Typical residential development of the block will require stormwater disposal via trenches. Adequately sized rainwater tanks should reduce the volume of stormwater (SW) runoff. SW trenches to be designed by a suitable qualified engineer. Onsite wastewater disposal is installed, and consists of shallow subsurface irrigation of secondary treated effluent from Aerated Wastewater Treatment Systems (AWTS) directly into the topsoil above the dispersive clays. This is considered low risk.

(d) the level or risk and potential consequence for the property and the environment from potential erosion, including gully and tunnel erosion;

Low risk if management practices adhere to the recommendations outlined above in the Department of Primary Industries and Water publication *Dispersive Soils and their Management*.

(e) management measures that would reduce risk to an acceptable level.See above.

(f) The advice contained in a dispersive soil management plan. See above.

CONCLUSIONS

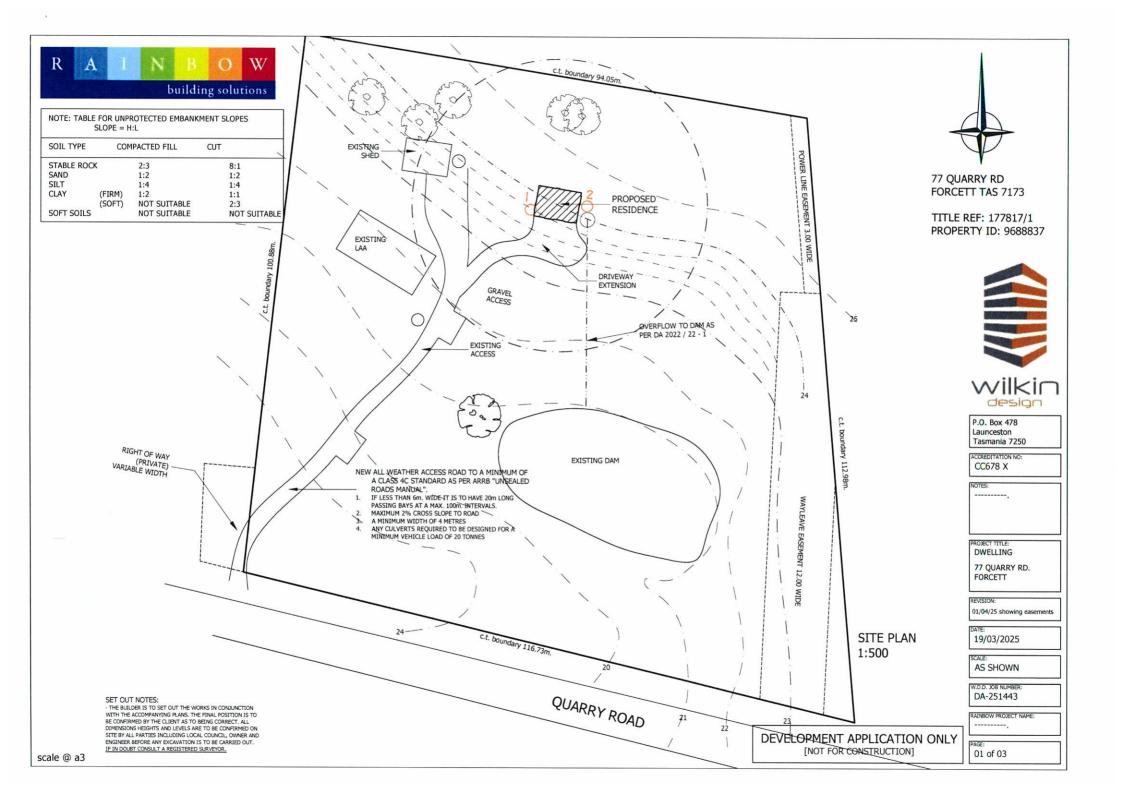
Slightly dispersive clay subsoils are present at depth over the property at 77 Quarry Road, Forcett.

It is unlikely that erosion will occur because of the proposed development.

It is the opinion of the author that sensible development of this site can be achieved and the level of risk to users of the development is minimal and acceptable.

PETER HOFTO

Rock Solid Geotechnics P/L



DISPERSIVE SOILS and their MANAGEMENT Guidelines for Landholders, Planners and Engineers

I.0 WHY MANAGEMENT OF DISPERSIVE SOILS IS IMPORTANT

In recent years, urban expansion has occurred in areas with dispersive soils. Disturbance of dispersive soils has resulted in tunnel erosion, damage to infrastructure, and environmental harm. Greater awareness of the difficulties posed by development on dispersive soils is required to prevent future damage. Tunnel erosion results in the formation of underground cavities that can collapse causing gully erosion and damage to infrastructure such as optical fibre cables. septic systems, roads, culverts and dwellings. Unlike other forms of erosion, tunnel erosion involves both chemical and physical processes associated with the dispersion of sodic clays. Given the difficulty of repairing tunnel erosion, management effort is focused on prevention of tunnel formation through increased understanding and awareness of the issues associated with construction and development on dispersive soils.



Figure 1.Tunnel and gully erosion resulting from construction of a stormwater culvert in dispersive clay.

2.0 WHERE DO DISPERSIVE SOILS

Dispersive soils and tunnel erosion occur in all municipalities in southern Tasmania, as well as parts of the Northern Midlands, Tamar Valley and Break O'Day municipalities. Dispersive soils are generally associated with soils derived from Triassic sandstone, or Permian mudstone. The location and extent of dispersive soils has not been specifically mapped in Tasmania, although broad scale land systems mapping indicates that approximately 103,000 ha of private freehold land in Tasmania contains a tunnel erosion hazard.

Tunnel erosion mostly occurs on;

- » Dispersive, or sodic soils.
- » Soils derived from Triassic sandstone and Permian mudstone.
- » Deep sedimentary soils.
- » North and northeast facing slopes.
- » Drainage lines.
- » Areas in which vegetation, soils or hydrology have been disturbed.
- » Areas with less than 700 mm annual rainfall.



3.0 IDENTIFICATION OF DISPERSIVE SOILS

- » Dispersive soils can be identified by dribble patterns and pitting (Figure 2).
- » Early stages of tunnel erosion can be identified by the development of 'spew holes' and fans of dispersed material ejected from tunnels (Figure 3).
- » Simple field tests can be used to identify the presence of dispersive soils.
- » For engineering works or infrastructure development, a combination of analytical and physical tests may be required to predict dispersive behaviour in soils.



Figure 2 (a). Example of dribble pattern on an exposed subsoil, the photograph was taken from within an actively eroding tunnel system. (b) Dribble patterns on sodic soil ped.



Figure 3. Sediment fans or 'spew holes' are often the first obvious sign of tunnel erosion

SIMPLE TEST FOR IDENTIFYING DISPERSIVE SOILS.

Field testing for dispersive soils can be conducted by observing the behaviour of air dried soil aggregates in distilled water or rainwater.

- 1) Collect soil aggregates (1-2 cm diameter) from each layer in the soil profile.
- 2) If moist, dry the aggregates in the sun for a few hours until approximately air dried.
- 3) Place the aggregates in a shallow glass jar or dish of distilled water or rainwater (not tap water). It may help to place the jar on black card or a dark surface. (Distilled water can be purchased at most supermarkets).
- 4) Leave the aggregates in water without shaking or disturbing them for I hour.
- 5) Observe and record if you can see a milky ring around the aggregates. Don't worry if the soil collapses or bubbles (figure 4).

Caution: Aggregates may not disperse when they should if they haven't been sufficiently dried. Importantly, while the presence of a milky halo indicates the presence of dispersion, the absence of a milky halo does not necessarily mean that soil will not disperse, especially after disturbance. Further testing using an approved Australian Standard technique may be required.

Non-Dispersive

Slightly Dispersive









Water remains clear though particles may crumble. Boundary of crumbs clearly defined. Discolouration surrounding particles or distinct cloudiness surrounding some.Boundary of crumbs vaguely defined.

Dispersive

Highly Dispersive









Discolouration and cloudiness surround most or all particles. Boundary of crumbs not able to be defined.

Discolouration and cloudiness throughout extending vertically throughout most or all water.

Figure 4. Field test for aggregate dispersion (Sorensen 1995).

4.0 ACTIVITIES THAT INCREASE THE RISK OF INITIATING TUNNEL PROSION

5.0 STRATEGIES TO REDUCE RISK
ASSOCIATED WITH
DISTURBANCE OF DISPERSIVE
SOILS

In almost all cases tunnel erosion results from some form of disturbance which allows rainwater to come into direct contact with dispersive subsoils. Activities that increase the risk of exposing dispersive subsoils to rainfall include;

- » Removal of topsoil.
- » Subsoil excavations (cut and fill).
- » Supply of services by trenches.
- » Construction of roads and culverts in dispersive soils
- » Sewage and grey water disposal systems in dispersive soils
- » Dam construction from dispersive clays.

Changes to hydrology, such as concentration of flow in culverts, runoff from hardened areas and ponding of rainfall may also increase the likelihood of tunnel erosion.



Figure 5. Piping failure or tunnel erosion in a dam constructed from soils derived from Permian mudstone. This dam is known to have failed on first filling. The image was taken from the dam floor.

In order to prevent or repair tunnel erosion it is important to understand that unlike other forms of erosion, tunnel erosion results from chemical processes associated with dispersion of sodic subsoils. The risk of initiating tunnel erosion during construction or development of land containing dispersive soils can be minimised by;

- » Identifying and avoiding disturbance to areas with dispersive subsoils.
- » Minimising excavation of dispersive soils.
- » Not allowing water to pond on the soil surface, or exposed subsoils.
- » Keeping dispersive soils buried under topsoil.
- » Maintaining vegetation cover.
- » Use of gypsum or hydrated lime at appropriate rates.



Figure 6 (a). Tunnel erosion resulting from construction of a culvert in dispersive clay (b). Tunnel erosion caused by installation of optical fibre cable in dispersive soil.

RECOMMENDATIONS FOR REDUCING THE RISK OF TUNNEL EROSION IN PERI-URBAN AREAS

- » Where possible do not remove or disturb topsoil or vegetation.
- » Ensure that dispersive subsoils are covered with an adequate layer of topsoil.
- » Avoid construction techniques that result in exposure of dispersive subsoils.
- » Do not allow rainwater to pond or sit on exposed dispersive subsoils.
- » Use alternatives to 'cut and fill' construction such as pier and post foundations.
- Where possible avoid the use of trenches for the supply of services i.e., water & power.
- » If trenches must be used, ensure that repacked spoil is properly compacted, treated with gypsum and topsoiled.
- » Consider alternative trenching techniques that do not expose dispersive subsoils.
- » Ensure runoff from hard areas is not discharged into areas with exposed dispersive soils.
- » If necessary create safe areas for discharge of runoff.
- » If possible do not excavate culverts and drains in dispersive soils.
- » Ensure that culverts and drains excavated into dispersive subsoils are capped with non-dispersive soil / spoil mixed with gypsum and vegetated.
- » Avoid use of septic trench waste disposal systems. Consult your local council about the use of above ground treatment systems.
- Where possible do not construct dams from dispersive soils, or in areas containing dispersive soils.
- » If dams are to be constructed from dispersive clays, ensure you consult an experienced, qualified civil engineer or soil specialist before commencing construction.

With all forms of construction on dispersive soils, ensure you obtain advice and support from a suitably experienced and qualified soil professional or civil engineer before commencing work.

6.0 FURTHER INFORMATION

Comprehensive information on the management of dispersive soils in Tasmania is available in the companion document 'Dispersive Soils and Their Management: Technical Reference Manual'. Hardie 2008, DPIW, Tasmania

Dispersive soils - high risk of tunnel erosion. Fact Sheet 2. Soil and water management on construction sites series, Department of Tourism, Arts and the Environment (DTAE).

Seek advice from your local council, the Department of Primary Industries and Water (DPIW), a suitably qualified and experienced soil specialist, or a civil engineer.

CONTACT DETAILS

Sustainable Land Use
Department of Primary Industries and Water
GPO Box 44, HOBART TAS 7001
Ph. 03 6233 6212 Fax. 03 6223 8603
Web. www.dpiw.tas.gov.au



CERTIFICATE OF QUALIFIED PERSON - ASSESSABLE ITEM

To:	Rainbow Building Solutions		Owner /Agent	55 Form
	Josh@rainbowbuilding.com.au		Address	
Qualified person deta	ils:			
Qualified person:	Peter Hofto – Rock Solid Geotechnics Pty Ltd			
Address:	163 Orielton Road		Phone No:	0417960769
	Orielton 717	72	Fax No:	
Licence No:	Email address:	peter@)rocksolidgeotech	nics.com.au
Qualifications and Insurance details:	BSc (Hons) – Geology / Geophysics PI Insurance – Lloyds Underwriting PL Insurance – CGU Insurance Ltd	Direct	ription from Colun tor of Building Col mination)	
Speciality area of expertise:	Geotechnical Assessment	Direc	cription from Colur tor of Building Co rmination)	
Details of work:				
Address:	77 Quarry Road, Forcett] .	_ot No:
			Certificate of ti	itle No:
The assessable item related to this certificate:	Dispersive Soils Assessment		(description of the being certified) Assessable iter	the assessable item m 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 of Building Control's Determination)	
This certificate is in relation to the above assessable item, at any stage, as part of - building work, plumbing work or plumbing installation or demolition work:			
In issuing this certifica	te the following matters are relevant –		
Documents:			
Relevant calculations:			
References:	AS2870		
I certify the matters of	described in this certificate.		
Qualified person:	Signed:	Certificate No: Date: GEOTECH 8/4/2025 25-040	



CHECK CAREFULLY ALL ASPECTS OF THESE DOCUMENTS BEFORE COMMENCING ASSESSMENT.

ANY ERRORS OR ANOMALIES TO BE REPORTED TO THE DRAWER BEFORE ASSESSMENT IS CONTINUED

CONFIRM ALL SIZES AND HEIGHTS ON SITE

DO NOT SCALE OFF PLAN

THESE DOCUMENTS ARE INTENDED FOR COUNCIL PLANNING APPLICATION ONLY, THEY ARE NOT TO BE USED FOR ANY OTHER PURPOSES.

THIS DESIGN IS COVERED UNDER COPYRIGHT AND ANY CHANGES MUST BE CONFIRMED BY "WILKIN DESIGN & DRAFTING" THE DRAWER RETAINS ALL "INTELLECTUAL PROPERTY"

PROPOSED DWELLING FOR S. VAN NIEUWENHUIJSEN and S. ADAMSON AT 77 QUARRY RD FORCETT TAS 7173



Development Application: 5.2025.71.1 Reposne to Request For Information - 77
Quarry Road, Forcett - P2.pdf
Plans Reference: P2
Date received: 8/04/2025



P.O. Box 478 Launceston Tasmania 7250

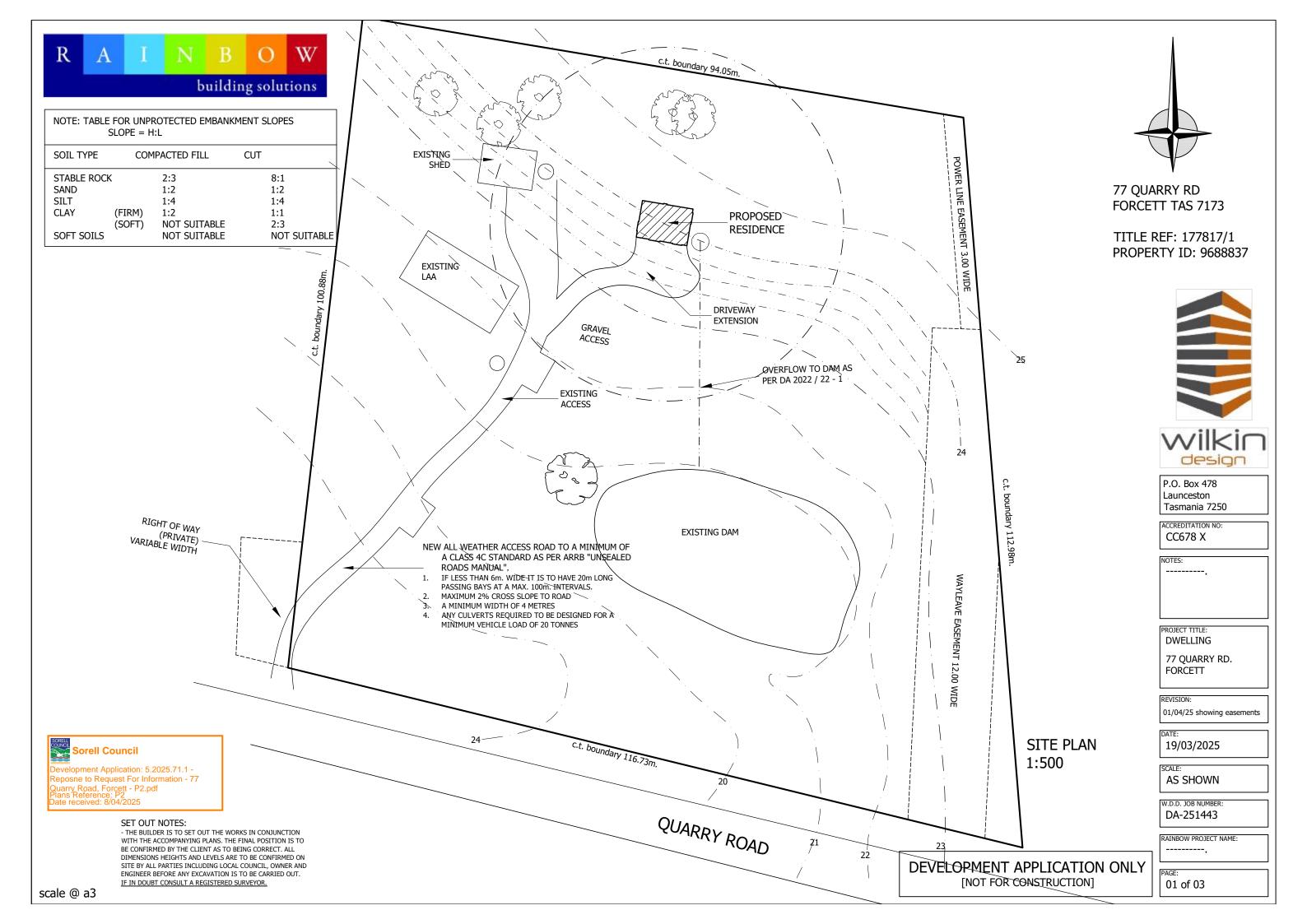
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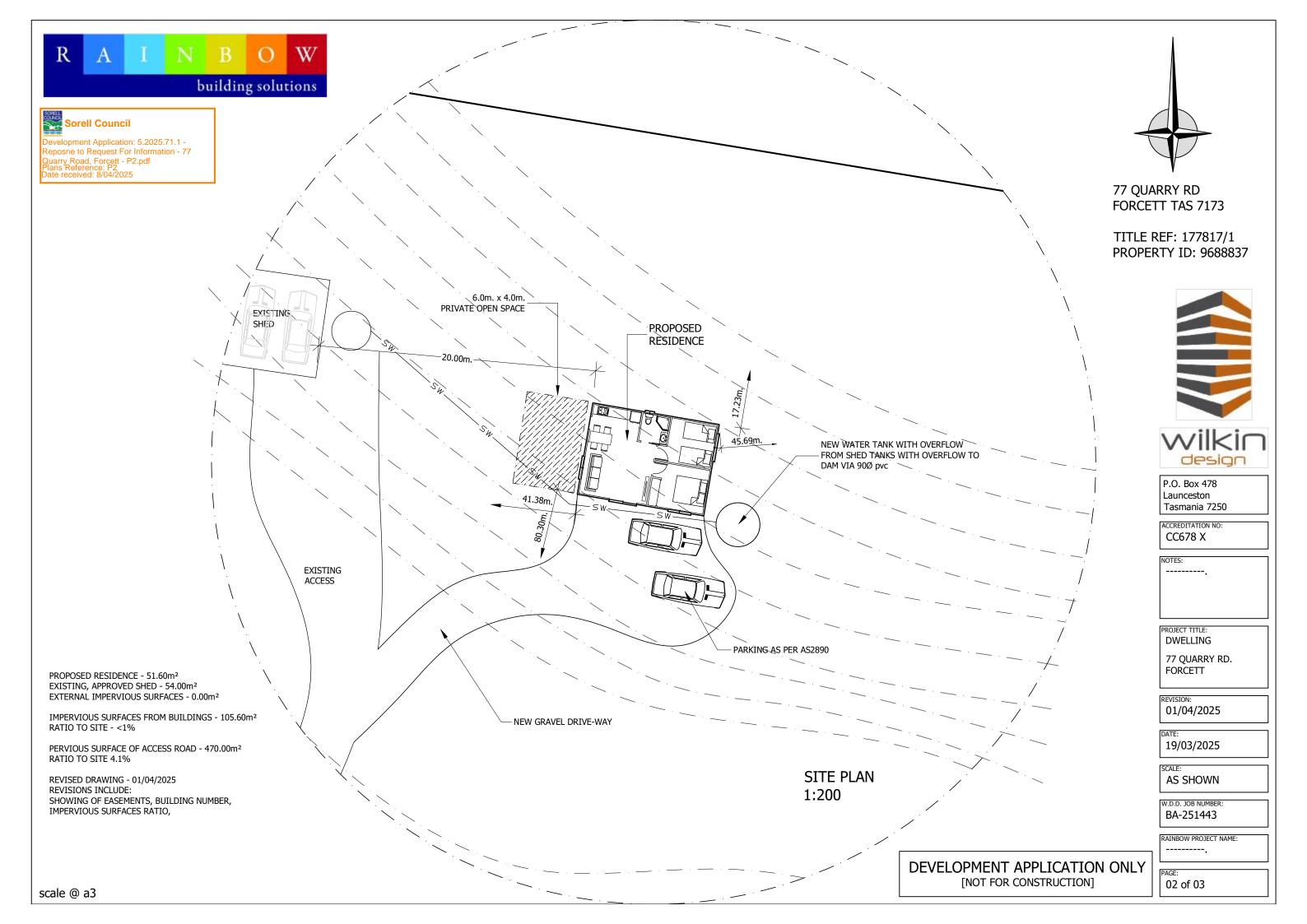
DATE: 19/03/2025

W.D.D. JOB NUMBER: **DA-251443**

RAINBOW PROJECT NAME:

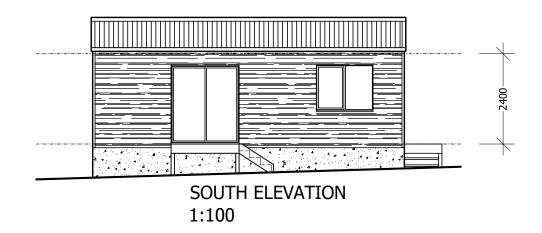
DEVELOPMENT APPLICATION ONLY [NOT FOR CONSTRUCTION]

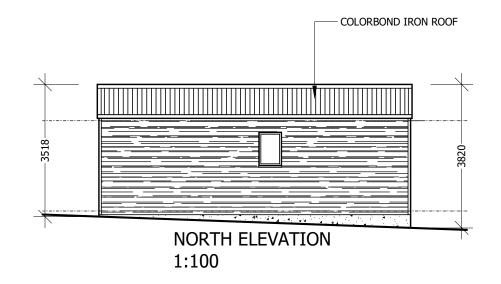


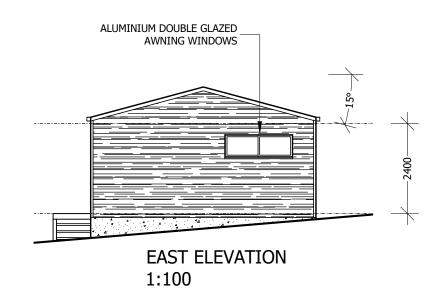


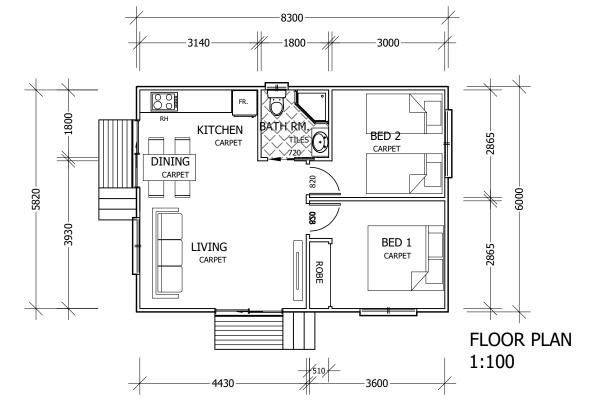


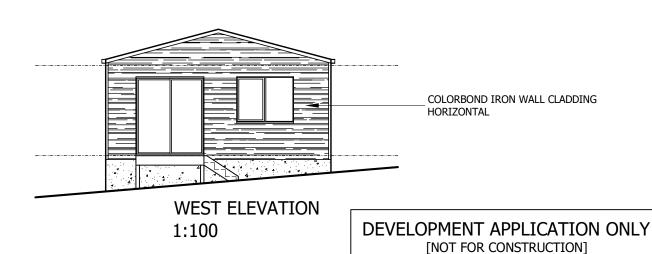
















P.O. Box 478 Launceston Tasmania 7250

CC678 X

NOTES: ------

PROJECT TITLE:
DWELLING
77 QUARRY RD.
FORCETT

REVISION:

19/03/2025

SCALE: AS SHOWN

W.D.D. JOB NUMBER: DA-251443

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AINBOW PROJECT NAME:

PAGE: 03 of 03

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